Section IV: Type Certificate Data Sheet and Specifications (TCDS)

- TCDS Background Information
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- E4EA, Pratt & Whitney PT6A
- P9NE, Hartzell
- P60GL, McCauley
- E252, Continental C90
- 2A13, Piper PA-28
- 3A19, Cessna 150
- E-295, Lycoming 0-540
- A7CE, Cessna 400 Series
- 3A13, Cessna 182
- A7SO, Piper PA-34-200
- A11EA, Gulfstream American AA-1
- 1A6, Piper PA-22
- E-273, Continental 0-470
- P57GL, McCauley
- P-920, Hartzell
- 2A4, Twin Commander
- E-284, Textron Lycoming
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TCDS BACKGROUND INFORMATION

Type Certificate Data Sheets and Specifications (TCDS) set forth essential factors and other conditions which are necessary for U.S. airworthiness certification. Aircraft, engines, and propellers which conform to a U.S. type certificate (TC) are eligible for U.S. airworthiness certification when found to be in a condition for safe operation and ownership requisites are fulfilled.

These are two kinds of certification documents contained in the TCDS file:

1. Type Certificate Data Sheets
2. Specifications

“Type Certificate Data Sheets” were originated and first published in January 1958. FAR 21.41 indicates they are part of the type certificate. As such, a type certificate data sheet is evidence the product has been type certificated. Generally, type certificate data sheets are compiled from details supplied by the type certificate holder; however, FAA may request and incorporate additional details when conditions warrant.

“Specifications” were originated during implementation of the Air Commerce Act of 1926. Specifications are FAA recordkeeping documents issued for both type certificated and non-type certificated products which have been found eligible for U.S. airworthiness certification. Although they are no longer issued, specifications remain in effect and will be further amended. Specifications covering type certificated products may be converted to type certificate data sheets at the option of the type certificate holder. However, to do so requires the type certificate holder to provide an equipment list. A specification is NOT part of a type certificate. Specifications are subdivided into five major groups as follows:

1. **Type Certificated Aircraft, Engines and Propellers.** Covering standard, restricted and limited types issued for domestic, foreign, and military surplus products.

2. **Group II - Aircraft, Engine, and Propeller Approvals.** Covering domestic, foreign, and military surplus products constructed or modified between October 1, 1927, and August 22, 1938, all of which have met minimum airworthiness requirements without formal type certification. Such products are eligible for standard airworthiness certification as though they are type certificated products.

3. **Group III - Aircraft, Engine and Propeller Approvals.** Covering domestic products manufactured prior to October 1, 1927, and foreign products manufactured prior to June 20, 1931, and certain military surplus engines and propellers all of which have met minimum airworthiness requirements of the Air Commerce Act of 1926 and implementing Air Commerce Regulations without formal type certification. Such products are eligible for standard airworthiness certification as though they are type certificated products.
(4) **Group IV - Engine Ratings.** Covering unapproved engines rated for maximum power and speed only, their use being limited to specific aircraft with maximum gross weights less than 1,000 pounds. Such engines are not eligible for independent airworthiness certification. These ratings are no longer issued.

(5) **Group V - Engine Approvals.** Covering military surplus engines meeting Civil Air Regulations (CAR) 13 design requirements without formal type certification. Such engines are eligible for airworthiness certification as though they are type certificated engines.

**NOTE:** Most products found in Groups II, III, and IV were approved prior to 1938. Although such products may still be eligible for U.S. airworthiness certification, they may require issuance of specific operating limitations. Specifications covering Groups II, III, IV, and V products may be recognized in two ways:

1. An approval number which begins with 2- (sometimes A-2- or G-2-), 3-, 4-, or 5E-.

2. The words Group 2, Group 3, Group 4, or Group 5E in lieu of the specification number.

Specifications have also been used to record the approval of major alterations performed on any of the products for which they were issued. Such approvals are presently recorded on a “Supplemental Type Certificate” (STC). STC’s are not published in data sheet format. However, they are listed in the “Summary of Supplemental Type Certificates” when the holder indicates that parts (kits), data, and design rights are available to the public (see the latest revision of Advisory Circular 21-5 for ordering instructions).
**Coded Entries**

Many aircraft and engine specifications and some type certificate data sheets carry coded information to describe the general characteristics of the product. These may be found in the model caption line or a separate line entry titled “Type” or “Designation”.

Aircraft codes (Designations) are as follows:

Example: 2 PO-CIM

1. Number of seats
   (passenger and crew)

2. Cockpit/cabin design
   - O = open
   - C = closed
   - O-C = convertible

3. Basic kind of aircraft
   - L = landplane
   - S = seaplane
   - L-S = convertible
   - Am = amphibian
   - Fb = flying boat
   - Ag = Autogiro
   - H = helicopter

4. Wing design
   - M = monoplane
   - B = biplane

Engine Codes (Type) are as follows:
Example: 4LIA (sometimes 4LAI)

<table>
<thead>
<tr>
<th>Number of cylinders</th>
<th>L</th>
<th>I</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Number of cylinders</td>
<td>4</td>
<td>LI</td>
<td>A</td>
</tr>
</tbody>
</table>

(2) Cylinder arrangement
- L = inline
- V = vee
- R = radial
- HO = horizontal opposed
- I = inverted

(3) Coolant
- A = air cooled
- W = liquid cooled

(4) Modified engines
- M = modified
  (rarely used)
TYPE CERTIFICATE DATA SHEET NO. A37CE

This data sheet which is part of Type Certificate No. A37CE prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder
Cessna Aircraft Company
P. O. Box 7704
Wichita, Kansas  67277

I.  Model 208, Caravan, 11 PCLM (Normal Category), Approved October 23, 1984; 11 PCSM (Normal Category), Approved March 26, 1986

Engine  [Applicable to S/N 20800001 through 20800276]
Pratt & Whitney of Canada Ltd., PT6A-114 Turbo Prop
Pratt & Whitney of Canada Ltd., PT6A-114A Turbo Prop
(When operated to PT6A-114 operating limitations)

Engine  [Applicable to S/N 20800277 and Up]
Pratt & Whitney of Canada Ltd., PT6A-114A Turbo Prop

Fuel

Engine Limits:  [Applicable to S/N 20800001 through 20800276]
P&W PT6A-114 or PT6A-114A when operated to PT6A-114 operating limits

<table>
<thead>
<tr>
<th></th>
<th>NG Gas Generator Speed (% rpm)</th>
<th>Indicator Torque (ft.-lbs.)</th>
<th>Prop Shaft Speed (rpm)</th>
<th>Interturbine Temp. (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeoff static &amp; max. continuous</td>
<td>600 (1) 101.6 1658</td>
<td>1900</td>
<td>805</td>
<td></td>
</tr>
<tr>
<td>Maximum climb</td>
<td>600 (1) 101.6 1658/1970(2)</td>
<td>1900</td>
<td>765</td>
<td></td>
</tr>
<tr>
<td>Maximum cruise</td>
<td>600 (1) 101.6 1658/1970(2)</td>
<td>1900</td>
<td>740</td>
<td></td>
</tr>
<tr>
<td>Idle</td>
<td>- 52 min.</td>
<td>-</td>
<td>685</td>
<td></td>
</tr>
<tr>
<td>Starting (2 sec.)</td>
<td>-</td>
<td>-</td>
<td>1090</td>
<td></td>
</tr>
<tr>
<td>Max. reverse (1 min.)</td>
<td>600 (1) 101.6 1658</td>
<td>1825</td>
<td>805</td>
<td></td>
</tr>
<tr>
<td>Transient (2 sec.)</td>
<td>- 102.6 2200</td>
<td>2090</td>
<td>850</td>
<td></td>
</tr>
</tbody>
</table>
I. Model 208, Caravan (cont’d)

Engine Limits: [Applicable to S/N 20800277 and Up]

<table>
<thead>
<tr>
<th>P&amp;W PT6A-114A</th>
<th>NG Gas Generator Speed (rpm)</th>
<th>Indicator Torque (ft.-lbs.)</th>
<th>Prop Shaft Speed (rpm)</th>
<th>Maximum Permissible Interturbine Temp. (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Shaft Horsepower</td>
<td>101.6</td>
<td>1865</td>
<td>1900</td>
</tr>
<tr>
<td>Takeoff static &amp; max. continuous</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum climb</td>
<td>675 (1)</td>
<td>101.6</td>
<td>1865/1970(2)</td>
<td>1900</td>
</tr>
<tr>
<td>Maximum cruise</td>
<td>675 (1)</td>
<td>101.6</td>
<td>1865/1970(2)</td>
<td>1900</td>
</tr>
<tr>
<td>Idle</td>
<td>-</td>
<td>52 min.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Starting (2 sec.)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Max. reverse (1 min.)</td>
<td>675 (1)</td>
<td>101.6</td>
<td>1865</td>
<td>1825</td>
</tr>
<tr>
<td>Transient (2 sec.)</td>
<td>-</td>
<td>102.6</td>
<td>2200</td>
<td>2090</td>
</tr>
</tbody>
</table>

(1) Flat Rated:
The engines may produce more power than that for which the airplane has been certificated. Under these conditions, the stated torque, ITT, or Ng limitations shall not be exceeded.

(2) If maximum torque is used, propeller r.p.m. must be set so as not to exceed power limitations.

Propeller and Propeller Limits [Applicable to S/N 20800001 through 20800276]:

Hartzell composite three-bladed, constant speed, full-feathering, reversible Model: HC-B3MN3/M10083
Diameter: Maximum 100 inches, minimum 100 inches, no cutoff approved
Pitch at 42-inch station:
- Low pitch (Beta pickup) 9°
- Feathered 78.4°
- Maximum Reverse -18°

Propeller and Propeller Limits [Applicable to S/N 20800001 and Up and all TKS equipped aircraft]:

McCaulley aluminum three-bladed, constant speed, full-feathering, reversible
Model: 3GFR34C703/106GA-0
Diameter: Maximum 106 inches, minimum 104 inches (2-inch cutoff on diameter allowed)
Pitch at 30-inch station:
- Low pitch (Beta pickup) +15.6°
- Feathered +88°
- Maximum Reverse -14°

*Airspeed Limits
S/N 20800001 through 20800060 V_{MO} (Max Operating) 175 KIAS
V_A (Maneuvering) at 7300 lbs. 148 KIAS
See POH/AFM for variations with weight and altitude.
V_{FE} (Flaps extended)
- To 10° 175 KIAS
- 10° to 20° 150 KIAS
- 20° to 30° 125 KIAS

*Airspeed Limits
S/N 20800061 and Up V_{MO} (Max Operating) 175 KIAS
V_A (Maneuvering) at 8000 lbs. 150 KIAS
See POH/AFM for variations with weight and altitude.
V_{FE} (Flaps extended)
- To 10° 175 KIAS
- 10° to 20° 150 KIAS
- 20° to 30° 125 KIAS
### I. Model 208, Caravan (cont’d)

*Airspeed Limits

<table>
<thead>
<tr>
<th>Aircraft Type</th>
<th>V(_{MO}) (Max Operating): 175 KIAS</th>
<th>VA (Maneuvering) at 7600 lbs.: 141 KIAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>S/N 20800014 and Up</td>
<td>See POH/AFM for variations with weight and altitude.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>V(_{FE}) (Flaps extended)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To 10°: 175 KIAS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10° to 20°: 150 KIAS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>20° to 30°: 125 KIAS</td>
<td></td>
</tr>
</tbody>
</table>

**C.G. Range**

<table>
<thead>
<tr>
<th>Aircraft Type</th>
<th>Takeoff, flight, and landing</th>
</tr>
</thead>
<tbody>
<tr>
<td>S/N 2080001 through 20800060</td>
<td>(+174.06) to (+184.35) at 8000 lbs.</td>
</tr>
<tr>
<td></td>
<td>(+162.41) to (+184.35) at 4200 lbs.</td>
</tr>
<tr>
<td></td>
<td>Straight line variation between points given</td>
</tr>
</tbody>
</table>

**C.G. Range**

<table>
<thead>
<tr>
<th>Aircraft Type</th>
<th>Takeoff and flight</th>
</tr>
</thead>
<tbody>
<tr>
<td>S/N 20800061 and Up</td>
<td>(+174.44) to (+184.35) at 7800 lbs.</td>
</tr>
<tr>
<td></td>
<td>(+162.41) to (+184.35) at 4200 lbs.</td>
</tr>
<tr>
<td></td>
<td>Straight line variation between points given</td>
</tr>
</tbody>
</table>

**Landing**

<table>
<thead>
<tr>
<th>Aircraft Type</th>
<th>Landing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(+171.91) to (+182.68) at 7300 lbs.</td>
</tr>
<tr>
<td></td>
<td>(+165.47) to (+182.68) at 5200 lbs.</td>
</tr>
<tr>
<td></td>
<td>Straight line variation between points given</td>
</tr>
</tbody>
</table>

**Empty Wt. C.G. Range**

| None |

**Maximum Weight**

<table>
<thead>
<tr>
<th>Aircraft Type</th>
<th>S/N 2080001 through 20800060</th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeoff, flight, and landing</td>
<td>7335 lb. ramp</td>
</tr>
<tr>
<td>7300 lb.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aircraft Type</th>
<th>S/N 20800061 and Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>8000 lb. takeoff and flight</td>
<td>7800 lb. landing</td>
</tr>
<tr>
<td>8035 lb. ramp</td>
<td></td>
</tr>
</tbody>
</table>

**Maximum Weight**

<table>
<thead>
<tr>
<th>Aircraft Type</th>
<th>S/N 20800014 and Up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amphibian</td>
<td>7600 lb. takeoff and flight</td>
</tr>
<tr>
<td>7300 lb. landing</td>
<td>7635 lb. ramp</td>
</tr>
</tbody>
</table>

**No. of Seats**

| 1 through 2 (at +133.5 to +146.5) Pilot Seat Locations. |

**Maximum Baggage**

| Reference weight and balance data |

**Fuel Capacity**

| 335 gal. (332 gal. usable), two 167.5 gal. tanks in wings at +183.8 |
| See NOTE 1 for data on unusable fuel. |
I. Model 208, Caravan (cont’d)

Oil Capacity
3.5 gal. total, 2.37 gal. usable in engine mounted tank at +69.2

Maximum Operating Altitude
30,000 ft. - Landplane
20,000 ft. – Amphibian and Flight into known Icing

Control Surface Movements
Wing flaps
0° ± 1° Up, 10° +1° -2° Down, 20° ±2° Down,
30° +1° -2° Down

LH & RH Flap Extension to be symmetric within 1/2° at all positions

Main surfaces
Ailerons
Up 25° +4° -0°
Down 16° +1° -0°

Spoiler
Up 40° ±5°
Down 0° ±0° -5°

Elevator
Up 25° ±2°
Down 20° ±2°

Rudder (Landplane)
Right 25° ±2°
Left 25° ±2°

(Amphibian)
Right 23° ±2°, -0°
Left 23° ±2°, -0°

(Measured perpendicular to hinge line)

Tabs (main surfaces in neutral)
Aileron (RH)
Up 15° ±2°
Down 15° ±2°

Elevator
Up 15° ±2°
Down 15° ±2°

Tabs servo actions
Aileron (RH) (tab adjusted to neutral)
50% of aileron travel ±1° Up and Down
Aileron (LH) 50% of aileron travel ±1° Up and Down

Serial Nos. Eligible
20800001 and up - Landplane
20800014 and up - Amphibian with Wipline Model 8000 Amphibious/Seaplane Floats.

II - Model 208B, Caravan, 2 PCLM (Normal Category), Approved October 9, 1986
Model 208B, Caravan, 11 PCLM (Normal Category), Approved December 13, 1989

Engine
Pratt & Whitney of Canada Ltd., PT6A-114 Turbo Prop, S/N 208B0001 through S/N 208B0001 and 208B0178, and as modified by SK208-84

Pratt & Whitney of Canada Ltd., PT6A-114A Turbo Prop,
(a) S/N 208B0001 through S/N 208B0178 and 208B0180 through 208B0229, and as modified by SK208-84
when operated to PT6A-114 operating limits
(b) S/N 208B0179, S/N 208B0230 and on, and as modified by SK208-80
S/N 208B0230 and on, and as modified by SK208-80

Fuel

Engine Limits
P&W PT6A-114 or PT6A-114A when operated to PT6A-114 operating limits

<table>
<thead>
<tr>
<th>NG Gas Generator</th>
<th>Indicator Torque</th>
<th>Prop Shaft Speed</th>
<th>Interturbine Temp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeoff static &amp; max. continuous</td>
<td>600 (1)</td>
<td>101.6</td>
<td>1658</td>
</tr>
<tr>
<td>Maximum climb</td>
<td>600 (1)</td>
<td>101.6</td>
<td>1658/1970(2)</td>
</tr>
<tr>
<td>Maximum cruise</td>
<td>600 (1)</td>
<td>101.6</td>
<td>1658/1970(2)</td>
</tr>
<tr>
<td>Idle</td>
<td>-</td>
<td>52 min.</td>
<td>-</td>
</tr>
<tr>
<td>Starting (2 sec.)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Max. reverse (1 min.)</td>
<td>600 (1)</td>
<td>101.6</td>
<td>1658</td>
</tr>
<tr>
<td>Transient (2 sec.)</td>
<td>-</td>
<td>102.6</td>
<td>2200</td>
</tr>
</tbody>
</table>
H. - Model 208B, Caravan (cont’d)

**Engine Limits (cont’d)**

<table>
<thead>
<tr>
<th></th>
<th>PT6A-114A (675 hp)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Shaft Horsepower</td>
</tr>
<tr>
<td>Takeoff static &amp; max. continuous</td>
<td>675 (1)</td>
</tr>
<tr>
<td>Maximum climb</td>
<td>675 (1)</td>
</tr>
<tr>
<td>Maximum cruise</td>
<td>675 (1)</td>
</tr>
<tr>
<td>Idle</td>
<td>-</td>
</tr>
<tr>
<td>Starting (2 sec.)</td>
<td>-</td>
</tr>
<tr>
<td>Max. reverse (1 min.)</td>
<td>675 (1)</td>
</tr>
<tr>
<td>Transient (2 sec.)</td>
<td>-</td>
</tr>
</tbody>
</table>

(1) Flat Rated:
The engines may produce more power than that for which the airplane has been certificated. Under these conditions, the stated torque, ITT, or Ng limitations shall not be exceeded.

(2) If maximum torque is used, propeller r.p.m. must be set so as not to exceed power limitations.

**Propeller and Propeller Limits**

Hartzell composite three-bladed, constant speed, full-feathering, reversible.

Model: HC-B3MN3/M10083

Diameter: Maximum 100 inches, minimum 100 inches, no cutoff approved

Pitch at 42-inch station:

- Low pitch (Beta pickup): 9°
- Feathered: 78.4°
- Maximum Reverse: -18°

McCauley aluminum three-bladed, constant speed, full-feathering, reversible.

Model: 3GFR34C703/106GA-0

Diameter: Maximum 106 inches, minimum 104 inches (2-inch cutoff on diameter allowed)

Pitch at 30-inch station:

- Low pitch (Beta pickup): +15.6°
- Feathered: +88°
- Maximum Reverse: -14°

*Airspeed Limits*

- V_{MO} (Max Operating): 175 KIAS
- V_{A} (Maneuvering) at 8750 lbs.: 148 KIAS

See POH/AFM for variations with weight and altitude.

V_{FE} (Flaps extended):

- To 10°: 175 KIAS
- 10° to 20°: 150 KIAS
- 20° to 30°: 125 KIAS

**C.G. Range**

Takeoff and flight:

- (+199.15) to (+204.35) at 8750 lbs.
- (+193.37) to (+204.35) at 8000 lbs.
- (+179.60) to (+204.35) at 5500 lbs.

Straight line variation between points given

Landing:

- (+197.22) to (+204.35) at 8500 lbs.
- (+193.37) to (+204.35) at 8000 lbs.
- (+179.60) to (+204.35) at 5500 lbs.

Straight line variation between points given

**Empty Wt. C.G. Range**

None
II. - Model 208B, Caravan  (cont’d)

Maximum Weight  8750 lb. takeoff and flight
8500 lb. landing
8785 lb. ramp

For Flight Into Known Icing:

With PT6A-114 engine and PT6A-114A when operated to PT6A-114 operating limits
8000 lb. takeoff and flight - cargo pod installed
8450 lb. takeoff and flight - cargo pod removed

With PT6A-114A (675 hp.) engine
8550 lb. takeoff and flight - cargo pod installed
8750 lb. takeoff and flight - cargo pod removed

With PT6A-114A (675 hp.) engine and TKS Anti-ice System installed
8750 lb. takeoff and flight

No. of Seats  1 through 2 (at +133.5 to +146.5) Pilot Seat Locations for Cargo and Passenger Versions.
3 through 11 refer to POH for passenger seat locations Passenger Version only.

Maximum Baggage  Reference weight and balance data

Fuel Capacity  335 gal. (332 gal. usable), two 167.5 gal. tanks in wings at +203.8
See NOTE 1 for data on unusable fuel.

Oil Capacity  3.5 gal. total, 2.37 gal. usable in engine mounted tank at +69.2

Maximum Operating Altitude  25,000 ft.
20,000 ft. for Flight Into Known Icing

Control Surface Movements  Wing flaps  0° ±1° Up, 10° +1° -2° Down, 20° +2° Down, 30° +1° -2° Down
LH & RH Flap Extension to be symmetric within 1/2° at all positions
Main surfaces
Ailerons  Up 25° +4° -0°  Down 16° +1° -0°
Spoiler  Up 40° ±5°  Down 0° +0° -5°
Elevator  Up 25° ±2°  Down 20° ±2°
Rudder  Right 25° ±2°  Left 25° ±2°
(Measured perpendicular to hinge line)
Tabs (main surfaces in neutral)
Aileron (RH)  Up 15° ±2°  Down 15° ±2°
Elevator  Up 15° ±2°  Down 15° ±2°
Tabs servo actions
Aileron (RH) (tab adjusted to neutral)
50% of aileron travel ±1° Up and Down
Aileron (LH) 50% of aileron travel ±1° Up and Down

Serial Nos. Eligible  208B0001 and up

Data Pertinent to All Models

Datum  100.00 in. forward of center of nose gear jack point (Landplane).
100.00 in. forward of front face of firewall (Amphibian).

Leveling Means  Two jig located nutplates and screws installed on left side of fuselage
below side windows and forward of cargo door.
Data Pertinent to All Models (cont’d)

Certification Basis - Applies to Models 208 and 208B when equipped with PW PT6A-114 engine and Hartzell propeller:

2. FAR Part 36 effective December 1, 1969, as amended by Amendments 36-1 through 36-12.
3. SFAR 27 effective February 1, 1974, as amended by Amendments 27-1 through 27-4.
4. Special Conditions as follows:
   (a) 23-ACE-3; Dynamic Evaluation, Engine Installation.
5. Equivalent Level of Safety applicable to Model 208 and 208B not equipped with the Garmin G1000 Integrated Cockpit System:
   (a) FAR 23.955(f)(2), Fuel System.
6. Compliance with ice protection has been demonstrated in accordance with § 23.1419 when ice protection equipment is installed in accordance with the airplane equipment list and is operated per the Pilot’s Operating Handbook and FAA Approved Airplane Flight Manual.

Certification Basis - Applies to Models 208 and 208B when equipped with P&W PT6A-114 engine and McCauley propeller; and:

(a) Model 208B when equipped with P&W PT6A-114A engine and either McCauley or Hartzell propeller; and
(b) Model 208 when equipped with P&W PT6A-114A engine and McCauley propeller:

2. FAR Part 36 effective December 1, 1969, as amended by Amendments 36-1 through 36-18.
3. SFAR 27 effective February 1, 1974, as amended by Amendments 27-1 through 27-4.

Additions for the Garmin G1000 Integrated Cockpit System (ICS) and, as annotated, for the GFC-700 Automatic Flight Control System (AFCS) applicable to the Model 208 and 208B when equipped with PW PT64-114A Engine:

14 CFR 23 regulations as amended by Amendment N/C:
   14 CFR 23.301(a), (d), 23.303, 23.305(a), (b), 23.307(a), 23.561(e), 23.601, 23.605 23.607, 23.671(a), 23.1367 and 23.1381.

14 CFR 23 regulations as amended by Amendment 23-7:
   14 CFR 23.611, 23.689(a), and 23.867(a), (b).

14 CFR 23 regulations as amended by Amendment 23-13:
   14 CFR 23.1589.

14 CFR 23 regulations as amended by Amendment 23-14:
   14 CFR 23.1365(a), (b), 23.1419(b), (c), and 23.771(a).

14 CFR 23 regulations as amended by Amendment 23-17:
   14 CFR 23.607, 23.685(a), and 23.1309(a)(1), (a)(2), (c), 23.1165 (b), (c).

14 CFR 23 regulations as amended by Amendment 23-20:
   14 CFR 23.1301, 23.1327, 23.1335 GFC-700 Automatic Flight Control System (AFCS), 23.1547(b), (e), 23.1351(a), (b), (c), (d), (e), and 23.1361(a), (b), (c).

14 CFR 23 regulations as amended by Amendment 23-21:
   14 CFR 23.1501, 23.1541(a)(1)(2), (b)(1)(2), and 23.1353(g).

14 CFR 23 regulations as amended by Amendment 23-23:
   14 CFR 23.603(a), (b), and 23.605(a).
Additions for the Garmin G1000 Integrated Cockpit System (ICS) (cont’d)

14 CFR 23 regulations as amended by Amendment 23-26:
14 CFR 23.1529.

14 CFR 23 regulations as amended by Amendment 23-34:
14 CFR 23.853(e), 23.1523, 23.1581(a)(2), 23.1583(a)(1), (b), (h), and 23.1585(a), (b), (d).

14 CFR 23 regulations as amended by Amendment 23-42:
14 CFR 23.677(d).

14 CFR 23 regulations as amended by Amendment 23-43:
14 CFR 23.1322, 23.1331, and 23.1357(a), (b), (c), (d), (e).

14 CFR 23 regulations as amended by Amendment 23-45:

14 CFR 23 regulations as amended by Amendment 23-49:
14 CFR 23 Safety Aspects of 23.1309(b)(3)(e), 23.1309(a)(1)(2), (b)(2)(4), (c)(1)(2)(iii)(3), (d), (e), (f)(1), 23.677(d), 23.1301(a), 23.1303(a), (b), (c), (d), (e)(1), (f), 23.1311, 23.1321(a), (c), (d), (e), 23.1323(a), (b)(1)(2), (c), 23.1329 GFC-700 Automatic Flight Control System (AFCS), 23.1351(a), (b), (c), (d), (e), 23.1361(c), 23.1365(a), (b), (d), (e), 23.1431(a), (b), (d), (e).

14 CFR 23 regulations as amended by Amendment 23-50:
14 CFR 23.1325(a), (b)(1)(i)(ii)(iii), (b)(2)(i)(3), (c)(1)(2), (d), (e), 23.1543(b), (c), 23.1553, 23.1545(a), (b)(4), (d), 23.1555(a), (b), 23.1567(a).

14 CFR 23 regulations as amended by Amendment 23-51:
14 CFR 23.777(a), (b), 23.955(a)(1)(2), (f), 23.959, 23.1337(a)(1)(2), (b)(1)(4), (c), (d), 23.1183, and 23.1203(b), (c), (d), (e).

14 CFR 23 regulations as amended by Amendment 23-52:
14 CFR 23.1305(a)(1)(2)(3)(5), (c)(1-10), (e)

14 CFR 23 regulations as amended by Amendment 23-53:
14 CFR 23.901(a), (b)

14 CFR 23 regulations as amended by Amendment 23-57:
14 CFR 23.1308

Special Conditions as follows:
(a) 23-214-SC; HIRF, with guidance from AC20-158.

Equivalent Level of Safety as follows:
(1) Applicable to Model 208 and 208B equipped with the Garmin G1000 Integrated Cockpit System:
(a) 23.1305 Powerplant instruments – (c)(2), (c)(5), Amendment 52.
(b) 23.1549 Powerplant and auxiliary power unit instruments – (a) through (d), Amendment 45, additionally, with guidance from AC 23.1311-1B, Installation of Electronic Display (Section 9 – Powerplant Displays), Section 9.4 Direct-Reading Alphanumeric-Only Displays.

Compliance with ice protection has been demonstrated in accordance with § 23.1419 when ice protection equipment is installed in accordance with the airplane equipment list and is operated per the Pilot’s Operating Handbook and FAA Approved Airplane Flight Manual.

Data Pertinent to All Models (cont’d)

Production Basis

Production Certificate No. 4. Delegation Option Manufacturer No. CE-1 (2080001 through 20800246, 208B0001 through 208B0501) and CE-3 (20800247 and on, 208B0502 and on), and Delegation Option Manufacturer No. CE-3 (20800247 and on, 208B0502 and on) authorized to issue airworthiness certificates under delegation option provisions of Part 21 of the Federal Aviation Regulations.

Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. This equipment must include a current Pilot’s Operating Handbook and FAA Approved Airplane Flight Manual.

NOTE 1
Current weight and balance report including list of equipment included in certificated empty weight and loading instructions, when necessary, must be provided for each aircraft at the time of original certification. Verify from aircraft records whether or not SK 208-52 “Wing Take External Sump Installation” has been installed. The certified empty weight and corresponding center of gravity location must include full oil of 29 lbs. (at +69.2), and unusable fuel as follows:

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SERIAL EFFECTIVITY/MODIFICATION</th>
<th>UNUSABLE FUEL lbs. @ c. g.</th>
</tr>
</thead>
<tbody>
<tr>
<td>208</td>
<td>20800001 through 20800130 NOT modified with SK208-52</td>
<td>20.1 @ +185.7</td>
</tr>
<tr>
<td>208</td>
<td>20800001 through 20800130 modified with SK208-52</td>
<td>24.1 @ +186.4</td>
</tr>
<tr>
<td>208B</td>
<td>208B0001 through 208B0089 NOT modified with SK208-52</td>
<td>20.1 @ +205.7</td>
</tr>
<tr>
<td>208B</td>
<td>208B0001 through 208B0089 modified with SK208-52</td>
<td>24.1 @ +206.4</td>
</tr>
<tr>
<td>208B</td>
<td>208B0090 and On</td>
<td>24.1 @ +206.4</td>
</tr>
</tbody>
</table>

NOTE 2
The placards specified in the Pilot’s Operating Handbook and FAA Approved Airplane Flight Manuals listed below (or later revision) must be displayed:

<table>
<thead>
<tr>
<th>MODEL</th>
<th>CESSNA PART NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>208 [600 SHP]</td>
<td>D1307-27-13PH</td>
</tr>
<tr>
<td>208 [675 SHP]</td>
<td>D1352-13PH</td>
</tr>
<tr>
<td>208 [675 SHP]</td>
<td>208PHBUS-00</td>
</tr>
<tr>
<td>208B [600 SHP]</td>
<td>D1309-21-13PH</td>
</tr>
<tr>
<td>208B [675 SHP]</td>
<td>D1329-16-13PH</td>
</tr>
<tr>
<td>208B [675 SHP]</td>
<td>208BPHBUS-00</td>
</tr>
</tbody>
</table>

Model 208 airplanes modified in accordance with SK-208-12 should use Cessna P/N D1307-27-13PH (or later revision).

NOTE 3
Airplanes 20800001 through 20800060 are eligible for operation at the same weight and C.G. approved for S/N 20800061 and up when modified in accordance with SK-208-12 or SK-208-85A “208A to 208 Caravan I Cargo Configuration Conversion”.

NOTE 4
Mandatory inspection times for all wing and wing carry through structural components are contained in the Model 208 Series Maintenance Manual.

NOTE 5
In addition to the placards required by NOTE 2 above, the prescribed operating limitations indicated by an asterisk (*) must also be displayed as permanent markings.

....END.....
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

TYPE CERTIFICATE DATA SHEET

TCDS NUMBER: E4EA
REVISION: 24*
DATE: June 21, 2007

MODELS:

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>PT6A-6A</td>
<td>PT6A-25A</td>
<td>PT6A-41</td>
<td>PT6A-61A</td>
<td></td>
</tr>
<tr>
<td>PT6A-6B</td>
<td>PT6A-25C</td>
<td>PT6A-41AG</td>
<td>PT6A-65B</td>
<td></td>
</tr>
<tr>
<td>PT6A-11AG</td>
<td>PT6A-29</td>
<td>PT6A-45</td>
<td>PT6A-65AG</td>
<td></td>
</tr>
<tr>
<td>PT6A-15AG</td>
<td>PT6A-34</td>
<td>PT6A-45A</td>
<td>PT6A-100</td>
<td></td>
</tr>
<tr>
<td>PT6A-20</td>
<td>PT6A-34B</td>
<td>PT6A-45B</td>
<td>PT6A-112</td>
<td></td>
</tr>
<tr>
<td>PT6A-20A</td>
<td>PT6A-34AG</td>
<td>PT6A-45R</td>
<td>PT6A-114</td>
<td></td>
</tr>
<tr>
<td>PT6A-20B</td>
<td>PT6A-35</td>
<td>PT6A-50</td>
<td>PT6A-114A</td>
<td></td>
</tr>
<tr>
<td>PT6A-21</td>
<td>PT6A-36</td>
<td>PT6A-60</td>
<td>PT6A-116</td>
<td></td>
</tr>
<tr>
<td>PT6A-38</td>
<td>PT6A-60A</td>
<td>PT6A-121</td>
<td></td>
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<tr>
<td>PT6B-9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PT6B-35F</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>PT6D-114A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Engines of models described herein conforming with this data sheet (which is part of Type Certificate Number E4EA) and other approved data on file with the Federal Aviation Administration, meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Federal Aviation Regulations, provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

TYPE CERTIFICATE (TC) HOLDER: Pratt & Whitney Canada Corp.  
(Formerly Pratt & Whitney Canada, Inc., Pratt & Whitney Aircraft of Canada, Ltd., and United Aircraft of Canada, Ltd.)  
Longueuil, Quebec, Canada J4G 1A1

I. MODEL TYPE (see pages 2, 3, 4, 5, 6, 7)  
Free turbine turbo-prop / 3 axial plus one centrifugal stage compressor / single annular combustion chamber, single-stage gas generator turbine / single-stage power turbine

II. MODEL TYPE (see pages 7, 8, 9, 10)  
Free turbine turbo-prop / 3 axial plus one centrifugal stage comp / single annular combustion chamber / single stage gas generator turbine / two stage power turbine

III. MODEL TYPE (see pages 10-11)  
PT6A-65B, -65R, -65AR, -65AG  
Free turbine turbo-prop / 3 axial plus one centrifugal stage comp / single annular combustion chamber / single stage gas generator turbine / two stage power turbine

*
## IV. MODEL TYPE (see pages 11-12)

PT6B-9, -35F

Free turbine turboshaft (free turbine turboprop -35F) / 3 axial plus one centrifugal stage comp / single annular combustion chamber / single stage gas generator turbine / single stage power turbine

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>REDUCTION GEAR RATIO</td>
<td>.0668:1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>RATINGS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum continuous at sea level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equivalent shaft hp.</td>
<td>525</td>
<td>500</td>
<td>62</td>
<td>528</td>
<td>70(75,-11AG)</td>
</tr>
<tr>
<td>Shaft hp.</td>
<td>500</td>
<td>-</td>
<td>-</td>
<td>500</td>
<td>550</td>
</tr>
<tr>
<td>Jet thrust, lb.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>72</td>
</tr>
<tr>
<td>Output rpm</td>
<td>2,200</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Gas generator rpm</td>
<td>38,100</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Takeoff (5 min.) at sea level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equivalent shaft hp.</td>
<td>578</td>
<td>550</td>
<td>70</td>
<td>528</td>
<td>72</td>
</tr>
<tr>
<td>Shaft hp.</td>
<td>550</td>
<td>-</td>
<td>-</td>
<td>500</td>
<td>550</td>
</tr>
<tr>
<td>Jet thrust, lb.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-(75, 11AG)</td>
</tr>
<tr>
<td>Output rpm</td>
<td>2,200</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Gas generator rpm</td>
<td>38,100</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Maximum reverse</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shaft hp.</td>
<td>-</td>
<td>500</td>
<td>-</td>
<td>475</td>
<td>500</td>
</tr>
<tr>
<td>Output rpm (max)</td>
<td>-</td>
<td>2,100</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Output Shaft</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flanged 4.250&quot; B.C., 8 holes .594 ± .005&quot; diameter (See P&amp;WC Installation Drawing)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>FUEL (See NOTE 8)</td>
<td>Fuels conforming to P&amp;WC Spec. CPW204 and CPW46. For PT6-AG engines CPW381 also.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>OIL</td>
<td>See NOTE 9</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>OIL TANK CAPACITY, gal.</td>
<td>2.3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>USABLE OIL TANK CAPACITY, gal.</td>
<td>1.5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>USABLE OIL WHEN INVERTED, gal.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>PRINCIPAL DIMENSIONS, in.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length</td>
<td>61.89</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Nominal diameter</td>
<td>18.29</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Maximum radius (excluding exhaust ports)</td>
<td>10.85</td>
<td>-</td>
<td>-</td>
<td>11.50</td>
<td>-10.85</td>
</tr>
<tr>
<td>WEIGHT (DRY)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(includes basic engine, fuel and ignition systems but excludes propeller governor (-6 and -20 models only) and ignition power source)</td>
<td>280</td>
<td>284</td>
<td>-</td>
<td>339</td>
<td>286(20, 6/C20)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>340(-11AG)</td>
<td>289(20A, 20B)</td>
</tr>
</tbody>
</table>
### I. MODELS (cont.)

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<thead>
<tr>
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<th></th>
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</thead>
<tbody>
<tr>
<td>Forward of mount plane</td>
<td>4.20</td>
<td>4.40</td>
<td>-</td>
<td>3.18</td>
<td>4.14(20, 6/C20) 4.58(20A, 20B)</td>
</tr>
<tr>
<td>Aft of forward mount plane</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Below engine centerline</td>
<td>0.34</td>
<td>-</td>
<td>-</td>
<td>0.26</td>
<td>0.45(20, 6/C20) 0.07(20A, 20B)</td>
</tr>
<tr>
<td>Right of engine centerline</td>
<td>0.32</td>
<td>-</td>
<td>-</td>
<td>0.36</td>
<td>0.08(20A, 20B)</td>
</tr>
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### REDUCTION GEAR RATIO

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>0.0668:1</td>
<td>0.0663:1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### RATINGS

**Maximum continuous at sea level**
- Equivalent shaft hp. 580 783 715 778 783
- Shaft hp. 550 750 680 750 -
- Jet thrust, lb. 75 82 90 71 82
- Output rpm 2,200 - - - -
- Gas generator rpm 38,100 - - - -

**Takeoff (5 min.) at sea level**
- Equivalent shaft hp. 580 783 715 778 783
- Shaft hp. 550 750 680 750 -
- Jet thrust, lb. 75 82 90 71 82
- Output rpm 2,200 - - - -
- Gas generator rpm 38,100 - - - -

**Maximum reverse**
- Shaft hp 500 720 620 750 720
- Output rpm (max) 2,100 - - - -

**Output Shaft**
- Flanged 4.250" B.C., 8 holes .594 ± .005" diameter (See P&W Installation Drawing)

**FUEL (See NOTE 8)**
- Fuels conforming to P&W Spec. CPW204 & CPW46. For PT6-AG engines CPW381 also.

**OIL**
- See NOTE 9
### I. MODELS (Cont.)

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>2.8(-25, -25A)</td>
<td>- -</td>
<td>2.3</td>
<td>- -</td>
<td>- -</td>
<td></td>
</tr>
<tr>
<td>USABLE OIL TANK CAPACITY, gal.</td>
<td>1.5</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
<td></td>
</tr>
<tr>
<td>USABLE OIL WHEN INVERTED, gal.</td>
<td>.25(-25, -25A)</td>
<td>- -</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

### PRINCIPAL DIMENSIONS, in.

<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>61.89(62.91, -25, -25A)</td>
<td>62.91</td>
<td>61.89</td>
<td>- -</td>
<td>- -</td>
<td></td>
</tr>
<tr>
<td>Nominal diameter</td>
<td>18.29(23.00, -25, -25A)</td>
<td>23.00</td>
<td>18.29</td>
<td>- -</td>
<td></td>
</tr>
<tr>
<td>Maximum radius</td>
<td>10.85(16.00, -25, -25A)</td>
<td>16.00</td>
<td>11.50</td>
<td>- -</td>
<td></td>
</tr>
<tr>
<td>(excluding exhaust ports)</td>
<td></td>
<td></td>
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</table>

### WEIGHT (DRY)

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<tbody>
<tr>
<td>.0576:1</td>
<td>- -</td>
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<td>- -</td>
<td>- -</td>
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### REDUCTION GEAR RATIO

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<tbody>
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<td>.0576:1</td>
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</table>

### RATINGS

<table>
<thead>
<tr>
<th>Maximum continuous at sea level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equivalent shaft hp</td>
</tr>
<tr>
<td>502</td>
</tr>
<tr>
<td>Shaft hp</td>
</tr>
<tr>
<td>Jet thrust, lb.</td>
</tr>
<tr>
<td>Output rpm</td>
</tr>
<tr>
<td>Gas generator rpm</td>
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<table>
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<td>Gas generator rpm</td>
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### I. MODELS (cont.)

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<td>FUEL (See NOTE 8)</td>
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<td>343</td>
<td>-</td>
<td>359</td>
<td>360</td>
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<td>CENTER OF GRAVITY (dry weight) (in.)</td>
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<td>Below engine centerline</td>
<td>0.26</td>
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<td>Right of engine centerline</td>
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### REDUCTION GEAR RATIO RATINGS

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<th>PT6A-121</th>
<th>PT6A-135,-135A</th>
<th>PT6D-114A</th>
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<tr>
<td>Maximum continuous at sea level</td>
<td>.0576:1</td>
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<td>.1875</td>
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<td>Equivalent shaft hp.</td>
<td>647</td>
<td>787</td>
<td>729</td>
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<tr>
<td>Shaft hp.</td>
<td>615</td>
<td>750</td>
<td>680</td>
<td>750</td>
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<tr>
<td>Jet thrust, lb.</td>
<td>80</td>
<td>93</td>
<td>124</td>
<td>93</td>
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<tr>
<td>Output rpm</td>
<td>1,900</td>
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<td>6,188</td>
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<td>Gas generator rpm</td>
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<td>38,100</td>
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<tr>
<td>Takeoff (5 min.) at sea level</td>
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<tr>
<td>Equivalent shaft hp.</td>
<td>647</td>
<td>787</td>
<td>729</td>
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<tr>
<td>Shaft hp.</td>
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<td>750</td>
<td>680</td>
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<td>Jet thrust, lb.</td>
<td>80</td>
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<td>124</td>
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<tr>
<td>Output rpm</td>
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<td>Gas generator rpm</td>
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<td>Output Shaft</td>
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<td>Flanged 4.250&quot; B.C., 8 holes .594 ± .005&quot; diameter (See PWC Installation Drawing)</td>
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<td>-</td>
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<tr>
<td>FUEL (See NOTE 8)</td>
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<tr>
<td>Fuels conforming to P&amp;W Spec. CPW204 &amp; CPW46.</td>
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<td>OIL</td>
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<tr>
<td>See NOTE 9</td>
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<td>USABLE OIL TANK CAPACITY, gal.</td>
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<td>Length</td>
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<td>61.89</td>
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<td>Maximum radius</td>
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<td>WEIGHT (DRY)</td>
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<td>343</td>
<td>347</td>
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<td>CENTER OF GRAVITY</td>
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<tr>
<td>(dry weight) (in.)</td>
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<tr>
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<td>0.35</td>
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<td>REDUCTION GEAR RATIO</td>
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<tr>
<td>Maximum continuous at sea level</td>
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<tr>
<td>Equivalent shaft hp.</td>
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<tr>
<td>Shaft hp.</td>
<td>801</td>
<td>749</td>
<td>903</td>
<td>1,070</td>
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<tr>
<td>Jet thrust, lb.</td>
<td>750</td>
<td>700</td>
<td>850</td>
<td>1,020</td>
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<tr>
<td>Output rpm</td>
<td>127</td>
<td>122</td>
<td>134</td>
<td>127</td>
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<tr>
<td>Gas generator rpm</td>
<td>2,000</td>
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<td>1,700</td>
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<tr>
<td>Takeoff (5 min.) at sea level</td>
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<td>Equivalent shaft hp.</td>
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<tr>
<td>Shaft hp.</td>
<td>801</td>
<td>749</td>
<td>903</td>
<td>1,174</td>
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<tr>
<td>Jet thrust, lb.</td>
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<td>1,120</td>
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<tr>
<td>Output rpm</td>
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<td>122</td>
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<td>136</td>
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<tr>
<td>Gas generator rpm</td>
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<td>39,000</td>
<td>38,100</td>
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<td>38,100</td>
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**PT6A-38**

**PT6A-40**

**PT6A-41, -41AG, -42, -42A**

**PT6A-45**

**PT6A-45A, -45B**
### II. MODELS

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<td>900</td>
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<td>-</td>
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<td>Output Shaft</td>
<td>Flanged 4.250&quot; B.C., 8 holes .594 ± .005&quot; diameter (See PWC Installation Drawing)</td>
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<td>FUELS (See NOTE 8)</td>
<td>Fuels conforming to PWC Spec. CPW204 &amp; CPW46. For PT6-AG engines CPW381 also.</td>
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<tr>
<td>OIL</td>
<td>See NOTE 9</td>
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<td>419</td>
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<tr>
<td></td>
<td>Below engine centerline</td>
<td>0.32</td>
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<td>Right of engine centerline</td>
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## II. MODELS

### REDUCTION GEAR RATIO

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<tr>
<td>Equivalent shaft hp.</td>
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<td>1,022</td>
<td>1,113</td>
<td>902</td>
<td>1,081</td>
<td>898</td>
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<td>Shaft hp.</td>
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<td>973</td>
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<td>850</td>
<td>1,020</td>
<td>850</td>
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<tr>
<td>Jet thrust, lb.</td>
<td>127</td>
<td>124</td>
<td>157</td>
<td>132</td>
<td>154</td>
<td>120</td>
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<td>Output rpm</td>
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<td>1,700</td>
<td>2,000</td>
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<td>2000</td>
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<tr>
<td>Gas generator rpm</td>
<td>39,000</td>
<td>38,100</td>
<td>39,000</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td><strong>Takeoff (5 min.) at sea level</strong></td>
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<td>1,113</td>
<td>898</td>
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<td>Shaft hp.</td>
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<td>850</td>
<td>1,050</td>
<td>850</td>
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<td>Jet thrust, lb.</td>
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<td>157</td>
<td>132</td>
<td>157</td>
<td>120</td>
</tr>
<tr>
<td>Output rpm</td>
<td>1,700</td>
<td>1,210</td>
<td>1,700</td>
<td>2,000</td>
<td>1,700</td>
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<td>Gas generator rpm</td>
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<td>38,500</td>
<td>39,000</td>
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<td>--</td>
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<td>Maximum reverse</td>
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<td></td>
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<td>1,120</td>
<td>900</td>
<td>800</td>
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<td>800</td>
</tr>
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<td>1,210</td>
<td>1,650</td>
<td>1,900</td>
<td>1,650</td>
<td>1,900</td>
</tr>
<tr>
<td><strong>Output Shaft</strong></td>
<td>Flanged 4.250&quot; B.C., 8 holes .594 ± .005&quot; diameter (See PWC Installation Drawing)</td>
<td>Flanged 5.125&quot; B.C., 8 holes .594 ± .005&quot; diameter (See PWC Installation Drawing)</td>
<td>Flanged 4.250&quot; B.C., 8 holes .594 ± .005&quot; diameter (See PWC Installation Drawing)</td>
<td>--</td>
<td>--</td>
<td>Flanged 4.250&quot; B.C., 8 holes .594 ± .005&quot; diameter (See PWC Installation Drawing)</td>
</tr>
<tr>
<td><strong>FUEL (See NOTE 8)</strong></td>
<td>Fuels conforming to P&amp;WC Spec. CPW204 &amp; CPW 46. For PT6-AG engines CPW381 also.</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>See PWC SB 13044 for approved fuel types.</td>
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<td>--</td>
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<td>--</td>
<td>--</td>
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<tr>
<td><strong>OIL TANK CAPACITY, gal.</strong></td>
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<td>--</td>
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<td><strong>USABLE OIL TANK CAPACITY, gal.</strong></td>
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<td>1.0</td>
<td>1.5</td>
<td>--</td>
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<td><strong>PRINCIPAL DIMENSIONS, in.</strong></td>
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<tr>
<td>Length</td>
<td>72.62</td>
<td>79.89</td>
<td>72.09</td>
<td>66.76</td>
<td>72.09</td>
<td>66.76</td>
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<tr>
<td>Nominal diameter</td>
<td>18.29</td>
<td>--</td>
<td>18.29</td>
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<tr>
<td>Maximum radius</td>
<td>12.84</td>
<td>15.44</td>
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<td>(excluding exhaust ports)</td>
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<tr>
<td><strong>WEIGHT (DRY)</strong></td>
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<td>(includes basic engine, fuel and ignition systems but excludes propeller governor (-6, -20, and PT6D-114A models only) and ignition power source)</td>
<td>459</td>
<td>622</td>
<td>487</td>
<td>443</td>
<td>489</td>
<td>449</td>
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II. MODELS (continued)

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<td>Forward of mount plane</td>
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<td>5.22</td>
<td>2.630</td>
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<td>Aft of forward mount plane</td>
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<td>See NOTE 17</td>
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<td>---</td>
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<tr>
<td>Below engine centerline</td>
<td>0.12</td>
<td>See NOTE 17</td>
<td>.300</td>
<td>-</td>
<td>-</td>
<td>.260</td>
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<td>Right of engine centerline</td>
<td>0.27</td>
<td>See NOTE 17</td>
<td>.28</td>
<td>.29</td>
<td>.28</td>
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III. MODELS

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<td>Maximum continuous at sea level</td>
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RATINGS

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<tr>
<th>Equivalent shaft hp.</th>
<th>PT6A-65B</th>
<th>PT6A-65R</th>
<th>PT6A-65AR</th>
<th>PT6A-65AG</th>
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</thead>
<tbody>
<tr>
<td>Shaft hp.</td>
<td>1,249</td>
<td>---</td>
<td>1,298</td>
<td>---</td>
</tr>
<tr>
<td>Jet thrust, lb.</td>
<td>189</td>
<td>---</td>
<td>194</td>
<td>---</td>
</tr>
<tr>
<td>Output rpm</td>
<td>1,700</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Gas generator rpm</td>
<td>39,000</td>
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</table>

Takeoff (5 min.) at sea level

<table>
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<tr>
<th>Equivalent shaft hp.</th>
<th>PT6A-65B</th>
<th>PT6A-65R</th>
<th>PT6A-65AR</th>
<th>PT6A-65AG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shaft hp.</td>
<td>1,249</td>
<td>1,459</td>
<td>1,509</td>
<td>1,381</td>
</tr>
<tr>
<td>Jet thrust, lb.</td>
<td>189</td>
<td>209</td>
<td>214</td>
<td>202</td>
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<tr>
<td>Output rpm</td>
<td>1,700</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Gas generator rpm</td>
<td>39,000</td>
<td>---</td>
<td>---</td>
<td>---</td>
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Alternative takeoff

(5 min. at sea level)

<table>
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<tr>
<th>Equivalent shaft hp.</th>
<th>PT6A-65B</th>
<th>PT6A-65R</th>
<th>PT6A-65AR</th>
<th>PT6A-65AG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shaft hp.</td>
<td>---</td>
<td>1,308</td>
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<tr>
<td>Jet thrust, lb.</td>
<td>---</td>
<td>1,230</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Output rpm</td>
<td>---</td>
<td>1,700</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Gas generator rpm</td>
<td>---</td>
<td>39,000</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

Maximum reverse

| Shaft hp.            | 900      | ---      | ---       | ---       |
| Output rpm (max)     | 1,650    | ---      | ---       | ---       |

Output Shaft

Flanged 4.250” B.C., 8 holes .594 + .005” diameter
See PWC Installation Drawing

FUEL (See NOTE 8)

Fuels conforming to P&W Spec. CPW204 & CPW46. For PT6-AG engine CPW381 also.

OIL

See NOTE 9

OIL TANK CAPACITY, gal.

2.5

USABLE OIL TANK CAPACITY, gal.

1.5

PRINCIPAL DIMENSIONS, in.

| Length | 74.79 | --- | --- | --- |
| Nominal diameter | 18.29 | --- | --- | --- |
| Maximum radius | 12.84 | --- | --- | --- |
### III. MODELS (continued)

<table>
<thead>
<tr>
<th></th>
<th>PT6A-65B</th>
<th>PT6A-65R</th>
<th>PT6A-65AR</th>
<th>PT6A-65ag</th>
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<tbody>
<tr>
<td>WEIGHT (DRY)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(includes basic engine, fuel and ignition systems but excludes propeller governor (-6,-20, and PT6D-114A models only) and ignition power source)</td>
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<tr>
<td>CENTER OF GRAVITY</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(dry weight) (in.)</td>
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<tr>
<td>Forward of mount plane</td>
<td>3.75</td>
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<td>--</td>
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<tr>
<td>Aft of forward mount plane</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Below engine centerline</td>
<td>.29</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Right of engine centerline</td>
<td>.17</td>
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### IV. MODELS

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<tr>
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<th>PT6B-9</th>
<th>PT6B-35F</th>
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<tbody>
<tr>
<td>REDUCTION GEAR RATIO</td>
<td>.1889:1</td>
<td>.1875:1</td>
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<tr>
<td>RATINGS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum continuous at sea level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equivalent shaft hp.</td>
<td>---</td>
<td>684</td>
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<tr>
<td>Shaft hp.</td>
<td>500</td>
<td>650</td>
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<tr>
<td>Jet thrust, lb.</td>
<td>124</td>
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<tr>
<td>Output rpm</td>
<td>6,230</td>
<td>6,188</td>
</tr>
<tr>
<td>Gas generator rpm</td>
<td>38,100</td>
<td>--</td>
</tr>
<tr>
<td>Takeoff (5 min.) at sea level</td>
<td></td>
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<tr>
<td>Equivalent shaft hp.</td>
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<td>684</td>
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<tr>
<td>Shaft hp.</td>
<td>550</td>
<td>650</td>
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<tr>
<td>Jet thrust, lb.</td>
<td>136</td>
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<tr>
<td>Output rpm</td>
<td>6,230</td>
<td>6,188</td>
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<tr>
<td>Gas generator rpm</td>
<td>38,100</td>
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</tr>
<tr>
<td>Maximum reverse</td>
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</tr>
<tr>
<td>Shaft hp.</td>
<td>---</td>
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</tr>
<tr>
<td>Output rpm (max)</td>
<td>---</td>
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<tr>
<td>OUTPUT SHAFT</td>
<td>SAE Aero Std. 84d</td>
<td>36 teeth, 1.5 in. P.D.</td>
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<tr>
<td></td>
<td>Spline 1.5 in P.D.</td>
<td>See Installation Manual</td>
</tr>
<tr>
<td>FUEL (See NOTE 8)</td>
<td>Fuels conforming to P&amp;WC Spec.: CPW204 &amp; CPW46.</td>
<td>--</td>
</tr>
<tr>
<td>OIL</td>
<td>See NOTE 9</td>
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</tr>
<tr>
<td>OIL TANK CAPACITY, gal.</td>
<td>2.3</td>
<td>--</td>
</tr>
<tr>
<td>USABLE OIL TANK CAPACITY, gal.</td>
<td>1.5</td>
<td>--</td>
</tr>
<tr>
<td>PRINCIPAL DIMENSIONS, in.</td>
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<tr>
<td>Length</td>
<td>58.68</td>
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<tr>
<td>Nominal diameter</td>
<td>18.06</td>
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<tr>
<td>Maximum radius</td>
<td>10.85</td>
<td>12.6</td>
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<td>WEIGHT (DRY)</td>
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<td>(includes basic engine, fuel and ignition systems but excludes propeller governor (-6,-20, and PT6A-114A models only) and ignition power source)</td>
<td>255</td>
<td>305</td>
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IV. MODELS (continued)

CENTER OF GRAVITY
(dry weight) (in.)

<table>
<thead>
<tr>
<th></th>
<th>PT6B-9</th>
<th>PT6B-35F</th>
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<tbody>
<tr>
<td>Forward of mount plane</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Aft of forward mount plane</td>
<td>22.08</td>
<td>23.56 RH/23.3 LH*</td>
</tr>
<tr>
<td>Below engine centerline</td>
<td>0.13</td>
<td>.52 RH/.63 LH</td>
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<tr>
<td>Right of engine centerline</td>
<td>0.52</td>
<td>.16 RH/.15 LH</td>
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CERTIFICATION BASIS

Applicable to the following engines and serial numbers: FAR 21.29, CAR 13. (Except Serial numbers shown below which were certified under FAR 21.21, FAR 33-5 NOTE 19)

<table>
<thead>
<tr>
<th>MODEL</th>
<th>S/N</th>
<th>DATE OF APPLICATION</th>
<th>NO. E4EA ISSUED/REVISED</th>
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<tr>
<td>PT6A-6</td>
<td>All</td>
<td>June 4, 1962</td>
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<td>PT6A-6A</td>
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<td>April 6, 1965</td>
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<td>PT6A-6B</td>
<td>All</td>
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<td>PT6B-9</td>
<td>All</td>
<td>June 4, 1962</td>
<td>May 28, 1965</td>
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<td>PT6A-11</td>
<td>All</td>
<td>August 19, 1977</td>
<td>September 16, 1977</td>
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<td>PT6A-11AG</td>
<td>All</td>
<td>January 10, 1979</td>
<td>May 17, 1979</td>
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<td>PT6A-20</td>
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<td>April 9, 1965</td>
<td>October 29, 1965</td>
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<td>PT6A-20A</td>
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<td>February 19, 1973</td>
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<td>PT6A-20B</td>
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<td>PT6A-21</td>
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<td>PT6A-25C</td>
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<td>041041-041044</td>
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<td>041060-041063</td>
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<td>041067-041098</td>
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IMPORT REQUIREMENTS:

To be considered eligible for installation on U.S. registered aircraft, each engine to be exported to the United States shall be accompanied by a Certificate of Airworthiness for export or certifying statement endorsed by the exporting cognizant civil airworthiness authority which contains the following language:

(1) This engine conforms to its United States type design (Type Certificate Number E4EA) and is in a condition for safe operation.

(2) This engine has been subjected by the manufacturer to a final operational check and is in a proper state of airworthiness.

Reference FAR Section 21.500, which provides for the airworthiness acceptance of aircraft engines or propellers manufactured outside of the U.S. for which a U.S. type certificate has been issued.

Additional guidance is contained in FAA Advisory Circular 21.23, Airworthiness Certification of Civil Aircraft, Engines, Propellers and Related Products, Imported into the United States.
### NOTES

**NOTE 1.**

**Maximum permissible temperatures:**

<table>
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<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Measured Rated Turbine Temperature as Indicated by the Average of 24 Gas Temp. Thermocouples</td>
<td>Measured Rated Inter-Turbine Temperature as Indicated by the Average of 8 or 10 Gas Temp. Thermocouples</td>
<td>- -</td>
<td>- -</td>
</tr>
<tr>
<td>Takeoff</td>
<td>1821°F (994°C) 1382°F (750°C) (PT6A-20,-20A,-20B,-6/C20)</td>
<td>1382°F (750°C)</td>
<td>1292°F (700°C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1745°F (952°C) 1382°F (750°C) (PT6A-20,-20A,-20B,-6/C20)</td>
<td>1382°F (750°C) 1319°F (715°C) (PT6B)</td>
<td>1292°F (700°C)</td>
<td></td>
</tr>
<tr>
<td>Maximum Continuous</td>
<td>1900°F (1038°C) 1994°F (1090°C) (PT6A-20,-20A,-20B,-6/C20)</td>
<td>1994°F (1090°C)</td>
<td>- -</td>
<td></td>
</tr>
<tr>
<td>Starting Transient (2 sec.)</td>
<td>1994°F (1090°C)</td>
<td>- -</td>
<td>1994°F (1090°C)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Measured Rated Inter-Turbine Temperature as Indicated by the Average of 8 or 10 Gas Temp. Thermocouples</td>
<td>- -</td>
<td>- -</td>
</tr>
<tr>
<td>Takeoff</td>
<td>1283°F (695°C)</td>
<td>1283°F (695°C)</td>
<td>1336°F (725°C)</td>
</tr>
<tr>
<td>Maximum Continuous</td>
<td>1283°F (695°C)</td>
<td>1283°F (695°C)</td>
<td>1336°F (725°C)</td>
</tr>
<tr>
<td>Starting Transient (2 sec.)</td>
<td>1994°F (1090°C)</td>
<td>- -</td>
<td>1994°F (1090°C)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Measured Rated Inter-Turbine Temperature as Indicated by the Average of 8 or 10 Gas Temp. Thermocouples</td>
<td>Measured Rated Inter-Turbine Temperature as Indicated by the Average of 8 Gas Temp. Thermocouples</td>
<td>- -</td>
</tr>
<tr>
<td>Takeoff</td>
<td>1454°F (790°C)</td>
<td>1481°F (805°C)</td>
<td>1265°F (685°C)</td>
</tr>
<tr>
<td>Maximum Continuous</td>
<td>1454°F (790°C)</td>
<td>1481°F (805°C)</td>
<td>1265°F (685°C)</td>
</tr>
<tr>
<td>Starting Transient (2 sec.)</td>
<td>1994°F (1090°C)</td>
<td>- -</td>
<td>- -</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Measured Rated Inter-Turbine Temperature as Indicated by the Average of 8 Gas Temp. Thermocouples</td>
<td>- -</td>
<td>(8 or 10)</td>
<td>- -</td>
</tr>
<tr>
<td>Takeoff</td>
<td>1301°F (705°C)</td>
<td>1382°F (750°C)</td>
<td>1400°F (760°C)</td>
<td>1472°F (800°C)</td>
</tr>
<tr>
<td>Maximum Continuous</td>
<td>1301°F (705°C)</td>
<td>1382°F (750°C)</td>
<td>1400°F (760°C)</td>
<td>1472°F (800°C)</td>
</tr>
<tr>
<td>Starting Transient (5 sec.)</td>
<td>1832°F (1000°C)</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
</tr>
<tr>
<td>Alternate Takeoff</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>
**NOTE 1.**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Measured Rated Inter-Turbine Temperature as Indicated by the Average of 8 Gas Temp. Thermocouples</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Takeoff</td>
<td>1553°F (845°C)</td>
<td>1472°F (800°C)</td>
<td>-</td>
<td>1508°F (820°C)</td>
</tr>
<tr>
<td>Maximum Continuous</td>
<td>1494°F (812°C)</td>
<td>1472°F (800°C)</td>
<td>-</td>
<td>1508°F (820°C)</td>
</tr>
<tr>
<td>Starting Transient (5 sec.)</td>
<td>1832°F (1000°C)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Alternate Takeoff</td>
<td>1472°F (800°C)</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

**NOTE 2.**

**Fuel and Oil Pressure Limits:**

**Fuel:** Minimum pressure at inlet to the engine fuel system shall not be less than 5 p.s.i. above true vapor pressure of the fuel. For emergency operation, with airframe boost pump inoperative, it must be such that vapor liquid ratio does not exceed 0.1 for continuous operation and does not exceed 0.3 for more than 10 hours in a pump overhaul life.

**Oil: Operating range**

**PT6A-6, -6A, -6B, -20, -20A, -20B, -6/C20, PT6B-9**

28000 rpm gas generator speed and above: 65-85 p.s.i.g., 80 (max. B-9)

Below 28000 rpm gas generator speed: 40 p.s.i.g. (min.)

**PT6A-11, -11AG, -15AG, -21, -27, -28, -29, -50, -110, -112, -121**

27000 rpm gas generator speed and above, with an oil temperature of 140-158°F: 80-100 p.s.i.g.

Below 27000 rpm gas generator speed: 40 p.s.i.g. (min) 60 (-50)
NOTE 2. Oil: Operating range

(Cont.)

**PT6A-25, -25A, -25C**
27000 rpm gas generator speed and above, with an oil temperature of 140-160°F:
Below 27000 rpm gas generator speed:

65-85 p.s.i.g. (75-95(A-25C))
40 p.s.i.g. (min)

27000 rpm gas generator speed and above, with an oil temperature of 140-158°F:
Below 27000 rpm gas generator speed:

85-105 p.s.i.g. (75-100(B-35F))
40 p.s.i.g. (min)

**PT6A-38, -40, -41, -41AG, -42, -42A**
27000 rpm gas generator speed and above, with an oil temperature of 140-160°F:
Below 27000 rpm gas generator speed:

85-135 p.s.i.g. (PT6A-38)
105-135 p.s.i.g. (PT6A-41, -41AG)
100-135 p.s.i.g. (PT6A-40, -42, -42A)
60 p.s.i.g. (min)

27000 rpm gas generator speed and above, with an oil temperature of 140-160°F:
Below 27000 rpm gas generator speed:

90-135 p.s.i.g.
60 p.s.i.g. (min)

NOTE 3. The engine ratings are based on static sea level condition 29.92 in Hg pressure, compressor intake screen installed, no external accessory loads and no airbleed. These ratings are available up to the following compressor inlet air (dry) temperatures.

<table>
<thead>
<tr>
<th>Engine</th>
<th>Maximum Continuous</th>
<th>Maximum Takeoff</th>
<th>PT6A-45R</th>
<th>Maximum Continuous</th>
<th>Maximum Takeoff</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT6A-6, -6A, -6B</td>
<td>64°F</td>
<td>70</td>
<td>70</td>
<td>PT6A-50</td>
<td>90</td>
</tr>
<tr>
<td>PT6A-20, -20A, -20B, -6/C20</td>
<td>70</td>
<td>70</td>
<td>PT6A-60, -60A</td>
<td>77</td>
<td>77</td>
</tr>
<tr>
<td>PT6A-11, -11AG</td>
<td>108</td>
<td>108</td>
<td>PT6A-60AG</td>
<td>63</td>
<td>79</td>
</tr>
<tr>
<td>PT6A-21</td>
<td>90</td>
<td>90</td>
<td>PT6A-61A, -61</td>
<td>115</td>
<td>115</td>
</tr>
<tr>
<td>PT6A-25, -25A</td>
<td>93</td>
<td>93</td>
<td>PT6A-61, -61A</td>
<td>115</td>
<td>115</td>
</tr>
<tr>
<td>PT6A-25C</td>
<td>87</td>
<td>87</td>
<td>PT6A-65B</td>
<td>101</td>
<td>101</td>
</tr>
<tr>
<td>PT6A-15AG, -27</td>
<td>71</td>
<td>71</td>
<td>PT6A-65R</td>
<td>101</td>
<td>82.76 (1)</td>
</tr>
<tr>
<td>PT6A-28</td>
<td>70</td>
<td>70</td>
<td>PT6A-65AR</td>
<td>101</td>
<td>82.84 (1)</td>
</tr>
<tr>
<td>PT6A-29</td>
<td>73</td>
<td>73</td>
<td>PT6A-65AG</td>
<td>101</td>
<td>71</td>
</tr>
<tr>
<td>PT6A-34, -34B, -34AG</td>
<td>86</td>
<td>86</td>
<td>PT6A-110</td>
<td>101</td>
<td>101</td>
</tr>
<tr>
<td>PT6A-35, -135A</td>
<td>93</td>
<td>93</td>
<td>PT6A-112</td>
<td>133</td>
<td>133</td>
</tr>
<tr>
<td>PT6A-36</td>
<td>97</td>
<td>97</td>
<td>PT6A-114</td>
<td>136</td>
<td>136</td>
</tr>
<tr>
<td>PT6A-38</td>
<td>102</td>
<td>102</td>
<td>PT6A-114A</td>
<td>115</td>
<td>115</td>
</tr>
<tr>
<td>PT6A-40</td>
<td>135</td>
<td>135</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PT6A-41, -41AG, -42, -42A</td>
<td>106 (86, -42A)</td>
<td>106</td>
<td>PT6A-114A</td>
<td>115</td>
<td>115</td>
</tr>
</tbody>
</table>
### Maximum Continuous Takeoff Maximum Continuous Takeoff

<table>
<thead>
<tr>
<th>Model</th>
<th>PT6A-45</th>
<th>79</th>
<th>59</th>
<th>PT6A-116</th>
<th>105</th>
<th>105</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PT6A-45A</td>
<td>79</td>
<td>46</td>
<td>PT6A-121</td>
<td>91</td>
<td>91</td>
</tr>
<tr>
<td></td>
<td>PT6A-45B</td>
<td>84</td>
<td>52</td>
<td>PT6A-135</td>
<td>85</td>
<td>85</td>
</tr>
<tr>
<td></td>
<td>PT6B-9</td>
<td>72</td>
<td></td>
<td>PT6B-35F</td>
<td>110</td>
<td>110</td>
</tr>
<tr>
<td></td>
<td>PT6D-114A</td>
<td>104</td>
<td>104</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PT6A-52</td>
<td>142</td>
<td>142</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Alternative Takeoff
2. Takeoff with Augmentation Fluid

### NOTE 4

**Accessory Drive Provisions:** (All Models except -50)

The following accessory drive provisions are available and are included in the basic engine weight.

<table>
<thead>
<tr>
<th>Driven by Gas Generator Turbine</th>
<th>Driven by Power Turbine</th>
<th>Rotating Facing Drive Pad</th>
<th>Speed Ratio (to Turbine)</th>
<th>Maximum Torque (in. - lbs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tachometer, Accessory Gearbox</td>
<td></td>
<td>CC</td>
<td>0.112</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Starter and/or Generator</td>
<td></td>
<td>C</td>
<td>0.293</td>
<td>170</td>
</tr>
<tr>
<td>Vacuum Pump</td>
<td></td>
<td>CC</td>
<td>0.103</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydraulic Pump</td>
<td></td>
<td>CC</td>
<td>0.203</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aircraft Accessory Drive</td>
<td></td>
<td>C</td>
<td>0.321</td>
<td>135</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table:

- **Driven by Gas Generator Turbine**
- **Rotating Facing Drive Pad**
- **Speed Ratio (to Turbine)**
- **Maximum Torque (in. - lbs.)**
- **Maximum Overhang**

The following accessory drive provisions are available and are included in the basic engine weight.
<table>
<thead>
<tr>
<th>Tachometer</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Tachometer and overspeed governor for PT6A-6,-6A,-6B and-20 only)</td>
</tr>
<tr>
<td>C</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

**NOTE 4. (Cont’d)**

<table>
<thead>
<tr>
<th>Driven by Power Turbine</th>
<th>Rotating Facing Drive Pad</th>
<th>Speed Ratio (to Turbine)</th>
<th>Maximum Torque Continuous</th>
<th>Maximum Torque Static</th>
<th>Maximum Overhang (in. - lbs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propeller Governor and Overspeed Governor*</td>
<td>C</td>
<td>0.1264(PT6A-15AG, -25C,-27,-28,-29,-34,-34B,-34AG,-35,-36,-38,-40,-41,-41AG,-42,-42A,-52,-61,-61A)</td>
<td>50</td>
<td>850</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.1273(PT6A-6,-6A,-6B,-11,-11AG,-20,-20A,-20B,-6/C20,-21,-25,-25A,-110,-112</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>114, 114A,-116, 121,-135,-135A); 0.1405(PT6A-45, 45A, 45B, 45R, 60, 60A, 60AG, 65B, 65R, 65AR, 65AG)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* May be an optional drive, which is not included in the basic engine weight, is included.
The hydraulic pump drive requires the aircraft accessory drive to complete the train.

Cabin pressurization may be provided by the approved combination of the Beech Aircraft Corporation Gearbox No. 50-9903 with the Godfrey Engineering type 9 cabin supercharger, mounted directly on the accessories gearbox.

PT6A-38,-40,-41,-41AG,-42,-42A are approved for operation with an accessory mounted on the reduction gearbox and belt driven from the propeller assembly provided that the accessory is mounted and driven in accordance with the location dimensions and weight prescribed in Sheet 5 of Drawing Number 3018500, revision dated August 20, 1973.

C = Clockwise
CC = Counterclockwise
### Accessory Drive Provisions: (PT6A-50 only)

<table>
<thead>
<tr>
<th>Driven by Gas Generator Turbine</th>
<th>Rotating Facing Drive Pad</th>
<th>Speed Ratio (to Turbine)</th>
<th>Maximum Torque</th>
<th>Maximum Overhang (in. - lbs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Continuous</td>
<td>Static</td>
</tr>
<tr>
<td>Tachometer</td>
<td>CC</td>
<td>0.112</td>
<td>7</td>
<td>100</td>
</tr>
<tr>
<td>Accessory Gearbox</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Starter and/or Generator</td>
<td>C</td>
<td>0.293</td>
<td>170</td>
<td>1600</td>
</tr>
<tr>
<td>Hydraulic Pump*</td>
<td>CC</td>
<td>0.204</td>
<td>150</td>
<td>800</td>
</tr>
<tr>
<td>Driven by Power Turbine</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tachometer</td>
<td>CC</td>
<td>0.1400</td>
<td>7</td>
<td>100</td>
</tr>
<tr>
<td>Alternator</td>
<td>C</td>
<td>0.529</td>
<td>120</td>
<td>1600</td>
</tr>
<tr>
<td>Prop. Governor</td>
<td>CC</td>
<td>0.1400</td>
<td>100</td>
<td>1700</td>
</tr>
<tr>
<td>Prop. Overspeed Governor</td>
<td>CC</td>
<td>0.1400</td>
<td>50</td>
<td>850</td>
</tr>
</tbody>
</table>
**NOTE 5.**
External airbleed shall not exceed 5.25%, except as specified in specific installation manuals. A maximum of 1.5 lbs. Per minute may be bled during starting. Bleed air meets the requirements of Paragraph 3.18 of MIL-E-5007C.

**NOTE 6.**

**Maximum Allowable Torque:**
The Maximum allowable steady state and acceleration torque, as measured by the torquemeter, are:

<table>
<thead>
<tr>
<th>Model</th>
<th>Continuous lb. Ft.</th>
<th>Transient Acceleration lb. Ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT6A-11, 11AG</td>
<td>1194</td>
<td>1500</td>
</tr>
<tr>
<td>PT6A-6, 6A, 6B, 20, 20A, 20B, 6/C20, 21</td>
<td>1315</td>
<td>1500</td>
</tr>
<tr>
<td>PT6A-25A</td>
<td>1628</td>
<td>2100</td>
</tr>
<tr>
<td>PT6A-15AG, 27</td>
<td>1786</td>
<td>2100</td>
</tr>
<tr>
<td>PT6A-38</td>
<td>1970</td>
<td>2750</td>
</tr>
<tr>
<td>PT6A-40</td>
<td>2230</td>
<td>2750</td>
</tr>
<tr>
<td>PT6A-41, 41AG, 42, 42A</td>
<td>2230</td>
<td>2750</td>
</tr>
<tr>
<td>PT6A-45, 45A, 45B</td>
<td>3625</td>
<td>5100</td>
</tr>
<tr>
<td>PT6A-45R</td>
<td>3625</td>
<td>5100</td>
</tr>
<tr>
<td>PT6A-50</td>
<td>4860</td>
<td>5900</td>
</tr>
<tr>
<td>PT6A-135, 135A</td>
<td>2080</td>
<td>2400</td>
</tr>
<tr>
<td>PT6B-9</td>
<td>464</td>
<td>---</td>
</tr>
<tr>
<td>PT6A-112</td>
<td>1480</td>
<td>1900</td>
</tr>
<tr>
<td>PT6A-110</td>
<td>1313</td>
<td>1700</td>
</tr>
<tr>
<td>PT6A-60, 60A, 60AG</td>
<td>3625</td>
<td>5100</td>
</tr>
<tr>
<td>PT6A-61, 61A</td>
<td>2230</td>
<td>2750</td>
</tr>
<tr>
<td>PT6A-65B</td>
<td>3625</td>
<td>5100</td>
</tr>
<tr>
<td>PT6A-65R</td>
<td>4250 (3800 Alternative Takeoff)</td>
<td>5100</td>
</tr>
<tr>
<td>PT6A-114, 114A</td>
<td>1980</td>
<td>2400</td>
</tr>
<tr>
<td>PT6A-121</td>
<td>1710</td>
<td>2200</td>
</tr>
<tr>
<td>PT6B-35F</td>
<td>570</td>
<td>658</td>
</tr>
<tr>
<td>PT6A-65AR</td>
<td>4400(3800 Alternative Takeoff)</td>
<td>5100</td>
</tr>
<tr>
<td>PT6A-116</td>
<td>1940</td>
<td>2400</td>
</tr>
<tr>
<td>PT6A-65AG</td>
<td>3800</td>
<td>5100</td>
</tr>
<tr>
<td>PT6D-114A</td>
<td>610</td>
<td>740</td>
</tr>
<tr>
<td>PT6A-52</td>
<td>2230</td>
<td>2750</td>
</tr>
</tbody>
</table>
NOTE 7. The maximum output shaft overspeed limit is 110 percent (except 100% for PT6A-38, 41, 41AG, 42 and 42A only) at all ratings and may be employed for sustained periods in emergencies. The normal steady state output shaft operating limit speeds are defined as 2200 rpm (100%) for the PT6A-6, 6A, 6B, 6/C20, 11, 11AG, -15AG, -20, -20A, -20B, -21, -25A,-25, -25C,-27, -28, -29, -34,-34B,-34AG,-36,-38,-41 except 100% for PT6A-38, 40, -41AG, -42, -42A, -52, -56, and -61A, 1900 rpm (100%) for the PT6A-45,-45A,-45B,-45R,-65B,-65R,-60,-60A,-60AG,-65AR,-65AG,-135, 135A, 110, 112, 114, 114A, 121, and 116, 1210 rpm (100%) for the PT6A-50, 6230 rpm (100%) for the PT6B-9 and 6188 rpm (100%) for the PT6B-35F and PT6D-114A and is the normal steady state operating limit. The normal steady state operating limit speed rises linearly as power is decreased, reaching a maximum of 105% at idle power for the PT6B-9.

100% gas generator speed is defined as 37,468 rpm. Unlimited and limited gas generator speeds are:

<table>
<thead>
<tr>
<th>Model</th>
<th>Unlimited Speed, rpm</th>
<th>Limited Speed, rpm</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT6A-6,-6A,-6B,-11,-11AG,-20,-20A,-20B,-6/C20,-21,-25,-25A,-25C,-27,-28,-29,-34,-34B,-34AG,-36,-38,-41</td>
<td>38,100 (101.7%)</td>
<td>38,500 (102.8%)</td>
<td>10 Sec</td>
</tr>
<tr>
<td>PT6A-35,-110,-112,-114,-114A,-116,-121,-135,-135A,PT6D-114A</td>
<td>38,100 (101.7%)</td>
<td>38,500 (102.8%)</td>
<td>2 Sec</td>
</tr>
<tr>
<td>PT6A-50</td>
<td>38,500 (102.8%)</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>PT6A-40,-42,-42A</td>
<td>38,100 (101.7%)</td>
<td>39,000 (104.1%)</td>
<td>10 Sec</td>
</tr>
<tr>
<td>PT6A-45,-45A,-45B,-45R,-52,-60,-60A,-60AG,-61,-61A,-62,-65B,-65R,-65AR,-65AG</td>
<td>39,000 (104.1%)</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

NOTE 8. Emergency use of MIL-G-5572, Grades 80/07, 91/98, 100/130 and 115/145 is permitted for a total time period not exceeding 150 hours during any overhaul period. It is not necessary to purge the unused fuel from the system when switching fuel type.

NOTE 9. The following oils are eligible for these engines: PWC PT6 Engine Service Bulletin Nos. 1001, 1601, 3001, 4001, 12001 and 13001 list approved brand oils.

NOTE 10. These engines meet FAA requirements for operation in icing conditions when the intake system conforms with the PWC Installation Manual instruction for inertial separation of snow and icing particles; when the alternative approved alcohol system is used, flight in visible moisture is restricted as specified in the PWC Installation Manual. These engines also meet FAA requirements for adequate disk integrity and rotor blade containment and do not require external armoring.

NOTE 11. For reversing application the PT6A-6A and PT6A-20 engines must be equipped with Woodward Propeller Governor Type X210XXX.

NOTE 12. Fuel controls approved for each engine model are listed in the applicable Parts Catalog.

NOTE 13. The above models incorporate the following characteristics:

<table>
<thead>
<tr>
<th>Model</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT6A-6</td>
<td>Basic model</td>
</tr>
<tr>
<td>PT6A-6A</td>
<td>Incorporates provisions for reversing propeller.</td>
</tr>
<tr>
<td>PT6A-6B</td>
<td>Incorporates provisions for reversing propeller, PT6A-20 mechanism.</td>
</tr>
<tr>
<td>PT6B-9</td>
<td>Single stage reduction gearing. (Output shaft speed 6,230 r.p.m.)</td>
</tr>
<tr>
<td>PT6A-20A</td>
<td>Similar to PT6A-20 except for exhaust port configuration and optional propeller reversing system.</td>
</tr>
<tr>
<td>PT6A-20B</td>
<td>Similar to PT6A-20 except for optional propeller reversing system.</td>
</tr>
<tr>
<td>PT6A-11</td>
<td>Similar to PT6A-21 except derated.</td>
</tr>
</tbody>
</table>
**NOTE 13. (Cont.)**

<table>
<thead>
<tr>
<th>Model</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT6A-11AG</td>
<td>Similar to PT6A-11, intended for agricultural aviation. Permissible rotor component lives, overhaul, inspection intervals and fuel requirements are listed in PWC Engine Service Bulletin Nos. 12102, 12103, and 12144 respectively.</td>
</tr>
<tr>
<td>PT6A-15AG</td>
<td>Similar to PT6A-27, intended for agricultural aviation. Permissible rotor component lives, overhaul inspection intervals and fuel requirements are listed in PWC Engine Service Bulletin Nos. 12102, 12103, and 12144 respectively.</td>
</tr>
<tr>
<td>PT6A-6/C20</td>
<td>Similar to PT6A-20 except this configuration previously PT6A-6 converted to PT6A-20 by service bulletin.</td>
</tr>
<tr>
<td>PT6A-21</td>
<td>Similar to PT6A-27 except derated.</td>
</tr>
<tr>
<td>PT6A-25</td>
<td>Similar to PT6A-27 except for modifications required for inverted flight optional torque controller, and aluminum alloy castings.</td>
</tr>
<tr>
<td>PT6A-25A</td>
<td>Similar to PT6A-25 except for magnesium alloy major castings in place of aluminum alloy.</td>
</tr>
<tr>
<td>PT6A-25C</td>
<td>Similar to PT6A-25A except for A-34 hot section; T-3B first stage compressor blades and long inducer propeller; A-100 large bore reduction gears; and A-25A installation features. Ratings and limits are the same as the A-34.</td>
</tr>
<tr>
<td>PT6A-27</td>
<td>Features higher ratings, revised engine parts and integrated propeller reversing control.</td>
</tr>
<tr>
<td>PT6A-28</td>
<td>Similar to PT6A-27 except for higher inter-turbine temperature limit.</td>
</tr>
<tr>
<td>PT6A-29</td>
<td>Features higher ratings, revised first stage reduction gearing.</td>
</tr>
<tr>
<td>PT6A-34</td>
<td>Similar to PT6A-27 except incorporates a compressor turbine similar to PT6T-3 for higher ratings.</td>
</tr>
<tr>
<td>PT6A-34B</td>
<td>Similar to PT6A-34, except for aluminum alloy major castings in place of magnesium alloy.</td>
</tr>
<tr>
<td>PT6A-34AG</td>
<td>Similar to PT6A-34, intended for agricultural aviation. Permissible rotor component lives, overhaul, inspection intervals and fuel requirements are listed in P&amp;WACL Engine Service Bulletin Nos. 1302, 1303, and 1344 respectively.</td>
</tr>
<tr>
<td>PT6A-35</td>
<td>Similar to PT6A-135 but incorporating the reduction gearbox of the PT6A-34.</td>
</tr>
<tr>
<td>PT6A-36</td>
<td>Similar to PT6A-34 except for increased turbine inlet temperature limits.</td>
</tr>
<tr>
<td>PT6A-38</td>
<td>Similar to PT6A-41 except derated.</td>
</tr>
<tr>
<td>PT6A-40</td>
<td>Similar to PT6A-42 except for increased flat rating and manual fuel control override.</td>
</tr>
<tr>
<td>PT6A-41</td>
<td>Features an enlarged compressor and two stage power turbine for higher ratings.</td>
</tr>
<tr>
<td>PT6A-41AG</td>
<td>Similar to PT6A-41, intended for agricultural aviation.</td>
</tr>
<tr>
<td>PT6A-42</td>
<td>Similar to PT6A-41 except for increased cruise rating and increased inter-turbine temperature limits with improved compressor and reduced loss exhaust ducts.</td>
</tr>
<tr>
<td>PT6A-42A</td>
<td>Same as PT6A-42 except for addition of fuel control unit with manual override, compressor wash ring, accessory gearbox chip detector, P3 filter drain, and oil filler neck with check valve.</td>
</tr>
<tr>
<td>PT6A-45</td>
<td>Similar to PT6A-41 except for increased ratio reduction gearbox and higher ratings.</td>
</tr>
<tr>
<td>PT6A-45A</td>
<td>Similar to PT6A-45 except for increased takeoff rating and increased inter-turbine temperature limits.</td>
</tr>
<tr>
<td>PT6A-45B</td>
<td>Similar to PT6A-45A except for increased augmentation fluid flow for takeoff rating to a higher air inlet temperature.</td>
</tr>
<tr>
<td>PT6A-45R</td>
<td>Similar to PT6A-45B except for provision for automatic power increase from alternate takeoff power to takeoff power.</td>
</tr>
<tr>
<td>PT6A-50</td>
<td>Similar to PT6A-45 except for new reduction gearbox.</td>
</tr>
<tr>
<td>PT6A-114</td>
<td>Similar to PT6A-135 with a single port exhaust and PT6A-41 fuel system concepts and PT6A-135 reduction gearbox.</td>
</tr>
<tr>
<td>PT6A-114A</td>
<td>Throttle push version of -114 incorporating the -135A compressor, and a new strengthened propeller shaft.</td>
</tr>
<tr>
<td>PT6A-135</td>
<td>Similar to PT6A-36 except for new reduction gearbox and higher cruise rating.</td>
</tr>
<tr>
<td>PT6A-135A</td>
<td>Similar to PT6A-135 except for increased thermodynamic capability compressor.</td>
</tr>
<tr>
<td>PT6A-110</td>
<td>Similar to PT6A-11 except for incorporation of PT6A-135 reduction gearbox.</td>
</tr>
<tr>
<td>PT6A-65B</td>
<td>Similar to PT6A-45 except for additional axial compressor stage and increased diameter gas producer turbine wheel.</td>
</tr>
<tr>
<td>PT6A-65R</td>
<td>Identical to PT6A-65B except for reserve takeoff rating.</td>
</tr>
</tbody>
</table>
NOTE 13.  (Cont'd)

<table>
<thead>
<tr>
<th>Model</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT6A-65AR</td>
<td>Uprated maximum continuous power PT6A-65R.</td>
</tr>
<tr>
<td>PT6A-65AG</td>
<td>Similar to PT6A-65, intended for Agricultural Aviation. Ratings similar to the 65AR without automatic reserve power.</td>
</tr>
<tr>
<td>PT6A-60A</td>
<td>Uprated altitude performance PT6A-60.</td>
</tr>
<tr>
<td>PT6A-60AG</td>
<td>Similar to PT6A-60A, but with derated max continuous power, and intended for agricultural aviation.</td>
</tr>
<tr>
<td>PT6A-61</td>
<td>Similar to PT6A-60 except for PT6A-42 gearbox.</td>
</tr>
<tr>
<td>PT6A-61A</td>
<td>Updated altitude performance PT6A-61.</td>
</tr>
<tr>
<td>PT6A-116</td>
<td>Similar to PT6A-135 except for reduced takeoff and maximum continuous power and torque limit with PT6-121 externals.</td>
</tr>
<tr>
<td>PT6A-121</td>
<td>Similar to PT6A-21 except for a PT6A-135 reduction gearbox and a PT6A-112 power turbine.</td>
</tr>
<tr>
<td>PT6B-35F</td>
<td>Combines the aerodynamic components of the PT6A-135, the mechanical layout of the PT6A-34 and the PT6T-3 generator and exhaust case. Intended for remote drive propeller applications.</td>
</tr>
<tr>
<td>PT6D-114A</td>
<td>Based on the PT6A-114A with the main difference being the deletion of the second stage reduction gearing and output shaft. Intended for integration with a combining gearbox incorporated power turbine governors and a propeller output shaft.</td>
</tr>
<tr>
<td>PT6A-52</td>
<td>Similar to the PT6A-61 with the PT6A-60A thermal rating.</td>
</tr>
</tbody>
</table>

NOTE 14.  Certain engine parts are life limited. These limits are listed in P&W Engine Service Bulletin Nos. 1002, 1302, 1402, 1602, 3002, 4002, 12002, 12102, 13002, and 13202 as revised. Permissible overhaul and inspection intervals are listed in PW Engine Service Bulletin Nos. 1003, 1303, 1403, 1603, 1703, 1803, 3003, 3303, 4003, 12003, 12103, 13003, 13203, and 13303 as revised.

NOTE 15.  Fuel anti-icing additives conforming to specifications 3GP526A PFA 55MB, MIL-I-27686E may be used, at a concentration not exceeding 0.15% by volume.

NOTE 16.  For PT6A-34, PT6A-34B, PT6A-36, PT6A-45, PT6A-45A and PT6A-45B power may be restored in hot day conditions by means of water or water/methanol injection when accomplished in accordance with the requirements of the PW Installation Manual.

NOTE 17.  For PT6A-50 C.G. location (dry weight) is 27.69 in. behind forward mounting ring, 0.27 in. below horizontal centerline and 0.15 in. left of vertical centerline.

NOTE 18.  Augmentation fluid, when used, must meet the requirements of PW Specification CPW No. 328.

NOTE 19.  This Type Certificate Data Sheet reflects the certification basis and approval for those serial numbered model PT6A, PT6B and PT6D series engines listed under "Certification Basis". Two Type Certificates have been issued for administrative purposes: E4EA under FAR 21.29 for engines produced in Canada and E2NE under FAR 21.21 for engines produced in the United States. The type design for each model engine, regardless of where produced, is identical. The information on this Type Certificate Data Sheet applies to all Pratt & Whitney model PT6A, PT6B and PT6D series engines, including:

(A) Those serial numbered engines listed on and certificated under FAA Type Certificate E2NE, originally issued to Pratt & Whitney Aircraft Division of United Technologies Corporation, East Hartford, Connecticut, U.S.A. and reissued to Pratt & Whitney of Canada Ltd. (Formerly United Aircraft of Canada, Ltd.), Longueuil, Quebec, Canada.

(B) Those serial numbered engines listed above under "Certification Basis," certificated under this Type Certificate, E4EA, issued to Pratt & Whitney Canada Corp, Longueuil, Quebec, Canada.

NOTE 20.  Service Bulletins, structural repair manuals, vendor manuals, aircraft flight manuals, and overhaul and maintenance manuals, which contain a statement that the document is Transport Canada approved, are accepted by the FAA and are considered FAA approved. These approvals pertain to the type design only.
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

P9NE
Revision 1
Hartzell
HC-B3M
July 24, 1985

TYPE CERTIFICATE DATA SHEET NO. P9NE

Propellers of models described herein conforming with this data sheet (which is part of Type Certificate No. P9NE) and other approved data on file with the Federal Aviation Administration, meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Federal Aviation Regulations provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

Type Certificate Holder
Hartzell Propeller Inc.
Piqua Ohio 45356

Type
Constant speed; hydraulic (see NOTES 3 and 4)

Engine shaft
Special flange 4 1/4" bolt circle with eight 9/16" bolts

Hub material
Alloy steel

Blade material
See below

Number of blades
Three

Hubs eligible
HC-B3MN-3

<table>
<thead>
<tr>
<th>Blades Eligible (See Note 2)</th>
<th>Maximum Continuous HP RPM</th>
<th>Takeoff HP RPM</th>
<th>Diameter Limits (See Note 2) 100&quot;</th>
<th>Approx. Max. Weight Complete (For reference only) 134 lb.</th>
<th>Blade Construction Aramid Composite</th>
</tr>
</thead>
<tbody>
<tr>
<td>M10083</td>
<td>600 2200</td>
<td>600 2200</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Certification basis
FAR Part 35 effective October 14, 1980, with amendments 1 through 5.
Date of application for Type Certificate February 13, 1984

Production basis
Production Certificate No. 10

NOTE 1. Hub Model Designation

HC - B 3 M N - 3 A L

Denotes left-hand rotation
Denotes minor change not affecting eligibility
Denotes specific design features (see NOTE 4)
N denotes special flange 4-1/4" bolt circle with eight 9/16" bolts and two dowel bushings
Hartzell blade shank size
Number of blades
Identifies basic design
Hartzell controllable
NOTE 2. Blade Model Designation

| L | M | 100 | 83 | 8 |

B or K denotes deicing boots
Basic model or template
Basic diameter in inches
Denotes needle bearing installation in blade shank
Denotes left hand blade

NOTE 3. Pitch Control. Eligible with the following governors:
Woodward Model x210xxx or x210 x-xxx
Maximum Output Pressure 500 PSI

NOTE 4. (1) Feathering. The -3 model incorporates feathering and unfeathering features.
(2) Reversing. The -3 model is eligible for installation as reversing propellers with appropriate reversing controls.

NOTE 5. Left-Hand Models. The left-hand version of an approved propeller model is approved at the same rating and diameter as listed for right-hand model. (See NOTES 1 and 2.)

NOTE 6. Interchangeable Blades. Not applicable.

NOTE 7. Accessories.
(a) Propeller Spinner
   (1) Approved with Hartzell spinners (weight of spinners extra)
(b) Propeller Deicing
   (1) Eligible with Goodrich 77-xxx or 65-xxx deicing kit when installed in accordance with manufacturer's instructions.

NOTE 8. Shank Fairings. Not applicable.

NOTE 9. Special Limits. Not applicable.

NOTE 10. Special Notes. Propeller installation must be approved as part of the aircraft Type Certificate and demonstrate compliance with the applicable aircraft airworthiness requirements.

NOTE 11. Retirement Time. There is no longer a mandatory retirement time for blade part number M10083 when installed on the Cessna model 208 airplane.

....END....
Propellers of models described herein conforming with this data sheet (which is part of Type Certificate No. P60GL) and other approved data on file with the Federal Aviation Administration, meet the minimum standards for use in certificated aircraft in accordance with the pertinent aircraft data sheets and applicable portions of the Federal Aviation Regulations provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

<table>
<thead>
<tr>
<th>Type Certificate Holder</th>
<th>McCauley Accessory Division</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cessna Aircraft Company</td>
</tr>
<tr>
<td></td>
<td>7751 East Pawnee</td>
</tr>
<tr>
<td></td>
<td>Wichita, KS 67207</td>
</tr>
</tbody>
</table>

Type: Constant speed, full feathering and reversing; hydraulic (see Note 4).

Engine Shaft: Special flange with 4.25" bolt circle [(8)-9/16" studs and (2)-1/2" dowels in engine flange].

Hub Material: Aluminum Alloy
Blade Material: Aluminum Alloy
No. of Blades: Three
Hubs Eligible: 3GFR34C701, 3GFR34C702, 3GFR34C703, 3GFR34C704

<table>
<thead>
<tr>
<th>Blades Eligible (See NOTE 2)</th>
<th>Maximum HP/RPM</th>
<th>Take-Off HP/RPM</th>
<th>Diameter Limits (See NOTE 2)</th>
<th>Approx. Max. Wt. Complete (Max. Dia.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>93K[X]-0 to 93K[X]-5</td>
<td>565 2200</td>
<td>565 2200</td>
<td>93&quot; - 88&quot; (-0 to -5)</td>
<td>120.0 Lbs.</td>
</tr>
<tr>
<td>100L[X]-0 to 100L[X]-5</td>
<td>850 2000</td>
<td>850 2000</td>
<td>100&quot; - 95&quot; (-0 to -5)</td>
<td>122.0 Lbs.</td>
</tr>
<tr>
<td>106G[X]-0 to 106G[X]-6</td>
<td>900 2000</td>
<td>900 2000</td>
<td>106&quot; - 100&quot; (-0 to -6)</td>
<td>117.0 Lbs.</td>
</tr>
<tr>
<td>93K[X]-0 to 93K[X]-5</td>
<td>850 2200</td>
<td>850 2200</td>
<td>93&quot; - 88&quot; (-0 to -5)</td>
<td>117.0 Lbs.</td>
</tr>
</tbody>
</table>
Certification Basis


Date of Application for Type Certificate: November 11, 1980.

Models 3GFR34C701, 3GFR34C702, 3GFR34C703, 3GFR34C704:

Federal Aviation Regulations Part 35 including Amendments 35-1 through 35-5 (October 14, 1980) thereto.

Production Basis

Production Certificate No. 3

NOTE 1. Hub Model Designation.

<table>
<thead>
<tr>
<th>X</th>
<th>3</th>
<th>G</th>
<th>F</th>
<th>R</th>
<th>34</th>
<th>C</th>
<th>701</th>
<th>[X][X][X]</th>
</tr>
</thead>
</table>

Basic Model Designation

- Letters denoting changes that may affect eligibility or interchangeability.
- Numerals defining specific design and major change affecting eligibility or interchangeability of parts.
- Type of propeller - C, constant speed.
- McCauley blade shank size.
- When present, indicates reverse pitch capability.
- Type of propeller - F, full-feathering.
- G denotes special flange - 4 1/4" bolt circle with eight 9/16" studs and two 1/2" dowels.
- Number of blades.
- Indicates dowel location with respect to centerline of No. 1 blade socket, viewing hub from flange mounting face. Blank - 0° and 180° clockwise.
NOTE 2. **Blade Model Designation.**

Basic Model Designation

```
X - X 106 \{G[X]} - 0
```

- Reduction in diameter from basic, in inches.
- Characteristics of blade design (planform, etc.). Suffix [X] indicates blade butt staking dimensions for the actuating pin.
- Blade design diameter in inches.
- Letter designating direction of rotation; no letter (blank) indicates clockwise (viewed from downstream); L indicates counter-clockwise.
- Letter designating minor change not affecting eligibility or interchangeability.

NOTE 3. Not applicable.

NOTE 4. **Feathering.** Feathering and unfeathering capability when installed with appropriate feather/unfeathering controls.

**Reversing.** For installation as reversing propeller with appropriate reversing controls.

NOTE 5. **Left Hand Models.** The left hand version of an approved model is eligible at the same rating and diameter limitations as listed for the right hand model.

NOTE 6. Not applicable.

NOTE 7. **Accessories.**

(a) **Propeller Deicing**

(1) Model 93KB blades with Goodrich deicer per Goodrich Report 59-728 and installed per McCauley drawing E-5128.
(2) Model 100LA blades with Safeway deicer B-40245-50 per McCauley Report MC-2611 and installed per McCauley drawing E-5423.
(3) Model 106GA blades with McCauley deicer B-40245-54 per McCauley Report MC-2611 and installed per McCauley drawing E-6368.

(b) **Propeller Spinner**

(1) Model 3GFR34C701/93KB and 3GFR34C704/93KB with spinner, reference McCauley drawing E-5146.
(2) Model 3GFR34C702/100LA with spinner; reference McCauley drawing E-5424.
(3) Model 3GFR34C703/106GA with spinner; reference McCauley drawing E-6383.

NOTE 8. Not applicable.

NOTE 9. Not applicable.

NOTE 10. **Special Notes.** Aircraft installation must be approved as part of the aircraft type certificate upon compliance with the applicable aircraft airworthiness requirements.

... END ...
DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

CONTINENTAL  
C90-8F, -8FJ  
C90-12F, -12FH, -12FJ, -12FP  
C90-14F, -14FH, -14FJ, -16F  
0-200-A, 0-200-B, 0-200-C  
September 15, 1982

TYPE CERTIFICATE DATA SHEET NO. E-252

Engine of models described herein conforming with this data sheet (which is a part of type certificate No. 252) and other approved data on file with the Federal Aviation Agency, meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Civil Air Regulations provided they are installed, operated and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

Type Certificate Holder  
Teledyne Continental Motors  
P.O. Box 90  
Mobile, Alabama  36601

<table>
<thead>
<tr>
<th>Model</th>
<th>C90-8F</th>
<th>C90-12F, -14F, -16F</th>
<th>0-200-A, -B, -C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>4HOA</td>
<td>- - - - - - - - - -</td>
<td>- - - - - - - -</td>
</tr>
<tr>
<td>Rating, standard atmosphere</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. continuous hp., r.p.m., at sea level pressure altitude</td>
<td>90-2475</td>
<td>- -</td>
<td>100-2750</td>
</tr>
<tr>
<td>Takeoff hp., 5 min., r.p.m., full throttle, at sea level pressure alt</td>
<td>95-2625</td>
<td>- -</td>
<td>100-2750</td>
</tr>
<tr>
<td>Fuel (min. grade aviation gasoline)</td>
<td>80/87</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
</tr>
<tr>
<td>Lubricating oil, ambient air temp.</td>
<td>Oil Grade</td>
<td>- - - - - -</td>
<td>- - - - - -</td>
</tr>
<tr>
<td>Below 40° F.</td>
<td>SAE 20</td>
<td>- -</td>
<td>- -</td>
</tr>
<tr>
<td>Above 40° F.</td>
<td>SAE 40</td>
<td>- -</td>
<td>- -</td>
</tr>
<tr>
<td>Bore and stroke, in.</td>
<td>4.062 x 3.875</td>
<td>- -</td>
<td>- -</td>
</tr>
<tr>
<td>Displacement, cu. in.</td>
<td>201</td>
<td>- -</td>
<td>- -</td>
</tr>
<tr>
<td>Compression ratio</td>
<td>7:1</td>
<td>- -</td>
<td>- -</td>
</tr>
<tr>
<td>Weight (dry), lb.</td>
<td>184</td>
<td>188</td>
<td>190</td>
</tr>
<tr>
<td>C.G. location (with accessories)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fwd. or rear face of mounting lugs, in.</td>
<td>6.2</td>
<td>4.6</td>
<td>- -</td>
</tr>
<tr>
<td>Below crankshaft center line, in.</td>
<td>1.5</td>
<td>1.3</td>
<td>1.2</td>
</tr>
<tr>
<td>Propeller shaft, SAE No.</td>
<td>1 Flange</td>
<td>- -</td>
<td>- -</td>
</tr>
<tr>
<td>Carburetion (see NOTE 4 for injectors)</td>
<td>Marvel-Schebler MA-3SPA (CMC P/N 627367, 629175, 637101 or 637835)</td>
<td>- -</td>
<td>Marvel-Schebler MA-3SPA</td>
</tr>
<tr>
<td>Bendix-Stromberg NA-S3A1 (CMC P/N 530625, 530726, 531126, 530846, 531157)</td>
<td>- -</td>
<td>(TCM P/N 627143, 640416 or 633028)</td>
<td></td>
</tr>
<tr>
<td>Ignition</td>
<td>2 Bendix-Scintilla S4RN-21 or -1227; or Slick -Electro 443 or 4003 magnetos or 1 ea. Bendix-Scintilla S4RN-200 and 204</td>
<td>2 Bendix-Scintilla S4LN-21 or -1227 or 1 ea. S4LN-200 and -204; Slick-Electro 447, 4001 or 4201 magnetos</td>
<td>- -</td>
</tr>
</tbody>
</table>
Model C90-8F C90-12F, -14F, -16F 00-200-A, -B, -C

Timing, °BTC 26 Top, 28 Bottom - - - 24 Top, 24 Bottom

Spark plugs See NOTE 6 - - - - -

Oil sump capacity, qt. 5 or 6 - - - - -

NOTES 1 through 6 1, 2, 3, 4, 6 1, 2, 3, 4, 6

"-.-" indicates "same as preceding model"

Certification Basis Part 13 of the Civil Air Regulations.
Type Certificate No. 252

Production Basis Production Certificate No. 7
Production Certificate No. 508 (All models except C90-16F)

NOTE 1. Maximum permissible temperatures:

<table>
<thead>
<tr>
<th>Cylinder head</th>
<th>C90 Series</th>
<th>0-200 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>525° F.</td>
<td>525° F.</td>
</tr>
<tr>
<td>Cylinder barrel</td>
<td>275° F.</td>
<td>290° F.</td>
</tr>
<tr>
<td>Oil inlet</td>
<td>225° F.</td>
<td>225° F.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>240° F.</td>
</tr>
</tbody>
</table>

NOTE 2. Carburetor fuel inlet pressure limits:

<table>
<thead>
<tr>
<th>Cartridger</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA-3SPA, TCM P/N 627143, 633028, 637101, 637835, 640416</td>
<td>5 In. Fuel Head</td>
<td>6 PSIG</td>
</tr>
<tr>
<td>MA-3SPA, TCM P/N 627367, 629175</td>
<td>6 In. Fuel Head</td>
<td>6 PSIG</td>
</tr>
<tr>
<td>MA-3SPA, TCM P/N 530625, 530726, 530846, 531126, 531157</td>
<td>6 In. Fuel Head</td>
<td>6 PSIG</td>
</tr>
</tbody>
</table>

Carburetor Air Intake Assembly, TCM A40793, used with MA-3SPA, Marvel-Schebler Carb.
Carburetor Air Intake Assembly, TCM A40522, used with NA-53A1, Stromberg Carburetor.

NOTE 3. The following accessory drive or mounting provisions are available.

<table>
<thead>
<tr>
<th>Accessory</th>
<th>Direction of Rotation*</th>
<th>Speed Ratio to Crankshaft</th>
<th>Max. Torque Continuous (in.-lb.)</th>
<th>Max. Torque Static (in.-lb.)</th>
<th>Maximum Overhang Moment (in.-lb.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tachometer</td>
<td>C</td>
<td>0.500:1</td>
<td>7</td>
<td>50</td>
<td>25</td>
</tr>
<tr>
<td>Generator</td>
<td>CC</td>
<td>2.035:1</td>
<td>60</td>
<td>600</td>
<td>100</td>
</tr>
<tr>
<td>Starter</td>
<td>C</td>
<td>35.7:1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>** Vacuum Pump</td>
<td>CC</td>
<td>1.0:1</td>
<td>100</td>
<td>800</td>
<td>25</td>
</tr>
<tr>
<td>*** Fuel Pump (diaphragm)</td>
<td></td>
<td>0.500:1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Accessories previously listed in NOTE 3 are satisfactory for continued use with C90 Series engines.

* C - Clockwise viewing drive pad; CC - Counterclockwise.
** C90-16F and 0-200 Series engines only.
*** CMC Eq. 5809 incorporating CMC P/N 40585 pump approved as part of type design of the 0-200 Series engine. AC fuel pump, CMC P/N 631391, available as optional equipment on C90-16F.

NOTE 4. The C90-8F is identical to the C90-12F model except that the accessory section does not incorporate provisions for generator and starter drives.
The C90-14 models incorporate Lord type engine mounts which are not interchangeable with C90-12 models due to different machining of the engine mounting lugs on the engine crankcase.
The C90-16F is similar to the C90-12F except that vacuum pump drive provisions have been added.
The Model 0-200-B is similar to the 0-200A except for special crankshaft and crankcase providing for thrust application toward the engine only.
The Model 0-200-C is similar to the 0-200-A except for incorporation of provisions to supply oil pressure to a controllable pitch propeller through the crankshaft from an external boss on the crankcase. Those C90 Series models listed in the heading of this data sheet, suffixed by letters H, J and P, differ from the basic model designation as follows:

"H" denotes a special SAE No. 1 flange crankshaft and special crankcase for the installation of a hydraulically operated controllable pitch propeller requiring oil supply through the crankshaft.

"J" denotes incorporation of Model B-46 Ex-Cell-O fuel injector, P/N 530499, or American Bosch Model PSC-4A-95A2, P/N 534505, at a weight increase of 4 lb. over the corresponding carburetor equipped engine.

"P" denotes pusher installation incorporating special crankshaft and thrust bearing. Oil sump gauge rods will be marked as per installer's requirements.

NOTE 5. Bendix-Stromberg NAS-3A1 carburetor, P/N 530726, eligible only on Piper PA-11 airplanes equipped with Piper mufflers.

NOTE 6. Detergent oil meeting Continental Specification MHS-24 required when using 240° F oil inlet limits except during break-in period. Follow manufacturer's instructions for break-in or when changing oil types. Marking or placards prescribing use of Continental Specification MHS-24 oil only shall be installed on or near the oil filler on installations using 240° F oil inlet temperatures.

NOTE 7. The following spark plugs are approved for use on engine models as indicated:

**C90-8F, -12F, -14F, -16F**

<table>
<thead>
<tr>
<th>Brand</th>
<th>Spark Plugs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto Lite</td>
<td>18A1, BR4, BR4S, BR4SB, SH15, H15, SH15R, SH20A, SH150, SH200A</td>
</tr>
<tr>
<td>BG</td>
<td>RB485S, 706, 706R, 706SR, 919SR5, RB955S</td>
</tr>
<tr>
<td>Red Seal</td>
<td>SA190, SE190, SJ190, SE230, SJ230</td>
</tr>
</tbody>
</table>

**0-200-A, -B, -C**

<table>
<thead>
<tr>
<th>Brand</th>
<th>Spark Plugs</th>
</tr>
</thead>
<tbody>
<tr>
<td>BG</td>
<td>RB485S, 706, 706S, 919SR5, RB955S</td>
</tr>
<tr>
<td>Red Seal</td>
<td>SA190, SE190, SJ190, SE230, SJ230</td>
</tr>
</tbody>
</table>

...END...
TYPE CERTIFICATE DATA SHEET NO. 2A13

This data sheet, which is a part of Type Certificate 2A13, prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

I - Model PA-28-160 (Cherokee), 4 PCLM (Normal Category), Approved October 31, 1960, for S/N 28-03; 28-1 through 28-4377; and 28-1760A.

Engine
Lycoming O-320-B2B or O-320-D2A with carburetor setting 10-3678-32

Fuel
91/96 minimum grade aviation gasoline

Engine Limits
For all operations, 2700 r.p.m. (160 hp)

Propeller and Propeller Limits
Sensenich M74DM or 74DM6 on S/N 28-1 through 28-1760, and 28-1760A.
Sensenich M74DMS or 74D6S5 on S/N 28-1761 through 28-4377.
Static r.p.m. at maximum permission throttle setting not over 2425 r.p.m., not under 2325 r.p.m.
No additional tolerance permitted.
Diameter: Not over 74", not under 72.5".

Propeller Spinner
Piper P/N 14422-00 on S/N 28-1 through 28-1760, and 28-1760A.
Piper P/N 63760-04 or P/N 65805-00 on S/N 28-1761 through 28-4377.
See NOTE 11.

Airspeed Limits
Never exceed 171 mph (148 knots) CAS
Maximum structural cruising 140 mph (121 knots) CAS
Maneuvering 129 mph (112 knots) CAS
Flaps Extended 115 mph (100 knots) CAS
Center of Gravity Range
(+84.0) to (+95.9) at 1650 lb. or less
(+85.9) to (+95.9) at 1975 lb.
(+89.2) to (+95.9) at 2200 lb.
Straight line variation between points given.

Empty Weight C. G. Range
None

Maximum Weight
2200 lb.

No. of Seats
4  (2 at +85.5, 2 at +118.1)

Maximum Baggage
125 lb. at (+142.8) on S/N 28-1 through 28-1760, and 28-1760A. See NOTE 8.
200 lb. at (+142.8) on S/N 28-1761 through 28-4377.

Fuel Capacity
50 gallons at (+95)  (2 wing tanks)
See NOTE 1 for data on system fuel.

Oil Capacity
8 quarts at (+32.5), 6 quarts usable
See NOTE 1 for data on system oil.

Control Surface Movements
<table>
<thead>
<tr>
<th>Wing flaps</th>
<th>± 2°</th>
<th>Up</th>
<th>0°</th>
<th>Down</th>
<th>40°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ailerons</td>
<td>± 2°</td>
<td>Up</td>
<td>30°</td>
<td>Down</td>
<td>15°</td>
</tr>
<tr>
<td>Rudder</td>
<td>± 2°</td>
<td>Left</td>
<td>27°</td>
<td>Right</td>
<td>27°</td>
</tr>
<tr>
<td>Stabilator</td>
<td>± 2°</td>
<td>Up</td>
<td>18°</td>
<td>Down</td>
<td>2°</td>
</tr>
<tr>
<td>Stabilator Tab</td>
<td>± 1°</td>
<td>Up</td>
<td>3°</td>
<td>Down</td>
<td>12°</td>
</tr>
</tbody>
</table>

Nose Wheel Travel
(±1°) Left 30° Right 30°
(Effective on S/N 28-1 through 28-3377, and 28-1760A)
(±1°) Left 22° Right 22°
(Effective S/N 28-3378 through 28-4377)

Manufacturer's Serial Nos.
28-03; 28-1 through 28-4377; and 28-1760A.

II - Model PA-28-150 (Cherokee), 4 PCLM (Normal Category), Approved June 2, 1961, for S/N 28-03; 28-1 through 28-4377; and 28-1760A.

Engine
Lycoming O-320-A2B or O-320-E2A with carburetor setting 10-3678-32

Fuel
80/87 minimum grade aviation gasoline

Engine Limits
For all operations, 2700 r.p.m.  (150 hp)

Propeller and Propeller Limits
Sensenich M74DM or 74DM6 on S/N 28-1 through 28-1760, and 28-1760A.
Sensenich M74DMS or 74DM6S5 on S/N 28-1761 through 28-4377.
Static r.p.m. at maximum permissible throttle setting not over 2375 r.p.m.,
not under 2275 r.p.m.
No additional tolerance permitted.
Diameter: Not over 74", not under 72.5".

Propeller Spinner
Piper P/N 14422-00 on S/N 28-1 through 28-1760, and 28-1760A.
Piper P/N 63760-04 or 65805-00 on S/N 28-1761 through 28-4377.
See NOTE 11.

Airspeed Limits
Never exceed 171 mph (148 knots) CAS
Maximum structural cruising 140 mph (121 knots) CAS
Maneuvering 129 mph (112 knots) CAS
Flaps Extended 115 mph (100 knots) CAS
Center of Gravity Range
(+84.0) to (+95.9) at 1650 lb. or less
(+85.9) to (+95.9) at 1975 lb.
(+88.4) to (+95.9) at 2150 lb.
Straight line variation between points given.

Empty Wt. C. G. Range
None

Maximum Weight
2150 lb.

No. of Seats
4 (2 at +85.5, 2 at +118.1)

Maximum Baggage
125 lb. at (+142.8) on S/N 28-1 through 28-1760, and 28-1760A. See NOTE 8.
200 lb. at (+142.8) on S/N 28-1761 through 28-4377.

Fuel Capacity
50 gallons at (+95) (2 wing tanks)
See NOTE 1 for data on system fuel.

Oil Capacity
8 quarts at (+32.5) (6 quarts usable)
See NOTE 1 for data on system oil.

Control Surface Movements
Wing flaps (± 2°) Up 0° Down 40°
Ailerons (± 2°) Up 30° Down 15°
Rudder (± 2°) Left 27° Right 27°
Stabilator (± 1°) Up 18° Down 2°
Stabilator Tab (± 1°) Up 3° Down 12°

Nose Wheel Travel
(± 2°) Left 30° Right 30°
(Effective on S/N 28-03; 28-1 through 28-3377; and 28-1760A)
(± 2°) Left 22° Right 22°
(Effective on S/N 28-3378 through 28-4377)

Manufacturer's Serial Nos.
28-03; 28-1 through 28-4377; and 28-1760A.

III - Model PA-28-180 (Cherokee), 4 PCLM (Normal Category), Approved August 3, 1962; 2 PCLM (Utility Category),
Approved December 6, 1966, for S/N 28-03; 28-671 through 28-5859; and 28-7105001 through 28-7205318.

Engine
Lycoming O-360-A3A or O-360-A4A with carburetor setting 10-3878 or 10-4164-1

Fuel
91/96 minimum grade aviation gasoline

Engine Limits
(See NOTE 4):
Maximum permissible takeoff, 2475 r.p.m.
For all other operations, 2700 r.p.m. (180 hp)
S/N 28-1571; 28-1573; 28-1761 through 28-5859; and 28-7105001 through 28-7205318:
For all operations, 2700 r.p.m. (180 hp)

Propeller and Propeller Limits
Sensenich M76EMM or 76EM8 on S/N 28-671 through 28-1760, and 28-1760A (except
Sensenich M76EM8S or 76EM8S5 on S/N 28-1571, 28-1573; 28-1761 through
28-5859; and 28-7105001 through 28-7205318.
Static r.p.m. at maximum permissible throttle setting not over 2450 r.p.m.,
not under 2275 r.p.m.
No additional tolerance permitted.
Diameter: Not over or under 76".
See NOTE 10.
**Propeller Spinner**  
Piper P/N 14422-00 on S/N 28-671 through 28-1760, and 28-1760A.  
Piper P/N 63760-04 or 65805-00 on S/N 28-1761 through 28-5859; and 28-7105001 through 28-7205318.  
See NOTE 11.

**Airspeed Limits**

- Never exceed: 171 mph (148 knots) CAS
- Maximum structural cruising: 140 mph (121 knots) CAS
- Maneuvering: 129 mph (112 knots) CAS
- Flaps Extended: 115 mph (100 knots) CAS

**Center of Gravity Range**

**Utility Category** (See NOTE 9)
- (+84.0) to (+86.5) at 1650 lb. or less
- (+85.8) to (+86.5) at 1950 lb.

**Normal Category** (See NOTE 15)

(S/N 28-671 through 28-5859)
- (+84.0) to (+95.9) at 1650 lb. or less
- (+85.9) to (+95.9) at 1975 lb.
- (+89.2) to (+95.9) at 2200 lb.
- (+92.1) to (+94.5) at 2400 lb.

(S/N 28-7105001 through 28-7205318)
- (+84.0) to (+95.9) at 1650 lb. or less
- (+87.0) to (+95.9) at 2150 lb.
- (+87.8) to (+95.9) at 2200 lb.
- (+91.0) to (+94.5) at 2400 lb.

Straight Line Variation Between Points Given

**Empty Weight C. G. Range**  
None
**Maximum Weight**
Normal Category: 2400 lb.
Utility Category: 1950 lb.

**No. of Seats**
Normal Category: 4 (2 at +85.5, 2 at +118.1)
Utility Category: 2 (2 at +85.5)

**Maximum Baggage**
Eligible Normal Category Only:
125 lb. at (+142.8) on S/N 28-671 through 28-1760, and 28-1760A. See NOTE 8.
200 lb. at (+142.8) on S/N 28-1761 through 28-5859, and 28-7105001 through 28-7205318.

**Fuel Capacity**
50 gallons at (+95) (2 wing tanks)
See NOTE 1 for data on system fuel.

**Oil Capacity**
8 quarts at (+32.5) (6 quarts usable)
See NOTE 1 for data on system oil.

**Control Surface Movements**
- Wing flaps: (+ 2°) Up 0° Down 40°
- Ailerons: (+ 2°) Up 30° Down 15°
- Rudder: (+ 2°) Left 27° Right 27°
- Stabilator: (+ 1°) Up 18° Down 2°
- Stabilator Tab: (+ 1°) Up 3° Down 12°

**Nose Wheel Travel**
(+ 2°) Left 30° Right 30°
(Effective on S/N 28-671 through 28-3377)
(+ 2°) Left 22° Right 22°
(Effective on S/N 28-3378 through 28-5859, and 28-7105001 through 28-7205318)

**Manufacturer's Serial Nos.**
28-03; 28-671 through 28-5859; and 28-7105001 through 28-7205318.
The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers:

- 28-4704
- 28-4745
- 28-4754
- 28-4763
- 28-4776
- 28-4791
- 28-4795
- 28-4826
- 28-4834
- 28-4859
- 28-4875
- 28-4879
- 28-4891
- 28-4907
- 28-4919
- 28-4922
- 28-4935
- 28-4945
- 28-4946
- 28-4947
- 28-4955
- 28-4959
- 28-4961
- 28-4964
- 28-4967
- 28-4968
- 28-4971
- 28-4975
- 28-4977
- 28-4985
- 28-4995
- 28-4999
- 28-5004
- 28-5007
- 28-5015
- 28-5017
- 28-5018
- 28-5019
- 28-5020
- 28-5023
- 28-5026
- 28-5027
- 28-5028
- 28-5031
- 28-5039
- 28-5041
- 28-5046
- 28-5051
- 28-5053
- 28-5057
- 28-5060
- 28-5061
- 28-5062
- 28-5063
- 28-5064
- 28-5066 through 28-5859, and 28-7105001 through 28-7205318 under the delegation option provisions of FAR 21. See NOTE 17 and 20.

### IV - Model PA-28S-160 (Cherokee), 4 PCSM (Normal Category), Approved February 25, 1963, for S/N 28-1 through 28-1760; and S/N 28-1760A.

**Engine**
Lycoming O-320-D2A with carburetor setting 10-3678-32 (See NOTE 18)

**Fuel**
100/130 minimum grade aviation gasoline

**Engine Limits**
For all operations, 2700 r.p.m. (160 hp)

**Propeller and Propeller Limits**
McCaeulay 1A175-GM
Static r.p.m. at maximum permissible throttle setting not over 2360 r.p.m., not under 2260 r.p.m.
No additional tolerance permitted.
Diameter: Not over 79", not under 78".
**Propeller Spinner**
Piper P/N 14422-00 spinner required.

**Airspeed Limits**
- Never exceed 153 mph (133 knots) CAS
- Maximum structural cruising 140 mph (121 knots) CAS
- Maneuvering 129 mph (112 knots) CAS
- Flaps Extended 115 mph (100 knots) CAS

**Center of Gravity**
- (+85.1) to (+93.5) at 1850 lb. or less
- (+87.0) to (+93.5) at 2100 lb.
- (+87.9) to (+93.5) at 2140 lb.

Straight line variation between points given.

**Empty Weight C. G. Range**
None

**Maximum Weight**
2140 lb.

**No. of Seats**
4 (2 at +85.5, 2 at +118.1)

**Maximum Baggage**
125 lb. at (+142.8)

**Fuel Capacity**
50 gallons at (+95) (2 wing tanks)

See NOTE 1 for data on system fuel.

**Oil Capacity**
8 quarts at (+32.5) (6 quarts usable)

See NOTE 1 for data on system oil.

**Control Surface Movements**
- Wing flaps: (±2°) Up 0° Down 40°
- Ailerons: (±2°) Up 30° Down 15°
- Rudder: (±2°) Left 27° Right 27°
- Stabilator: (±1°) Up 18° Down 2°
- Stabilator Tab: (±1°) Up 3° Down 12°

**Manufacturer's Serial Nos.**
28-03; 28-1 through 28-1760; and 28-1760A.

**V - Model PA-28S-180 (Cherokee), 4 PCSM (Normal Category), Approved May 10, 1963, for S/N 28-671 through 28-5859, and 28-7105001 through 28-7105234.**

**Engine**
Lycoming O-360-A3A or 0-360-A4A with carburetor setting 10-4164-1

See NOTE 19.

**Fuel**
100/130 minimum grade aviation gasoline

**Engine Limits**
- Maximum permissible takeoff, 2350 r.p.m.
- For all other operations, 2700 r.p.m. (180 hp)

See NOTE 4.

S/N 28-1571; 28-1573; 28-1761 through 28-5859; and 28-7105001 through 28-7105234:
- For all operations, 2700 r.p.m. (180 hp)

**Propeller and Propeller Limits**
McCaauley 1A200-FA8248 on S/N 28-671 to 28-1760, and 28-1760A.
McCaauley 1A200-DFA8248 on S/N 28-1761 through 28-5859, and 28-7105001 through 28-7105234.
Static r.p.m. at maximum permissible throttle setting not over 2190 r.p.m., not under 2140 r.p.m.

No additional tolerance permitted.
Diameter: Not over 82", not under 81".
Propeller Spinner
Spinner required.
Piper P/N 14422-00 on S/N 28-671 through 28-1760, and 28-1760A.
Piper P/N 63760-04 or 65805-00 on S/N 28-1761 through 28-5859, and 28-7105001 through 28-7105234.

Airspeed Limits
Never exceed 153 mph (133 knots) CAS
Maximum structural cruising 140 mph (121 knots) CAS
Maneuvering 129 mph (112 knots) CAS
Flaps Extended 115 mph (100 knots) CAS

Center of Gravity
(+85.1) to (+92.5) at 1850 lb. or less
(+87.0) to (+92.5) at 2100 lb.
(+89.8) to (+92.5) at 2222 lb.
Straight line variation between points given.

Empty Weight C. G. Range
None

Maximum Weight
2222 lb.

No. of Seats
4   (2 at +85.5, 2 at +118.1)

Maximum Baggage
125 lb. at (+142.8)

Fuel Capacity
50 gallons at (+95) (2 wing tanks)
See NOTE 1 for data on system fuel.

Oil Capacity
8 quarts at (+32.5) (6 quarts usable)
See NOTE 1 for data on system oil.

Control Surface Movements
Wing flaps (+2°) Up 0° Down 40°
Ailerons (+2°) Up 30° Down 15°
Rudder (+2°) Left 27° Right 27°
Stabilator (+1°) Up 18° Down 2°
Stabilator Tab (+1°) Up 3° Down 12°

Manufacturer's Serial Nos.
28-671 through 28-5859, and 28-7105001 through 28-7105234. See NOTE 3. The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers:
28-4704 28-4745 28-4754 28-4763 28-4776
28-4791 28-4795 28-4826 28-4834 28-4859
28-4875 28-4879 28-4891 28-4907 28-4919
28-4922 28-4935 28-4945 28-4946 28-4947
28-4955 28-4959 28-4961 27-4964 28-4967
28-4968 28-4971 28-4975 28-4977 28-4985
28-4995 28-4999 28-5004 28-5007 28-5015
28-5017 28-5018 28-5019 28-5020 28-5023
28-5026 28-5027 28-5028 28-5031 28-5039
28-5041 28-5046 28-5051 28-5053 28-5057
28-5060 28-5061 28-5062 28-5063 28-5064
28-5066 through 28-5859, and 28-7105001 through 28-7105234 under the delegation option provisions of FAR 21. See NOTE 17 and 20.

**Engine**
Lycoming O-540-B2B5, O-540-B1B5, or O-540-B4B5 with carburetor setting 10-4404, 10-5042, or 10-5054. (Baffle P/N 68759 required with 10-5054 setting.)

**Fuel**
80/87 minimum grade aviation gasoline

**Engine Limits**
For all operations, 2575 r.p.m. (235 hp)

**Propeller and Propeller Limits**
McCabeley 1P235PFA80
Static r.p.m. at maximum permissible throttle setting not over 2300 r.p.m., not under 2125 r.p.m.
No additional tolerance permitted.
Diameter: Not over 80", not under 78.5".
or
Hartzell HC-C2YK-1/8468A-4 or HC-C2YK-1( )F/F8468A-4
Pitch: High 27° ± 2°, Low 13.5° ± .2° at 30" station.
Diameter: Not over 80", not under 80".
Governor assembly: Hartzell F-4-3 ( ) or F-4-13
See NOTE 21.
or
Approved for Use with O-540-B4B5 Engine Only:
Sensenich M80BMM or 80BM8
Pitch from 69" to 71".
Static r.p.m. at maximum permissible throttle setting not over 2300 r.p.m., not under 2150 r.p.m.
No additional tolerances permitted.
Diameter: Not over 80", not under 78.5".

**Propeller Spinner**
Piper P/N 65209-00 or P/N 63760-03 with fixed pitch propeller. Spinner required.
Piper P/N 65435-0 or P/N 68713 or P/N 66786 spinner shell or P/N 67790-0 spinner, P/N 67791-0 bulkhead, P/N 67793-0 bulkhead and P/N 99499-0 plate. Two each P/N 67794-0 cuff, or Kit 760 452V with constant speed propeller.
See NOTE 14.

**Airspeed Limits**

<table>
<thead>
<tr>
<th>Type</th>
<th>Max Speed</th>
<th>Units</th>
<th>Cruise Speed</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never exceed</td>
<td>197</td>
<td>mph (171 knots)</td>
<td>CAS</td>
<td></td>
</tr>
<tr>
<td>Maximum structural</td>
<td>156</td>
<td>mph (136 knots)</td>
<td>CAS</td>
<td></td>
</tr>
<tr>
<td>Maneuverng</td>
<td>138</td>
<td>mph (120 knots)</td>
<td>CAS</td>
<td></td>
</tr>
<tr>
<td>Flaps Extended</td>
<td>115</td>
<td>mph (100 knots)</td>
<td>CAS</td>
<td></td>
</tr>
</tbody>
</table>

**Center of Gravity Range**

<table>
<thead>
<tr>
<th>S/N 28-10001 through 28-11378 (See NOTE 16):</th>
</tr>
</thead>
<tbody>
<tr>
<td>(+81.5) to (+93.5) at 2100 lb. or less</td>
</tr>
<tr>
<td>(+91.5) to (+93.5) at 2900 lb.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S/N 28-7110001 through 28-7210023:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(+85.1) to (+93.5) at 2100 lb. or less</td>
</tr>
<tr>
<td>(+86.0) to (+93.5) at 2600 lb.</td>
</tr>
<tr>
<td>(+91.5) to (+93.5) at 2900 lb.</td>
</tr>
</tbody>
</table>

Straight line variation between points given.

**Empty Weight C. G. Range**
None

**Maximum Weight**
2900 lb.

**No. of Seats**
4 (2 at +85.5, 2 at +118.1)

**Maximum Baggage**
200 lb. at (+142.8)
**Fuel Capacity**

84 gallons at (+95) (50 gallons in 2 wing tanks, 34 gallons in 2 tip tanks).
See NOTE 1 for data on system fuel.

**Oil Capacity**

12 quarts at (+34.1)(9 ¼ quarts usable)
See NOTE 1 for data on system oil.

**Control Surface Movements**

<table>
<thead>
<tr>
<th>Surface</th>
<th>Movement</th>
<th>Up</th>
<th>Down</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing flaps</td>
<td>±2°</td>
<td>0°</td>
<td>40°</td>
</tr>
<tr>
<td>Ailerons</td>
<td>±2°</td>
<td>30°</td>
<td>15°</td>
</tr>
<tr>
<td>Rudder</td>
<td>±2°</td>
<td>27°</td>
<td>27°</td>
</tr>
<tr>
<td>Stabilator</td>
<td>±1°</td>
<td>18°</td>
<td>2°</td>
</tr>
<tr>
<td>Stabilator Tab</td>
<td>±1°</td>
<td>3°</td>
<td>12°</td>
</tr>
</tbody>
</table>

**Nose Wheel Travel**

(+2°) Left 30° Right 30°
(Effective on S/N 28-10001 through 28-11039)
(+2°) Left 22° Right 22°
(Effective on S/N 28-11040 through 28-11378, and 28-7110001 through 28-7210023)

**Manufacturer's Serial Nos.**

28-10001 through 28-11378, and 28-7110001 through 28-7210023. The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers 28-11063, 28-11064, 28-11070, 28-11072 through 28-11378, and 28-7110001 through 28-7210023 under the delegation option provisions of FAR 21. See NOTE 17 and 20.

---


**Engine**

Lycoming O-320-E2A with carburetor setting 10-3678-32 or O-320-E3D with carburetor setting 10-5009

**Fuel**

80/87 minimum grade aviation gasoline

**Engine Limits**

For all operations 2700 r.p.m (150 hp)

**Propeller and Propeller Limits**

For 1950 lb. maximum weight - Normal Category; S/N 28-20001 through 28-20939; or Utility Category, S/N 28-20001 through 28-26946, and 28-7125001 through 28-7725290:

Sensenich M74DM or 74DM6

Static r.p.m. at maximum permissible throttle setting not over 2425 r.p.m., not under 2150 r.p.m.

No additional tolerance permitted.

Diameter: Not over 74", not under 72.5".

For 2150 lb. maximum weight - Normal Category; S/N 28-20940 through 28-26946, and 28-7125001 through 28-7725290:

Sensenich M74DM or 74DM6

Static r.p.m. at maximum permissible throttle setting not over 2425 r.p.m., not under 2275 r.p.m.

No additional tolerance permitted.

Diameter: Not over 74", not under 72.5".

**Propeller Spinner**

Piper P/N 14422-00.
See NOTE 11.

**Airspeed Limits**

<table>
<thead>
<tr>
<th>Limit Type</th>
<th>Speed</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never exceed</td>
<td>171</td>
<td>mph (148 knots)</td>
</tr>
<tr>
<td>Maximum structural cruising</td>
<td>140</td>
<td>mph (121 knots)</td>
</tr>
<tr>
<td>Maneuvering</td>
<td>129</td>
<td>mph (112 knots)</td>
</tr>
<tr>
<td>Flaps Extended</td>
<td>115</td>
<td>mph (100 knots)</td>
</tr>
</tbody>
</table>
Center of Gravity Range

**Utility Category**

(+84.0) to (+86.5) at 1650 lb. or less
(+85.8) to (+86.5) at 1950 lb.

**Normal Category**

(+84.0) to (+95.9) at 1650 lb. or less
(+85.9) to (+95.9) at 1975 lb.
(+88.4) to (+95.9) at 2150 lb.

Straight line variation between points given.

---

Empty Weight C. G. Range

None

Maximum Weight

**Normal Category:** 1950 lb. on S/N 28-20001 through 28-20939 (See NOTE 6).
2150 lb. on S/N 28-20940 through 28-26946, and 28-7125001 through 28-7725290.

**Utility Category:** 1950 lb. on S/N 28-20001 through 28-26946, and 28-7125001 through 28-7725290.

No. of Seats

2 at (+85.5)

Maximum Baggage

Eligible Normal Category Only:
100 lb. at (+117) on S/N 28-20001 through 28-20939 (See NOTE 12).
200 lb. at (+117) on S/N 28-20940 through 28-26946, and 28-7125001 through 28-7725290.
300 lb. at (+117 and +133) on S/N 28-20940 through 28-26946, and 28-7125001 through 28-7725290 (See NOTE 13).

Fuel Capacity

50 gallon at (+95) (2 wing tanks)
See NOTE 1 for data on system fuel.

Oil Capacity

8 quarts at (+32.5) (6 quarts usable)
See NOTE 1 for data on system oil.

Control Surface Movements

<table>
<thead>
<tr>
<th>Surface</th>
<th>Movement</th>
<th>Up</th>
<th>Down</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing flaps</td>
<td>(±2°)</td>
<td>0°</td>
<td>40°</td>
</tr>
<tr>
<td>Ailerons</td>
<td>(±2°)</td>
<td>30°</td>
<td>15°</td>
</tr>
<tr>
<td>Rudder</td>
<td>(±2°)</td>
<td>27°</td>
<td>27°</td>
</tr>
<tr>
<td>Stabilator</td>
<td>(±1°)</td>
<td>18°</td>
<td>2°</td>
</tr>
<tr>
<td>Stabilator Tab</td>
<td>(±1°)</td>
<td>3°</td>
<td>12°</td>
</tr>
</tbody>
</table>

Nose Wheel Travel

(±2°) Left 30° Right 30°
(Effective on S/N 28-20001 through 28-21845; 28-21931 through 28-21934; and 28-7425001 through 28-7725290)
(±2°) Left 22° Right 22°
(Effective on S/N 28-21846 through 28-21930; 28-21935 through 28-26946; and 28-7125001 through 28-7325674)


**Engine**
Lycoming O-320-E2A with carburetor setting 10-3678-32 or 10-5009 or O-320-E3D with carburetor setting 10-5009

**Fuel**
80/87 minimum grade aviation gasoline

**Engine Limits**
For all operations 2700 r.p.m. (150 hp)

**Propeller and Propeller Limits**
Sensenich M74DM or 74DM6
Static r.p.m. at maximum permissible throttle setting not over 2425 r.p.m., not under 2275 r.p.m.
No additional tolerance permitted.
Diameter: Not over 74", not under 72.5".

**Propeller Spinner**
Piper P/N 14422-00.
See NOTE 11.

**Airspeed Limits**

<table>
<thead>
<tr>
<th>Description</th>
<th>CAS</th>
<th>Knots</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never exceed</td>
<td>171 mph</td>
<td>(148 knots)</td>
</tr>
<tr>
<td>Maximum structural cruising</td>
<td>140 mph</td>
<td>(121 knots)</td>
</tr>
<tr>
<td>Maneuvering</td>
<td>129 mph</td>
<td>(112 knots)</td>
</tr>
<tr>
<td>Flaps Extended</td>
<td>115 mph</td>
<td>(100 knots)</td>
</tr>
</tbody>
</table>

**Center of Gravity Range**

<table>
<thead>
<tr>
<th>Category</th>
<th>Range</th>
<th>Lbs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utility Category</td>
<td>(+84.0) to (+86.5) at 1650 lb. or less</td>
<td>1650 lb. or less</td>
</tr>
<tr>
<td>Normal Category</td>
<td>(+85.9) to (+95.9) at 1975 lb.</td>
<td>1975 lb.</td>
</tr>
<tr>
<td></td>
<td>(+88.4) to (+95.9) at 2150 lb.</td>
<td>2150 lb.</td>
</tr>
</tbody>
</table>

Straight line variation between points given.
Empty Weight C. G. Range

Maximum Weight

Normal Category: 2150 lb.
Utility Category: 1950 lb.

No. of Seats

Normal Category: 4 (2 at +85.5, 2 at +117)
Utility Category: 2 (2 at +85.5)

Maximum Baggage

Eligible Normal Category only:
100 lb. at (+117) on S/N 28-20001 through 28-20939 (See NOTE 12).
200 lb. at (+117) on S/N 28-20940 through 28-26946; and 28-7125001 through 28-7725290.
300 lb. at (+117 and +133) on S/N 28-20940 through 28-26946; and 28-7125001 through 28-7725290 (See NOTE 13).

Fuel Capacity

50 gallons at (+95) (2 wing tanks)
See NOTE 1 for data on system fuel.

Oil Capacity

8 quarts at (+32.5) (6 quarts usable)
See NOTE 1 for data on system oil.

Control Surface Movements

Wing flaps (±2°) Up 0° Down 40°
Ailerons (±2°) Up 30° Down 15°
Rudder (±2°) Left 27° Right 27°
Stabilator (±1°) Up 18° Down 2°
Stabilator Tab (±1°) Up 3° Down 12°

Nose Wheel Travel

(±2°) Left 30° Right 30°
(Effective on S/N 28-20940 through 28-21845; 28-21931 through 28-21934; and 28-7425001 through 28-7725290)
(±2°) Left 22° Right 22°
(Effective on S/N 28-21846 through 28-21930; 28-21935 through 28-26946; and 28-7125001 through 28-7325674)

Manufacturer's Serial Nos.


Engine

Lycoming IO-360-B1E

Injector

Bendix type RSA-5ADI Parts List No. 2524297

Fuel

100/130 minimum grade aviation gasoline

Engine limits

For all operations, 2700 r.p.m. (180 hp)

Propeller and Propeller Limits

Hartzell constant speed Model HC-C2YK-( )/7666A-0 or HC-C2YK-1() F/F7666A
Pitch: High 29.0° ± 1°, Low 13.0° ± .2° at 30” Station.
Diameter: Not over 76", not under 74.5".
Governor Assembly: Hartzell F-2-2 ( ) or F-2-7 ( )
Avoid continuous operation between 2000 - 2200 r.p.m.
Propeller Spinner

Piper P/N 68713 or P/N 66785 spinner tip and P/N 66786 spinner shell, or P/N 67790-0 spinner, P/N 67791-0 bulkhead, P/N 67793-0 bulkhead, and P/N 99499-0 plate. Two each P/N 67794-0 cuff or Kit 760 410V. See NOTE 11.

Airspeed Limits

Never exceed 214 mph (186 knots) CAS
Maximum structural cruising 170 mph (148 knots) CAS
Maneuvering 134 mph (116 knots) CAS
Flaps extended 125 mph (109 knots) CAS
Maximum gear extension 150 mph (130 knots) CAS
Maximum gear retraction 125 mph (109 knots) CAS

Center of Gravity Range

(+81.0) to (+95.9) at 1925 lb. or less
(+91.0) to (+95.9) at 2500 lb.
Straight line variation between points given.
Moment due to retracting of landing gear (+819 in-lb.)

Empty Weight C. G. Range

None

Maximum Weight

2500 lb.

No. of Seats

4 (2 at +85.5, 2 at +118.1)

Maximum Baggage

200 lb. at (+142.8)

Fuel Capacity

50 gallons at (+95) (2 wing tanks)
See NOTE 1 for data on system fuel.

Oil Capacity

8 quarts at (+29.5) (6 quarts usable)
See NOTE 1 for data on system oil.

Control Surface Movements

Wing flaps (±2°) Up 0° Down 40°
Ailerons (±2°) Up 30° Down 15°
Rudder (±2°) Left 27° Right 27°
Stabilator (±1°) Up 18° Down 2°
Stabilator Tab (±1°) Up 3° Down 12°

Nose Wheel Travel

(±2°) Left 30° Right 30°

Manufacturer’s Serial Nos.

28R-30002 through 28R-31270, and 28R-7130001 through 28R-7130013. The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers:

28R-30538  28R-30546  28R-30559  28R-30586  28R-30587
28R-30602  28R-30603  28R-30605  28R-30624  28R-30627
28R-30638  28R-30639  28R-30642  28R-30684  28R-30697
28R-30708  28R-30726  28R-30739  28R-30740  28R-30747
28R-30750  28R-30752  28R-30759  28R-30760  28R-30766
28R-30776  28R-30779  28R-30785  28R-30787  28R-30795
28R-30801  28R-30809  28R-30815  28R-30819  28R-30821
28R-30824  28R-30827  28R-30832  28R-30835  28R-30838
28R-30842  28R-30845  28R-30849  28R-30853  28R-30857
28R-30860  28R-30865  28R-30866  28R-30867  28R-30868
28R-30869  28R-30872  28R-30874  28R-30875  28R-30877
through 28R-31270, and 28R-7130001 through 28R-7130013 under the delegation option provisions of FAR 21. See NOTE 17 and 20.

**Engine**
Lycoming IO-360-C1C

**Injector**
Bendix Type RSA-5AD1, Parts List Number 2524450

**Fuel**
100/130 minimum grade aviation gasoline

**Engine Limits**
For all operations, 2700 r.p.m. (200 hp)

**Propeller and Propeller Limits**
Hartzell constant speed Model HC-C2YK-1 (FC/7666A-2 or HC-C2YK-1 (F)F/7666A
Pitch: High 29.0° ±2°, Low 14.0° ±2° at 30° Station
Diameter: Not over 74", not under 72.5"
Governor Assembly: Hartzell F-2-7
Avoid continuous operation between 2000 - 2350 r.p.m.

**Propeller Spinner**
Piper P/N 66785 spinner tip and P/N 66786 spinner shell or P/N 67790-0 spinner, P/N 67791-0 bulkhead, P/N 67793-0 bulkhead, and P/N 99499-0 plate. Two each P/N 67794-0 cuff or kit 760 410V.
See NOTE 11.

**Airspeed Limits**
Never exceed 214 mph (186 knots) CAS
Maximum structural cruising 170 mph (148 knots) CAS
Maneuvering 134 mph (116 knots) CAS
Flaps Extended 125 mph (109 knots) CAS
Maximum gear extension 150 mph (130 knots) CAS
Maximum gear retraction 125 mph (109 knots) CAS

**Center of Gravity Range**
(±81.0) to (±95.9) at 1925 lb. or less
(±90.0) to (±95.9) at 2600 lb.
Straight line variation between points given.
Moment due to retracting of landing gear (±819 in-lb.)

**Empty Weight C. G. Range**
None

**Maximum Weight**
2600 lb.

**No. of Seats**
4 (2 at +85.5, 2 at +118.1)

**Maximum Cargo**
200 lb. (at +142.8)

**Fuel Capacity**
50 gallons at (+95) (2 wing tanks)
See NOTE 1 for data on system fuel.

**Oil Capacity**
8 quarts at (+29.5) (6 quarts usable)
See NOTE 1 for data on system oil.

**Control Surface Movements**
Wing flaps (±2°) Up 0° Down 40°
Ailerons (±2°) Up 30° Down 15°
Rudder (±2°) Left 27° Right 27°
Stabilator (±1°) Up 18° Down 2°
Stabilator Tab (±1°) Up 3° Down 12°

**Nose Wheel Travel**
(±2°) Left 30° Right 30°

**Manufacturer's Serial Numbers**
28R-35001 through 28R-35820, and 28R-7135001 through 28R-7135229. The manufacturer is authorized to issue airworthiness certificates for airplanes serial numbers 28R-35001 through 28R-35820, and 28R-7135001 through 28R-7135229 under the delegation option provisions of FAR 21.

This series differs from the basic PA-28R-200 (Item X) by the addition of a five-inch fuselage extension, larger horizontal tail, wing span increase, gross weight increase, and other minor changes.

| Engine | Lycoming IO-360-C1C (See NOTE 22) |
|        | Lycoming IO-360-C1C6 (See NOTE 23) |

| Injector | Bendix Type RSA-5AD1, Part List Number 2524450 |

| Fuel | 100/130 minimum grade aviation gasoline |

| Engine Limits | For all operations, 2700 r.p.m. (200 hp) |

| Propeller and Propeller Limits | Hartzell Constant Speed Model HC-C2YK-1 ( ) or HC-C2YK-1( ) F |
|                               | Blade Model 7666A-2 or F7666A-2 (See NOTE 22) |
|                               | Pitch: High 29.0° ± 2°, Low 14.0° ± .2° at 30” Station. |
|                               | Diameter: Not over 74”, not under 72.5”. |
|                               | Governor Assembly: Hartzell F-2-7( ) |
|                               | Avoid continuous operation between 2000 - 2350 r.p.m. |
|                               | or McCauley Constant Speed Model B2D34C213, Blade Model 90DHA-16 (See NOTE 23) |
|                               | Pitch: High 27.5° ± .5°; Low 12.5° ± .2° at 30” Station. |
|                               | Diameter: Not over 74”, not under 73”. |
|                               | Governor Assembly: Hartzell F-2-7 ( ) |
|                               | Avoid continuous operation between 1500 and 1950 r.p.m. below 15” manifold pressure. |

| Propeller Spinner | For the Hartzell Propeller: Piper P/N 66785-00 spinner tip, P/N 66786 spinner shell and P/N 68734-0 bulkhead or P/N 99374-0 spinner installation (same as Kit No. 760 410V). See NOTE 11. |
|                   | For the McCauley Propeller: Piper P/N 66785 spinner tip and P/N 66786 spinner shell or P/N 67790-0 spinner, P/N 67791-0 bulkhead, P/N 67793-0 bulkhead, and P/N 99499-0 plate. Two each P/N 67794-0 cuff, or Kit 760 410V. Spinner and attachment plate installation P/N 35828-2. See NOTES 11 and 23. |

| Airspeed Limits | Never exceed 214 mph (186 knots) CAS |
|                 | Maximum structural cruising 170 mph (148 knots) CAS |
|                 | Maneuvering 131 mph (114 knots) CAS |
|                 | Flaps Extended 125 mph (109 knots) CAS |
|                 | Maximum gear extension 150 mph (130 knots) CAS |
|                 | Maximum gear retraction 125 mph (109 knots) CAS |

| Center of Gravity Range | (+80.0) to (+93.0) at 1800 lb. or less |
|                        | (+82.0) to (+93.0) at 2300 lb. |
|                        | (+87.3) to (+93.0) at 2650 lb. |

| Empty Weight C. G. Range | None |

| Maximum Weight | 2650 lb. |

| No. of Seats | 4 (2 at +80.5, 2 at +118.1) |

| Maximum Cargo | 200 lb. (at +142.8) |

| Fuel Capacity | 50 gallons at (+95) (2 wing tanks) See NOTE 1 for data on system fuel. |

| Oil Capacity | 8 quarts at (+24.5) (6 quarts usable) See NOTE 1 for data on system oil. |
### Control Surface Movements

<table>
<thead>
<tr>
<th>Surface</th>
<th>Movement</th>
<th>Up</th>
<th>Down</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing flaps</td>
<td>(±2°)</td>
<td>0°</td>
<td>40°</td>
</tr>
<tr>
<td>Ailerons</td>
<td>(±2°)</td>
<td>30°</td>
<td>15°</td>
</tr>
<tr>
<td>Rudder</td>
<td>(±2°)</td>
<td>27°</td>
<td>27°</td>
</tr>
<tr>
<td>Stabilator</td>
<td>(±1°)</td>
<td>16°</td>
<td>2°</td>
</tr>
<tr>
<td>Stabilator Tab</td>
<td>(±1°)</td>
<td>3°</td>
<td>12°</td>
</tr>
</tbody>
</table>

### Nose Wheel Travel

<table>
<thead>
<tr>
<th>Movement</th>
<th>Up</th>
<th>Down</th>
</tr>
</thead>
<tbody>
<tr>
<td>(±2°)</td>
<td>30°</td>
<td>30°</td>
</tr>
</tbody>
</table>

### Manufacturer's Serial Numbers

28R-7235001 through 28R-7635545. The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers 28R-7235001 through 28R-7635545 under the delegation option provisions of FAR 21. See NOTE 20.

### XII - Model PA-28-180 (Archer), 4 PCLM (Normal Category), 2 PCLM (Utility Category), Approved May 22, 1972, for S/N 28- E13, and 28-7305001 through 28-7505260.

This series differs from the basic PA-28-180 (Item III) by the addition of a five inch fuselage extension, wing span increase, larger horizontal tail, gross weight increase and other minor changes.

### Engine

Lycoming O-360-A4A or O-360-A4M with carburetor settings 10-3878 or 10-5193

### Fuel

100/130 minimum grade aviation gasoline

### Engine Limits

For all operations, 2700 r.p.m. (180 hp)

### Propeller and Propeller Limits

Sensenich or 76EM85S or M76EMMS

Static r.p.m. at maximum permissible throttle setting not over 2425 r.p.m., not under 2325 r.p.m.

No additional tolerance permitted.

Diameter: Not over or under 76”.

### Propeller Spinner

Piper P/N 65805-00.

See NOTE 11.

### Airspeed Limits

- Never exceed: 171 mph (148 knots) CAS
- Maximum structural cruising: 140 mph (121 knots) CAS
- Maneuvering: 127 mph (110 knots) CAS
- Flaps Extended: 115 mph (100 knots) CAS

### Center of Gravity Range

**Normal Category**

<table>
<thead>
<tr>
<th>Range</th>
<th>at</th>
<th>2050 lb. or less</th>
</tr>
</thead>
<tbody>
<tr>
<td>(+82.0)</td>
<td>to (+93.0)</td>
<td></td>
</tr>
<tr>
<td>(+87.4)</td>
<td>to (+93.0)</td>
<td>2450 lb.</td>
</tr>
</tbody>
</table>

**Utility Category**

<table>
<thead>
<tr>
<th>Range</th>
<th>at</th>
<th>1950 lb. or less</th>
</tr>
</thead>
<tbody>
<tr>
<td>(+82.0)</td>
<td>to (+86.5)</td>
<td></td>
</tr>
</tbody>
</table>

Straight line variation between points given.
### Empty Weight C. G. Range
None

### Maximum Weight
<table>
<thead>
<tr>
<th>Category</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>2450 lb.</td>
</tr>
<tr>
<td>Utility</td>
<td>1950 lb.</td>
</tr>
</tbody>
</table>

### No. of Seats
<table>
<thead>
<tr>
<th>Category</th>
<th>Seats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>4 (2 at +80.5, 2 at +118.1)</td>
</tr>
<tr>
<td>Utility</td>
<td>2 (2 at +80.5)</td>
</tr>
</tbody>
</table>

### Maximum Baggage
200 lb. at (+142.8)

### Fuel Capacity
- 50 gallons at (+95) (2 wing tanks)
- See NOTE 1 for data on system fuel.

### Oil Capacity
- 8 quarts at (+27.5) (6 quarts usable)
- See NOTE 1 for data on system oil.

### Control Surface Movements
- Wing flaps: Up 0° Down 40°
- Ailerons: Up 30° Down 15°
- Rudder: Left 27° Right 27°
- Stabilator: Up 14° Down 2°
- Stabilator Tab: Up 3° Down 12°

### Nose Wheel Travel
- Left 22° Right 22°
- Left 30° Right 30°

### Manufacturer's Serial Numbers
28-E13, and 28-7305001 through 28-7505260. The manufacturer is authorized to issue airworthiness certificates for airplanes serial numbers 28-7305001 through 28-7505260 under the delegation option provisions of FAR 21. See NOTE 20.

This series differs from the basic PA-28-235 (Item VI) by the addition of a five inch fuselage extension, larger horizontal tail, gross weight increase, and other minor changes.

### Engine
Lycoming O-540-B4B5 with carburetor setting 10-5404

### Fuel
80/87 minimum grade aviation gasoline
**Engine Limits**
For all operations, 2575 r.p.m. (235 hp)

**Propeller and Propeller Limits**
Hartzell HC-C2YK-1( )F/F 8468A-4
Pitch: High 27° ± 2°, Low 13.5° ± 2° at 30" station.
Diameter: Not over 80", not under 80".
Governor Assembly: Hartzell F-4-3( ) or F-4-13 ( ).
See NOTE 21.

**Propeller Spinner**
P/N 99374 Spinner Installation.
Spinner required.

**Airspeed Limits**

<table>
<thead>
<tr>
<th>Limit</th>
<th>Speed</th>
<th>CAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never exceed</td>
<td>197 mph</td>
<td>171 knots</td>
</tr>
<tr>
<td>Maximum structural cruising</td>
<td>156 mph</td>
<td>135 knots</td>
</tr>
<tr>
<td>Maneuvering</td>
<td>138 mph</td>
<td>119 knots</td>
</tr>
<tr>
<td>Flaps Extended</td>
<td>115 mph</td>
<td>99 knots</td>
</tr>
</tbody>
</table>

**Center of Gravity Range**

<table>
<thead>
<tr>
<th>Range</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>(+79.0) to (+91.5) at 1900 lb. or less</td>
<td>(+82.0) to (+91.5) at 2500 lb.</td>
<td>(+88.0) to (+91.5) at 3000 lb.</td>
</tr>
</tbody>
</table>

Straight line variation between points given.

**Empty Weight C. G. Range**
None

**Maximum Weight**
3000 lb.

**No. of Seats**
4 (2 at +80.5, 2 at +118.1)

**Maximum Baggage**
200 lb. at (+142.8)

**Fuel Capacity**
84 gallons (50 gallons in 2 wing tanks at (+95) and 34 gallons in 2 tip tanks at (+95))
See NOTE 1 for data on system fuel.

**Oil Capacity**
12 quarts at (+29.1) (9¼ quarts usable)
See NOTE 1 for data on system oil.

**Control Surface Movements**

<table>
<thead>
<tr>
<th>Surface</th>
<th>Up 0°</th>
<th>Down 40°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing flaps</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ailerons</td>
<td>30°</td>
<td>15°</td>
</tr>
<tr>
<td>Rudder</td>
<td>Left 27°</td>
<td>Right 27°</td>
</tr>
<tr>
<td>Stabilator</td>
<td>Up 16°</td>
<td>Down 2°</td>
</tr>
<tr>
<td>Stabilator Tab</td>
<td>Up 3°</td>
<td>Down 12°</td>
</tr>
</tbody>
</table>

**Nose Wheel Travel**

<table>
<thead>
<tr>
<th>Travel</th>
<th>Left 22°</th>
<th>Right 22°</th>
</tr>
</thead>
<tbody>
<tr>
<td>(S/N 28-E11, 28-7310001 through 28-7310176)</td>
<td>(S/N 28-7410001 through 28-7710089)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(±2°)</td>
<td>(±2°)</td>
</tr>
</tbody>
</table>

**Manufacturer’s Serial Numbers**

28-E11, and 28-7310001 through 28-7710089. The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers 28-E11, and 28-7310001 through 28-7710089 under the delegation option provisions of FAR 21. See NOTE 20.

**XIV - Model PA-28-151 (Cherokee Warrior), 4 PCLM (Normal Category), 2 PCLM (Utility Category), Approved August 9, 1973, for S/N 28-7415001 through 28-7715314.**

**Engine**
Lycoming O-320-E3D with carburetor setting 10-5009, or 10-5009N, or 10-5135

**Fuel**
80/87 minimum grade aviation gasoline

**Engine Limits**
For all operations, 2700 r.p.m. (150 hp)
**Propeller and Propeller Limits**

Sensenich M74DM6

Static r.p.m. at maximum permissible throttle setting not over 2375 r.p.m.,
not under 2275 r.p.m.

No additional tolerance permitted.

Diameter: Not over 74", not under 72".

or

McCauley 1C160 EGM 7653

Static r.p.m. at maximum permissible throttle setting not over 2400 r.p.m.,
not under 2300 r.p.m.

No additional tolerance permitted.

Diameter: Not over 76", not under 74.5".

**Propeller Spinner**

Piper P/N 35323.

See NOTE 11.

**Airspeed Limits**

Never exceed 176 mph (153 knots) CAS

Maximum structural cruising 140 mph (122 knots) CAS

Maneuvering 111 mph (108 knots) CAS

Flaps Extended 125 mph (109 knots) CAS

(S/N 28-7415001 through 28-7515449)

Flaps Extended 115 mph (100 knots) CAS

(S/N 28-7615001 through 28-7715314)

**Center of Gravity Range**

**Normal Category**

(+83.0) to (+93.0) at 1950 lb. or less
(+87.0) to (+93.0) at 2325 lb.

**Utility Category**

(+83.0) to (+86.5) at 1950 lb. or less

Straight line variation between points given.

**Empty Weight C. G. Range**

None

**Maximum Weight**

Normal Category: 2325 lb.

Utility Category: 1950 lb.

**No. of Seats**

Normal Category: 4 (2 at +80.5, 2 at +118.1)

Utility Category: 2 (2 at +80.5)

**Maximum Baggage**

Eligible Normal Category only:

200 lb. at (+142.8)

**Fuel Capacity**

50 gallons at (+95) (2 wing tanks)

See NOTE 1 for data on system fuel.

**Oil Capacity**

8 quarts at (+27.5) (6 quarts usable)

See NOTE 1 for data on system oil.

**Control Surface Movements**

<table>
<thead>
<tr>
<th>Wing Flaps</th>
<th>Ailerons</th>
<th>Rudder</th>
</tr>
</thead>
<tbody>
<tr>
<td>(+±2°) Up</td>
<td>(+±2°) Up</td>
<td>(+±2°) Left</td>
</tr>
<tr>
<td>0° Down</td>
<td>23° Down</td>
<td>27° Right</td>
</tr>
<tr>
<td>40° Up</td>
<td>17° Down</td>
<td>27° Right</td>
</tr>
<tr>
<td>(S/N 28-7415001 through 28-7515449)</td>
<td>(S/N 28-7615001 through 28-7715314)</td>
<td></td>
</tr>
<tr>
<td>Ailerons</td>
<td>Stabilator</td>
<td></td>
</tr>
<tr>
<td>(+±2°) Up</td>
<td>(+±1°) Up</td>
<td></td>
</tr>
<tr>
<td>25° Down</td>
<td>14° Down</td>
<td></td>
</tr>
<tr>
<td>12.5° Up</td>
<td>2° Down</td>
<td></td>
</tr>
<tr>
<td>(S/N 28-7415001 through 28-7515449)</td>
<td>(S/N 28-7615001 through 28-7715314)</td>
<td></td>
</tr>
<tr>
<td>Stabilator Tab</td>
<td>Stabilator Tab</td>
<td></td>
</tr>
<tr>
<td>(+±1°) Up</td>
<td>(+±1°) Up</td>
<td></td>
</tr>
<tr>
<td>3° Down</td>
<td>2° Down</td>
<td></td>
</tr>
<tr>
<td>12° Up</td>
<td>2° Down</td>
<td></td>
</tr>
</tbody>
</table>

**Nose Wheel Travel**

(+±1°) Left 30° Right 30°
Manufacturer's Serial Numbers
28-7415001 through 28-7715314. The manufacturer is authorized to issue airworthiness certificates for airplanes serial numbers 28-7415001 through 28-7715314 under the delegation option provisions of FAR 21.

XV - A.- Model PA-28-181 (Archer II), 4 PCLM (Normal Category), 2 PCLM (Utility Category), Approved July 8, 1975, for S/N 28-7690001 through 28-8690056; 28-8690061; 28-8690062; and 2890001 through 2890205.

Engine
Lycoming O-360-A4M with carburetor settings 10-3878 or 10-5193 or Lycoming O-360-A4A with carburetor setting 10-5193.

Fuel
100/130 minimum grade aviation gasoline

Engine Limits
Applicable to S/N 28-7690001 through 28-7990589:
For all operations, 2700 r.p.m. (180 hp)
Applicable to S/N 28-8090001 through 28-8690056; 28-8690061; 28-8690062; and 2890001 through 2890205:
For takeoff 5 minutes at 2700 r.p.m. (180 hp)
For maximum continuous operation, 2650 r.p.m. (178 hp)

Propeller and Propeller Limits
Sensenich 76EM8S5
For S/N 28-7690001 through 28-7790607:
Static r.p.m. at maximum permissible throttle setting, not over 2425 r.p.m., not under 2325 r.p.m. at sea level, ISA conditions. (Reference aircraft Maintenance Manual for test procedure to determine approved static r.p.m. under nonstandard conditions.) No additional tolerance permitted. Diameter: Not over or under 76".
For S/N 28-7890001 through 28-8690056; 28-8690061; 28-8690062; and 2890001 through 2890205:
Static r.p.m. at maximum permissible throttle setting, not over 2340 r.p.m., not under 2240 r.p.m. at sea level, ISA conditions. (Reference aircraft Maintenance Manual for test procedure to determine approved static r.p.m. under nonstandard conditions.) No additional tolerance permitted. Diameter: Not over or under 76".

Propeller Spinner
Piper P/N 65805-00.
See NOTE 11.

Airspeed Limits
Never exceed 171 mph (148 knots) CAS
Maximum structural cruising 140 mph (121 knots) CAS
For S/N 28-7690001 thru 28-7690467:
Maneuvering 124 mph (108 knots) CAS
For S/N 28-7790001 thru 28-7790589, 28-8090001 through 28-8690056, 28-8690061, 28-8690062, and 2890001 through 2890205:
Maneuvering @ 2550 lbs. 128 mph (111 knots) CAS
Maneuvering @ 1634 lbs. 102 mph (89 knots) CAS

Center of Gravity Range
Normal Category
(+82.0) to (+93.0) at 2050 lb. or less
(+88.6) to (+93.0) at 2550 lb.

Utility Category
(+82.0) to (+93.0) at 2050 lb. or less
(+83.0) to (+93.0) at 2130 lb.
Straight line variation between points given.

Empty Weight C. G. Range
None

Maximum Weight
Normal Category: Ramp - 2558 lb. *
Takeoff - 2550 lb.
Utility Category: Ramp - 2138 lb. *
Takeoff - 2130 lb.

* - Ramp weights for S/N 28-8090001 through 28-8690056; 28-8690061; 28-8690062; and 2890001 through 2890205 only.

No. of Seats
Normal Category: 4 (2 at +80.5, 2 at +118.1)
Utility Category: 2 (2 at +80.5)

Maximum Baggage
200 lb. at (+142.8)

Fuel Capacity
50 gallons at (+95) (2 wing tanks)
See NOTE 1 for data on system fuel.

Oil Capacity
8 quarts at (+27.5) (6 quarts usable)
See NOTE 1 for data on system oil.

Control Surface Movements
Wing flaps (±2°) Up 0° Down 40°
Ailerons (±2°) Up 25° Down 12.5°
Rudder (±2°) Left 27° Right 27°
Stabilator (±1°) Up 14° Down 2°
Stabilator Tab (±1°) Up 3° Down 12°

Nose Wheel Travel
(±2°) Left 30° Right 30°

Manufacturer’s Serial Numbers
28-7690001 through 28-8690056; 28-8690061; 28-8690062; and 2890001 through 2890205. The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers 28-7690001 through 28-8690056; 28-8690061; 28-8690062; and 2890001 through 2890205 under the delegation option provisions of FAR 21. See NOTE 20.

XV - B.- Model PA-28-181 (Archer III), 4 PCLM (Normal Category), 2 PCLM (Utility Category), Approved August 30, 1994, for S/N 2890206 through 2890231, and 2843001 and up.

Engine
Lycoming O-360-A4M with carburetor settings 10-6102 or 10-5193 for aircraft prior to S/N 2843501

Fuel
100 or 100LL aviation grade fuel

Engine Limits
For all operations, 2700 r.p.m. (180 hp)

Propeller and Propeller Limits
Sensenich 76EM8S14-0-62
Static r.p.m. at maximum permissible throttle setting, not over 2340 r.p.m., not under 2240 r.p.m. at sea level, ISA conditions. (Reference aircraft Maintenance Manual for test procedure to determine approved static r.p.m. under nonstandard conditions.)
No additional tolerance permitted.
Diameter: Not over or under 76”.

Propeller Spinner
Piper P/N 83349-12

Airspeed Limits
Never exceed 171 mph (148 knots) CAS
Maximum structural cruising 140 mph (121 knots) CAS
Maneuvering @ 2550 lbs. 128 mph (111 knots) CAS
Maneuvering @ 1634 lbs. 102 mph (89 knots) CAS
Flaps Extended 115 mph (100 knots) CAS
Center of Gravity Range
Normal Category
(+82.0) to (+93.0) at 2050 lb. or less
(+88.6) to (+93.0) at 2550 lb.
Utility Category
(+82.0) to (+93.0) at 2050 lb. or less
(+83.0) to (+93.0) at 2130 lb.
Straight line variation between points given.

Empty Weight C. G. Range
None

Maximum Weight
Normal Category: Ramp - 2558 lb.
Takeoff - 2550 lb.
Utility Category: Ramp - 2138 lb.
Takeoff - 2130 lb.

No. of Seats
Normal Category: 4 (2 at +80.5, 2 at +118.1)
Utility Category: 2 (2 at +80.5)

Maximum Baggage
200 lb. at (+142.8)

Fuel Capacity
50 gallons at (+95) (2 wing tanks)
See NOTE 1 for data on system fuel.

Oil Capacity
8 quarts at (+27.5) (6 quarts usable)
See NOTE 1 for data on system oil.

Control Surface Movements
Wing flaps Up 0° (±1°) Down 10°, 25°, 40° (±2°)
Ailerons (±2°) Up 25° Down 12.5°
Rudder (±1°) Left 28° Right 28°
Stabilator (±1°) Up 14° Down 2°
Stabilator Tab (±1°) Up 3° Down 12°

Nose Wheel Travel
(±2°) Left 30° Right 30°
(S/N 2890206 through 2890231)
(±1°) Left 20° Right 20°
(S/N 2843001 & up)

Manufacturer's Serial Numbers
2890206 through 2890231, and 2843001 and up. The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers 2890206 through 2890231, and 2843001 and up under the delegation option provisions of FAR 21.

XVI - A. - Model PA-28-161 (Warrior II), 4 PCLM (Normal Category), 2 PCLM (Utility Category), Approved November 2, 1976, for S/N 28-7716001 through 28-8216300, and 2841001 through 2841365 (Cadet only)

Engine
Lycoming O-320-D3G with carburetor setting 10-5135, 10-5009 or 10-5217, or Lycoming O-320-D2A with carburetor setting 10-5135 or 10-5217.

Fuel
100 octane minimum grade aviation gasoline

Engine Limits
For all operations, 2700 r.p.m. (160 hp)

Propeller and Propeller Limits
Sensenich 74DM6-0-60
Static r.p.m. at maximum permissible throttle setting not over 2430 r.p.m., not under 2330 r.p.m., at sea level, ISA conditions. (Reference aircraft Maintenance Manual for test procedure to determine approved static r.p.m. under nonstandard conditions.) No additional tolerance permitted. Diameter: Not over 74”, not under 72”.
Propeller and Propeller Limits

Sensenich 74DM6-0-58
Static r.p.m. at maximum permissible throttle setting not over 2465 r.p.m., not under 2365 r.p.m., at sea level, ISA conditions. (Reference aircraft Maintenance Manual for test procedure to determine approved static r.p.m. under nonstandard conditions.)
No additional tolerance permitted.
Diameter: Not over 74", not under 72".

Airspeed Limits
Never exceed 160 KIAS
Maximum structural cruising 126 KIAS
Maneuvering at 2325 lb. gross weight 111 KIAS
Maneuvering at 1531 lb. gross weight 88 KIAS
Flaps Extended 103 KIAS

Center of Gravity Range

Normal Category
(+83.0) to (+93.0) at 1950 lb. or less
(+87.0) to (+93.0) at 2325 lb.
See NOTE 27.

Utility Category
(+83.0) to (+93.0) at 1950 lb. or less
(+83.8) to (+93.0) at 2020 lb.
Straight line variation between points given.

Empty Weight C.G. Range
None

Maximum Weight
Normal Category: 2325 lb.
Utility Category: 2020 lb.
Ramp: 2332 lb. (Cadet only) See NOTE 27.

No. of Seats
Normal Category: 4 (2 at +80.5, 2 at +118.1)
Utility Category: 2 (+2 at +80.5)

Maximum Baggage
Eligible Normal Category only:
200 lb. at (+142.8)
50 lb. (Cadet only)

Fuel Capacity
50 gallons at (+95) (2 wing tanks)
See NOTE 1 for data on system fuel.

Oil Capacity
8 quarts at (+27.5) (6 quarts usable)
See NOTE 1 for data system oil.

Control Surface Movements
Wing flaps (+2°) Up 0° Down 40°
Ailerons (+2°) Up 25° Down 12.5°
Rudder (+2°) Left 27° Right 27°
Stabilator (+1°) Up 14° Down 2°
Stabilator Tab (+1°) Up 3° Down 12°

Nose Wheel Travel
(+1°) Left 30° Right 30°

Manufacturer’s Serial Numbers
28-7716001 through 28-8216300, and 2841001 through 2841365 (Cadet only). The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers 28-7716001 through 28-8216300, and 2841001 through 2841365 under the delegation option provisions of FAR 21. See NOTE 20.
XVI - B. Model PA-28-161 (Warrior II), 4 PCLM (Normal Category), 2 PCLM (Utility Category), Approved
July 1, 1982, for S/N 28-8316001 through 28-8616057, and 2816001 through 2816109.

**Engine**
Lycoming O-320-D3G with carburetor setting 10-5135, 10-5009 or 10-5217,
or Lycoming O-320-D2A with carburetor setting 10-5135 or 10-5217.

**Fuel**
100 octane minimum grade aviation gasoline

**Engine Limits**
For all operations, 2700 r.p.m. (160 hp)

**Propeller and Propeller Limits**
Sensenich 74DM6-0-60
Static r.p.m. at maximum permissible throttle setting not over 2430 r.p.m.,
not under 2330 r.p.m. at sea level, ISA conditions. (Reference aircraft Maintenance
Manual for test procedure to determine approved static r.p.m. under nonstandard
conditions.)
No additional tolerance permitted.
Diameter: Not over 74", not under 72".
or
Sensenich 74DM6-0-58
Static r.p.m. at maximum permissible throttle setting not over 2465 r.p.m.,
not under 2365 r.p.m., at sea level, ISA conditions. (Reference aircraft Maintenance
Manual for test procedure to determine approved static r.p.m. under nonstandard
conditions.)
No additional tolerance permitted.
Diameter: Not over 74", not under 72".

**Propeller Spinner**
Piper P/N 36850.
See NOTE 11.

**Airspeed Limits**
Never exceed 160 KIAS
Maximum structural cruising 126 KIAS
Maneuvering at 2440 lb. gross weight 111 KIAS See NOTE 26.
Maneuvering at 1531 lb. gross weight 88 KIAS
Flaps Extended 103 KIAS

**Center of Gravity Range**
Normal Category
(+83.0) to (+93.0) at 1950 lb. or less
(+88.3) to (+93.0) at 2440 lb.
See NOTE 26.

Utility Category
(+83.0) to (+93.0) at 1950 lb. or less
(+83.8) to (+93.0) at 2020 lb.
Straight line variation between points given

**Empty Weight C.G. Range**
None

**Maximum Weight**
Normal Category: Ramp - 2447 lb.
Takeoff - 2440 lb. See NOTE 26.

Utility Category: Ramp - 2027 lb.
Takeoff - 2020 lb.

**No. of Seats**
Normal Category: 4 (2 at +80.5, 2 at +118.1)
Utility Category: 2 (2 at +80.5)

**Maximum Baggage**
Eligible Normal Category only: 200 lb. at (+142.8)

**Fuel Capacity**
50 gallons at (+95) (2 wing tanks)
See NOTE 1 for data on system fuel.
Oil Capacity

8 quarts at (+27.5) (6 quarts usable)

See NOTE 1 for data on system oil.

Control Surface Movements

<table>
<thead>
<tr>
<th>Surface</th>
<th>Movement</th>
<th>Up</th>
<th>0°</th>
<th>Down</th>
<th>40°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing flaps</td>
<td>(±2°)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ailerons</td>
<td>25°</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rudder</td>
<td>27°</td>
<td>27°</td>
<td>27°</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stabilator</td>
<td>14°</td>
<td></td>
<td></td>
<td>2°</td>
<td></td>
</tr>
<tr>
<td>Stabilator Tab</td>
<td>3°</td>
<td>12°</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Nose Wheel Travel

(±1°) Left 30° Right 30°

Manufacturer's Serial Nos

28-8316001 through 28-8616057, and 2816001 through 2816109. The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers 28-8316001 through 28-8616057, and 2816001 through 2816109 under the delegation option provisions of FAR 21. See NOTE 20.

XVI - C. Model PA-28-161 (Warrior III), 4 PCLM (Normal Category), 2 PCLM (Utility Category), Approved July 1, 1994, for S/N 2816110 through 2816119, and 2842001 and up.

Engine

Lycoming O-320-D3G with carburetor setting 10-5135, 10-5009 or 10-5217

Fuel

100 or 100LL aviation grade gasoline

Engine Limits

For all operations, 2700 r.p.m. (160 hp)

Propeller and Propeller Limits

Sensenich 74DM6-0-60

Static r.p.m. at maximum permissible throttle setting not over 2430 r.p.m., not under 2330 r.p.m., at sea level, ISA conditions. (Reference aircraft Maintenance Manual for test procedure to determine approved static r.p.m. under nonstandard conditions.)

No additional tolerance permitted.

Diameter: Not over 74", not under 72".

Propeller Spinner

Piper P/N 36850.

See NOTE 11.

Airspeed Limits

Never exceed 160 KIAS

Maximum structural cruising 126 KIAS

Maneuvering at 2440 lb. gross weight 111 KIAS

Maneuvering at 1531 lb. gross weight 88 KIAS

Flaps Extended 103 KIAS

See NOTE 26.

Center of Gravity Range

Normal Category

(+83.0) to (+93.0) at 1950 lb. or less

(+88.3) to (+93.0) at 2440 lb.

See NOTE 26.

Utility Category

(+83.0) to (+93.0) at 1950 lb. or less

(+83.8) to (+93.0) at 2020 lb.

Straight line variation between points given

Empty Weight C.G. Range

None

Maximum Weight


Utility Category: Ramp - 2027 lb. Takeoff - 2020 lb.
No. of Seats  
Normal Category: 4 (2 at +80.5, 2 at +118.1)  
Utility Category: 2 (2 at +80.5)

Maximum Baggage  
Eligible Normal Category only: 200 lb. at (+142.8)

Fuel Capacity  
50 gallons at (+95) (2 wing tanks)  
See NOTE 1 for data on system fuel.

Oil Capacity  
8 quarts at (+27.5) (6 quarts usable)  
See NOTE 1 for data on system oil.

Control Surface Movements
- Wing flaps: Up 0° (±1°) Down 10°, 25°, 40° (±2°)
- Ailerons: (±2°) Up 25° Down 12.5°
- Rudder: (±1°) Left 28° Right 28°
- Stabilator: (±1°) Up 14° Down 2°
- Stabilator Tab: (±1°) Up 3° Down 12°

Nose Wheel Travel
- (±1°) Left 30° Right 30°  
  (S/N 2816110 through 2816119)
- (±1°) Left 20° Right 20°  
  (S/N 2842001 & up)

Manufacturer's Serial Nos.
- 2816110 through 2816119, and 2842001 and up. The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers 2816110 through 2816119, and 2842001 and up under the delegation option provisions of FAR 21.

XVII - Model PA-28R-201 (Arrow III), 4 PCLM (Normal Category), Approved November 2, 1976, for S/N 28R-7837002 through 28R-7837317; 2837001 through 2837061; and 2844001 and up.

Engine  
Lycoming IO-360-C1C6

Injector  
Bendix Type RSA-5AD1, Part List Number 2524450  
Precision Airmotive (PAC) formerly Bendix: Part List Number PAM 2524450-9

Fuel  
100 or 100LL aviation grade gasoline

Engine Limits  
For all operations, 2700 r.p.m.  (200 hp)

Propeller and Propeller Limits
- McCauley Constant Speed Hub Model B2D34C213, Blade Model 90 DHA-16  
  Pitch: High 27.5° ± .5°, Low 12.5° ± .2° at 30" station.  
  Diameter: Not over 74", not under 73".  
  Governor Assembly: Hartzell Model F-2-7 ( )  
  Avoid continuous operation between 1500 and 1950 r.p.m. below 15" manifold pressure.  
  or  
  Hartzell Constant Speed Hub Model HC-C2YK-1( )F, Blade Model F7666A-2R  
  Pitch: High 29.0° ± 2°, Low 14.0° ± 2° at 30" station.  
  Diameter: Not over 74", not under 72".  
  Governor Assembly: F-2-7 ( )

Propeller Spinner
- For McCauley propeller: Piper P/N 35828-2  
  For Hartzell propeller: Piper P/N 99374  
  See NOTE 11.

Airspeed Limits  
Never exceed 183 KIAS  
Maximum structural cruising 146 KIAS  
Maneuvering 118 KIAS  
Flaps Extended 103 KIAS  
Maximum Gear Extension 129 KIAS  
Maximum Gear Retraction 107 KIAS
<table>
<thead>
<tr>
<th><strong>Center of Gravity Range</strong></th>
<th>(+82.0) to (+91.5) at 2375 lb. or less</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(+88.9) to (+91.5) at 2750 lb.</td>
</tr>
<tr>
<td></td>
<td>Straight line variation between points given.</td>
</tr>
<tr>
<td></td>
<td>Moment due to retraction of gear (+819 in-lb.)</td>
</tr>
<tr>
<td><strong>Empty Weight C.G. Range</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>Maximum Weight</strong></td>
<td>2750 lb.</td>
</tr>
<tr>
<td><strong>No. of Seats</strong></td>
<td>4 (2 at +80.5, 2 at +118.1)</td>
</tr>
<tr>
<td><strong>Maximum Baggage</strong></td>
<td>200 lb. at (+142.8)</td>
</tr>
<tr>
<td><strong>Fuel Capacity</strong></td>
<td>77 gallons at (+95) (2 wing tanks)</td>
</tr>
<tr>
<td></td>
<td>See NOTE 1 for data on system fuel.</td>
</tr>
<tr>
<td><strong>Oil Capacity</strong></td>
<td>8 quarts at (+24.5) (6 quarts usable)</td>
</tr>
<tr>
<td></td>
<td>See NOTE 1 for data on system oil.</td>
</tr>
<tr>
<td><strong>Control Surface Movements</strong></td>
<td>Wing flaps Up 0° (+1°) Down 10°, 25°, 40° (+2°)</td>
</tr>
<tr>
<td></td>
<td>Ailerons (±2°) Up 25° Down 12.5°</td>
</tr>
<tr>
<td></td>
<td>Rudder (±1°) Left 28° Right 28°</td>
</tr>
<tr>
<td></td>
<td>Stabilator (±1°) Up 16° Down 2°</td>
</tr>
<tr>
<td></td>
<td>Stabilator Tab (±1°) Up 3° Down 12°</td>
</tr>
<tr>
<td><strong>Nose Wheel Travel</strong></td>
<td>(±2°) Left 30° Right 30°</td>
</tr>
<tr>
<td><strong>Manufacturer's Serial Numbers</strong></td>
<td>28R-7737002 through 28-7837317; 2837001 through 2837061; and 2844001 and up.</td>
</tr>
<tr>
<td></td>
<td>The manufacturer is authorized to issue airworthiness certificates for airplanes serial numbers 28R-7737002 through 28-7837317; 2837001 through 2837061; and 2844001 and up under the delegation option provisions of FAR 21. See NOTE 20.</td>
</tr>
</tbody>
</table>

**XVIII - Model PA-28R-201T (Turbo Arrow III), 4 PCLM (Normal Category), Approved November 2, 1976, for S/N 28R-7703001 through 28R-7803374, and 2803001 through 2803012.**

| **Engine** | Continental TSIO-360-F or TSIO-360-FB |
| **Fuel**   | 100/130 minimum grade aviation gasoline |
| **Engine Limits** | For all operations, 2575 r.p.m. at 41° Hg. manifold pressure (200 hp) |
| **Propeller and Propeller Limits** | 1 Hartzell Hub Model BHC-C2YF-1BF, Blade Model F8459A-8R |
| Pitch Setting at 30° Station: High: 29° ± 1.0°, Low: 14.4° ± 0.2°. |
| Diameter: Not over 76", not under 75". |
| Governor: Hartzell E-5 or Woodward G210681 |
| Avoid continuous operation between 2000 and 2200 r.p.m. with engine manifold pressure above 32" Hg. |
| Avoid continuous ground operation in cross and tail winds of over 10 knots between 1700 and 2100 r.p.m. |
| **Propeller Spinner** | Hartzell P/N C3568 Spinner Assembly. |
|                             | See NOTE 11. |
### Airspeed Limits

- Never exceed: **183 KIAS**
- Maximum structural cruising: **146 KIAS**
- Maneuvering: **119 KIAS**
- Flaps Extended: **103 KIAS**
- Maximum Gear Retraction: **107 KIAS**
- Maximum Gear Extension: **129 KIAS**
- Maximum Gear Extended: **129 KIAS**

### Center of Gravity Range

- (+86.0) to (+90.0) at 2900 lb. 
- (+78.0) to (+90.0) at 2240 lb. or less

Straight line variation between points given. 
Moment due to retraction of landing gear: (+819 in-lb.)

### Empty Weight C. G. Range

None

### Maximum Weight

- Ramp: 2912 lb. 
- Takeoff: 2900 lb.

### No. of Seats

4 (2 at +80.5, 2 at +118.1)

### Maximum Baggage

200 lb. at (+142.8)

### Fuel Capacity

77 gallons at (+95) (2 wing tanks) 
See NOTE 1 for data on system fuel.

### Oil Capacity

8 quarts at (+13.5) (5 quarts usable) 
See NOTE 1 for data on system oil.

### Maximum Operating Altitude

20,000 feet

### Control Surface Movements

- Wing flaps: 
  - Up: 0° 
  - Down: 40°
- Ailerons: 
  - Up: 0° 
  - Down: 12.5°
- Rudder: 
  - Left: 28° 
  - Right: 28°
- Stabilator: 
  - Up: 16° 
  - Down: 2°
- Stabilator Tab: 
  - Up: 3° 
  - Down: 12°

### Nose Wheel Travel

(±2°) 
- Left: 30° 
- Right: 30°

### Manufacturer's Serial Numbers

28R-7703001 through 28R-7803374, and 2803001 through 2803012. The manufacturer is authorized to issue airworthiness certificates for airplanes serial numbers 28R-7703001 through 28R-7803374, and 2803001 through 2803012 under the delegation option provisions of FAR 21. See NOTE 20.

### XIX - Model PA-28-236 (Dakota), 4 PCLM (Normal Category), Approved June 1, 1978, for S/N 28-7911001 through 28-8611008; 2811001 through 2811050; and 2845001 and up.

#### Engine

- Lycoming O-540-J3A5D with carburetor setting 10-5054

#### Fuel

- 100/130 minimum grade aviation gasoline

#### Engine Limits

For all operations, 2400 r.p.m. (235 hp)

#### Propeller and Propeller Limits

- Hartzell HC-F2YR-1 F/F 8468A-4R
- Diameter: Not over 80", not under 78".
- Governor Assembly: Hartzell F-4-21( )
Propeller Spinner  
Hartzell P/N C3568 Spinner Assembly.  
See NOTE 11.

Airspeed Limits  
Never exceed 197 mph (171 knots) CAS  
Maximum structural cruising 156 mph (135 knots) CAS  
Maneuvering at 3000 lb. 140 mph (122 knots) CAS  
Maneuvering at 1761 lb. 108 mph (94 knots) CAS  
Flaps Extended 115 mph (100 knots) CAS

Center of Gravity Range  
(+79.8) to (+92.0) at 1900 lb. or less  
(+82.5) to (+92.0) at 2500 lb.  
(+88.5) to (+92.0) at 3000 lb.  
Straight line variation between points given.

Empty Weight C. G. Range  
None

Maximum Weight  
3000 lb.

Number of Seats  
4 (2 at +80.5, 2 at +118.1)

Maximum Baggage  
200 lb. at (+142.8)

Fuel Capacity  
77 gallons at (+95)(2 wing tanks)  
See NOTE 1 for data on system fuel.

Oil Capacity  
12 quarts at (+29.1) (9 1/2 quarts usable)  
See NOTE 1 for data on system oil.

Control Surface Movements  
Wing flaps  (+2°)  Up 0°  Down 40°  
Ailerons  (+2°)  Up 25°  Down 12.5°  
Rudder  (+1°)  Left 28°  Right 28°  
Stabilator  (+1°)  Up 16°  Down 2°  
Stabilator Tab  (+1°)  Up 3°  Down 12°  
Nose Wheel Travel  
(+1°)  Left 30°  Right 30°

Manufacturer's Serial Numbers  
28-7911001 through 28-8611008; 2811001 through 2811050; and 2845001 and up. The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers 28-7911001 through 28-8611008; 2811001 through 2811050; and 2845001 and up under the delegation option provisions of FAR 21. See NOTE 20.

**XX - A. Model PA-28RT-201 (Arrow IV), 4 PCLM (Normal Category), Approved November 13, 1978, for S/N 28R-7918001 through 28R-7918267.**

Engine  
Lycoming IO-360-C1C6

Injector  
Bendix Type RSA-5AD1, Part List Number 2524450

Fuel  
100/130 minimum grade aviation gasoline

Engine Limits  
For all operations, 2700 r.p.m. (200 hp)

Propeller and Propeller Limits  
McCauley Constant Speed Hub Model B2D34C213, Blade Model 90 DHA-16  
Pitch: High 27.5° ±5°, Low 12.5° ±2° at 30" station.  
Diameter: Not over 74", not under 73".  
Governor Assembly: Hartzell Model F-2-7 ( )  
Avoid continuous operation between 1500 and 1950 r.p.m. below 15" manifold pressure.
Propeller and Propeller Limits

Hartzell Constant Speed Hub Model HC-C2YK-1( )F, Blade Model F7666A-2R
Pitch: High 29.0° ± 2°, Low 14.0° ± .2° at 30" station.
Diameter: Not over 74", not under 72".
Governor Assembly: Hartzell Model F-2-7( )

Propeller Spinner
For the McCauley propeller: Piper P/N 35828-2
For the Hartzell propeller: Piper P/N 99374
See NOTE 11.

Airspeed Limits
Never exceed 190  KIAS
Maximum structural cruising 149  KIAS
Flaps extended 108  KIAS
Maximum gear extension 130  KIAS
Maximum gear retraction 109  KIAS
Maximum gear extended 130  KIAS
Maneuvering at 2750 lb. 121  KIAS
Maneuvering at 1863 lb. 96  KIAS

Center of Gravity Range
(+85.5) to (+93.0) at 2400 lb. or less
(+90.0) to (+93.0) at 2750 lb.
Straight line variation between points given.
Moment due to retraction of gear (+819 in-lb.)

Empty Weight C. G. Range
None

Maximum Weight
2750 lb.

No. of Seats
4  (2 at +80.5, 2 at +118.1)

Maximum Baggage
200 lb. at (+142.8)

Fuel Capacity
77 gallons at (+95) (2 wing tanks)
See NOTE 1 for data on system fuel.

Oil Capacity
8 quarts at (+24.5) 6 quarts usable
See NOTE 1 for data on system oil.

Control Surface Movements
Wing flaps (+2°) Up 0° Down 40°
Ailerons (+2°) Up 25° Down 12.5°
Rudder (+1°) Left 33° Right 33°
Stabilator (+1°) Up 14° Down 10°
Stabilator Tab Up 2.5° (+1°) Down 10° (+.5°)

Nose Wheel Travel
(+2°) Left 30° Right 30°

Manufacturer's Serial Numbers
28R-7918001 through 28R-7918267. The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers 28R-7918001 through 28R-7918267 under the delegation option provisions of FAR 21.


Engine
Lycoming IO-360-C1C6

Injector
Bendix Type RSA-5AD1, Part List Number 2524450

Fuel
100/130 minimum grade aviation gasoline
Engine Limits
For 5-minute takeoff, 2700 r.p.m. (200 hp)
For maximum continuous operation, 2650 r.p.m. (196 hp)

Propeller and Propeller Limits
McCauley Constant Speed Hub Model 2D34C215, Blade Model 90 DJA-14E
Pitch: High 27.5° ± .5°; Low 12.5° ± .2° at 30" station.
Diameter: Not over 76", not under 75".
Governor Assembly: Hartzell Model F-2-7 ( )
Avoid continuous operation between 1400 and 1750 r.p.m. below 15" manifold pressure.

Propeller Spinner
Piper P/N 35828-2.
See NOTE 11.

Airspeed Limits
Never exceed 190 KIAS
Maximum structural cruising 149 KIAS
Flaps Extended 108 KIAS
Maximum gear extension 130 KIAS
Maximum gear retraction 109 KIAS
Maximum gear extended 130 KIAS
Maneuvering at 2750 lb. gross weight 121 KIAS
Maneuvering at 1863 lb. gross weight 96 KIAS

Center of Gravity Range
(+85.5) to (+93.0) at 2400 lb. or less
(+90.0) to (+93.0) at 2750 lb.
Straight line variation between points given.
Moment due to retraction of gear (+819 in-lb.)

Empty Weight C. G. Range
None

Maximum Weight
2750 lb.

Number of Seats
4 (2 at +80.5, 2 at +118.1)

Maximum Baggage
200 lb. at (+142.8)

Fuel Capacity
77 gallons at (+95) (2 wing tanks)
See NOTE 1 for data on system fuel.

Oil Capacity
8 quarts at (+24.5) (6 quarts usable)
See NOTE 1 for data on system oil.

Control Surface Movements
Wing flaps (±2°) Up 0° Down 40°
Ailerons (±2°) Up 25° Down 12.5°
Rudder (±1°) Left 33° Right 33°
Stabilator (±1°) Up 14° Down 10°
Stabilator Tab Up 2.5° (±1°) Down 10° (±.5°)

Nose Wheel Travel
(±2°) Left 30° Right 30°

Manufacturer’s Serial Numbers
28R-8018001 through 28R-8218026. The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers 28R-8018001 through 28R-8218026 under the delegation option provisions of FAR 21. See NOTE 20.

XXI - Model PA-28RT-201T (Turbo Arrow IV), 4 PCLM (Normal Category), Approved November 13, 1978, for S/N 28R-7931001 through 28R-8631005, and 2831001 through 2831038.

Engine
Continental TSIO-360-FB

Fuel
100/130 minimum grade aviation gasoline
Engine Limits

For all operations, 2575 r.p.m., 41" Hg. manifold pressure (200 hp)

Propeller and Propeller Limits

1 Hartzell Hub Model BHC-C2YF-1( )F, Blade Model F8459A-8R
Pitch: High 29° ± 1.0°, Low 14.4° ± 0.2° at 30" station.
Diameter: Not over 76", not under 75".
Governor: Hartzell E-5 or Woodward G210681
Avoid continuous operation between 2000 and 2200 r.p.m. with engine manifold pressure above 32" Hg.
Avoid continuous ground operation in cross and tail winds of over 10 knots between 1700 and 2100 r.p.m.
or
1 Hartzell Hub Model PHC-C3YF-1( )F, Blade Model F7663-2R
Pitch: High 33° ± 1°, Low 13.2° ± 0.2°.
Diameter: Not over 76", not under 72".
Governor: Hartzell E-5, Woodward G210681 or G210776

Propeller Spinner

For the Hartzell Hub Model BHC-C2YF-1( )F: Hartzell P/N C3568 Spinner Assembly
For the Hartzell Hub Model PHC-C3YF-1( )F: Piper PS50077-80 Spinner Assembly
(Hartzell C3570)

See NOTE 11.

Airspeed Limits

Never exceed 193 KIAS
Maximum structural cruising 152 KIAS
Maneuvering at 2900 lb. 124 KIAS
Maneuvering at 1893 lb. 97 KIAS
Flaps Extended 108 KIAS
Maximum Gear Retraction 111 KIAS
Maximum Gear Extension 133 KIAS
Maximum Gear Extended 133 KIAS

Center of Gravity Range

(+89.0) to (+93.0) at 2900 lb.
(+85.0) to (+93.0) at 2240 lb. or less
Straight line variation between points given.
Moment due to retraction of landing gear (+819 in-lb.)

Empty Weight C. G. Range

None

Maximum Weight

Ramp: 2912 lb.
Takeoff: 2900 lb.

No. of Seats

4 (2 at +80.5, 2 at +118.1)

Maximum Baggage

200 lb. at (+142.8)

Fuel Capacity

77 gallons at (+95) (2 wing tanks)
See NOTE 1 for data on system fuel.

Oil Capacity

8 quarts at (+13.5) (5 quarts usable)
See NOTE 1 for data on system oil.

Maximum Operation Altitude

20,000 feet

Control Surface Movements

Wing flaps (+2°) Up 0° Down 40°
Ailerons (+2°) Up 25° Down 12.5°
Rudder (+1°) Left 33° Right 33°
Stabilator (+1°) Up 14° Down 10°
Stabilator Tab Up 2.5° (+1°) Down 10° (+.5°)

Nose Wheel Travel

(±2°) Left 30° Right 30°
Manufacturer's Serial Numbers 28R-7931001 through 28R-8631005, and 2831001 through 2831038. The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers 28R-7931001 through 28R-8631005, and 2831001 through 2831038 under the delegation option provisions of FAR 21. See NOTE 20.


<table>
<thead>
<tr>
<th>Engine</th>
<th>Continental TSIO-360-FB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel</td>
<td>100/130 minimum grade aviation gasoline</td>
</tr>
<tr>
<td>Engine Limits</td>
<td>For all operations, 2575 r.p.m., 41&quot; Hg. manifold pressure (200 hp)</td>
</tr>
<tr>
<td>Propeller and Propeller Limits</td>
<td>1 Hartzell Hub Model BHC-C2YF-1(F), Blade Model F8459A-8R Pitch: High 29° ± 1.0°, Low 14.4° ± .2° at 30&quot; station. Diameter: Not over 76&quot;, not under 75&quot;. Governor: Hartzell E-5 or Woodward G210681 Avoid continuous operation between 2000 and 2200 r.p.m. with engine manifold pressure above 32&quot; Hg. Avoid continuous ground operation in cross and tail winds of over 10 knots between 1700 and 2100 r.p.m.</td>
</tr>
<tr>
<td>Propeller Spinner</td>
<td>Hartzell P/N C3568 Spinner Assembly. See NOTE 11.</td>
</tr>
<tr>
<td>Airspeed Limits</td>
<td>Never exceed 169 KIAS Maximum structural cruising 140 KIAS Maneuvering at 2900 lb. 122 KIAS Maneuvering at 1841 lb. 96 KIAS Flaps Extended 102 KIAS</td>
</tr>
<tr>
<td>Center of Gravity Range</td>
<td>(+86.0) to (+90.0) at 2900 lb. (+78.0) to (+90.0) at 2240 lb. or less Straight line variation between points given.</td>
</tr>
<tr>
<td>Empty Weight C. G. Range</td>
<td>None</td>
</tr>
<tr>
<td>Maximum Weight</td>
<td>2900 lb.</td>
</tr>
<tr>
<td>No. of Seats</td>
<td>4 (2 at +80.5, 2 at +118.1)</td>
</tr>
<tr>
<td>Maximum Baggage</td>
<td>200 lb. at (+142.8)</td>
</tr>
<tr>
<td>Fuel Capacity</td>
<td>77 gallons at (+95) (2 wing tanks) See NOTE 1 for data on system fuel.</td>
</tr>
<tr>
<td>Oil Capacity</td>
<td>8 quarts at (+13.5) (5 quarts usable) See NOTE 1 for data on system oil.</td>
</tr>
<tr>
<td>Maximum Operation Altitude</td>
<td>20,000 feet</td>
</tr>
<tr>
<td>Control Surface Movements</td>
<td>Wing flaps (+2°) Up 0° Down 40° Ailerons (+2°) Up 25° Down 12.5° Rudder (+2°) Left 27° Right 27° Stabilator (+1°) Up 16° Down 2° Stabilator Tab (+1°) Up 3° Down 12°</td>
</tr>
<tr>
<td>Nose Wheel Travel</td>
<td>(+1°) Left 30° Right 30°</td>
</tr>
</tbody>
</table>
**Manufacturer's Serial Numbers**

28-7921001 through 28-7921095. The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers 28-7921001 through 28-7921095 under the delegation option provisions of FAR 21. See NOTE 20.

**DATA PERTINENT TO ALL MODELS**

| Datum                      | 78.4" forward of wing leading edge (straight wing only).  
|                           | 78.4" forward of inboard intersection of straight and tapered sections (semi-tapered wings). |
| Leveling Means            | Two screws left side fuselage below window. |
| Certification Basis       | Type Certificate No. 2A13 issued October 31, 1960.  
|                           | Date of Application for Type Certificate, February 14, 1958.  
|                           | Delegation Option Authorization granted per FAR 21, Subpart J, July 17, 1968. |

PA-28-140 and PA-28-151: CAR 3 effective May 15, 1956, including Amendments 3-1, 3-2, and 3-4; paragraphs 3.304 and 3.705 of Amendment 3-7 effective May 3, 1962; FAR 23.955 and 23.959 as amended by Amendment 23-7 effective September 14, 1969; and FAR 23.1327 and 23.1547 as amended by Amendment 23-20 effective September 1, 1977.


PA-28-161: CAR 3 effective May 15, 1956, including Amendments 3-1 and 3-2; paragraph 3.387(d) of Amendment 3-4; paragraphs 3.304 and 3.705 of Amendment 3-7 effective May 3, 1962; FAR 23.955 and 23.959 as amended by Amendment 23-7 effective September 14, 1969; FAR 23.1557(c)(1) as amended by Amendment 23-18 effective May 2, 1977; FAR 23.1327 and 23.1547 as amended by Amendment 23-20 effective September 1, 1977; and FAR 36 effective December 1, 1969, through Amendment 36-4.


PA-28R-201: CAR 3 effective May 15, 1956, including Amendments 3-1 and 3-2; paragraphs 3.304 and 3.705 of Amendment 3-7 effective May 3, 1962; FAR 23.965 of FAR 23 effective February 1, 1965; FAR 23.221, 23.955, 23.959, and 23.1091 as amended by Amendment 23-7 effective September 14, 1969; FAR 23.967(e)(2) as amended by Amendment 23-14 effective December 20, 1973; FAR 23.1093 as amended by Amendment 23-15 effective October 31, 1974; FAR 23.1327 and 23.1547 as amended by Amendment 23-20 effective September 1, 1977; and FAR 36 effective December 1, 1969, through Amendment 36-4 (no acoustical change).


PA-28-236: CAR 3 effective May 15, 1956, through Amendment 3-2; paragraphs 3.304 and 3.705 of Amendment 3-7 effective May 3, 1962; FAR 23.221, 23.955, 23.959, and 23.1091 as amended by Amendment 23-7 effective September 14, 1969; FAR 23.1093 as amended by Amendment 23-17 effective February 1, 1977; FAR 23.1557(c)(1) as amended by Amendment 23-18 effective May 2, 1977; FAR 23.1327 and 23.1547 as amended by Amendment 23-20 effective September 1, 1977; FAR 23.1581(b)(2) as amended by Amendment 23-21 effective March 1, 1978; and applicable portions of FAR 36, as amended by Amendment 36-9 effective April 3, 1978.

PA-28RT-201: CAR 3, effective May 15, 1956, through Amendment 3-2; paragraphs 3.304 and 3.705 of Amendment 3-7 effective May 3, 1962; FAR 23.207, 23.221, 23.955, 23.959, and 23.1091 as amended by Amendment 23-7 effective September 14, 1969; FAR 23.201, 23.203, 23.427(c), and 23.967(e)(2) as amended by Amendment 23-14 effective December 20, 1973; FAR 23.1093 as amended by Amendment 23-15 effective October 31, 1974; FAR 23.1557(c)(1) as amended by Amendment 23-18 effective May 2, 1977; FAR 23.1327 and 23.1547 as amended by Amendment 23-20 effective September 1, 1977; FAR 23.1581(b)(2) as amended by Amendment 23-21 effective March 1, 1978; and applicable portions of FAR 36 as amended by Amendment 36-10 effective July 31, 1978.

Compliance with FAR 23.1441 as amended by Amendment 23-9 effective June 17, 1970, will be established with optional oxygen equipment.


Compliance with FAR 23.1441 as amended by Amendment 23-9 effective June 17, 1970, will be established with optional oxygen equipment.


Compliance with FAR 23.1441 as amended by Amendment 23-9 effective June 17, 1970, will be established with optional oxygen equipment.


Production Basis

Production Certificate No. 206 issued and the manufacturer authorized to issue airworthiness certificates under the delegation option provisions of FAR 21.

Equipment

The basic required equipment as prescribed in the applicable airworthiness regulation (see Certification Basis) must be installed in the aircraft for certification.

In addition, the following documents are required:
<table>
<thead>
<tr>
<th>MODEL</th>
<th>AFM/POH</th>
<th>REPORT NO.</th>
<th>APPROVED</th>
<th>SERIAL EFFECTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>PA-28-140</td>
<td>AFM</td>
<td>VB-160</td>
<td>2/14/64</td>
<td>28-20001 through 28-26946, and 28-7125001 through 28-7125641</td>
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<tr>
<td></td>
<td>AFM</td>
<td>VB-339</td>
<td>7/21/71</td>
<td>28-7225001 through 28-7325674</td>
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<td>AFM</td>
<td>VB-557</td>
<td>5/14/73</td>
<td>28-7425001 through 28-7625275</td>
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<td>POH</td>
<td>VB-770</td>
<td>6/16/76</td>
<td>28-7725001 through 28-7725290</td>
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<tr>
<td>PA-28-150</td>
<td>AFM</td>
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<td>6/2/61</td>
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<td>PA-28-151</td>
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<td>28-7415001 through 28-7615435</td>
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<td>28-7715001 through 28-7715314</td>
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<tr>
<td>PA-28-160</td>
<td>AFM</td>
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<td>10/25/60</td>
<td>28-1 through 28-4377, and 28-1760A</td>
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<tr>
<td>PA-28S-160</td>
<td>AFM</td>
<td>VB-177</td>
<td>2/25/63</td>
<td>28-1 through 28-1760, and 28-1760A</td>
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<tr>
<td>PA-28-161</td>
<td>POH</td>
<td>VB-880</td>
<td>12/16/76</td>
<td>28-7716001 through 28-8216300</td>
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<td>28-8316001 through 28-8616057, and 2816001 through 2816119</td>
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<td>POH</td>
<td>VB-1610</td>
<td>7/12/95</td>
<td>2842001 and up</td>
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<td>POH Supp.</td>
<td>VB-1546</td>
<td>6/30/92</td>
<td>28-8316001 through 28-8616057, and 2816001 through 2816119 (See NOTE 28)</td>
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<td>VB-1360</td>
<td>9/9/88</td>
<td>2841001 through 2841365</td>
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<td>POH Supp.</td>
<td>VB-1545</td>
<td>5/29/92</td>
<td>2841001 through 2841365 (See NOTE 28)</td>
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<td>7/1/94</td>
<td>2816110 through 2816119</td>
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<td>VB-210</td>
<td>4/22/69</td>
<td>28-5601 through 28-5859, and 28-7105001 through 28-7205091</td>
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<td>AFM</td>
<td>VB-355</td>
<td>9/1/71</td>
<td>28-7205092 through 28-7205318</td>
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<td>VB-437</td>
<td>5/22/72</td>
<td>28-7305001 through 28-7305601 and 28-E13</td>
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<td>VB-558</td>
<td>5/14/73</td>
<td>28-7405001 through 28-7505260</td>
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<tr>
<td>PA-28S-180</td>
<td>AFM</td>
<td>VB-179</td>
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<td>28-671 through 28-5859, and 28-7105001 through 28-7105234</td>
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<tr>
<td>PA-28-181</td>
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<td>VB-760</td>
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<td>28-7690001 through 28-7690467</td>
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<td>28-7790001 through 28-7990589</td>
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<td>VB-1120</td>
<td>7/2/79</td>
<td>28-8090001 through 28-8690056, 28-8690061, 28-8690062, and 2890001 through 2890205</td>
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<td>POH</td>
<td>VB-1611</td>
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<td>2843001 and up</td>
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<td>POH</td>
<td>VB-1563</td>
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<td>2890206 through 2890231</td>
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<td>PA-28R-200</td>
<td>AFM</td>
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<td>28R-35001 through 28R-35820, and 28R-7135001 through 28R-7135229</td>
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<td>28R-7235001 through 28R-7335446</td>
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<td>28R-7435001 through 28R-7635545</td>
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<tr>
<td>PA-28R-201</td>
<td>POH</td>
<td>VB-870</td>
<td>12/21/76</td>
<td>28R-7737001 through 28R-7837317</td>
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<td>VB-1365</td>
<td>9/15/88</td>
<td>2837001 through 2837061</td>
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<td>POH</td>
<td>VB-1612</td>
<td>7/12/95</td>
<td>2844001 and up</td>
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</tbody>
</table>
NOTE 1: Current weight and balance report, including list of equipment included in certification empty weight and loading instructions, when necessary, must be provided for each aircraft at the same time of original certification.

The certificated empty weight and corresponding center of gravity location must include undrainable system oil (not included in the oil capacity) and unusable fuel as noted below.

### Unusable Fuel and Oil Quantity

<table>
<thead>
<tr>
<th>Unusable Fuel and Oil Quantity</th>
<th>Applicable Models and Serial Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fuel 12.0 lb. at (+103.0)</strong></td>
<td>PA-28R-180, PA-28R-200: all Serial Nos.</td>
</tr>
<tr>
<td></td>
<td>PA-28-180: S/N 28-E13, and 28-7305001 through 28-7505260</td>
</tr>
<tr>
<td><strong>Fuel 12.0 lb. at (+103.0)</strong></td>
<td>PA-28-235: S/N 28-E11, and S/N 28-7310001 through 28-7710089</td>
</tr>
<tr>
<td><strong>Fuel 12.0 lb. at (+103.0)</strong></td>
<td>PA-28-151: S/N 28-7415001 through 28-7715314</td>
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<tr>
<td><strong>Fuel 2.2 lb. at (+103.0)</strong></td>
<td>PA-28-140, PA-28-150, PA-28-160: all Serial Nos.</td>
</tr>
<tr>
<td><strong>Fuel 2.2 lb. at (+103.0)</strong></td>
<td>PA-28-180: S/N 28-03, S/N 28-671 through 28-7105001 through 28-7205318</td>
</tr>
<tr>
<td><strong>Oil 1.8 lb. at (+27.5)</strong></td>
<td>PA-28-140, PA-28-150, PA-28-160, PA-28-180: S/N 28-03, 28-1 through 28-1760, and 28-1760A</td>
</tr>
<tr>
<td><strong>Oil 1.8 lb. at (+27.5)</strong></td>
<td>PA-28-151: S/N 28-7415001 through 28-7715314</td>
</tr>
<tr>
<td>Unusable Fuel and Oil Quantity</td>
<td>Applicable Models and Serial Numbers</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>--------------------------------------</td>
</tr>
</tbody>
</table>
| Oil 1.8 lb. at (+40.5)        | PA-28-150, PA-28-160: S/N 28-1761 through 28-4377  
PA-28-180: S/N 28-1761 through 28-5859, and 28-7105001 through 28-7205318 |
| Oil 1.8 lb. at (+35.5)        | PA-28-180: S/N 28-E13, 28-7305001 through 28-7505260 |
| Oil 1.8 lb. at (+36.5)        | PA-28R-180: all Serial Nos. |
| Oil 3.9 lb. at (+35.6)        | PA-28R-200: S/N 28R-35001 through 28R-35820, and 28R-7135001 through 28R-7135229 |
| Fuel 2.3 lb. at (+103.0)      | PA-28-235: S/N 28-10001 through 28-11378, and 28-7110001 through 28-7210023 |
| Oil 2.4 lb. at (+41.0)        | PA-28-235: S/N 28-E11, and 28-7310001 through 28-7710089 |
| Oil 2.4 lb. at (+36.0)        | PA-28R-200: S/N 28R-7235001 through 28R-7635545 |
| Oil 3.9 lb. at (+30.6)        | PA-28-181: S/N 28-7690001 through 28-8690056, 28-8690061, 28-8690062, and 289001 through 2890231, and 284301 and up |
| Oil 1.8 lb. at (+35.5)        | fuel 12.0 lb. at (+103.0)             |
| Fuel 3.9 lb. at (+30.6)       | PA-28R-201: S/N 28R-7737001 through 28R-7837317, 2837001 through 2837061, and 2844001 and up |
| Fuel 3.0 lb. at (+103.0)      | PA-28R-201T: S/N 28R-7703001 through 28R-7803369, 2831001 through 2831013 |
| Oil 6.0 lb. at (+19.1)        | PA-28-161 Cadet: S/N 2841001 through 2841365 |
| Fuel 12.0 lb. at (+103.0)     | PA-28-161: S/N 28-7716001 through 28-8616057, and 2816001 through 2816119 and 2842001 and up |
| Oil 1.8 lb. at (+27.5)        | PA-28-236: S/N 28-7911001 through 28-8611008, 2811001 through 2811050, and 2845001 and up |
| Fuel 3.0 lb. at (+103.0)      | PA-28RT-201: S/N 28R-7918001 through 28R-8218026 |
| Oil 5.2 lb. at (+36.0)        | PA-28RT-201T: S/N 28R-7931001 through 28R-8631005, 2831001 through 2831013 |
| Fuel 3.0 lb. at (+103.0)      | PA-28-201T: S/N 28-7921001 through 28-7921095 |
| Oil 3.9 lb. at (+30.6)        |                                          |
| Fuel 3.0 lb. at (+103.0)      |                                          |
| Oil 6.0 lb. at (+19.1)        |                                          |

NOTE 2 The following placards must be displayed in clear view of the pilot:

In Normal Category Aircraft
"THIS AIRPLANE MUST BE OPERATED AS A NORMAL CATEGORY AIRPLANE IN COMPLIANCE WITH OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS, MARKINGS, AND MANUAL."

In aircraft certificated in both Normal and Utility Categories
"THIS AIRPLANE MAY BE OPERATED AS A NORMAL OR UTILITY CATEGORY AIRPLANE IN COMPLIANCE WITH OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS, MARKINGS, AND MANUAL."

Reference AFM for additional required placards.

The Model PA-28-180, S/N 28-1761 through 28-5859, and 28-7105001 through 28-7205318, may be converted to the seaplane configuration, PA-28S-180, in accordance with Piper Drawing No. 65680.

NOTE 4 Takeoff r.p.m. for Models PA-28-180 and PA-28S-180, S/N 28-671 through 28-1760, and 28-1760A, restricted due to fuel flow capability of the emergency pump.


The Model PA-28-140 may be operated with the door removed in accordance with the FAA approved Airplane Flight Manual Supplement dated August 12, 1965.

NOTE 6 The Model PA-28-140, 2 PCLM (Normal Category Only), S/N 28-20001 through 28-20939 may be converted:
   (a) To a maximum weight of 2150 lb. by the installation of Piper Kit 756 962 and Sensenich propeller M74DM58.
   (b) To the four place, 4 PCLM (See Item VIII), configuration in accordance with Piper Drawing 65599.

NOTE 7 The Model PA-28-140, 2 PCLM, S/N 28-20940 through 28-26946, and 28-7125001 through 28-7725290, may be converted to the four place, 4 PCLM (See Item VIII), configuration by the installation of Piper Kit 756 941 and appropriate seats.

NOTE 8 The maximum cargo allowable of 125 lb. for S/N 28-1 through 28-1760, and 28-1760A may be increased to 200 lb. in accordance with Piper Service Spares Letter No. 242.

NOTE 9 The Model PA-28-180 (Normal Category), S/N 28-671 through 28-3832, may be operated in Utility Category in accordance with Service Spares Letter No. 258.

NOTE 10 All PA-28 models with Lycoming O-360-A3A engine and Sensenich propeller Model M76EMM-0, M76EMMS-0, 76EM8S5-0, or 76EM8-0 must avoid continuous operation between 2150 and 2350 r.p.m. Placards must be installed in accordance with Piper Service Letter No. 526, and Airplane Flight Manual Supplement No. 1, dated April 22, 1969.

NOTE 11 The Models PA-28-140, PA-28-150, PA-28-151, PA-28-160, PA-28-180; S/N 28-03, 28-1 through 28-5859, and 28-7105001 through 28-7205318; PA-28R-180 and PA-28R-200 may be operated with the spinner dome removed, or with the spinner dome and rear bulkhead removed. The PA-28-151, S/N 28-7415001 through 28-7715314, may be operated with the spinner dome removed, or with the spinner dome and front and rear bulkheads removed. The PA-28-180, S/N 28-7305001 through 28-7505260, and the PA-28-181; S/N 28-7690001 through 28-8690062, and 2890001 through 2890205, may be operated with the spinner dome removed. The PA-28R-201; S/N 28R-7737002 through 28R-7837317, 2837001 through 2837061, and 2844001 and up, may be operated with the spinner dome removed. The PA-28R-201T; S/N 28R-7703001 through 28R-7803374, and 2803001 through 280312, may be operated with the spinner dome removed. The PA-28R-201T; S/N 28R-7716001 through 28R-8216300 may be operated with the spinner dome and front and rear bulkheads removed. The PA-28-161; S/N 28-7716001 through 28R-8216300 may be operated with the spinner dome and front and rear bulkheads removed. The PA-28-161; S/N 28-8316001 through 28-8616057, 2816001 through 2816119, and PA-28-161 (Cadet), S/N 2841001 through 2841365, may be operated with the spinner dome removed, or with the spinner dome and front and rear bulkheads removed. The PA-28-236; S/N 28-7911001 through 28-8611008, 2811001 through 2811050, and 2845001 and up, may be operated with the spinner dome removed. The PA-28RT-201; S/N 28R-7918001 through 28R-8218026, may be operated with the spinner dome removed. The PA-28RT-201; S/N 28R-7931001 through 28R-8631005, and 2831001 through 2831013, may be operated with the spinner dome removed. The PA-28-201T; S/N 28-7921001 through 28-7921095, may be operated with the spinner dome removed.
NOTE 12 Maximum baggage may be increased to 200 lb. at (+117) by the installation of Piper Kit 756 962 and Sensenich propeller M74DM-58 or 74DM6-0-58. Maximum baggage may be increased to 300 lb. (200 lb. at +117 and 100 lb. at +133) by the installation of Piper Kit 756 962, Sensenich propeller M74DM-58 or 74DM6-0-58 and when modified in accordance with Piper Drawing 66671.

NOTE 13 Maximum baggage may be increased to 300 lb. (200 lb. at +117 and 100 lb. at +133) when modified in accordance with Piper Drawing 66671.

NOTE 14 The Model PA-28-235; S/N 28-10001 through 28-11378, and 28-7110001 through 28-7210023, may be operated with the spinner dome removed, or with the spinner dome and rear bulkhead removed on the constant speed propeller installation only.

NOTE 15 The Model PA-28-180, S/N 28-671 through 28-5859, may be operated to the expanded C.G. envelope:


NOTE 18 Two propeller flange bushings must be replaced with Lycoming #72068S bushings at propeller blade positions corresponding to noncounterbored bolt holes in order to use the McCauley propeller.

NOTE 19 Two propeller flange bushings must be replaced with Lycoming #72060S index bushing and Lycoming #721061S bushing, at flange index mark and opposite, in order to use the McCauley propellers. A spacer, Piper P/N 79528-0, is also required between propeller and engine flange.

NOTE 20 The following model and serial number aircraft are not eligible for import certification to the U.S.: PA-28-140:


PA-28-161:


PA-28-180:

NOTE 20 (cont.)

PA-28-181:

PA-28-201T:
28-7921085

PA-28-235:

PA-28-236:

PA-28-180:
28R-31091

PA-28-200:

PA-28-201:

PA-28-201T:

PA-28RT-201:

PA-28RT-201T:

In addition, aircraft having the following serial number are not eligible for import certification to the U.S.:


NOTE 21

Engines with serial numbers ending with "A" require the F-4-13 propeller governor assembly. Other engines require the F-4-3( ) propeller governor assembly.

NOTE 22

Hartzell Propeller HC-C2YK-1( )/7666A-2 or HC-C2YK-1( )F/F7666A-2 approved with IO-360-C1C engine only (S/N 28R-7235001 through S/N 28R-7635516).
NOTE 23  McCauley Propeller B2D34C213/90DHA-16 approved with IO-360-C1C6 engine only (S/N 28R-7635517 through 28R-7635545).

NOTE 24  On Models PA-28-161; S/N 28-7816001 through 28-8616057, and S/N 2816001 through 2816109, and PA-28-181; S/N 28-7890001 through 28-8690056, 28-8690061, 28-8690062, 2890001 through 2890231, and 2843001 and up, the wheel fairings but not the landing gear strut fairings may be removed.

NOTE 25  On Models PA-28-201T; S/N 28-7921001 through 28-7921095, and PA-28-236; S/N 28-7911001 through 28-8611008, 2811001 through 2811050, and 2845001 and up, the wheel fairings alone or the wheel fairings but not the landing gear strut fairings may be removed.

NOTE 26  With installation of Piper Kit 88050, PA-28-161 2325 lb. Maximum Gross Weight Modification, the following weights apply:

Normal Category:  
Ramp - 2332 lb.  
Takeoff - 2325 lb.

Utility Category:  
Ramp - 2027 lb.  
Takeoff - 2020 lb.

(See POH VB-1180 Supplement dated October 5, 1985.)

NOTE 27  With installation of Piper Kit 88168, PA-28-161 Cadet 2202 lb. Maximum Gross Weight Modification, the following weights apply:

Normal Category:  
Ramp - 2209 lb.  
Takeoff - 2202 lb.

Utility Category:  
Ramp - 2027 lb.  
Takeoff - 2020 lb.

(See POH VB-1410 dated March 14, 1990.)

NOTE 28  POH Supplement VB-1546 is applicable to POH VB-1180. POH Supplement VB-1545 is applicable to POH VB-1360. Supplements VB-1545 and VB-1546 restrict maximum r.p.m. limitation to 2600 r.p.m. for foreign countries requiring reduced noise level operation (Piper Kit No. 766 277 for PA-28-161 (Cadet) and Piper Kit No. 766 278 for PA-28-161 (Warrior II)).

...END...
WARNING: Use of alcohol-based fuels can cause serious performance degradation and fuel system component damage, and is therefore prohibited on Cessna airplanes.

This data sheet which is a part of type certificate No. 3A19 prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder
Cessna Aircraft Company
P.O. Box 7704
Wichita, Kansas 67277

Model 150, 2 PCLM (Utility Category), Approved July 10, 1958
Model 150A, 2 PCLM (Utility Category), Approved June 14, 1960
Model 150B, 2 PCLM (Utility Category), Approved June 20, 1961
Model 150C, 2 PCLM (Utility Category), Approved June 15, 1962

Engine
Continental O-200-A

*Fuel
80/87 min. grade aviation gasoline

*Engine limits
For all operations, 2750 r.p.m. (100 hp.)

Propeller and propeller limits
1. Sensenich 69CK
   Diameter: not over 69 in., not under 67.5 in.
   Static r.p.m. at maximum permissible throttle setting:
   not over 2470, not under 2320
   No additional tolerance permitted

2. McCauley 1A100/MCM
   Diameter: not over 69 in., not under 67.5 in.
   Static r.p.m. at maximum permissible throttle setting:
   not over 2475, not under 2375
   No additional tolerance permitted

3. McCauley 1A101/DCM
   Diameter: not over 69 in., not under 67.5 in.
   Static r.p.m. at maximum permissible throttle setting:
   not over 2600, not under 2500
   No additional tolerance permitted

*Airspeed limits (CAS)
Never exceed 157 m.p.h. (136 knots)
Maximum structural cruising 120 m.p.h. (104 knots)
Maneuvering 106 m.p.h. (92 knots)
Flaps extended 85 m.p.h. (74 knots)
I - Model 150, Model 150A, Model 150B, Model 150C  (cont’d)

C.G. range  (+33.4) to (+36.0) at 1500 lb.
(+32.2) to (+36.0) at 1250 lb. or less
Straight line variation between points given

Empty weight C.G. range  None

Leveling means  Top edge of fuselage splice plate

*Maximum weight  1500 lb.

No. of seats  2 at (+39); (for child's optional jump seat refer to Equipment List)

Maximum baggage  80 lb. at (+65)

Fuel capacity  26 gal. (22.5 gal. usable, two 13 gal. tanks in wings at +42)
See NOTE 1 for data on system fuel

Oil capacity  6 qt. (-13.5; unusable 2 qt.)
See NOTE 1 for data on system oil

Control Surface Movements

Wing flaps  Retracted  0°
1st notch  10°
2nd notch  20°
3rd notch  30°
4th notch  40°

Ailerons  Up 20°  Down 15°
Elevator  Up 25°  Down 15°
Elevator tab  Up 10°  Down 20°
Rudder  Right 16°  Left 16°

Serial Nos. eligible
Model 150:  617, 17001 through 17999, 59001 through 59018
Model 150A:  628, 15059019 through 15059350
Model 150B:  15059351 through 15059700
Model 150C:  15059701 through 15060087

II - Model 150D, 2 PCLM (Utility Category), Approved July 19, 1963
Model 150E, 2 PCLM (Utility Category), Approved June 18, 1964
Model 150F, 2 PCLM (Utility Category), Approved May 27, 1965

Engine  Continental O-200-A

*Fuel  80/87 min. grade aviation gasoline

*Engine limits  For all operations, 2750 r.p.m. (100 hp.)

Propeller and propeller limits

1. Sensenich 69CK
   Diameter: not over 69 in., not under 67.5 in.
   Static r.p.m. at maximum permissible throttle setting:
   not over 2470, not under 2320
   No additional tolerance permitted

2. McCauley 1A100/MCM
   Diameter: not over 69 in., not under 67.5 in.
   Static r.p.m. at maximum permissible throttle setting:
   not over 2475, not under 2375
   No additional tolerance permitted

3. McCauley 1A101/DCM
   Diameter: not over 69 in., not under 67.5 in.
   Static r.p.m. at maximum permissible throttle setting:
   not over 2600, not under 2500
   No additional tolerance permitted

   24 lb. (-32)  21 lb. (-32)  21 lb. (-32)
II - Model 150D, Model 150E, Model 150F  (cont’d)

*Airspeed limits (CAS)  
- Never exceed 162 m.p.h. (141 knots)
- Maximum structural cruising 120 m.p.h. (104 knots)
- Maneuvering 109 m.p.h. (95 knots)
- Flaps extended 100 m.p.h. (87 knots)

C.G. range  
- (+32.9) to (+37.5) at 1600 lb.
- (+31.5) to (+37.5) at 1280 lb. or less

Straight line variation between points given

Empty weight C.G. range  
None

Leveling means  
Top of tailcone

*Maximum weight  
1600 lb.

No. of seats  
2 at (+39); (for child's optional jump seat refer to Equipment List)

Maximum baggage  
120 lb. at (+65) (150D, 150E)
- 120 lb. - Reference weight and balance data (150F)

Fuel capacity  
26 gal. (22.5 gal. usable, two 13 gal. tanks in wings at +42)

See NOTE 1 for data on system fuel

Oil capacity  
6 qt. (-13.5; unusable 2 qt.)  See NOTE 1 for data on system oil

Control Surface Movements  
Wing flaps (150D, 150E)  
- Retracted 0°
- 1st Notch 10°
- 2nd Notch 20°
- 3rd Notch 30°
- 4th Notch 40°

Wing flaps (150°F)  
- Down 0° -40° ±2°

Ailerons  
- Up 20°  Down 15°

Elevator  
- Up 25°  Down 15°

Elevator tab  
- Up 10°  Down 20°

Rudder (150D, 150E)  
- Right 16°  Left 16°
- (150F)  
- Right 23°  Left 23°

(measured parallel to chord)

Serial Nos. eligible  
- Model 150D: 15060088 through 15060772
- Model 150E: 644, 15060773 through 15061532
- Model 150F: 15061533 through 15064532

III - Model 150G, 2 PCLM (Utility Category), Approved May 5, 1966  
2 PCSM (Utility Category), Approved August 12, 1966  
Model 150H, 2 PCL-SM (Utility Category), Approved August 10, 1967  
Model 150J, 2 PCL-SM (Utility Category), Approved May 2, 1968  
Model 150K, 2 PCL-SM (Utility Category), Approved June 5, 1969

Engine  
Continental O-200-A

*Fuel  
80/87 min. grade aviation gasoline

*Engine limits  
For all operations, 2750 r.p.m. (100 hp.)

Propeller and propeller limits  
1. Sensenich 69CK  
- Diameter: not over 69 in., not under 67.5 in.
- Static r.p.m. at maximum permissible throttle setting:
  - not over 2470, not under 2320
- 24 lb. (-32)
III - Model 150G, Model 150H, Model 150J, Model 150K  (cont’d)

2. McCauley 1A100/MCM  21 lb. (-32)
   Diameter: not over 69 in., not under 67.5 in.
   Static r.p.m. at maximum permissible throttle setting:
   not over 2475, not under 2375
   No additional tolerance permitted

3. McCauley 1A90/CF (seaplane only)  24 lb. (-32)
   Diameter: not over 75 in., not under 73.5 in.
   Static r.p.m. at maximum permissible throttle setting:
   not over 2600, not under 2500
   No additional tolerance permitted

4. McCauley 1A101/DCM  21 lb. (-32)
   Diameter: not over 69 in., not under 67 in.
   Static r.p.m. at maximum permissible throttle setting:
   not over 2600, not under 2500
   No additional tolerance permitted

*Airspeed limits (CAS)
   Never exceed 162 m.p.h. (141 knots)
   Maximum structural cruising 120 m.p.h. (104 knots)
   Maneuvering 109 m.p.h. (95 knots)
   Flaps extended 100 m.p.h. (87 knots)

C.G. range
   **Landplane**
   (+32.9) to (+37.5) at 1600 lb.
   (+31.5) to (+37.5) at 1280 lb. or less
   **Seaplane**
   (+33.8) to (+36.5) at 1650 lb.
   (+33.0) to (+36.5) at 1400 lb. or less
   Straight line variation between points given

Empty weight C.G. range
   None

Leveling means
   Top of tailcone

*Maximum weight
   **Landplane** - 1600 lb.
   **Seaplane** - 1650 lb. (Edo 88A-1650 floats)

No. of seats
   2 at (+39); (for child's optional jump seat, refer to Equipment List)

Maximum baggage
   120 lb. - Reference weight and balance data

Fuel capacity
   **Landplane**
   26 gal. (22.5 gal. usable, two 13 gal. tanks in wings at +42.0)
   **Seaplane**
   26 gal. (21.5 gal. usable, two 13 gal. tanks in wings at +42.0)
   See NOTE 1 for data on system fuel

Oil capacity
   6 qt. (-13.5; unusable 2 qt.)
   See NOTE 1 for data on system oil

Control surface movements
   **Wing flaps**
   Up 20° +2°, -0°  Down 0° -40° ±2°
   **Ailerons**
   Up 20° +2°, -0°  Down 14° +2°, -0°
   **Elevator**
   Up 25° ±1°  Down 15° ±1°
   **Elevator tab**
   Up 10° ±1°  Down 20° ±1°
   **Rudder**
   Right 23° +0°, -2°  Left 23° +0°, -2°
   (measured perpendicularly to hinge line)

Serial Nos. eligible
   Model 150G: 15064533 through 15067198 (except 15064970)
   Model 150H: 649, 15067199 through 15069308
   Model 150J: 15069309 through 15071128
   Model 150K: 15071129 through 15072003
### IV - Model A150K, Aerobat, 2 PCLM (Acrobatic Category), Approved June 5, 1969

<table>
<thead>
<tr>
<th>Engine</th>
<th>Continental O-200-A</th>
</tr>
</thead>
</table>

*Fuel

80/87 min. grade aviation gasoline

*Engine limits

For all operations, 2750 r.p.m. (100 hp.)

Propeller and propeller limits

| Diameter: not over 69 in., not under 67 in. | 21 lb. (-32) |
| Static r.p.m. at maximum permissible throttle setting: not over 2600, not under 2500 | |
| No additional tolerance permitted | |

*Propeller limits

<table>
<thead>
<tr>
<th>1. McCauley 1A101/DCM</th>
</tr>
</thead>
<tbody>
<tr>
<td>21 lb. (-32)</td>
</tr>
</tbody>
</table>

*Airspeed limits (CAS)

| Never exceed | 193 m.p.h. (168 knots) |
| Maximum structural cruising | 140 m.p.h. (122 knots) |
| Maneuvering | 118 m.p.h. (103 knots) |
| Flaps extended | 100 m.p.h. (87 knots) |

C.G. range

(+32.9) to (+37.5) at 1600 lb.  
(+31.5) to (+37.5) at 1280 lb. or less

Empty weight C.G. range

None

Leveling means

Top of tailcone

*Maximum weight

1600 lb.

No. of seats

2 at (+39); (for child's optional jump seat, refer to Equipment List)

Maximum baggage

120 lb. - (reference weight and balance data)

Fuel capacity

26 gal. (22.5 gal. usable, two 13 gal. tanks in wings at +42.0)

Oil capacity

6 qt. (-13.5; unusable 2 qt.)  
See NOTE 1 for data on system oil.

Control surface movements

<table>
<thead>
<tr>
<th>Wing flaps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ailerons</td>
</tr>
<tr>
<td>Elevator</td>
</tr>
<tr>
<td>Elevator tab</td>
</tr>
<tr>
<td>Rudder</td>
</tr>
</tbody>
</table>

(measured perpendicularly to hinge line)

Serial Nos. Eligible

Model A150K: A1500001 through A1500226
**V - Model 150L, 2 PCLM (Utility Category), Approved June 8, 1970**

<table>
<thead>
<tr>
<th>Engine</th>
<th>Continental O-200-A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fuel</strong></td>
<td>80/87 min. grade aviation gasoline</td>
</tr>
<tr>
<td><strong>Engine limits</strong></td>
<td>For all operations, 2750 r.p.m. (100 hp.)</td>
</tr>
<tr>
<td><strong>Propeller and propeller limits</strong></td>
<td></td>
</tr>
<tr>
<td>1. McCauley 1A101/GCM (1971, 1972, 1973 models)</td>
<td>27.7 lb. (-34.5)</td>
</tr>
<tr>
<td>Diameter: not over 69 in., not under 67 in.</td>
<td></td>
</tr>
<tr>
<td>Static r.p.m. at maximum permissible throttle setting:</td>
<td></td>
</tr>
<tr>
<td>not over 2600, not under 2500</td>
<td></td>
</tr>
<tr>
<td>No additional tolerance permitted</td>
<td></td>
</tr>
<tr>
<td>2. McCauley 1A101/HCM (1972, 1973 and 1974 models)</td>
<td>27.7 lb. (-34.5)</td>
</tr>
<tr>
<td>Diameter: not over 69 in., not under 67 in.</td>
<td></td>
</tr>
<tr>
<td>Static r.p.m. at maximum permissible throttle setting:</td>
<td></td>
</tr>
<tr>
<td>not over 2600, not under 2500</td>
<td></td>
</tr>
<tr>
<td>No additional tolerance permitted</td>
<td></td>
</tr>
<tr>
<td>3. McCauley 1A101/PCM (1974 model)</td>
<td>27.0 lb. (-34.5)</td>
</tr>
<tr>
<td>Diameter: not over 69 in., not under 67 in.</td>
<td></td>
</tr>
<tr>
<td>Static r.p.m. at maximum permissible throttle setting:</td>
<td></td>
</tr>
<tr>
<td>not over 2600, not under 2500</td>
<td></td>
</tr>
<tr>
<td>No additional tolerance permitted</td>
<td></td>
</tr>
<tr>
<td><strong>Propeller and propeller limits (cont’d)</strong></td>
<td></td>
</tr>
<tr>
<td>4. McCauley 1A102/OCM (1971 through 1974 models)</td>
<td>27.0 lb. (-34.5)</td>
</tr>
<tr>
<td>Diameter: not over 69 in., not under 67.5 in.</td>
<td></td>
</tr>
<tr>
<td>Static r.p.m. at maximum permissible throttle setting:</td>
<td></td>
</tr>
<tr>
<td>not over 2560, not under 2460</td>
<td></td>
</tr>
<tr>
<td>No additional tolerance permitted</td>
<td></td>
</tr>
<tr>
<td><strong>Airspeed limits (CAS)</strong></td>
<td>Never exceed 162 m.p.h. (141 knots)</td>
</tr>
<tr>
<td>Maximum structural cruising 120 m.p.h. (104 knots)</td>
<td></td>
</tr>
<tr>
<td>Maneuvering 109 m.p.h. (95 knots)</td>
<td></td>
</tr>
<tr>
<td>Flaps extended 100 m.p.h. (87 knots)</td>
<td></td>
</tr>
<tr>
<td><strong>C.G. range</strong></td>
<td>(+32.9) to (+37.5) at 1600 lb.</td>
</tr>
<tr>
<td>(+31.5) to (+37.5) at 1280 lb. or less</td>
<td></td>
</tr>
<tr>
<td>Straight line variation between points given</td>
<td></td>
</tr>
<tr>
<td><strong>Empty weight C.G. range</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>Leveling means</strong></td>
<td>Jig located nut plates and screws at Stations +94.63 and +132.94 on left side of tailcone</td>
</tr>
<tr>
<td><strong>Maximum weight</strong></td>
<td>1600 lb.</td>
</tr>
<tr>
<td><strong>No. of seats</strong></td>
<td>2 at (+39); (for child's optional jump seat refer to Equipment List)</td>
</tr>
<tr>
<td><strong>Maximum baggage</strong></td>
<td>120 lb. - (Reference weight and balance data)</td>
</tr>
<tr>
<td><strong>Fuel capacity</strong></td>
<td>26 gal. (22.5 gal. usable, two 13 gal. tanks in wings at +42.0)</td>
</tr>
<tr>
<td>See NOTE 1 for data on system fuel</td>
<td></td>
</tr>
<tr>
<td><strong>Oil capacity</strong></td>
<td>6 qt. (-13.5; unusable 2 qt.)</td>
</tr>
<tr>
<td>See NOTE 1 for data on undrainable oil</td>
<td></td>
</tr>
</tbody>
</table>
### V - Model 150L (cont’d)

<table>
<thead>
<tr>
<th>Control surface movements</th>
<th>Wing flaps</th>
<th>Down 0° -40° ±2°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ailerons</td>
<td>Up 20° +2°, -0°</td>
<td>Down 14° +2°, -0°</td>
</tr>
<tr>
<td>Elevator</td>
<td>Up 25° ±1°</td>
<td>Down 15° ±1°</td>
</tr>
<tr>
<td>Elevator tab</td>
<td>Up 10° ±1°</td>
<td>Down 20° ±1°</td>
</tr>
<tr>
<td>Rudder</td>
<td>Right 23° +0°, -2°</td>
<td>Left 23° +0°, -2°</td>
</tr>
</tbody>
</table>

(measured perpendicularly to hinge line)

Serial Nos. eligible
- 15072004 through 15072628 (1971 Model)
- 15072629 through 15073658 (1972 Model)
- 15073659 through 15074850 (1973 Model)
- 15074851 through 15075781 (1974 Model)

### VI - Model A150L, Aerobat, 2 PCLM (Acrobatic Category), Approved June 8, 1970

**Engine**
- Continental O-200-A

*Fuel
- 80/87 min. grade aviation gasoline

*Engine limits
- For all operations, 2750 r.p.m. (100 hp.)

**Propeller and propeller limits**
1. McCauley 1A101/GCM
   - Diameter: not over 69 in., not under 67 in.
   - Static r.p.m. at maximum permissible throttle setting:
     - not over 2600, not under 2500
   - No additional tolerance permitted

2. McCauley 1A101/HCM
   - Diameter: not over 69 in., not under 67 in.
   - Static r.p.m. at maximum permissible throttle setting:
     - not over 2600, not under 2500
   - No additional tolerance permitted

3. McCauley 1A102/OCM
   - Diameter: not over 69 in., not under 67.5 in.
   - Static r.p.m. at maximum permissible throttle setting:
     - not over 2560, not under 2460
   - No additional tolerance permitted

*Maximum weight 1600 lb.

No. of seats 2 at (+39); (for child's optional jump seat refer to Equipment List)

Maximum baggage 120 lb. - (Reference weight and balance data)
VI - Model A150L (cont’d)

Fuel capacity 26 gal. (22.5 gal. usable, two 13 gal. tanks in wings at +42.0)
See NOTE 1 for data on unusable fuel

Oil capacity 6 qt. (-13.5; unusable 2 qt.)
See NOTE 1 for data on undrainable oil

Control surface movements

<table>
<thead>
<tr>
<th>Surface</th>
<th>Up</th>
<th>Down</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing flaps</td>
<td>0°</td>
<td>±2°</td>
</tr>
<tr>
<td>Ailerons</td>
<td>20°</td>
<td>±2°</td>
</tr>
<tr>
<td>Elevator</td>
<td>25°</td>
<td>±1°</td>
</tr>
<tr>
<td>Elevator tab</td>
<td>10°</td>
<td>±1°</td>
</tr>
<tr>
<td>Rudder</td>
<td>Right</td>
<td>23° ±0°, -2°</td>
</tr>
</tbody>
</table>

(measured perpendicularly to hinge line)

Serial Nos. eligible
A1500227 through A1500276 (1971 Model)
A1500277 through A1500342 (1972 Model)
A1500343 through A1500429 (1973 Model)
A1500430 through A1500523 (1974 Model) (Except A1500433)

VII - Model 150M, 2 PCLM (Utility Category), Approved May 6, 1974

Engine Continental O-200-A

*Fuel 80/87 min. grade aviation gasoline

*Engine limits For all operations, 2750 r.p.m. (100 hp.)

Propeller and propeller limits
1. McCauley 1A102/OCM 27.7 lb. (-34.5)

Diameter: not over 69 in., not under 67 in.
Static rpm at maximum permissible throttle setting:
not over 2560, not under 2460
No additional tolerance permitted

*Airspeed limits (CAS)
15075782 through 15077005
Never exceed 162 m.p.h. (141 knots)
Maximum structural cruising 120 m.p.h. (104 knots)
Maneuvering 109 m.p.h. (95 knots)
Flaps extended 100 m.p.h. (87 knots)

*Airspeed limits (IAS)
15077006 through 15079405
(See Note 4 on use of (IAS)
Never exceed 141 knots
Maximum structural cruising 107 knots
Maneuvering 97 knots
Flaps extended 85 knots

C.G. range (+32.9) to (+37.5) at 1600 lb.
(+31.5) to (+37.5) at 1280 lb. or less
Straight line variation between points given

Empty weight C.G. range None

Leveling means Jig located nut plates and screws at Stations +94.63 and +132.94 on left side of tailcone

*Maximum weight 1600 lb.

No. of seats 2 at (+39); (for child's optional jump seat, refer to Equipment List)

Maximum baggage 120 lb. (Reference weight and balance data)
VII - Model 150M (cont’d)

Fuel capacity
26 gal. (22.5 gal. usable, two 13 gal. tanks in wings at +42.0)
See NOTE 1 for data on unusable fuel

Oil capacity
6 qt. (-13.5; unusable 2 qt.)
See NOTE 1 for data on undrainable oil

Control surface movements

<table>
<thead>
<tr>
<th>Surface</th>
<th>Up</th>
<th>Down</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing flaps</td>
<td>0°</td>
<td>-40° ±2°</td>
</tr>
<tr>
<td>Ailerons</td>
<td>20°</td>
<td>+2°, -0°</td>
</tr>
<tr>
<td>Elevator</td>
<td>25°</td>
<td>+1°, -0°</td>
</tr>
<tr>
<td>Elevator tab</td>
<td>10°</td>
<td>±1°</td>
</tr>
<tr>
<td>Rudder</td>
<td>23°</td>
<td>+0°, -2°</td>
</tr>
</tbody>
</table>

(measured perpendicularly to hinge line)

Serial Nos. eligible
15075782 through 15077005 (1975 Model)
15077006 through 15078505 (1976 Model)
15078506 through 15079405 (1977 Model)

VIII - Model A150M, Aerobat, 2 PCLM (Acrobatic Category), Approved May 6, 1974

Engine
Continental O-200-A

*Fuel
80/87 min. grade aviation gasoline

*Engine limits
For all operations, 2750 r.p.m. (100 hp.)

Propeller and propeller limits
1. McCauley 1A102/OCM
   Diameter: not over 69 in., not under 67.5 in.
   Static r.p.m. at maximum permissible throttle setting:
   not over 2560, not under 2460
   No additional tolerance permitted

*Airspeed limits (CAS)
15064970, A1500524 through A1500609
Never exceed 193 m.p.h. (168 knots)
Maximum structural cruising 140 m.p.h. (122 knots)
Maneuvering 118 m.p.h. (103 knots)
Flaps extended 100 m.p.h. (87 knots)

*Airspeed limits (IAS)
(See NOTE 4 on Use of IAS)
A1500610 through A1500734
Never exceed 164 knots
Maximum structural cruising 123 knots
Maneuvering 105 knots
Flaps extended 85 knots

C.G. range
(+32.9) to (+37.5) at 1600 lb.
(+31.5) to (+37.5) at 1280 lb. or less
Straight line variation between points given

Empty weight C.G. range
None

Leveling means
Jig located nut plates and screws at Stations +94.63 and +132.94 on left side of tailcone

*Maximum weight
1600 lb.

No. of seats
2 at (+39); (for child's optional jump seat, refer to Equipment List)

Maximum baggage
120 lb. - (Reference weight and balance data)

Fuel capacity
26 gal. (22.5 gal. usable, two 13 gal. tanks in wings at +42.0)
See NOTE 1 for data on unusable fuel
**VIII - Model A150M (cont’d)**

Oil capacity 6 qt. (-13.5; unusable 2 qt.)

See NOTE 1 for data on undrainable oil

Control surface movements

<table>
<thead>
<tr>
<th>Control Surface</th>
<th>Movement</th>
<th>Upper Limit</th>
<th>Lower Limit</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing flaps</td>
<td>Up</td>
<td>20° ±2°, -0°</td>
<td>Down</td>
<td>0° - 40° ±2°</td>
</tr>
<tr>
<td>Ailerons</td>
<td>Up</td>
<td>23° ±1°, -0°</td>
<td>Down</td>
<td>15° ±1°</td>
</tr>
<tr>
<td>Elevator</td>
<td>Up</td>
<td>10° ±1°</td>
<td>Down</td>
<td>20° ±1°</td>
</tr>
<tr>
<td>Elevator tab</td>
<td>Up</td>
<td>10° ±1°</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rudder</td>
<td>Right</td>
<td>23° ±0°, -2°</td>
<td>Left</td>
<td>23° ±0°, -2°</td>
</tr>
</tbody>
</table>

( measured perpendicularly to hinge line)

Serial Nos. eligible 15064970, A1500524 through A1500609 (1975 Model)
A1500610 through A1500684 (1976 Model)
A1500685 through A1500734 (1977 Model)

**IX - Model 152, 2 PCLM (Utility Category), Approved March 16, 1977**

Engine S/N 15279406 through 15285594
Lycoming O-235-L2C

S/N 15285595 and on aircraft reworked per SK152-15 or SK152-16
Lycoming O-235-N2C

*Fuel

100LL/100 min. grade aviation gasoline

*Engine limits

S/N 15279406 through 15285594
For all operations, 2550 r.p.m. (110 hp.)

S/N 15285595 and on
For all operations 2550 r.p.m. (108 hp.)

Propeller and propeller limits

1. (a) McCauley 1A103/TCM
Diameter: not over 69 in., not under 67.5 in.
Static rpm at full throttle (carburetor heat off and mixture
leaned to maximum r.p.m.) is 2280 to 2380 r.p.m. For
allowable variations in static r.p.m. at non-standard
temperatures, refer to the Service Manual.

(b) Spinner: Dwg. 0450073

*Airspeed Limits (IAS)

(See NOTE 4 on Use of IAS)

Never exceed 149 knots
Maximum structural cruising 111 knots
Maneuvering 104 knots
Flaps extended 85 knots

C.G. range

(+32.65) to (+36.5) at 1670 lb.
(+31.0) to (+36.5) at 1350 lb. or less
Straight line variation between points given

Empty weight C.G. range None

Leveling means Jig located nut plates and screws at Stations +94.63 and +132.94 on left side of tailcone

*Maximum weight

1670 lb.
1675 lb. ramp weight (S/N 15282032 and on)

No. of seats 2 at (+39); (for child's optional jump seat, refer to Equipment List)

Maximum baggage 120 lb. (Reference weight and balance data)
IX - Model 152  (cont'd)

Fuel capacity  
26 gal. (24.5 gal. usable, two 13 gal. tanks in wings at +42.0)  
See NOTE 1 for data on unusable fuel

Oil capacity  
6 qt. (-14.7; unusable 2 qt.)  
See NOTE 1 for data on undrainable oil

Control surface movements  
Wing flaps  
Up  0° -30° ±2°  
Down  0° -30° ±2°

Ailerons  
Up  20° ± 2°  
Down  15° ± 1°

(Eileron travel measured from 1° ±.5° droop)

Elevator  
Up  25° ±1°  
Down  18° ±1°

Elevator tab  
Up  10° ±1°  
Down  20° ±1°

Rudder  
Right  23° +0°, -2°  
Left  23° +0°, -2°

(measured perpendicularly to hinge line)

Serial Nos. eligible  
15279406 through 15282031 (1978 Model)  
15282032 through 15283591 (1979 Model)  
15283592 through 15284541 (1980 Model)  
15284542 through 15285161 (1981 Model)  
15285162 through 15285594 (1982 Model)  
15285595 through 15285833 (1983 Model)  
15285834 through 15285939 (1984 Model)  
15285940 through 15286033 (1985 Model)

X - Model A152, Aerobat, 2 PCLM (Aerobatic Category), Approved March 16, 1977

Engine  
S/N A1500433, A1520735, 681 through A521014  
Lycoming O-235-L2C

S/N A1521015  and on aircraft reworked per SK152-15 or SK152-16  
Lycoming O-235-N2C

*Fuel  
100LL/100 min. grade aviation gasoline

*Engine limits  
S/N A1500433, A1520735, 681 through A1521014  
For all operations,  2550 r.p.m. (110 hp.)

S/N A1521015 and on  
For all operations 2550 r.p.m. (108 hp.)

Propeller and propeller limits  
1. (a) McCauley 1A103/TCM  
Diameter: not over 69 in., not under 67.5 in.  
Static rpm at full throttle (carburetor heat off and mixture leaned to maximum r.p.m.) is 2280 to 2380 r.p.m. For allowable variations in static r.p.m. at non-standard temperatures, refer to the Service Manual.

(b) Spinner:  Dwg. 0450073

*Airspeed Limits (IAS)  
(See NOTE 4 on Use of IAS)  
Never exceed  172 knots  
Maximum structural cruising  125 knots  
Maneuvering  108 knots  
Flaps extended  85 knots

C.G. range  
(+32.65) to (+36.5) at 1670 lb.  
(+31.0) to (+36.5) at 1530 lb. or less

Empty weight C.G. range  
None

Leveling means  
Jig located nut plates and screws at Stations +94.63 and +132.94 on left side of tailcone
**X - Model A152**  (cont’d)

*Maximum weight*  
1670 lb.  
1675 lb. ramp weight (S/N 681, A1520809 and on)

**No. of seats**  
2 at (+39); (for child's optional jump seat, refer to Equipment List)

**Maximum baggage**  
120 lb. (Reference weight and balance data)

**Fuel capacity**  
26 gal. (24.5 gal. usable, two 13 gal. tanks in wings at +42.0)  
See NOTE 1 for data on unusable fuel

**Oil capacity**  
6 qt. (-14.7; unusable 2 qt.)  
See NOTE 1 for data on undrainable oil

**Control surface movements**

<table>
<thead>
<tr>
<th>Wing flaps</th>
<th>Up</th>
<th>Down</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ailerons (aileron travel measured from 1° ±.5° droop)</td>
<td>20° ± 1°</td>
<td>0° -30° ±2°</td>
</tr>
<tr>
<td>Elevator</td>
<td>25° ± 1°</td>
<td>18° ±1°</td>
</tr>
<tr>
<td>Elevator tab</td>
<td>10° ± 1°</td>
<td>20° ±1°</td>
</tr>
<tr>
<td>Rudder</td>
<td>Right</td>
<td>Left</td>
</tr>
</tbody>
</table>

(aileron travel measured from 1° ±.5° droop)

(aileron travel measured from 1° ±.5° droop)

(measured perpendicularly to hinge line)

**Serial Nos. eligible**

<table>
<thead>
<tr>
<th>A1500433, A1520735 through A1520808</th>
<th>(1978 Model)</th>
</tr>
</thead>
<tbody>
<tr>
<td>681, A1520809 through A1520878</td>
<td>(1979 Model)</td>
</tr>
<tr>
<td>A1520879 through A1520943</td>
<td>(1980 Model)</td>
</tr>
<tr>
<td>A1520944 through A1520983</td>
<td>(1981 Model)</td>
</tr>
<tr>
<td>A1520984 through A1521014</td>
<td>(1982 Model)</td>
</tr>
<tr>
<td>A1521015 through A1521025</td>
<td>(1983 Model)</td>
</tr>
<tr>
<td>A1521026 through A1521027</td>
<td>(1984 Model)</td>
</tr>
<tr>
<td>A1521028 through A1521049</td>
<td>(1985 Model)</td>
</tr>
</tbody>
</table>

**Data Pertinent to All Models**

**Datum**  
Fuselage station 0.0 front face of firewall

**Certification basis**  
Part 3 of the Civil Air Regulations dated May 15, 1956, as amended by 3-4. In addition, effective S/N 15282032 and on for 152 and S/N 681, A1520809 and on for A152, FAR 23.1559 effective March 1, 1978. FAR 36 dated December 1, 1969, plus Amendments 36-1 through 36-5 for 152 and A152 only. In addition, effective S/N 15285940 and on, and S/N A1521028 and on, FAR 23.1545(a), Amendment 23-23 dated December 1, 1978.

Application for Type Certificate dated August 13, 1956.

Type Certificate No. 3A19 issued July 10, 1958, obtained by the manufacturer under delegation option procedures.

**Equivalent Safety Items**

| S/N 15077006 through 15079405 |
| S/N 15279406 and on            |
| S/N 1500610 through A1500734   |
| S/N 681, A1500433, A1520735 and on |

**Airspeed Indicator**  
CAR 3.757 (See NOTE 4) (S/N 15279406 through 15285939 and 681, A1500433, A1520735 through A1521027)

**Operating Limitations**  
CAR 3.778(a)

**Production basis**  
Production Certificate No. 4. Delegation Option Manufacturer No. CE-1 authorized to issue airworthiness certificates under delegation option provisions of Part 21 of the Federal Aviation Regulations.
X - Model A152  (cont’d)

Equipment: The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. This equipment must include a current Airplane Flight Manual effective S/N 15282032 and on, S/N 681, and S/N A1520809 and on. In addition, the following item of equipment is required:

1. Stall warning indicator, audible, Cessna Dwg. 0511062
   (Model 150 through 150E)

2. Stall warning indicator, audible, Cessna Dwg. 0413029
   (Model 150F through 150M, 1977 Model) (A150K through A150M, 1977 Model) (152 and on, A152 and on)

NOTE 1. Current weight and balance report together with list of equipment included in certificated empty weight, and loading instructions, when necessary, must be provided for each aircraft at the time of original certification.

Serial Nos. 17001 through 17999, 59001 through 59018, 15059019 through 15077005 and A1500001 through A1500609
The certificated empty weight and corresponding center of gravity location must include unusable fuel of 21 lb. at (+40) for landplanes or 27 lb. at (+40) for seaplanes and an undrainable oil of (0) lb. at (-13.5) for both landplane and seaplane.

Serial Nos. 15077006 through 15079405 and A1500610 through A1500734
The certificated empty weight and corresponding center of gravity location must include unusable fuel of 21 lb. at (+40) and full oil of 11.3 lb. at (-13.5) for landplane.

Serial Nos. 15279406 and on, and 681, A1500433, A1520735 and on
The certificated empty weight and corresponding center of gravity location must include unusable fuel of 9 lb. at (+40) and full oil of 11.3 lb. at (-14.7) for landplane.

NOTE 2. The following information must be displayed in the form of composite or individual placards.

   A. In full view of the pilot:
      (1) "This airplane must be operated in compliance with the operating limitations stated in the form of placards, markings and manuals."

      (2) (a) Model 150, 150A, 150B and 150C
            "Acrobatic maneuvers are limited to the following:

            | Maneuver         | Entry Speed |
            |-----------------|-------------|
            | Chandelle       | 106 m.p.h.  (92 knots) |
            | Steep turns     | 106 m.p.h.  (92 knots) |
            | Lazy eights     | 106 m.p.h.  (92 knots) |
            | Stalls (except whip) | Use slow deceleration |
            | Spins           | Use slow deceleration  |

            Spin recovery - opposite rudder-neutral elevator
            Intentional spins with flaps extended prohibited
            Design manoeuvring speed 106 m.p.h. (92 knots)"

      (b) Model 150D, 150E, 150F, 150G, 150H, 150J, 150K
            "Acrobatic maneuvers are limited to the following:

            | Maneuver         | Entry Speed |
            |-----------------|-------------|
            | Chandelle       | 109 m.p.h.  (95 knots) |
            | Steep turns     | 109 m.p.h.  (95 knots) |
            | Lazy eights     | 109 m.p.h.  (95 knots) |
            | Stalls (except whip) | Use slow deceleration |
            | Spins           | Use slow deceleration  |
Data Pertinent to All Models  (cont'd)

NOTE 2. Intentional spins with flaps extended prohibited
Spin recovery - opposite rudder-forward elevator
Maximum design weight -
  Landplane  1600 lb.
  Seaplane  1650 lb.
Maximum maneuvering speed 109 m.p.h. (95 knots)
Maximum flight maneuvering load factors
  Flaps Up  +4.4  -1.76
  Flaps Down  +3.5

(3) Model A150K
"This airplane must be operated as an Acrobatic Category airplane in compliance
with the operating limitations stated in the form of placards, markings and manuals.

Acrobatic Category
Maximum design weight  1600 lb.
Maximum maneuvering speed 118 m.p.h. (103 knots)
Refer to weight and balance data for loading instructions
Flight maneuvering load factors: Flaps up +6.0 -3.0  Flaps down: +3.5
Aerobatic maneuvers with flaps extended are prohibited.
Inverted flight is prohibited.

NOTE 2. A. In full view of the pilot:
(3) (cont’d)
Child’s seat and/or baggage compartment must not be occupied during aerobatic
maneuvering. Spin recovery: Apply opposite rudder, followed by forward elevator for
normal recovery.

The following aerobatic maneuvers are approved:

<table>
<thead>
<tr>
<th>Maneuver</th>
<th>Entry Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chandelles</td>
<td>120 m.p.h.</td>
</tr>
<tr>
<td>Steep turns</td>
<td>110 m.p.h.</td>
</tr>
<tr>
<td>Barrel rolls</td>
<td>130 m.p.h.</td>
</tr>
<tr>
<td>Snap rolls</td>
<td>90 m.p.h.</td>
</tr>
<tr>
<td>Loops</td>
<td>130 m.p.h.</td>
</tr>
<tr>
<td>Vertical</td>
<td>90 m.p.h.</td>
</tr>
<tr>
<td>reversiones</td>
<td>90 m.p.h.</td>
</tr>
<tr>
<td>Lazy eights</td>
<td>120 m.p.h.</td>
</tr>
<tr>
<td>Stalls (except whip stalls)</td>
<td>Slow deceleration</td>
</tr>
<tr>
<td>Aileron rolls</td>
<td>130 m.p.h.</td>
</tr>
<tr>
<td>Immelmanns</td>
<td>145 m.p.h.</td>
</tr>
<tr>
<td>Cuban eights</td>
<td>145 m.p.h.</td>
</tr>
</tbody>
</table>

(4) Model 150L and 150M (1971 Model through 1975 Model)
"This airplane is approved in the utility category and must be operated in compliance with
the operating limitations as stated in the form of placards, markings, and manuals.

Maximuns

<table>
<thead>
<tr>
<th>Maneuver</th>
<th>Max. Entry Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chandelles</td>
<td>109 m.p.h. (95 knots)</td>
</tr>
<tr>
<td>Lazy eights</td>
<td>109 m.p.h. (95 knots)</td>
</tr>
<tr>
<td>Steep turns</td>
<td>109 m.p.h. (95 knots)</td>
</tr>
</tbody>
</table>

Spin Recovery: opposite rudder - forward elevator - neutralize controls.
Intentional spins with flaps extended are prohibited. Known icing conditions to be avoided. This airplane is certified for the following flight operations as of date of original airworthiness certificate:
(DAY - NIGHT - VFR - IFR)" (AS APPLICABLE)
Data Pertinent to All Models (cont’d)

NOTE 2. (5) Model A150L and A150M (1971 Model through 1975 Model)
"This airplane is approved in the utility category and must be operated in compliance with the operating limitations as stated in the form of placards, markings, and manuals.

**Maximums**

<table>
<thead>
<tr>
<th>Maneuver</th>
<th>Max. Entry Speed</th>
<th>Maneuver</th>
<th>Max. Entry Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maneuver</td>
<td>Max. Entry Speed</td>
<td>Maneuver</td>
<td>Max. Entry Speed</td>
</tr>
</tbody>
</table>

In full view of the pilot:

Spin Recovery: opposite rudder - forward elevator - neutralize controls.
Known icing conditions to be avoided. This airplane is certified for the following flight operations as of date of original airworthiness certificate:

(DAY - NIGHT - VFR - IFR)” (As Applicable)

(6) Model 150M (1976 and 1977 Model)
"This airplane is approved in the utility category and must be operated in compliance with the operating limitations as stated in the form of placards, markings, and manuals.

**Maximums**

<table>
<thead>
<tr>
<th>Maneuver</th>
<th>Max. Entry Speed</th>
<th>Maneuver</th>
<th>Max. Entry Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maneuver</td>
<td>Max. Entry Speed</td>
<td>Maneuver</td>
<td>Max. Entry Speed</td>
</tr>
</tbody>
</table>

A150M (1976 and 1977 Model)
"This airplane is approved in the acrobatic category and must be operated in compliance with the operating limitations as stated in the form of placards, markings, and manuals.
Data Pertinent to All Models (cont’d)

NOTE 2. (cont’d)

<table>
<thead>
<tr>
<th>Maneuver</th>
<th>Recm. Entry Speed</th>
<th>Maneuver</th>
<th>Recm. Entry Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chandelles</td>
<td>105 knots</td>
<td>Lazy eights</td>
<td>105 knots</td>
</tr>
<tr>
<td>Steep turns</td>
<td>100 knots</td>
<td>Spins</td>
<td>Slow deceleration</td>
</tr>
<tr>
<td>Barrel rolls</td>
<td>115 knots</td>
<td>Aileron rolls</td>
<td>115 knots</td>
</tr>
<tr>
<td>Snap rolls</td>
<td>80 knots</td>
<td>Immelmanns</td>
<td>130 knots</td>
</tr>
<tr>
<td>Loops</td>
<td>115 knots</td>
<td>Cuban eights</td>
<td>130 knots</td>
</tr>
<tr>
<td>Vertical</td>
<td></td>
<td>Stalls (except)</td>
<td></td>
</tr>
<tr>
<td>reversements</td>
<td>80 knots</td>
<td>whip stalls)</td>
<td>Slow deceleration</td>
</tr>
</tbody>
</table>

Abrupt use of controls prohibited above 105 knots.
Spin Recovery: opposite rudder - forward elevator - neutralize controls.
Flight into known icing conditions prohibited. This airplane is certified for the following flight operations as of date of original airworthiness certificate:

(DAY - NIGHT - VFR - IFR)" (As Applicable)

A. In full view of the pilot:

(8) Model 152 (1978 Model)

"This airplane is approved in the utility category and must be operated in compliance with the operating limitations as stated in the form of placards, markings, and manuals.

<table>
<thead>
<tr>
<th>Maneuver</th>
<th>Recm. Entry Speed</th>
<th>Maneuver</th>
<th>Recm. Entry Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chandelles</td>
<td>95 knots</td>
<td>Spins</td>
<td>Slow deceleration</td>
</tr>
<tr>
<td>Lazy eights</td>
<td>95 knots</td>
<td>Stalls (except)</td>
<td></td>
</tr>
<tr>
<td>Steep turns</td>
<td>95 knots</td>
<td>whip stalls)</td>
<td>Slow deceleration</td>
</tr>
</tbody>
</table>

NO ACROBATIC MANEUVERS APPROVED EXCEPT THOSE LISTED BELOW

Abrupt use of controls prohibited above 104 knots.
Intentional spins with flaps extended are prohibited. Altitude loss in a stall recovery -- 160 ft. Flight into known icing conditions prohibited. This airplane is certified for the following flight operations as of date of original airworthiness certificate:

(DAY - NIGHT - VFR - IFR)" (As Applicable)

(9) Model A152 (1978 Model and A1500433)

"This airplane is approved in the acrobatic category and must be operated in compliance with the operating limitations as stated in the form of placards, markings, and manuals.

<table>
<thead>
<tr>
<th>Maneuver</th>
<th>Recm. Entry Speed</th>
<th>Maneuver</th>
<th>Recm. Entry Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chandelles</td>
<td>108 knots</td>
<td>Flaps Up</td>
<td>+6.0, -3.0</td>
</tr>
<tr>
<td>Lazy eights</td>
<td>1670 lb.</td>
<td>Flaps Down</td>
<td>+3.5</td>
</tr>
</tbody>
</table>

Aerobatic maneuvers with flaps extended are prohibited. Inverted flight is prohibited.
Baggage compartment and/or child's seat must not be occupied during aerobatics.
NOTE 2. (cont'd)
Aerobatic maneuvers with flaps extended are prohibited. Inverted flight is prohibited. Baggage compartment and/or child's seat must not be occupied during aerobatics.

THE FOLLOWING AEROBATIC MANEUVERS ARE APPROVED

<table>
<thead>
<tr>
<th>Maneuver</th>
<th>Recm. Entry Speed</th>
<th>Maneuver</th>
<th>Recm. Entry Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chandelles</td>
<td>105 knots</td>
<td>Lazy eights</td>
<td>105 knots</td>
</tr>
<tr>
<td>Steep turns</td>
<td>100 knots</td>
<td>Spins</td>
<td>Slow deceleration</td>
</tr>
<tr>
<td>Barrel rolls</td>
<td>115 knots</td>
<td>Aileron rolls</td>
<td>115 knots</td>
</tr>
<tr>
<td>Snap rolls</td>
<td>80 knots</td>
<td>Immelmanns</td>
<td>130 knots</td>
</tr>
<tr>
<td>Loops</td>
<td>115 knots</td>
<td>Cuban eights</td>
<td>130 knots</td>
</tr>
<tr>
<td>Vertical</td>
<td>80 knots</td>
<td>Stalls (except reversements)</td>
<td>Slow deceleration</td>
</tr>
</tbody>
</table>

Abrupt use of controls prohibited above 108 knots. Altitude loss in a stall recovery -- 160 ft. Flight into known icing conditions prohibited. This airplane is certified for the following flight operations as of date of original airworthiness certificate:

(DAY - NIGHT - VFR - IFR)" (As Applicable)

B. On the flap handle:
(1) Models 150, 150A, 150B, 150C
"Flaps - Pull to extend
Retracted 0°
Takeoff - 1st Notch 10°
2nd Notch 20°
3rd Notch 30°
Landing - 4th Notch 40°"

On the flap handle:
(2) Models 150D, 150E
"Flaps - Pull to extend
Takeoff - Retracted 0°
Landing - 0°-40°"

C. In the baggage compartment
(1) Models 150, 150A, 150B, 150C
"Baggage - 80 lb. maximum."
(2) Model 150D, 150E
"Baggage - 120 lb. maximum."
(3) S/N 15279406 through 15282031, A1500433, A15200735 through A1520808
"120 lb. maximum baggage and/or auxiliary seat passenger. For additional loading instructions see Weight and Balance Data."

D. On the instrument panel
(1) Models 150K, A150K; 1971 Models 150L, A150L
"Do not turn off alternator in flight except in emergency."

E. Near fuel shut-off valve
(1) Models 150 through 150M (1977 Model) and A150K through A150M (1977 Model)
"Fuel 22.5 gals. ON-OFF."
(2) S/N 15279406 through 15282031, A1500433, A15200735 through A1520808
"Fuel 24.5 gals. ON-OFF."

F. On front door posts
(1) S/N A15200735 through A1520808, A1500433
"Emergency door release
1. Unlatch door
2. Pull 'D' ring."
NOTE 2. (cont’d)

G. On door near window latch
   (1) Model A150K through A150M (1975 Model)
       "Do not open window above 165 m.p.h."
       "Do not open window above 143 knots IAS."

H. On the instrument panel near overvoltage light (Model 150L through 150M, and A150L through
A150M, 1978 Model 152 and A152, and A1500433)
   (1) "High Voltage"

I. On left hand instrument panel
   (1) S/N 15279406 through 15282031, A1500433, A1520735 through A1520808
       "Spin Recovery
       1. Verify ailerons are neutral and throttle is closed.
       2. Apply full opposite rudder.
       3. Move control wheel briskly forward to break stall."

J. S/N 15282032 and on, S/N 681, and S/N A1520809 and on
   All placards required in the Pilot's Operating Handbook and FAA Approved Airplane Flight
   Manual must be installed in the appropriate locations.

NOTE 3. Reserved

NOTE 4. The markings of the airspeed indicator with IAS provides an equivalent level of safety to CAR 3.757
when the approved airspeed calibration data presented in Section V of the Pilot's Operating
Handbooks listed below is available to the pilot:

<table>
<thead>
<tr>
<th>Model</th>
<th>Cessna P/N</th>
<th>S/N Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>150M</td>
<td>D1055-13</td>
<td>15077006 through 15078505</td>
</tr>
<tr>
<td>A150M</td>
<td>D1056-13</td>
<td>1500610 through 1500684</td>
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<tr>
<td>150M</td>
<td>D1080-13</td>
<td>1507506 through 15079405</td>
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<td>A150M</td>
<td>D1081-13</td>
<td>1500685 through 1500734</td>
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<td>152</td>
<td>D1107-13</td>
<td>15279406 through 15282031</td>
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<tr>
<td>A152</td>
<td>D1108-13</td>
<td>1500433 through 1520735 through A1520808</td>
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<tr>
<td>152</td>
<td>D1136-13PH</td>
<td>15282032 through 15283591</td>
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<tr>
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<td>D1137-13PH</td>
<td>681, A1520809 through A1520878</td>
</tr>
<tr>
<td>152</td>
<td>D1170-13PH</td>
<td>15283592 through 15284541</td>
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<td>D1171-13PH</td>
<td>1520879 through 1520943</td>
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<td>D1190-13PH</td>
<td>15284542 through 15285161</td>
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<tr>
<td>A152</td>
<td>D1191-13PH</td>
<td>1520944 through 1520983</td>
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<td>152</td>
<td>D1210-13PH</td>
<td>15285162 through 15285594</td>
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<td>1520984 through 1521014</td>
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<td>15285595 through 15285833</td>
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<td>A152</td>
<td>D1230-13PH</td>
<td>1521015 through 1521025</td>
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<td>152</td>
<td>D1249-13PH</td>
<td>15285834 through 15285939</td>
</tr>
<tr>
<td>A152</td>
<td>D1250-13PH</td>
<td>1521026 through 1521027</td>
</tr>
</tbody>
</table>

NOTE 5. Near fuel tank filler
   A. 150 series through S/N 15079405 and A150 series through S/N A1500734 except A1500433:
       "FUEL
       80/87 min. grade aviation gasoline
       Cap. 13.0 U.S. Gal."
   B. S/N 15279406 through 15282031, A1500433, A1520735 through A1520808
       "FUEL
       100LL/100 min. grade aviation gasoline
       Cap. 13.0 U.S. Gal."
Data Pertinent to All Models (cont’d)

NOTE 6. 14-volt electrical system
(150 series through S/N 15079405 and A150 series through S/N A1500734 except A1500433)

  28-volt electrical system
  (S/N 15279406 and on, S/N 681, A1500433, A/N A1520735 and on)

In addition to the placards specified above the prescribed operating limitations indicated by an asterisk (*) under Sections I through X of this data sheet must also be displayed by permanent markings.

NOTE 7. For Models 150, A150, 152:

  "WARNING: Use of alcohol-based fuels can cause serious performance degradation and fuel system component damage, and is therefore prohibited on Cessna airplanes."

...END...
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

E-295
Revision 14
Lycoming Engines


December 17, 2003

TYPE CERTIFICATE DATA SHEET NO. E-295

Engines of models described herein conforming with this data sheet (which is a part of Type Certificate No. 295) and other approved data on file with the Federal Aviation Administration meet the minimum standards for use in certificate aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Civil Air Regulations/Federal Aviation Regulations provided they are installed, operated and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

Type Certificate Holder Lycoming Engines
An Operating Division of AVCO Corporation
Williamsport, Pennsylvania 17701

Type Certificate Holder Record Avco Lycoming Williamsport Div., AVCO Corporation transferred TC E-295 to Lycoming Engines, An Operating Division of AVCO Corporation on December 17, 2003

<table>
<thead>
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<th>Lycoming O-540</th>
</tr>
</thead>
<tbody>
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<td>-A1A</td>
<td>-A1A5</td>
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<tr>
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<td>-A1D</td>
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<td>-B4A5</td>
</tr>
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<td>-B4B5</td>
<td>-E4A5</td>
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<td>-E4B5</td>
<td>-E4C5</td>
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<td>-E1A5</td>
<td>-E1B5</td>
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<td>-F1A5</td>
<td>-G1A5</td>
</tr>
<tr>
<td>-G2A5</td>
<td>-H1A5D</td>
</tr>
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<td>-H1A5D</td>
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<tr>
<td>-H2B5D</td>
<td>-H2B5D</td>
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Type 6H0A Direct Drive - - - - - -

Fuel (Minimum grade aviation gasoline) See NOTE 8

"-.-" indicates "same as preceding model"
"--" indicates "does not apply"
<table>
<thead>
<tr>
<th>Model</th>
<th>Lycoming O-540</th>
<th>Lycoming O-540</th>
<th>Lycoming O-540</th>
<th>Lycoming O-540</th>
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<tbody>
<tr>
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<td>A1A, A1A5, A1B5, A1C5,</td>
<td>A1D, A1D5, A2B, A2D5,</td>
<td>A3A5, A4A5, A4B5, A4C5,</td>
<td>A4D5, D1A5</td>
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<td>B1A5, B1B5, B1D5,</td>
<td>B2A5, B2B5, B2C5,</td>
<td>B4A5, B4B5</td>
<td>B5</td>
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<td>E4A5, E4B5, E4G5,</td>
<td>E4G5, G1A5, G2A5,</td>
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<td>H2A5D, H1B5D, H2B5D</td>
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<td>F1A5, F1B5</td>
<td>F1B5</td>
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**Lubricating oil (lubricants which conform to the specifications as listed or to subsequent revision thereto.):**

<table>
<thead>
<tr>
<th>Bore and stroke. in.</th>
<th>5.125 X 4.375</th>
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</thead>
<tbody>
<tr>
<td>Displacement, cu. in.</td>
<td>541.5</td>
</tr>
<tr>
<td>Compression ratio</td>
<td>See NOTE 8</td>
</tr>
<tr>
<td>Weight (dry)</td>
<td>See NOTE 5</td>
</tr>
<tr>
<td>C.G. location (dry)</td>
<td>See NOTE 5</td>
</tr>
<tr>
<td>From front face of prop shaft flange, in</td>
<td>17.9</td>
</tr>
<tr>
<td>Off propeller shaft C.L., in.</td>
<td>1.21 below</td>
</tr>
<tr>
<td></td>
<td>0.15 left</td>
</tr>
<tr>
<td>Propeller shaft-AS-127</td>
<td>Type 2 flange modified</td>
</tr>
<tr>
<td>Carburetion</td>
<td>Marvel-Schebler MA-4-5</td>
</tr>
<tr>
<td>Ignition, dual</td>
<td>See NOTE 8</td>
</tr>
<tr>
<td>Timing, °BTC</td>
<td>25</td>
</tr>
<tr>
<td>Spark plugs</td>
<td>See NOTE 7</td>
</tr>
<tr>
<td>Oil sump capacity, qt.</td>
<td>12</td>
</tr>
<tr>
<td>Crankshaft dampers</td>
<td>See NOTE 5 &amp; 6</td>
</tr>
<tr>
<td>Minimum safe oil quantity qts.</td>
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</tr>
<tr>
<td>20°nose up or down attitude</td>
<td>2-3/4</td>
</tr>
<tr>
<td>30°nose up attitude</td>
<td>4</td>
</tr>
<tr>
<td>NOTES - As applicable</td>
<td>1 through 8, 10, 11</td>
</tr>
</tbody>
</table>

**NOTES - As applicable 1 through 8, 10, 11**

---

"- -" indicates "same as preceding model"

"--" indicates "does not apply"
Model Lycoming O-540 -J1A5D, -J2A5D, -J1B5D, -J2B5D, -J3A5D
- J1C5D, -J2C5D, -J3C5D, -J1D5D, -J2D5D -L3C5D (See NOTE 12)

Bore and stroke, in. 5.125 X 4.375
Displacement, cu. in. 541.5
Compression ratio See NOTE 8
Weight (dry) See NOTE 5
C.G. location (dry) See NOTE 5

From front face of prop shaft flange, in:
17.75
17.94
18.10

Off propeller shaft C.L., in.
0.75 below
0.69 below
0.59 below

Propeller shaft-AS-127 Type 2 flange
modified

Carburetion Marvel Schebler
HA-6

Ignition dual See NOTE 8
25

Timing, °BTC 23

Spark plugs See NOTE 7

Oil sump capacity, qts. 12

Crankshaft dampers See NOTE 5 & 6

Minimum safe oil quantity qts.

20°nose up or down attitude 2-3/4

30°nose up attitude 2

NOTES - As applicable 1 through 8, 10, 11
1 through 8, 10, 11, 12, 13

"- -" indicates "same as preceding model"
"—" indicates "does not apply"

Certification basis:

<table>
<thead>
<tr>
<th>Regulations and Amendments</th>
<th>Model</th>
<th>Date of Application</th>
<th>Issued/Revised</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAR 13 Effective June 15, 1956</td>
<td>O-540-A1A</td>
<td>July 2, 1957</td>
<td>October 31, 1957</td>
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<tr>
<td>As Amended By 13-1 &amp; 13-2</td>
<td>O-540-A1A5</td>
<td>June 3, 1958</td>
<td>June 18, 1958</td>
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<td>O-540-A2P</td>
<td>July 24, 1958</td>
<td>July 24, 1958</td>
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<td>O-540-D1A5</td>
<td>October 21, 1958</td>
<td>August 12, 1959</td>
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<td></td>
<td>O-540-A1C5</td>
<td>March 16, 1959</td>
<td>April 2, 1959</td>
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<td></td>
<td>O-540-F1A5, -F1B5</td>
<td>April 3, 1959</td>
<td>August 12, 1959</td>
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<td>13-3</td>
<td>O-540-A3D5</td>
<td>May 17, 1960</td>
<td>June 22, 1960</td>
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<td>O-540-B1B5</td>
<td>April 17, 1961</td>
<td>May 3, 1961</td>
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<td>O-540-B2B5</td>
<td>December 8, 1961</td>
<td>December 26, 1961</td>
</tr>
<tr>
<td>13-4</td>
<td>O-540-A4A5, -A4B5, -A4C5, -A4D5, -B4A5, -B4B5</td>
<td>October 3, 1963</td>
<td>October 9, 1963</td>
</tr>
<tr>
<td></td>
<td>O-540-E4A5, -E4B5</td>
<td>April 1, 1964</td>
<td>May 4, 1964</td>
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<tr>
<td></td>
<td>O-540-G2A5</td>
<td>March 31, 1967</td>
<td>April 4, 1967</td>
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<td>O-540-G1A5</td>
<td>October 6, 1967</td>
<td>October 9, 1967</td>
</tr>
<tr>
<td></td>
<td>O-540-H1B5D, H2B5D</td>
<td>July 30, 1971</td>
<td>August 4, 1971</td>
</tr>
<tr>
<td></td>
<td>O-540-H1A5D, -H2A5D</td>
<td>July 27, 1971</td>
<td>October 21, 1971</td>
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</table>
### Certification basis:

<table>
<thead>
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<th>Regulations and Amendments</th>
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<th>Date Type Certificate</th>
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<tbody>
<tr>
<td>13-4</td>
<td>-J1B5D, -J2B5D</td>
<td>August 25, 1976</td>
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<tr>
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<td>O-540-J1C5D, -J2C5D</td>
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<td></td>
<td>-J1D5D, -J2D5D</td>
<td>February 4, 1977</td>
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<td>O-540-J3A5D</td>
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<td>O-540-L3C5D</td>
<td>November 30, 1977</td>
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</tbody>
</table>

### Production basis:

Production Certificate No. 3

### NOTE 1.

Maximum permissible temperatures are as follows:

- **Cylinder Head (well type)**
  - Minimum: 500°F
  - Maximum: 325°F

- **Cylinder Base**
  - Minimum: 325°F
  - Maximum: 245°F

### NOTE 2.

Pressure limits - p.s.i.

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<th></th>
<th>Minimum</th>
<th>Maximum</th>
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<td>Fuel</td>
<td>0.5</td>
<td>8.0</td>
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<tr>
<td>Oil (Normal operation)</td>
<td>55.0</td>
<td>95.0</td>
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<tr>
<td>(Idle)</td>
<td>25.0</td>
<td>—</td>
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<tr>
<td>(Starting and warm-up)</td>
<td>—</td>
<td>115.0</td>
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</tbody>
</table>

### NOTE 3.

The following accessory provisions are incorporated:

- A1A
- A1A5
- A1B5
- A1C5
- A1D
- A1D5
- A4A5
- A4B5
- A4C5
- A4D5
- A4E5
- B1A5
- B1B5
- B1D5
- B2A5
- B2B5
- B4A5
- B4B5
- E4A5
- E4C5
- E4D5
- F1A5
- F1B5
- H1A5
- H2A5
- G1A5
- G2A5

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<thead>
<tr>
<th>Accessory</th>
<th>A3D5</th>
<th>B2C5</th>
<th>G1A5</th>
<th>D1A5</th>
<th>G2A5</th>
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<td>✓</td>
<td>✓</td>
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<tr>
<td>Starter</td>
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<td></td>
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<td></td>
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<td></td>
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<tr>
<td>Generator</td>
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<td>Generator</td>
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<td>Vacuum Pump</td>
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<tr>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td>Propeller Governor</td>
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<tr>
<td>Accessory</td>
<td>-L3C5D</td>
<td>-H1A5D</td>
<td>-H2A5D</td>
<td>-J1A5D</td>
<td>-J2A5D</td>
<td>All Models</td>
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<td>Rotation Facing Speed Maximum Max.</td>
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<td>Ratio   Torque Overhang Moment</td>
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<td>Pad      Crankshaft (in. -lb.) Cont. Static (in. -lb.)</td>
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<td>Starter</td>
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<td>*</td>
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<td>CC       16.556:1  ____ 450 150</td>
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<td>Starter</td>
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<td></td>
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<td>CC       13.556:1  ____ 450 150</td>
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<tr>
<td>Generator</td>
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<td>C        1.010:1  60 120 175</td>
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<tr>
<td>Generator</td>
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<td>C        2.500:1  60 120 175</td>
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<td>Alternator</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>C        3.250:1  60 120 175</td>
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<td>Alternator</td>
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<td>**</td>
<td>**</td>
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<td>____</td>
<td>C        3.630:1  60 120 175</td>
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<td>Vacuum Pump</td>
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<td>*</td>
<td>*</td>
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<td>CC       1.300:1  70 450 25</td>
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<td>C        1.385:1  100 800 40</td>
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<td>Hydraulic Pump</td>
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<td>*</td>
<td>*</td>
<td>C        1.300:1  100 800 40</td>
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<td>Tachometer</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>C        1.500:1  7 50 5</td>
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<tr>
<td>Propeller Governor</td>
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<td></td>
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<td>C        0.895:1  125 1200 25</td>
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<td>Propeller Governor</td>
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<td>*</td>
<td>____</td>
<td>*</td>
<td>____</td>
<td>C        0.947:1  125 1200 25</td>
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<td>Fuel Pump</td>
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<td>CC       1.000:1  25   ____ 25</td>
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<tr>
<td>Fuel Pump (plunger)</td>
<td>*</td>
<td>*</td>
<td>**</td>
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<td>____  0.500:1  ____  ____ 10</td>
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<td></td>
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</tbody>
</table>

"C" - Clockwise  "CC" - Counter clockwise
* - Standard
** - Optional

NOTE 4. These engines incorporate provisions for absorbing propeller thrust in both tractor and pusher type installations.

NOTE 5. These models incorporate additional characteristics as follows:

<table>
<thead>
<tr>
<th>O-540-Models</th>
<th>Wt. dry, lb.</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>-A1A</td>
<td>374</td>
<td>Basic model, direct drive, six cylinder, horizontally opposed, air cooled engine with one each S6LN-20 and -21 Magnetos and two 6th order dampers.</td>
</tr>
<tr>
<td>-A1A5</td>
<td>374</td>
<td>Same as -A1A except has one fifth and one sixth order dampers.</td>
</tr>
<tr>
<td>-A1B5</td>
<td>375</td>
<td>Same as -A1A5 except has propeller governor pad with short studs to accommodate AN type governor.</td>
</tr>
<tr>
<td>-A1C5</td>
<td>375</td>
<td>Same as -A1A5 except has two S6LN-21 impulse coupling magnetos.</td>
</tr>
<tr>
<td>-A1D</td>
<td>375</td>
<td>Similar to -A1B5 except has one each S6LN-200 and S6LN-204 magnetos and two sixth order crankshaft torsional dampers.</td>
</tr>
<tr>
<td>-A1D5</td>
<td>375</td>
<td>Similar to -A1D except has one fifth and one sixth order crankshaft torsional dampers.</td>
</tr>
<tr>
<td>-A2B</td>
<td>374</td>
<td>Same as -A1B5 except for crankshaft damper arrangement and propeller flange has propeller locating bushings displaced 60° clockwise, viewed facing propeller.</td>
</tr>
<tr>
<td>-A3D5</td>
<td>373</td>
<td>Similar to -A1D5 except has provisions for Goodrich propeller deicing equipment.</td>
</tr>
<tr>
<td>-A4A5</td>
<td>374</td>
<td>Similar to -A1A5 except has heavier fifth and sixth order crankshaft counterweights.</td>
</tr>
<tr>
<td>-A4B5</td>
<td>375</td>
<td>Similar to -A1B5 except has heavier fifth and sixth order crankshaft counterweights.</td>
</tr>
<tr>
<td>-A4C5</td>
<td>375</td>
<td>Similar to -A1C5 except has heavier fifth and sixth order crankshaft counterweights.</td>
</tr>
<tr>
<td>-A4D5</td>
<td>375</td>
<td>Similar to -A1D5 except has heavier fifth and sixth order crankshaft counterweights.</td>
</tr>
<tr>
<td>-B1A5</td>
<td>366</td>
<td>Same as -A1D5 except has lower compression ratio and performance.</td>
</tr>
<tr>
<td>-B1B5</td>
<td>366</td>
<td>Field conversion of -A1A5, -A1B5, or -A1C5 to lower compression ratio.</td>
</tr>
<tr>
<td>-B1D5</td>
<td>367</td>
<td>Same as -B1A5 except for incorporation of Bendix 1200 series magnetos.</td>
</tr>
<tr>
<td>-B2A5</td>
<td>366</td>
<td>Similar to -B1A5 except does not have provisions for controllable pitch propeller.</td>
</tr>
<tr>
<td>-B2B5</td>
<td>366</td>
<td>Same as -B2A5 except has S6LN-20 and S6LN-21 magnetos.</td>
</tr>
</tbody>
</table>
NOTE 5. These models incorporate additional characteristics as follows: cont.

- **-B2C5** 368  
  Same as -B2B5 except for incorporation of Bendix 1200 series magnetos and does not include generator as part of the engine.

- **-B4A5** 366  
  Similar to -B1A5 except has heavier fifth and sixth order crankshaft counterweights.

- **B4B5** 366  
  Similar to -B1B5 except has heavier fifth and sixth order crankshaft counterweights.

- **-D1A5** 369  
  Same as -A1A5 except has increased strength crankcase.

- **-F4A5** 368  
  Similar to -A4D5 except has hybrid camshaft permitting higher 260 hp. @ 2700 r.p.m.

- **-E4B5** 369  
  Similar to -A4D5 except for left magneto S6LN-21 and minor difference in weight and length.

- **-E4C5** 370  
  Same as model -E4B5 except has S6LN-1227 and S6LN-1209 magnetos.

- **-F1A5** 367  
  Same as -A1A5 except rated for helicopter application and incorporates prototype bed mounting.

- **-F1B5** 369  
  Same as -D1A5 except rated for helicopter application and incorporates provisions for either bed or dynafocal type mounting.

- **-G1A5** 386  
  Similar to -E4C5 except incorporates heavier crankshaft, different crankcase and -A1D5 counterweights.

- **-G2A5** 386  
  Similar to -G1A5 except does not provide for use of constant speed propeller.

- **-H1A5** 385  
  Similar to -G1A5 except has different magnetos and incorporates piston cooling oil jets.

- **-H2A5** 385  
  Similar to -G2A5 except has different magnetos and incorporates piston cooling oil jets.

- **-H1A5D** 381  
  Similar to -H1A5 except incorporates dual magneto (impulse coupling).

- **-H2A5D** 381  
  Similar to -H1A5D except does not have provision for controllable propeller.

- **-H1B5D** 381  
  Similar to -H1A5 except incorporates dual magneto (retard).

- **-H2B5D** 381  
  Similar to -H1B5D except does not have provision for controllable propeller.

- **-J1A5D** 356  
  Similar to -A1A5 except incorporates dual magneto (impulse coupling), less weight and rated at 235 h.p. @ 2400 r.p.m.

- **-J2A5D** 356  
  Similar to -J1A5D except does not have provision for controllable propeller.

- **-J1B5D** 356  
  Similar to -A1A5 except incorporates dual magneto (retard), less weight and rated at 235 h.p. @ 2400 r.p.m.

- **-J2B5D** 356  
  Similar to -J1B5D except does not have provision for controllable propeller.

- **-J1C5D** 356  
  Same as -J1A5 except has horizontal carburetor and induction housing.

- **-J2C5D** 356  
  Same as -J1C5D except has no provision for controllable propeller.

- **-J1D5D** 356  
  Same as -J1C5D but with D6LN-3230 retard breaker dual magneto.

- **-J2D5D** 356  
  Same as -J1D5D except does not have provision for controllable propeller.

- **-J3C5D** 357  
  Same as -J1C5D except has heavier counterweights for use with McCauley controllable propeller.

- **-J3A5D** 357  
  Same as -J1A5D except has heavier counterweights (same as O-540-J3C5D).

- **-L3C5D** 367  
  Same as -J3C5D except for features to make engine suitable for turbocharging.

NOTE 6. These engines incorporate crankshafts with two sixth order dampers unless a "5" is part of the model designation, i.e., -A1A5. Engines so designated have one fifth order damper and one sixth order damper instead of two sixth order dampers.

NOTE 7. Spark plugs approved for use on these engines are listed in the latest revision of AVCO Lycoming Service Instruction No. 1042.
NOTE 8. Fuel grade, compression and ignition:

<table>
<thead>
<tr>
<th>O-540-Models</th>
<th>Fuel - Aviation Gasoline</th>
<th>Compression Ratio</th>
<th>Ignition, Dual Bendix Models</th>
</tr>
</thead>
<tbody>
<tr>
<td>-A1A</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>S6LN-20, S6LN-21</td>
</tr>
<tr>
<td>-A1A5</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>S6LN-20, S6LN-21</td>
</tr>
<tr>
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<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>S6LN-21, S6LN-21</td>
</tr>
<tr>
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<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>S6LN-21, S6LN-21</td>
</tr>
<tr>
<td>-A1D</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>S6LN-204, S6LN-200</td>
</tr>
<tr>
<td>-A1D5</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>S6LN-204, S6LN-200</td>
</tr>
<tr>
<td>-A2B</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>S6LN-20, S6LN-21</td>
</tr>
<tr>
<td>-A3D5</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>S6LN-204, S6LN-200</td>
</tr>
<tr>
<td>-A4A5</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>S6LN-20, S6LN-21</td>
</tr>
<tr>
<td>-A4B5</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>S6LN-20, S6LN-21</td>
</tr>
<tr>
<td>-A4C5</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>S6LN-20, S6LN-21</td>
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<td>-A4D5</td>
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<td>8.50:1</td>
<td>S6LN-204, S6LN-200</td>
</tr>
<tr>
<td>-A1A5</td>
<td>100 or 100 LL</td>
<td>7.20:1</td>
<td>S6LN-204, S6LN-200</td>
</tr>
<tr>
<td>-A1B5</td>
<td>100 or 100 LL</td>
<td>7.20:1</td>
<td>S6LN-20, S6LN-21</td>
</tr>
<tr>
<td>-B1D5</td>
<td>100 or 100 LL</td>
<td>7.20:1</td>
<td>S6LN-204, S6LN-200</td>
</tr>
<tr>
<td>-B2A5</td>
<td>100 or 100 LL</td>
<td>7.20:1</td>
<td>S6LN-20, S6LN-21</td>
</tr>
<tr>
<td>-B2B5</td>
<td>100 or 100 LL</td>
<td>7.20:1</td>
<td>S6LN-20, S6LN-21</td>
</tr>
<tr>
<td>-B2C5</td>
<td>100 or 100 LL</td>
<td>7.20:1</td>
<td>S6LN-1209, S6LN-1227</td>
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<td>-B4A5</td>
<td>100 or 100 LL</td>
<td>7.20:1</td>
<td>S6LN-204, S6LN-200</td>
</tr>
<tr>
<td>-B4B5</td>
<td>100 or 100 LL</td>
<td>7.20:1</td>
<td>S6LN-20, S6LN-21</td>
</tr>
<tr>
<td>-D1A5</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>S6LN-20, S6LN-21</td>
</tr>
<tr>
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<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>S6LN-204, S6LN-200</td>
</tr>
<tr>
<td>-E4B5</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>S6LN-204, S6LN-200</td>
</tr>
<tr>
<td>-F1A5</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>S6LN-20, S6LN-21</td>
</tr>
<tr>
<td>-F1B5</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>S6LN-204, S6LN-200</td>
</tr>
<tr>
<td>-G1A5</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>S6LN-1227, S6LN-1209</td>
</tr>
<tr>
<td>-G2A5</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>S6LN-1227, S6LN-1209</td>
</tr>
<tr>
<td>-H1A5</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>S6LN-20, S6LN-21</td>
</tr>
<tr>
<td>-H2A5</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>S6LN-20, S6LN-21</td>
</tr>
<tr>
<td>-H1A5D</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>D6LN-3031</td>
</tr>
<tr>
<td>-H2A5D</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>D6LN-3031</td>
</tr>
<tr>
<td>-H1B5D</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>D6LN-3230</td>
</tr>
<tr>
<td>-H2B5D</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>D6LN-3230</td>
</tr>
<tr>
<td>-J1A5D</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>D6LN-3031</td>
</tr>
<tr>
<td>-J2A5D</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>D6LN-3031</td>
</tr>
<tr>
<td>-J1B5D</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>D6LN-3230</td>
</tr>
<tr>
<td>-J2B5D</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>D6LN-3230</td>
</tr>
<tr>
<td>-J1C5D</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>D6LN-3031</td>
</tr>
<tr>
<td>-J2C5D</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>D6LN-3031</td>
</tr>
<tr>
<td>-J1D5D</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>D6LN-3230</td>
</tr>
<tr>
<td>-J2D5D</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>D6LN-3230</td>
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<tr>
<td>-J3C5D</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>D6LN-3031</td>
</tr>
<tr>
<td>-J3A5D</td>
<td>100 or 100 LL</td>
<td>8.50:1</td>
<td>D6LN-3031</td>
</tr>
</tbody>
</table>

All models equipped with one impulse coupling magneto may use two impulse coupling magnetos as optional equipment.

NOTE 9. Engine models O-540-F1A5 and -F1B5 are approved for helicopter application and operation in a horizontal installation.

NOTE 10. Models O-540-A4A5, -A4B5, -A4C5, -A4D5, -B4A5, -B4B5, -E4A5, -E4B5, and -E4C5 are equipped with fifth and sixth order crankshaft counterweights which are heavier than the usual fifth and sixth order counterweights employed in other O-540 engine models.

NOTE 11. Starters, generators, and alternators approved for use on these engines are listed in the latest revision of AVCO Lycoming Service Instruction No. 1154.
NOTE 12. When equipped in accordance with Cessna Dwg. 2250065, this engine is certified for operation at a maximum manifold pressure of 31.0 in. Hg at 2400 r.p.m.

NOTE 13. When complying with Lycoming Service Instruction No. 1398, the minimum permissible fuel pressure increase from 0.5 psi to 3 psi. Therefore, revised fuel pressure gage marking indicating a minimum red line of 3 psi is required.

.....END.....
TYPE CERTIFICATE DATA SHEET NO. A7CE

This data sheet which is part of Type Certificate No. A7CE prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder: Cessna Aircraft Company

P. O. Box 7704
Wichita, Kansas  67277

I - Model 411 (Normal Category), Approved August 17, 1964
   Model 411A (Normal Category), Approved January 26, 1967

Engines: Two Continental GTSIO-520-C, reduction gear ratio .750:1

Fuel: Grade 100 or 100LL aviation gasoline

Engine Limits: For all operations, 2400 propeller r.p.m. (340 hp.)

34.5 in. Hg. Mp. up to critical altitude of 16,000 ft. in standard atmosphere. Above 16,000 ft. the following maximum Mp. applies for maximum r.p.m.

<table>
<thead>
<tr>
<th>Altitude (ft.)</th>
<th>Max. Allowable Mp. (in. Hg.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>16,000</td>
<td>34.5</td>
</tr>
<tr>
<td>18,000</td>
<td>31.2</td>
</tr>
<tr>
<td>20,000</td>
<td>29.0</td>
</tr>
<tr>
<td>22,000</td>
<td>26.4</td>
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<tr>
<td>24,000</td>
<td>24.3</td>
</tr>
<tr>
<td>26,000</td>
<td>22.2</td>
</tr>
<tr>
<td>28,000</td>
<td>20.2</td>
</tr>
<tr>
<td>30,000</td>
<td>18.5</td>
</tr>
</tbody>
</table>

Propeller and Propeller Limits:

1. Model 411 only
   Two Hartzell full-feathering 3-bladed propeller installations
   (a) Hartzell Hub HC-A3VF-2D with V8833 blades
       Diameter: not over 88.4 in., not under 86.4 in.
       (no further reduction permitted)
       Pitch settings at 30 in. station:
       low 14.0°, +0°, -2°
       feathered 84.0°, +2°, -0°
   (b) Hydraulic Governor Woodward A210444, 210439, C210446 or B210529
   (c) Propeller spinner and bulkhead assembly, Hartzell 835-20
2. **Models 411 and 411A**

   Two McCauley full-feathered 3-bladed propeller installations
   
   (a) McCauley hub 3AF34C74 with 90LF-0 blades or
       McCauley hub 3AF37C510 with 90LFB blades
       Diameter: not over 90 in., not under 84.0 in. with
       90LF-0 blades or not under 88.0 in. with 90LFB-0 blades.
       (no further reduction permitted)
       Pitch settings at 30 in. station:
       - low 14.0°, ±0.2°
       - feathering 84.5°, ±0.3°
   
   (b) Hydraulic governor Woodward A210444, 210439, C210446 or B210529
   
   (c) Propeller spinner and bulkhead assembly,
       McCauley D-3574 or D-3732 for use with C74 Model Propeller, or
       McCauley D-7229 for use with C510 Model Propeller.

   **Airspeed Limits**
   
   **Maneuvering** 180 m.p.h. (156 knots)
   **Maximum structural cruising** 230 m.p.h. (200 knots)
   **Never exceed** 266 m.p.h. (231 knots)
   **Landing gear operating** 160 m.p.h. (139 knots)
   **Landing gear extended** 160 m.p.h. (139 knots)
   **Flaps extended 15°** 180 m.p.h. (156 knots)
   **Flaps extended 45°** 160 m.p.h. (139 knots)
   **Minimum control** 103 m.p.h. (90 knots)

   **C.G. Range (Landing Gear Extended)**
   (+150.6) to (+155.5) at 6500 lb.
   (+155.7) at 6100 lb. or less
   (+144.3) at 5200 lb. or less
   Straight line variation between points given
   Landing gear retracted moment change: +837 in.-lb.

   **Empty Wt. C.G. Range** None

   **Leveling Means** External screw heads on right side of fuselage at stations +213.65 and +238.00
   on W.L. +93.80

   **Maximum Weight**
   Landing 6500 lb., takeoff 6500 lb.

   **No. of Seats**
   6, 7 or 8 (2 at +137.0, 2 at +175.5, 2 at +215.5, 1 or 2 at +238.0)
   (See manufacturer's equipment list for optional seating arrangements)

   **Maximum Baggage**
   Model 411: 120 lb. (+58.0), 240 lb. (+186.0), 340 lb. (+246.5)
   Model 411A: 350 lb. (+71.0), 240 lb. (+186.0), 340 lb. (+246.5)

   **Fuel Capacity**
   175 gal. (2 wing tip tanks, 51 gal. ea., 50 gal. usable at
   +152.0 and 2 wing tanks, 36.5 gal. ea., 35 gal. usable at +164.0)
   See NOTE 1 for data on unusable fuel

   **Oil Capacity**
   26 qt. (13 qt. in. ea. engine at +115.4; usable 7.0 qt. per engine)
   See NOTE 1 for undrainable oil
I - Model 411, Model 411A (cont'd)

Control Surface Movements

<table>
<thead>
<tr>
<th>Wing flaps</th>
<th>Down 45°, +1°, -0°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main surfaces</td>
<td></td>
</tr>
<tr>
<td>Aileron</td>
<td>Up 20°, +1°, -0°</td>
</tr>
<tr>
<td>Elevator</td>
<td>Up 25°, +1°, -0°</td>
</tr>
<tr>
<td>Rudder</td>
<td>Right 32°, +1°, -0°</td>
</tr>
</tbody>
</table>

(Read degrees normal to rudder hinge line)

Tab (main surface in neutral)

| Aileron       | Up 20°, +1°, -0° |
| Elevator      | Up 25°, +1°, -0° |
| Rudder        | Right 32°, +1°, -0° |

(Read degrees normal to rudder hinge line)

Serial Nos. Eligible

Model 411: 411-0001 through 411-0250
Model 411A: 411-0251 through 411-0300

II - Model 401 (Normal Category), Approved September 20, 1966

Model 401A (Normal Category), Approved October 29, 1968
Model 401B (Normal Category), Approved November 12, 1969

Engines

Two Continental TSIO-520-E or TSIO-520-EB (In any combination)

Fuel

Grade 100 or 100LL aviation gasoline

Engine Limits

For all operations, 2700 r.p.m. (300 hp.) 34.5 in. Hg. Mp. up to critical altitude of 16,000 ft. in standard atmosphere. Above 16,000 ft. the following maximum Mp. applies for maximum r.p.m.

<table>
<thead>
<tr>
<th>Altitude (ft.)</th>
<th>Max. Allowable Mp. (in. Hg.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>16,000</td>
<td>34.5</td>
</tr>
<tr>
<td>18,000</td>
<td>31.8</td>
</tr>
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<td>20,000</td>
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<td>23.0</td>
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<tr>
<td>28,000</td>
<td>22.0</td>
</tr>
<tr>
<td>30,000</td>
<td>19.0</td>
</tr>
</tbody>
</table>

Propeller and Propeller Limits

Two McCauley full-feathered 3-bladed propeller installations

(a) McCauley hub 3AF32C87 with 82NC-5.5 blades or McCauley hub 3AF32C504 with 82NEA-5.5 blades

Diameter: not over 76.5 in., not under 74.0 in.

(no further reduction permitted)

Pitch settings at 30 in. station:

low 14.2°, ±0.2°

feathered 81.2°, ±0.3°

(b) Model 401: Hydraulic Governor Woodward B210444, C210439, B210446 or A210529F


(c) Propeller spinner and bulkhead assembly, McCauley D-3534/D-3537, D-3534/D-3796, and D-5212/D5214.
II - Model 401, Model 401A, Model 401B (cont'd)

Airspeed Limits

| Maneuvering | 180 m.p.h. (156 knots) |
| Maximum structural cruising | 230 m.p.h. (200 knots) |
| Never exceed | 266 m.p.h. (231 knots) |
| Landing gear operating | 160 m.p.h. (139 knots) |
| Landing gear extended | 160 m.p.h. (139 knots) |
| Flaps extended 15° | 180 m.p.h. (156 knots) |
| Flaps extended 45° | 160 m.p.h. (139 knots) |
| Minimum control | 95 m.p.h. (83 knots) |

C.G. Range (Landing Gear Extended)

(+150.8) to (+158.1) at 6300 lb.
(+158.5) at 5900 lb. or less
(+147.5) at 5000 lb. or less

Straight line variation between points given
Landing gear retracted moment change: +837 in.-lb.

Empty Wt. C.G. Range None

Leveling Means External screw heads on right side of fuselage at stations +213.65 and +238.00 on W.L. +93.80

Maximum Weight Landing 6200 lb., takeoff 6300 lb.

No. of Seats 6, 7 or 8 (2 at +137.0, 2 at +175.6, 2 at +215.5, 1 or 2 at +238.0)
(See manufacturer's equipment list for optional seating arrangements)

Maximum Baggage 350 lb. (+71.0), 240 lb. (+186.0), 340 lb. (+246.5)

Fuel Capacity 102 gal. (2 wing tip tanks, 51 gal. ea., 50 gal. usable at +152.0)
See NOTE 1 for data on unusable fuel

Oil Capacity 26 qt. (13 qt. in ea. engine at +113.5; usable 6.5 qt. per engine)
See NOTE 1 for data on undrainable oil

Control Surface Movements

Wing flaps

| Down | 45°, +1°, -0° |
| Main surfaces |
| Aileron | Up 20°, +1°, -0° | Down 20°, +1°, -0° |
| Elevator | Up 25°, +1°, -0° | Down 15°, +1°, -0° |
| Rudder | Right 32°, +1°, -0° | Left 32°, +1°, -0° |

(Read degrees normal to rudder hinge line)

Tab (main surface in neutral)

| Aileron | Up 20°, +1°, -0° | Down 20°, +1°, -0° |
| Elevator | Up 5°, +1°, -0° | Down 30°, +1°, -0° |
| Rudder | Right 7°, +1°, -0° | Left 9°, +1°, -0° |

(Read degrees normal to rudder hinge line)

Serial Nos. Eligible

Model 401: 401-0001 through 401-0322
Model 401A: 401A0001 through 401A0132
Model 401B: 401B0001 through 401B0221

III - Model 402 (Normal Category), Approved September 20, 1966
Model 402A (Normal Category), Approved January 3, 1969
Model 402B (Normal Category), Approved November 12, 1969

Engines Two Continental TSIO-520-E or TSIO-520-EB (In any combination)

Fuel Grade 100 or 100LL aviation gasoline
III - Model 402, Model 402A, Model 402B (cont’d)

Engine Limits
For all operations, 2700 r.p.m. (300 hp.)
34.5 in. Hg. Mp. up to critical altitude of 16,000 ft. in standard atmosphere. Above 16,000 ft. the following maximum Mp. applies for maximum r.p.m.

<table>
<thead>
<tr>
<th>Altitude (ft.)</th>
<th>Max. Allowable Mp. (in. Hg.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>16,000</td>
<td>34.5</td>
</tr>
<tr>
<td>18,000</td>
<td>31.8</td>
</tr>
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<td>20,000</td>
<td>29.5</td>
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<td>22,000</td>
<td>27.3</td>
</tr>
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<td>24,000</td>
<td>25.1</td>
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<tr>
<td>28,000</td>
<td>22.0</td>
</tr>
<tr>
<td>30,000</td>
<td>19.0</td>
</tr>
</tbody>
</table>

Propeller Limits
Two McCauley full-feathered 3-bladed propeller installations
(a) McCauley hub 3AF32C87 with 82NC-5.5 blades or McCauley hub 3AF32C504 with 82NEA-5.5 blades
   Diameter: not over 76.5 in., not under 74.0 in.
   (no further reduction permitted)
   Pitch settings at 30 in. station:
   low 14.2°, ±0.2°
   feathering 81.2°, ±0.3°

(b) Model 402, 402A and 402B, S/N 402B0001 thru 402B1200

Model 402B, S/N 402B1201 through 402B1300

Model 402B, S/N 402B1301 and up

(c) Propeller spinner and bulkhead assembly, McCauley D-3534/D-3537, D-3534/D-3796, or D-5212/D5214.
III - Model 402, Model 402A, Model 402B (cont'd)

Airspeed Limits

Model 402, S/N 402-0001 and up
Model 402A, S/N 402A0001 and up
Model 402B, S/N 402B0001 through 402B0500

Maneuvering 180 m.p.h. (156 knots)
Maximum structural cruising 230 m.p.h. (200 knots)
Never exceed 266 m.p.h. (231 knots)
Landing gear operating 160 m.p.h. (139 knots)
Landing gear extended 160 m.p.h. (139 knots)

Airspeed Limits (Cont.)

Flaps extended 15° 180 m.p.h. (156 knots)
Flaps extended 45° 160 m.p.h. (139 knots)
Minimum control 95 m.p.h. (83 knots)

Model 402B, S/N 402B0501 through 402B1000

Maneuvering 156 KCAS (180 m.p.h.)
Maximum structural cruising 200 KCAS (230 m.p.h.)
Never exceed 231 KCAS (266 m.p.h.)
Landing gear operating 140 KCAS (161 m.p.h.)
Landing gear extended 140 KCAS (161 m.p.h.)
Flaps extended 15° 160 KCAS (184 m.p.h.)
Flaps extended 45° 140 KCAS (161 m.p.h.)
Minimum control 83 KCAS (95 m.p.h.)

(IAS)

Model 402B, S/N 402B1001 and up

Maneuvering 156 KIAS (180 m.p.h.)
Maximum structural cruising 199 KIAS (229 m.p.h.)
Never exceed 230 KIAS (265 m.p.h.)
Landing gear operating 140 KIAS (161 m.p.h.)
Landing gear extended 140 KIAS (161 m.p.h.)
Flaps extended 15° 160 KIAS (184 m.p.h.)
Flaps extended 45° 140 KIAS (161 m.p.h.)
Minimum control 82 KIAS (94 m.p.h.)

C.G. Range (Landing Gear Extended)
(+150.8) to (+159.7) at 6300 lb.
(+160.2) at 5900 lb. or less
(+147.5) at 5000 lb. or less
Straight line variation between points given
Landing gear retracted moment change: +837 in.-lb.

Empty Wt. C.G. Range
None

Leveling Means
External screw heads on right side of fuselage at stations
+213.65 and +238.00 on W.L. +93.80

Maximum Weight
Models 402, 402A, 402B, S/N 402B0001 through 402B1300
Landing 6200 lb., takeoff 6300 lb.

Model 402B, S/N 402B1301 and up
Landing 6200 lb., ramp 6335 lb., takeoff 6300 lb.

No. of Seats
Model 402
9 (2 at +137.0, 2 at +166.0, 2 at +193.0, 2 at +220.0, 1 at +247.0)

Model 402A and 402B, S/N 402B0001 through 402B0300
9 or 10 (2 at +137.0, 2 at +166.0, 2 at +193.0, 2 at +220.0, 1 or 2 at +247.0)
III - Model 402, Model 402A, Model 402B (cont'd)

Model 402B, S/N 402B0301 and up
6, 7 or 8 (2 at +137.0, 2 at +175.0, 2 at +218.0, 1 or 2 at +261.0)
9 (with photographic provisions option) (2 at +137.0, 2 at +162.0, 2 at +190.0, 2 at +218.0, 1 at +246.0)
10 (2 at +137.0, 2 at +162.0, 2 at +190.0, 2 at +218.0, 2 at +246.0)
(See manufacturer's equipment list for optional seating arrangements)

Maximum Baggage
Models 402, 402A and 402B, S/N 402B0001 through 402B0300
350 lb. (+71.0), 240 lb. (+186.0), 170 lb. (+247.0)

Model 402B, S/N 402B0301 and up
250 lb. (+32.0), 350 lb. (+71.0), 240 lb. (+186.0), 400 lb. (+266.0), 100 lb. (+282.0)

Fuel Capacity
102 gal. (2 wing tip tanks, 51 gal. ea., 50 gal. usable at +152.0)
See NOTE 1 for data on unusable fuel

Oil Capacity
26 qt. (13 qt. in ea. engine at +113.5; usable 6.5 qt. per engine)
See NOTE 1 for data on undrainable oil

Control Surface Movements
Wing flaps
Main surfaces
- Aileron: Up 20°, +1°, -0°, Down 20°, +1°, -0°
- Elevator: Up 25°, +1°, -0°, Down 15°, +1°, -0°
- Rudder: Right 32°, +1°, -0°, Left 32°, +1°, -0°
(Read degrees normal to rudder hinge line)
Tab (main surface in neutral)
- Aileron: Up 20°, +1°, -0°, Down 20°, +1°, -0°
- Elevator: Up 5°, +1°, -0°, Down 30°, +1°, -0°
- Rudder: Right 7°, +1°, -0°, Left 9°, +1°, -0°
(Read degrees normal to rudder hinge line)

Serial Nos. Eligible
Model 402: 402-0001 through 402-0322
Model 402A: 402A0001 through 402A0129
Model 402B: 402B0001 through 402B1384

IV - Model 421 (Normal Category), Approved May 1, 1967
Model 421A (Normal Category), Approved November 19, 1968

Engines
Two Continental GTSIO-520-D, reduction gear ratio .667:1

Fuel
Grade 100 or 100LL aviation gasoline

Engine Limits
For all operations, 2275 propeller r.p.m. (375 hp.)
39.5 in. Hg. Mp. up to critical altitude of 16,000 ft. in standard atmosphere. Above 16,000 ft. the following maximum Mp. applies for maximum r.p.m.

<table>
<thead>
<tr>
<th>Model 421</th>
<th>Model 421A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altitude (ft.)</td>
<td>Max. Allowable Mp. (in. Hg.)</td>
</tr>
<tr>
<td>16,000</td>
<td>39.5</td>
</tr>
<tr>
<td>18,000</td>
<td>32.5</td>
</tr>
<tr>
<td>20,000</td>
<td>32.5</td>
</tr>
<tr>
<td>22,000</td>
<td>30.0</td>
</tr>
<tr>
<td>24,000</td>
<td>27.0</td>
</tr>
<tr>
<td>26,000</td>
<td>24.5</td>
</tr>
<tr>
<td>28,000</td>
<td>22.0</td>
</tr>
<tr>
<td>30,000</td>
<td>20.0</td>
</tr>
</tbody>
</table>
### IV - Model 421, Model 421A (cont’d)

<table>
<thead>
<tr>
<th>Propeller and Propeller Limits</th>
<th>Two McCauley full-feathered 3-bladed propeller installations</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) McCauley hub 3AF34C92 with 90LF-0 blades or McCauley hub 3AF37C516 with 90LFB-0 blades.</td>
<td>Diameter: not over 90.0 in., not under 88.0 in.</td>
</tr>
<tr>
<td>(no further reduction permitted)</td>
<td>Pitch settings at 30 in. station:</td>
</tr>
<tr>
<td>low 16.9°, +0.2°</td>
<td>feathering 84.5°, +0.3°,</td>
</tr>
<tr>
<td>(b) Hydraulic Governor Woodward 210594, 210595, 210596, or 210597.</td>
<td></td>
</tr>
<tr>
<td>(c) Propeller spinner and bulkhead assembly, McCauley D-3573/D-3576, for use with C92 Model propeller, or McCauley D-7229 spinner and bulkhead assembly for use with C516 Model propeller.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Airspeed Limits (CAS)</th>
<th>Maneuvering: 184 m.p.h. (160 knots)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum structural cruising</td>
<td>230 m.p.h. (200 knots)</td>
</tr>
<tr>
<td>Never exceed</td>
<td>272 m.p.h. (236 knots)</td>
</tr>
<tr>
<td>Landing gear operating</td>
<td>165 m.p.h. (143 knots)</td>
</tr>
<tr>
<td>Landing gear extended</td>
<td>165 m.p.h. (143 knots)</td>
</tr>
<tr>
<td>Flaps extended 15°</td>
<td>180 m.p.h. (156 knots)</td>
</tr>
<tr>
<td>Flaps extended 45°</td>
<td>165 m.p.h. (143 knots)</td>
</tr>
<tr>
<td>Minimum control</td>
<td>106.5 m.p.h. (93 knots)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C.G. Range (Landing Gear Extended)</th>
<th>Model 421</th>
<th>Model 421A</th>
</tr>
</thead>
<tbody>
<tr>
<td>(+151.9) to (+155.5) at 6800 lb. (+152.1) to (+155.5) at 6840 lb.</td>
<td>(+155.7) at 6400 lb. or less (+155.7) at 6500 lb. or less</td>
<td>(+144.3) at 5200 lb. or less (+144.3) at 5200 lb. or less</td>
</tr>
</tbody>
</table>

Straight line variation between points given

Landing gear retracted moment change: +889 in.-lb.

<table>
<thead>
<tr>
<th>Empty Wt. C.G. Range</th>
<th>None</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Leveling Means</th>
<th>External screw heads on right side of fuselage at stations +213.29 and +238.55 on W.L. +93.80</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Maximum Weight</th>
<th>Model 421 Landing 6500 lb., takeoff 6800 lb. (See NOTE 4 for takeoff 6840 lb.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 421A</td>
<td>Landing 6500 lb., takeoff 6840 lb.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No. of Seats</th>
<th>Model 421</th>
<th>6 (2 at +137.0, 2 at +175.5, 2 at +215.5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 421A</td>
<td>6 or 7 (2 at +137.0, 2 at +175.5, 2 at +215.5, 1 at +246.5)</td>
<td></td>
</tr>
<tr>
<td>(See manufacturer's equipment list for optional seating arrangement)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Maximum Baggage</th>
<th>350 lb. (+71.0), 240 lb. (+186.0), 340 lb. (+246.5)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Fuel Capacity</th>
<th>175 gal. (2 wing tip tanks, 51 gal. ea., 50 gal. usable at +152.0 and 2 wing tanks, 36.5 gal. ea., 35 gal. usable at +164.0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>See NOTE 1 for data on unusable fuel</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Oil Capacity</th>
<th>26 qt. (13 qt. in ea. engine at +115.4; usable 7.0 qt. per engine)</th>
</tr>
</thead>
<tbody>
<tr>
<td>See NOTE 1 for data on undrainable oil</td>
<td></td>
</tr>
</tbody>
</table>
IV - Model 421, Model 421A (cont'd)

Control Surface Movements

<table>
<thead>
<tr>
<th>Surface</th>
<th>Movement</th>
<th>Up</th>
<th>+1°, -0°</th>
<th>Down</th>
<th>+1°, -0°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aileron</td>
<td></td>
<td>20°</td>
<td></td>
<td>20°</td>
<td></td>
</tr>
<tr>
<td>Elevator</td>
<td></td>
<td>25°</td>
<td></td>
<td>15°</td>
<td></td>
</tr>
<tr>
<td>Rudder</td>
<td></td>
<td>25°</td>
<td></td>
<td>25°</td>
<td></td>
</tr>
</tbody>
</table>

(Read degrees normal to rudder hinge line)

Tab (main surface in neutral)

<table>
<thead>
<tr>
<th>Surface</th>
<th>Movement</th>
<th>Up</th>
<th>+1°, -0°</th>
<th>Down</th>
<th>+1°, -0°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aileron</td>
<td></td>
<td>20°</td>
<td></td>
<td>20°</td>
<td></td>
</tr>
<tr>
<td>Elevator</td>
<td></td>
<td>10°</td>
<td></td>
<td>26°</td>
<td></td>
</tr>
<tr>
<td>Rudder</td>
<td></td>
<td>11°</td>
<td></td>
<td>16°</td>
<td></td>
</tr>
</tbody>
</table>

(Read degrees normal to rudder hinge line)

Serial Nos. Eligible

Model 421: 421-0001 through 421-0200
Model 421A: 421A0001 through 421A0158

V - Model 414 (Normal Category), Approved September 24, 1969

Engines

Two Continental TSIO-520-J or TSIO-520-JB (In any combination)
(S/N 414-0001 through 414-0800)

Two Continental TSIO-520-N or TSIO-520-NB (In any combination)
(S/N 414-0801 and up)

Fuel

Grade 100 or 100LL aviation gasoline

Engine Limits

For all operations, 2700 r.p.m. (310 hp.)
36.0 in. Hg. Mp. (S/N 414-0001 through 414-0800) 38.0 in. Hg. Mp.
(S/N 414-0801 and up) up to critical altitude of 20,000 ft. in standard atmosphere.
Above 20,000 ft. the following maximum Mp. applies for maximum r.p.m.

S/N 414-0001 through 414-0800

<table>
<thead>
<tr>
<th>Altitude (ft.)</th>
<th>Max. Allowable Mp. (in. Hg.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20,000</td>
<td>36.0</td>
</tr>
<tr>
<td>22,000</td>
<td>33.6</td>
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<tr>
<td>24,000</td>
<td>31.2</td>
</tr>
<tr>
<td>26,000</td>
<td>28.8</td>
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<tr>
<td>28,000</td>
<td>26.4</td>
</tr>
<tr>
<td>30,000</td>
<td>24.0</td>
</tr>
</tbody>
</table>

S/N 414-0801 and up

<table>
<thead>
<tr>
<th>Altitude (ft.)</th>
<th>Max. Allowable Mp. (in. Hg.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20,000</td>
<td>38.0</td>
</tr>
<tr>
<td>22,000</td>
<td>35.2</td>
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<tr>
<td>24,000</td>
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<td>26,000</td>
<td>29.8</td>
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<tr>
<td>28,000</td>
<td>27.4</td>
</tr>
<tr>
<td>30,000</td>
<td>25.0</td>
</tr>
</tbody>
</table>

Propeller and Propeller Limits

Two McCauley full-feathered 3-bladed propeller installations

(a) McCauley hub 3AF32C93 with 82NC-5.5 blades or McCauley hub 3AF32C505 with 82NEA-5.5 blades
   Diameter: not over 76.5 in., not under 74.5 in. (S/N 414-0001 through S/N 414-0800), not under 75.0 in. (S/N 414-0801 and up)
   (no further reduction permitted)
   Pitch settings at 30 in. station:
      low 14.9°, ±0.2°, feathering 81.2°, ±0.3°
V - Model 414 (Normal Category), Approved September 24, 1969

(b) Model 414 S/N 414-0001 thru 414-0800

Hydraulic governor, Woodward B210444, C210439, B210446F, or A210529H
McCaeley DCF290D1/T3, DCF290D2/T3, DCF290D7/T3, DCFU290D1/T3, DCFU290D2/T3, DCFU290D7/T3, DCFUS290D1/T3, DCFUS290D2/T3, DCFUS290D7/T3 or DCFUS290D13/T3

Model 414 S/N 414-0801 and up

(c) Propeller spinner and bulkhead assembly, McCaeley D-3534/D-3537, D-3534/D-3796, or D-5212/D-5214.

Airspeed Limits

S/N 414-0001 through 414-0450

Maneuvering 180 m.p.h. (156 knots)
Maximum structural cruising 230 m.p.h. (200 knots)
Never exceed 266 m.p.h. (231 knots)
Flaps extended 15° 180 m.p.h. (157 knots)
Flaps extended 45° 160 m.p.h. (139 knots)
Landing gear operating 160 m.p.h. (139 knots)
Landing gear extended 160 m.p.h. (139 knots)
Minimum control 97 m.p.h. (84 knots)

S/N 414-0451 through 414-0800

Maneuvering 156 KCAS (180 m.p.h.)
Maximum structural cruising 200 KCAS (230 m.p.h.)
Never exceed 231 KCAS (266 m.p.h.)
Flaps extended 15° 160 KCAS (184 m.p.h.)
Flaps extended 45° 140 KCAS (161 m.p.h.)
Landing gear operating 140 KCAS (161 m.p.h.)
Landing gear extended 140 KCAS (161 m.p.h.)
Minimum control 84 KCAS (97 m.p.h.)

S/N 414-0801 and up

Maneuvering 160 KIAS (184 m.p.h.)
Maximum structural cruising 205 KIAS (236 m.p.h.)
Never exceed 236 KIAS (272 m.p.h.)
Flaps extended 15° 164 KIAS (189 m.p.h.)
Flaps extended 45° 147 KIAS (169 m.p.h.)
Landing gear operating 143 KIAS (165 m.p.h.)
Landing gear extended 143 KIAS (165 m.p.h.)
Minimum control 82 KIAS (94 m.p.h.)

C.G. Range (Landing Gear Extended)

(+150.9) to (+159.7) at 6350 lb.
(+160.2) at 5950 lb. or less
(+147.5) at 5000 lb. or less
Straight line variation between points given
Landing gear retracted moment change: +837 in.-lb.

Empty Wt. C.G. Range None

Leveling Means

External screw heads on right side of fuselage at stations
+213.29 and +238.55 on W.L. +93.80
V - Model 414  (cont'd)

Maximum Weight
Landing 6200 lb., takeoff 6350 lb.

No. of Seats
S/N 414-0001 through 414-0350
6 or 7 (2 at +137.0, 2 at +175.5, 2 at +215.5, 1 at +246.5)

S/N 414-0351 and up
6 (2 at +137.0, 2 at +175.0, 2 at +218.0)
7 (with toilet option) (2 at +137.0, 2 at +175.0, 2 at +218.0, 1 at +250.0)
(See manufacturer's equipment list for optional seating arrangements)

Maximum Baggage
S/N 414-0001 through 414-0350
350 lb. (+71.0), 240 lb. (+186.0), 340 lb. (+246.5)

S/N 414-0351 and up
350 lb. (+71.0), 240 lb. (+186.0), 400 lb. (+266.0), 100 lb. (+282.0)

Fuel Capacity
102 gal. (2 wing tip tanks, 51 gal. ea., 50 gal. usable at +152.0)
See NOTE 1 for data on unusable fuel

Oil Capacity
26 qt. (13 qt. in ea. engine at +113.5; usable 6.5 qt. per engine)
See NOTE 1 for data on undrainable oil

Control Surface Movements
Wing flaps
Down 45°, +1°, -0°

Main surfaces
Aileron
Up 20°, +1°, -0°
Down 20°, +1°, -0°

Elevator
Up 25°, +1°, -0°
Down 15°, +1°, -0°

Rudder
Right 32°, +1°, -0°
Left 32°, +1°, -0°
(Read degrees normal to rudder hinge line)

Tab (main surface in neutral)
Aileron
Up 20°, +1°, -0°
Down 20°, +1°, -0°

Elevator
Up 5°, +1°, -0°
Down 30°, +1°, -0°

Rudder
Right 11°, +1°, -0°
Left 16°, +1°, -0°
(Read degrees normal to rudder hinge line)

Serial Nos. Eligible
414-0001 through 414-0965

VI - Model 421B, Golden Eagle, (Normal Category), Approved April 28, 1970

Engines
Two Continental GTSIO-520-H reduction gear ratio .667:1

Fuel
Grade 100 or 100LL aviation gasoline

Engine Limits
For all operations, 2275 propeller r.p.m. (375 hp.)
39.5 in. Hg. Mp. up to critical altitude of 18,000 ft. in standard atmosphere. Above
18,000 ft. the following maximum Mp. applies for maximum r.p.m.:

<table>
<thead>
<tr>
<th>Altitude (ft.)</th>
<th>Max. Allowable Mp. (in. Hg.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18,000</td>
<td>39.5</td>
</tr>
<tr>
<td>20,000</td>
<td>37.5</td>
</tr>
<tr>
<td>22,000</td>
<td>35.5</td>
</tr>
<tr>
<td>24,000</td>
<td>33.5</td>
</tr>
<tr>
<td>25,000</td>
<td>32.5</td>
</tr>
<tr>
<td>26,000</td>
<td>31.3</td>
</tr>
<tr>
<td>28,000</td>
<td>28.5</td>
</tr>
<tr>
<td>30,000</td>
<td>25.5</td>
</tr>
</tbody>
</table>
### VI - Model 421B (cont'd)

#### Propeller and Two McCauley full-feathered 3-bladed propeller installations

(a) McCauley hub 3AF34C92 with 90LF-0 blades or
McCauley hub 3AF37C516 with 90LFB-0 blades
- Diameter: not over 90.0 in., not under 88.0 in.
  (no further reduction permitted)
- Pitch settings at 30 in. station:
  - low 16.9°, +0.2°
  - feathering 84.5°, +0.3°

(b) Model 421B S/N 421B0001 thru 421B0500
- Hydraulic governor Woodward 210594, 210595, 210596 or 210597
- Model 421B S/N 421B0501 and up
  - McCauley DCF290D2/T4, DFC7290D2/T4, DCFS290D2/T4, DCFUS290D2/T4,
    DCF290D7/T4, DCFU290D7/T4, DCFS290D7/T4, DCFUS290D7/T4,
    DCFU290D13/T4 or DCFUS290D13/T4.

(c) Propeller spinner and bulkhead assembly, McCauley D-3534/D-3796.

#### Airspeed Limits

<table>
<thead>
<tr>
<th>Model 421B: S/N 421B0001 through 421B0500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maneuvering</td>
</tr>
<tr>
<td>Maximum structural cruising</td>
</tr>
<tr>
<td>Never exceed</td>
</tr>
<tr>
<td>Landing gear operating</td>
</tr>
<tr>
<td>Landing gear extended</td>
</tr>
<tr>
<td>Flaps extended 15° (S/N 421B0001 through 421B0200)</td>
</tr>
<tr>
<td>Flaps extended 15° (S/N 421B0201 through 421B0500)</td>
</tr>
<tr>
<td>Flaps extended 45°</td>
</tr>
<tr>
<td>Minimum control</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model 421B: S/N 421B0501 and up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maneuvering</td>
</tr>
<tr>
<td>Maximum structural cruising</td>
</tr>
<tr>
<td>Never exceed</td>
</tr>
<tr>
<td>Landing gear operating</td>
</tr>
<tr>
<td>Landing gear extended</td>
</tr>
<tr>
<td>Flaps extended 15°</td>
</tr>
<tr>
<td>Flaps extended 45°</td>
</tr>
<tr>
<td>Minimum control (S/N 421B0501 through 421B0800)</td>
</tr>
<tr>
<td>Minimum control (S/N 421B0801 and up)</td>
</tr>
</tbody>
</table>

#### C.G. Range (Landing Gear Extended)

<table>
<thead>
<tr>
<th>S/N 421B0001 through 421B0200</th>
</tr>
</thead>
<tbody>
<tr>
<td>6, 7, or 8 Place</td>
</tr>
<tr>
<td>(+151.8) to (+156.4) at 7250 lb.</td>
</tr>
<tr>
<td>(+156.7) at 6850 lb. or less</td>
</tr>
<tr>
<td>(+147.1) at 6100 lb. or less</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S/N 421B0201 and up</th>
</tr>
</thead>
<tbody>
<tr>
<td>(+152.6) to (+156.5) at 7450 lb.</td>
</tr>
<tr>
<td>(+156.7) at 7050 lb. or less</td>
</tr>
<tr>
<td>(+147.1) at 6100 lb. or less</td>
</tr>
</tbody>
</table>

Straight line variation between points given
- Landing gear retracted moment change: +889 in.-lb.
VI - Model 421B (cont'd)

Empty Wt. C.G. Range None

Leveling Means External screw heads on right side of fuselage at stations +213.9 and +238.55 on W.L. +93.80

Maximum Weight Landing 7200 lb., takeoff 7250 lb. (S/N 421B0001 through 421B0200)
Landing 7200 lb., takeoff 7450 lb. (S/N 421B0201 and up)

No. of Seats S/N 421B0001 through 421B0300
6, 7, or 8 (2 at +137.0, 2 at +175.5, 2 at +215.5, 2 at +245.7)
or 10 (2 at +137.0, 2 at +161.0, 2 at +190.0, 2 at +218.0, 2 at +249.0)

S/N 421B0301 and up
6, 7, or 8 (2 at +137.0, 2 at +175.0, 2 at +218.0, 2 at +261.0) or 10 (2 at +137.0, 2 at +162.0, 2 at +190.0, 2 at +218.0, 2 at +246.0)
(See manufacturer's equipment list for optional seating arrangements)

Maximum Baggage S/N 421B0001 through 421B0300
250 lb. (+32.0), 350 lb. (+71.0), 400 lb. (+186.0), 340 lb. (+246.5)

S/N 421B0301 and up
250 lb. (+32.0), 350 lb. (+71.0), 400 lb. (+186.0), 400 lb. (+266.0), 100 lb. (+282.0)

Fuel Capacity 175 gal. (2 wing tip tanks, 51 gal. ea., 50 gal. usable at +152.0 and 2 wing tanks, 36.5 gal. ea., 35 gal. usable at +164.0)
See NOTE 1 for data on unusable fuel

Oil Capacity 26 qt. (13 qt. in ea. engine at +115.4; usable 7.0 qt. per engine)
See NOTE 1 for data on undrainable oil

Control Surface Movements Wing flaps
Main surfaces
Aileron Up 20°, +1°, -0° Down 45°, +1°, -0°
Elevator Up 25°, +1°, -0° Down 15°, +1°, -0°
Rudder Right 25°, +1°, -0° Left 25°, +1°, -0°
(S/N 421B0001 through 421B0800)
Right 32°, +1°, -0° Left 32°, +1°, -0°
(S/N 421B0801 and up)
(Read degrees normal to rudder hinge line)
Tab (main surface in neutral)
Aileron Up 20°, +1°, -0° Down 20°, +1°, -0°
Elevator Up 12°, +1°, -0° Down 20°, +1°, -0°
Rudder Right 11°, +1°, -0° Left 16°, +1°, -0°
(Read degrees normal to rudder hinge line)

Serial Nos. Eligible 421B0001 through 421B0970


Engines Two Continental GTSIO-520-L reduction gear ratio .667:1
(S/N 421C0001 through 421C1000)

Two Continental GTSIO-520-N reduction gear ratio .667:1
(S/N 421C1001 and up)

Fuel Grade 100 or 100LL aviation gasoline
VII - Model 421C  (cont'd)

Engine Limits

For all operations, 2235 propeller r.p.m. (375 hp.)
39.0 in. Hg. Mp. up to critical altitude of 20,000 ft. in standard atmosphere. Above
20,000 ft. the following maximum Mp. applies for maximum r.p.m.:

<table>
<thead>
<tr>
<th>Altitude (ft.)</th>
<th>Max. Allowable Mp. (in. Hg.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20,000</td>
<td>39.0</td>
</tr>
<tr>
<td>22,000</td>
<td>36.5</td>
</tr>
<tr>
<td>24,000</td>
<td>34.0</td>
</tr>
<tr>
<td>25,000</td>
<td>32.5</td>
</tr>
<tr>
<td>26,000</td>
<td>31.0</td>
</tr>
<tr>
<td>28,000</td>
<td>28.0</td>
</tr>
<tr>
<td>30,000</td>
<td>25.0</td>
</tr>
</tbody>
</table>

Propeller and Propeller Limits

Two McCauley full-feathering 3-bladed propeller installations

(a) McCauley hub 3FF32C501 with 90UMB-0 blades
   Diameter: not over 90.0 in., not under 88.0 in.
   Pitch settings at 30 in. station:
   low 16.6°, +0.2°, feathering 84.6°, ±0.3°

(b) S/N 421C0001 through 421C0800
    Hydraulic Governor McCauley DCF290D2/T6, DCFU290D2/T6, DCFS290D2/T6, DCF290D7/T6, DCFU290D7/T6 or DCFU290D13/T6, DCFS290D7/T6, DCFUS290D7/T6 or DCFUS290D13/T6
    S/N 421C0801 and up
    Hydraulic Governor McCauley DCF290D7/T6, DCFU290D7/T6 or DCFU290D13/T6, DCFS290D9/T6, DCFUS290D9/T6

(c) Propeller spinner and bulkhead assembly, McCauley D-3534/D-4506 or McCauley D-5212/D-5217

Airspeed Limits

Maneuvering 151 KIAS (174 m.p.h.)
Maximum structural cruising 201 KIAS (231 m.p.h.)
Never exceed 240 KIAS (276 m.p.h.)
Landing gear operating 176 KIAS (203 m.p.h.)
Landing gear extended 176 KIAS (203 m.p.h.)
Flaps extended 15° 176 KIAS (203 m.p.h.)
Flaps extended 45° 146 KIAS (168 m.p.h.)
Minimum control 80 KIAS (92 m.p.h.)

C.G. Range (Landing Gear Extended)

6, 7, 8, 9 or 10 Place (+152.6) to (+158.0) at 7450 lb.
(+147.1) at 6100 lb. or less
Straight line variation between points given
Landing gear retracted moment change:
+917 in.-lb. (S/N 421C0001 through 421C0800)
+1318 in.-lb. (S/N 421C0801 and up)

Empty Wt. C.G. Range

None

Leveling Means

External screw heads on right side of fuselage at stations +213.9 and +238.55 on W.L. +93.80

Maximum Weight

S/N 421C0001 through 421C0400
Landing 7200 lb., takeoff 7450 lb.

S/N 421C0401 and up
Landing 7200 lb., takeoff 7450 lb., ramp 7500 lb.
**VII - Model 421C**  (cont'd)

No. of Seats  
6, 7 or 8 (2 at +137.0, 2 at +175.0, 2 at +218.0, 1 at +261.0)  
or 10 (2 at +137.0, 2 at +162.0, 2 at +190.0, 2 at +218.0, 2 at +246.0)  
(See manufacturer's equipment list for optional seating arrangements)

Maximum Baggage  
250 lb. (+32.0), 350 lb. (+71.0), 400 lb. (+186.0), 400 lb. (+266.0), 100 lb. (+282.0)

Fuel Capacity  
213.4 gal. (2 wing tanks, 106.7 gal. ea., 103.0 gal. usable at +161.0)  
See NOTE 1 for data on unusable fuel

Oil Capacity  
26 qt. (13 qt. in ea. engine at +115.4; usable 7.0 qt. per engine)  
See NOTE 1 for data on undrainable oil

Control Surface Movements  
<table>
<thead>
<tr>
<th>Wing flaps</th>
<th>Up</th>
<th>+1°, -0°</th>
<th>Down</th>
<th>+2°, -0°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevator</td>
<td>Up</td>
<td>25°, +1°, -0°</td>
<td>Down</td>
<td>15°, +1°, -0°</td>
</tr>
<tr>
<td>Rudder</td>
<td>Right</td>
<td>32°, +1°, -0°</td>
<td>Left</td>
<td>32°, +1°, -0°</td>
</tr>
</tbody>
</table>

(Read degrees normal to rudder hinge line)

Tab (main surface in neutral)  
| Aileron | Up | 20°, +1°, -0° | Down | 20°, +1°, -0° |
| Elevator | Up | 12°, +1°, -0° | Down | 20°, +1°, -0° |
| Rudder | Right | 11°, +1°, -0° | Left | 16°, +1°, -0° |

(Read degrees normal to rudder hinge line)

Serial Nos. Eligible  
421C0001 through 421C1807

**VIII - Model 414A, Chancellor, (Normal Category), Approved September 30, 1977**

Engines  
Two Continental TSIO-520-N or TSIO-520-NB (In any combination)  
(S/N 414A0001 through 414A0200)

Two Continental TSIO-520-NB (S/N 414A0201 and up)

Fuel  
Grade 100 or 100LL Aviation Gasoline

Engine Limits  
For all operations, 2700 r.p.m., 310 hp., 38.0 in. Hg. Mp. up to critical altitude of 20,000 ft. in standard atmosphere.  
Above 20,000 ft. the following maximum Mp. applies for maximum r.p.m.:  
<table>
<thead>
<tr>
<th>Altitude (ft.)</th>
<th>Max. Allowable Mp. (in. Hg.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20,000</td>
<td>38.0</td>
</tr>
<tr>
<td>22,000</td>
<td>35.2</td>
</tr>
<tr>
<td>24,000</td>
<td>32.3</td>
</tr>
<tr>
<td>26,000</td>
<td>29.8</td>
</tr>
<tr>
<td>28,000</td>
<td>27.4</td>
</tr>
<tr>
<td>30,000</td>
<td>25.0</td>
</tr>
</tbody>
</table>

Propeller and Propeller Limits  
Two McCauley full-feathering three-bladed propeller installations

(a) McCauley hub 3AF32C93 with 82NC-5.5 blades or McCauley hub 3AF32C505 with 82NEA-5.5 blades  
Diameter: not over 76.5 in., not under 75.0 in.  
(no further reduction permitted)  
Pitch settings at 30 in. station:  
low 14.9°, +0.2°, feathering 81.2°, +0.3°

(b) McCauley hub 3AF32C93 with 82NC-5.5 blades or McCauley hub 3AF32C505 with 82NEA-5.5 blades  
Diameter: not over 75.5 in., not under 75 in.  
Pitch settings at 30 in. station:  
low 15.2°, +0.2°  
feathered 81.2°, +0.3°
VIII - Model 414A (cont’d)

### Propeller and Propeller Limits

(c) S/N 414A0001 through 414A0801
or DCFUS290D12/T3

S/N 414AC0801 and up

(d) Propeller spinner and bulkhead assembly, McCauley D-3534/D-3796, or McCauley D-5212/D-5214

### Airspeed Limits

- **Maneuvering** 145 KIAS (167 m.p.h.)
- **Max. structural cruising** 203 KIAS (234 m.p.h.)
- **Never exceed** 237 KIAS (273 m.p.h.)
- **Landing gear operating** 177 KIAS (204 m.p.h.)
- **Landing gear extended** 177 KIAS (204 m.p.h.)
- **Flaps extended 15°** 177 KIAS (204 m.p.h.)
- **Flaps extended 45°** 146 KIAS (168 m.p.h.)
- **Minimum control** 79 KIAS (91 m.p.h.)

### C.G. Range (Landing Gear Extended)

- (+151.3) to (+160.0) at 6750 lb.
- (+147.8) at 5800 lb. or less
- Straight line variation between points given
- Landing gear retracted moment change: +917 in.-lb.

### Empty Wt. C.G. Range

None

### Leveling Means

External screw heads on right side of fuselage at stations +213.29 and +238.55 on W.L. +93.80

### Maximum Weight

Ramp 6785 lb., takeoff and landing 6750 lb.

### No. of Seats

6, 7 or 8 (2 at +137.0, 2 at +175.0, 2 at +218.0, Optional: 1 or 2 at +261.0 or with toilet option, 1 at +250.0)
(See manufacturer's equipment list for optional seating arrangements)

### Maximum Baggage

250 lb. (+32.0), 350 lb. (+71.0), 400 lb. (+186.0), 400 lb. (+266.0), 100 lb. (+282.0)

### Fuel Capacity

- **S/N 414A0001 through 414A0200**
  213.4 gal. (2 wing tanks, 106.7 gal. ea., 103.0 gal. usable at +161.0)
  See NOTE 1 for data on unusable fuel

- **S/N 414A0201 through 414A0400**
  213.4 gal. (2 wing tanks, 106.7 gal. ea., 102.0 gal. usable at +161.0)
  See NOTE 1 for data on unusable fuel

- **S/N 414A0401 and up**
  213.4 gal. (2 wing tanks, 106.7 gal. ea., 103.0 gal. usable at +161.0)
  See NOTE 1 for data on unusable fuel

### Oil Capacity

26 qt. (13 qt. in ea. engine at +110.9; usable 6.5 qt. per engine)
See NOTE 1 for data on undrainable oil
VIII - Model 414A (cont’d)

Control Surface Movements

<table>
<thead>
<tr>
<th>Surface</th>
<th>(Read degrees normal to rudder hinge line)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing flaps</td>
<td>Down 45°, +1°, -0°</td>
</tr>
<tr>
<td>Aileron</td>
<td>Up 20°, +1°, -0°</td>
</tr>
<tr>
<td>Elevator</td>
<td>Up 25°, +1°, -0°</td>
</tr>
<tr>
<td>Rudder</td>
<td>Right 32°, +1°, -0°, Left 32°, +1°, -0°</td>
</tr>
<tr>
<td>(Main surface in neutral)</td>
<td>Up 20°, +1°, -0°</td>
</tr>
<tr>
<td>Elevator</td>
<td>Up 12°, +1°, -0°</td>
</tr>
<tr>
<td>Rudder</td>
<td>Right 11°, +1°, -0°, Left 16°, +1°, -0°</td>
</tr>
</tbody>
</table>

Serial Nos. Eligible

414A0001 through 414A1212

IX - Model 402C, Businessliner/Utililiner, (Normal Category), Approved September 25, 1978

Engines

Two Continental TSIO-520-VB rated at 325 hp.

Fuel

Grade 100 or 100LL aviation gasoline

Engine Limits

Takeoff and engine inoperative, 2700 r.p.m., 39.0 in. Hg. Mp. up to 12,000 ft. Above 12,000 ft. the following maximum Mp. applies for maximum r.p.m.

<table>
<thead>
<tr>
<th>Altitude (ft.)</th>
<th>Max. Allowable Mp. (in. Hg.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.L. to</td>
<td></td>
</tr>
<tr>
<td>12,000</td>
<td>39.0</td>
</tr>
<tr>
<td>14,000</td>
<td>37.2</td>
</tr>
<tr>
<td>16,000</td>
<td>37.2</td>
</tr>
<tr>
<td>18,000</td>
<td>32.0</td>
</tr>
<tr>
<td>20,000</td>
<td>29.5</td>
</tr>
<tr>
<td>22,000</td>
<td>27.0</td>
</tr>
<tr>
<td>24,000</td>
<td>25.0</td>
</tr>
<tr>
<td>26,000</td>
<td>23.0</td>
</tr>
<tr>
<td>28,000</td>
<td>21.0</td>
</tr>
<tr>
<td>30,000</td>
<td>19.0</td>
</tr>
</tbody>
</table>

Propeller and Propeller Limits

Two McCauley full- feathering three-bladed propeller installations

(a) McCauley hub 3AF32C93 with 82NC-5.5 blades or McCauley hub 3AF32C505 with 82NEA-5.5 blades

Diameter: not over 76.5 in., not under 75.0 in.

(no further reduction permitted)

Pitch settings at 30 in. station:

- low 14.9°, ±0.2°, feathering 82.2°, ±0.3°

or

(b) McCauley hub 3AF32C93 with 82NC-6.5 blades or McCauley hub 3AF32C505 with 82NEA-6.5 blades

Diameter: not over 75.5 in., not under 75.0 in.

Pitch settings at 30 in. station:

- low 15.2°, ±0.2°, feathering 82.2°, ±0.3°

(c) S/N 402C0001 through 402C0600

Hydraulic governor, Woodward B210444, C210439; McCauley DCF290D7/T3, DCFUS290D7/T3, DCFUS290D13/T3, DCFUS290D9/T3, or DCFUS290D12/T3

S/N 689, and 402C0601 and up

Hydraulic governor, Woodward B210444, C210439; McCauley DCF290D7/T3, DCFUS290D7/T3 or DCFUS290D13/T3, DCFUS290D9/T3, DCFUS290D9/T3

(d) Propeller spinner and bulkhead assembly; McCauley D-3534/D-3537, D-3534/D-3796, or D-5212/D-5214
IX - Model 402C  (cont'd)

Airspeed Limits Maneuvering  150 KIAS  (173 m.p.h.)
      (IAS)  Max. structural cruising  205 KIAS  (236 m.p.h.)
      Never exceed  235 KIAS  (270 m.p.h.)
      Landing gear operating  180 KIAS  (207 m.p.h.)
      Landing gear extended  180 KIAS  (207 m.p.h.)
      Flaps extended 15°  180 KIAS  (207 m.p.h.)
      Flaps extended 45°  149 KIAS  (172 m.p.h.)
      Minimum control  80 KIAS  ( 92 m.p.h.)

C.G. Range (Landing Gear Extended)
(+151.58) to (+160.67) at 6850 lb.
(+149.08) at 5800 lbs. or less
Straight line variation between points given
Landing gear retracted moment change: +917 in.-lb.

Empty Wt. C.G. Range  None

Leveling Means External screw heads on right side of fuselage at stations +213.65 and
+238.00 on W.L. +93.80

Maximum Weight Ramp, 6885 lbs., takeoff and landing 6850 lbs.

No. of Seats
6, 7 or 8 (2 at +137.0, 2 at +175.0, 2 at +218.0, 1 or 2 at +261.0)
9 (with photographic provisions option) (2 at +137.0, 2 at +162.0,
  2 at +190.0, 2 at +218.0, 1 at +246.0)
10 (2 at +137.0, 2 at +162.0, 2 at +190.0, 2 at +218.0, 2 at +246.0)
(See manufacturer's equipment list for optional seating arrangements)

Maximum Baggage 250 lbs. (+32.0), 350 lbs. (+71.0), 400 lbs. (+186.0), 400 lbs. (+266.0),
100 lbs. (+282.0)

Fuel Capacity S/N 402C0001 through 402C0200
213.4 gal. (2 wing tanks, 106.7 gal. ea., 102 gal. usable at +161.0)
See NOTE 1 for data on unusable fuel
S/N 689, and 402C0201 and up
213.4 gal. (2 wing tanks, 106.7 gal. ea., 103 gal. usable at +161.0)
See NOTE 1 for data on unusable fuel

Oil Capacity 26 qt. (13 qt. in ea. engine at +110.9; usable 6.5 qt. per engine)
See NOTE 1 for data on undrainable oil

Control Surface Movements Wing flaps
Main surfaces
Aileron Up 20°, +1°, -0° Down 20°, +1°, -0°
Elevator Up 25°, +1°, -0° Down 15°, +1°, -0°
Rudder Right 32°, +1°, -0° Left 32°, +1°, -0°
(Read degrees normal to rudder hinge line)
Tab (main surface in neutral)
Aileron Up 20°, +1°, -0° Down 20°, +1°, -0°
Elevator Up 12°, +1°, -0° Down 20°, +1°, -0°
Rudder Right 11°, +1°, -0° Left 16°, +1°, -0°
(Read degrees normal to rudder hinge line)

Serial Nos. Eligible 689, 402C0001 through 402C1020
**X - Model 425, Corsair or Conquest I (See NOTE 7), (Normal Category), Approved July 1, 1980**

### Engines
Two Pratt & Whitney Aircraft of Canada, Ltd., PT6A-112 turboprop

### Fuel

### Engine Limits

<table>
<thead>
<tr>
<th>Operating Limits</th>
<th>Shaft Horsepower Power (% rpm)</th>
<th>Ng Gas Generator Speed (°C.)</th>
<th>Indicated Torque (ft.-lbs.)</th>
<th>Prop. Shaft Speed (rpm)</th>
<th>Maximum Permissible Interturbine Temp. (°C.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeoff static &amp; max. continuous</td>
<td>450*</td>
<td>101.6</td>
<td>1244</td>
<td>1900</td>
<td>725</td>
</tr>
<tr>
<td>Starting (2 sec.)</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
<td>1090</td>
</tr>
<tr>
<td>Maximum reverse</td>
<td>430</td>
<td>101.6</td>
<td>1244</td>
<td>1815</td>
<td>725</td>
</tr>
</tbody>
</table>

*Flat Rated:
The engines may produce more power than that for which the airplane has been certificated. Under these conditions, the placarded torquemeter, ITT, or Ng limitations shall not be exceeded.

### Propeller and Propeller Limits

1. Two Hartzell three-bladed, full-feathered, reversible
   - Hub: HC-B3TN-3C
   - Blade: T10178B-8R
   - Diameter: Not over 93-3/8 in., not under 91 inches; no further reduction permitted
   - Pitch at 30-inch station:
     - Low pitch: 20.2°
     - Feathered: 86.7°
     - Reverse: -10.9°

2. Two McCauley three-bladed, full-feathered, reversible
   - Hub: 3GFR34C701
   - Blade: 93KB-0
   - Diameter: Not over 93 inches, not under 90-5/8 inches; no further reduction permitted
   - Pitch at 30-inch station:
     - Low pitch: 18.5°
     - Feathered: 85.5°
     - Reverse: -13.5°

Propellers may be interchanged in any combination.

### Airspeed Limits (IAS)
<table>
<thead>
<tr>
<th>Speed Limit</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_{MO}$ (Max Operating)</td>
<td>230 knots 265 m.p.h.</td>
</tr>
<tr>
<td>Sea level to 21,800 ft.</td>
<td></td>
</tr>
<tr>
<td>$M_{MO}$ Above 21,800 ft.</td>
<td>.52 mach</td>
</tr>
<tr>
<td>$V_A$ (Maneuvering) at 8200 lbs.</td>
<td>154 knots 177 m.p.h.</td>
</tr>
<tr>
<td>$V_A$ (Maneuvering) at 8600 lbs.</td>
<td>157 knots 181 m.p.h.</td>
</tr>
<tr>
<td>$V_{FE}$ (Flaps extended)</td>
<td></td>
</tr>
<tr>
<td>45° (Landing)</td>
<td>145 knots 169 m.p.h.</td>
</tr>
<tr>
<td>15° (Takeoff &amp; Approach)</td>
<td>175 knots 201 m.p.h.</td>
</tr>
<tr>
<td>$V_{MCA}$ (Min. control speed) Air at 8200 lbs.</td>
<td>90 knots 104 m.p.h.</td>
</tr>
<tr>
<td>$V_{MCA}$ (Min. control speed) Air at 8600 lbs.</td>
<td>92 knots 106 m.p.h.</td>
</tr>
<tr>
<td>$V_{LE}$ (Landing gear extended)</td>
<td>175 knots 201 m.p.h.</td>
</tr>
</tbody>
</table>
X - Model 425  (cont’d)

C.G. Range (Landing Gear Extended)

S/N 425-0001 through 425-0176 (See NOTE 7)
(155.66) to (160.04) at 8200 lbs.
(150.65) to (160.04) at 6478 lbs. or less

S/N 425-0177 and up
(156.81) to (160.04) at 8600 lbs.
(150.65) to (160.04) at 6478 lbs. or less

Straight line variation between points given
Moment change due to retracting landing gear (+1448 in.-lb.)

Empty Wt. C.G. Range
None

Leveling Means
External screw heads on right side of fuselage at stations +213.9
and +238.55 on W.L. +93.80

Maximum Weight

<table>
<thead>
<tr>
<th>S/N 425-0001 through 425-0176</th>
<th>S/N 425-0177 and up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeoff</td>
<td>8200 lbs.</td>
</tr>
<tr>
<td>Landing</td>
<td>8000 lbs.</td>
</tr>
<tr>
<td>Zero fuel</td>
<td>6740 lbs.</td>
</tr>
<tr>
<td>Ramp</td>
<td>8275 lbs.</td>
</tr>
<tr>
<td>Landing</td>
<td>8000 lbs.</td>
</tr>
<tr>
<td>Zero fuel</td>
<td>7000 lbs.</td>
</tr>
<tr>
<td>Ramp</td>
<td>8675 lbs.</td>
</tr>
</tbody>
</table>

No. of Seats
6, 7 or 8 (2 at +137.0, 2 at +175.0, 2 at +218.0, 2 at +261.0)
See manufacturer's equipment list for optional seating arrangements

Maximum Baggage
250 lb. (+32.0), 350 lb. (+71.0), 400 lb. (+266.0), 100 lb. (+282.0)

Fuel Capacity
2497.8 lb. (372.8 gal.) total in two wing tanks, 1248.9 lb. (186.4 gal.) each; 2452.2 lb.
(366.0 gal.) usable total, 1226.1 lb. (133 gal.) in each tank at +163.3. Fuel weight based
on 6.70 lb./gal. See NOTE 1 for data on unusable fuel.

Oil Capacity
5.28 gal. total, 5.28 gal. usable (2.3 gal. in each engine-mounted tank at +125.3).
See NOTE 1 for data on undrainable oil.

Maximum Operating Altitude
30,000 ft.

Control Surface Movements

Wing flaps
Up 45°, +1°, -0°
Down 45°, +1°, -0°

Main surfaces
Aileron  Up  20°, +1°, -0°
         Down  20°, +1°, -0°
Elevator Up  19°, +1°, -0°
         Down  15°, +1°, -0°
Rudder Right 32°, +1°, -0°
         Left  32°, +1°, -0°
        (Read degrees normal to rudder hinge line)

Tab (main surface in neutral)
Aileron  Up  20°, +1°, -0°
         Down  20°, +1°, -0°
Elevator Up  6°, +1°, -0°
         Down  15°, +1°, -0°
Rudder Right 11°, +1°, -0°
         Left  16°, +1°, -0°
        (Read degrees normal to rudder hinge line)

Serial Nos. Eligible
425-0001 through 425-0236

Data Pertinent to All Models

Datum 100.00 in. forward face of fuselage bulkhead forward of rudder pedals.
X - Model 425 (cont'd)

Certification Basis

Part 3 of the Civil Air Regulations dated May 15, 1956, as amended by 3-1 through 3-5 and 3-8.

Model 421B:
Part 3 of the Civil Air Regulations dated May 15, 1956, except Subpart B, as amended by 3-1 through 3-5 and 3-8; Subpart B, paragraphs 23.25 through 23.253 of the Federal Aviation Regulations dated February 1, 1965, as amended by 23-1 through 23-7.

Models 414A and 421C:
Part 3 of the Civil Air Regulations dated May 15, 1956, as amended by 3-1 through 3-5 and 3-8, excluding the following portions:

Model 402C:

Model 425:
Part 3 of the Civil Air Regulations dated May 15, 1956, as amended by 3-1 through 3-6 and 3-8 as follows: Paragraphs 3.0 through 3.20, 3.291 through 3.307, 3.317 through 3.347, 3.371 through 3.401, 3.451, 3.452, 3.655(c) and (d), 3.661, 3.662, 3.668, 3.686 through 3.699, 3.711 through 3.728, 3.749, 3.791, and 3.792; the following portions of FAR 23 dated February 1, 1965, as amended by 23-1 through 23-21: Paragraphs 23.21 through 23.33, 23.45(a) through (d), 23.49 through 23.179, 23.181(a), 23.201 through 23.572, 23.629, 23.723 through 23.735, 23.865, 23.867, 23.901 through 23.1017, 23.1019(a)(1) and (2), 23.1019(a)(4) and (5), 23.1019(b), 23.1021 through 23.1203, 23.1303(a) through (d), 23.1305(a) through (u) and (w), 23.1323, 23.1325, 23.1327, 23.1329, 23.1335, 23.1337, 23.1351 through 23.1357, 23.1385 through 23.1401, 23.1441 through 23.1449, 23.1501 through 23.1521, 23.1524, 23.1525, 23.1527(b), and 23.1529 through 23.1589; Paragraph 25.831(d) of FAR 25 dated February 1, 1965, as amended by 25-1 through 25-43; FAR 36 dated December 1, 1969, as amended by 36-1 through 36-10; SFAR No. 27, Fuel Venting and Exhaust Emission Requirements for Turbine Engine Powered Airplanes, effective February 1, 1974, as amended by SFAR's 27-1, 27-2, and 27-3; plus Special Conditions 23-93-CE-12 as amended by Amendment No. 1 dated June 25, 1980. (See NOTE 3.)
X - Model 425 (cont'd)

Certification Basis

Model 414A (S/N 414A0401 and up, Model 421C (S/N 421C0801 and up)

In addition to the above certification basis, compliance with FAR 36, dated December 1, 1969, as amended by 36-1 through 36-10 (414A only) and 36-1 through 36-4 (421C only) has been demonstrated.

Model 402B, S/N 402B0501 and up
Model 402C
Model 414, S/N 414-0451 and up
Model 414A
Model 421B, S/N 421B0501 and up
Model 421C
Model 425

Markings, placards and manuals are primarily in knots instead of m.p.h. as required by CAR 3, but permitted by FAR 23, Amendment 23-7.

Model 402B, S/N 402B1001 and up
Model 414, S/N 414-0801 and up

Findings of equivalent level of safety were made for CAR 3.757 and 3.778(a).

Model 402B, S/N 402B0801 and up
Model 402C
Model 414, S/N 414-0601 and up
Model 414A
Model 421B, S/N 421B0801 and up
Model 421C
Model 425

In addition to the above certification basis, compliance with ice protection has been demonstrated in accordance with FAR 23.1419 of Amendment 23-14 effective December 20, 1973, when ice protection equipment is installed in accordance with Cessna Drawing 5914105 for 425, 5114400 for all other models, Factory Kit (FK) No. 194, Pilot's Operating Handbook and/or FAA Approved Airplane Flight Manual. Aircraft which have been modified in compliance with Accessory Kit (AK) No. 421-106 are considered to be equivalent to those with Factory Kit (FK) No. 194.

Application for Type Certificate dated September 18, 1961. Type Certificate No. A7CE issued August 17, 1964, obtained by the manufacturer under delegation option procedures.

Production Basis

Production Certificate No. 312 issued and Delegation Option Manufacturer No. CE-3 authorized to issue airworthiness certificates under delegation option provisions of Part 21 of the Federal Aviation Regulations. Effective February 15, 1985, and on, Production Certificate No. 4 is applicable to all spares production. See NOTE 8 for specific effectivity of P.C. 4 on new airplane serials.

Equipment: The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. In addition, the following item of equipment is required.

1. Stall warning indicator, Cessna dwg. 5018100 (401, 402, 411, 411A)
   Stall warning indicator, Cessna dwg. 5118000 (421)
   Stall warning indicator, Cessna dwg. 5618002 (414)
   Stall warning indicator, Cessna dwg. 5218016 (401A, 402A, 401B, 402B0001 through 402B0300)
   Stall warning indicator, Cessna dwg. 5118310 (421A)
   Stall warning indicator, Cessna dwg. 5118402 (421B0001 through 421B0300)
   Stall warning indicator, Cessna dwg. 5618021 (414-0351 and up, 421B0301 and up)
   Stall warning indicator, Cessna dwg. 5218031 (402B0301 and up)
   Stall warning indicator, Cessna dwg. 5118627 (421C)
   Stall warning indicator, Cessna dwg. 5618041 (402C, 414A, 425)
NOTE 1. Current weight and balance report together with list of equipment included in certificated empty weight and loading instructions when necessary must be provided for each aircraft at the time of original certification.

The certificated empty weight and corresponding center of gravity location must include undrainable oil (not included in oil capacity) and unusable fuel as follows:

   18 lb. (wing, standard 73 gal. at +164.0) (411, 411A, 421, 421A, 421B)
   24 lb. (wing, optional 100 gal. at +164.0) (411, 411A, 421, 421A, 421B, 422A, 422B, 414)
   6 lb. (wing, optional 63 gal. at +164.0) (402B0301 and up and 414-0351 and up)
   44 lb. (wing, 7.4 gal. at +165.2) (402C, S/N 689, and 402C0201 and up; 414A, S/N 414A0401 and up; 421C)
   68 lb. (wing, 11.4 gal. at +165.2) (414A, S/N 414A0001 through S/N 414A0200)
   56 lb. (wing, 9.4 gal. at +165.0) (402C, S/N 402C0001 through 402C0200; 414A, S/N 414A0201 through 414A0400)
   45.6 lb. (wing, 6.8 gal. at +166.2) (425)

(b) If optional wing locker transfer tanks are installed 3.0 lb. (each 26 gal. tank) at (+176.0) (411, 411A, 421, 421A, 421B)
   3.0 lb. (each 20 gal. tank) at (+175.0) (401, 401A, 401B, 402, 402A, 402B, 414)
   2.0 lb. (each 28 gal. tank) at (+176.0) (421C0001 and up)

(c) Oil - 0.0 lb.

NOTE 2. The placards specified in the FAA Approved Airplane Flight Manual must be displayed.

NOTE 3. Service information
The appropriate airplane service manual contains structural retirement lives, which may not be changed without FAA Engineering approval, for the following components:

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Hours</th>
<th>Model</th>
</tr>
</thead>
</table>
| 9910013-1 | 13,200 | 414, 414A, 421A (S/N 421A0001 through 421A017)
| 9910071-1 | 13,200 | 414, 414A, 421B S/N 414-0001 through 414-0600, 421A017 through 421B0800 |
| 9910214-1 & -2 | 13,200 | 414, 414A, 421B, 421C S/N 414-0601 and up, 421B0801 through 421C0800 |
| 9910460-1 & -200 | 13,200 | 421C (S/N 421C0801 and up), 425 |
| 5111545-3 | 8,000 | 421 (S/N 421-0001 through 421-0079) |
| 5111545-6 | 8,000 | 421 (S/N 421-0080 and up), 421A |
| 5922125 not modified by SK425-48 | 10,200 | 425 (S/N -0002 thru -0176 except airplanes incorporating SK425-17) |
| 5922125 not modified by SK425-48 | 9,300 | 425 (S/N -0177 and On and airplanes -0002 thru -0176 incorporating SK425-17) |
| 5922125 modified by SK425-48 | 30,000 | 425 |
| 5911004, 5111225 | 30,000 | 425 |
NOTE 3. (cont'd.)

For Model 425 aircraft that have exceeded the structural retirement life prior to the availability of Cessna Service Kit SK425-48, the service kit is to be installed according to the following schedule:

A. For airplanes 425-0177 and on, and airplanes 425-0002 through 425-0176 incorporating SK425-17:
   Exceeding 12,500 hours, accomplish SK425-48 within 100 hours or 12 months after SK 425-48 was issued, whichever comes first.
   Exceeding 9,300 hours but less than 12,500 hours, accomplish SK425-48 within 400 hours or 24 months after SK425-48 was issued whichever comes first.
   Between 8,900 and 9,300 hours when SK425-48 was issued, accomplish within 400 hours of operation. For airplanes with less than 8,900 hours when SK425-48 was issued, accomplish at 9,300 hours.

B. For airplanes -0002 through -0176, except airplanes incorporating SK425-17:
   Exceeding 12,500 hours, accomplish SK425-48 within 100 hours or 12 months after SK425-48 was issued whichever comes first.
   Exceeding 10,200 hours but less than 12,500 hours, accomplish SK425-48 within 400 hours or 24 months after SK425-48 was issued whichever comes first.
   Between 9,800 and 10,200 hours when SK425-48 was issued, accomplish within 400 hours of operation. For airplanes with less than 9,800 hours when SK425-48 was issued, accomplish 10,200 hours.

Model 425 Special Conditions 23-93-CE-12, required, in part, that Cessna establish mandatory inspections of the Horizontal Tail Assembly in order to maintain continued structural integrity. Therefore, inspections are required for the horizontal stabilizer, elevators, elevator tab and tab actuator system. In order to comply with these requirements, airplanes must be inspected in accordance with inspection Item Codes A273002, A273101, A273102, B273109 and A551001 as contained in Model 425 Maintenance Manual, Part Number D2535-3-13, Revision 3 (or later revision). These inspection criteria are contained in Chapter 5, Subsection 5-10-01, and are applicable to Zones 331 and 332. All approved airplane inspection programs must include these mandatory inspections.

NOTE 4. Model 421, Serial Nos. 421-0001 and up, approved for 6840 lb. takeoff weight with C.G. range as follows when appropriate airplane flight manual, pilot's checklist, weight and balance form, and other documents are provided as specified in Cessna Service Kit SK421-12.

C.G. Range (Landing Gear Extended) (+152.1) to (+155.5) at 6840 lb.
(+155.7) at 6500 lb.
(+144.3) to (+155.7) at 5500 lb.

Straight line variation between points given

NOTE 5. McCauley propellers with 3AF32C87 and 3AF32C504 hubs may be interchanged in any combination. This also applies to propellers with 3AF32C93 and 3AF32C505m hubs; 3AF34C92 and 3AF37C516 hubs; 3AF34C74 and 3AF37C510 hubs.

NOTE 6. Model 425 aircraft in compliance with Cessna Drawing 5700018 are eligible for certification in The Netherlands.

NOTE 7. Model 425 S/N 425-0001 through 425-0176 (Corsair) are eligible for the maximum weights and C.G. range applicable to S/N 425-0177 and up (Conquest I), when modified in accordance with Cessna Service Kit SK425-17, and will be renamed Conquest I.

NOTE 8. Production Certificate No. 4 effective at Serials 402C1005 and on, 414A1208 and on, 421C1801 and on, and 425-0228 and on.

.....END.....
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

TYPE CERTIFICATE DATA SHEET NO. 3A13

This data sheet which is part of Type Certificate No. 3A13 prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder
Cessna Aircraft Company
P. O. Box 7704
Wichita, Kansas 67277

WARNING: Use of alcohol-based fuels can cause serious performance degradation and fuel system component damage, and is therefore prohibited on Cessna airplanes.

I - Model 182, Skylane, 4 PCLM (Normal Category), Approved March 2, 1956

Engine
Continental O-470-L

*Fuel
80 minimum grade aviation gasoline

*Engine Limits
For all operations, 2600 r.p.m. (230 hp.)

Propeller and Propeller Limits
1. Hartzell constant speed
   (a) Hub HC82XF-1 or HCA2XF-1 or BHCA2XF-1 with 8433-2 blades
      Diameter: not over 82 in., not under 80 in.
      Pitch settings at 30 in. sta.:
      low 12°, high 24°
   (b) Cessna spinner 0752006
   (c) Woodward governor 210065, 210105, 210155 or 210340

2. McCauley constant speed
   (a) Hub 2A36C with blades 90M-8
      Diameter: not over 82 in., not under 80 in.
      Pitch settings at 36 in. sta.:
      low 10.5°, high 22°
   (b) Cessna spinner 0752004
   (c) Woodward governor 210065, 210105, 210155, 210345 or 210452,
      or McCauley C290D2/T1 or C290D3/T1
I - Model 182 (Cont’d)

Propeller and 3. Hartzell constant speed
Propeller Limits (cont’d) (a) Hub BHC-C2YF-1 with 8468-2 blades
Diameter: not over 82 in., not under 80 in.
Pitch settings at 30 in. sta.: 
  low 13°, high 24°
(b) Cessna spinner 0752619
(c) Woodward governor 210105AF, 210340 or 210451

4. McCauley constant speed
(a) Hub 2A34C with 90A-8 or 90AT-8 blades
Diameter: not over 82 in., not under 80 in.
Pitch settings at 36 in. sta.: 
  low 10.5°, high 21.5°
(b) Cessna spinner 0752004
(c) Woodward governor 210065, 210105, 210155, 210345 or 210452
   or McCauley C290D2/T1 or C290D3/T1

5. Aircraft reworked per Cessna Service Kit SK182-121:
McCauley constant speed (Threadless)
(a) Hub 2A34C203/90DCA-8 blades
Diameter: not over 82 in., not under 80.5 in.
Pitch settings at 30 in. sta.: 
  low 12.5°, high 25.0°
(b) Cessna spinner 0752004
(c) Woodward governor 210065, 210105, 210155, 210345, or 210452,
   or Garwin 34-828-01, or McCauley C290D2/T1 or C290D3/T1

*Airspeed Limits

| Maneuvering | 122 m.p.h. (106 knots) |
| Maximum structural cruising | 160 m.p.h. (139 knots) |
| Never exceed | 184 m.p.h. (160 knots) |
| Flaps extended | 100 m.p.h. (87 knots) |

C.G. Range
(+39.5) to (+45.8) at 2550 lb.
(+35.0) to (+45.8) at 2050 lb. or less
Straight line variation between points given

Empty Wt. C.G. Range
None

*Maximum Weight
2550 lb.

No. of Seats
4 (2 at +36, 2 at +70)

Maximum Baggage
120 lb. (+95)

Fuel Capacity
60 gal. (55 gal. usable); two 30 gal. tanks in wings at +48.
See NOTE 1 for data on unusable fuel

Oil Capacity
12 qt. (-15) (6 qt. usable)
See NOTE 1 for data on undrainable oil

Control Surface Movements

| Wing flaps | Takeoff |
| Retracted | 0° |
| 1st notch | 10° |
| 2nd notch | 20° |
| 3rd notch | 30° |
| 4th notch | 40° |

Ailerons
Up 20° ± 2°
Down 14° ± 2°

Adj. stabilizer
Up 1° 50’ ± 15’
Down 8° 20’ ± 15’

Elevator
Up 25° ± 1°
Down 22° 50’ ± 1°

(With stabilizer full down)

Rudder
Right 24° ± 1°
Left 24° ± 1°

Serial Nos. Eligible
Model 182: 613 and 33000 through 33842 (1956 Model)
## II - Model 182A, Skylane, 4 PCLM (Normal Category), Approved December 7, 1956

**Engine**  
Contientental O-470-L

**Fuel**  
80 minimum grade aviation gasoline

**Engine Limits**  
For all operations, 2600 r.p.m. (230 hp.)

| Propeller and Propeller Limits |  
|--------------------------------|---|
| 1. Hartzell constant speed |  
| (a) Hub HC82XF-1 or HCA2XF-1 or BHCA2XF-1 with 8433-2 blades |  
| Diameter: not over 82 in., not under 80 in. |  
| Pitch settings at 30 in. sta.: low 12°, high 24° |  
| (b) Cessna spinner 0752006 |  
| (c) Woodward governor 210065, 210105, 210155 or 210340 |  
| 2. McCauley constant speed |  
| (a) Hub 2A36C with 90M-8 blades |  
| Diameter: not over 82 in., not under 80 in. |  
| Pitch settings at 36 in. sta.: low 10.5°, high 22° |  
| (b) Cessna spinner 0752004 |  
| (c) Woodward governor 210065, 210105, 210155 or 210452, or McCauley C290D2/T1 or C290D3/T1 |  
| 3. Hartzell constant speed |  
| (a) Hub BHC-C2YF-1 with 8468-2 blades |  
| Diameter: not over 82 in., not under 80 in. |  
| Pitch settings at 30 in. sta.: low 13°, high 24° |  
| (b) Cessna spinner 0752619 |  
| (c) Woodward governor 210105AF, 210340 or 210451 |  
| 4. McCauley constant speed |  
| (a) Hub 2A34C with 90A-8 or 90AT-8 blades |  
| Diameter: not over 82 in., not under 80 in. |  
| Pitch settings at 36 in. sta.: low 10.5°, high 21.5° |  
| (b) Cessna spinner 0752004 |  
| (c) Woodward governor 210065, 210105, 210155, 210345, 210452, or McCauley C290D2/T1 or C290D3/T1 |  
| 5. Aircraft reworked per Cessna Service Kit SK182-121: McCauley constant speed (Threadless) |  
| (a) Hub 2A34C203/90DCA-8 blades |  
| Diameter: not over 82 in., not under 80.5 in. |  
| Pitch settings at 30 in. sta.: low 12.5°, high 25.0° |  
| (b) Cessna spinner 0752004 |  
| (c) Woodward governor 210065, 210105, 210155, 210345, or 210452, or Garwin 34-828-01, or McCauley C290D2/T1 or C290D3/T1 |  

**Airspeed Limits (CAS)**  
- Maneuvering: 122 m.p.h. (106 knots)  
- Maximum structural cruising: 160 m.p.h. (139 knots)  
- Never exceed: 184 m.p.h. (160 knots)  
- Flaps extended: 100 m.p.h. (87 knots)

**C.G. Range**  
(+40.0) to (+45.8) at 2650 lb.  
(+33.5) to (+45.8) at 2100 lb. or less  
Straight line variation between points given

**Empty Wt. C.G. Range**  
None

**Maximum Weight**  
2650 lb.

**No. of Seats**  
4 (2 at +36, 2 at +70)
II - Model 182A (cont’d)

Maximum Baggage 120 lb. (+95)

Fuel Capacity 65 gal. (55 gal. usable); two 32.5 gal. tanks in wings at +48
See NOTE 1 for data on unusable fuel

Oil Capacity 12 qt. (-15) (6 qt. usable)
See NOTE 1 for data on undrainable oil

Control Surface Movements

<table>
<thead>
<tr>
<th>Control Surface</th>
<th>Takeoff</th>
<th>Retracted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing flaps</td>
<td>0°</td>
<td>0°</td>
</tr>
<tr>
<td></td>
<td>1st notch 10°</td>
<td>10°</td>
</tr>
<tr>
<td></td>
<td>2nd notch 20°</td>
<td>20°</td>
</tr>
<tr>
<td></td>
<td>3rd notch 30°</td>
<td>30°</td>
</tr>
<tr>
<td></td>
<td>4th notch 40°</td>
<td>40°</td>
</tr>
</tbody>
</table>

Ailerons

Up 20° ± 2° Down 14° ± 2°

Adj. stabilizer

Up 1° 50° ± 15° Down 8° 20° ± 15°

Elevator

Up 25° ± 1° Down 22° 50° ± 1° (With stabilizer full down)

Rudder

Right 24° ± 1° Left 24° ± 1°

Serial Nos. Eligible

Model 182A: 33843 through 34753 (1957 Model)
Model 182A: 34755 through 34999 and 51001 through 51556 (1958 Model)

III - Model 182B, Skylane, 4 PCLM (Normal Category), Approved August 22, 1958

Engine Continental O-470-L

*Fuel 80 minimum octane aviation gasoline

*Engine Limits For all operations, 2600 r.p.m. (230 hp.)

Propeller and Propeller Limits

1. Hartzell constant speed
   (a) Hub HC82XF-1 or HCA2XF-1 or BHCA2XF-1 with 8433-2 blades Diameter: not over 82 in., not under 80 in.
      Pitch settings at 30 in. sta.:
      low 12°, high 24°
   (b) Cessna spinner 0752006
   (c) Woodward governor 210065, 210105, 210155, or 210340

2. McCauley constant speed
   (a) Hub 2A36C with 90M-8 blades Diameter: not over 82 in., not under 80 in.
      Pitch settings at 36 in. sta.:
      low 10.5°, high 22°
   (b) Cessna spinner 0752004
   (c) Woodward governor 210065, 210105, 210155, 210345, 210452, or McCauley C290D2/T1 or C290D3/T1

3. Hartzell constant speed
   (a) Hub BHC-C2YF-1 with 8468-2 blades Diameter: not over 82 in., not under 80 in.
      Pitch settings at 30 in. sta.:
      low 13°, high 24°
   (b) Cessna spinner 0752619
   (c) Woodward governor 210105AF, 210340, or 210451

4. McCauley constant speed
   (a) Hub 2A34C with 90A-8 or 90AT-8 blades Diameter: not over 82 in., not under 80 in.
      Pitch settings at 36 in. sta.:
      low 10.5°, high 21.5°
   (b) Cessna spinner 0752004
   (c) Woodward governor 210065, 210105, 210155, 210345, 210452, or McCauley C290D2/T1 or C290D3/T1
III - Model 182B, Skylane (Cont’d)

5. Aircraft reworked per Cessna Service Kit SK182-121:
   McCauley constant speed (Threadless)
   (a) Hub 2A34C203/90DCA-8 blades
       Diameter: not over 82 in., not under 80.5 in.
       Pitch settings at 30 in. sta.:
       low 12.5°, high 25.0°
   (b) Cessna spinner 0752004
   (c) Woodward governor 210065, 210105, 210155, 210345, or 210452,
       or Garwin 34-828-01, or McCauley C290D2/T1 or C290D3/T1

*Airspeed Limits  Maneuvering  122 m.p.h. (106 knots)
   (CAS)  Maximum structural cruising  160 m.p.h. (139 knots)
   Never exceed  184 m.p.h. (160 knots)
   Flaps extended  100 m.p.h. (87 knots)

C.G. Range  (+40.0) to (+45.8) at 2650 lb.
   (+33.5) to (+45.8) at 2100 lb. or less
   Straight line variation between points given

Empty Wt. C.G. Range  None

*Maximum Weight  2650 lb.

No. of Seats  4 (2 at +36, 2 at +70)

Maximum Baggage  120 lb. (+95)

Fuel Capacity  65 gal. (55 gal. usable); two 32.5 gal. tanks in wings at +48
   See NOTE 1 for data on unusable fuel

Oil Capacity  12 qt. (-15) (6 qt. usable)
   See NOTE 1 for data on undrainable oil

Control Surface  Wing flaps  Takeoff
   Movements  Retracted  0°
   1st notch  10°
   2nd notch  20°
   3rd notch  30°
   4th notch  40°

   Landing
   Ailerons  Up  20° + 2°
             Down  14° + 2°
   Adj. stabilizer  Up  1° 50' + 15'
                     Down  8° 20° + 15'
   Elevator  Up  25° + 1°
            Down  22° 50° + 1°
   (With stabilizer full down)
   Rudder  Right  24° + 1°
            Left  24° + 1°

Serial Nos. Eligible  Model 182B: 34754, 51557 through 52358 except 51623 (1959 Model)

IV - Model 182C, Skylane, 4 PCLM (Normal Category), Approved July 8, 1959
   Model 182D, Skylane, 4 PCLM (Normal Category), Approved June 14, 1960

Engine  Continental O-470-L

*Fuel  80 minimum octane aviation gasoline

*Engine Limits  For all operations, 2600 r.p.m. (230 hp.)
IV - Model 182C, Model 182D (cont’d)

Propeller and Propeller Limits

1. Hartzell constant speed
   (a) Hub HC82XF-1 or HCA2XF-1 or BHCA2XF-1 with 8433-2 blades
   Diameter: not over 82 in., not under 80 in.
   Pitch settings at 30 in. sta.:
     low 12°, high 24°
   (b) Cessna spinner 0752006
   (c) Woodward governor 210065, 210105, 210155, or 210340

2. McCauley constant speed
   (a) Hub 2A36C with 90M-8 blades
     Diameter: not over 82 in., not under 80 in.
     Pitch settings at 36 in. sta.:
     low 10.5°, high 22°
   (b) Cessna spinner 0752004
   (c) Woodward governor 210065, 210105, 210155, 210345, 210452,
       or McCauley C290D2/T1 or C290D3/T1

3. Hartzell constant speed
   (a) Hub BHC-C2YF-1 with 8468-2 blades
     Diameter: not over 82 in., not under 80 in.
     Pitch settings at 30 in. sta.:
     low 13°, high 24°
   (b) Cessna spinner 0752619
   (c) Woodward governor 210105AF, 210340, or 210451

4. McCauley constant speed
   (a) Hub 2A34C with 90A-8 or 90AT-8 blades
     Diameter: not over 82 in., not under 80 in.
     Pitch settings at 36 in. sta.:
     low 10.5°, high 21.5°
   (b) Cessna spinner 0752004
   (c) Woodward governor 210065, 210105, 210155, 210345, 210452,
       or McCauley C290D2/T1 or C290D3/T1

5. Aircraft reworked per Cessna Service Kit SK182-121:
   McCauley constant speed (Threadless)
   (a) Hub 2A34C203/90DCA-8 blades
     Diameter: not over 82 in., not under 80.5 in.
     Pitch settings at 30 in. sta.:
     low 12.5°, high 25.0°
   (b) Cessna spinner 0752004
   (c) Woodward governor 210065, 210105, 210155, 210345, 210452,
       or Garwin 34-828-01, or McCauley C290D2/T1 or C290D3/T1

*Airspeed Limits

| (CAS)          | Maneuvering: 122 m.p.h. (106 knots) |
|               | Maximum structural cruising: 160 m.p.h. (139 knots) |
|               | Never exceed: 184 m.p.h. (160 knots) |
|               | Flaps extended: 100 m.p.h. (87 knots) |

C.G. Range

(+40.0) to (+45.8) at 2650 lb.
(+33.5) to (+45.8) at 2100 lb. or less
Straight line variation between points given

Empty Wt. C.G. Range

None

*Maximum Weight

2650 lb.

No. of Seats

4 (2 at +36, 2 at +70)

Maximum Baggage

120 lb. (+95)

Fuel Capacity

65 gal. (55 gal. usable); two 32.5 gal. tanks in wings at +48
See NOTE 1 for data on unusable fuel

Oil Capacity

12 qt. (-15) (6 qt. usable)
See NOTE 1 for data on undrainable oil
IV - Model 182C, Model 182D (cont’d)

<table>
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<th>Takeoff</th>
<th>0°, 10°, 20°</th>
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<tr>
<td>Adj. stabilizer</td>
<td>Up</td>
<td>0° 45'</td>
<td>8° 45'</td>
</tr>
<tr>
<td>Elevator</td>
<td>Up</td>
<td>25°</td>
<td>22° 50'</td>
</tr>
<tr>
<td>(With stabilizer full down)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rudder</td>
<td>Right</td>
<td>24°</td>
<td>24°</td>
</tr>
<tr>
<td>(measured parallel to 0.0.W.L.)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Serial Nos. Eligible
Model 182C: 631, 52359 through 53007 (1960 Model)
Model 182D: 51623, 18253008 through 18253598 (1961 Model)

V - Model 182E, Skylane, 4 PCLM (Normal Category), Approved June 27, 1961
Model 182F, Skylane, 4 PCLM (Normal Category), Approved August 1, 1962
Model 182G, Skylane, 4 PCLM (Normal Category), Approved July 19, 1963

Engine  Continental O-470-L or O-470-R
Fuel  80/87 minimum grade aviation gasoline
Engine Limits  For all operations, 2600 r.p.m. (230 hp.)

Propeller and Propeller Limits

1. Hartzell constant speed
   (a) Hub HC82XF-1 or HCA2XF-1 or BHCA2XF-1 with 8433-2 blades
       Diameter: not over 82 in., not under 80 in.
       Pitch settings at 30 in. sta.:
       - low 12°, high 24°
       (b) Cessna spinner 0752006
       (c) Woodward governor 210065, 210105, 210155, or 210340
           (Not eligible on O-470-R engine installation)

2. McCauley constant speed
   (a) Hub 2A36C with 90M-8 blades
       Diameter: not over 82 in., not under 80 in.
       Pitch settings at 36 in. sta.:
       - low 10.5°, high 22°
       (b) Cessna spinner 0752004
       (c) Woodward governor 210065, 210105, 210155, 210345, or 210452,
           or McCauley C290D2/T1 or C290D3/T1

3. Hartzell constant speed
   (a) Hub HBC-C2YF-1 with 8468-2 blades
       Diameter: not over 82 in., not under 80 in.
       Pitch settings at 30 in. sta.:
       - low 13°, high 24°
       (b) Cessna spinner 0752619
       (c) Woodward governor 210105AF, 210340, or 210451

4. McCauley constant speed
   (a) Hub 2A34C with 90A-8 or 90AT-8 blades
       Diameter: not over 82 in., not under 80 in.
       Pitch settings at 36 in. sta.:
       - low 10.5°, high 21.5°
       (b) Cessna spinner 0752004
       (c) Woodward governor 210065, 210105, 210155, 210345, or 210452,
           or Garwin 34-828-01, or McCauley C290D2/T1 or C290D3/T1
V - Model 182E, Model 182F, Model 182G (cont’d)

5. Aircraft reworked per Cessna Service Kit SK182-121:
   McCauley constant speed (Threadless)
   (a) Hub 2A34C203/90DCA-8 blades
       Diameter: not over 82 in., not under 80.5 in.
       Pitch settings at 30 in. sta.:
       low 12.5°, high 25.0°
   (b) Cessna spinner 0752004
   (c) Woodward governor 210065, 210105, 210155, 210345, or 210452,
       or Garwin 34-828-01, or McCauley C290D2/T1 or C290D3/T1

*Airspeed Limits
   (CAS)
   Maneuvering 128 m.p.h. (111 knots)
   Maximum structural cruising 160 m.p.h. (139 knots)
   Never exceed 193 m.p.h. (168 knots)
   Flaps extended 110 m.p.h. (96 knots)

C.G. Range
   (+38.4) to (+47.4) at 2800 lb.
   (+33.0) to (+47.4) at 2250 lb. or less
   Straight line variation between points given

Empty Wt. C.G. Range None

*Maximum Weight 2800 lb.

No. of Seats 4 (2 at +36, 2 at +71)

Maximum Baggage 120 lb. (+97)

Fuel Capacity 65 gal. (60 gal. usable); two 32.5 gal. tanks in wings at +48
   See NOTE 1 for data on unusable fuel

Oil Capacity 12 qt. (-15) (6 qt. usable)
   See NOTE 1 for data on undrainable oil

Control Surface
   Wing flaps 40° +1°, -2°
   Elevator tab Up 25° +2° Down 15° +1°
   Ailerons Up 20° +2° Down 15° +2°
   Elevator (relative to stabilizer) Up 26° +1° Down 17° +1°
   Rudder Right 24° +1° Left 24° +1°

Serial Nos. Eligible
   Model 182E: 18253599 through 18254423 (1962 Model)
   Model 182F: 18254424 through 18255058 (1963 Model)
   Model 182G: 18255059 through 18255844 (1964 Model)

VI - Model 182H, Skylane, 4 PCLM (Normal Category), Approved September 17, 1964
   Model 182I, Skylane, 4 PCLM (Normal Category), Approved October 20, 1965
   Model 182K, Skylane, 4 PCLM (Normal Category), Approved August 3, 1966
   Model 182L, Skylane, 4 PCLM (Normal Category), Approved July 28, 1967

   Engine Continental O-470-R

*Fuel 80/87 minimum grade aviation gasoline

*Engine Limits For all operations, 2600 r.p.m. (230 hp.)
VI - Model 182H, Model 182J, Model 182K, Model 182L (cont’d)

1. McCauley constant speed
   (a) Hub 2A34C66/90AT-8 blades
      Diameter: not over 82 in., not under 80 in.
      Pitch settings at 36 in. sta.:
      low 10.5°, high 22°
   (b) Cessna spinner 0752637
   (c) Woodward governor 210065, 210105, 210155, 210345, or 210452,
      or Garwin 34-828-01, or McCauley C290D2/T1 or C290D3/T1

2. Aircraft reworked per Cessna Service Kit SK182-121:
   McCauley constant speed (Threadless)
   (a) Hub 2A34C203/90DCA-8 blades
      Diameter: not over 82 in., not under 80.5 in.
      Pitch settings at 30 in. sta.:
      low 12.5°, high 25.0°
   (b) Cessna spinner 0752637
   (c) Woodward governor 210065, 210105, 210155, 210345, or 210452,
      or Garwin 34-828-01, or McCauley C290D2/T1 or C290D3/T1

*Airspeed Limits Maneuvering 128 m.p.h. (111 knots)
(CAS) Maximum structural cruising 160 m.p.h. (139 knots)
Never exceed 193 m.p.h. (168 knots)
Flaps extended 110 m.p.h. (96 knots)

C.G. Range (+38.4) to (+47.4) at 2800 lb.
(+33.0) to (+47.4) at 2250 lb. or less
Straight line variation between points given

Empty Wt. C.G. Range None

*Maximum Weight 2800 lb.

No. of Seats 4 (2 at +36, 2 at +71)

Maximum Baggage 120 lb. (+97)

Fuel Capacity 65 gal. (60 gal. usable); two 32.5 gal. tanks in wings at +48
See NOTE 1 for data on unusable fuel

Oil Capacity 12 qt. (-15) (6 qt. usable)
See NOTE 1 for data on undrainable oil

Control Surface
Wing flaps 40° ±1°, -2°
Elevator tab Up 25° ±2° Down 15° ±1°
Ailerons Up 20° ±2° Down 15° ±2°
Elevator (relative to stabilizer) Up 26° ±1° Down 17° ±1°
Rudder Right 24° ±1° Left 24° ±1°

Serial Nos. Eligible
Model 182H: 634, 18255846 through 18256684 (1965 Model)
Model 182J: 18256685 through 18257625 (1966 Model)
Model 182K: 18255845, 18257626 through 18257698, 18257700 through 18258505
(1967 Model)
Model 182L: 18258506 through 18259305 (1968 Model)

VII - Model 182M, Skylane, 4 PCLM (Normal Category), Approved September 19, 1968

Engine Continental O-470-R

*Fuel 80/87 minimum grade aviation gasoline

*Engine Limits For all operations, 2600 r.p.m. (230 hp.)
**VII - Model 182M**  
(cont’d)

### Propeller limits

1. **McCaulay constant speed**
   - (a) **Hub 2A34C66/90AT-8 blades**
     - Diameter: not over 82 in., not under 80 in.
     - Pitch settings at 36 in. sta.:
       - low 10.5°, high 22°
   - (b) **Cessna spinner 0752637**
   - (c) **Woodward governor 210065, 210105, 210155, 210345, or 210452, or Garwin 34-828-01, or McCaulay C290D2/T1 or C290D3/T1**

2. **McCaulay constant speed**
   - (a) **Hub 2A34C201/90DA-8 blades**
     - Diameter: not over 82 in., not under 80 in.
     - Pitch settings at 30 in. sta.:
       - low 13°, high 24.5°
   - (b) **Cessna spinner 0752637**
   - (c) **Woodward governor 210065, 210105, 210155, 210345, or 210452, or Garwin 34-828-01, or McCaulay C290D2/T1 or C290D3/T1**

3. **McCaulay constant speed**
   - (a) **Hub 2A34C203/90DCA-8 blades**
     - Diameter: not over 82 in., not under 80.5 in.
     - Pitch settings at 30 in. sta.:
       - low 12.5°, high 25°
   - (b) **Cessna spinner 0752637**
   - (c) **Woodward governor 210065, 210105, 210155, 210345, or 210452, or Garwin 34-828-01, or McCaulay C290D2/T1 or C290D3/T1**

### *Airspeed Limits*  
(CAS)

- **Maneuvering** 128 m.p.h. (111 knots)
- **Maximum structural cruising** 160 m.p.h. (139 knots)
- **Never exceed** 193 m.p.h. (168 knots)
- **Flaps extended** 110 m.p.h. (96 knots)

### C.G. Range

- (+38.4) to (+47.4) at 2800 lb.
- (+33.0) to (+47.4) at 2250 lb. or less
- Straight line variation between points given

### Empty Wt. C.G. Range

None

### *Maximum Weight

2800 lb.

### No. of Seats

4 (2 at +36, 2 at +71)

### Maximum Baggage

120 lb. (+97)

### Fuel Capacity

65 gal. (60 gal. usable); two 32.5 gal. tanks in wings at +48

See NOTE 1 for data on unusable fuel

### Oil Capacity

12 qt. (-15) (6 qt. usable)

See NOTE 1 for data on undrainable oil

### Control Surface Movements

<table>
<thead>
<tr>
<th>Wing flaps</th>
<th>40° ±1°, -2°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevator</td>
<td>Up 25° ±2°</td>
</tr>
<tr>
<td>Ailerons</td>
<td>Up 20° ±2°</td>
</tr>
<tr>
<td>Elevator(relative to stabilizer)</td>
<td>Up 26° ±1°</td>
</tr>
<tr>
<td>Rudder</td>
<td>Right 24° ±1°</td>
</tr>
</tbody>
</table>

### Serial Nos. Eligible

Model 182M: 18257699, 18259306 through 18260055 (1969 Model)
VIII - Model 182N, Skylane, 4 PCLM (Normal Category), Approved September 17, 1969

**Engine**
Continental O-470-R
Continental O-470-S (See NOTE 4)

**Fuel**
80/87 minimum grade aviation gasoline

**Engine Limits**
For all operations, 2600 r.p.m. (230 hp.)

**Propeller and Propeller Limits**

1. McCauley constant speed
   (a) Hub 2A34C201/90DA-8 blades
      Diameter: not over 82 in., not under 80 in.
      Pitch settings at 30 in. sta.:
      low 13°, high 24.5°
   (b) Cessna spinner 0752637
   (c) Woodward governor 210065, 210105, 210155, 210345, or A210452,
      or Garwin 34-828-01-2A, or McCauley C290D2/T1 or C290D3/T1

2. McCauley constant speed
   (a) Hub 2A34C66/90AT-8 blades
      Diameter: not over 82 in., not under 80 in.
      Pitch settings at 36 in. sta.:
      low 10.5°, high 22°
   (b) Cessna spinner 0752637
   (c) Woodward governor 210065, 210105, 210155, 210345, or 210452,
      or Garwin 34-828-01, or McCauley C290D2/T1 or C290D3/T1

3. McCauley constant speed
   (a) Hub 2A34C203/90DCA-8 blades
      Diameter: not over 82 in., not under 80.5 in.
      Pitch settings at 30 in. sta.:
      low 12.5°, high 25°
   (b) Cessna spinner 0752637
   (c) Woodward governor 210065, 210105, 210155, 210345, or 210452,
      or Garwin 34-828-01-2A, or McCauley C290D2/T1 or C290D3/T1

**Airspeed Limits**

- Maneuvering 131 m.p.h. (114 knots)
- Maximum structural cruising 160 m.p.h. (139 knots)
- Never exceed 198 m.p.h. (172 knots)
- Flaps extended 110 m.p.h. (96 knots)

**C.G. Range**
(+39.9) to (+47.4) at 2950 lb.
(+38.4) to (+47.4) at 2800 lb.
(+33.0) to (+47.4) at 2250 lb. or less
Straight line variation between points given

**Empty Wt. C.G. Range**
None

**Maximum Weight**
2950 lb. takeoff only, 2800 lb. landing

**No. of Seats**
4 Front standard (2 at +36 to +49)
Optional (2 at +32 to +44)
Rear (2 at +74)

**Maximum Baggage**
120 lb. (+97) (S/N 18260056 through 18260445)
120 lb. (+97) and 80 lb. (+117) (S/N 18260446 and up)

**Fuel Capacity**
65 gal. (60 gal. usable); two 32.5 gal. tanks in wings at +48
See NOTE 1 for data on unusable fuel

**Oil Capacity**
12 qt. (-15) (6 qt. usable)
See NOTE 1 for data on undrainable oil
VIII - Model 182N  (cont’d)

<table>
<thead>
<tr>
<th>Control Surface</th>
<th>Wing flaps</th>
<th>Movement</th>
<th>Movement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movements</td>
<td>Down</td>
<td>40° +1°, -2°</td>
<td>Up 25° +2°</td>
</tr>
<tr>
<td>Elevator tab</td>
<td>Up</td>
<td>25° +1°, Down 15° +1°</td>
<td></td>
</tr>
<tr>
<td>Ailerons</td>
<td>Up</td>
<td>20° +2°, Down 15° +2°</td>
<td></td>
</tr>
<tr>
<td>Elevator (rel. to stabilizer)</td>
<td>Up</td>
<td>26° +1°, Down 17° +1°</td>
<td></td>
</tr>
<tr>
<td>Rudder (parallel to 0.00 W.L.)</td>
<td>Right</td>
<td>24° +1°, Left 24° +1°</td>
<td></td>
</tr>
<tr>
<td>Rudder (perpendicular to hinge line)</td>
<td>Right</td>
<td>27° 13’ +1°, Left 27° 13’ +1°</td>
<td></td>
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IX - Model 182P, Skylane, 4 PCLM (Normal Category), Approved October 8, 1971

Engine
Continental O-470-R, Aircraft S/N 18260826 through 18263475
Continental O-470-S, Aircraft S/N 18260826 and up (See NOTE 4)

*Fuel 80/87 minimum grade aviation gasoline

*Engine Limits For all operations, 2600 r.p.m. (230 hp.)

Propeller and Propeller Limits
1. McCauley constant speed
   (a) Hub 2A34C201/90DA-8 blades
       Diameter: not over 82 in., not under 80 in.
       Pitch settings at 30 in. sta.:
           low 13°, high 24.5°
       (b) Cessna spinner 0752637
       (c) Woodward governor 210065, 210105, 210155, 210345, or A210452,
           or Garwin 34-828-01-2A, or McCauley C290D2/T1 or C290D3/T1

2. McCauley constant speed
   (a) Hub 2A34C66/90AT-8 blades
       Diameter: not over 82 in., not under 80 in.
       Pitch settings at 36 in. sta.:
           low 10.5°, high 22°
       (b) Cessna spinner 0752637
       (c) Woodward governor 210065, 210105, 210155, 210345, or 210452,
           or Garwin 34-828-01, or McCauley C290D2/T1 or C290D3/T1

3. McCauley constant speed
   (a) Hub 2A34C203/90DCA-8 blades
       Diameter: not over 82 in., not under 80.5 in.
       Pitch settings at 30 in. sta.:
           low 12.5°, high 25°
       (b) Cessna spinner 0752637
       (c) Woodward governor 210065, 210105, 210155, 210345, or 210452,
           or Garwin 34-828-01, or McCauley C290D2/T1 or C290D3/T1

*Airspeed Limits (S/N 675, 18260826 through 18264295)
(CAS) Maneuvering 126 m.p.h. (109 knots)
Maximum structural cruising 160 m.p.h. (139 knots)
Never exceed 198 m.p.h. (172 knots)
Flaps extended 110 m.p.h. (96 knots)

*Airspeed Limits (S/N 18264296 through 18265175)
(See NOTE 5 on use of IAS)
(CAS) Maneuvering 110 knots
Maximum structural cruising 141 knots
Never exceed 176 knots
Flaps extended 95 knots

C.G. Range (+39.5) to (+48.5) at 2950 lb.
(+33.0) to (+48.5) at 2250 lb. or less
Straight line variation between points given
IX - Model 182P, Skylane (Cont’d)

Empty Wt. C.G. Range

None

Maximum Weight

2950 lb.

No. of Seats

4 (2 front at +32.0 to +50.0)
(2 rear at +74)

Maximum Baggage

Serial Numbers 18260826 through 18263475
200 lb. (120 lb. at + 82.0 to +108.0)
(80 lb. at +108.0 to +124.0)
Serial Numbers 675 and 18263476 through 18265175
200 lb. (120 lb. at + 82.0 to +108.0)
(80 lb. at +108.0 to +136.0)

Fuel Capacity

(S/N 675, 18260826 through 18262250)
Standard Range Tanks:
65 gal. (60 gal. usable); two 32.5 gal. tanks in wings at +48
Long Range Tanks:
84 gal. (79 gal. usable); two 42.0 gal. tanks in wings at +48
(S/N 18262251 through 18265175)
Standard Range Tanks:
61 gal. (56 gal. usable); two 29 gal. tanks in wings at +48
Long Range Tanks:
80 gal. (75 gal. usable); two 37 gal. tanks in wings at +48

See NOTE 1 for data on unusable fuel

Oil Capacity

12 qt. (-15) (6 qt. usable)

See NOTE 1 for data on undrainable oil

Control Surface

Wing flaps
Elevator tab
Ailerons
Elevator (rel. to stabilizer)
Rudder (parallel to 0.00 W.L.)
Rudder (perpendicular to hinge line)

<table>
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<tr>
<th>Movement</th>
<th>Up</th>
<th>Down</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing flaps</td>
<td>40° +1°, -2°</td>
<td></td>
</tr>
<tr>
<td>Elevator tab</td>
<td>25° ±2°</td>
<td></td>
</tr>
<tr>
<td>Ailerons</td>
<td>20° ±2°</td>
<td></td>
</tr>
<tr>
<td>Elevator (rel. to stabilizer)</td>
<td>26° ±1°</td>
<td></td>
</tr>
<tr>
<td>Rudder (parallel to 0.00 W.L.)</td>
<td>24° ±1°</td>
<td></td>
</tr>
<tr>
<td>Rudder (perpendicular to hinge line)</td>
<td>27° 13' ±1°</td>
<td></td>
</tr>
</tbody>
</table>

Serial Nos. Eligible

Model 182P: 18260826 through 18261425 (1972 Model)
18261426 through 18262465 (1973 Model)
18262466 through 18263475 (1974 Model)
675, 18263476 through 18264295 except 18263479 (1975 Model)
18264296 through 18265175 (1976 Model)

X - Model 182Q, Skylane, 4 PCLM (Normal Category), Approved July 28, 1976

Engine

Continental O-470-U

*Fuel

100/130 minimum aviation grade gasoline (S/N 18265176 through 18265965)
100LL/100 aviation grade gasoline (S/N 18265966 through 18267715)

*Engine Limits

For all operations, 2400 r.p.m. (230 hp.)

Propeller and Propeller Limits

McCauley constant speed

(a) Hub C2A34C204/90DCB-8 blades
Diameter: not over 82 in., not under 80.5 in.
Pitch settings at 30 in. sta.:
low 15°, high 29.4°
(b) Cessna spinner 0752637
(c) McCauley governor C290D3/T14
### X - Model 182Q (cont’d)

<table>
<thead>
<tr>
<th><strong>Airspeed Limits</strong></th>
<th>Maneuvering</th>
<th>111 knots</th>
</tr>
</thead>
<tbody>
<tr>
<td>(IAS)</td>
<td>Maximum structural cruising</td>
<td>143 knots</td>
</tr>
<tr>
<td>(See NOTE 5 on use of IAS)</td>
<td>Never exceed</td>
<td>179 knots</td>
</tr>
<tr>
<td></td>
<td>Flaps extended</td>
<td>95 knots</td>
</tr>
</tbody>
</table>

| **C.G. Range**     | (+39.5) to (+48.5) at 2950 lb. |
|                    | (+33.0) to (+48.5) at 2250 lb. or less |
|                    | Straight line variation between points given |

Empty Wt. C.G. Range

Maximum Baggage

Fuel Capacity

Oil Capacity

Control Surface Movements

<table>
<thead>
<tr>
<th>Wing flaps</th>
<th>Up</th>
<th>25° ±2°</th>
<th>Down</th>
<th>40° ±1°, -2°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevator tab</td>
<td>Up</td>
<td>20° ±2°</td>
<td>Down</td>
<td>15° ±1°</td>
</tr>
<tr>
<td>Ailerons</td>
<td>Up</td>
<td>25° ±1°</td>
<td>Down</td>
<td>15° ±2°</td>
</tr>
<tr>
<td>Elevator (rel. to stabilizer)</td>
<td>Up</td>
<td>26° ±1°</td>
<td>Down</td>
<td>17° ±1°</td>
</tr>
<tr>
<td>(perpendicular to hinge line)</td>
<td>Right</td>
<td>24° ±1°</td>
<td>Left</td>
<td>24° ±1°</td>
</tr>
</tbody>
</table>

Serial Nos. Eligible

Model 182Q: 18265176 through 18265965 (1977 Model)
18263479, 18265176 through 18266590 (1978 Model)
18266591 through 18267300 (1979 Model)
18267301 through 18267715, except 18267302 (1980 Model)

### XI - Model R182, Skylane RG, 4 PCLM (Normal Category), Approved July 7, 1977

Model TR182, Turbo Skylane RG, 4 PCLM (Normal Category), Approved September 12, 1978

#### Model R182

<table>
<thead>
<tr>
<th><strong>Engine</strong></th>
<th>Lycoming O-540-J3C5D, rated at 235 hp.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fuel</strong></td>
<td>100LL/100 aviation grade gasoline</td>
</tr>
<tr>
<td><strong>Engine Limits</strong></td>
<td>Full throttle for all operations, 2400 r.p.m.</td>
</tr>
</tbody>
</table>
XI - Model R182, Model TR182, Turbo Skylane RG  (cont’d)

Propeller and Propeller Limits

1. McCauley constant speed (S/N R18200002 through R18201313)
   (a) Hub B2D34C214/90DHB-8 blades
       Diameter: not over 82 in., not under 80.5 in.
       Pitch settings at 30 in. sta.:
          low 15.8°, high 29.4°
   (b) Cessna prop & spinner installation 2250003
       Cessna spinner installation 1750050
   (c) McCauley governor C290D3/T16

2. McCauley constant speed (S/N R18201314 and on)
   (a) Hub B2D34C218/90DHB-8 blades
       Diameter: not over 82 in., not under 80.5 in.
       Pitch settings at 30 in. sta.:
          low 15.8°, high 29.4°
   (b) Cessna prop & spinner installation 2250124
       Cessna spinner installation 2250123
   (c) McCauley governor C290D3/T22
     (d) McCauley governor DC290D1/T8

3. McCauley constant speed (S/N R18201629 through R18202041 and aircraft reworked per SK182-71)
   (a) Hub B3D32C407/82NDA-3 blades
       Diameter: not over 79 in., not under 78 in.
       Pitch settings at 30 in. sta.:
          low 16.0°, high 31.7°
   (b) Cessna prop & spinner installation 2252076
       Cessna spinner installation 2252074
   (c) McCauley governor C290D3/T22
     (d) McCauley governor DC290D1/T8

Model TR182

Engine

Lycoming O-540-L3C5D, rated at 235 hp.
(Turbocharged in accordance with Cessna Drawing No. 2250065)

*Fuel

100LL/100 aviation grade gasoline

*Engine Limits

For all operations, 2400 r.p.m., 31 in. hg. mp.

Propeller and Propeller Limits

1. McCauley constant speed (S/N R18200001, R18200584 through R18201313)
   (a) Hub B2D34C217/90DHB-8 blades
       Diameter: not over 82 in., not under 80.5 in.
       Pitch settings at 30 in. sta.:
          low 15.8°, high 31.9°
   (b) Cessna prop & spinner installation 2250003
       Cessna spinner installation 1750050
   (c) McCauley governor C290D3/T21

2. McCauley constant speed (S/N R18201314 and on)
   (a) Hub B2D34C219/90DHB-8 blades
       Diameter: not over 82 in., not under 80.5 in.
       Pitch settings at 30 in. sta.:
          low 15.8°, high 31.9°
   (b) Cessna prop & spinner installation 2250124
       Cessna spinner installation 2250123
   (c) McCauley governor C290D3/T22
     (d) McCauley governor DC290D1/T8
**Model TR182 (cont'd)**

Propeller and Propeller Limits (cont'd)

3. McCauley constant speed (S/N R18201315, R18201629 and on and aircraft reworked per SK182-71 or SK182-72)
   
   (a) Hub B3D32C407/82NDA-3 blades
       Diameter: not over 79 in., not under 78 in.
       Pitch settings at 30 in. sta.:
       low 16.0°, high 31.7°
       
   (b) Cessna prop & spinner installation 2252076
       Cessna spinner installation 2252074
   
   (c) McCauley governor C290D3/T22
   
   (d) McCauley governor DC290D1/T8

**Models R182, TR182**

*Airspeed Limits*

(See NOTE 5 on use of IAS)

1978 Model R182

- Maneuvering: 112 knots
- Maximum structural cruising: 143 knots
- Never exceed: 182 knots
- Flaps extended: 95 knots
- Landing gear extension: 140 knots

1979 Model R182

- Maneuvering: 112 knots
- Maximum structural cruising: 160 knots
- Never exceed: 182 knots
- Flaps extended: 95 knots
- Landing gear extension: 140 knots

Model TR182

- Maneuvering: 112 knots
- Maximum structural cruising: 157 knots
- Never exceed: 179 knots
- Flaps extended: 95 knots
- Landing gear extension: 140 knots

1980 and up Model R182

- Maneuvering: 112 knots
- Maximum structural cruising: 159 knots
- Never exceed: 181 knots
- Flaps extended: 95 knots
- Landing gear extension: 140 knots

Model TR182

- Maneuvering: 112 knots
- Maximum structural cruising: 157 knots
- Never exceed: 178 knots
- Flaps extended: 95 knots
- Landing gear extension: 140 knots

**C.G. Range**

(a) S/N R18200001 through R18201628 except R18200975 & R18201315

- (+40.9) to (+47.0) at 3100 lb.
- (+35.5) to (+47.0) at 2700 lb.
- (+33.0) to (+47.0) at 2250 lb. or less

- Straight line variation between points given
- Moment change due to retracting gear (+3052 in.-lb.)

(b) S/N R18200975, R18201315, R18201629 through R18202041

- (+40.9) to (+46.0) at 3100 lb.
- (+35.5) to (+46.0) at 2700 lb.
- (+33.0) to (+46.0) at 2250 lb. or less

- Straight line variation between points given
- Moment change due to retracting gear (+3052 in.-lb.)

**Empty Wt. C.G. Range**

None

*Maximum Weight*

3100 lb.

**No. of Seats**

4 (2 front at +32.0 to +50.0)
(2 rear at +74.0)

**Maximum Baggage**

200 lb. (120 lb. at +82.0 to +110.0)
( 80 lb. at +110.0 to +134.0)
XI - Model R182, Model TR182  (cont’d)

Fuel Capacity
(a) S/N R18200002 through R18200583
Standard Range Tanks:
61 gal. (56 gal. usable); two 30.5 gal. tanks in wings at +48
Long Range Tanks:
80 gal. (75 gal. usable); two 40.0 gal. tanks in wings at +48
(b) S/N R18200001, R18200584 through R18202041
92 gal. (88 gal. usable); two 46.0 gal. integral tanks
in wings at +46.5

See NOTE 1 for data on unusable fuel

Oil Capacity
9 qt. (-14.8)  
See NOTE 1 for data on oil

Control Surface Movements
(a) S/N R18200001 through R18201628 except R18200975 & R18201315
Wing flaps  
Elevator tab  Up  25° ±2°  Down  15° ±1°
Ailerons  Up  20° ±2°  Down  15° ±2°
Elevator (rel. to stabilizer)  Up  28° ±1°  Down  17° ±1°
Rudder (parallel to 0.00 W.L.)  Right  24° ±1°  Left  24° ±1°
(Perpendicular to hinge line)  Right  27°13’ ±1°  Left  27°13’ ±1°
(b) S/N R18200975, R18201629 through R18201798
Wing flaps  
Elevator tab  Up  24° ±2°  Down  15° ±1°
Ailerons  Up  20° ±2°  Down  15° ±2°
Elevator (rel. to stabilizer)  Up  28° ±1°  Down  21° ±1°
Rudder (parallel to 0.00 W.L.)  Right  24° ±0°, -1°  Left  24° ±0°, -1°
(Perpendicular to hinge line)  Right  27°13’ ±0°, -1°  Left  27°13’ ±0°, -1°
(c) S/N R18201315, R18201799 through R18202041
Wing flaps  
Elevator tab  Up  24° ±2°  Down  15° ±1°
Ailerons  Up  20° ±1°  Down  15° ±2°
Elevator (rel. to stabilizer)  Up  28° ±1°  Down  21° ±1°
Rudder (parallel to 0.00 W.L.)  Right  24° ±0°, -1°  Left  24° ±0°, -1°
(Perpendicular to hinge line)  Right  27°13’ ±0°, -1°  Left  27°13’ ±0°, -1°

Serial Nos. Eligible
Model  R182:  R18200002 through R18200583  (1978 Model)
Model  R182/TR182:  R18200001, R18200584 through R18201313  (1979 Model)
Model  R182/TR182:  R18201314 through R18201628  (1980 Model)
Model  R182/TR182:  R18201629 through R18201798  (1981 Model)
Model  R182/TR182:  R18201799 through R18201928  (1982 Model)
Model  R182/TR182:  R18201929 through R18201973  (1983 Model)
Model  R182/TR182:  R18201974 through R18201999  (1984 Model)
Model  R182/TR182:  R18201315, R18202000 through R18202031  (1985 Model)
Model  R182/TR182:  R18202032 through R18202041  (1986 Model)

XII - Model 182R, 4 PCLM (Normal Category), Approved August 29, 1980
Model T182, 4 PCLM (Normal Category), Approved August 15, 1980

Model 182R

Engine  Continental O-470-U

*Fuel  100LL/100 aviation grade gasoline

*Engine Limits  For all operations, 2400 r.p.m. (230 hp.)
Model 182R (cont'd)
Propeller and
Propeller Limits
McCaughey constant speed
(a) Hub C2A34C204/90DCB-8
Diameter: not over 82 in., not under 80.5 in.
Pitch settings at 30 in. sta.:
low 15°, high 29.4°
(b) Cessna spinner 0752637
(c) McCaughey governor C290D3/T14

Model T182
Engine
Lycoming 0-540-L3C5D, rated at 235 hp.
(Turbocharged in accordance with Cessna Drawing No. 2250065)

*Fuel
100LL/100 aviation grade gasoline

*Engine Limits
For all operations, 2400 r.p.m., 31 in. Hg. mp.

Propeller and
Propeller Limits
1. McCauley constant speed
(a) Hub B2D34C219/90DHB-8
Diameter: not over 82 in., not under 80.5 in.
Pitch settings at 30 in. sta.:
low 15.8°, high 31.9°
(b) Cessna spinner 2250124
(c) McCauley governor C290D3/T22

2. McCauley constant speed
(a) Hub B3D32C407/82NDA-3
Diameter: not over 79 in., not under 78 in.
Pitch settings at 30 in. sta.:
low 16.0°, high 31.7°
(b) Cessna spinner 2252076
(c) McCauley governor C290D3/T22

*Airspeed Limits
(See NOTE 5 on Use of IAS)
Model 182R Maneuvering 111 knots
Maximum structural cruising 143 knots
Never exceed 179 knots
Flaps extended 95 knots

Model T182 Maneuvering 111 knots
Maximum structural cruising 140 knots
Never exceed 178 knots
Flaps extended 95 knots

C.G. Range
Model 182R (+40.9) to (+46.0) at 3100 lb.
(+33.0) to (+46.0) at 2250 lb. or less
Straight line variation between points given

Model T182 (+40.9) to (+46.0) at 3100 lb.
(+35.5) to (+46.0) at 2700 lb.
(+33.0) to (+46.0) at 2250 lb. or less
Straight line variation between points given

Empty Wt. C.G. Range None

*Maximum Weight
3100 lb. takeoff/flight
2950 lb. landing

No. of Seats
4 (2 front at +32.0 to +50.0)
(2 rear at +74.0)

Maximum Baggage
200 lb. (120 lb. at +92.0 to +108.0)
(80 lb. at +108.0 to +136.0)

Fuel Capacity
92 gal. (88 gal. usable); two 46 gal. integral tanks in wings at +46.5
See NOTE 1 for data on unusable fuel
XII - Model 182R, Model T182

<table>
<thead>
<tr>
<th>Oil Capacity</th>
<th>Model 182R</th>
<th>Model T182</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12 qt. (-15.0)</td>
<td>9 qt. (-14.8)</td>
</tr>
<tr>
<td></td>
<td>(6 qt. usable)</td>
<td>(6 qt. usable)</td>
</tr>
<tr>
<td></td>
<td>(through S/N 18268055)</td>
<td>See NOTE 1 for data on oil</td>
</tr>
<tr>
<td></td>
<td>12 qt. (-14.1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(6 qt. usable)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(S/N 18268056 and on)</td>
<td></td>
</tr>
</tbody>
</table>

See NOTE 1 for data on oil

Control Surface Movements

(a) S/N 18267716 through 18268055

| Wing flaps                  | Up 24° ±2° | Down 15° ±1° |
| Ailerons                    | Up 20° ±2° | Down 15° ±2° |
| Elevator (rel. to stabilizer) | Up 28° ±1° | Down 21° ±1° |
| Rudder (parallel to 0.00 W.L.) | Right 24° +0°, -1° | Left 24° +1°, -0° |
| (Perpendicular to hinge line) | Right 27° 13' +0°, -1° | Left 27° 13' +0°, -1° |

(b) S/N 18268056 through 18268586

| Wing flaps                  | Up 24° ±2° | Down 38° +0°, -1° |
| Ailerons                    | Up 20° ±2° | Down 15° ±1° |
| Elevator (rel. to stabilizer) | Up 28° ±1° | Down 21° ±1° |
| Rudder (parallel to 0.00 W.L.) | Right 24° +0°, -1° | Left 24° +0°, -1° |
| (Perpendicular to hinge line) | Right 27° 13' +0°, -1° | Left 27° 13' +0°, -1° |

Serial Nos. Eligible

Model 182R/T182: 18267302, 18267716 through 18268055 (1981 Model)
Model 182R/T182: 18268056 through 18268293 (1982 Model)
Model 182R/T182: 18268294 through 18268368 (1983 Model)
Model 182R/T182: 18268369 through 18268434 (1984 Model)
Model 182R/T182: 18268435 through 18268541 (1985 Model)
Model 182R: 18268542 through 18268586 (1986 Model)
(1986 Model)

Data Pertinent to Model Items I through XII

Datum

Front face of firewall

Leveling Means

Upper door sill. Top surface centerline of tailcone (S/N 18253599 through 18265965)
Jig located nutplates and screws on left of tailcone (S/N 18263479, 18265966 through 18268586) (S/N R18200001 through 18202041)

Certification Basis

182 Series

Part 3 of the Civil Air Regulations dated November 1, 1949, as amended by 3-1 through 3-12 and Paragraph 3.112 as amended October 1, 1959, for the Model 182E and on. In addition, effective S/N 18266591 through 18268586, FAR 23.1559 effective March 1, 1978. FAR 36 dated December 1, 1969, plus Amendments 36-1 through 36-6 for Model 182Q and on. In addition, effective S/N 18268435 through 18268586, FAR 23.1545(a) Amendment 23-23 dated December 1, 1978.
Data Pertinent to Model Items I through XII, continued

Model T182
Part 3 of the Civil Air Regulations dated November 1, 1949, as amended by 3-1 through 3-12 and Paragraph 3.112 as amended October 1, 1959; and Sections 23.901, 23.909, 23.1041, 23.1043, 23.1143, and 23.1305 of the Federal Aviation Regulations dated February 1, 1965, as amended February 14, 1975; FAR 23.1559 effective March 1, 1978; FAR 36 dated December 1, 1969, plus Amendments 36-1 through 36-10. In addition, effective S/N 18268435 through 18268541, FAR 23.1545(a) Amendment 23-23 dated December 1, 1978.

Model R182
Part 3 of the Civil Air Regulations dated November 1, 1949, as amended by 3-1 through 3-12 and Paragraph 3.112 as amended October 1, 1959; and Sections 23.729, 23.777(e), 23.781, 23.1555(e)(1) and (2), and 23.1563 of the Federal Aviation Regulations dated February 1, 1965, as amended February 14, 1975. In addition, effective S/N R18200001, R18200584 and up, FAR 23.1559 effective March 1, 1978. FAR 36 dated December 1, 1969, plus Amendments 36-1 through 36-6. In addition, effective S/N R18202000 through R18202041, FAR 23.1545(a) Amendment 23-23 dated December 1, 1978.

Model TR182
Part 3 of the Civil Air Regulations dated November 1, 1949, as amended by 3-1 through 3-12 and Paragraph 3.112 as amended October 1, 1969; and Sections 23.729, 23.777(e), 23.781, 23.901, 23.909, 23.1041, 23.1043, 23.1143, 23.1305, 23.1555(e)(1) and (2), and 23.1563 of the Federal Aviation Regulations dated February 1, 1965, as amended February 14, 1975; FAR 23.1559 effective March 1, 1978; FAR 36 dated December 1, 1969, plus Amendments 36-1 through 36-9. In addition, effective S/N R18202000 through R18202041, FAR 23.1545(a) Amendment 23-23 dated December 1, 1978.


Type Certificate No. 3A13 issued March 2, 1956, obtained by the manufacturer under delegation option procedures.

Equivalent Safety Items:

S/N 18263479, 18264296 through 18267715
Airspeed Indicator CAR 3.757 (See NOTE 5 on use of IAS)
Operating Limitations CAR 3.778(a)

S/N 18267716 through 18268586
Airspeed Indicator CAR 3.757 (See NOTE 5 on use of IAS)
(S/N 18267716 through 18268434)
Operating Limitations CAR 3.778(a)
Fuel System CAR 3.430

S/N R18200001 through R18202041
Airspeed Indicator CAR 3.757 (See NOTE 5 on use of IAS)
(S/N R18200001 through R18201999)
Operating Limitations CAR 3.778(a)
Fuel System CAR 3.430

Production Basis
Production Certificate No. 4. Delegation Option Manufacturer No. CE-1 authorized to issue airworthiness certificates under delegation option provisions of Part 21 of the Federal Aviation Regulations.

Equipment:
The basic required equipment as prescribed in the applicable airworthiness requirements (see Certification Basis) must be installed in the aircraft for certification. This equipment must include a current Airplane Flight Manual effective S/N 18266591 through 18268586 and R18200584 through R18202041. In addition, the following item of equipment is required:
Data Pertinent to Model Items I through XII, continued


The equipment portion of Aircraft Specification 3A13, Revision 15, or Cessna Publication TS3000-13 should be used for equipment references on all aircraft prior to the Model 182G. Refer to the applicable Equipment List for the Model 182G and subsequent models.

NOTE 1. Current weight and balance report including list of equipment included in certificated empty weight, and loading instructions when necessary must be provided for each aircraft at the time of original certification.

<table>
<thead>
<tr>
<th>Serial Numbers</th>
<th>613 and 33000 through 34999</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>631 and 51001 through 53007</td>
</tr>
<tr>
<td></td>
<td>18253008 through 18264295 except 18263479</td>
</tr>
</tbody>
</table>


Serial Numbers 18263479, 18264296 through 18266590
The certificated empty weight and corresponding center of gravity location must include unusable fuel of 30 lb. (+46) and full oil of 22.5 lb. at (-15.0).

Serial Numbers 18266591 through 18268055
The certificated empty weight and corresponding center of gravity location must include unusable fuel of 24 lb. at (+48) and full oil of 22.5 lb. at (-15.0) for the 182Q, 182R Model, and include oil of 16.9 lb. at (-14.8) for the T182 Model.

Serial Numbers 18268056 through 18268586
The certificated empty weight and corresponding center of gravity location must include unusable fuel of 24 lb. at (+48) and full oil of 24.4 lb. at (-14.1) for the 182R, and include oil of 16.9 lb. at (-14.8) for the T182.

Serial Numbers R18200002 through R18200583
The certificated empty weight and corresponding center of gravity location must include unusable fuel of 30 lb. (+46) and include oil of 16.9 lb. (-15.7).

Serial Numbers R18200001, R18200584 through R18202041
The certificated empty weight and corresponding center of gravity location must include unusable fuel of 24 lb. (+48) and include oil of 16.9 lb. (-14.8).

NOTE 2.
The following placards must be displayed in locations as indicated:

A. Applicable to Model 182 only:
   (1) In full view of the pilot:
      (a) "This airplane must be operated as a normal category airplane in compliance with operating limitations stated in the form of placards, markings and manuals. No acrobatic maneuvers including spins approved.
         Flight Maneuvering Load Factors
         Flaps Up +3.8  -1.52
         Flaps Down +3.5
         Maximum design weight 2550 lb.
         Reference weight and balance data for loading instructions."
      (b) "Both tanks on for takeoff and landing."
      (c) "Flaps - Pull to extend"  Takeoff Retracted 0°
                           1st Notch 10°
                           2nd Notch 20°
                           3rd Notch 30°
                           4th Notch 40°
                           Landing
Data Pertinent to Model Items I through XII, continued

(2) In baggage compartment
"Maximum baggage 120 lb. For additional loading instructions see weight and balance data."

B. Applicable to Models 182A, 182B, 182C and 182D

(1) In full view of the pilot:
   (a) "This airplane must be operated as a normal category airplane in compliance with operating
   limitations stated in the form of placards, markings and manuals. No acrobatic maneuvers
   including spins approved.
   Flight Maneuvering Load Factors
   Flaps Up +3.8 -1.52
   Flaps Down +3.5
   Maximum design weight 2650 lb.
   Reference weight and balance data for loading instructions."
   (b) "Both tanks on for takeoff and landing."
   (c) "Flaps - Pull to extend
      Takeoff Retracted 0°
      1st Notch 10°
      2nd Notch 20°
      Landing 3rd Notch 30°
      4th Notch 40°"

(2) In baggage compartment
"Maximum baggage 120 lb. For additional loading instructions see weight and balance data."


(1) In full view of the pilot:
   (a) "This airplane must be operated as a normal category airplane in compliance with operating
   limitations stated in the form of placards, markings and manuals. No acrobatic maneuvers
   including spins approved.
   Flight Maneuvering Load Factors
   Flaps Up +3.8 -1.52
   Flaps Down +3.5
   Maximum design weight 2800 lb.
   Reference weight and balance data for loading instructions."
   (b) Serial Numbers 18260056 through 18260445
   "This airplane must be operated as a normal category airplane in compliance with the
   operating limitations as stated in the form of placards, markings and manuals.
   Maximums
   Design weight 2950 lb. takeoff Alt. loss in stall recovery-160 ft.
   2800 lb. landing Flight Maneuvering Load Factors
   Maneuvering speed 131 m.p.h.-CAS Flaps up +3.8, -1.52, Flaps down +3.5
   Reference weight and balance data for loading instructions"
   (c) On the fuel selector valve plate:
   "Both off. Left tank level flight only 31 gal. Both on for landing and takeoff all flight attitudes
   60 gal. Right tank level flight only 31 gal."
   (d) On the control lock:
   "Control lock - Remove before starting engine."
   (e) On the baggage door:
   "120 lb. maximum baggage and/or auxiliary seat passengers. For additional loading instructions,
   see weight and balance data."

D. Applicable to Models 182N:

(1) In full view of the pilot:
   (a) Serial Numbers 18260056 through 18260445
   "This airplane must be operated as a normal category airplane in compliance with the
   operating limitations as stated in the form of placards, markings and manuals.
   No acrobatic maneuvers, including spins, approved
   Maximums
   Design weight 2950 lb. takeoff Alt. loss in stall recovery-160 ft.
   2800 lb. landing Flight Maneuvering Load Factors
   Maneuvering speed 131 m.p.h.-CAS Flaps up +3.8, -1.52, Flaps down +3.5
   Reference weight and balance data for loading instructions"
   (b) Serial Numbers 182670446 through 18260825
   "This airplane must be operated as a normal category airplane in compliance with the
   operating limitations as stated in the form of placards, markings and manuals."
Data Pertinent to Model Items I through XII, continued

D. Applicable to Models 182N, continued:

Maximums

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Maneuvering speed</td>
<td>131 m.p.h. CAS (114 knots)</td>
</tr>
<tr>
<td>Gross weight</td>
<td>Takeoff 2950 lb.</td>
</tr>
<tr>
<td></td>
<td>Landing 2800 lb.</td>
</tr>
<tr>
<td>Flight load factor</td>
<td>Flaps up +3.8, -1.52</td>
</tr>
<tr>
<td></td>
<td>Flaps down +3.5</td>
</tr>
</tbody>
</table>

No acrobatic maneuvers, including spins, approved. Altitude loss in a stall recovery 160 ft. Known icing conditions to be avoided. This airplane is certified for the following flight operations as of date of original airworthiness certificate: DAY-NIGHT-VFR-IFR (as applicable)

(2) On the fuel selector valve plate:
"Both off. Left tank level flight only 31 gal. Both on for landing and takeoff all flight attitudes, 60 gal. Right tank level flight only 31 gal."

(3) On the control lock:
"Control lock - Remove before starting engine."

(4) On the baggage door:
(a) "120 lb. maximum baggage and/or auxiliary seat passengers. For additional loading instructions, see weight and balance data." Applicable to Models 182N, S/N 18260056 through 18260445.
(b) "120 lb. maximum baggage and/or auxiliary passenger forward of baggage door latch, and 80 pounds maximum baggage aft of baggage door latch. Maximum 200 lb. combined. For additional loading instructions see weight and balance data." Applicable to Models 182N, S/N 18260446 and up.

(5) On flap control indicator:
(a) "0° to 20° - T.O."
(b) "10° - 20° - Full."
(Indices at these positions with blue color code and 160 m.p.h. callout, and white color code with 110 m.p.h. callout; mechanical detent at 10° and 20°)"

E. Applicable to Models 182P:

(1) In full view of the pilot:
(S/N 675, 18260826 through 18264295)
(a) "This airplane must be operated as a normal category airplane in compliance with the operating limitations as stated in the form of placards, markings and manuals.

Maximums

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Maneuvering speed</td>
<td>126 m.p.h. CAS (109 knots)</td>
</tr>
<tr>
<td>Gross weight</td>
<td>2950 lb.</td>
</tr>
<tr>
<td>Flight load factor</td>
<td>Flaps up +3.8, -1.52</td>
</tr>
<tr>
<td></td>
<td>Flaps down +2.0</td>
</tr>
</tbody>
</table>

No acrobatic maneuvers, including spins, approved. Altitude loss in a stall recovery 160 ft. Known icing conditions to be avoided. This airplane is certified for the following flight operations as of date of original airworthiness certificate: DAY-NIGHT-VFR-IFR (as applicable)

(S/N 18264296 through 18265175)
(b) "This airplane must be operated as a normal category airplane in compliance with the operating limitations as stated in the form of placards, markings and manuals.
Data Pertinent to Model Items I through XII, continued

E. Applicable to Models 182P, continued:

<table>
<thead>
<tr>
<th>Maximums</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maneuvering speed (IAS)</td>
</tr>
<tr>
<td>Gross weight</td>
</tr>
<tr>
<td>Flight load factor</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

No acrobatic maneuvers, including spins, approved. Altitude loss in a stall recovery 160 ft. Flight into known icing conditions prohibited. This airplane is certified for the following flight operations as of date of original airworthiness certificate: DAY-NIGHT-VFR-IFR" (as applicable)

(2) On the fuel selector valve plate: (S/N 675, 18260826 through 18262250)
- Standard range tanks: "Off. Left tank level flight only 31 gal. Both on for landing and takeoff all flight attitudes, 60 gal. Right tank level flight only 31 gal."
- Long range tanks: "Off. Left tank level flight only 39 gal. Both on for landing and takeoff all flight attitudes, 79 gal. Right tank level flight only 39 gal."

(3) On the control lock: "Control lock - remove before starting engine."

(4) On the baggage door: (S/N 18260826 through 18263475)
- "120 lb. maximum baggage and/or auxiliary passenger forward of baggage door latch, and 80 lb. maximum baggage aft of baggage door latch. Maximum 200 lb. combined. For additional loading instructions, see weight and balance data."

(5) On flap control indicator: (S/N 675, 18260826 through 18264295)
- "(a) 0° to 10° - (Blue color code and 160 m.p.h. callout; also, mechanical detent at 10°)
- (b) 10° to 20° - Full (Indices at these positions with white color code and 110 m.p.h. callout; also, mechanical detent at 10° and 20°)"

(6) Forward of the filler cap on the wing surface: (S/N 675, 18260826 through 18262250)
- Standard range tanks: "Service this airplane with 80/87 minimum aviation grade gasoline. Capacity 32.5 gal."
- Long range tanks: "Service this airplane with 80/87 minimum aviation grade gasoline. Capacity 42.0 gal."
Data Pertinent to Model Items I through XII, continued

E. Applicable to Models 182P, continued:

Forward of the filler cap on the wing surface: (S/N 18262251 through 18265175)

Standard range tanks: "Service this airplane with 80/87 minimum aviation grade gasoline. Capacity 30.5 gal."

Long range tanks: "Service this airplane with 80/87 minimum aviation grade gasoline. Capacity 40.0 gal."

(7) On aft panel of baggage compartment:
"Oxygen refill." (All models with oxygen)

(8) Adjacent to overvoltage light:
"High voltage."

(9) Above the left fuel gauge:
"Do not turn off alternator in flight except in emergency."
(Model 182P, S/N 18260826 through 18261425)

F. Applicable to Models 182Q:

(1) In full view of the pilot:

(a) S/N 18263479, 18265176 through 18266590

"This airplane must be operated as a normal category airplane in compliance with the operating limitations as stated in the form of placards, markings and manuals.

<table>
<thead>
<tr>
<th>Maximums</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Maneuvering speed (IAS)</td>
<td>111 knots</td>
</tr>
<tr>
<td>Gross weight</td>
<td>2950 lb.</td>
</tr>
<tr>
<td>Flight load factor</td>
<td>Flaps up +3.8, -1.52</td>
</tr>
<tr>
<td></td>
<td>Flaps down +2.0</td>
</tr>
</tbody>
</table>

No acrobatic maneuvers, including spins, approved. Altitude loss in a stall recovery 160 ft. Flight into known icing conditions prohibited. This airplane is certified for the following flight operations as of date of original airworthiness certificate: DAY-NIGHT-VFR-IFR." (as applicable)

S/N 18266591 through 18267715

"The markings and placards installed in this airplane contain operating limitations which must be complied with when operating this airplane in the Normal Category. Other operating limitations which must be complied with when operating this airplane in this category are contained in the Pilot's Operating Handbook and FAA Approved Airplane Flight Manual.

No acrobatic maneuvers, including spins, approved. Flight into known icing conditions prohibited. This airplane is certified for the following flight operations as of date of original airworthiness certificate: DAY-NIGHT-VFR-IFR." (as applicable)

(b) Near airspeed indicator:
S/N 18266591 through 18267715

"Maneuver Speed 111 KIAS"

(2) On the fuel selector valve plate:
S/N 18263479, 18265176 through 18266590

Standard range tanks: "Off:
Left - 29 gal. Level flight only.
Both - 56 gal. All flight attitudes.
Both on for takeoff and landing.
Right - 29 gal. Level flight only."

Both - 56 gal. All flight attitudes.
Both on for takeoff and landing.
Long range tanks: "Off.
   Left - 37 gal. Level flight only.
   Both - 75 gal. All flight attitudes.
   Both on for takeoff and landing.
   Right - 37 gal. Level flight only."

S/N 18266591 through 18267715
"Take Off - Both - Landing,
All Flight - 88.0 Gal. - Attitudes
Left - 44.0 Gal. Level Flight Only
Right - 44.0 Gal. Level Flight Only
Off."

(3) On the control lock: "Control lock - remove before starting engine."

(4) On the baggage door: "Forward of baggage door latch, 120 pounds maximum baggage and/or auxiliary passenger. Aft of baggage door latch, 80 pounds maximum baggage including 25 pounds maximum in baggage wall hat shelf. Maximum 200 pounds combined. For additional loading instructions, see weight and balance data."

(5) On flap control indicator:
"0° to 10° - (Blue color code and 140 KTS callout; also, mechanical detent at 10°)"
"0° to 20° - Full (Indices at these positions with white color code and 95 KTS callout; also, mechanical detent at 10° and 20°)"

(6) Forward of the filler cap on the wing surface:
S/N 18265176 through 18265965
Standard range tanks: "Service this airplane with 100/130 minimum aviation grade gasoline. Capacity 30.5 gal."
Long range tanks: "Service this airplane with 100/130 minimum aviation grade gasoline. Capacity 40.0 gal."

S/N 18263479, 18265966 through 18266590
Standard range tanks: "Service this airplane with 100LL/100 aviation grade gasoline. Capacity 30.5 gal."
Long range tanks: "Service this airplane with 100LL/100 aviation grade gasoline. Capacity 40.0 gal."

S/N 18266591 through 18267715
"Fuel 100LL/100 minimum grade aviation gasoline. Capacity 46 U.S. gal. Capacity 34.5 U.S. gal. to bottom of filler collar."

(7) On aft panel of baggage compartment:
"Oxygen refill." (All models with oxygen)

(8) Adjacent to overvoltage light:
S/N 18263479, 18265176 through 18266590
"High Voltage"

S/N 18266591 through 18267715
"Low Voltage"
Data Pertinent to Model Items I through XII, continued

G. Applicable to Models R182 and TR182, S/N R18200001 through R18201928:

(1) In full view of the pilot:
   (a) S/N R18200002 through R18200583
       "This airplane must be operated as a normal category airplane in compliance with the
       operating limitations as stated in the form of placards, markings and manuals.

       | Maximums |
       |----------|
       | Gross weight 3100 lb. |
       | Flight load factor Flaps up +3.8, -1.52 |
       | Flaps down +2.0 |

       No acrobatic maneuvers, including spins, approved. Altitude loss in a stall recovery 240 ft. Flight into known icing conditions prohibited. This airplane is certified for the following flight operations as of date of original airworthiness certificate: DAY-NIGHT-VFR-IFR." (as applicable)

   (b) S/N R18200001, R18200584 through R18202041
       "The markings and placards installed in this airplane contain operating limitations which
       must be complied with when operating this airplane in the Normal Category. Other
       operating limitations which must be complied with when operating this airplane in this

       No acrobatic maneuvers, including spins, approved. Flight into known icing conditions prohibited. This airplane is certified for the following flight operations as of date of original airworthiness certificate: DAY-NIGHT-VFR-IFR." (as applicable)

   (c) Near Airspeed Indicator:
       "MAX SPEED - KIAS
       Maneuver 112
       Gear Oper 140
       Gear Down 140"

(2) On the fuel selector valve plate:
   (a) S/N R18200002 through R18200583
       "Off
       Left - 29 gal. Level flight only.
       Both - 56 gal. All flight attitudes.
       Both on for takeoff and landing.
       Right - 29 gal. Level flight only."

       "Off
       Left - 37 gal. Level flight only.
       Both - 75 gal. All flight attitudes.
       Both on for takeoff and landing.
       Right - 37 gal. Level flight only."

   (b) S/N R18200001, R18200584 through R18201798
       "Take Off - Both - Landing,
       All Flight - 88.0 Gal. - Attitudes
       Left - 44.0 Gal. Level Flight Only
       Right - 44.0 Gal. Level Flight Only
       Off:"

   (c) S/N R18201799 through R18202041
       "Both - 88.0 Gal. - Take Off - Landing - All Flight
       Attitudes; Left - 44.0 Gal. - Level Flight Only
       Right - 44.0 Gal. - Level Flight Only
       Off - Off."
(3) On the control lock:
   (a) S/N R18200001 through R18201798
       "Control lock - Remove before starting engine."
   (b) S/N R18201799 through R18202041
       "Caution! Control Lock - Remove before starting engine."

G. Applicable to Models R182 and TR182, S/N R18200001 through R18201928, continued:
(4) On the baggage door: "120 Pounds Maximum
   Baggage And/Or Auxiliary Passenger
   Forward of Baggage Door Latch And
   80 Pounds Maximum
   Baggage Aft of Baggage Door Latch
   Maximum 200 Pounds Combined
   For Additional Loading Instructions See Weight and Balance Data"

(5) On the flap control indicator:
   "0° to 10° - (Blue color code and 140 KTS callout; also, mechanical detent at 10°)"
   "0° to 20° - Full (Indices at these positions with white color code and 95 KTS callout; also, mechanical detent at 10° and 20°)"

(6) Forward of the filler cap on the wing surface:
   (a) S/N R18200002 through R18200583
       Standard range tanks: "Service this airplane with 100LL/100 aviation grade gasoline. Capacity 30.5 gal."
       Long range tanks: "Service this airplane with 100LL/100 aviation grade gasoline. Capacity 40.0 gal."
   (b) S/N R18200001, R18200584 through R18202041
       Fuel 100LL/100 minimum grade aviation gasoline. Capacity 46 U.S. gal. Capacity 34.5 U.S. gal. to bottom of filler collar."

(7) Adjacent to overvoltage light:
   (a) S/N R18200002 through R18200583
       "High Voltage"
   (b) S/N R18200001, R18200584 through R18202041
       "Low Voltage"

(8) Near gear hand pump:
   "Manual Gear Extension
   1. Select Gear Down
   2. Pull Handle Fwd.
   3. Pump Vertically
      CAUTION
      Do Not Pump With Gear
      Up Selected"

(9) Forward of each fuel filler cap:
   "Fuel Cap Forward - Arrow Alignment, Cap Must Not Rotate During Closing."
Data Pertinent to Model Items I through XII, continued

H. Applicable to Models 182R and T182, S/N 18267302, 18267716 through 18268293: (continued)

(1) In full view of the pilot:
   (a) "The markings and placards installed in this airplane contain operating limitations which must be complied with when operating this airplane in the Normal Category. Other operating limitations which must be complied with when operating this airplane in this category are contained in the Pilot's Operating Handbook and FAA Approved Airplane Flight Manual.

   No acrobatic maneuvers, including spins, approved. Flight into known icing conditions prohibited. This airplane is certified for the following flight operations as of date of original airworthiness certificate: DAY-NIGHT-VFR-IFR." (as applicable).

   (b) Near airspeed indicator:
        "Maneuver Speed
        111 KIAS"

(2) On the fuel selector valve plate:
   (a) S/N 18267716 through 18268055
       "Take Off - Both - Landing, -
       All Flight - 88.0 Gal. - Attitudes
       Left - 44.0 Gal. Level Flight Only
       Right - 44.0 Gal. Level Flight Only
       Off."

   (b) S/N 18268056 through 18268586
       "Both - 88.0 Gal. - Takeoff - Landing - All Flight Attitudes
       Left - 44.0 Gal. - Level Flight Only
       Right - 44.0 Gal. - Level Flight Only
       Off - Off."

(3) On the control lock:
   (a) S/N 18267716 through 18268055
       "Control Lock - Remove before starting engine."

   (b) S/N 18268056 through 18268586
       "Caution! Control Lock - Remove before starting engine."

(4) On baggage door:
    "120 Pounds Maximum
    Baggage And/Or Auxiliary Passenger
    Forward of Baggage Door Latch and 80 Pounds Maximum
    Baggage Aft of Baggage Door Latch
    Maximum 200 Pounds Combined

    For Additional Loading Instructions see Weight and Balance Data"

(5) On flap control indicator:
    "0° to 10° -  (Blue color code and 140 KTS callout;
    also, mechanical detent at 10°)"
    "0° to 20° -  (Indices at these positions with white color code and 95 KTS callout; also mechanical detent at 10° and 20°)"

(6) Forward of the filler cap on the wing surface:
    "Fuel 100LL/100 minimum grade aviation gasoline. Capacity 46 U.S. gal.
    Capacity 34.5 U.S. gal. to bottom of filler collar."

(7) Forward of each fuel filler cap:
    "Fuel cap fwd - arrow alignment, cap must not rotate during closing."

(8) Adjacent to overvoltage light:
    "Low Voltage"
I. **Applicable to Models R182 and TR182, S/N R18201929 through R18202041:**

All placards required in the Pilot's Operating Handbook and FAA Approved Airplane Flight Manual must be installed in the appropriate locations.

J. **Applicable to Models 182R and T182, S/N 18268294 through 18268586:**

All placards required in the Pilot's Operating Handbook and FAA Approved Airplane Flight Manual must be installed in the appropriate locations.

NOTE 3. The cylinder head thermistors must be installed as follows:

<table>
<thead>
<tr>
<th>Model</th>
<th>Engine and Cylinder Head Number</th>
<th>O-470-R</th>
<th>O-470-S</th>
<th>O-470-U</th>
<th>O-540-L</th>
<th>O-540-L</th>
</tr>
</thead>
<tbody>
<tr>
<td>182N (1970 and 1971 Model)</td>
<td>3</td>
<td>3</td>
<td>N/A</td>
<td>N/A</td>
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<td></td>
</tr>
<tr>
<td>182P (1972 and 1973 Model)</td>
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<td>3</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>182P (1974 Model)</td>
<td>1</td>
<td>3</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>182P (1975 and 1976 Model)</td>
<td>N/A</td>
<td>3</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>182Q (1977 through 1980 Model)</td>
<td>N/A</td>
<td>N/A</td>
<td>3</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>182R (1981 Model through 18268160)</td>
<td>N/A</td>
<td>N/A</td>
<td>5</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>182R (18268161 through 18268586)</td>
<td>N/A</td>
<td>N/A</td>
<td>3</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>T182 (1981 Model through 1985 Model)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>R182 (1978 and 1979 Model)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>5</td>
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<tr>
<td>R182 (1980 Model through 1986 Model)</td>
<td>N/A</td>
<td>N/A</td>
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<td></td>
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<tr>
<td>TR182 (1979 Model)</td>
<td>N/A</td>
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<td>N/A</td>
<td>N/A</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>TR182 (1980 Model through 1986 Model)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

NOTE 4. The installation of the 0-470-S engine in Model 182N and Model 182P (1970 through 1974) will require a change of the oil temperature gauge. Reference Cessna Service Letter SE75-2 for information and instructions for this change.

NOTE 5. The marking of the airspeed indicator with IAS provides an equivalent level of safety to CAR 3.757 when the approved airspeed calibration data presented in Section V of the Pilot's Operating Handbooks listed below is available to the pilot:

182P, Cessna P/N D1062-13 (S/N 18264296 through 18265175)
182Q, Cessna P/N D1087-13 (S/N 18265176 through 18265965)
182Q, Cessna P/N D1114-13 (S/N 18263479, 18265966 through 18266590)
182Q, Cessna P/N D1141-13PH (S/N 18266591 through 18267300)
182Q, Cessna P/N D1176-13PH (S/N 18267301 through 18267715)
182R, Cessna P/N D1196-13PH (S/N 18267716 through 18268055)
182R, Cessna P/N D1215-13PH (S/N 18268056 through 18268293)
182R, Cessna P/N D1233-13PH (S/N 18268294 through 18268368)
182R, Cessna P/N D1254-13PH (S/N 18268369 through 18268434)
T182, Cessna P/N D1197-13PH (S/N 18267302, 18267716 through 18268055)
T182, Cessna P/N D1216-13PH (S/N 18268056 through 18268293)
T182, Cessna P/N D1234-13PH (S/N 18268294 through 18268368)
T182, Cessna P/N D1234R1-13PH (Special) (S/N 18268365)
T182, Cessna P/N D1255-13PH (S/N 18268369 through 18268434)
R182, Cessna P/N D1115-13 (S/N R18200002 through R18200583)
R182, Cessna P/N D1142-13PH (S/N R18200584 through R18201313)
R182, Cessna P/N D1177-13PH (S/N R18201314 through R18201628)
R182, Cessna P/N D1198-13PH (S/N R18201629 through R18201798)
R182, Cessna P/N D1217-13PH (S/N R18201799 through R18201928)
R182, Cessna P/N D1235-13PH (S/N R18201929 through R18201973)
R182, Cessna P/N D1256-13PH (S/N R18201974 through R18201999)
R182, Cessna P/N D1277-13PH (S/N R18202000 through R18202031)
R182, Cessna P/N D1299-13PH (S/N R18202032 through R18202041)
TR182, Cessna P/N D1143-13PH (S/N R18200001, R18200584 through R18201313 except R18200975)
TR182, Cessna P/N D1143-2-13PH (Special) (S/N R18200975)
TR182, Cessna P/N D1178-13PH (S/N R18201314 through R18201628 except R18201315)
TR182, Cessna P/N D1199-13PH (S/N R18201629 through R18201798)
TR182, Cessna P/N D1218-13PH (S/N R18201799 through R18201928)
TR182, Cessna P/N D1236-13PH (S/N R18201929 through R18201973)
TR182, Cessna P/N D1257-13PH (S/N R18201974 through R18201999)
TR182, Cessna P/N D1278-13PH (S/N R18201315, R18202000 through R18202031)
TR182, Cessna P/N D1300-13PH (S/N R18202032 through R18202041)

NOTE 6. 14-volt electrical system
(182 series through S/N 18265965 except 18263479)
28-volt electrical system
(182 series S/N 18263479, 18265966 through 18268586)
(R182 and TR182 series S/N R18200001 through R18202041)

NOTE 7: Special Ferry Flight Authorization. Flight Standards District Offices are authorized to issue Special overweight ferry flight authorizations. These airplanes are structurally satisfactory for ferry flight if maintained within the following limits: (1) Takeoff weight must not exceed 130% of the maximum weight for Normal Category; and (2) The Never Exceed Airspeed (VNE) and Maximum Structural Cruising Speed (VC) must be reduced by 30%; and (3) Forward and aft center of gravity limits may not be exceeded; and (4) Structural load factors of +2.5 g. to -1.0 g. may not be exceeded. Requirements for any additional engine oil should be established in accordance with Advisory Circular AC23.1011-1. Increased stall speeds and reduced climbing performance should be expected for the increased weights. Flight characteristics and performance at the increased weights have not been evaluated. Procedures for issuing a Flight Permit for operations of overweight aircraft may be found in Advisory Circular AC21-4B.

In addition to the above specified placards, the prescribed operating limitations indicated by an asterisk (*) under Sections I through XII must also be displayed by permanent markings.

XIII - Model 182S, Skylane, 4 PCLM (Normal Category), Approved 03 October 1996.
Model 182T, Skylane, 4 PCLM (Normal Category), Approved 23 February 2001.

Engine
Lycoming IO-540-AB1A5. Rated 230 Horsepower

Fuel
100/100LL minimum grade aviation gasoline

Engine Limits
For all operations, 2400 RPM

Propeller Limits:
(1) McCauley Constant Speed (182S)
   (a) Propeller: B2D34C235/90DKB-8 (2 blades)
       Diameter: not over 82 in., not under 80.5 in.
       Pitch settings at 30 in. sta.: Low 17.0º, High 31.8º
   (b) McCauley Spinner: D-7267-2
   (c) McCauley Governor: DC290D1/T8

(2) McCauley Constant Speed (182S, 182T)
   (a) Propeller: B3D36C431/80VSA-1 (3 blades)
       Diameter: not over 79 in., not under 77.5 in.
       Pitch settings at 30 in. sta.: Low 14.9º, High 31.7º
   (b) McCauley Spinner: D-7261-2
   (c) McCauley Governor: DC290D1/T8

Propeller limits:
Static RPM at full throttle: Not over 2400; Not Under 2300

Airspeed Limits (182S):
Maneuvering 110 Knots IAS (108 Knots CAS)
Max Structural Cruising 140 Knots IAS (138 Knots CAS)
Never Exceed 175 Knots IAS (170 Knots CAS)
Flaps Extended 100 Knots IAS (99 Knots CAS)
XIII - Models 182S and 182T Cont.

Airspeed Limits (182T):
- Maneuvering: 110 Knots IAS (108 Knots CAS)
- Max Structural Cruising: 140 Knots IAS (136 Knots CAS)
- Never Exceed: 175 Knots IAS (171 Knots CAS)
- Flaps Extended: 100 Knots IAS (99 Knots CAS)

C.G. Range (182S):
- Normal Category
  (1) Aft Limits: 46.0 inches aft of datum at 3100 lbs. or less.
  (2) Forward Limits: Linear variation from 40.9 inches aft of datum at 3100 pounds to 33.0 inches aft of datum at 2250 lbs.; 33.0 inches aft of datum at 2250 lbs. or less.

C.G. Range (182T):
- Normal Category
  (1) Aft Limits: 46.0 inches aft of datum at 3,100 pounds or less.
  (2) Forward Limits: Linear variation from 40.9 inches aft of datum at 3,100 pounds, to 35.5 inches aft of datum at 2,700 pounds, to 33.0 inches aft of datum at 2,250 pounds; 33.0 inches aft of datum at 2,250 pounds or less.

Empty Wt. C.G. Range
- None

Reference Datum
- Lower portion of front face of firewall

MAC
- 58.8 inches; Leading edge of MAC 25.98 inches aft of datum

Leveling Means
- Left side of Tailcone at 139.65 inches and 171.65 inches aft of datum

Maximum Weights (see Note 5)
- Normal Category
  Maximum Ramp: 3,110 pounds
  Maximum Takeoff: 3,100 pounds
  Maximum Landing: 2,950 pounds

No. of Seats
- 4 (2 at 32.0 to 50.0 inches aft of datum; 2 at 74.0 inches aft of datum)

Maximum Baggage
- 120 pounds at 82.0 to 109.0 inches aft of datum
- 80 pounds at 109.0 to 134.0 inches aft of datum
(Max. combined weight capacity for baggage areas is 200 pounds)

Fuel Capacity (Gal.)
- 182S: 92 gallons total; 88 gallons usable
- 182T: 92 gallons total; 87 gallons usable
(Two 46 gallon tanks in wings at 46.5 inches aft of datum)
See NOTE 1 for data on usable fuel.

Oil Capacity (Gal.)
- 9.0 quarts at 14.8 inches forward of datum
- 5.0 quarts usable

Control surface movements
- Wing flaps
  Up: 24° ± 2°
  Down: 38° +0°, -1°
- Elevator tab
  Up: 20° ± 2°
  Down: 15° ± 1°
- Ailerons
  Up: 28° ± 1°
  Down: 21° ± 1°
(Relative to stabilizer)
- Rudder:
  Right: 24° +0°, -1°
  Left: 24° +0°, -1°
(Parallel to 0.00 W.L.)
  Right: 27°13’ +0°, -1°
  Left: 27°13’ +0°, -1°
(Perpendicular to hinge line)

Serial numbers eligible
- 182S: 18280001 through 18280944
- 182T: 18280945 and On
Data Pertinent to Model 182S and 182T

Certification Basis

Part 23 of the Federal Aviation Regulations effective February 1, 1965, as amended by 23-1 through 23-6, except as follows:

FAR 23.423; 23.611; 23.619; 23.623; 23.689; 23.775; 23.871; 23.1323; and 23.1563 as amended by Amendment 23-7.
FAR 23.807 and 23.1524 as amended by Amendment 23-10. FAR 23.507; 23.771; 23.853(a),(b) and (c); and 23.1365 as amended by Amendment 23-14. FAR 23.951 as amended by Amendment 23-15. FAR 23.607; 23.675; 23.685; 23.733; 23.787; 23.1309 and 23.1322 as amended by Amendment 23-17. FAR 23.1301 as amended by Amendment 23-20. FAR 23.1353; and 23.1559 as amended by Amendment 23-21. FAR 23.603; 23.605; 23.613; 23.1329 and 23.1545 as amended by Amendment 23-23. FAR 23.441 and 23.1549 as amended by Amendment 23-28. FAR 23.779 and 23.781 as amended by Amendment 23-33. FAR 23.1; 23.51 and 23.561 as amended by Amendment 23-34. FAR 23.301; 23.331; 23.351; 23.427; 23.677; 23.701; 23.735; and 23.831 as amended by Amendment 23-42. FAR 23.961; 23.1093; 23.1143(g); 23.1147(b); 23.1303; 23.1357; 23.1361 and 23.1385 as amended by Amendment 23-43. FAR 23.562(a), 23.562(b), 23.562(c), 23.562(c); FAR 23.1401(d); Refer to FAA letter dated 2/20/01

FAR 36 dated December 1, 1969, as amended by Amendments 36-1 through 36-21.

Equivalent Safety Items, 182S:

(1) Induction System Icing Protection FAR § 23.1093.
(2) Throttle Control FAR § 23.1143(g)
(3) Mixture Control FAR § 23.1147(b)

Date of Application for Amended Type Certificate was January 22, 1996.
Type Certificate No. 3A13 was amended October 3, 1996.

Equivalent Safety Items, 182T:

(1) Induction System Icing Protection FAR § 23.1093; Refer to FAA letter dated 12/19/00
(2) Throttle Control FAR § 23.1143(g); Refer to FAA letter dated 12/19/00
(3) Mixture Control FAR § 23.1147(b); Refer to FAA letter dated 12/19/00
(4) Anti-collision Lights FAR § 23.1401(d); Refer to FAA letter dated 2/20/01

Additions for the Garmin G1000 Integrated Cockpit System (ICS) Only:


Additions for the Garmin GFC-700 Automatic Flight Control System (AFCS) Only:

Special Conditions as follows:

**Production Basis (Model 182S)**

Production Certificate No. PC-4 issued June 30, 1997. Applies to airplane serial numbers 18280013, 18280016, 18280017, 18280019 and on. Airplane serial numbers not listed were produced under Type Certificate only. Cessna is authorized to issue airworthiness certificates under the delegation provisions of Delegation Option Authorization No. CE-1 in accordance with Part 21 of the Federal Aviation Regulations.

**Production Basis (Model 182T)**


**Equipment**

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the airplane for certification.

**NOTE 1:** Weight and Balance:

Serial Nos. 18280001 Through 18280944; (Model 182S)
The certificated basic empty weight and corresponding center of gravity location must include unusable fuel of 24 lbs. at 48 inches aft of datum, and full oil of 16.2 lb. at 14.8 inches forward of datum.

Serial Nos. 18280945 and On; (Model 182T)
The certificated basic empty weight and corresponding center of gravity location must include unusable fuel of 30 lbs. at 48 inches aft of datum, and full oil of 16.2 lb. at 14.8 inches forward of datum.

**NOTE 2:** FAA Approved Airplane Flight Manual (AFM): Part Number 182SPHUS00 (or later FAA approved revisions) are applicable to the Model 182S. The Airplane must be operated according to the appropriate AFM. Required placards are included in the AFM.

FAA Approved Airplane Flight Manual (AFM): Part number 182TPHUS00 (or later FAA approved revision) is applicable to the Model 182T. The Airplane must be operated according to the appropriate AFM. Required placards are included in the AFM.

FAA Approved Airplane Flight Manual (AFM): Part Number 182TPHAUS-00 (or later FAA approved revisions) are applicable to the Model 182T equipped with Garmin G1000 Integrated Cockpit System. The airplane must be operated according to the appropriate AFM. Required placards are included in the AFM.

FAA Approved Airplane Flight Manual (AFM): Part Number 182TPHBUS-00 (or later FAA approved revisions) are applicable to the Model 182T equipped with Garmin G1000 Integrated Cockpit System and Garmin GFC-700 AFCS. The airplane must be operated according to the appropriate AFM. Required placards are included in the AFM.

**NOTE 3:** The CHT probe must be installed on Head #1 (182S) or #3 (182T).

**NOTE 4:** Special Ferry Flight Authorization. Flight Standards District Offices are authorized to issue Special overweight ferry flight authorizations. This airplane is structurally satisfactory for ferry flight if maintained within the following limits: (1) Takeoff weight must not exceed 130% of the maximum weight for Normal Category; and (2) The Never Exceed Airspeed (VNE) and Maximum Structural Cruising Speed (VC) must be reduced by 30%; and (3) Forward and aft center of gravity limits may not be exceeded; and (4) Structural load factors of +2.5 g. to -1.0 g. may not be exceeded. Requirements for any additional engine oil should be established in accordance with Advisory Circular AC23.1011-1. Increased stall speeds and reduced climb performance should be expected for the increased weights. Flight characteristics and performance at the
increased weights have not been evaluated. Procedures for issuing a Flight Permit for operations of overweight aircraft may be found in Advisory Circular AC21-4B.

NOTE 5: Model 182S airplane serial numbers 18280617 through 18280670 may differ structurally and are, therefore, not eligible for any weight increases above the approved maximum takeoff weight limit of 3,100 pounds. Any exceptions must first be coordinated with the Wichita Aircraft Certification Office. Exceptions to this limitation have been inspected and found to comply with type data for the Model 182S, and include the following serial number aircraft: 18280620.

XIV - Model T182T, Skylane, 4 PCLM (Normal Category), Approved 23 February 2001.

<table>
<thead>
<tr>
<th>Engine</th>
<th>Lycoming TIO-540-AK1A. Rated 235 Horsepower</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel</td>
<td>100/100LL minimum grade aviation gasoline</td>
</tr>
<tr>
<td>Engine Limits</td>
<td>For all operations, 2,400 RPM</td>
</tr>
<tr>
<td>Propeller</td>
<td>McCauley Constant Speed</td>
</tr>
<tr>
<td>(a) McCauley Model B3D36C442/80VSB-1</td>
<td></td>
</tr>
<tr>
<td>Diameter: not over 79 inches; not under 77.5 inches</td>
<td></td>
</tr>
<tr>
<td>Pitch settings at 30 in. sta.: Low 15.1°, High 35.4°</td>
<td></td>
</tr>
<tr>
<td>(b) McCauley Spinner: D-7261-2</td>
<td></td>
</tr>
<tr>
<td>(c) McCauley Governor: DC290D1/T8</td>
<td></td>
</tr>
<tr>
<td>Propeller limits</td>
<td>Static RPM at full throttle: Not over 2400; Not Under 2300</td>
</tr>
<tr>
<td>Airspeed Limits</td>
<td>Maneuvering: 110 Knots IAS (110 Knots CAS)</td>
</tr>
<tr>
<td>Max Structural Cruising: 140 Knots IAS (137 Knots CAS)</td>
<td></td>
</tr>
<tr>
<td>Never Exceed: 175 Knots IAS (170 Knots CAS)</td>
<td></td>
</tr>
<tr>
<td>Flaps Extended: 100 Knots IAS (100 Knots CAS)</td>
<td></td>
</tr>
<tr>
<td>C.G. Range</td>
<td>Normal Category</td>
</tr>
<tr>
<td>(1) Aft Limits</td>
<td>46.0 inches aft of datum at 3,100 pounds or less.</td>
</tr>
<tr>
<td>(2) Forward Limits</td>
<td>Linear variation from 40.9 inches aft of datum at 3,100 pounds, to 35.5 inches aft of datum at 2,700 pounds, to 33.0 inches aft of datum at 2,250 pounds; 33.0 inches aft of datum at 2,250 pounds or less.</td>
</tr>
<tr>
<td>Empty Wt. C.G. Range</td>
<td>None</td>
</tr>
<tr>
<td>Reference Datum</td>
<td>Lower portion of front face of firewall</td>
</tr>
<tr>
<td>MAC</td>
<td>58.8 inches; Leading edge of MAC 25.98 inches aft of datum</td>
</tr>
<tr>
<td>Leveling Means</td>
<td>Left side of Tailcone at 139.65 inches and 171.65 inches aft of datum</td>
</tr>
<tr>
<td>Maximum Weights</td>
<td>Normal Category</td>
</tr>
<tr>
<td>Maximum Ramp</td>
<td>3,110 pounds</td>
</tr>
<tr>
<td>Maximum Takeoff</td>
<td>3,100 pounds</td>
</tr>
<tr>
<td>Maximum Landing</td>
<td>2,950 pounds</td>
</tr>
<tr>
<td>No. of Seats</td>
<td>4 (2 at 32.0 to 50.0 inches aft of datum; 2 at 74.0 inches aft of datum)</td>
</tr>
<tr>
<td>Maximum Baggage</td>
<td>120 pounds at 82.0 to 109.0 inches aft of datum</td>
</tr>
<tr>
<td>80 pounds at 109.0 to 134.0 inches aft of datum</td>
<td></td>
</tr>
<tr>
<td>(Max. combined weight capacity for baggage areas is 200 pounds)</td>
<td></td>
</tr>
<tr>
<td>Fuel Capacity (Gal.)</td>
<td>92 gallons total; 87 gallons usable</td>
</tr>
<tr>
<td>(Two 46 gallon tanks in wings at 46.5 inches aft of datum)</td>
<td></td>
</tr>
<tr>
<td>See NOTE 1 for data on usable fuel.</td>
<td></td>
</tr>
</tbody>
</table>
Oil Capacity (Qts.)

9.0 quarts at 14.8 inches forward of datum
5.0 quarts usable

Control surface movements

Wing flaps
Elevator tab
Ailerons
Elevator

(Down to datum)
24° ±2°
20° ±2°
28° ±1°
38° +0°, -1°
15° ±2°
15° ±1°

(Relative to stabilizer)
(Right: 24° +0°, -1°)
(Parallel to 0.00 W.L.)
(Right: 27°13’ +0°, -1°)
(Perpendicular to hinge line)

Serial numbers eligible
T18208001 and On

Data Pertinent to Model T182T

Certification Basis

Part 23 of the Federal Aviation Regulations effective February 1, 1965, as amended by 23-1 through 23-6, except as follows:

FAR 23.423; 23.611; 23.619; 23.623; 23.623; 23.775; 23.871; 23.1323; and 23.1563 as amended by Amendment 23-7.
FAR 23.807 and 23.1524 as amended by Amendment 23-8. FAR 23.951 as amended by Amendment 23-14. FAR 23.1301 as amended by Amendment 23-21. FAR 23.603; 23.605; 23.613; 23.1329 and 23.1545 as amended by Amendment 23-23. FAR 23.441 and 23.1549 as amended by Amendment 23-28. FAR 23.779 and 23.781 as amended by Amendment 23-33. FAR 23.301; 23.331; 23.351; 23.427; 23.677; 23.701; 23.735; and 23.831 as amended by Amendment 23-42. FAR 23.961; 23.1093; 23.1143(g); 23.1301; 23.1329 and 23.1547 as amended by Amendment 23-43. FAR 23.1325(a), (b)(2), (b)(3), (b)(4)(i), (b)(4)(ii), (b)(4)(iii), (b)(4)(iv), (c)(1), (c)(2)(iii), (c)(3), (d), (e), (f)1; 23.1311; 23.1321(a)(c)(d)(e); 23.1321(b)(a), (b)(1), (b)(2), (c), 23.1329(g)(h); 23.1351(a)(1), (a)(2)(i), (b)(3), (c)(4), (d)(1); 23.1353(a)(b)(c)(d)(e); 23.1359(c); 23.1361; 23.1365(a)(b)(c)(d)(f) and 23.1431(a)(b)(d)(e) as amended by Amendment 23-49. FAR 23.1325(a), (b)(1), (b)(2)(i), (b)(3), (c)(d)(e); 23.1545(a), (b)(1), (b)(2), (b)(3), (b)(4); 23.1553; 23.1555(a)(b), 23.1563(a) and 23.1567(a) as amended by Amendment 23-50. FAR 23.777(a)(b); 23.955(a)(2); 23.1337(a)(1), (a)(2), (b)(1), (c) as amended by Amendment 23-51. FAR 23.1305(a)(1), (a)(2), (a)(3); 23.1309(a)(1), (a)(2), (a)(3)(i), (b)(4)(i), (b)(5), (b)(6)(i) as amended by Amendment 23-52. 14 CFR 23.901(a)(b) as amended by Amendment 23-53.

Equivalent Level of Safety Items:

(1) Throttle Control  FAR § 23.1143(g); Refer to FAA letter dated 12/19/00
(3) Mixture Control  FAR § 23.1147(b); Refer to FAA letter dated 12/19/00
(5) Anti-collision Lights  FAR § 23.1401(d); Refer to FAA letter dated 02/20/01

Additions for the Garmin G1000 Integrated Cockpit System (ICS) Only:

Additions for the Garmin GFC-700 Automatic Flight Control System (AFCS) Only:


Special Conditions as follows:

Production Basis (Model T182T)

Equipment
The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the airplane for certification.

NOTE 1: Weight and Balance:
Serial Nos. T18208001 and On (Model T182T)
The certificated empty weight and corresponding center of gravity location must include unusable fuel of 30 lbs. at 48 inches aft of datum, and full oil of 16.2 lb. at 14.8 inches forward of datum.

NOTE 2: Pilot’s Operating Handbook and FAA Approved Airplane Flight Manual (AFM): part number T182TPHUS00 (or later approved revision) is applicable to Model T182T. The airplane must be operated according to the appropriate POH/AFM. Required placards are included in the AFM.

FAA Approved Airplane Flight Manual (AFM): Part Number T182TPHAUS-00 (or later FAA approved revisions) are applicable to the Model 182T equipped with Garmin G1000 Integrated Cockpit System. The airplane must be operated according to the appropriate AFM. Required placards are included in the AFM.

FAA Approved Airplane Flight Manual (AFM): Part Number T182TPHBUS-00 (or later FAA approved revisions) are applicable to the Model T182T equipped with Garmin G1000 Integrated Cockpit System and Garmin GFC-700 AFCS. The airplane must be operated according to the appropriate AFM. Required placards are included in the AFM.

NOTE 3: The CHT probe must be installed on Head #4.

NOTE 4: Special Ferry Flight Authorization. Flight Standards District Offices are authorized to issue Special overweight ferry flight authorizations. This airplane is structurally satisfactory for ferry flight if maintained within the following limits: (1) Takeoff weight must not exceed 130% of the maximum weight for Normal Category; and (2) The Never Exceed Airspeed (VNE) and Maximum Structural Cruising Speed (VC) must be reduced by 30%; and (3) Forward and aft center of gravity limits may not be exceeded; and (4) Structural load factors of +2.5 g. to -1.0 g. may not be exceeded. Requirements for any additional engine oil should be established in accordance with Advisory Circular AC23.1011-1. Increased stall speeds and reduced climb performance should be expected for the increased weights. Flight characteristics and performance at the increased weights have not been evaluated. Procedures for issuing a Flight Permit for operations of overweight aircraft may be found in Advisory Circular AC21-4B.

......END......
TYPE CERTIFICATE DATA SHEET NO. A7SO

This data sheet which is a part of type certificate No. A7SO, prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder Piper Aircraft, Inc.
2926 Piper Drive
Vero Beach, Florida 32960

Type Certificate Holder Record The New Piper Aircraft, Inc transferred TC A7SO to Piper Aircraft, Inc on August 7, 2006

I. - Model PA-34-200 (Seneca), 7 PCLM (Normal Category), Approved 7 May 1971.

Engines
S/N 34-E4, 34-7250001 through 34-7250214:
1 Lycoming LIO-360-C1E6 with fuel injector,
Lycoming P/N LW-10409 or LW-12586 (right side); and
1 Lycoming IO-360-C1E6 with fuel injector,
Lycoming P/N LW-10409 or LW 12586 (left side).

S/N 34-7250215 through 34-7450220:
1 Lycoming LIO-360-C1E6 with fuel injector,
Lycoming P/N LW-12586 (right side); and
1 Lycoming IO-360-C1E6 with fuel injector,
Lycoming P/N LW-12586 (left side).

Fuel
100/130 minimum grade aviation gasoline

Engine Limits
For all operations, 2700 r.p.m. (200 hp)

Propeller and Propeller Limits
Left Engine
1 Hartzell, Hub Model HC-C2YK-2 ( ) E, Blade Model C7666A-0;
1 Hartzell, Hub Model HC-C2YK-2 ( ) EU, Blade Model C7666A-0;
1 Hartzell, Hub Model HC-C2YK-2 ( ) EF, Blade Model FC7666A-0;
1 Hartzell, Hub Model HC-C2YK-2 ( ) EFU, Blade Model FC7666A-0;
1 Hartzell, Hub Model HC-C2YK-2CG (F), Blade Model (F) C7666A
(This model includes the Hartzell damper); or
1 Hartzell, Hub Model HC-C2YK-2CGU (F), Blade Model (F) C7666A
(This model includes the Hartzell damper).

Note: HC-( )2YK-( ) may be substituted by HC-( )2YR-( ) per Hartzell Service Advisory 61.
Propeller and Propeller Limits
(continued)

<table>
<thead>
<tr>
<th>Right Engine</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Hartzell, Hub Model HC-C2YK-2 ( ) LE, Blade Model JC7666A-0;</td>
</tr>
<tr>
<td>1 Hartzell, Hub Model HC-C2YK-2 ( ) LEU, Blade Model JC7666A-0;</td>
</tr>
<tr>
<td>1 Hartzell, Hub Model HC-C2YK-2 ( ) LEF, Blade Model FJC7666A-0;</td>
</tr>
<tr>
<td>1 Hartzell, Hub Model HC-C2YK-2 ( ) LEFU, Blade Model FJC7666A-0;</td>
</tr>
<tr>
<td>1 Hartzell, Hub Model HC-C2YK-2CLG (F), Blade Model (F) JC7666A (This model includes the Hartzell damper); or</td>
</tr>
<tr>
<td>1 Hartzell, Hub Model HC-C2YK-2CLGU (F), Blade Model (F) JC7666A (This model includes the Hartzell damper).</td>
</tr>
</tbody>
</table>

Note: HC-( )2YK-( ) may be substituted by HC-( )2YR-( ) per Hartzell Service Advisory 61.

Pitch setting: High 79° to 81°, Low 13.5° at 30° station.
Diameter: Not over 76", not under 74".
No further reduction permitted.

Spinner: Piper P/N 96388 Spinner Assembly and P/N 96836 Cap Assembly, or P/N 78359-0 Spinner Assembly and P/N 96836-2 Cap Assembly (See NOTE 4)
Governor Assembly:
1 Hartzell hydraulic governor, Model F-6-18AL (Right);
1 Hartzell hydraulic governor, Model F-6-18A (Left).

Avoid continuous operation between 2200 and 2400 r.p.m. unless aircraft is equipped with Hartzell propellers which incorporates Hartzell damper on both left and right engine as noted above.

Airspeed Limits

<table>
<thead>
<tr>
<th>Airspeed Limits</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_{NE}$ (Never exceed)</td>
<td>217 m.p.h. (188 knots)</td>
</tr>
<tr>
<td>$V_{NO}$ (Maximum structural cruise)</td>
<td>190 m.p.h. (165 knots)</td>
</tr>
<tr>
<td>$V_A$ (Maneuvering, 4200 lb.)</td>
<td>146 m.p.h. (127 knots)</td>
</tr>
<tr>
<td>$V_A$ (Maneuvering, 4000 lb.)</td>
<td>146 m.p.h. (127 knots)</td>
</tr>
<tr>
<td>$V_A$ (Maneuvering, 2743 lb.)</td>
<td>133 m.p.h. (115 knots)</td>
</tr>
<tr>
<td>$V_{FE}$ (Flaps extended)</td>
<td>125 m.p.h. (109 knots)</td>
</tr>
<tr>
<td>$V_{LG}$ (Landing gear operating)</td>
<td></td>
</tr>
<tr>
<td>Extension</td>
<td>150 m.p.h. (130 knots)</td>
</tr>
<tr>
<td>Retract</td>
<td>125 m.p.h. (109 knots)</td>
</tr>
<tr>
<td>$V_{LE}$ (Landing gear extended)</td>
<td>150 m.p.h. (130 knots)</td>
</tr>
<tr>
<td>$V_{MC}$ (Minimum control speed)</td>
<td>80 m.p.h. (69 knots)</td>
</tr>
</tbody>
</table>

C.G. Range (Gear Extended)

<table>
<thead>
<tr>
<th>C.G. Range (Gear Extended)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>S/N 34-E4, 34-7250001 through 34-7250214 (See NOTE 3):</td>
<td></td>
</tr>
<tr>
<td>(+86.4) to (+94.6) at 4000 lb.</td>
<td></td>
</tr>
<tr>
<td>(+82.0) to (+94.6) at 3400 lb.</td>
<td></td>
</tr>
<tr>
<td>(+80.7) to (+94.6) at 2780 lb.</td>
<td></td>
</tr>
<tr>
<td>S/N 34-7250215 through 34-7450220:</td>
<td></td>
</tr>
<tr>
<td>(+87.9) to (+94.6) at 4200 lb.</td>
<td></td>
</tr>
<tr>
<td>(+82.0) to (+94.6) at 3400 lb.</td>
<td></td>
</tr>
<tr>
<td>(+80.7) to (+94.6) at 2780 lb.</td>
<td></td>
</tr>
<tr>
<td>Straight line variation between points given.</td>
<td></td>
</tr>
<tr>
<td>Moment change due to gear retracting landing gear (-32 in.-lb.)</td>
<td></td>
</tr>
</tbody>
</table>

Empty Weight C.G. Range
None

Maximum Weight

<table>
<thead>
<tr>
<th>Maximum Weight</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>S/N 34-E4, 34-7250001 through 34-7250214:</td>
<td></td>
</tr>
<tr>
<td>4000 lb.- Takeoff</td>
<td></td>
</tr>
<tr>
<td>4000 lb. - Landing</td>
<td></td>
</tr>
<tr>
<td>See NOTE 3.</td>
<td></td>
</tr>
</tbody>
</table>
Maximum Weight
S/N 34-7250215 through 34-7450220:
4200 lb. - Takeoff
4000 lb. - Landing

No. of Seats
7 (2 at +85.5, 3 at +118.1, 2 at +155.7)

Maximum Baggage
200 lb. (100 lb. at +22.5, 100 lb. at +178.7)

Fuel Capacity
98 gallons (2 wing tanks) at (+93.6) (93 gallons usable)
See NOTE 1 for data on system fuel.

Oil Capacity
8 qts. per engine (6 qts. per engine usable)
See NOTE 1 for data on system oil.

Control Surface Movements

<table>
<thead>
<tr>
<th>Surface</th>
<th>Movement</th>
<th>Up</th>
<th>Down</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ailerons</td>
<td>±2°</td>
<td>30°</td>
<td>15°</td>
</tr>
<tr>
<td>Stabilator</td>
<td>Up</td>
<td>12.5°</td>
<td>7.5°</td>
</tr>
<tr>
<td>Rudder</td>
<td>±1°</td>
<td>35°</td>
<td>35°</td>
</tr>
<tr>
<td>Stabilator Trim</td>
<td>Down</td>
<td>10.5°</td>
<td>6.5°</td>
</tr>
<tr>
<td>Tab</td>
<td>(Stabilator neutral)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wing Flaps</td>
<td>±2°</td>
<td>0°</td>
<td>40°</td>
</tr>
<tr>
<td>Rudder Trim Tab</td>
<td>±1°</td>
<td>17°</td>
<td>22°</td>
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Nose Wheel

<table>
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<th>S/N</th>
<th>Travel</th>
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</thead>
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<tr>
<td>S/N 34-E4, 34-7250001 through 34-7350353:</td>
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<tr>
<td>Travel</td>
<td>±1°</td>
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</table>

Nose Wheel

<table>
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<th>S/N</th>
<th>Travel</th>
</tr>
</thead>
<tbody>
<tr>
<td>S/N 34-7450001 through 34-7450220:</td>
<td></td>
</tr>
<tr>
<td>Travel</td>
<td>±1°</td>
</tr>
</tbody>
</table>

Manufacturer’s Serial Number
34-E4, 34-7250001 through 34-7450220 (See NOTE 7).

II. - Model PA-34-200T (Seneca II), 7 PCLM (Normal Category), Approved July 18, 1974.
Same as Model PA-34-200 series except engine installation, maximum gross weight, and other minor changes.

Engines
1 Teledyne Continental TSIO-360-E or TSIO-360-EB (left engine),
1 Teledyne Continental LTSIO-360-E or LTSIO-360-EB (right engine).

Fuel
100/130 minimum grade aviation gasoline

Engine Limits
For all operations, 2575 r.p.m. and 40° Hg.
Manifold pressure, 200 hp @ S.L. and 215 hp @ 12,000 ft.

Propeller and Propeller Limits

Left engine
1 Hartzell, Hub Model BHC-C2YF-2 ( )F (See NOTE 10)
or BHC-C2YF-2 ( )UF; Blade Model FC8459-8R or FC8459B-8R.

Right engine
1 Hartzell, Hub Model BHC-C2YF-2 ( )L ( )F (See NOTE 10)
or BHC-C2YF-2 ( )L ( )UF; Blade Model FJC8459-8R or FJC8459B-8R.

Pitch setting at 30° station:
Hub Serial Numbers prior to AN3943:
High 79.3° ± 2.0°, Low 14.4° ± 0.2° or High 80.0° to 81.5°, Low 14.4° ± 0.2°.
Hub Serial Numbers AN3943 and subsequent:
High 80.0° to 81.5°, Low 14.4° ± 0.2°.
Propeller and Propeller Limits
(continued)
Diameter: Not over 76", not under 75".
No further reduction permitted.

Spinner: Piper P/N 37138-0 Spinner Assembly (left hand),
Piper P/N 37138-1 Spinner Assembly (right hand) (See NOTE 4).

Governor Assembly:
1 Woodward hydraulic governor, Model C210659 (left),
1 Woodward hydraulic governor, Model 210658 (right); or
1 Hartzell hydraulic governor, Model E-3 (left) and
1 Hartzell hydraulic governor, Model E-3L (right); or
1 Hartzell hydraulic governor, Model E-8L (right)
(E-8L Governor used with Synchrophaser).

Avoid continuous operation between 2000 and 2200 r.p.m. with engine manifold pressure above 32" Hg.

Avoid continuous ground operation in cross and tail winds over 10 knots between 1700 and 2100 r.p.m.

S/N 34-7970001 through 34-8170092:
Left Engine
1 McCauley, Hub Model 3AF34C502, Blade Model 80 HA-4
Right Engine
1 McCauley, Hub Model 3AF34C503, Blade Model L80 HA-4

Pitch setting: 
High 81.0° to 83.5°, Low 12.0° ± .2° at 30" station.
Diameter: Not over 76", not under 75".
No further reduction permitted.

Spinner: Piper P/N PS50077-49 Spinner Assembly See NOTE 4.

Governor Assembly:
1 Woodward hydraulic governor, Model C210659 (left),
1 Woodward hydraulic governor, Model 210658 (right);
1 Hartzell hydraulic governor, Model E-3 (left),
1 Hartzell hydraulic governor, Model E-3L (right); or
1 Hartzell hydraulic governor, Model E-8L (right)
(E-8L Governor used with Synchrophasers).

Synchrophaser for S/N 34-7970001 through 34-8170092:
Piper Drawing No. 36890 Synchrophaser Installation

Airspeed Limits
\[ V_{NE} \text{ (Never exceed)} \quad 224 \text{ m.p.h. (195 knots)} \]
\[ V_{NO} \text{ (Maximum structural cruise)} \quad 190 \text{ m.p.h. (165 knots)} \]
\[ V_{A} \text{ (Maneuvering)} \quad 140 \text{ m.p.h. (122 knots)} \]
\[ V_{FE} \text{ (Flaps extended)} \quad 125 \text{ m.p.h. (109 knots)} \]
\[ V_{LO} \text{ (Landing gear operating) Extension} \quad 150 \text{ m.p.h. (130 knots)} \]
\[ V_{LO} \text{ (Landing gear operating) Retract} \quad 125 \text{ m.p.h. (109 knots)} \]
\[ V_{LE} \text{ (Landing gear extended)} \quad 150 \text{ m.p.h. (130 knots)} \]
\[ V_{MC} \text{ (Minimum control speed)} \quad 80 \text{ m.p.h. (69 knots)} \]

C.G. Range (Gear Extended)
(+90.6) to (+94.6) at 4570 lb.
(+82.0) to (+94.6) at 3400 lb.
Straight line variation between points given.
Moment change due to retracting landing gear (-32 in.-lb.).

Empty Weight C.G. Range
None
Maximum Weight
4570 lb. - Takeoff
4342 lb. - Landing (All weight in excess of 4000 lb. must be fuel)
Zero fuel weight may be increased up to a maximum of 4077.7 lb. when approved wing options are installed.
See NOTE 11 for optional weights.

No. of Seats
7 (2 at +85.5, 3 at +118.1, 2 at +155.7)
7 (2 at +85.5, 3 at +118.1, 2 at +157.6)
6 (2 at +85.5, *2 at +119.1, 2 at +157.6)
* - Optional Club Seats

Maximum Baggage
200 lb. (100 lb. at +22.5, 100 lb. at +178)

Fuel Capacity
98 gallons (2 wing tanks) at (+93.6) (93 gallons usable)
* 128 gallons (2 wing tanks) at (+93.6) (123 gallons usable)
* - Optional for S/N 34-7570001, 34-7670114 through 34-8170092.
See NOTE 1 for data on system fuel.

Oil Capacity
8 qts. per engine (5 qts. per engine usable)
See NOTE 1 for data on system oil.

Maximum Operating Altitude
25,000 feet

Control Surface Movements
Ailerons  (+2°) Up  35° Down  20°
Stabilator  Up  12.5° (+0°, -1°)
Rudder  (+1°) Left  35° Right  35°
Stabilator Trim Tab  Down  10.5° Up  6.5°
(Stabilator neutral)
Wing Flaps  (+2°) Up  0° Down  40°
Rudder Trim Tab  (+1°) Left  25° Right  25°
(Stabilator neutral)
Nose Wheel Travel  (+1°) Left  27° Right  27°

Manufacturer's Serial Number
34-7570001 through 34-8170092 (See NOTE 7).

IIIA. - Model PA-34-220T (Seneca III), 7 PCLM (Normal Category), Approved December 17, 1980.
Same as model PA-34-200T series except engines, windshield, instrument panel, landing gear, maximum gross weight and other minor changes.

Engines
1 Teledyne Continental TSIO-360-KB (left engine),
1 Teledyne Continental LTSIO-360-KB (right engine).

Fuel
100/100LL minimum grade aviation gasoline

Engine Limits
Takeoff, 5 minutes, 2800 r.p.m. and 40° Hg. manifold pressure  (220 hp)
Max. Continuous, 2600 r.p.m. and 40° Hg. manifold pressure  (200 hp)

Propeller and Propeller Limits
Left Engine
1 Hartzell, Hub Model BHC-C2YF-2 ( ) UF, Blade Model FC8459-8R.
Right Engine
1 Hartzell, Hub Model BHC-C2YF-2 ( )L ( )UF, Blade Model FJC8459-8R.
### Propeller and Propeller Limits

**Pitch setting:**
- High 80.0° to 81.5°, Low 12.6° ± 0.2° at 30" station.

**Diameter:**
- Not over 76", not under 75".
- No further reduction permitted.

**Spinner:**
- Piper P/N 37138-0 assembly (left hand),
- Piper P/N 37138-1 assembly (right hand).

See NOTE 4.

**Governor Assembly:**
- 1 Hartzell hydraulic governor; Model E-3-7 (left),
- 1 Hartzell hydraulic governor; Model E-3-7L (right); or
- 1 Hartzell hydraulic governor; Model E-8-7L (14V) or E-8-8L (28V) (right)
  with Synchrophaser Installation, Piper Drawing 36890 or 87719.

Avoid continuous ground operation in cross and tail winds of over 10 knots between 1700 and 2100 r.p.m.

Avoid continuous operation between 2000 and 2200 r.p.m. with manifold pressure above 32" Hg.

**Left Engine**
- 1 McCauley, Hub Model 3AF32C508, Blade Model 82NFA-6,

**Right Engine**
- 1 McCauley, Hub Model 3AF32C509, Blade Model L82NFA-6.

**Pitch setting:** High 81.0° to 83.5°, Low 11.0° ± 0.2° at 30" station.

**Diameter:** Not over 76", not under 75".

No further reduction permitted.

**Spinner:** Piper P/N PS50077-49 or P/N PS50077-78 Assembly

See NOTE 4.

**Governor Assembly:**
- 1 Hartzell hydraulic governor; Model E-3-7 (left),
- 1 Hartzell hydraulic governor; Model E-3-7L (right); or
- 1 Hartzell hydraulic governor; Model E-8-7L (14V) or E-8-8L (28V) (right)
  with Synchrophaser Installation, Piper Drawing No. 36890 or 87719.

### Airspeed Limits (IAS)

<table>
<thead>
<tr>
<th>Airspeed Limits (IAS)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>VNE (Never exceed)</td>
<td>205 knots</td>
</tr>
<tr>
<td>VNO (Maximum structural cruise)</td>
<td>166 knots</td>
</tr>
<tr>
<td>VA (Maneuvering) at 4750 lb.</td>
<td>140 knots</td>
</tr>
<tr>
<td>VFE (Flaps extended)</td>
<td>115 knots</td>
</tr>
<tr>
<td>VLO (Landing gear retracting)</td>
<td>108 knots</td>
</tr>
<tr>
<td>VLO (Landing gear extending)</td>
<td>130 knots</td>
</tr>
<tr>
<td>VLE (Landing gear extended)</td>
<td>130 knots</td>
</tr>
<tr>
<td>VMC (Minimum control speed)</td>
<td>66 knots</td>
</tr>
</tbody>
</table>

### C.G. Range (Gear Extended)

(+90.6) to (+94.6) at 4750 lb.

(+86.7) to (+94.6) at 4250 lb.

(+82.0) to (+94.6) at 3400 lb.

Straight line variation between points given.

Moment change due to retracting landing gear (-32 in.-lb.)

### Empty Weight C.G. Range

None
Maximum Weight
4773 lb. - Ramp
4750 lb. - Takeoff
4513 lb. - Landing
4470 lb. - Zero Fuel
See NOTE 12 and 13 for optional weights.

No. of Seats
7 (2 at +85.5, 3 at +118.1, 2 at +157.6)
6 (2 at +85.5, *2 at +119.1, 2 at +157.6)
* - Optional Club Seats

Maximum Baggage
200 lb. (100 lb. at +22.5, 100 lb. at +178.7)

Fuel Capacity
98 gallons (2 wing tanks) at (+93.6) (93 gallons usable)
* 128 gallons (2 wing tanks) at (+93.6) (123 gallons usable)
* - Optional installation
See NOTE 1 for data on system fuel.

Oil Capacity
8 qts. per engine (5 qts. per engine usable)
See NOTE 1 for data on system oil.

Control Surface Movements

Ailerons (±2°) Up 35° Down 20°
Stabilator (±1°) Up 12.5° (+0°, −1°) Down 7.5° (+1°)
Rudder (±1°) Left 35° Right 35°
Stabilator Trim (±1°) Down 10.5° Up 6.5° (Stabilator neutral)
Tab
Wing Flaps (±2°) Up 0° Down 40°
Rudder Trim (±1°) Left 25° Right 25° (Rudder neutral)
Tab
Nose Wheel Travel (±1°) Left 27° Right 27°

Manufacturer's Serial Number
34-8133001 through 34-8633031 (14V); 3433001 through 3433172 (14V); and 3448001 through 3448037 (28V) (See NOTE 7).

IIIB. - Model PA-34-220T (Seneca IV), 6 PCLM (Normal Category), Approved November 17, 1993.
Same as Model PA-34-220T (Seneca III) except nose bowl assembly, instrument panel, interior and other minor changes.

Engines
1 Teledyne Continental TSIO-360-KB (left engine),
1 Teledyne Continental LTSIO-360-KB (right engine).

Fuel
100/100LL minimum grade aviation gasoline

Engine Limits
Takeoff, 5 minutes, 2800 r.p.m. and 40° Hg. manifold pressure (220 hp)
Max. Continuous, 2600 r.p.m. and 40° Hg. manifold pressure (200 hp)

Propeller and Propeller Limits

Left Engine
1 Hartzell, Hub Model BHC-C2YF-2 ( ) UF, Blade Model FC8459-8R.

Right Engine
1 Hartzell, Hub Model BHC-C2YF-2 ( ) L ( )UF, Blade Model FJC8459-8R.

Pitch setting: High 80.0° to 81.5°, Low 12.6° ± 0.2° at 30 ° station.
Diameter: Not over 76", not under 75".
No further reduction permitted.
Propeller and Propeller Limits (cont'd)

Spinner: Piper P/N 37138-0 Assembly (left hand), Piper P/N 37138-1 Assembly (right hand).
Governor Assembly:
1 Hartzell hydraulic governor; Model E-3-7 (left),  
1 Hartzell hydraulic governor; Model E-3-7L (right); or  
1 Hartzell hydraulic governor; Model E-8-8L (right) with Synchrophaser Installation, Piper Drawing No. 87719.

Avoid continuous ground operation in cross and tail winds between 1700 and 2100 r.p.m.  
Avoid continuous operation between 2000 and 2200 r.p.m. with manifold pressure above 32" Hg.

Left Engine
1 McCauley, Hub Model 3AF32C508, Blade Model 82NFA-6.

Right Engine
1 McCauley, Hub Model 3AF32C509, Blade Model L82NFA-6.

Pitch setting: High 81.0° to 83.5°, Low 11.0° ± 0.2° at 30" station.
Diameter: Not over 76", not under 75".
No further reduction permitted.

Spinner: Piper P/N PS50077-78 Assembly
Governor Assembly:
1 Hartzell hydraulic governor; Model E-3-7 (left),  
1 Hartzell hydraulic governor; Model E-3-7L (right); or  
1 Hartzell hydraulic governor; Model E-8-8L (right) with Synchrophaser Installation, Piper Drawing No. 87719.

Airspeed Limits (IAS)

$V_{NE}$ (Never exceed) 205 knots 
$V_{NO}$ (Maximum structural cruise) 166 knots 
$V_A$ (Maneuvering) at 4750 lb. 140 knots 
$V_{FE}$ (Flaps extended) 115 knots 
$V_{LO}$ (Landing gear retracting) 108 knots 
$V_{LQ}$ (Landing gear extending) 130 knots 
$V_{LE}$ (Landing gear extended) 130 knots 
$V_{MC}$ (Minimum control speed) 66 knots 

C.G. Range (Gear Extended)

(+90.6) to (+94.6) at 4750 lb.  
(+86.7) to (+94.6) at 4250 lb.  
(+82.0) to (+94.6) at 3400 lb.  
Straight line variation between points given.  
Moment change due to retracting landing gear (-32 in.-lb.)

Empty Weight C.G. Range
None

Maximum Weight
4773 lb. - Ramp  
4750 lb. - Takeoff  
4513 lb. - Landing  
4470 lb. - Zero Fuel  
See NOTE 14 and 15 for optional weights.

No. of Seats
6 (2 at +85.5, 2 at +119.1, 2 at +157.6)

Maximum Baggage
200 lb. (100 lb. at +22.5, 100 lb. at +178.7)

Fuel Capacity
128 gallons (2 wing tanks) at (+93.6) (123 gallons usable)  
See NOTE 1 for data on system fuel.
Oil Capacity

8 qts. per engine (5 qts. per engine usable)
See NOTE 1 for data on system oil.

Maximum Operating Altitude

25,000 feet

Control Surface Movements

<table>
<thead>
<tr>
<th>Surface</th>
<th>Movement</th>
<th>High</th>
<th>Low</th>
<th>Tab</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ailerons</td>
<td>Up</td>
<td>35°</td>
<td>20°</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stabilator</td>
<td>Up</td>
<td>12.5° (+0°, −1°)</td>
<td>7.5° (±1°)</td>
<td>(Stabilator neutral)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rudder</td>
<td>Left</td>
<td>35°</td>
<td>35°</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stabilator Trim Tab</td>
<td>Down</td>
<td>10.5°</td>
<td>6.5°</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wing Flaps</td>
<td>Up</td>
<td>0°</td>
<td>40°</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rudder Trim Tab</td>
<td>Left</td>
<td>25°</td>
<td>25°</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Nose Wheel Travel

(±1°) Left 27° Right 27°

Manufacturer’s Serial Number

3448038 through 3448079, and 3447001 through 3447029.

HHC. - Model PA-34-220T (Seneca V), 6 PCLM (Normal Category), Approved December 11, 1996.

Same as Model PA-34-220T (Seneca IV) except engine installation, instrument panel, interior and other minor changes.

Engines

1 Teledyne Continental TSIO-360-RB (left engine),
1 Teledyne Continental LTSIO-360-RB (right engine).

Fuel

100/100LL minimum grade aviation gasoline

Engine Limits

Takeoff and Maximum Continuous Operation, 2600 r.p.m. and 38” Hg.
manifold pressure (220 hp)

Propeller and Propeller Limits

Left Engine
1 Hartzell, Hub Model BHC-J2YF-2CUF, Blade Model FC8459(B)-8R.

Right Engine
1 Hartzell, Hub Model BHC-J2YF-2CLUF, Blade Model FJC8459(B)-8R.

Pitch setting: High 80.0° to 81.5°, Low 14.6° ± 0.2° at 30” station.
Diameter: Not over 76”, not under 75”.
No further reduction permitted.

Spinner: Piper P/N 37138-6 Assembly (left hand),
Piper P/N 37138-7 Assembly (right hand).

Governor Assembly:
1 Hartzell hydraulic governor; Model E-3-9 (left),
1 Hartzell hydraulic governor; Model E-3-9L (right); or
1 Hartzell hydraulic governor; Model E-8-9L (right) with Synchrophaser Installation.

Avoid continuous ground operation in cross and tail winds between 1600 and 2100 r.p.m..

Avoid continuous operation between 1900 and 2100 r.p.m. with manifold pressure above 32” Hg.
Propeller and Propeller Limits

Left Engine
1 McCauley, Hub Model 3AF32C522, Blade Model 82NJA-6.

Right Engine
1 McCauley, Hub Model 3AF32C523, Blade Model L82NJA-6.

Pitch setting: Feather 82.1° ± 0.5°, Low 12.6° ± 0.2° at 30” station.
Diameter: Not over 76”, not under 75”.
No further reduction permitted.

Spinner: Piper P/N 100738-2 Assembly

Governor Assembly:
1 Hartzell hydraulic governor; Model E-3-9 (left),
1 Hartzell hydraulic governor; Model E-3-9L (right); or
1 Hartzell hydraulic governor; Model E-8-9L (right) with Synchrophaser Installation.

Airspeed Limits (IAS)

V_{NE} (Never exceed) 204 knots
V_{NO} (Maximum structural cruise) 164 knots
V_{A} (Maneuvering) at 4750 lb. 139 knots
V_{FE} (Flaps extended) 113 knots
V_{LO} (Landing gear retracting) 107 knots
V_{LO} (Landing gear extending) 128 knots
V_{LE} (Landing gear extended) 128 knots
V_{MC} (Minimum control speed) 66 knots

C.G. Range (Gear Extended)
(+90.6) to (+94.6) at 4750 lb.
(+86.7) to (+94.6) at 4250 lb.
(+82.0) to (+94.6) at 3400 lb.
Straight line variation between points given.
Moment change due to retracting landing gear (-32 in.-lb.)

Empty Weight C.G. Range
None

Maximum Weight
4773 lb. - Ramp
4750 lb. - Takeoff
4513 lb. - Landing
4479 lb. - Zero Fuel
See NOTE 16 for optional weights.

No. of Seats
6 (2 at +85.5, 2 at +119.1, 2 at +157.6)

Maximum Baggage
185 lb. (100 lb. at +22.5, 85 lb. at +178.7) (S/N 3449001 through 3449310 and 3449312 through 3449322)
200 lb. (100 lb. at +22.5, 100 lb. at +178.7) (S/N 3449311 and 3449323 and up)

Fuel Capacity
128 gallons (2 wing tanks) at (+93.6) (122 gallons usable)
See NOTE 1 for data on system fuel.

Oil Capacity
8 qts. per engine (5 qts. per engine usable)
See NOTE 1 for data on system oil.

Maximum Operating Altitude 25,000 feet
Control Surface Movements

<table>
<thead>
<tr>
<th>Surface</th>
<th>Movement</th>
<th>Up</th>
<th>Down</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ailerons</td>
<td>(±2°)</td>
<td>35°</td>
<td>20°</td>
</tr>
<tr>
<td>Stabilator</td>
<td>Up</td>
<td>12.5° (+0°, −1°)</td>
<td>7.5° (±1°)</td>
</tr>
<tr>
<td>Rudder</td>
<td>(±1°)</td>
<td>35°</td>
<td>35°</td>
</tr>
<tr>
<td>Stabilator Tab</td>
<td>Down</td>
<td>10.5°</td>
<td>6.5°</td>
</tr>
<tr>
<td>Rudder Tab</td>
<td>(Stabilator neutral)</td>
<td>0° (±1°)</td>
<td>40° (±2°)</td>
</tr>
<tr>
<td>Wing Flaps</td>
<td>Up</td>
<td>26°</td>
<td>26°</td>
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<tr>
<td>Rudder Trim Tab</td>
<td>(Rudder neutral)</td>
<td>Left</td>
<td>Right</td>
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<tr>
<td>Nose Wheel Travel</td>
<td>(Maximum)</td>
<td>27°</td>
<td>27°</td>
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</tbody>
</table>

Manufacturer’s Serial Number 3449001 and up.

DATA PERTINENT TO ALL MODELS

Datum 78.4” forward of wing leading edge from the inboard edge of the inboard fuel tank.

Leveling Means Two screws left side fuselage below window.

Certification Basis Type Certificate No. A7SO issued May 7, 1971, obtained by the manufacturer under the delegation option authorization.

Date of Type Certificate application July 23, 1968.

Model PA-34-200 (Seneca I):
FAR 23 as amended by Amendment 23-6 effective August 1, 1967; FAR 23.959 as amended by Amendment 23-7 effective September 14, 1969; and FAR 23.1557(c)(1) as amended by Amendment 23-18 effective May 2, 1977. Compliance with FAR 23.1419 as amended by Amendment 23-14 effective December 20, 1973, has been established with optional ice protection provisions.

Model PA-34-200T (Seneca II):
FAR 23 as amended by Amendment 23-6 effective August 1, 1967; FAR 23.901, 23.909, 23.959, 23.1041, 23.1043, 23.1047, 23.1143, 23.1305(b)(c)(h)(p) and 23.1527(b) as amended by Amendment 23-7 effective September 14, 1969; and FAR 23.1557(c)(1) as amended by Amendment 23-18 effective May 2, 1977.

Model PA-34-220T (Seneca III and IV):
FAR 23 as amended by Amendment 23-6 effective August 1, 1967; FAR 23.207, 23.901, 23.909, 23.959, 23.1041, 23.1043, 23.1047, 23.1143, 23.1305(b)(c)(h)(p) and 23.1527 as amended by Amendment 23-7 effective September 14, 1969; FAR 23.201 and 23.203 as amended by Amendment 23-14 effective December 20, 1973; FAR 23.1557(c)(1) as amended by Amendment 23-18 effective May 2, 1977; FAR 23.175(a) and 23.1581(b)(2) as amended by Amendment 23-21 effective March 1, 1978; FAR 23.1545(a) as amended by Amendment 23-23 effective December 1, 1978; and FAR 36 through Amendment 36-9 effective January 15, 1979.
Certification Basis (continued)

Model PA-34-220T (Seneca V):

Compliance with the requirements of FAR 23.1419 as amended by Amendment 23-14 effective December 20, 1973, and FAR 23.1441 as amended by Amendment 23-9 effective June 17, 1970, has been established with optional ice protection provisions and optional supplemental oxygen equipment, respectively.


Production Basis

Production Certificate No. 206.
Production Limitation Record issued and the manufacturer is authorized to issue an airworthiness certificate under the delegation option provisions of FAR 21.
The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. In addition, the following items of equipment are required:

<table>
<thead>
<tr>
<th>MODEL</th>
<th>AFM/POH</th>
<th>REPORT NO.</th>
<th>APPROVED</th>
<th>SERIAL EFFECTIVITY</th>
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<tbody>
<tr>
<td>PA-34-200</td>
<td>AFM</td>
<td>VB-353</td>
<td>7/2/71</td>
<td>34-E4, 34-7250001 through 34-7250214</td>
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<tr>
<td>(Seneca)</td>
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<tr>
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<td>AFM</td>
<td>VB-423</td>
<td>5/20/72</td>
<td>34-7250001 through 34-7250189 when Piper Kit 760-607 is installed; 34-7250190 through 34-7250214 when Piper Kit 760-611 is installed; and 34-7250215 through 34-7350353</td>
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<td></td>
<td>AFM</td>
<td>VB-563</td>
<td>5/14/73</td>
<td>34-7450001 through 34-7450220</td>
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<td>AFM Supp.</td>
<td>VB-588</td>
<td>7/20/73</td>
<td>34-7250001 through 34-7450039 when propeller with dampers are installed</td>
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<td>AFM Supp.</td>
<td>VB-601</td>
<td>11/9/73</td>
<td>34-7250001 through 34-745017 when ice protection system is installed</td>
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<td>PA-34-200T</td>
<td>AFM</td>
<td>VB-628</td>
<td>7/18/74</td>
<td>34-7570001 through 34-7670371</td>
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<td>(Seneca II)</td>
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<td>POH</td>
<td>VB-850</td>
<td>8/23/76</td>
<td>34-7770001 through 34-8170092</td>
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<td>POH</td>
<td>VB-1140</td>
<td>6/30/80</td>
<td>34-7770001 through 34-8170092 when Piper Kit 764-048V is installed</td>
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<td>AFM</td>
<td>VB-1245</td>
<td>3/9/84</td>
<td>34-7570001 through 34-7670371 when Piper Kit 765-110 is installed</td>
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</tbody>
</table>
NOTE 1  Current Weight and Balance Report, including list of equipment included in certificated empty weight, and loading instructions when necessary, must be provided for each aircraft at the time of original certification.

The certificated empty weight and corresponding center of gravity locations must include undrainable system oil (not included in oil capacity) and unusable fuel as noted below:

- **Fuel:** 30.0 lb. at (+103.0) for PA-34 series, except Model PA-34-220T (Seneca V), S/N 3449001 and up
- **Fuel:** 36.0 lb. at (+103.0) for Model PA-34-220T (Seneca V), S/N 3449001 and up
- **Oil:** 6.2 lb. at (+39.6) for Model PA-34-200
- **Oil:** 12.0 lb. at (+43.7) for Models PA-34-200T and PA-34-220T

NOTE 2  All placards required in the approved Airplane Flight Manual or Pilot's Operating Handbook and approved Airplane Flight Manual of Pilot's Operating Handbook supplements must be installed in the appropriate location.

NOTE 3  The Model PA-34-200; S/N 34-E4, 34-7250001 through 34-7250189, may be operated at a maximum takeoff weight of 4200 lb. when Piper Kit 760-607 is installed.  S/N 34-7250190 through 34-7250214 may be operated at a maximum takeoff weight of 4200 lb. when Piper Kit 760-611 is installed.

NOTE 4  The Model PA-34-200; S/N 34-E4, 34-7250001 through 34-7250189, may be operated without spinner domes or without spinner domes and rear bulkheads when Piper Kit 760-607 has been installed.  S/N 34-7250190 through 34-7250214 may be operated without spinner domes or without spinner domes and rear bulkheads when Piper Kit 760-611 has been installed.  The Model PA-34-200; S/N 34-7250215 through 34-7450220, and the Model PA-34-200T; S/N 34-7570001 through 34-8170092, may be operated without spinner domes or without spinner domes and rear bulkheads.
The Model PA-34-200T; S/N 34-7970001 through 34-8170092, equipped with McCauley three-bladed propellers, may be operated with spinner dome and rear bulkhead removed. The Model PA-34-220T; S/N 34-8133001 through 34-8633031, 3433001 through 3433172, and 3448001 through 3448037, with two-bladed Hartzell propellers may be operated without spinner domes or without spinner domes and rear bulkheads. With three-bladed McCauley propellers, this model may be operated without spinner dome and rear bulkhead.

NOTE 5
The Model PA-34-200 may be operated in known icing conditions when equipped with spinner assembly and the following kits:
(a) S/N 34-E4, 34-7250001 through 34-7250189: Piper Kit 760-781V and Piper Kit 760-607 (See NOTE 3).
(b) S/N 34-7250190 through 34-7250214: Piper Kit 760-781V and Piper Kit 760-611 (See NOTE 3).
(c) S/N 34-7250215 through 34-7450220: Piper Kit 760-781V.

NOTE 6
Model PA-34-200T; S/N 34-7570001 through 34-8170092, may be operated in known icing conditions when equipped with deicing equipment installed per Piper Drawing No. 37700 and spinner assembly.

NOTE 7
The following serial numbers are not eligible for import certification to the U.S.:
PA-34-200:
34-7350283, 34-7350299, 34-7350309, and 34-7450187.
PA-34-200T:
PA-34-220T:
NOTE 8   Model PA-34-200; S/N 34-E4, S/N 34-7250001 through 34-7450220, and Model PA-34-200T; S/N 34-7570001 through 34-8170092, and Model PA-34-220T may be operated subject to the limitations listed in the Airplane Flight Manual or Pilot's Operating Handbook with rear cabin and cargo door removed.

NOTE 9   In the following serial numbered aircraft, rear seat location is farther aft as shown and the center seats may be removed and replaced by CLUB SEAT INSTALLATION, which has a more aft C.G. location as shown in "No. of Seats," above:

PA-34-200T: S/N 34-7770001 through 34-8170092.

NOTE 10   These propellers are eligible on Teledyne Continental L/TSIO-360-E only.

NOTE 11   With Piper Kit 764-048V installed weights are as follows:
           4407 lb. - Takeoff
           4342 lb. - Landing  (All weight in excess of 4000 lb. must be fuel)
           Zero fuel weight may be increased to a maximum of 4077.7 lb. when approved wing options are installed (See POH VB-1140).

NOTE 12   With Piper Kit 764-099V installed, weights are as follows:
           4430 lb. - Ramp
           4407 lb. - Takeoff, Landing, and Zero Fuel (See POH VB-1150).

NOTE 13   With Piper Kit 766-203 installed, weights are as follows:
           4430 lb. - Ramp
           4407 lb. - Takeoff, Landing and Zero Fuel (See POH VB-1259).

NOTE 14   With Piper Kit 766-283 installed, weights are as follows:
           4430 lb. - Ramp
           4407 lb. - Takeoff, Landing and Zero Fuel (See POH VB-1558).

NOTE 15   With Piper Kit 766-608 installed, weights are as follows:
           4430 lb. - Ramp
           4407 lb. - Takeoff, Landing and Zero Fuel (See POH VB-1620).

NOTE 16   With Piper Kit 766-632 installed, weights are as follows:
           4430 lb. - Ramp
           4407 lb. - Takeoff, Landing and Zero Fuel (See POH VB-1649).

NOTE 17   The bolt and stack-up that connect the upper drag link to the nose gear trunnion are required to be replaced every 500 hours time-in-service. The part numbers are as follows:
           1. Piper P/N 400 274 (AN7-35) bolt or Piper P/N 693 215 (NAS6207-50D) bolt;
           2. Piper P/N 407 591 (AN960-716L) washer, as applicable;
           3. Piper P/N 407 568 (AN 960-716) washer, as applicable;
           4. Piper P/N 404 396 (AN 320-7) nut;  and
           5. Piper P/N 424 085 cotter pin.

---END---
This data sheet, which is a part of Type Certificate No. A11EA, prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder  
Tiger Aircraft LLC  
226 Pilot Way  
Martinsburg, West Virginia 25401


Engine Lycoming O-235-C2C (Carburetor Setting 10-4953 or 10-3103-1)

Fuel 80/87 minimum grade aviation gasoline

Engine limits For all operations 2600 r.p.m. (108 h.p.)

Propeller and propeller limits 1. McCauley Model 1A105/SCM-7157 fixed pitch propeller. Static r.p.m. at maximum permissible throttle setting; not over 2300; not under 2150. Diameters: not over 71 inches, not under 69.5 inches.

2. McCauley Model 1A105/SCM-7153 and 1A105/SCM-7154 fixed pitch propellers. Static r.p.m. at maximum permissible throttle setting; not over 2400; not under 2250. Diameter: not over 71 inches, not under 69.5 inches.

3. McCauley Model 1A106/NCM-7157 fixed pitch propellers. Static r.p.m. at maximum permissible throttle setting; not over 2400; not under 2300. Diameter: not over 71 inches, not under 69.5 inches.

4. McCauley Model 1A106/NCM-7153 hub and fixed pitch propellers. Static r.p.m. at maximum permissible throttle setting; not over 2475; not under 2375. Diameter: not over 71 inches, not under 69.5 inches.

Airspeed limits (CAS)  
$V_{ne}$ Never exceed 195 m.p.h. (169 knots)  
$V_{no}$ Maximum structural cruising 144 m.p.h. (125 knots)  
$V_a$ Maneuvering (Utility Category) 132 m.p.h. (115 knots)  
$V_{a}$ Maneuvering (Normal Category) 125 m.p.h. (109 knots)  
$V_{fe}$ Flaps extended 100 m.p.h. (87 knots)  
Canopy half open 130 m.p.h. (113 knots)
Center of gravity (C.G) range
(+78.5) to (+81.0) at 1500 lb.
(+77.5) to (+81.0) at 1430 lb.
(+75.0) to (+81.0) at 1245 lb.
Straight line variation between points given.

Empty weight C.G. range None
Maximum weight 1430 lb. (Utility Category)
1500 lb. (Normal Category)
Number of seats 2 at (+92.5) (For optional child's seat refer to Equipment List.)
Maximum baggage 100 lb. at (+120)
Fuel capacity 24 gal. (2 wing tanks) at (+84.5) (See Note 1 for unusable fuel)
Oil capacity 6 qt. at (+39) (2 qt. minimum)
Control surface movements Elevator 25° ± 2° up 15° ± 2° down
Rudder 25° ± 2° left 25° ± 2° right
Ailerons 25° ± 2° up 20° ± 2° down
Flaps 30° ± 2° down
Elevator tab trim 21.5° ± 2° up 11° ± 2° down
Serial numbers eligible AA1-0001 and up (Normal and Utility Category)


Engine Lycoming O-235-C2C (Carburetor Setting 10-4953 or 10-3103-1)
Fuel 80/87 minimum grade aviation gasoline
Engine limits For all operations 2600 r.p.m. (108 h.p.)
Propeller and propeller limits 1. McCauley Model 1A105/SCM-7157 fixed pitch propeller. Static r.p.m. at maximum permissible throttle setting; not over 2300; not under 215C. Diameter: not over 71 inches, not under 69.5 inches.
2. McCauley Model 1A105/SCM-7153 and 1A105/SCM-7154 fixed pitch propellers. Static r.p.m. at maximum permissible throttle setting; not over 2400; not under 2250. Diameter: not over 71 inches, not under 69.5 inches.
3. McCauley Model 1A106/NCM-7157 fixed pitch propellers. Static r.p.m. at maximum permissible throttle setting; not over 2400; not under 2300. Diameter: not over 71 inches, not under 69.5 inches.

4. McCauley Model 1A106/NCM-7153 hub and fixed pitch propellers. Static r.p.m. at maximum permissible throttle setting; not over 2475; not under 2375. Diameter: not over 71 inches, not under 69.5 inches.

Airspeed limits (CAS)

| $V_{ne}$ | Never exceed | 195 m.p.h. (169 knots) |
| $V_{no}$ | Maximum structural cruising | 144 m.p.h. (125 knots) |
| $V_a$ | Maneuvering (Utility Category) | 127 m.p.h. (110 knots) |
| $V_{ae}$ | Maneuvering (Normal Category) | 120 m.p.h. (104 knots) |
| $V_{fe}$ | Flaps extended | 115 m.p.h. (100 knots) |
| Canopy half open | 130 m.p.h. (113 knots) |

Center of gravity (C.G) range

(+78.5) to (+80.0) at 1500 lb.
(+77.5) to (+80.0) at 1430 lb.
(+75.0) to (+80.0) at 1245 lb.
Straight line variation between points given.

Empty weight C.G. range None

Maximum weight 1430 lb. (Utility Category)
1500 lb. (Normal Category)

Number of seats 2 at (+92.5) (For optional child's seat refer to Equipment List.)

Maximum baggage 100 lb. at (+120)

Fuel capacity 24 gal. (2 wing tanks) at (+84.5) (See Note 1 for unusable fuel)

Oil capacity 6 qt. at (+39) (2 qt. minimum)

Control surface movements

| Elevator | 25° ± 2° up | 15° ± 2° down |
| Rudder | 25° ± 2° left | 25° ± 2° right |
| Ailerons | 25° ± 2° up | 20° ± 2° down |
| Flaps | 30° ± 2° down |
| Elevator tab trim | 14.5° ± 2° up | 18° ± 2° down |

Serial numbers eligible AA1A-0001 and up (Normal and Utility Category)
III - Model AA-1B, Trainer/TR-2, 2 PCLM, Utility Category, Approved June 30, 1972

Engine Lycoming O-235-C2C (Carburetor Setting 10-4953 or 10-3103-1)

Fuel 80/87 minimum grade aviation gasoline

Engine limits For all operations 2600 r.p.m. (108 h.p.)

Propeller and propeller limits
1. McCauley Model 1A105 with 1A105/SCM hub and 7157 blades. Static r.p.m. at maximum permissible throttle setting; not over 2300; not under 2150. Diameter: not over 71 inches, not under 69.5 inches.

2. McCauley Model 1A105/SCM-7153 and 1A105/SCM-7154 fixed pitch propellers. Static r.p.m. at maximum permissible throttle setting; not over 2400; not under 2250. Diameter: not over 71 inches, not under 69.5 inches.

3. McCauley Model 1A106/NCM-7153 fixed pitch propellers. Static r.p.m. at maximum permissible throttle setting; not over 2400; not under 2300. Diameter: not over 71 inches, not under 69.5 inches.

4. McCauley Model 1A106/NCM-7157 fixed pitch propellers. Static r.p.m. at maximum permissible throttle setting; not over 2475; not under 2375. Diameter: not over 71 inches, not under 69.5 inches.

Airspeed limits (CAS)

- $V_{ne}$: Never exceed 195 m.p.h. (169 knots)
- $V_{no}$: Maximum structural cruising 144 m.p.h. (125 knots)
- $V_{a}$: Maneuvering 135 m.p.h. (117 knots)
- $V_{fe}$: Flaps extended 115 m.p.h. (100 knots)
- Canopy half open 130 m.p.h. (113 knots)

Center of gravity (C.G) range

- (+78.25) to (+80.0) at 1560 lb.
- (+75.0) to (+80.0) at 1300 lb.

Fuel capacity 24 gal. (2 wing tanks) at (+84.5) (See Note 1 for unusable fuel)
Oil capacity 6 qt. at (+39) (2 qt. minimum)

Control surface movements
- Elevator 25° ± 2° up 15° ± 2° down
- Rudder 25° ± 2° left 25° ± 2° right
- Ailerons 25° ± 2° up 20° ± 2° down
- Flaps 25° ± 2° up 30° ± 2° down
- Elevator tab trim 14.5° ± 2° up 18° ± 2° down

Serial numbers eligible AA1B-0001 and up (Utility Category)

IV - Model AA-1C, T-Cat/Lynx, 2 PCLM, Utility Category. Approved December 21, 1976. (Same as AA-1B except for engine, propeller, engine mount/baffles, and AA-5 elevator).

Engine Lycoming O-235-L2C (Carburetor Setting 10-4953 or 10-3103-1)

Fuel 100/130 minimum grade aviation gasoline

Engine limits For all operations 2700 r.p.m. (115 h.p.)

Propeller and propeller limits
1. Sensenich Model 72CK-0-56 fixed pitch propeller. Static r.p.m. at maximum permissible throttle setting; not over 2275; not under 2125. No additional tolerance permitted. Diameter: not over 72 inches, not under 70.5 inches.
2. Sensenich Model 72CK-0-52 fixed pitch propellers. Static r.p.m. at maximum permissible throttle setting; not over 2475; not under 2325. No additional tolerance permitted. Diameter: not over 72 inches, not under 70.5 inches.

Airspeed limits (CAS)
- \( V_{ne} \) Never exceed 195 m.p.h. (169 knots)
- \( V_{no} \) Maximum structural cruising 144 m.p.h. (125 knots)
- \( V_{a} \) Maneuvering 135 m.p.h. (117 knots)
- \( V_{fe} \) Flaps extended 115 m.p.h. (100 knots)
- Canopy half open 130 m.p.h. (113 knots)

Center of gravity (C.G) range
- (+78.00) to (+81.0) at 1600 lb.
- (+75.5) to (+81.0) at 1385 lb.

Empty weight C.G. range None

Maximum weight 1600 lb.

Number of seats 2 at (+92.5) (For optional child’s seat refer to Equipment List.)

Maximum baggage 100 lb. at (+120)
Fuel capacity 24 gal. (2 wing tanks) at (+84.5) (See Note 1 for unusable fuel)

Oil capacity 6 qt. at (+39) (2 qt. minimum)

Control surface movements
- Elevator: 12° ± 1° up 28° ± 2° down
- Rudder: 25° ± 2° left 25° ± 2° right
- Ailerons: 25° ± 2° up 20° ± 2° down
- Flaps: 30° ± 2° down
- Elevator tab trim: 15° ± 4° up 15° ± 2° down

Serial numbers eligible AA1B-0601 and AA1C-0001 and up (Utility Category)

DATA PERTINENT TO ALL MODELS:
- Datum: 50.0 inches forward of front face of firewall (wing chord 48 inches for Model AA-1 and 49.32 inches for Models AA-1A, AA-1B, and AA-1C).
- Leveling means: Top of fuselage canopy slide rail.
- Certification basis: FAR 23 effective February 1, 1965, and amendments 23-1 and 23-2; and FAR 36 amended through 36-4 for the Model AA-1C.
- Production basis: None. Prior to original certification of each aircraft manufactured subsequent to May 12, 2000, an FAA representative must perform a detailed inspection for workmanship, materials and conformity with the approved technical data and a check of the flight characteristics.
- Equipment: The basic required equipment prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the airplane for certification. In addition, equipment for the particular operation must be installed.

NOTE 1. Current weight and balance report including a list of equipment included in the certificated empty weight, and loading instructions when necessary must be provided for each aircraft at the time of original certification.

The certificated empty weight and corresponding center of gravity location must include 12 lb. (2 gal.) at (+84.5) of unusable fuel.

NOTE 2. The following placards must be installed in full view of the pilot:

(a) Models AA-1 and AA-1A:

"THIS AIRPLANE MUST BE OPERATED AS A NORMAL OR UTILITY CATEGORY AIRPLANE IN COMPLIANCE WITH THE OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS, MARKINGS, AND MANUALS."

NORMAL CATEGORY AA-1 AA-1A
Maximum Design Weight 1500 lb. 1500 lb.
Design Maneuvering Speed, $V_a$ 125 mph CAS 120 mph CAS
Flight Load Factors:
- Flaps Up +3.8, -1.52 +3.8, -1.52
- Flaps Down +2.0 +3.5

NO AEROBATIC MANEUVERS INCLUDING SPINS APPROVED (AA-1 and AA-1A)
UTILITY CATEGORY

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<td>Maximum Design Weight</td>
<td>1430 lb</td>
<td>1430 lb</td>
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<tr>
<td>Design Maneuver Speed, $V_a$</td>
<td>130 mph CAS</td>
<td>127 mph CAS</td>
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<tr>
<td>Flight Load Factors:</td>
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<tr>
<td>Flaps Up</td>
<td>+4.4, -1.76</td>
<td>+4.4, -1.76</td>
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<tr>
<td>Flaps Down</td>
<td>+2.0</td>
<td>+3.5</td>
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ACROBATIC MANEUVERS ARE LIMITED TO THE FOLLOWING:

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<th>ENTRY SPEED (KNOTS, CAS)</th>
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<td>AA-1A</td>
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<tr>
<td>Chandelles</td>
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<td>127</td>
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<tr>
<td>Lazy Eights</td>
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<td>127</td>
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<td>Steep Turns</td>
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<td>127</td>
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<tr>
<td>Stalls (Except Whip Stalls)</td>
<td>Slow Deceleration</td>
<td>Slow Deceleration</td>
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Models AA-1B and AA-1C:

"THIS AIRPLANE MUST BE OPERATED AS A UTILITY CATEGORY AIRPLANE IN COMPLIANCE WITH THE OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS, MARKINGS, AND MANUALS."

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<th>AA-1B</th>
<th>AA-1C</th>
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<tbody>
<tr>
<td>Maximum Design Weight</td>
<td>1560 Lb</td>
<td>1600 Lb</td>
</tr>
<tr>
<td>Design Maneuver Speed, $V_a$</td>
<td>135 Mph Cas</td>
<td>117 Knots Cas</td>
</tr>
<tr>
<td>Flight Load Factors:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flaps Up</td>
<td>+4.4, -1.76</td>
<td>+4.4, -1.76</td>
</tr>
<tr>
<td>Flaps Down</td>
<td>+3.5</td>
<td>+3.5</td>
</tr>
</tbody>
</table>

ACROBATIC MANEUVERS ARE LIMITED TO THE FOLLOWING:

<table>
<thead>
<tr>
<th>MANEUVER</th>
<th>ENTRY SPEED (MPH, CAS)</th>
<th>ENTRY SPEED (KNOTS, CAS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AA-1B</td>
<td>AA-1C</td>
<td></td>
</tr>
<tr>
<td>Chandelles</td>
<td>135</td>
<td>117</td>
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<td>Lazy Eights</td>
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<td>Steep Turns</td>
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<td>117</td>
</tr>
<tr>
<td>Stalls (Except Whip Stalls)</td>
<td>Slow Deceleration</td>
<td>Slow Deceleration</td>
</tr>
</tbody>
</table>

Maximum Altitude Loss In Stalls
- 300 Feet (AA-1)
- 250 Feet (AA-1A)
- 300 Feet (AA-1B)
- 200 Feet (AA-1C)

Demonstrated Crosswind Velocity
- 15 Mph (AA-1)
- 13 mph (AA-1A)
- 18 mph (AA-1B)
- 16 knots (AA-1C)

KNOWN ICING CONDITIONS TO BE AVOIDED. (Models AA-1, AA-1A, and AA-1B)

THIS AIRPLANE NOT APPROVED FOR FLIGHT IN ICING CONDITIONS. (Model AA-1C)
All Models:

THIS AIRPLANE IS CERTIFICATED FOR THE FOLLOWING OPERATIONS AS OF DATE OF ORIGINAL AIRWORTHINESS CERTIFICATE: IFR, VFR, DAY, NIGHT. (When properly equipped per FAR 91)

REFER TO WEIGHT AND BALANCE DATA FOR LOADING INSTRUCTIONS.

READ FUEL GAGES IN LEVEL FLIGHT ONLY.

FOR NORMAL OPERATION, MAINTAIN FUEL BALANCE.

DEMONSTRATED FUEL UNBALANCE 7 GAL.

(b) On left side of cabin:

"130 MPH MAX WITH CANOPY OPEN TO HERE. NO FLIGHT WITH CANOPY OPEN BEYOND THIS POINT.” Placard Part No. 5803007-22 or equivalent. (Models AA-1, AA-1A, AA-1B)

"113 KNOTS MAX WITH CANOPY OPEN TO HERE. NO FLIGHT WITH CANOPY OPEN BEYOND THIS POINT.” Placard Part No. 5803007-51 or equivalent. (Model AA-1C).

(c) In baggage compartment (All Models):

"BAGGAGE CAPACITY 100 LBS. MAX.” Placard Part No. 803007-40 or equivalent.

(d) On instrument panel in full view of pilot (All Models):

"SPINS PROHIBITED.” Placard Part No. 803007-56 or equivalent.

(e) On instrument panel near the airspeed indicator stall speed vs. bank angle placard.

Placard Part No. 803007-53 (Model AA-1), 803007-54 (Model AA-1A), 803007-55 (Model AA-1B), 803007-67 (Model AA-1C).

NOTE 3. Deleted

....END....
AIRCRAFT SPECIFICATION NO. 1A6

Type Certificate Holder  Piper Aircraft, Inc.
2926 Piper Drive
Vero Beach, Florida  32960

Type Certificate Holder Record  The New Piper Aircraft, Inc transferred TC 1A6 to Piper Aircraft, Inc on August 7, 2006.

I - Model PA-22, 4 PCLM (Normal Category Only), Approved December 20, 1950

Engine  Lycoming O-290-D

Fuel  80/87 minimum grade aviation gasoline

Engine Limits  For all operations, 2600 rpm (125 hp)

Airspeed Limits

\[ V_{ne} \] (never exceed)  158 mph  (137 knots)

\[ V_{no} \] (maximum structural cruising)  126 mph  (110 knots)

\[ V_{p} \] (maneuvering)  106 mph  (92 knots)

\[ V_{fe} \] (flaps extended)  80 mph  (70 knots)

C. G. Range  (+17.5) to (+24.0) at 1800 lb.
(+10.0) to (+24.0) at 1380 lb. or less
Straight line variation between points given.

Empty Weight C. G. Range  None

Maximum Weight  1800 lb.
Number of Seats  4  (2 at +19.5 and 2 at +49)

Maximum Baggage  50 lb.  (+67)

Fuel Capacity  36 gallons  (2 Wing tanks at +24)

Oil Capacity  2 gallons  (-29)

Control Surface Movements
- Stabilizer: 1° Up  6½° Down
- Elevator: 24° Up  12° Down
- Aileron: 15° Up  15° Down
- Rudder: 16° Right  16° Left
- Flap: 40° Down

Serial Numbers Eligible  22-1 and up.

Required Equipment
In addition to the pertinent required basic equipment specified in CAR 3, the following items of equipment must be installed:
- Items 1, 101, 201(a), 202, 205(a), 206, and 401(a).

II. Model PA-22-135, 4 PCLM (Normal Category), Approved May 5, 1952

Engine  Lycoming O-290-D2

Fuel  80/87 minimum grade aviation gasoline

Engine Limits
- For all operations, 2600 rpm (135 hp)

Airspeed Limits
- \( V_{ne} \) (never exceed): 158 mph (137 knots)
- \( V_{no} \) (maximum structural cruising): 126 mph (110 knots)
- \( V_{p} \) (maneuvering): 106 mph (92 knots)
- \( V_{fe} \) (flaps extended): 80 mph (70 knots)

C. G. Range
- (+17.5) to (+24.0) at 1950 lb.
- (+10.0) to (+24.0) at 1380 lb. or less
- Straight line variation between points given.

Empty Weight C. G. Range  None

Maximum Weight  1950 lb.

Number of Seats  4  (2 at +21 and 2 at +49)
Maximum Baggage: 50 lb. (+67) May be increased to 100 lb. provided:
(a) Baggage compartment placard is changed to "Maximum Baggage 100 Pounds."
(b) Airplane Flight Manual, Item 401(c), is available in the airplane.

Fuel Capacity: 36 gallons (2 wing tanks at +24). See Item 104 for reserve tank.

Oil Capacity: 2 gallons (-29)

Control Surface Movements:
- Stabilizer: 1° Up, 6½° Down
- Elevator: 24° Up, 12° Down
- Aileron: 15° Up, 15° Down
- Rudder: 16° Right, 16° Left
- Flap: 40° Down

Serial Numbers Eligible: 22-534 and up.

Required Equipment: In addition to the pertinent required basic equipment specified in CAR 3, the following Items of equipment must be installed: Items 1, 103, 201(a), 202, 205(a), 206, and 401(b).

III - Model PA-22S-135, 3 PCSM (Normal Category), Approved May 14, 1954

Engine: Lycoming O-290-D2

Fuel: 80/87 minimum grade aviation gasoline

Engine Limits: For all operations, 2600 r.p.m. (135 hp)

Airspeed Limits:
- \( V_{ne} \) (never exceed): 140 mph (122 knots)
- \( V_{no} \) (maximum structural cruising): 117 mph (102 knots)
- \( V_p \) (maneuvering): 105 mph (91 knots)
- \( V_{fe} \) (flaps extended): 80 mph (70 knots)

C. G. Range: (+14.0) to (+20.0) at 1850 lb.
(+10.0) to (+20.0) at 1300 lb. or less
Straight line variation between points given.

![Diagram of Weight Distribution](image-url)

Empty Weight C. G. Range: None

Maximum Weight: 1850 lb.

Number of Seats: 4 (2 at +21 and 2 at +49)

Maximum Baggage: 50 lb. (+67)
Fuel Capacity: 36 gallons (2 wing tanks at +24). See Item 104 for reserve tank.

Oil Capacity: 2 gallons (-29)

Control Surface Movements:
- Stabilizer: 1° Up 6½° Down
- Elevator: 24° Up 12° Down
- Aileron: 15° Up 15° Down
- Rudder: 16° Right 16° Left
- Flap: 40° Down

Serial Numbers Eligible: 22-534 and up.

Required Equipment:
In addition to the pertinent required basic equipment specified in CAR 3, the following Items of equipment must be installed:
- Items 2, 103, 209, and 401(g).

Model PA-22-150, 2 PCLM (Utility Category). Approved May 24, 1957 (See NOTE 3 for limitations)

Engine: Lycoming O-320-A2A or O-320-A2B (Carburetor setting #10-3678-11, #10-3678-12 or #10-3678-32) (See Item 106 for optional engines)

Fuel: 80/87 minimum grade aviation gasoline

Engine Limits:
For all operations, 2700 r.p.m. (150 hp)

Airspeed Limits:
- $V_{ne}$ (never exceed): 170 mph (148 knots)
- $V_{no}$ (maximum structural cruising): 135 mph (117 knots)
- $V_p$ (maneuvering): 112 mph (97 knots)
- $V_{fe}$ (flaps extended): 95 mph (82 knots)

C. G. Range:
- Normal Category: (+17.5) to (+23.0) at 2000 lb.
- (+12.0) to (+23.0) at 1800 lb.
- (+9.5) to (+23.0) at 1400 lb. or less
- Utility Category: (+13.5) at 1680 lb.
- (+12.0) to (+13.5) at 1665 lb.
- (+9.5) to (+13.5) at 1400 lb. or less

Straight line variation between points given.

Empty Weight C. G. Range: None

Maximum Weight:
- Utility Category: 1680 lb.

Number of Seats: 4 (2 at +21 and 2 at +49)
- Rear seats not to be used when operating in the Utility Category.

Maximum Baggage: 100 lb. (+67) (No baggage allowed when operating in the Utility Category)
Fuel Capacity
36 gallons (2 wing tanks at +24) See Item 104 for reserve tank.

Oil Capacity
2 gallons (-29)

Control Surface Movements
- Stabilizer: 1° Up 6½° Down
- Elevator: 24° Up 12° Down
- Aileron: 15° Up 15° Down
- Rudder: 16° Right 16° Left
- Flap: 40° Down

Serial Numbers Eligible
22-2378, 22-2425 and up (Normal Category). See NOTE 3 for Utility Category.

Required Equipment
In addition to the pertinent required basic equipment specified in CAR 3, the following Items of equipment must be installed:
- Normal Category: Items 5, 103, 201(a), 202, 205(a), 206, and 401(h).
- Normal and Utility Category: Items 5, 103, 201(a), 202, 205(a), 206, 401(h), 401(r), and 407.

V. - Model PA-22S-150, 3 PCSM (Normal Category), Approved September 3, 1954

Engine
O-320-A2A Lycoming (Carburetor setting #10-3678-11, #10-3678-12) or O-320-A2B (Carburetor setting #10-3678-32) (See Item 106 for optional engines)

Fuel
80/87 minimum grade aviation gasoline

Engine Limits
For all operations, 2700 r.p.m. (150 hp)

Airspeed Limits
- $V_{ne}$ (never exceed): 158 mph (137 knots)
- $V_{no}$ (maximum structural cruising): 126 mph (109 knots)
- $V_{p}$ (maneuvering): 111 mph (96 knots)
- $V_{fe}$ (flaps extended): 80 mph (70 knots)

C. G. Range
(+14.0) to (+20.0) at 1950 lb.
(+12.0) to (+20.0) at 1800 lb.
(+10.0) to (+20.0) at 1500 lb. or less
Straight line variation between points given.

Empty Weight C. G. Range
None

Maximum Weight
1950 lb.

Number Seats
4 (2 at +21 and 2 at +49)

Maximum Baggage
100 lb. (+67)

Fuel Capacity
36 gallons (2 wing tanks at +24). See Item 104 for reserve tank.
Oil Capacity  2 gallons  (-29)

Control Surface Movements  Stabilizer  1° Up  6½° Down
Elevator  24° Up  12° Down
Aileron  15° Up  15° Down
Rudder  16° Right  16° Left
Flap  40° Down

Serial Numbers Eligible  22-2378, 22-2425 and up.

Required Equipment  In addition to the pertinent required basic equipment specified in CAR 3, the following Items of equipment must be installed:
Items 5, 103, 209 and 401(i).

VI - Model PA-22-160, 4 PCLM (Normal Category). Approved August 27, 1957
Model PA-22-160, 2 PCLM (Utility Category). Approved August 27, 1957 (See NOTE 3)


Fuel  91/96 minimum grade aviation gasoline

Engine Limits  For all operations, 2700 r.p.m. (160 hp)

Airspeed Limits
(CAS)  $V_{ne}$ (never exceed) 170 mph (148 knots)
$V_{no}$ (maximum structural cruising) 135 mph (117 knots)
$V_{p}$ (maneuvering) 112 mph (97 knots)
$V_{fe}$ (flaps extended) 95 mph (82 knots)

C. G. Range  Normal Category: (+17.5) to (+23.0) at 2000 lb.
(+12.0) to (+23.0) at 1800 lb.
(+9.5) to (+23.0) at 1400 lb. or less
Utility Category: (+13.5) at 1680 lb.
(+12.0) to (+13.5) at 1665 lb.
(+9.5) to (+13.5) at 1400 lb. or less

Straight line variation between points given.

Empty Weight C. G. Range  None

Maximum Weight  Normal Category: 2000 lb.
Utility Category: 1680 lb.

Number of Seats  4 (2 at +21 and 2 at +49)
Rear seats not to be used when operating in the Utility Category.

Maximum Baggage  100 lb. (+67) No baggage allowed when operating in the Utility Category.
Fuel Capacity  36 gallons  (2 wing tanks at +24). See Item 104 for reserve tank.

Oil Capacity  2 gallons  (-29)

Control Surface Movements  
- Stabilizer: 1° Up  6½° Down
- Elevator: 24° Up  12° Down
- Aileron: 15° Up  15° Down
- Rudder: 16° Right  16° Left
- Flap: 40° Down

Serial Numbers Eligible  22-2378, 22-2425 and up (Normal Category). See NOTE 3 for Utility Category.

Required Equipment  In addition to the pertinent required basic equipment specified in CAR 3, the following items of equipment must be installed:
- Normal Category: Items 7, 103, 201(a), 202, 205(a), 206, and 401(s).
- Normal and Utility Category: Items 7, 103, 201(a), 202, 205(a), 206, 401(s), 401(t), and 407.

VII - Model PA-22S-160. 3 PCSM (Normal Category). Approved October 25, 1957


Fuel  91/96 minimum grade aviation gasoline

Engine Limits  For all operations, 2700 r.p.m. (160 hp)

Airspeed Limits  
- $V_{ne}$ (never exceed): 158 mph (137 knots)
- $V_{no}$ (maximum structural cruising): 126 mph (109 knots)
- $V_p$ (maneuvering): 111 mph (96 knots)
- $V_{fe}$ (flaps extended): 80 mph (70 knots)

C. G. Range  
- (+14.0) to (+20.0) at 1950 lb.
- (+12.0) to (+20.0) at 1800 lb.
- (+10.0) to (+20.0) at 1500 lb. or less

Straight line variation between points given.

Empty Weight C. G. Range  None

Maximum Weight  1950 lb.

Number of Seats  4  (2 at +21 and 2 at +49)

Maximum Baggage  100 lb.  (+67)

Fuel Capacity  36 gallons  (2 wing tanks at +24). See Item 104 for reserve tank.
Oil Capacity
2 gallons (-29)

Control Surface Movements
- Stabilizer: 1° Up 6½° Down
- Elevator: 24° Up 12° Down
- Aileron: 15° Up 15° Down
- Rudder: 16° Right 16° Left
- Flap: 40° Down

Serial Numbers Eligible
22-2378, 22-2425 and up.

Required Equipment
In addition to the pertinent required basic equipment specified in CAR 3, the following items of equipment must be installed:
Items 7, 103, 209, and 401(v).

VIII - Model PA-22-108, 2 PCLM (Normal and Utility Category), Approved October 21, 1960

Engine
Lycoming O-235-C1 or O-235-C1B (Carburetor setting #10-3103-1)

Fuel
80/87 minimum grade aviation gasoline

Engine Limits
For all operations, 2600 r.p.m. (108 hp)

Airspeed Limits
- $V_{\text{ne}}$ (never exceed) 138 mph (120 knots)
- $V_{\text{no}}$ (maximum structural cruising) 110 mph (96 knots)
- $V_p$ (maneuvering) 104 mph (90 knots)

C. G. Range
- Normal Category: (+12.0) to (+16.25) at 1650 lb.
  (+9.5) to (+16.25) at 1300 lb. or less
- Utility Category: (+10.9) to (+14.00) at 1500 lb.
  (+9.5) to (+14.00) at 1300 lb. or less

Straight line variation between points given.

Empty Weight C. G. Range
None

Maximum Weight
- Normal Category: 1650 lb.
- Utility Category: 1500 lb.

Number of Seats
2 at (+21)

Maximum Baggage
100 lb. (+45) (Normal category only)

Fuel Capacity
18 gallons (+24) (See Item 108 for auxiliary tank)

Oil Capacity
1.5 gallons (-29)

Control Surface Movements
- Stabilizer: 1° Up 6½° Down
- Elevator: 24° Up 12° Down
- Aileron: 15° Up 15° Down
- Rudder: 16° Right 16° Left

Serial Numbers Eligible
22-8000 and up.
Required Equipment

In addition to the pertinent required basic equipment specified in CAR 3, the following Items of equipment must be installed:
Items 8, 201(a) or 211(a), 202, 205(a), 206, and 401(y).

Specifications Pertinent to All Models

Datum

Wing leading edge

Leveling Means

Plumb from hole in upper channel of front door to center punch mark on front seat cross tube.

Certification Basis

CAR 3, effective November 1, 1949, and Amendments 3-1 through 3-6, effective June 4, 1951.
Type Certificate No. 1A6 issued December 20, 1950.
Date of Application for Type Certificate September 13, 1950.

Production Basis

Approved for manufacture of spare parts only under Production Certificate No. 206.

Equipment

A plus (+) or minus (-) sign preceding the weight of an Item of equipment indicates net weight change when that Item is installed.

Approval for the installation of all Items of equipment listed herein has been obtained by the aircraft manufacturer except those Items preceded by an asterisk (*). The asterisk denotes that approval has been obtained by someone other than the aircraft manufacturer. An Item marked with an asterisk may not have been manufactured under an FAA monitored or approved quality control system, and therefore conformity must be determined if the Item is not identified by a Form FAA-186, PMA or other evidence or FAA production approval.

Propeller and Propeller Accessories

The following propellers are eligible at the limits shown for diameter and static r.p.m. at maximum permissible throttle setting, no additional tolerance permitted:

1. Propeller (with Lycoming O-290D or O-290-D2 engine)
   Sensenich 74FM59 or any other fixed pitch wood propeller which is rated for the engine power and speed:
   Static r.p.m.: Not over 2400, not under 2200.
   Diameter: Not over 74 inches, not under 70.5 inches
   +11 lb. (-50)

2. Propeller (with Lycoming O-290D or O-290-D2 engine) - fixed pitch metal
   (a) Sensenich M76AM-2 or +25 lb. (-50)
   (b) Sensenich M74DM +30 lb. (-50)
   Airplane Flight Manual shall be revised to reflect the subject propeller and limits.
   Landplane:
   Static r.p.m.: Not over 2450, not under 2150
   Diameter: Not over 74 inches, not under 72.5 inches
   Seaplane:
   Static r.p.m.: Not over 2450, not under 2350
   Diameter: Not over 74 inches, not under 72.5 inches

3. Propeller (with Lycoming O-290D or O-290-D2 engine)
   Koppers Aeromatic, F200-H/00-74E +34 lb. (-50)
   Parts List Assembly No. 4394H-1. Installation and operation must be accomplished in accordance with Koppers "Adjustment Instructions and Operation Limitations No. 58."
   Low pitch setting 14° at 24 in sta.
   Static r.p.m.: Not over 2600, not under 2550.
   Diameter: Not over 74 inches, not under 72.5 inches
4. Propeller (with Lycoming O-290D or O-290-D2 engine)  
   Sensenich hub CS3FM-4, blades PC374A7 or C374E, two position controllable.  
   Propeller control installation required as per Sensenich Dwg. D-3028, Revision E.  
   Blade pitch setting at 3/4 radius (27.75 in. station):  
     Low 13°, high 16.6°  
     Diameter: Not over 74 inches, not under 72.5 inches  
   +34 lb. (-50)

5. Propeller (with Lycoming O-320-A2A or O-320-A2B engine) - Fixed pitch metal  
   Sensenich M74DM  
   Landplane:  
     Static r.p.m.: Not over 2480, not under 2250.  
     Diameter: Not over 74 inches, not under 72.5 inches  
   Seaplane:  
     Static r.p.m.: Not over 2500, not under 2400  
     Diameter: Not over 74 inches, not under 72.5 inches  
   +30 lb. (-50)

6. Propeller (with Lycoming O-320-A1A or O-320-A1B engine) - constant speed controllable  
   Hartzell hub HC82XG-6, blades 7636D-4  
   Installed per Piper Dwg. No. 14747 when Item 105 (vacuum pump) is installed, or per  
   Piper Dwg. No. 14792, without vacuum pump.  
   Not eligible when Item 107 is installed.  
   Note 2(f) placard required.  
   Blade pitch settings at 30 in. sta.: Low 12°, high 26°.  
   Diameter: Not over 72 inches, not under 70 inches  
   Eligible only on Models PA-22-150 and PA-22S-150, Serial Nos. 22-3218, 22-3387  
   and up.  
   When this propeller is used on Model PA-22S-150, the engine side cowls shall be  
   installed per Piper Dwg. No. 14450.  
   +54 lb. (-50)

   Sensenich M74DM  
   Landplane:  
     Static r.p.m.: Not over 2450, not under 2250  
     Diameter: Not over 74 inches, not under 72 inches  
   Seaplane:  
     Static r.p.m.: Not over 2500, not under 2400  
     Diameter: Not over 74 inches, not under 72 inches  
   Applicable Airplane Flight Manual shall be revised by the Modifier and approved by  
   the applicable FAA Aircraft Certification Office to reflect this installation change.  
   +34 lb. (-50)

8. Propeller (with Lycoming O-235-C1 or O-235-C1B engine) - fixed pitch metal  
   Sensenich M76AM-2  
   Static r.p.m.: Not over 2450, not under 2200  
   Diameter: Not over 74 inches, not under 72.5 inches  
   +25 lb. (-50)

Engines and Engine Accessories - Fuel and Oil Systems

101. Oil cooler - Harrison No. AP06CJ04-02 or AP06CU04-2 and Piper Air Duct  
      +3 lb. (-18)

102. Oil filter, Fram PB-5, Kit No. K-520, Fram Dwg. No. 62832 and Instruction Sheet  
      No. 62831 (weight includes 1 quart oil)  
      +5 lb. (-18.5)

103. Oil Cooler Harrison No. AP13SJ03-01 or AP12CU03-01 installed in accordance  
      with Piper Dwg. 13724 or 14368  
      +6 lb. (-46)

104. Reserve 8 gallons fuel tank with electric transfer fuel pump installed in accordance  
      with Piper Dwg. 14454. When installed on Models PA-22S-135, PA-22S-150 or  
      PA-22S-160, fuselage reinforcement channel, Part No. 14725, also required.  
      NOTE 2(e) placard required.  
      +12 lb. (+46)

Airplane Flight Manual Supplement required:  
Item 401(j), Model PA-22-150  
Item 401(k) Model PA-22-135 (Serial Nos. 22-534 and up eligible),  
Item 401(p) Model PA-22S-135 (Serial Nos. 22-807 and up eligible),  
Item 401(q) Model PA-22S-150 (Serial Nos. 22-2378, 22-2425 and up eligible),  
Item 401(u) Model PA-22-160 (Serial Nos. 22-2378, 22-2425 and up eligible),  
or Item 401(w) Model PA-22S-160 (Serial Nos. 22-2378, 22-2425 and up eligible),
105. Vacuum pump
   (a) Pesco Model 3P-194-F, Type B-11 +4 lb. (-25)
   (b) Airborne Mechanisms Model 113A1 installed in accordance with Piper Dwg. 15163. (PA-22-108 only).
   (c) Airborne Mechanisms Model 113A5 installed in accordance with Piper Dwg. 15163 or 15208. (PA-22-108 only).

106. Optional Engines
   A. Model PA-22-150
      (1) Lycoming O-320
      (2) Lycoming O-320-A1A
      (3) Lycoming O-320-A1B
   B. Model PA-22S-150
      (1) Lycoming O-320
      (2) Lycoming O-320-A1A
      (3) Lycoming O-320-A1B

107. Starter, Delco Remy Model 1109657 (12 v.) +17 lb. (-40)
108. Auxiliary 18 gallons fuel tank installed in accordance with Piper Dwg. 15147 (PA-22-108 only). NOTE 2(j) placard required. +25 lb. (+24)

Landing Gear
201. Two main wheel-brake assemblies, 6.00-6, Type III +14 lb. (+31.5)
   (a) Cleveland Aircraft Products Model 6:00 DHB-3 Wheel Assembly No. C-38500H +17 lb. (+31.5)
      Brake Assembly No. C-2000H
202. Two main 4-ply rating tires, 6.00-6, Type III, with regular tubes +5 lb. (-36)
205. One nose wheel, 6.00-6, Type III +9 lb. (-36)
   (a) Cleveland Aircraft Products Wheel Assembly No. C-38500H (less brake-drum) +9 lb. (-36)
   (b) Cleveland Aircraft Products Wheel Assembly No. 38501
206. One nose wheel 4-ply rating, tire, 6.00-6, Type III, with regular tube +2. lb. (-29)
   *207. Nose wheel centering kit installed according to Javelin Aircraft Company (Wichita, Kansas) Dwg. 723 and Installation Instructions dated April 15, 1953. Use Actual Weight
   (a) Federal A-2000A main skis and NA-1200A nose ski, per Federal Dwg. 11R951, Change E. +5.5 lb. (-36)
      * (b) Federal AWB-2100 main skis and AWN-1200 nose ski, per Federal Dwg. 11R1117.
      The following placard is required with this installation:
      "Do not extend or retract skis while in motion on the ground."
   (c) Federal A-2000A main skis and NA-1200A nose ski, per Federal Dwg. 11R951, Change E. +15.0 lb. (+31.5)
208. Skis: +5.5 lb. (+31.5)
   * (a) Federal A-2000A main skis and NA-1200A nose ski, per Federal Dwg. 11R951, Change E.
   * (b) Federal A-2000A main skis and NA-1200A nose ski, per Federal Dwg. 11R951, Change E.
209. Edo Model 89-2000 floats with water rudder installed in accordance with Edo Dwg. No. 16270. Piper modifications must be made and installed in accordance with Piper Dwg. 14375 (Model PA-22S-135, Serial Nos. 22-534 to 22-2377, 22-2379 to 22-2424, inclusive) and Piper Dwg. 14450 (Model PA-22S-150 and PA-22S-160, Serial Nos. 22-2378, 22-2425 and up.) Serial Nos. 22-534 to 22-806, inclusive, require a fuselage reinforcement brace, Piper Part No. 12480.
210. (a) Doyin Fiberglass wheel fairings installed in accordance with Nose Fairing +5.5 lb. (-36)
      Doyin Dwg. No. 1300 and Doyin Process Specification for Main Fairing +15.0 lb. (+31.5)
      Fiberglass Part No. PS-100
      or (b) Piper wheel fairings installed in accordance with Nose Fairing +5.5 lb. (-36)
      Piper Dwg. 15054 and 15058 Main Fairing +15.0 lb. (+31.5)
      or (c) Piper wheel fairings installed in accordance with Nose Fairing +5.5 lb. (-36)
      Piper Dwg. 15083 Main Fairing +15.0 lb. (+31.5)
211. Two Main Wheel-Brake Assemblies, 6.00-6, Type III +14.5 lb. (+31.5)
   (a) Cleveland Aircraft Products, Model 20-6 (Model PA-22-108 only) Wheel Assembly No. 40-28
   Brake Assembly No. 30-18
Electrical Equipment

301. Battery - Reading S24-12V
302. Landing lights in wing leading edge per Piper Dwg. No. 12534
    (Serial Nos. 22-534 to 22-2377, 22-2379 to 22-2424, inclusive)
    Piper Dwg. No. 14442 (Serial Nos. 22-2378, 22-2425 and up).
303. Battery - Reading R33-12V

Interior Equipment

401. (a) CAA (FAA) approved Airplane Flight Manual dated December 20, 1950, for airplanes equipped with Lycoming O-290-D engines. (Required with 100 lb. baggage allowance.)
    (b) FAA-DOA approved Airplane Flight Manual dated May 5, 1952, for airplanes equipped with Lycoming O-290-D2 engines.
    (c) FAA-DOA approved Airplane Flight Manual dated October 23, 1952, for airplanes equipped with Lycoming O-290-D2 engines.
        (Required with Item 402(a) without altitude controller.)
        (Required with Item 402(b) without altitude controller.)
        (Required with Item 402(b) with approach coupler.)
        (Required with Item 404).
    (n) FAA-DOA approved Supplement to Airplane Flight Manual dated September 3, 1954, for Model PA-22-150 (Required with Item 6).
    (o) FAA-DOA approved Supplement to Airplane Flight Manual dated September 3, 1954, for Model PA-22S-150 (Required with Item 6).


(aa) FAA-DOA approved Supplement to Airplane Flight Manual dated December 20, 1950, for Model PA-22 (Required when rear door removed under provisions of NOTE 4).

(ab) FAA-DOA approved Supplement No. 3 to Airplane Flight Manual dated October 23, 1952, for Model PA-22-135 (Required when rear door removed under provisions of NOTE 4).

(ac) FAA-DOA approved Supplement No. 5 to Airplane Flight Manual dated September 3, 1954, for Model PA-22-150 (Required when rear door removed under provisions of NOTE 4).

(ad) FAA-DOA approved Supplement No. 4 to Airplane Flight Manual dated August 27, 1957 for Model PA-22-160 (Required when rear door removed under provisions of NOTE 4).

*402. Lear L-2B Automatic Pilot:
(An approved vacuum system to operate automatic pilot gyros and a 35 amper generator meeting requirements of Aircraft Engine Specification E-229 are required. Servo pitch drum diameter for all three axes 1.375 inches.)

(a) Automatic pilot and altitude controller (optional equipment) installed in accordance with Lear Dwg. 95650. Servo slip clutch stall torque, +0, -5 in.-lb. tolerance:
   Aileron  40 in.-lb.
   Elevator  25 in.-lb.
   Rudder   50 in.-lb.
Items 401(d) or 401(e) and the following placard, installed in clear view of pilot, are required with this installation:
"Do not use Autopilot in normal operation below 75 feet above terrain including take-off, approach and landing."

(b) Automatic pilot and approach coupler (optional equipment) and altitude control (optional equipment) installed in accordance with Lear Dwg. 95650, Revision D. Servo slip clutch stall torque +0, -5 in.-lb tolerance:
   Aileron  40 in.-lb.
   Elevator  40 in.-lb.
   Rudder   50 in.-lb.
Item 401(f) and the following placards, installed in clear view of the pilot, are required with this installation:
"Do not use Autopilot in normal operation below 300 feet above terrain except during take-off, approach and landing."
"During take-off, approach and landing, do not use Autopilot below 75 feet above terrain."
"Do not use transmitter #1 during an automatic approach."

*403. Javelin A2 single axis automatic pilot installed in accordance with Javelin Dwg. 721 and Instructions dated June 15, 1954. Item 207 required with this installation.

*404. Lear Arcon (Automatic rudder control) installed in accordance with Lear Dwg. 701944. Item 401(1) required with this installation. Model PA-22-135 only.

+51 lb. (+63)
+7 lb. (+74)
+18 lb. (+94)
+12 lb. (+65)
405. Ross Control System Conversion Kit Model 10 installed in accordance with Ross (F. W. Ross, 755 Kalamath Drive, Del Mar, California) Dwgs. 10R100 through 9A114 on Drawing List dated November 5, 1955, and Installation Instructions dated November 5, 1955. Placard required on instrument panel:

"Equipped with Ross Control System - See Flight Manual Supplement."

Item 401(m) required with this installation.


407. Control modification kit (eliminating rudder and aileron interconnection) per Piper Dwg. No. 14926. Item 401(r) or 401(t) and NOTE 2(g) placard required. See limitations in NOTE 3.

408. Piper AutoControl (Mitchell Model AKO-64) Automatic Pilot installed in accordance with Piper Dwg. No. 14970. Item 105 and 401(x), and NOTE 2(h) placard required. (Models PA-22-150 and PA-22-160)

409. Piper Autocontrol (Mitchell Model AKO-64) Automatic Pilot installed in accordance with Piper Dwg. No. 14970. Item 105(b) or 105(c), and 401(z), and NOTE 2(h) placards required. (Model PA-22-108)

NOTE 1. Current weight and balance report including list of equipment included in certificated empty weight, and loading instructions when necessary, must be provided for each aircraft at the time of original certification.

NOTE 2. The following placards must be displayed:

(a) On the instrument panel in full view of the pilot (For all Models except PA-22-108):
   (1) "Operate in Normal Category in compliance with approved Flight Manual. Acrobatics (including spins) prohibited."

(b) On the baggage compartment (Serial Nos. 22-534 to 22-2377, 22-2379 to 22-2424):
   (1) "Maximum Baggage 50 Pounds." or
   (2) "Maximum Baggage 100 Pounds." (For Model PA-22-135 when Airplane Flight Manual, Item 401(c), is available in the airplane.)

(c) On the baggage compartment (Serial Nos. 22-2378, 22-2425 and up):
   (1) "Maximum Baggage 100 Pounds."

(d) Deleted, December 30, 1955.

(e) Adjacent to reserve tank selector valve when Item 104 is installed in aircraft:
   (1) "Reserve fuel pull on transfer fuel level flight only operate only in accordance with flight manual."

(f) Adjacent to the propeller pitch control when Item 6 is installed:
   (1) "Propeller-Push Increase R.P.M."

(g) On the instrument panel in full view of the pilot when Item 407 is installed:
   (1) "Operate in Normal or Utility Category in compliance with the approved Flight Manual. Airplane marked for Normal Category. Acrobatics (including spins) prohibited in Normal Category."

(h) When Item 408 or 409 is installed:
   (1) On left side of circuit breaker panel:
      "Piper Autocontrol Push to Engage Disengage During Take-off and Landing."
   (2) Between Directional Gyro and Gyro Horizon:
      "Turn Control Pull For Direction Control On 0° Heading Only"
(3) On left side window channel in full view of the pilot:
"Piper Autocontrol
To Engage: Push turn control at D. G. in and center knobs then push in engaging control, rocking heel if necessary.
To Turn: Move turn control in desired direction.
For Heading Lock: Set D. G. at 0° pull turn control knob, use trim knob to maintain exact 0° heading."
(i) On the instrument panel in full view of the pilot (For Model PA-22-108 only):
"This airplane must be operated as a normal or utility category airplane in compliance with approved Airplane Flight Manual. All markings and placards on this airplane apply to its operation as a normal category airplane. For utility category operation, refer to the Airplane Flight Manual. No acrobatics maneuvers (including spins) are approved for normal category operation."
(j) On the instrument panel in full view of the pilot (When Item 108 is installed):
"Right tank level flight only."
(k) On right fuel quantity gauge (Serial Nos. 22-1 to 22-7642)
"No take-off on right tank with less than 1/3 tank."

NOTE 3. Serial Nos. 22-3218, 22-3387 and up, of Model PA-22-150 or PA-22-160, are eligible to be operated as a Normal or Utility Category Airplane in compliance with the approved Airplane Flight Manual provided Item 407 (Control modification kit) is installed. Propeller Item 6 is not eligible when Item 407 is installed.

NOTE 4. Serial Nos. 22-1 through 22-7999 of Models PA-22, PA-22-135, PA-22-150, and PA-22-160, are eligible to be operated in the Normal Category with the rear door removed in compliance with the pertinent approved Flight Manual. Item 401(aa) for the PA-22; Item 401(ab) for the PA-22-135; Item 401(ac) for the PA-22-150; or Item 401(ad) for the PA-22-160, must be in each aircraft operated in this configuration.

(a) Airspeed Limits (CAS)
\[
\begin{align*}
V_{ne} & \quad (\text{never exceed}) \quad 128 \text{ mph} \quad (111 \text{ knots}) \\
V_{no} & \quad (\text{max. structural cruising}) \quad 100 \text{ mph} \quad (87 \text{ knots}) \\
V_p & \quad (\text{maneuvering}) \quad 100 \text{ mph} \quad (87 \text{ knots}) \\
V_{fe} & \quad (\text{flaps extended}) \quad 80 \text{ mph} \quad (70 \text{ knots})
\end{align*}
\]

(b) When the rear door is removed the following placards must be displayed in full view of the pilot:
(1) "Airplane maneuvers are limited to normal take-offs, climbs, banks not to exceed 30°, glides and landings at speeds not in excess of 128 mph."
(2) "No smoking permitted."
(c) No baggage may be carried when the aircraft is flown with the rear door removed.
**DEPARTMENT OF TRANSPORTATION**  
**FEDERAL AVIATION ADMINISTRATION**

![Image of page content]

**TYPE CERTIFICATE DATA SHEET NO. E-273**

Engines of models described herein conforming with this data sheet (which is part of type certificate No. 273) and other approved data on file with the Federal Aviation Administration, meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Civil Air Regulations provided they are installed, operated and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

**Type Certificate Holder**  
Teledyne Continental Motors  
P.O. Box 90  
Mobile, Alabama 36601

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>6HOA</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Rating, ICAO or ARDC standard atmosphere</td>
<td>max. continous hp, rpm, at sea level pressure altitude</td>
<td>225-2600</td>
<td>225-2600</td>
<td>225-2550</td>
<td>230-2600</td>
</tr>
<tr>
<td></td>
<td>takeoff hp, 5 min., rpm, full throttle at sea level pressure altitude</td>
<td>225-2600</td>
<td>225-2600</td>
<td>225-2550</td>
<td>230-2600</td>
</tr>
<tr>
<td>Fuel, (aviation gasoline, minimum grade)</td>
<td>80/87</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>91/96</td>
</tr>
<tr>
<td>Lubricating oil, ambient air temperature: Above 40° F.</td>
<td>Oil Grade SAE 50</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Below 40° F.</td>
<td>Oil Grade SAE 30</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Bore and stroke, in.</td>
<td>5.00 x 4.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Displacement, cu. in.</td>
<td>471</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Compression ratio</td>
<td>7.1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Weight (dry), lb.</td>
<td>378</td>
<td>390</td>
<td>378</td>
<td>404 (-K, -L)</td>
<td>410</td>
</tr>
<tr>
<td>C.G. location (basic engine) Fwd. of rear face, engine Accessory case, in.</td>
<td>12.8</td>
<td>-</td>
<td>-</td>
<td>12.0</td>
<td>11.3</td>
</tr>
<tr>
<td>Below crankshaft center line, in.</td>
<td>0.1</td>
<td>-</td>
<td>-</td>
<td>0.3</td>
<td>0.5</td>
</tr>
<tr>
<td>Beside crankshaft center line, toward 1-3-5 side, in.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.2</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>----------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Propeller Shaft</td>
<td>Special integral flange 4 7/8 in. o.d. with six ½ in. bolt holes in 4 in. diameter circle</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Carburetion or Fuel Injection</td>
<td>Marvel-Schebler MA-4-5 (TCM #535207 or 538872)</td>
<td>Bendix-Stromberg PSD-5C (TCM #536911)</td>
<td>Marvel-Schebler MA-4-5 (TCM #535207 or 538872)</td>
<td>Marvel-Schebler M-4-5 (TCM #539883) (-L, -K) 641139 (-S, -R)</td>
<td>Bendix-Stromberg PSD-5C (TCM #535503)</td>
</tr>
<tr>
<td>Ignition, dual magnetos</td>
<td>NOTE 13</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Timing, ° BTC</td>
<td>26</td>
<td>-</td>
<td>20 22 24</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Spark plugs</td>
<td>See NOTE 11</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Oil sump capacity, qt.</td>
<td>12; 6 usable at 15° noseup and nosedown attitudes; 7 usable at 10° noseup and nosedown attitudes</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>NOTES</td>
<td>1, 2, 3, 4, 9, 10, 11</td>
<td>1, 2, 3, 4, 5, 9, 10, 11</td>
<td>1, 2, 3, 4, 5, 6, 9, 10, 11</td>
<td>1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Type</td>
<td>6HOA</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Rating, ICAO or ARDC standard atmosphere</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Max. continuous hp, rpm, at sea level pressure altitude</td>
<td>240-2600</td>
<td>240-2600</td>
<td>240-2600</td>
<td>250-2600</td>
<td>230-2400</td>
</tr>
<tr>
<td>Takeoff hp, 5 min., rpm, full throttle at sea level pressure altitude</td>
<td>240-2600</td>
<td>240-2600</td>
<td>240-2600</td>
<td>250-2600</td>
<td>230-2400</td>
</tr>
<tr>
<td>Fuel, (aviation gasoline, minimum grade)</td>
<td>91/96</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Lubricating oil, ambient air temperature: Above 40° F.</td>
<td>See NOTE 9</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Below 40° F.</td>
<td>Oil Grade SAE 50</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Bore and stroke, in.</td>
<td>5.00 x 4.00</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Displacement, cu. in.</td>
<td>471</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Compression ratio</td>
<td>8.1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Weight (dry), lb.</td>
<td>495</td>
<td>432</td>
<td>410</td>
<td>432</td>
<td>410 (-T)</td>
</tr>
<tr>
<td>C.G. location (basic engine)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>412 (-U)</td>
</tr>
<tr>
<td>Fwd. of rear face, engine Accessory case, in.</td>
<td>14.2</td>
<td>12.0</td>
<td>11.3</td>
<td>12.0</td>
<td>11.76 (U-T)</td>
</tr>
<tr>
<td>Below crankshaft center line, in.</td>
<td>1.2</td>
<td>0.5</td>
<td>1.2</td>
<td>.88 (-T)</td>
<td>.31(-U)</td>
</tr>
<tr>
<td>Beside crankshaft center line, toward 1-3-5 side, in.</td>
<td>0.2</td>
<td>0.5</td>
<td>0.2</td>
<td>0.5</td>
<td>.35 (-T)</td>
</tr>
<tr>
<td>Propeller Shaft</td>
<td>SAE 20 Spline Extension</td>
<td>Special integral flange 4 7/8 in. o.d. with six ½ in. bolt holes in 4 in. diameter circle</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
--- | --- | --- | --- | --- | ---
Carburetion or Fuel Injection | Berndix-Stromberg | Bendix-Stromberg PSH-5BO (TCM#625203) | TCM Injector Eq. #5580 | TCM Injector Eq. #5620 or 5827 | Marvel-Schebler MA-4-5 (TCM #641860)
Ignition, dual magnetos | NOTE 13 | - - - | - - - | - - - | - - -
Timing, ° BTC | 24 | - - - | - - - | 26 | 24
Spark plugs | See NOTE 11 | - - - | - - - | - - - | - - -
Oil sump capacity, qt. | 12; 6 usable at 15° noseup and nosedown attitudes; 7 usable at 10° noseup and nosedown attitudes | 12; 10 usable at 18° noseup and 14° nosedown attitudes | 12; 6 usable at 15° noseup and nosedown attitudes; 7 usable at 10° noseup and nosedown attitudes | 12; 9 usable at 34° noseup and 27° nosedown attitudes; 10 usable at 28° noseup and nosedown attitudes; 11 usable at 16° noseup and nosedown attitudes | 12; 6 usable at 15° noseup and nosedown attitudes

NOTES 1, 2, 3, 5, 9, 10, 11

"- - -" indicates "same as preceding model."
"===" indicates "does not apply."

Certification Basis | CAR 13
Type Certificate No. 273 issued December 4, 1952.

Production Basis | P.C. 508

NOTE 1. Maximum permissible temperatures:
Cylinder head
(Spark plug gasket)
All engines except O-470-G, -N 525° F.
O-470-G, -N 500° F.
(Bayonet thermocouple) O-470-A, -E, -J, -N 450° F.
O-470-B, -H, -IO-470-A 475° F.
Cylinder barrel 290° F.
Oil inlet 225° F., 240° F. (-S, -T, -U)

NOTE 2. Fuel inlet and oil pressure limits:

<table>
<thead>
<tr>
<th>Model</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>-A, -J, -K, -L</td>
<td>0.5 p.s.i.</td>
<td>6.0 p.s.i.</td>
</tr>
<tr>
<td>-B, -E, -G, -H, -M, -N</td>
<td>9.0 p.s.i.</td>
<td>15.0 p.s.i.</td>
</tr>
<tr>
<td>IO-470-A, O-470-B-CI, -M-CI</td>
<td>minus 0.75 p.s.i. plus 1.50 p.s.i.</td>
<td></td>
</tr>
<tr>
<td>-G-CI</td>
<td>minus 2.25 p.s.i. plus 10.0 p.s.i.</td>
<td></td>
</tr>
<tr>
<td>-K-CI, -L-CI</td>
<td>minus 1.0 p.s.i. plus 12.0 p.s.i.</td>
<td></td>
</tr>
<tr>
<td>IO-470-C</td>
<td>minus 2.0 p.s.i. plus 10.0 p.s.i.</td>
<td></td>
</tr>
<tr>
<td>O-470-R, -S</td>
<td>15.5 in. gasoline 6.0 p.s.i.</td>
<td></td>
</tr>
<tr>
<td>O-470-T, -U</td>
<td>14.0 in. gasoline 6.0 p.s.i.</td>
<td></td>
</tr>
</tbody>
</table>

Oil pressure limits: 2-4-6 side (normal) 30 to 60 p.s.i. (idle 10 p.s.i. min.)
NOTE 3. The following accessory drive or mounting provisions are available:

<table>
<thead>
<tr>
<th>Original Accessory</th>
<th><strong>Direction of Rotation</strong></th>
<th>Speed Ratio to Crankshaft</th>
<th>Max. Torque Continuous</th>
<th>(in.-lb.) Static</th>
<th>Maximum Overhang Moment (in.-lb.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governor</td>
<td>C</td>
<td>1.0:1</td>
<td>29</td>
<td>825</td>
<td>50</td>
</tr>
<tr>
<td>*Tachometer</td>
<td>CC</td>
<td>.5:1</td>
<td></td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Optional (2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Left &amp; Right Hand</td>
<td>C</td>
<td>1.5:1</td>
<td>***100</td>
<td>800</td>
<td>40</td>
</tr>
<tr>
<td>Generator (Belt driven)</td>
<td>CC</td>
<td>2:1</td>
<td>100</td>
<td>800</td>
<td>100</td>
</tr>
<tr>
<td>Alternator (Gear driven)</td>
<td>CCW</td>
<td>3:1</td>
<td>150</td>
<td>800</td>
<td>150</td>
</tr>
<tr>
<td>*Fuel pump</td>
<td>C</td>
<td>1.0:1</td>
<td>25</td>
<td>680</td>
<td>60</td>
</tr>
<tr>
<td>Oil cooler</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>65</td>
</tr>
<tr>
<td>Starter:</td>
<td>CC</td>
<td>32:1</td>
<td>200</td>
<td>400</td>
<td>60</td>
</tr>
</tbody>
</table>

O-470-B, -B-CI engines eligible with TCM P/N 537241.
All others eligible with TCM P/N 535856, 539910, 626960, 627842, 628482, or 637847.

* Special equipment on O-470-A, -J, -K, and -L models.
** "C" indicates clockwise viewing drive pad; "CC" counter clockwise.
*** One drive eligible at 160 in.-lb. continuous torque load provided the other drive does not exceed 100 in.-lb. continuous torque load.
****O-470-G clockwise; O-470-V and -VO optional rotation.

O-470-B, -H, and -N have two 6-½ order dampers.
O-470-K, -L, -M, -P and IO-470-A and -C have four 6th order dampers.
O-470-G has one 6-½ and one 9th order damper.
O-470-A, S/N 40001 through 40655, and -P, have two 6th order dampers.
O-470-U has two 6th, one 5th, and one 4½ order dampers.

NOTE 5. The following similarities and differences exist between the various models:
O-470-B is similar to O-470-A except for increased power rating, different damper configuration, incorporation of inclined valve cylinders, downdraft pressure carburetor and related induction system changes.
O-470-E is same as O-470-A except for incorporation of downdraft pressure carburetor and related induction system changes.
O-470-G is similar to O-470-M except for crankshaft damper configuration, revised oil sump integral cast intake air passage and mounting brackets.
O-470-J is same as O-470-A except for reduced rated speed and minor changes in induction system risers, manifold and balance tube.
O-470-K is similar to O-470-J except for ratings, crankshaft damper configuration and incorporation of shell-molded cylinder heads and revised mounting brackets.
O-470-L is same as O-470-K except for relocated carburetor and revised intake manifold oil sump.
O-470-M is same as O-470-B except for crankshaft damper configuration and incorporation of shell-molded cylinder heads.
O-470-N is same as O-470-M except for crankshaft damper configuration.
O-470-P is identical to O-470-G except for crankshaft damper configuration.
IO-470-A is same as O-470-M except incorporates CMC continuous flow fuel injection system instead of Bendix carburetor.
IO-470-C is same as O-470-G except for crankshaft damper configuration and incorporation of CMC continuous flow fuel injection system instead of Bendix carburetor.
O-470-H is same as O-470-B except incorporates extension propeller shaft and is approved for pusher operation.
O-470-R is same as O-470-L except for crankshaft damper configuration.
O-470-S is same as O-470-R except for piston oil cooling and semi-keystone piston rings.
O-470-T is similar to the O-470-S except for crankcase design and rating.
O-470-U is similar to the O-470-S except for rating and crankshaft damper configuration.
NOTE 6. O-470-B, -G, -K, -L, and -M engines are eligible for incorporation of TCM continuous flow fuel injection system (Eq. No. 5580 for -B, -M; Eq. No. 5701 or 5702 for -G; Eq. No. 5613 for -K, -L) replacing carburetion system with no change in weight. When this modification is accomplished the engines will be designated as O-470-B-CI, O-470-G-CI, O-470-K-CI, O-470-L-CI and O-470-M-CI and the nameplate changed accordingly.

NOTE 7. O-470-B engine mounting brackets are eligible for use with O-470-M engines.

NOTE 8. O-470-M engines with S/N's suffixed with the letter "P" are approved for pusher type installation.

NOTE 9. Straight mineral or ashless disperant oil meeting TCM Spec. MHS #24 is approved for use in engines, except the O-470-S, -T, and -U which must use ashless disperant oil conforming to MHS-24. TCM instructions should be followed when changing types of oil.

NOTE 10. A full flow oil filter may be used with these engines if the installation incorporates a filter bypass valve which opens between 12 and 16 p.s.i. Oil sump housing is eligible for direct mounting of oil filter having a maximum weight of 6 lb. and overhang moment of 25 in.-lb.

NOTE 11. The following spark plugs are approved on these engines:

- **Models O-470-A, -E, -J, -K, -L, -R, -S**
  - BG: RB4855, 706S, RB919SR, 919SR5, RB955S
  - Red Seal: SE190, SE230, SJ190, SJ230

  - AC: SR83IR, HSR83IR, HSR83P, SR83P, SR86, HSR86, SR87, HSR87
  - Auto Lite: SH20A, SH200A, SH26, SH260, PH26, PH260
  - BG: RB4855, RB955S
  - Red Seal: SE230, SJ230, SE270, SJ270

- **Model IO-470-C**
  - Auto Lite: SH26, SH260, PH26, PH260
  - Red Seal: SE270, SJ270

- **Model O-470-T, -U**
  - AC: SR86L, HSR86L, HSR87LIR, HSR87LP, 171, 181, 271, 273, 281, 281IR, 283, 283IR
  - Auto Lite: SL350
  - Red Seal: LE310, LJ8310

NOTE 12. Teledyne Crittenden Alternator P/N 642056 and Drive Coupling P/N 642362 eligible for use with Model O-470-T engine. Alternator compatibility with aircraft must be accomplished by installer.
NOTE 13. The following magnetos equipped with an appropriate harness are eligible on these engines at the Indicated Weight Changes:

<table>
<thead>
<tr>
<th>Magneto Type</th>
<th>Weight Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two TCM/Bendix S6RN-25</td>
<td>None</td>
</tr>
<tr>
<td>One Ea. TCM/Bendix S6RN-201 &amp; S6RN-205</td>
<td>-2 lb.</td>
</tr>
<tr>
<td>Two Bendix Scintilla 1225</td>
<td>-1 lb.</td>
</tr>
<tr>
<td>Two TCM S6RSC-25</td>
<td>None</td>
</tr>
<tr>
<td>One Ea. TCM S6RSC-201(L) &amp; S6RSC-205(R)</td>
<td>None</td>
</tr>
<tr>
<td>Two Slick Electro 662</td>
<td>None</td>
</tr>
<tr>
<td>Two Slick Electro 680</td>
<td>None</td>
</tr>
<tr>
<td>Two Slick Electro 6210</td>
<td>-5 lb.</td>
</tr>
<tr>
<td>Two Slick model 6310</td>
<td>-5 lb.</td>
</tr>
</tbody>
</table>

.....END.....
TYPE CERTIFICATE DATA SHEET NO. P57GL

Propellers of models described herein conforming with this data sheet, which is part of Type Certificate No. P57GL and other approved data on file with the Federal Aviation Administration, meet the minimum standards for use in certificated aircraft in accordance with the pertinent aircraft data sheets and applicable portions of the Federal Aviation Regulations provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

<table>
<thead>
<tr>
<th>Type Certificate Holder</th>
<th>McCauley Accessory Division</th>
</tr>
</thead>
<tbody>
<tr>
<td>7751 East Pawnee</td>
<td></td>
</tr>
<tr>
<td>Wichita, KS 67207</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th>Constant speed; hydraulic (see Notes 3 and 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine Shaft</td>
<td>Special flange 4.00 inch B.C.</td>
</tr>
<tr>
<td>Hub Material</td>
<td>Aluminum Alloy</td>
</tr>
<tr>
<td>Blade Material</td>
<td>Aluminum Alloy</td>
</tr>
<tr>
<td>No. of Blades</td>
<td>Three</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hub Models</th>
</tr>
</thead>
<tbody>
<tr>
<td>3AF34C502, 3AF34C503, 3AF32C504, 3AF32C505, 3AF32C506, 3AF32C507, 3AF32C508, 3AF32C509, 3AF37C510, 3AF32C511, 3AF32C512, 3AF36C514, 3AF32C515, 3AF37C516, 3AF32C521, 3AF32C522, 3AF32C523, 3AF32C524, 3AF36C525, B3DF36C526, B3DF36C527, and 3AF32C528.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Blades (See Note 2)</th>
<th>Maximum Continuous HP</th>
<th>Take-Off Limits HP</th>
<th>Diameter Limits (See Note 2)</th>
<th>Approx. Max. Wt. Complete (For Ref. Only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>80H[X]-0 to 80H[X]-8</td>
<td>215 2575</td>
<td>215 2575</td>
<td>80&quot; - 72&quot; (-0 to -8)</td>
<td>76.0 Lbs.</td>
</tr>
<tr>
<td>L80H[X]-0 to L80H[X]-8</td>
<td>215 2575</td>
<td>215 2575</td>
<td>80&quot; - 72&quot; (-0 to -8)</td>
<td>76.0 Lbs.</td>
</tr>
<tr>
<td>82NE[X]-2 to 82NE[X]-8</td>
<td>325 2700</td>
<td>325 2700</td>
<td>80&quot; - 74&quot; (-2 to -8)</td>
<td>70.0 Lbs.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>75.8 Lbs.*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>73.0 Lbs.*</td>
</tr>
</tbody>
</table>

Page No. | 1 | 2 | 3 | 4 | 5
---|---|---|---|---|---
Rev. No. | 10 | 10 | 10 | 10 | 10
<table>
<thead>
<tr>
<th>Blades (See Note 2)</th>
<th>Maximum Continuous HP</th>
<th>Take-Off HP</th>
<th>Diameter Limits (See Note 2)</th>
<th>Approx. Max. Wt. Complete (For Ref. Only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>82NE[X]-2 to 82NE[X]-10</td>
<td>250 2400</td>
<td>250 2400</td>
<td>80&quot; - 72&quot; (-2 to -10)</td>
<td>71.5 Lbs.</td>
</tr>
<tr>
<td>L82NE[X]-2 to L82NE[X]-10</td>
<td>250 2400</td>
<td>250 2400</td>
<td>80&quot; - 72&quot; (-2 to -10)</td>
<td>71.5 Lbs.</td>
</tr>
<tr>
<td>82NF[X]-2 to 82NF[X]-8</td>
<td>220 2800</td>
<td>220 2800</td>
<td>80&quot; - 74&quot; (-2 to -8)</td>
<td>69.5 Lbs.</td>
</tr>
<tr>
<td>L82NF[X]-2 to L82NF[X]-8</td>
<td>220 2800</td>
<td>220 2800</td>
<td>80&quot; - 74&quot; (-2 to -8)</td>
<td>69.5 Lbs.</td>
</tr>
<tr>
<td>90LF[X]-0 to 90LF[X]-10</td>
<td>375 2400</td>
<td>375 2400</td>
<td>90&quot; - 80&quot; (-0 to -10)</td>
<td>86.9 Lbs.</td>
</tr>
<tr>
<td>80VMF[X]-0 to 80VMF[X]-6</td>
<td>350 2700</td>
<td>350 2700</td>
<td>80&quot; - 74&quot; (-0 to -6)</td>
<td>70.0 Lbs. 75.8 Lbs***.</td>
</tr>
<tr>
<td>82NL[X]-2 to 82NL[X]-8</td>
<td>350 2700</td>
<td>350 2700</td>
<td>80&quot; - 74&quot; (-2 to -8)</td>
<td>74.0 Lbs.</td>
</tr>
<tr>
<td>90LF[X]-0 to 90LF[X]-6</td>
<td>375 2275</td>
<td>375 2275</td>
<td>90&quot; - 84&quot; (-0 to -6)</td>
<td>86.9 Lbs.</td>
</tr>
<tr>
<td>82NL[X]-4 to 82NL[X]-10</td>
<td>350 2700</td>
<td>350 2700</td>
<td>78&quot; - 72&quot; (-4 to -10)</td>
<td>80.5 Lbs.</td>
</tr>
<tr>
<td>82NJ[X]-2 to 82NJ[X]-8</td>
<td>220 2800</td>
<td>220 2800</td>
<td>80&quot; - 74&quot; (-2 to -8)</td>
<td>69.5 Lbs.</td>
</tr>
<tr>
<td>L82NJ[X]-2 to L82NJ[X]-8</td>
<td>220 2800</td>
<td>220 2800</td>
<td>80&quot; - 74&quot; (-2 to -8)</td>
<td>69.5 Lbs.</td>
</tr>
<tr>
<td>90UM[X]-0 to 90UM[X]-8</td>
<td>375 2275</td>
<td>375 2275</td>
<td>90&quot; - 74&quot; (-0 to -16)</td>
<td>118.5 Lbs.</td>
</tr>
</tbody>
</table>
### Hub Model Designation

<table>
<thead>
<tr>
<th>Basic Model Designation</th>
<th>Minor change not affecting interchangeability or eligibility.</th>
<th>Numerals defining specific design and major change affecting eligibility or interchangeability.</th>
<th>Type of propeller - C, constant speed model.</th>
<th>McCauley blade shank size.</th>
<th>Type of propeller - F, feathering model.</th>
<th>A denotes special flange 4.00&quot; B.C.</th>
<th>D denotes special flange 4.75&quot; B.C.</th>
<th>Denotes number of blades.</th>
<th>Indicates dowel location with respect to centerline through blade sockets, viewing hub from mounting face.</th>
<th>Blank - 60° and 240° clockwise with No. 1 blade vertical and up.</th>
<th>B indicates counterbore pattern for use with specific Lycoming engine flange “D” above.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1 3 A F 34 C 502 A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

### Blade Model Designation

<table>
<thead>
<tr>
<th>Basic Model Designation</th>
<th>Reduction in inches from basic diameter.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1 - X1 80 H X - 0</td>
<td>(As -4, diameter reduced 4 inches to 76 inches)</td>
</tr>
</tbody>
</table>

**Hub Model Designation**

<table>
<thead>
<tr>
<th>Blades (See Note 2)</th>
<th>Maximum Continuous HP RPM</th>
<th>Take-Off HP RPM</th>
<th>Diameter Limits (See Note 2)</th>
<th>Approx. Max. Wt. Complete (For Ref. Only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>80HJ[X]-0 to 80HJ[X]-8</td>
<td>350 2575</td>
<td>350 2575</td>
<td>80&quot; - 72&quot;</td>
<td>96.0 Lbs.</td>
</tr>
<tr>
<td>L80HJ[X]-0 to L80HJ[X]-8</td>
<td>350 2575</td>
<td>350 2575</td>
<td>80&quot; - 72&quot;</td>
<td>96.0 Lbs.</td>
</tr>
</tbody>
</table>

*Higher Weight applies to –C511 model only. **Higher Weight applies to –C528 model only. ***Higher Weight applies to –C514 model only.

**Certification Basis**


**Date of application for Type Certificate, July 12, 1978.**

Models 3AF34C502, 3AF34C503, 3AF32C504, 3AF32C505, 3AF32C508, 3AF32C509:


Models 3AF32C506, 3AF32C507, 3AF32C511, 3AF32C512, 3AF36C514:


Models 3AF37C510, 3AF32C515, 3AF32C516, 3AF32C521, 3AF32C522, 3AF32C523, 3AF32C524, 3AF36C525, B3DF36C526, B3DF36C527, 3AF32C528:

14 CFR Part 35 including Amendments 35-1 through 35-6 (August 18, 1990) thereto.

Production Basis

Production Certificate No. 3

**NOTE 1.**

**NOTE 2.**
NOTE 3. Pitch Control. With the following governors:

- McCauley Model DCF290D[X]/T[X] Wt. 3.0 lbs.
- McCauley Model DCFU290D[X]/T[X] Wt. 3.0 lbs.
- McCauley Model DCFS290D[X]/T[X] Wt. 3.0 lbs.
- McCauley Model DCFUS290D[X]/T[X] Wt. 3.0 lbs.
- Hartzell Model E-[X]-[X] Wt. 4.5 lbs.
- Hartzell Model E-[X]-[X]L Wt. 4.5 lbs.
- Hartzell Model U-[X]-[X] Wt. 4.5 lbs.
- Hartzell Model U-[X]-[X]L Wt. 4.5 lbs.
- Woodward Model [X]2106[X] Wt. 3.5 lbs.

NOTE 4. Feathering. With full feathering control installed in accordance with the propeller manufacturer's instructions. Controls may include unfeathering, synchronizing or synchrophasing features.

NOTE 5. Not applicable.

NOTE 6. Not applicable.

NOTE 7. Accessories

a. Propeller Anti-icing/Deicing

(1) Model 80HA, L80HA, 82NFA, and L82NFA blades per Goodrich installation drawing 7E1391.
(2) Model -C504/82NEA and -C505/82NEA blades per McCauley assembly drawing E-5186.
(3) Model -C511/82NEA and -C512/82NEA blades per McCauley assembly drawing E-5358.
(4) Model 82NEB or L82NEB blades per McCauley assembly drawing E-5203.
(5) Model 80VMF blades per McCauley assembly drawing E-6312, and deice installation drawing D-40486.
(6) Model 3AF32C515/82NLA per McCauley assembly drawing E-5186 and deice installation drawing C-40219.
(7) Model 3AF37C516/90LFB per McCauley assembly drawing E-7110.
(8) Model 3AF37C510/90LFB per McCauley assembly drawing E-7272.
(9) Model 3AF32C524/90UMB per McCauley assembly drawing E-7549.
(10) Model 3AF36C525/80VMF[X] per McCauley assembly drawing E-7507.
(12) Model B3DF36C527/L80HJ[X] per McCauley assembly drawing E-7528.
(13) Model 3AF32C528/82NE[X] per McCauley assembly drawing E-7552.

b. Propeller Spinners

(1) Model 3AF34C502/80HA or 3AF34C503/L80HA with plain or electric deice spinner; reference D-4986 Dome, D-4984 Bulkhead and D-4987 Installation.
(2) Model 3AF32C504/82NEA or 3AF32C505/NEA with plain or electric deice spinner; reference D-3651 Dome, D-3925 Bulkhead and D-4042 Installation.
(3) Model 3AF32C506/82NEB or 3AF32C507/L82NEB with plain or electric deice spinner; reference D-5285 Dome, D-5274 Bulkhead and D-5275 Installation.
(4) Model 3AF32C508/82NFA or 3AF32C509/L82NFA with plain or electric deice spinner; reference D-4986 Dome, D-4984 Bulkhead and D-4987 Installation.
(5) Model 3AF32C511/82NEA with plain or electric deice spinner; reference D-5370 Dome, D-5371-2 Bulkhead and D-5311 Installation.
(6) Model 3AF32C512/82NEA with plain or electric deice or liquid anti-ice spinner; reference D-5370 Dome, D-5499-1 and -3 Bulkhead and D-5309 and D-5310 Installation.

(7) Model 3AF36C514/80VMFA with plain or electric deicing spinner; reference E-6190 Dome, E-6178 Bulkhead and D-6176 Installation.

(8) Model 3AF32C515/82NLA with electric deice spinner; reference D-5215 Installation.

(9) Model 3AF37C516/90LFB per assembly drawing E-7110.

(10) Model 3AF37C510/90LFB per assembly drawing E-7272.

(11) Model 3AF32C522/82NJA per assembly drawing E-7315.

(12) Model 3AF32C523/L82NJA per assembly drawing E-7316.

(13) Model 3AF32C524/90UMB per assembly drawing E-7549.

(14) Model 3AF36C525/80VMF[X] per assembly drawing E-7507.

(15) Model B3DF36C526/80HJ[X] per assembly drawing E-7527.

(16) Model B3DF36C527/L80HJ[X] per assembly drawing E-7528.

(17) Model 3AF32C528/82NE[X] per assembly drawing E-7552.

NOTE 8. Not applicable.

NOTE 9. Not applicable.

NOTE 10. **Special Notes.** Aircraft installation must be approved as part of the aircraft type certificate upon compliance with the applicable aircraft airworthiness requirements.

...END...
Propellers of models described herein conforming with this data sheet (which is part of Type Certificate No. P-920) and other approved data on file with the Federal Aviation Administration meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Federal Aviation Regulations provided they are installed, operated and maintained as prescribed by the approved manufacturer’s manuals and other approved instructions.

**Propeller Data**

- **Type Certificate Holder**: Hartzell Propeller Inc.
- **Piqua, OH 45356**
- **Type**: Constant speed; hydraulic (see Notes 3 and 4)
- **Engine shaft**: Special flange (see Note 1)
- **Hub material**: Aluminum Alloy
- **Blade material**: See Below
- **Number of blades**: Two
- **Hub models**: HC-C2YF-1, -2, -4; BHC-C2YF-1, -2, -4; CHC-C2YF-1, -2; DHC-C2YF-1, -2; HC-C2YK-1, -2, -4; HC-C2YL-1, -2, -4; HC-C2YR-1, -2, -4 (See Notes 1 and 4)
- **Maximum Diameter**: Approx. Max. Wt. Complete Blade Construction

<table>
<thead>
<tr>
<th>Blades (see Note 2)</th>
<th>Maximum Continuous</th>
<th>Takeoff Limits</th>
<th>Approx. Max. Wt. Complete</th>
<th>Blade Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP RPM</td>
<td>HP RPM</td>
<td>HP RPM</td>
<td>(For Reference Only)</td>
<td>(See Note 10)</td>
</tr>
</tbody>
</table>

- **Non-Counterweighted Blades - Hub models: all -1 and -2**

<p>| 7068-0 to 7068-10  | 300 2700 300 2700 | 70” to 60” (0 to -10) | 53.0 lb. Aluminum Alloy |
| 7280+ ½ to 7280-7  | 250 2700 250 2700 | 72 ½” to 65” (+0 to -7) | 51.0 lb. Aluminum Alloy |
| 7495-0 to 7495-6   | 250 2700 250 2700 | 74” to 68” (0 to -6) | 50.0 lb. Aluminum Alloy |
| 7496-0 to 7496-6   | 250 2700 250 2700 | 74” to 68” (0 to -6) | 50.0 lb. Aluminum Alloy |
| 7497-0 to 7497-6   | 250 2700 250 2700 | 74” to 68” (0 to -6) | 51.8 lb. Aluminum Alloy |
| 7663-0 to 7663-8   | 210 2800 210 2800 | 76” to 68” (0 to -8) | 46.0 lb. Aluminum Alloy |
| 7666-0 to 7666-8   | 180 2900 180 2900 | 76” to 68” (0 to -8) | 51.0 lb. Aluminum Alloy |
| 7681-0 to 7681-8   | 250 2700 250 2700 | 76” to 68” (0 to -8) | 51.0 lb. Aluminum Alloy |
| 7692-0 to 7692-8   | 180 2900 180 2900 | 76” to 68” (0 to -8) | 46.0 lb. Aluminum Alloy |
| 7694-0 to 7694-10  | 210 2800 210 2800 | 76” to 68” (0 to -8) | 49.5 lb. Aluminum Alloy |
| 7694-1 to 7694-10  | 310 2700 310 2700 | 72” to 66” (-4 to -10) | 49.5 lb. Aluminum Alloy |
| 8052-0 to 8052-8   | 310 2600 310 2600 | 80” to 72” (-8 to -10) | 50.5 lb. Aluminum Alloy |</p>
<table>
<thead>
<tr>
<th>Blades (see Note 2)</th>
<th>Maximum Continuous HP</th>
<th>RPM</th>
<th>Takeoff HP</th>
<th>RPM</th>
<th>Diameter Limits (see Note 10)</th>
<th>Approx. Max. Wt. Complete (For Reference Only) (see Notes 3 and 7)</th>
<th>Blade Construction (See Note 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8068-0 to 8068-8</td>
<td>285</td>
<td>2700</td>
<td>285</td>
<td>2700</td>
<td>80” to 72”</td>
<td>50.0 lb.</td>
<td>Aluminum Alloy</td>
</tr>
<tr>
<td>8459-0 to 8459-18</td>
<td>260</td>
<td>2800</td>
<td>260</td>
<td>2800</td>
<td>84” to 66”</td>
<td>48.0 lb.</td>
<td>Aluminum Alloy</td>
</tr>
<tr>
<td>8465-0 to 8465-14</td>
<td>315</td>
<td>2575</td>
<td>315</td>
<td>2575</td>
<td>84” to 70”</td>
<td>50.0 lb.</td>
<td>Aluminum Alloy</td>
</tr>
<tr>
<td>8467-0 to 8467-12</td>
<td>285</td>
<td>2700</td>
<td>285</td>
<td>2700</td>
<td>84” to 72”</td>
<td>52.0 lb.</td>
<td>Aluminum Alloy</td>
</tr>
<tr>
<td>8468-0 to 8468-12</td>
<td>285</td>
<td>2700</td>
<td>285</td>
<td>2700</td>
<td>84” to 72”</td>
<td>50.0 lb.</td>
<td>Aluminum Alloy</td>
</tr>
<tr>
<td>8470-0 to 8470-8</td>
<td>260</td>
<td>2700</td>
<td>260</td>
<td>2700</td>
<td>84” to 76”</td>
<td>49.0 lb.</td>
<td>Aluminum Alloy</td>
</tr>
<tr>
<td>8475+2 to 8475-4</td>
<td>310</td>
<td>2700</td>
<td>310</td>
<td>2700</td>
<td>86” to 80”</td>
<td>52.0 lb.</td>
<td>Aluminum Alloy</td>
</tr>
<tr>
<td>8475-4 to 8475-6</td>
<td>350</td>
<td>2700</td>
<td>350</td>
<td>2700</td>
<td>80” to 78”</td>
<td>51.0 lb.</td>
<td>Aluminum Alloy</td>
</tr>
<tr>
<td>8475-6 to 8475-14</td>
<td>310</td>
<td>2700</td>
<td>310</td>
<td>2700</td>
<td>78” to 70”</td>
<td>50.0 lb.</td>
<td>Aluminum Alloy</td>
</tr>
<tr>
<td>8477-0 to 8477-4</td>
<td>310 or 300</td>
<td>2575</td>
<td>310 or 300</td>
<td>2575</td>
<td>84” to 80”</td>
<td>54.0 lb.</td>
<td>Aluminum Alloy</td>
</tr>
<tr>
<td>8477-4 to 8477-6</td>
<td>350</td>
<td>2700</td>
<td>350</td>
<td>2700</td>
<td>80” to 78”</td>
<td>53.0 lb.</td>
<td>Aluminum Alloy</td>
</tr>
<tr>
<td>8477-6 to 8477-14</td>
<td>310</td>
<td>2700</td>
<td>310</td>
<td>2700</td>
<td>78” to 70”</td>
<td>52.0 lb.</td>
<td>Aluminum Alloy</td>
</tr>
<tr>
<td>9587-0 to 9587-2</td>
<td>320</td>
<td>2200</td>
<td>320</td>
<td>2200</td>
<td>95” to 93”</td>
<td>49.5 lb.</td>
<td>Aluminum Alloy</td>
</tr>
<tr>
<td>9587-2 to 9587-20</td>
<td>320 or 300</td>
<td>2200</td>
<td>320 or 300</td>
<td>2200</td>
<td>93” to 75”</td>
<td>50.0 lb.</td>
<td>Aluminum Alloy</td>
</tr>
</tbody>
</table>

**Non-Counterweighted Blades - Hub model HC-C2YR-1**

<table>
<thead>
<tr>
<th>Blades (see Note 2)</th>
<th>Maximum Continuous HP</th>
<th>RPM</th>
<th>Takeoff HP</th>
<th>RPM</th>
<th>Diameter Limits (see Note 10)</th>
<th>Approx. Max. Wt. Complete (For Reference Only) (see Notes 3 and 7)</th>
<th>Blade Construction (See Note 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N7605-0 to N7605-10</td>
<td>215</td>
<td>2700</td>
<td>215</td>
<td>2700</td>
<td>76” to 66”</td>
<td>43.0 lb.</td>
<td>Composite</td>
</tr>
</tbody>
</table>

**Counterweighted Blades - Hub models: all -2 and -4**

<table>
<thead>
<tr>
<th>Blades (see Note 2)</th>
<th>Maximum Continuous HP</th>
<th>RPM</th>
<th>Takeoff HP</th>
<th>RPM</th>
<th>Diameter Limits (see Note 10)</th>
<th>Approx. Max. Wt. Complete (For Reference Only) (see Notes 3 and 7)</th>
<th>Blade Construction (See Note 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C7068-0 to C7068-10</td>
<td>300</td>
<td>2700</td>
<td>300</td>
<td>2700</td>
<td>70” to 60”</td>
<td>57.0 lb.</td>
<td>Aluminum Alloy</td>
</tr>
<tr>
<td>C7495-0 to C7495-6</td>
<td>250</td>
<td>2700</td>
<td>250</td>
<td>2700</td>
<td>74” to 68”</td>
<td>54.0 lb.</td>
<td>Aluminum Alloy</td>
</tr>
<tr>
<td>C7496-0 to C7496-6</td>
<td>250</td>
<td>2700</td>
<td>250</td>
<td>2700</td>
<td>74” to 68”</td>
<td>54.0 lb.</td>
<td>Aluminum Alloy</td>
</tr>
<tr>
<td>C7663-0 to C7663-8</td>
<td>210</td>
<td>2800</td>
<td>210</td>
<td>2800</td>
<td>76” to 68”</td>
<td>50.0 lb.</td>
<td>Aluminum Alloy</td>
</tr>
<tr>
<td>Blades (see Note 2)</td>
<td>Maximum Continuous HP RPM</td>
<td>Takeoff HP RPM</td>
<td>Diameter Limits (See Note 10)</td>
<td>Approx. Max. Wt. Complete (For Reference Only) (see Notes 3 and 7)</td>
<td>Blade Construction (See Note 10)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------------------</td>
<td>----------------</td>
<td>-----------------------------</td>
<td>---------------------------------------------------------------</td>
<td>----------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C7666-0 to C7666-8</td>
<td>180 or 2850 250 or 2700</td>
<td>180 or 2850 250 or 2700</td>
<td>76” to 68” (-0 to -8)</td>
<td>55.0 lb. Aluminum Alloy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C7681-0 to C7681-8</td>
<td>250 or 2700 250 or 2700</td>
<td>250 or 2700 250 or 2700</td>
<td>76” to 68” (-0 to -8)</td>
<td>55.0 lb. Aluminum Alloy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C7692-0 to C7692-8</td>
<td>180 or 2900 250 or 2700</td>
<td>180 or 2900 250 or 2700</td>
<td>76” to 68” (-0 to -8)</td>
<td>50.0 lb. Aluminum Alloy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C8052-0 to C8052-8</td>
<td>310 or 2600 310 or 2600</td>
<td>310 or 2600 310 or 2600</td>
<td>80” to 72” (-0 to -8)</td>
<td>54.4 lb. Aluminum Alloy</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>C8459-0 to C8459-12</td>
<td>260 or 2800 260 or 2800</td>
<td>260 or 2800 260 or 2800</td>
<td>84” to 72” (-0 to -12)</td>
<td>52.0 lb. Aluminum Alloy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C8465-0 to C8465-14</td>
<td>315 or 2575 315 or 2575</td>
<td>315 or 2575 315 or 2575</td>
<td>84” to 70” (-0 to -14)</td>
<td>54.0 lb. Aluminum Alloy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C8465-6 to C8465-14</td>
<td>260 or 2700 260 or 2700</td>
<td>260 or 2700 260 or 2700</td>
<td>78” to 70” (-6 to -14)</td>
<td>53.0 lb. Aluminum Alloy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C8467-0 to C8467-12</td>
<td>285 or 2700 285 or 2700</td>
<td>285 or 2700 285 or 2700</td>
<td>84” to 72” (-0 to -12)</td>
<td>56.0 lb. Aluminum Alloy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C8468-0 to C8468-12</td>
<td>260 or 2700 260 or 2700</td>
<td>260 or 2700 260 or 2700</td>
<td>84” to 72” (-0 to -12)</td>
<td>54.0 lb. Aluminum Alloy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C8470-0 to C8470-8</td>
<td>260 or 2700 260 or 2700</td>
<td>260 or 2700 260 or 2700</td>
<td>84” to 76” (-0 to -8)</td>
<td>53.0 lb. Aluminum Alloy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C8475+2 to C8475-4</td>
<td>310 or 2700 310 or 2700</td>
<td>310 or 2700 310 or 2700</td>
<td>86” to 80” (+2 to -4)</td>
<td>56.0 lb. Aluminum Alloy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C8475-4 to C8475-6</td>
<td>350 or 2700 350 or 2700</td>
<td>350 or 2700 350 or 2700</td>
<td>80” to 78” (-4 to -6)</td>
<td>55.0 lb. Aluminum Alloy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C8475-6 to C8475-14</td>
<td>310 or 2700 310 or 2700 300 or 2850</td>
<td>310 or 2700 310 or 2700 300 or 2850</td>
<td>78” to 70” (-6 to -14)</td>
<td>54.0 lb. Aluminum Alloy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C8477-0 to C8477-4</td>
<td>310 or 2575 260 or 2700</td>
<td>310 or 2575 260 or 2700</td>
<td>84” to 80” (-0 to -4)</td>
<td>58.0 lb. Aluminum Alloy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C8477-4 to C8477-6</td>
<td>350 or 2700 350 or 2700</td>
<td>350 or 2700 350 or 2700</td>
<td>80” to 78” (-4 to -6)</td>
<td>57.0 lb. Aluminum Alloy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C8477-6 to C8477-14</td>
<td>310 or 2700 310 or 2700 300 or 2850</td>
<td>310 or 2700 310 or 2700 300 or 2850</td>
<td>78” to 70” (-6 to -14)</td>
<td>56.0 lb. Aluminum Alloy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C9587-0 to C9587-2</td>
<td>320 or 2200 300 or 2400</td>
<td>320 or 2200 300 or 2400</td>
<td>95” to 93” (-0 to -2)</td>
<td>54.0 lb. Aluminum Alloy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C9587-2 to C9587-20</td>
<td>320 or 2200 300 or 2400</td>
<td>320 or 2200 300 or 2400</td>
<td>93” to 75” (-2 to -20)</td>
<td>54.0 lb. Aluminum Alloy</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Weights apply to -1 constant speed hub with “F” flange. Add 1.2 lb. for “L”, “K” and “R” flanges, 3.0 lb. for feathering -2 hubs, 5.5 lb. for feathering -2R hubs, and 4.0 lb. for -4 model.
Certification Basis:

Certification Basis: Civil Air Regulations Part 14 effective December 15, 1956
Type Certificate No. P-920 issued July 24, 1961. Models added on or after September 27, 1967 were approved under Delegated Option Authorization provisions of 14 CFR Part 21 Subpart J.
Date of application for Type Certificate: March 24, 1959.

The following models were included under the original certification basis:
HC-C2YF-(1,2); HC-C2YK-(1,2); HC-C2YL-(1,2); BHC-C2YF-(1,2); CHC-C2YF-(1,2); DHC-C2YF-(1,2); HC-C2YR-(1,2)

The following models were added, updated or revised in accordance with 14 CFR Part 35 with amendments 35-1 and 35-2 effective April 3, 1967:
HC-C2YF-(1,2,4); HC-C2YK-(1,2,4); HC-C2YL-(1,2,4); HC-C2YR-(1,2,4); BHC-C2YF-(1,2,4); CHC-C2YF-(1,2); DHC-C2YF-(1,2)

The following models were added, updated or revised in accordance with 14 CFR Part 35 with amendments 35-1 through 35-5 effective October 14, 1980:
HC-C2YF-(1,2,4); HC-C2YK-(1,2,4); HC-C2YL-(1,2,4); HC-C2YR-(1,2,4); BHC-C2YF-(1,2,4); CHC-C2YF-(1,2); DHC-C2YF-(1,2)

The following models were added, updated or revised in accordance with 14 CFR Part 35 with amendments 35-1 through 35-6 effective August 1, 1990:
HC-C2YF-(1,2,4); HC-C2YK-(1,2,4); HC-C2YL-(1,2,4); HC-C2YR-(1,2,4); BHC-C2YF-(1,2,4); CHC-C2YF-(1,2); DHC-C2YF-(1,2)

Production Basis:

Production Certificate no. 10

Note 1:

<table>
<thead>
<tr>
<th>B</th>
<th>HC</th>
<th>C</th>
<th>Y</th>
<th>F</th>
<th>-1</th>
<th>RAF</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>C</td>
<td>Y</td>
<td>F</td>
<td>-1</td>
<td>RAF</td>
<td>B denotes modified pitch change system</td>
</tr>
<tr>
<td>C</td>
<td>denotes spinner arrangement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>denotes modified pitch change knob</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>denotes Hartzell damper system</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H</td>
<td>denotes spinner mounting kit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L</td>
<td>when used denotes left hand rotation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>indicates compatibility with N shank blades</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>when used denotes a hub unit with a “B” suffix serial number</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>when used denotes a large piston area</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U</td>
<td>denotes feather assist spring assembly kit installed within cylinder</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any other character denotes a minor change not affecting eligibility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Denotes specific design features as:
-1: non-feathering, no counterweights, governor oil pressure increases pitch
-2: feathering with or without counterweights, governor oil pressure decreases pitch
-4: non-feathering, counterweights, governor oil pressure decreases pitch

F: special flange with six 1/2” bolts and two 1/2” dowels on a 4” bolt circle
K: SAE # 2 flange with six 1/2” bolts and four 3/4” drive bushings on a 4-3/4” bolt circle
L: SAE # 2 flange with six 7/16” bolts and four 5/8” drive bushings on a 4-3/4” bolt circle
R: SAE # 2 flange with six 1/2” bolts and five 3/4” drive bushings on a 4-3/4” bolt circle

Hartzell blade shank size

Number of blades

Identifies basic design - C denotes no integral shaft extension

Hartzell Controllable

Indicates dowel location with respect to centerline through blade sockets when viewing hub from flange mounting face
Blank: 90 & 270 deg. clockwise
B: 30 & 210 deg. clockwise
C: 150 & 330 deg. clockwise
D: 60 & 240 deg. clockwise
Note 2: **Blade Model Designation** (See Note 6)

- L: Denotes counterweighted blades
- C: Denotes blade configuration: right-hand tractor unless otherwise noted
- 76: Basic blade model
- 66: Basic diameter in inches
- D: Denotes blade configuration: right-hand tractor unless otherwise noted
- -3R: D denotes a dimensional modification from the original design
- Q when used denotes special 1” x 90 deg. factory-bent tip
- R when used denotes specifically rounded tip
- B or K denotes deicing boots
- S when used denotes a square tip for the basic diameter *
- Any other character denotes a minor modification not affecting eligibility
- L or K denotes deicing boots
- R when used denotes a rounded tip for the basic diameter
- S when used denotes a square tip for the basic diameter *
- Any other character denotes a minor modification not affecting eligibility
- B or K denotes deicing boots
- R when used denotes a rounded tip for the basic diameter

* Blades may incorporate either round or square tips, yet may not be marked with an “R” or “S” in their model designation. This character is used to distinguish between two or more tip shapes available at the same diameter. Certain blades use “S” to denote shot peening of the exterior surface.

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**Note 3: Pitch Control** (See Notes 4, 6 and 10)

(a) Approved with Hartzell governors per drawings C-4770, C-4771 and C-4772. Wt.: 4.5 lb.

<table>
<thead>
<tr>
<th>D - 1 - 4</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>L when used indicates left hand rotation</td>
<td></td>
</tr>
<tr>
<td>Z when used indicates drive coupling type</td>
<td></td>
</tr>
<tr>
<td>Any other character denotes a minor change not affecting eligibility</td>
<td></td>
</tr>
<tr>
<td>Minor adjustment not affecting eligibility</td>
<td></td>
</tr>
<tr>
<td>Minor adjustment to obtain engine/propeller/governor compatibility</td>
<td></td>
</tr>
<tr>
<td>Basic body and major parts modification</td>
<td></td>
</tr>
</tbody>
</table>

(b) The -2 and -4 models have counterweighted blades and use oil to decrease pitch. The -1 models do not have counterweighted blades and use oil to increase pitch.

(c) Maximum governor output pressure: 350 psi for all propeller models

(d) All governors must be approved as part of the aircraft installation regardless of manufacturer.

---

**Note 4:**

(a) **Feathering** The -1 and -4 models do not feather. The -2 models incorporate feathering and unfeathering features.

(b) **Reversing** Not applicable

(c) **Piston size** The -2R model differs from the -2 model in that the -2R model has a piston area of 20.2 sq. in. and the -2 has a piston area of 16.25 sq. in.

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**Note 5:** **Left-Hand Models** (see Notes 1 and 2)

The left-hand version of an approved propeller model is approved at the same rating and diameter as listed for the right-hand model.
Note 6: **Interchangeability** (See Notes 1, 2 and 3)

(a) **Blades**  
Blades with counterweights (having “C” prefix) can replace non-counterweighted blades on feathering propellers (hub model suffix -2 or -2R) only, provided the air charge is reduced to 80 psi at 70°F. Attached decal specifying air charge must be changed accordingly.  
Shot-peened blades may replace non shot-peened blades either individually or as a set.

(b) **Propellers**  
“F” type propellers with large pitch change knobs are interchangeable with corresponding propellers with the standard pitch change system.  
Propeller models containing a “P” suffix, for example HC-C2YR-1BFP, may replace corresponding models without the “P” suffix, for example HC-C2YR-1BF. Propeller models without the “P” suffix may not replace those containing the “P” suffix.

(c) **Governors**  
Hartzell governors with a “Z” suffix in their model designation may be used interchangeably with corresponding governors without the “Z”. For example, the F-6-24Z is a replacement for the F-6-24 and the F-6-24 is a replacement for the F-6-24Z.

(d) **Ice protection systems**  
Refer to Hartzell Service Letter HC-SL-30-260 for ice protection system component interchangeability.

Note 7: **Accessories** (See Note 10)

(a) **Propeller anti-icing** (weight of anti-icing system extra)  
(1) Approved with fluid feed boots listed on Hartzell approved type design data when installed in accordance with Hartzell specification H-S-2 or Hartzell Manual no. 133(.).
(2) Approved with fluid feed equipment listed in Hartzell approved type design data on propeller models for which equipment is available.

(b) **Propeller deicing** (weight of deicing equipment extra)  
(1) Approved with Goodyear Ice Guards (electrical propeller deicer) when installed in accordance with instructions outlined in Goodyear Report no. AP-147 dated October 23, 1961.
(2) Approved with Goodrich electrical deicing kit 5EXXX-X, 7EXXX-X, 77-XXX, 67-XXX, or 65-XXX when the specific kit number is listed on Hartzell type design data and installed in accordance with Goodrich Report no. ATA 30-60-07.
(3) Approved with ice protection equipment when listed on Hartzell type design data.

(c) **Propeller spinner** (weight of spinner extra)  
(1) Approved with Hartzell and other manufacturer’s spinners when listed on Hartzell approved type design data.

(d) **Propeller Damper C-1576**  
(1) Approved for use with Hartzell Propeller model HC-C2Y(.). Wt: 8.0 lb.

Note 8: **Shank Fairings**  
Not applicable.
Note 9: **Special Limits**

**Table of Propeller - Engine Combinations**

Approved Vibrationwise for Use on Normal Category Single Engine Tractor Aircraft

The maximum and minimum propeller diameters that can be used from a vibration standpoint are shown below. No reduction below the minimum diameter listed is permissible, since this figure includes the diameter reduction allowable for repair purposes.

The engine models listed below are the configurations on the engine type certificate unless specifically stated otherwise. Modifications to the engine or airframe that alter the power of the engine models listed below during any phase of operation have the potential to increase propeller stresses and are not approved by this list. Such modifications include, but are not limited to, the addition of a turbocharger or turbonormalizer, increased boost pressure, increased compression ratio, increased RPM, altered ignition timing, electronic ignition, full authority digital engine controls (FADEC), or tuned induction or exhaust. Also, any change to the mass or stiffness of the crankshaft/counterweight assembly is not approved by this list.

<table>
<thead>
<tr>
<th>Hub Model</th>
<th>Blade Model</th>
<th>Engine Model</th>
<th>Max. Dia. (inches)</th>
<th>Min. Dia. (inches)</th>
<th>Placards</th>
</tr>
</thead>
<tbody>
<tr>
<td>HC-C2YR-1BF</td>
<td>F7497</td>
<td>LYC IO-360-A1A, -A1B, -A1C, -A1D, -C1A, -C1B, -C1C, -C1F, -D1A</td>
<td>74</td>
<td>72</td>
<td>none</td>
</tr>
<tr>
<td>HC-C2YR-1BF</td>
<td>F7497</td>
<td>LYC IO-360-A1B6, -A1B6D, -A1D6, -A1D6D, -C1C6, -C1D6, -C1E6, -C1E6D</td>
<td>74</td>
<td>72</td>
<td>none</td>
</tr>
<tr>
<td>BHC-C2YF</td>
<td>7663</td>
<td>TCM O-300-A, -B, -C, -D, -E</td>
<td>72</td>
<td>70</td>
<td>none</td>
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<td>7663</td>
<td>TCM IO-346-B</td>
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<tr>
<td>BHC-C2YF</td>
<td>7663</td>
<td>TCM IO-360-A, -B, -C, -D, -E</td>
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<td>none</td>
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<td>BHC-C2YF</td>
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<td>TCM IO-360-H, -HB</td>
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<td>LYC O-290-D2A</td>
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<td>7663</td>
<td>LYC IO-320-A1A, -B1A, -B1B, -B1C, -B1D, -B1E, -C1A, -C1B, -D1A, -D1B, -D1C, -E1A, -E1B, -F1A</td>
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<td>70</td>
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<td>Hub Model</td>
<td>Blade Model</td>
<td>Engine Model</td>
<td>Max. Dia. (inches)</td>
<td>Min. Dia. (inches)</td>
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<td>72</td>
<td>Avoid continuous operation between 2000 and 2350 RPM</td>
</tr>
<tr>
<td>HC-C2YR</td>
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<tr>
<td>HC-C2YK</td>
<td>7666</td>
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<td>7666</td>
<td>LYC IO-360-B1A, -B1C</td>
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<td>Avoid continuous operation between 2000 and 2350 RPM</td>
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<td>LYC TO-360-E1A6D</td>
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<td>( )7666A-( )-4Q</td>
<td>LYC IO-360-B1A, -B1B, -B1D, -B1E, -B1F, -E1A, -F1A</td>
<td>72</td>
<td>72</td>
<td>Avoid continuous operation between 2000 and 2250 RPM</td>
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<td>LYC IO-360-A1B6</td>
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<td>72</td>
<td>Avoid continuous operation between 2000 and 2250 RPM</td>
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<td>LYC IO-360-B1A, -B1B, -B1C, -B1D, -B1E, -B1F, -E1A, -F1A</td>
<td>76</td>
<td>74 1/2</td>
<td>Avoid continuous operation between 2000 and 2250 RPM</td>
</tr>
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<td>7666</td>
<td>LYC IO-360-A1B6, -A1D6, -C1C6, -C1E6</td>
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<td>None when used with Hartzell C-1576 damper</td>
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<td>LYC IO-360-A1B6, -A1D6, -C1C6, -C1E6</td>
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<td>76</td>
<td>Avoid continuous operation between 2000 and 2400 RPM</td>
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<td>7666A</td>
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<td>74</td>
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<td>LYC IO-360-C1C</td>
<td>74</td>
<td>72 1/2</td>
<td>Avoid continuous operation between 2000 and 2350 RPM</td>
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<td>Blade Model</td>
<td>Engine Model</td>
<td>Max. Dia. (inches)</td>
<td>Min. Dia. (inches)</td>
<td>Placards</td>
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<tr>
<td>HC-C2YK</td>
<td>F7666A</td>
<td>LYC TIO-360-C1A6D</td>
<td>76</td>
<td>75</td>
<td>Do not operate above 36 inches manifold pressure at engine speeds below 2400 RPM.</td>
</tr>
<tr>
<td>HC-C2YR</td>
<td></td>
<td>LYC TO-360-C1A6D</td>
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<tr>
<td>HC-C2YK</td>
<td>F7666</td>
<td>LYC IO-360-A1B6, -A1D6, -C1C6, -C1E6</td>
<td>74</td>
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<td>HC-C2YR</td>
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<td>BHC-C2YF</td>
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<td>TCM TSIO-520-BE</td>
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<td>HC-C2YR-1BFP</td>
<td>F8068</td>
<td>LYC IO-540-D4A5, -D4B5, -D4C5, -T4A5D, -T4B5D, -T4C5D, O-540-E4A5, -E5B5, -E4C5</td>
<td>80</td>
<td>78</td>
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<tr>
<td>BHC-C2YF</td>
<td>F8459</td>
<td>TCM TSIO-360-E, -EB, -KB</td>
<td>76</td>
<td>75</td>
<td>Avoid continuous operation between 2000 and 2200 RPM with engine manifold pressure above 32 inches. Avoid continuous ground operation in cross and tail winds of over 10 knots between 1700 and 2100 RPM.</td>
</tr>
<tr>
<td>BHC-C2YF</td>
<td>F8459-( )R</td>
<td>TCM TSIO-360-F, -FB, -G</td>
<td>76</td>
<td>75</td>
<td>Avoid continuous operation between 2000 and 2200 RPM with engine manifold pressure above 32 inches. Avoid continuous ground operation in cross and tail winds of over 10 knots between 1700 and 2100 RPM.</td>
</tr>
<tr>
<td>BHC-C2YF</td>
<td>F8459( )-( )R</td>
<td>TCM IO-360-ES</td>
<td>76</td>
<td>75</td>
<td>Avoid continuous ground operation between 1700 and 2100 RPM in cross and tail winds of over 10 knots.</td>
</tr>
<tr>
<td>HC-C2YF</td>
<td>8459</td>
<td>Franklin 6A-350-C1, -C2</td>
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<tr>
<td>HC-C2YL</td>
<td>8459</td>
<td>LYC IO-320-A1A, -B1A, -B1B, -B1C, -B1D, -B1E, -C1A, -C1B, -D1A, -D1B, -E1A, -E1B, -F1A</td>
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<td>BHC-C2YF</td>
<td>8465</td>
<td>TCM IO-470-L, -LO</td>
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<td>CHC-C2YF</td>
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<td>DHC-C2YF</td>
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<tr>
<td>HC-C2YK</td>
<td>8467</td>
<td>LYC IO-540-D4A5</td>
<td>77</td>
<td>75</td>
<td>Avoid continuous operation between 2500 and 2600 RPM above 25 inches manifold pressure.</td>
</tr>
<tr>
<td>Hub Model</td>
<td>Blade Model</td>
<td>Engine Model</td>
<td>Max. Dia. (inches)</td>
<td>Min. Dia. (inches)</td>
<td>Placards</td>
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<tr>
<td>HC-C2YK</td>
<td>F8467-8R</td>
<td>LYC IO-540-E4A5</td>
<td>76</td>
<td>76</td>
<td>Avoid continuous operation between 2500 and 2600 RPM above 25 inches manifold pressure.</td>
</tr>
<tr>
<td>HC-C2YK</td>
<td>F8467</td>
<td>LYC IO-540-R1A5 with RayJay turbocharger (up to 29 inches manifold pressure absolute)</td>
<td>77</td>
<td>75</td>
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<tr>
<td>HC-C2YK</td>
<td>8467-( )R</td>
<td>LYC O-540-B4A5, -B4B5, -E4A5, -E4B5, -E4C5</td>
<td>77</td>
<td>75</td>
<td>Avoid continuous operation between 2500 and 2600 RPM above 25 inches manifold pressure.</td>
</tr>
<tr>
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<td>8467-( )R</td>
<td>LYC IO-540-T4A5D</td>
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<tr>
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<td>8468</td>
<td>TCM O-470-R</td>
<td>84</td>
<td>80</td>
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<tr>
<td>HC-C2YF</td>
<td>8468</td>
<td>TCM IO-470-D, -E, -F, -G, -H, -M, -N, -R, -S</td>
<td>84</td>
<td>84</td>
<td>Avoid continuous operation between 2100 and 2225 RPM.</td>
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<tr>
<td>HC-C2YF</td>
<td>8468</td>
<td>TCM IO-470-D, -E, -F, -G, -H, -M, -N, -R, -S</td>
<td>78</td>
<td>78</td>
<td>Do not exceed 23 inches manifold pressure below 2300 RPM.</td>
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<tr>
<td>BHC-C2YF</td>
<td>8468R</td>
<td>TCM IO-520-BA</td>
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<td>F8468R</td>
<td>TCM IO-520-BB</td>
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<td>8468-10R</td>
<td>LYC TIO-360-A1A, -A1B</td>
<td>74</td>
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<td>Avoid continuous operation between 1975 and 2200 RPM.</td>
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<td>LYC O-540-B4A5, -B4B5</td>
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<td>F8468AR</td>
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<td>Hub Model</td>
<td>Blade Model</td>
<td>Engine Model</td>
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<td>Min. Dia. (inches)</td>
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<td>TCM IO-520-D, -E, -F, -K, -L</td>
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<td>TCM IO-520-B, -C, -CB, TCM TSIO-520-B, -D</td>
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<td>TCM TSIO-520-E</td>
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<td>8475R</td>
<td>LYC IO-540-K1A5, -K1D5, -K1G5</td>
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<td>LYC IO-540-K1A5, -K1G5, -K1A5D, -K1G5D</td>
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<td>HC-C2YR</td>
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<td>LYC IO-540-K1A5, -K1B5, -K1C5, -L1A5, -M1A5</td>
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<td>Do not exceed 24 inches manifold pressure between 2300 and 2475 RPM.</td>
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<tr>
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<td>F8477-6Q</td>
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<tr>
<td>HC-C2YK</td>
<td>8477</td>
<td>LYC O-540-A4A5, -A4B5, -A4C5, -A4D5, -E4A5, -E4B5, -E4C5</td>
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<td>HC-C2YR</td>
<td>8477-8R</td>
<td>LYC O-540-A4A5, -A4B5, -A4C5, -A4D5, -E4A5, -E4B5, -E4C5</td>
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<td>HC-C2YR</td>
<td>8477</td>
<td>LYC O-540-G1A5</td>
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<td>HC-C2YR</td>
<td>8477</td>
<td>LYC O-540-C4B5, -C4C5, -D4A5, -D4B5</td>
<td>84</td>
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<td>F8477D-( )R</td>
<td>LYC O-540-A4A5, -A4B5, -A4C5, -A4D5, -E4A5, LYC O-540-C4B5, -D4A5</td>
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<tr>
<td>Hub Model</td>
<td>Blade Model</td>
<td>Engine Model</td>
<td>Max. Dia. (inches)</td>
<td>Min. Dia. (inches)</td>
<td>Placards</td>
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<td>LYC IO-540-V4A5, -V4A5D,</td>
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<td>-T4A5D, T4B5D, -T4C5D</td>
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</tr>
<tr>
<td>HC-C2YR</td>
<td>8477</td>
<td>LYC IO-540-K1A5, -K1B5, -K1C5,</td>
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<td>80</td>
<td>Do not exceed 23 inches manifold pressure below 2200 RPM.</td>
</tr>
<tr>
<td></td>
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<td>-K1D5, -L1A5, -M1A5</td>
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</tr>
<tr>
<td>HC-C2YK</td>
<td>F8477A</td>
<td>LYC IO-540-K1D5</td>
<td>80</td>
<td>78</td>
<td>Do not exceed 23 inches manifold pressure below 2200 RPM.</td>
</tr>
<tr>
<td>HC-C2YR</td>
<td>F8477-4</td>
<td>LYC TIO-540-AB1AD</td>
<td>80</td>
<td>78</td>
<td>Avoid continuous operation on the ground between 1900 and 2300 engine RPM in winds above 15 MPH.</td>
</tr>
<tr>
<td>HC-C2YF</td>
<td>9587A</td>
<td>TCM 6-285-B, -C</td>
<td>95</td>
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Note 10: Propeller installation must be approved as part of the aircraft Type Certificate and demonstrate compliance with the applicable aircraft airworthiness requirements. Propeller models listed herein consist of basic hub and blade models. Most propeller models include additional characters to denote minor changes and specific features as explained in Notes 1 and 2. Refer to the aircraft Type Certificate Data Sheet for the specific propeller model applicable to the installation. Propellers with composite blades must be evaluated for bird impact resistance prior to approval on any type aircraft. Hartzell Propeller must perform tests and/or analyses based on aircraft configuration and operating conditions to determine the potential hazard as a result of a bird strike.

Note 11: Retirement Time
   (a) Life Limits and Mandatory Inspections
       (1) Airworthiness limitations, if any, are specified in Hartzell Manuals 113( ) or 117( )

Note 12: Special Notes
   (a) Refer to Hartzell Manual no. 202( ) for overspeed and overtorque limits.
   (b) Refer to Hartzell Service Letter HC-SL-61-61( ) for overhaul periods.

END
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

TYPE CERTIFICATE DATA SHEET NO. 2A4

This data sheet, which is a part of Type Certificate No. 2A4, prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Civil Air Regulations.

Type Certificate Holder: Twin Commander Aircraft Corporation
19003 - 59th Drive N.E.
Arlington, Washington 98223

1 - Model 680, 7 PCLM (Normal Category), Approved October 14, 1955 (See NOTE 3 for RL-26-D
(See NOTE 7 for conversion to Model 680E)

Engines
2 Lycoming GSO-480-A1A6, Carburetor Bendix PS-7BD, Part Listing
No. 391663-3, -4, -5, -6, or -7, or GSO-480-B1A6 (See NOTE 4).

Fuel
100/130 minimum grade aviation gasoline.

Engine Limits
(Straight line manifold pressure variation with altitudes shown)

<table>
<thead>
<tr>
<th></th>
<th>HP</th>
<th>R.P.M.</th>
<th>M.P.</th>
<th>ALT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeoff</td>
<td>340</td>
<td>3400</td>
<td>48.0</td>
<td>S.L.</td>
</tr>
<tr>
<td>Takeoff</td>
<td>340</td>
<td>3400</td>
<td>44.5</td>
<td>8000</td>
</tr>
<tr>
<td>Maximum continuous</td>
<td>320</td>
<td>3200</td>
<td>45.0</td>
<td>S.L.</td>
</tr>
<tr>
<td>Maximum continuous</td>
<td>320</td>
<td>3200</td>
<td>43.0</td>
<td>8000</td>
</tr>
</tbody>
</table>

Propeller and Propeller Limits
2 Hartzell 3-Bladed feathering propellers
a. H.C.-83x20-2 Hubs with 9333c blades
Pitch settings at 30 in. Station: Low 17°, Feather 83°
Diameter: 93 in., no cutoff permitted
NOTE: Letters appearing after the dash numbers of the above listed hub model do not affect eligibility; however, for best synchronization, hubs with different numbers should not be combined on the same aircraft.
b. Spinner: 2 Hartzell, Dome C-888-3, Bulkhead C-807-3 or 2 Hartzell 835-10 assemblies or 2 Hartzell 836-7A assemblies (installed with alcohol anti-icing system per P/N 5890047).
c. Governor: 2 Woodward 210075
I - Model 680 (cont’d)

Airport Limits

<table>
<thead>
<tr>
<th></th>
<th>Maneuvering</th>
<th>160 m.p.h.</th>
<th>(139K) True Ind.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Struc. cruising</td>
<td>210 m.p.h.</td>
<td>(182K) True Ind.</td>
<td></td>
</tr>
<tr>
<td>Never exceed</td>
<td>270 m.p.h.</td>
<td>(235K) True Ind.</td>
<td></td>
</tr>
<tr>
<td>Flaps extended - half</td>
<td>150 m.p.h.</td>
<td>(230K) True Ind.</td>
<td></td>
</tr>
<tr>
<td>Flaps extended - full</td>
<td>130 m.p.h.</td>
<td>(113K) True Ind.</td>
<td></td>
</tr>
<tr>
<td>Landing gear extended</td>
<td>180 m.p.h.</td>
<td>(156K) True Ind.</td>
<td></td>
</tr>
</tbody>
</table>

C.G. range

(+166.4) to +175.8) (Gear extended)  
Effect of retracting landing gear +6655 in.-lb.

Empty Weight C.G. range  
None

Datum  
152 in. forward of wing landing edge at center section.

Leveling means  
Longitudinal - Top of fuselage on centerline aft of wing trailing edge.  
Lateral - Transverse beams a: front or rear of baggage compartment floor.

Maximum weight  
7000 lb.

No. of seats  
7 (2 at +95, 2 at +128, and 3 at +168)

Maximum baggage  
350 lb. (+200)

Fuel capacity  
Center tank 158.5 gal. (+187), usable fuel 156 gal. Outboard tanks 33.5 gal. each (+178), usable fuel 33.5 gal. each.  
Total capacity 225.5 gal., usable fuel 223 gal.  
(See NOTE 1 for system fuel)

Oil capacity  
8.5 gal. total (4.25 gal. each tank) (+191)  
8.5 gal. usable (See NOTE 1 for system oil)

Control surface  
Elevator Up 20° ± 1 Down 10° ± 2
              0                    0
Elevator tab Up 20° ± 2 Down 20° ± 2
                0              0
Rudder Right 20° ± 2 Left 20° ± 2
               0              0
Rudder tab Right 26° ± 2 Left 26° ± 2
                0              0
Aileron Up 23° ± 2 Down 15° ± 2
Flap outboard Down 40° ± 2
Flap inboard Down 40° ± 2

Serial Nos. eligible  
Under the delegation option, provisions of Part 21 of the Federal Aviation Regulations, Delegation Option Manufacturer No. SW-2 is authorized to approve design and production charges on airplane serial numbers 680-244-2 to 680-658-255.  
(See NOTES 15 and 22)

II. - Model 680-E, 7 PCLM (Normal Category) Approved June 19, 1958

(Same as Model 680 except for extended wing and increased maximum weight)

Engines  
2 Lycoming GSO-480-B1A6, Carburetor Bendix PA-7 BD, Part Listing  
No. 391663-3, -4, -5, -6, and -7.

Fuel  
100/130 minimum grade aviation gasoline.
II. - Model 680-E (cont’d)  

Engine limits  

<table>
<thead>
<tr>
<th></th>
<th>HP</th>
<th>R.P.M</th>
<th>M.P.</th>
<th>ALT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeoff</td>
<td>340</td>
<td>3400</td>
<td>48.0</td>
<td>S.L.</td>
</tr>
<tr>
<td>Takeoff</td>
<td>340</td>
<td>3400</td>
<td>44.5</td>
<td>8000</td>
</tr>
<tr>
<td>Maximum continuous</td>
<td>320</td>
<td>3200</td>
<td>45.0</td>
<td>S.L.</td>
</tr>
<tr>
<td>Maximum continuous</td>
<td>320</td>
<td>3200</td>
<td>43.0</td>
<td>8000</td>
</tr>
</tbody>
</table>

Propeller and Propeller Limits  

2 Hartzell 3-Bladed feathering propellers  

a. HC-83x20-2 or HC-A3x20-2 Hubs with 9333c blades.  
Pitch settings at 30 in. Station: Low 17°, Feather 83°  
Diameter: 93 in., no cutoff permitted  

NOTE: Letters appearing after the dash numbers of the above listed hub model do not affect eligibility; however, for best synchronization hubs with different numbers should not be combined on the same aircraft.  

b. Spinner: 2 Hartzell, Dome C-888-3, Bulkhead C-807-3 or 2 Hartzell 835-10 assemblies or 2 Hartzell 836-7A assemblies (installed with alcohol anti-icing system per P/N 5890047) or 2 Hartzell 836-22S assemblies (installed with alcohol anti-icing system per P/N 5890047).  

c. Governor: 2 Woodward 210075  

Airspeed Limits  

<table>
<thead>
<tr>
<th></th>
<th>Maneuvering</th>
<th>160 m.p.h.</th>
<th>(139K) True Ind.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Struc. cruising</td>
<td>210 m.p.h.</td>
<td>(182K) True Ind.</td>
<td></td>
</tr>
<tr>
<td>Never exceed</td>
<td>270 m.p.h.</td>
<td>(235K) True Ind.</td>
<td></td>
</tr>
<tr>
<td>Flaps extended - half</td>
<td>150 m.p.h.</td>
<td>(130K) True Ind.</td>
<td></td>
</tr>
<tr>
<td>Flaps extended - full</td>
<td>135 m.p.h.</td>
<td>(117K) True Ind.</td>
<td></td>
</tr>
<tr>
<td>Landing gear extended</td>
<td>180 m.p.h.</td>
<td>(156K) True Ind.</td>
<td></td>
</tr>
</tbody>
</table>

C.G. range  

(+166.0) to (+175.1) (Gear extended)  
Effect of retracting landing gear +6655 in.-lb.  

Empty Weight C.G. Range  

None  

Datum  

152 in. forward of wing leading edge at center section.  

Leveling means  

Longitudinal - Top of fuselage on centerline aft of wing trailing edge.  
Lateral: Transverse beams at front or rear of baggage compartment floor.  

Maximum Weight  

7500 lb.  

No. of seats  

7 (2 at +94, 2 at +128, and 3 at +168)  

Maximum baggage  

350 lb. (+200)  

Fuel capacity  

Center tank 158.5 gal. (+187), usable fuel 156 gal.  
Outboard tanks 33.5 gal. each (+178), usable fuel 33.5 gal. ea.  
total capacity 225.5 gal., usable fuel 223 gal.  
(See NOTE 1 for system fuel)  

Oil capacity  

8.5 gal. total (4.25 gal. each tank) (+191)  
8.5 gal. usable (See NOTE 1 for system oil)
II. - Model 680-E (cont’d)

Control surface movements

<table>
<thead>
<tr>
<th>Surface</th>
<th>Movement</th>
<th>Pitch Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevator</td>
<td>Up</td>
<td>30° ± 1</td>
</tr>
<tr>
<td>Elevator tab</td>
<td>Up 1/2°</td>
<td>2</td>
</tr>
<tr>
<td>Rudder</td>
<td>Right</td>
<td>20° ± 2</td>
</tr>
<tr>
<td>Rudder tab</td>
<td>Right</td>
<td>26° ± 2</td>
</tr>
<tr>
<td>Aileron</td>
<td>Up</td>
<td>23° ± 2</td>
</tr>
<tr>
<td>Flap outboard</td>
<td>Down</td>
<td>40° ± 2</td>
</tr>
<tr>
<td>Flap inboard</td>
<td>Down</td>
<td>40° ± 2</td>
</tr>
</tbody>
</table>

Serial Nos. eligible

Under the delegation option, provisions of Part 21 of the Federal Aviation Regulations, Delegation Option Manufacturer No. SW-2 is authorized to approve design and production changes on airplane serial numbers 680-E-242-102, 680-E-623-1 to 680-E-892-100. (See NOTES 15 and 22.)

III. - Model 720, 6 PCLM (Normal Category), Approved December 5, 1958

(Same as Model 680 except for pressurized cabin, structural modifications to the fuselage, extended wing and increased maximum weight)

Engines

2 Lycoming GSO-480-B1A6, AMC Carburetor Bendix PS-7BD, Part Listing Nos. 391714-1, -2, -3, and -4.

Fuel

100/130 minimum grade aviation gasoline.

Engine limits

(Straight line manifold pressure variation with altitudes shown)

<table>
<thead>
<tr>
<th>HP</th>
<th>R.P.M</th>
<th>M.P.</th>
<th>ALT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeoff</td>
<td>340</td>
<td>3400</td>
<td>48.0 S.L.</td>
</tr>
<tr>
<td>Takeoff</td>
<td>340</td>
<td>3400</td>
<td>44.5 8000</td>
</tr>
<tr>
<td>Maximum continuous</td>
<td>320</td>
<td>3200</td>
<td>45.0 S.L.</td>
</tr>
<tr>
<td>Maximum continuous</td>
<td>320</td>
<td>3200</td>
<td>43.0 8000</td>
</tr>
</tbody>
</table>

Propeller and Propeller Limits

2 Hartzell 3-Bladed feathering propellers

a. HC-83x20-2 Hubs with 9333c blades

Pitch settings at 30 in. Station: Low 17°, Feather 83°

Diameter: 93 in., no cutoff permitted

NOTE: Letters appearing after the dash numbers of the above listed hub model do not affect eligibility; however, for best synchronization hubs with different numbers should not be combined on the same aircraft.

b. Spinner: 2 Hartzell, Dome C-888-3, Bulkhead C-807-3 or 2 Hartzell 835-10 assemblies or 2 Hartzell 836-7A assemblies (installed with alcohol anti-icing system per P/N 5890047).

c. Governor: 2 Woodward 210075

Airspeed Limits

Maneuvering 160 m.p.h. (139K) True Ind.
Max. Struc. cruising 210 m.p.h. (182K) True Ind.
Never exceed 270 m.p.h. (235K) True Ind.
Flaps extended - half 150 m.p.h. (130K) True Ind.
Flaps extended - full 135 m.p.h. (117K) True Ind.
Landing gear extended 180 m.p.h. (156K) True Ind.

C.G. Range

(+166.0) to (+175.1) (Gear extended)

Effect of retracting landing gear +6655 in.-lb.

Empty Weight C.G. Range

None

Datum

152 in. forward of wing leading edge at center section.
III. - Model 720  (cont’d)

Leveling means
Longitudinal - top of fuselage on centerline aft of wing trailing edge.
Lateral - Transverse beams at front or rear of baggage compartment floor.

Maximum weight
7500 lb.

No. of seats
6 (2 at +94, 2 at +128, and 3 at +168)

Maximum baggage
175 lb. (+200)

Fuel capacity
Center tank 158.5 gal. (+187), usable fuel 156 gal.
Outboard tanks 33.5 gal. each (+178), usable fuel 33.5 gal. ea.
Total capacity 225.5 gal., usable fuel 223 gal.
(See NOTE 1 for system fuel)

Oil capacity
8.5 gal. total (4.25 gal. each tank) (+191)
8.5 gal. usable (See NOTE 1 for system oil)

Control surface movements
Elevator
Up  30° ± 1  Down  10° ± 2
 0          0
Elevator tab
Up  2 1/2° ± 2  Down  20° ± 2
 1/2        0
Rudder
Right  20° ± 2  Left  20° ± 2
 0          0
Rudder tab
Right  26° ± 2  Left  26° ± 2
 0          0
Aileron
Up  23° ± 2  Down  15° ± 2
Flap outboard
Down  40° ± 2
Flap inboard
Down  40° ± 2

Serial Nos. eligible
Under the delegation option, provisions of Part 21 of the Federal Aviation Regulations, Delegation Option Manufacturer No. SW-2 is authorized to approve design and production changes on airplane serial numbers 720-501-1 to 720-850.  (See NOTES 15 and 22).

IV - MODEL 680-F, 7 PCLM (Normal Category), Approved August 23, 1960
(Same as 680-E, except for fuel injection engine, new nacelles, new main gear and increased maximum weight.)
(See NOTE 5 for pressurized version).

Engines
2 Lycoming IGSO-540-B1A or IGSO-540-B1C, fuel injector Simmonds Model 580, Parts Listing No. 580056-B or Model 582 Parts Listing No. 582025 or Model 582, Parts Listing No. 582026.

Fuel
100/130 minimum grade aviation gasoline.

Engine limits
(Straight line manifold pressure variation with altitudes shown)

<table>
<thead>
<tr>
<th></th>
<th>HP</th>
<th>R.P.M</th>
<th>M.P.</th>
<th>ALT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeoff (2 min.limit)</td>
<td>380</td>
<td>3400</td>
<td>47.0</td>
<td>S.L.</td>
</tr>
<tr>
<td>Takeoff (2 min. limit)</td>
<td>380</td>
<td>3400</td>
<td>43.5</td>
<td>12,000</td>
</tr>
<tr>
<td>Maximum continuous</td>
<td>360</td>
<td>3200</td>
<td>45.0</td>
<td>S.L.</td>
</tr>
<tr>
<td>Maximum continuous</td>
<td>360</td>
<td>3200</td>
<td>40.5</td>
<td>11,500</td>
</tr>
</tbody>
</table>

Propeller and Propeller Limits
2 Hartzelle  3-Bladed feathering propellers
a.  HC-B3Z-30-2 Hubs with 9349 or 9349-6.5 propellers
Pitch settings at 30 in. Station:  Low 18°, Feather 86°
Diameter:  (For 9349)  93.5 in.
            (For 9349-6.5)  87.0 in., no cutoff permitted
NOTE:  Letters appearing after the dash numbers of the above listed hub model do not affect eligibility; however, for best synchronization hubs with different numbers should not be combined on the same aircraft.
b. Spinner: 2 Hartzell C2504 assemblies or 2 Hartzell C2535 assemblies (installed with alcohol anti-icing system per P/N 5890047).

c. Governor: 2 Woodward B210310 or 2 Woodward B210410 (when propeller unfeathering system, Drawing 5640030, is installed). NOTE: Prefix B on part number or type number denotes based orientation only and may or may not be stamped on the nameplate. Governor part numbers may differ from governor type numbers. For best synchronization, governors with different part numbers should not be combined on the same aircraft.

Airspeed Limits

<table>
<thead>
<tr>
<th>Description</th>
<th>Limit</th>
<th>Unit</th>
<th>Indicated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maneuvering</td>
<td>157 m.p.h.</td>
<td></td>
<td>(137K)</td>
</tr>
<tr>
<td>Max. Struc. cruising</td>
<td>230 m.p.h.</td>
<td></td>
<td>(200K)</td>
</tr>
<tr>
<td>Never exceed</td>
<td>288 m.p.h.</td>
<td></td>
<td>(250K)</td>
</tr>
<tr>
<td>Flaps extended - half</td>
<td>150 m.p.h.</td>
<td></td>
<td>(130K)</td>
</tr>
<tr>
<td>Flaps extended - full</td>
<td>136 m.p.h.</td>
<td></td>
<td>(118K)</td>
</tr>
<tr>
<td>Landing gear extended</td>
<td>180 m.p.h.</td>
<td></td>
<td>(156K)</td>
</tr>
</tbody>
</table>

C.G. Range

(+167.4) to (+174.4) (Gear extended)
Effect of retracting landing gear +10,073 in.-lb.

Empty Weight C.G. Range

None

Datum

152 in. forward of wing leading edge at center section.

Leveling means

Longitudinal - Top of fuselage on centerline aft of wing trailing edge.
Lateral - Transverse beams at front or rear of baggage compartment floor.

Maximum weight

8000 lb.

No. of seats

7 (2 at +94, 2 at +128, and 3 at +168)

Maximum baggage

350 lb. (+200)

Fuel capacity

Center tank 158.5 gal. (+187), usable fuel 156 gal.
Outboard tanks 33.5 gal. each (+187), usable fuel 33.5 gal. ea.
Total capacity 225.5 gal., usable fuel 223 gal.
(See NOTE 1 for system fuel)

Oil capacity

10 gal. total (5.00 gal. each tank) (+191)
9.12 gal. usable (See NOTE 1 for system oil)

Control surface

<table>
<thead>
<tr>
<th>Surface</th>
<th>Up</th>
<th>Down</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevator</td>
<td>30° + 1</td>
<td>10° + 2</td>
</tr>
<tr>
<td>Elevator tab</td>
<td>30° + 2</td>
<td>10° + 2</td>
</tr>
<tr>
<td>Rudder</td>
<td>20° + 2</td>
<td>20° + 2</td>
</tr>
<tr>
<td>Rudder tab</td>
<td>26° + 2</td>
<td>26° + 2</td>
</tr>
<tr>
<td>Aileron</td>
<td>23° ± 2</td>
<td>15° ± 2</td>
</tr>
<tr>
<td>Flap outboard</td>
<td></td>
<td>40° ± 2</td>
</tr>
<tr>
<td>Flap inboard</td>
<td></td>
<td>40° ± 2</td>
</tr>
<tr>
<td>*Elevator tab</td>
<td>680-F-971</td>
<td>26° ± 2</td>
</tr>
</tbody>
</table>

Serial Nos. eligible

Under the delegation option, provisions of Part 21 of the Federal Aviation Regulations, Delegation Option Manufacturer No. SW-2 is authorized to approve design and production changes on airplane serial numbers 680-F-871-1, 680-F-820-2 to 680-F-1447-152. (See NOTES 15 and 22.)
V - Model 560-F, 7 PCLM (Normal Category), Approved February 8, 1961
(Same as Model 680-F except unsupercharged engine and reduced gross weight)

Engine

2 Lycoming IGO-B1A or 2 Lycoming IGO-540 B1C with Aero Commander Vapor Separator 4630193 installed, fuel injector Bendix Model RS10ED2, Parts Lifting No. 391825-1 (or any combination of these installations).

Fuel

100/130 minimum grade aviation gasoline.

Engine limits

<table>
<thead>
<tr>
<th></th>
<th>HP</th>
<th>R.P.M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeoff (2 min.)</td>
<td>350</td>
<td>3400</td>
</tr>
<tr>
<td>Minimum continuous</td>
<td>325</td>
<td>3000</td>
</tr>
</tbody>
</table>

Propeller and Propeller Limits

1. 2 Hartzell 3-Bladed feathering propellers
   a. HC-B3Z-20-2 Hubs with 9349 blades
      Pitch settings at 30 in. Station: Low 15°, Feather 87°
      Diameter: 93.5 in., no cutoff permitted
      NOTE: Letters appearing after the dash numbers of the above listed hub model do not affect eligibility; however, for best synchronization hubs with different numbers should not be combined on the same aircraft.
   b. Spinner: 2 Hartzell C2504 assemblies or 2 Hartzell C2535 assemblies (installed with alcohol anti-icing system per P/N 5890047).
   c. Governor: 2 Woodward B210310 or 2 Woodward B210410 (when propeller unfeathering system, Drawing 5640030, is installed). NOTE: Prefix B on part number or type number denotes based orientation only and may or may not be stamped on the nameplate. Governor part numbers may differ from governor type numbers. For best synchronization, governors with different part numbers should not be combined on the same aircraft.

2. 2 Hartzell 3-Bladed feathering propellers
   a. HC-B3Z-30-2 Hubs with 9349-6.5 blades
      Pitch settings at 30 in. Station: Low 18°, Feather 86°
      Diameter: 87.0 in., no cutoff permitted
      NOTE: Letters appearing after the dash numbers of the above listed hub model do not affect eligibility; however, for best synchronization hubs with different numbers should not be combined on the same aircraft.
   b. Spinner: 2 Hartzell C2504 assemblies or 2 Hartzell C2535 assemblies (installed with alcohol anti-icing system per P/N 5890047).
   c. Governor: 2 Woodward B210310 or 2 Woodward B210410 (when propeller unfeathering system, Drawing 5640030, is installed). NOTE: Prefix B on part number or type number denotes based orientation only and may or may not be stamped on the nameplate. Governor part numbers may differ from governor type numbers. For best synchronization, governors with different part numbers should not be combined on the same aircraft.

Airspeed Limits

<table>
<thead>
<tr>
<th></th>
<th>Maneuvering</th>
<th>Max. Struc. cruising</th>
<th>Never exceed</th>
<th>Flaps extended - half</th>
<th>Flaps extended - full</th>
<th>Landing gear extended</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>155 m.p.h.</td>
<td>230 m.p.h.</td>
<td>288 m.p.h.</td>
<td>150 m.p.h.</td>
<td>136 m.p.h.</td>
<td>180 m.p.h.</td>
</tr>
<tr>
<td></td>
<td>(135K) True Ind.</td>
<td>(200K) True Ind.</td>
<td>(250K) True Ind.</td>
<td>(130K) True Ind.</td>
<td>(118K) True Ind.</td>
<td>(156K) True Ind.</td>
</tr>
</tbody>
</table>

C.G. Range

(+167.4) to (+174.4) (Gear extended)
Effect of retracting landing gear +10,073 in.-lb.

Empty Weight C.G. Range

None

Datum

152 in. forward of wing leading edge at center section.
V - Model 560-F (cont’d)

Leveling means
Longitudinal - Top of fuselage on centerline aft of wing trailing edge.
Lateral - Transverse beams at front or rear of baggage compartment floor.

Maximum weight
7500 lb.

No. of seats
7 (2 at +94, 2 at +128, and 3 at +168)

Maximum baggage
350 lb. (+200)

Fuel capacity
Center tank 158.5 gal. (+187), usable fuel 156 gal.
Outboard tanks 33.5 gal. each (+178), usable fuel 33.5 gal. ea.
Total capacity 225.5 gal., usable fuel 223 gal.
(See NOTE 1 for system fuel)

Oil capacity
10 gal. total (5.0 gal. each tank) (+191)
9.12 gal. usable (See NOTE 1 for system oil)

Control surface movements
Elevator
Up 30° ± 1
Down 10° ± 2

Elevator tab
Up 2 1/2° ± 2
1/2 0

Rudder
Right 20° ± 2
Left 20° ± 2
0 0

Rudder tab
Right 26° ± 2
Left 26° ± 2
0 0

Aileron
Up 23° ± 2

Flap outboard
Down 40° ± 2

Flap inboard
Down 40° ± 2

Serial Nos. eligible
Under the delegation option, provisions of Part 21 of the Federal Aviation
Regulations, Delegation Option Manufacturer No. SW-2 is authorized to
approve design and production changes on airplane serial numbers 560-F-951-1
to 560-F-1496-73. (See NOTES 15 and 22).

VI - MODEL 680-FL, 11 PCLM (Normal Category), Approved May 24, 1963
(11 same as 680-F, except extended fuselage)

Engines
2 Lycoming IGSO-540-B1A or IGSO-540-B1C, fuel injector Simmonds Model 580,
Parts Listing No. 580056-B or Model 582 Parts Listing No. 582025 or
Model 582 Parts Listing No. 582026. (582026 required for 8500 lb. aircraft.)

Fuel
100/130 minimum grade aviation gasoline

Engine limits
(Straight line manifold pressure variation with altitudes shown)

<table>
<thead>
<tr>
<th></th>
<th>HP</th>
<th>R.P.M</th>
<th>M.P.</th>
<th>ALT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeoff (2 min. limit)</td>
<td>380</td>
<td>3400</td>
<td>47.0</td>
<td>S.L.</td>
</tr>
<tr>
<td>Takeoff (2 min. limit)</td>
<td>380</td>
<td>3400</td>
<td>43.5</td>
<td>12,000</td>
</tr>
<tr>
<td>Maximum continuous</td>
<td>360</td>
<td>3200</td>
<td>45.0</td>
<td>S.L.</td>
</tr>
<tr>
<td>Maximum continuous</td>
<td>360</td>
<td>3200</td>
<td>40.5</td>
<td>11,500</td>
</tr>
</tbody>
</table>

Propeller and Propeller
Limits
2 Hartzell 3-Bladed feathering propellers
a. HC-B3Z-30-2 Hubs with 9349 or 9349-6.5 propellers
   Pitch settings at 30 in. Station: Low 28°, Feather 86°
   Diameter: (For 9349) 93.5 in.
   (For 9349-6.5) 87.0 in., no cutoff permitted
NOTE: Letters appearing after the dash numbers of the above listed hub
model do not affect eligibility; however, for best synchronization hubs
with different numbers should not be combined on the same aircraft.
b. Spinner: 2 Hartzell C2504 assemblies

c. Governor: 2 Woodward B210310 or 2 Woodward B210410 (when propeller unfeathering system, Drawing 5640030, is installed). NOTE: Prefix B on part number or type number denotes based orientation only and may or may not be stamped on the nameplate. Governor part numbers may differ from governor type numbers. For best synchronization, governors with different part numbers should not be combined on the same aircraft.

Airspeed Limits

Maneuvering
- 157 m.p.h. (137K) True Ind. @ 8000 lb.
- 161 m.p.h. (140K) True Ind. @ 8500 lb.

Max. Struc. cruising
- 230 m.p.h. (200K) True Ind. @ 8000 lb. and 8500 lb.

Never exceed
- 288 m.p.h. (250K) True Ind. @ 8000 lb. and 8500 lb.

Flaps extended - half
- 150 m.p.h. (130K) True Ind. @ 8000 lb. and 8500 lb.

Flaps extended - full
- 136 m.p.h. (118K) True Ind. @ 8000 lb.
- 146 m.p.h. (127K) True Ind. @ 8500 lb.

Landing gear extended
- 180 m.p.h. (156K) True Ind. @ 8000 lb. and 8500 lb.

C.G.Range

Weight

<table>
<thead>
<tr>
<th>Weight</th>
<th>Fwd.</th>
<th>Aft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>lb</td>
<td>Sta.(in)</td>
<td>% MAC</td>
</tr>
<tr>
<td>Up to 7000</td>
<td>203.0</td>
<td>10</td>
</tr>
<tr>
<td>8000</td>
<td>206.5</td>
<td>15</td>
</tr>
<tr>
<td>8500</td>
<td>208.3</td>
<td>17.5</td>
</tr>
</tbody>
</table>

Straight line variation between points given

Effect of retracting landing gear +10,073 in.-lb.

Empty Weight C.G. Range

None

Datum

196 in. forward of wing leading edge at center section.

Leveling means

Longitudinal - Top of fuselage on centerline aft of wing trailing edge.
Lateral - Transverse beams at front or rear of baggage compartment floor.

Maximum weight

(See NOTE 6)

No. of seats

11 (Pilot + 10 passengers; pilot, co-pilot + 9 passengers)

Maximum baggage (std)

400 lb. (+258)

Maximum baggage (with extended baggage compartment)

600 lbs. (+258)

Fuel capacity

Center tank 158.5 gal. (+231), usable fuel 156 gal.
Outboard tanks 33.5 gal. each (+222), usable fuel 33.5 gal. ea.
Total capacity 225.5 gal., usable fuel 223 gal. (See NOTE 1 for system fuel)

Oil capacity

10 gal. total (5.00 gal. each tank) (+235)
9.12 gal. usable (See NOTE 1 for system oil)

Control surface movements

Elevator Up
Up 30° ± 1
0 0
Elevator tab Up 2 1/2° ± 2
1/2 Down 26° ± 2
0
Rudder Right 20° ± 2
0 0
Left 20° ± 2
0
Rudder tab Right 26° ± 2
0 0
Left 26° ± 2
0
Aileron Up 23° ± 2
0 0
Flap outboard Down 15° ± 2
0
Flap inboard Down 40° ± 2
0
V1 - Model 680-FL (cont’d)

(See NOTE 6). Under the delegation option, provisions of Part 21 of the Federal Aviation Regulations, Delegation Option Manufacturer No. SW-2 is authorized to: Issue Airworthiness Certificates for airplane serial numbers 680-FL-1553-107 and up; and approve design and production changes on airplane serial numbers 680-FL-1261 through 1853-157. (See NOTES 15 and 22).

VII - MODEL 680-FL(P), 11 PCLM (Normal Category), approved October 8, 1964

(Same as 680-FL, S/N 1461 and up, except pressurization)

Engines
2 Lycoming IGSO-540-B1A or IGSO-540-B1C, fuel injector Simmonds Model 582, Parts Listing No. 582026.

Fuel
100/130 minimum grade aviation gasoline.

Engine limits
(Straight line manifold pressure variation with altitudes shown)

<table>
<thead>
<tr>
<th>HP</th>
<th>R.P.M</th>
<th>M.P.</th>
<th>ALT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>380</td>
<td>3400</td>
<td>47.0</td>
<td>S.L.</td>
</tr>
<tr>
<td>380</td>
<td>3400</td>
<td>43.5</td>
<td>12,000</td>
</tr>
<tr>
<td>360</td>
<td>3200</td>
<td>45.0</td>
<td>S.L.</td>
</tr>
<tr>
<td>360</td>
<td>3200</td>
<td>40.5</td>
<td>11,500</td>
</tr>
</tbody>
</table>

Propeller and Propeller limits
2 Hartzell 3-Bladed feathering propellers
a. HC-B3Z-30-2 Hubs with 9349-6.5 blades
   Pitch settings at 30 in. Station: Low 18°, Feather 86°
   Diameter: 87.0 in., no cutoff permitted
   NOTE: Letters appearing after the dash numbers of the above listed hub model do not affect eligibility; however, for best synchronization hubs with different numbers should not be combined on the same aircraft.
b. Spinner: 2 Hartzell C2504 assemblies

c. Governor: 2 Woodward B210310 or 2 Woodward B210410 (when propeller unfeathering system, Drawing 5640030, is installed). NOTE: Prefix B on part number or type number denotes based orientation only and may or may not be stamped on the nameplate. Governor part numbers may differ from governor type numbers. For best synchronization, governors with different part numbers should not be combined on the same aircraft.

Airspeed Limits
Maneuvering 161 m.p.h. (140K) True Ind.
Max. Struc. cruising 230 m.p.h. (200K) True Ind.
Never exceed 288 m.p.h. (250K) True Ind.
Flaps extended - half 150 m.p.h. (130K) True Ind.
Flaps extended - full 146 m.p.h. (127K) True Ind.
Landing gear extended 180 m.p.h. (156K) True Ind.

C.G. Range
(Gear extended)

<table>
<thead>
<tr>
<th>Weight</th>
<th>Fwd. C.G.</th>
<th>Aft. C.G.</th>
</tr>
</thead>
<tbody>
<tr>
<td>lb</td>
<td>Sta.(in)</td>
<td>% MAC</td>
</tr>
<tr>
<td>Up to 7000</td>
<td>203.0</td>
<td>10</td>
</tr>
<tr>
<td>8500</td>
<td>208.3</td>
<td>17.5</td>
</tr>
</tbody>
</table>

Straight line variation between points given.
Effect of retracting landing gear +10,073 in.-lb.

Empty Weight C.G. Range
None

Datum
196 in. forward of wing leading edge at center section

Leveling means
Longitudinal - Top of fuselage on centerline aft of wing trailing edge.
Lateral - Transverse beams at front or rear of baggage compartment floor.

Maximum weight 8500 lb.
VII - MODEL 680-FL(P) (cont’d)

Maximum No. of seats 11 (Pilot - 10 passengers; pilot, co-pilot +9 passengers)

Maximum baggage 400 lb. (+258)

Fuel capacity Center tank 158.5 gal. (+231), usable fuel 156 gal.
Outboard tanks 33.5 gal. each (+222), usable fuel 33.5 gal. ea.
Total capacity 225.5 gal. usable fuel 223 gal. (See NOTE 1 for system fuel)

Oil capacity 10 gal. total (5.00 gal. each tank) (+235)
9.12 gal. usable (See NOTE 1 for system oil)

Control surface movements

<table>
<thead>
<tr>
<th>Control Surface</th>
<th>Up</th>
<th>±</th>
<th>Down</th>
<th>±</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevator</td>
<td>30° ± 1</td>
<td></td>
<td>10° ± 2</td>
<td></td>
</tr>
<tr>
<td>Elevator tab</td>
<td>0</td>
<td>± 1</td>
<td>0</td>
<td>± 1</td>
</tr>
<tr>
<td>Rudder</td>
<td>20° ± 2</td>
<td></td>
<td>20° ± 2</td>
<td></td>
</tr>
<tr>
<td>Rudder tab</td>
<td>0</td>
<td>± 2</td>
<td>0</td>
<td>± 2</td>
</tr>
<tr>
<td>Aileron</td>
<td>23° ± 2</td>
<td></td>
<td>15° ± 2</td>
<td></td>
</tr>
<tr>
<td>Flap outboard</td>
<td>0</td>
<td>± 2</td>
<td>0</td>
<td>± 2</td>
</tr>
<tr>
<td>Flap inboard</td>
<td>0</td>
<td>± 2</td>
<td>0</td>
<td>± 2</td>
</tr>
</tbody>
</table>

Serial No. eligible Under the delegation option, provisions of Part 21 of the Federal Aviation Regulations, Delegation Option Manufacturer No. SW-2 is authorized to: Issue Airworthiness Certificates for airplane serial numbers 680-FLP-1559-25 and up; and approve design and production changes on airplane serial numbers 680-FLP-1471-2 through 1854-38. (See NOTES 15 and 22)

VIII - MODEL 680-T - 11 PCLM (Normal Category), approved September 15, 1965

(See NOTE 9 conversion to Model 680V)

Engines 2 AiResearch Model TPE-331-43 Turboprop engines (Rockwell P/N 6610400-501) or TPE-331-43A (Rockwell P/N 6610400-505) (See NOTE 11 for requirements)


Oil BRACO 880F (MIL-L-7808D) and Sinclair Turbo S Oil 15 (MIL-L-7808D&E) (See Aerocom Service Letter 170)

Engine limits

<table>
<thead>
<tr>
<th>Engine Limit</th>
<th>HP</th>
<th>R.P.M.</th>
<th>EGT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeoff</td>
<td>575</td>
<td>100%</td>
<td>576°C</td>
</tr>
<tr>
<td>Maximum continuous</td>
<td>500</td>
<td>100%</td>
<td>550°C</td>
</tr>
</tbody>
</table>

Propeller and Propeller Limits 2 Hamilton Standard 3-bladed feathering and reversing propellers Rockwell Assembly No. 640050.

a. 33LF-325 Hubs with 1033A-O Blades

Pitch settings at 30 in. Station: Flt. Idle 9.0° ± 0.2°, Feather 86.5° ± 0.5°, Reverse -9.5° ± 1.5°

Diameter: 90 in., no cutoff permitted.

NOTE: Use AiResearch oil transfer tube No. 866678-2.

b. Spinner: 2 Rockwell 2640050-7

c. Governor: 2 AiResearch 865423-4 or 865423-5-1
VIII - MODEL 680-T (cont’d)

Airspeed Limits

<table>
<thead>
<tr>
<th>Description</th>
<th>Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manuevering</td>
<td>164 m.p.h. (143K) CAS</td>
</tr>
<tr>
<td>Maximum Operating</td>
<td>250 m.p.h. (217K) CAS</td>
</tr>
<tr>
<td>Flaps extended - half</td>
<td>150 m.p.h. (130K) CAS</td>
</tr>
<tr>
<td>Flaps extended - full</td>
<td>146 m.p.h. (127K) CAS</td>
</tr>
<tr>
<td>Landing gear extended</td>
<td>180 m.p.h. (156K) CAS</td>
</tr>
</tbody>
</table>

C.G. range

<table>
<thead>
<tr>
<th>Description</th>
<th>Rear</th>
<th>217.78 (30.19%)</th>
<th>8950 lbs. (Gear down)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>216.94 (29.02%)</td>
<td>5300 lbs. (Gear down)</td>
</tr>
<tr>
<td>Fwd:</td>
<td>208.14 (16.83%)</td>
<td>8950 lbs. (Gear down)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>203.50 (10.40%)</td>
<td>7500 lbs. (Gear down)</td>
<td></td>
</tr>
</tbody>
</table>

Straight line variation between points given.
Effect of retracting landing gear +10,073 in.-lb.

Datum

196 in. forward of wing landing edge at center section

Leveling means

Longitudinal - Top of fuselage on centerline aft of wing trailing edge.
Lateral - Transverse beams at front of rear baggage compartment floor.

Maximum weight

Maximum takeoff 8950 lbs. (ramp weight 9000 lbs.)
Maximum landing 8500 lbs.

Maximum operating altitude

25,000 feet

Maximum No. of seats

11 (Pilot + 10 passengers; pilot, co-pilot + 9 passengers)

Maximum baggage

400 lb. (+258)

Fuel capacity

Center tank 221.5 gal. (+231), usable fuel 219.5 gal.
Outboard tanks 33.5 gal. each (+222), usable fuel 33.5 gal. ea.
Total capacity 288.5 gal., usable fuel 286.5 gal.
(See NOTE 1 for system fuel) (See NOTE 12 for auxiliary fuel)

Oil capacity

15.0 qts. total (7.5 qts. each tank) (+188)
11.8 qts. usable (See NOTE 1 for system oil)

Control surface movements

<table>
<thead>
<tr>
<th>Description</th>
<th>Up</th>
<th>±</th>
<th>Down</th>
<th>±</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevator</td>
<td>30°</td>
<td>1</td>
<td>10°</td>
<td>2</td>
</tr>
<tr>
<td>Elevator tab</td>
<td>6 1/2°</td>
<td>1</td>
<td>24°</td>
<td>1</td>
</tr>
<tr>
<td>Rudder</td>
<td>20°</td>
<td>2</td>
<td>20°</td>
<td>2</td>
</tr>
<tr>
<td>Rudder tab</td>
<td>26°</td>
<td>2</td>
<td>26°</td>
<td>2</td>
</tr>
<tr>
<td>Aileron</td>
<td>23°</td>
<td>2</td>
<td>15°</td>
<td>2</td>
</tr>
<tr>
<td>Flap outboard</td>
<td></td>
<td></td>
<td>40°</td>
<td>2</td>
</tr>
<tr>
<td>Flap inboard</td>
<td></td>
<td></td>
<td>40°</td>
<td>2</td>
</tr>
</tbody>
</table>

Serial Nos. eligible

Under the delegation option, provisions of Part 21 of the Federal Aviation Regulations, Delegation Option Manufacturer No. SW-2 is authorized to:
IX - MODEL 680-V, 11 PCLM (Normal Category), Approved June 13, 1967

Engines
2 AiResearch Model TPE-331-43 Turboprop engines (Rockwell P/N 6610400-501) or TPE-331-43A (Rockwell P/N 6610400-505) (See NOTE 11 for requirements).

Fuel

Oil
BRACO 880F (MIL-L-7808D) and Sinclair Turbo S Oil 15 (MIL-L-7808D&E) (See Aerocom Service Letter 170)

Engine Limits

<table>
<thead>
<tr>
<th></th>
<th>HP</th>
<th>R.P.M</th>
<th>EGT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeoff</td>
<td>575</td>
<td>100%</td>
<td>576°C</td>
</tr>
<tr>
<td>Maximum continuous</td>
<td>500</td>
<td>100%</td>
<td>550°C</td>
</tr>
</tbody>
</table>

Propeller and Propeller Limits
2 Hamilton Standard 3-bladed feathering and reversing propellers. Rockwell Assembly No. 640050.

a. 33LF-325 Hubs with 1033A-0 blades
   Pitch settings at 30 in. Station: Flt. Idle 9.0° ± 0.2°
   Feather 86.5° ± 0.5°, Reverse -9.5° ± 1.5°
   Diameter: 90 in., no cutoff permitted
   NOTE: Use AiResearch oil transfer tube No. 866678-2.

b. Spinner: 2 Rockwell 2640050-7

c. Governor: 2 AiResearch 865423-4 or 865423-5-1

Airspeed Limits
Maneuvering 164 m.p.h. (143K) CAS
Maximum Operating 250 m.p.h. (217K) CAS
Flaps extended - half 150 m.p.h. (130K) CAS
Flaps extended - full 146 m.p.h. (127K) CAS
Landing gear extended 180 m.p.h. (156K) CAS

C.G. Range
Rear: 215.68 (27.28%) 9450 lbs. (Gear down)
216.73 (28.73%) 9400 lbs. (Gear down)
217.87 (30.31%) 9346 lbs. (Gear down)
216.94 (29.02%) 5300 lbs. (Gear down)
Fwd: 209.74 (19.04%) 9450 lbs. (Gear down)
209.60 (18.83%) 9400 lbs. (Gear down)
203.50 (10.40%) 7500 lbs. (Gear down)

Straight line variation between points given.
Effect of retracting landing gear +10,073 in.-lb.

Datum
196 in. forward of wing leading edge at center section.

Leveling means
Longitudinal - Top of fuselage on centerline aft of wing trailing edge.
Lateral - Transverse beams at front of rear baggage compartment floor.

Maximum weight
Maximum takeoff 9400 lbs. (ramp weight 9450 lbs.)
Maximum landing 9000 lbs.
Zero fuel 8000 lbs.

Maximum operating altitude 25,000 feet

Maximum No. of seats 11 (Pilot + 10 passengers; pilot, co-pilot + 9 passengers)

Maximum baggage 500 lb. (+258)

Fuel capacity
Center tank 221.5 gal. (+231), usable fuel 219.5 gal.
Outboard tanks 33.5 gal. each (+222), usable fuel 33.5 gal. ea.
Total capacity 288.5 gal., usable fuel 286.5 gal.
(See NOTE 1 for system fuel) (See NOTE 12 for auxiliary fuel).
IX - MODEL 680-V, 11 PCLM (Normal Category), Approved June 13, 1967

Oil capacity 15.0 qts. total (7.5 qts. each tank) (+188)
11.8 qts. usable (See NOTE 1 for system oil)

Control surface movements

Elevator
Up 30° + 1
Down 10° + 2

Elevator tab
Up 6 1/2° ± 1
Down 24° ± 1

Rudder
Right 20° + 2
Left 20° + 2

Rudder tab
Right 26° + 2
Left 26° + 2

Aileron
Up 23° ± 2
Down 15° ± 2

Flap outboard
Down 40° ± 2

Flap inboard
Down 40° ± 2

Serial Nos. eligible
Under the delegation option, provisions of Part 21 of the Federal Aviation Regulations, Delegation Option Manufacturer No. SW-2 is authorized to: Issue Airworthiness Certificates for airplane serial numbers 680-V-1550 through 680-V-1725; and approve design and production changes on airplane serial numbers 680-V-1473 through 1720. (See NOTES 15 and 22).

X - MODEL 680-W, 11 PCLM (Normal Category), approved February 5, 1968

Engines 2 AiResearch Model TPE-331-43BL Turboprop engines (Rockwell P/N 6610400-503)


Oil BRACO 880F (MIL-L-7808D) and Sinclair Turbo S Oil 15 (MIL-L-7808D&E) (See Aerocom Service Letter 170)

Engine limits

<table>
<thead>
<tr>
<th>HP</th>
<th>R.P.M</th>
<th>EGT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeoff</td>
<td>575</td>
<td>100%</td>
</tr>
<tr>
<td>Maximum continuous</td>
<td>500</td>
<td>100%</td>
</tr>
</tbody>
</table>

Propeller and Propeller Limits

2 Hamilton Standard 3-bladed feathering and reversing propellers. Rockwell Assembly No. 640050.

a. 33LF-325 Hubs with 1033A-0 Blades
Pitch settings at 30 in. Station: Flt. Idle 9.0° ± 0.2°,
Feather 86.5° ± 0.5°, Reverse -9.5° ± 1.5°.
Diameter: 90 in., no cutoff permitted.
NOTE: Use AiResearch oil transfer tube No. 866678-2.

b. Spinner: 2 Rockwell 2640050-7

c. Governor: 2 AiResearch 869132-2-1

Airspeed Limits

Maneuvering 164 m.p.h. (143K) CAS
Maximum Operating 250 m.p.h. (217K) CAS
Flaps extended - half 150 m.p.h. (130K) CAS
Flaps extended - full 146 m.p.h. (127K) CAS
landing gear extended 180 m.p.h. (156K) CAS

C.G. Range

Rear: 215.68 (27.28%) 9450 lbs. (Gear down)
216.73 (28.73%) 9400 lbs. (Gear down)
217.87 (30.31%) 9346 lbs. (Gear down)
216.94 (29.02%) 5300 lbs. (Gear down)

Fwd.: 209.74 (19.04%) 9450 lbs. (Gear down)
209.60 (18.83%) 9400 lbs. (Gear down)
203.50 (10.40%) 7500 lbs. (Gear down)

Straight line variation between points given.
Effect of retracting landing gear +10,073 in.-lb.
X - MODEL 680-W  (cont’d)

Datum  
196 in. forward of wing leading edge at center section.

Leveling means  
Longitudinal - Top of fuselage on centerline aft of wing trailing edge.
Lateral - Transverse beams at front of each baggage compartment floor.

Maximum weight  
Maximum takeoff 9400 lbs. (ramp weight 9450 lbs.)
Maximum landing 9000 lbs.
Zero fuel 8000 lbs.

Maximum operating altitude  
25,000 feet

Maximum No. of seats  
11 (Pilot + 10 passengers; pilot, co-pilot + 9 passengers)

Maximum baggage  
500 lb. (+258) Serial numbers eligible for Model 680-W-1721 through 1850.

Fuel capacity  
Center tank 221.5 gal. (+231), usable fuel 219.5 gal.
Outboard tanks 33.5 gal. each (+222), usable fuel 33.5 gal. ea.
Total capacity 288.5 gal., usable fuel 286.5 gal.
(See NOTE 1 for system fuel.) (See NOTE 12 for auxiliary fuel.)

Oil capacity  
15.0 qts. total (7.5 qts. each tank) (+188)
11.8 qts. usable (See NOTE 1 for system oil)

Control surface movements  
Elevator  
Up  30° ± 1  Down  10° ± 2
  0  0
Elevator tab  
Up  6 1/2° ± 1  Down  24° ± 1
  0  0
Rudder  
Right  20° ± 2  Left  20° ± 2
  0  0
Rudder tab  
Right  26° ± 2  Left  26° ± 2
  0  0
Aileron  
Up  23° ± 2  Down  15° ± 2
  0  0
Flap outboard  
Down  40° ± 2
  0  0
Flap inboard  
Down  40° ± 2
  0  0

Serial Nos. eligible  
Under the delegation option, provisions of Part 21 of the Federal Aviation Regulations, Delegation Option Manufacturer No. SW-2 is authorized to:
Issue Airworthiness Certificates and approve design and production changes on airplane serial numbers 680-W-1721 through 1850, (See NOTES 15 and 22).

XI - MODEL 681, 11 PCLM (Normal Category), Approved March 20, 1969

Engines  
2 AiResearch Model TPE-331-43BL Turboprop engines (Rockwell P/N 6610400-507)

Fuel  

Oil  
BRACO 880F (MIL-L-7808D) and Sinclair Turbo S Oil 15 (MIL-L-7808D&E) (See Aerocom Service Letter 170)

Engine limits  

<table>
<thead>
<tr>
<th></th>
<th>HP</th>
<th>R.P.M</th>
<th>EGT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeoff</td>
<td>575</td>
<td>100%</td>
<td>576°C</td>
</tr>
<tr>
<td>Maximum continuous</td>
<td>500</td>
<td>100%</td>
<td>550°C</td>
</tr>
</tbody>
</table>
XI - MODEL 681  (cont’d)

<table>
<thead>
<tr>
<th>Propeller and Propeller limits</th>
<th>2 Hamilton Standard 3-bladed feathering and reversing propellers Rockwell Assembly No. 640050.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>33LF-325 Hubs with 1033 A-0 Blades</td>
</tr>
<tr>
<td>Pitch settings at 30 in. Station:</td>
<td>Flt. Idle 9.0° ± 0.2°</td>
</tr>
<tr>
<td>Feather 86.5° ± 0.5°, Reverse -9.5° ± 1.5°</td>
<td></td>
</tr>
<tr>
<td>Diameter: 90 in., no cutoff permitted.</td>
<td></td>
</tr>
<tr>
<td>NOTE: Use AiResearch oil transfer tube No. 866678-2.</td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>Spinner: 2 Rockwell 2640050-7</td>
</tr>
<tr>
<td>c.</td>
<td>Governor: 2 AiResearch 869132-2-1</td>
</tr>
</tbody>
</table>

Airspeed Limits

<table>
<thead>
<tr>
<th>Maneuvering</th>
<th>164 m.p.h. (143K) CAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Operating</td>
<td>250 m.p.h. (217K) CAS</td>
</tr>
<tr>
<td>Flaps extended - half</td>
<td>150 m.p.h. (130K) CAS</td>
</tr>
<tr>
<td>Flaps extended - full</td>
<td>149 m.p.h. (129K) CAS</td>
</tr>
<tr>
<td>Landing gear extended</td>
<td>180 m.p.h. (156K) CAS</td>
</tr>
</tbody>
</table>

C.G. Range

| Rear: 215.68 (27.28%) 9450 lbs. (Gear down) | |
| 216.73 (28.73%) 9400 lbs. (Gear down)      | |
| 217.87 (30.31%) 9346 lbs. (Gear down)      | |
| 216.94 (29.02%) 5300 lbs. (Gear down)      | |
| Fwd.: 209.74 (19.04%) 9450 lbs. (Gear down)| |
| 209.60 (18.83%) 9400 lbs. (Gear down)      | |
| 203.50 (10.40%) 7500 lbs. (Gear down)      | |

Straight line variation between points given. Effect of retracting landing gear +10,073 in.-lb.

Datum

196 in. forward of wing leading edge at center section

Leveling means

Longitudinal - Top of fuselage on centerline aft of wing trailing edge.
Lateral - Transverse beams at front of rear baggage compartment floor.

Maximum weight

Maximum takeoff 9400 lbs. (ramp weight 9450 lbs.)
Maximum landing 9000 lbs.
Zero fuel 8500 lbs.

Maximum operating altitude

25,000 feet

Maximum No. of seats

11 (Pilot + 10 passengers; pilot, co-pilot + 9 passengers)

Maximum baggage

500 lb. (+258)

Fuel capacity

Center tank 221.5 gal. (+231), usable fuel 219.5 gal.
Outboard tanks 33.5 gal. each (+222), usable fuel 33.5 gal. ea.
Total capacity 288.5 gal., usable fuel 286.5 gal.
(See NOTE 1 for system fuel) (See NOTE 12 for auxiliary fuel)

Oil capacity

15.0 qts. total (7.5 qts. each tank) (+188)
11.8 qts. usable (See NOTE 1 for system oil)

Control surface movements

<table>
<thead>
<tr>
<th>Elevator</th>
<th>Up  30° ± 1</th>
<th>Down 10° ± 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevator tab</td>
<td>Up 6 1/2° ± 1</td>
<td>Down 24° ± 1</td>
</tr>
<tr>
<td>Rudder</td>
<td>Right 20° ± 2</td>
<td>Left 20° ± 2</td>
</tr>
<tr>
<td>Rudder tab</td>
<td>Right 26° ± 2</td>
<td>Left 26° ± 2</td>
</tr>
<tr>
<td>Aileron</td>
<td>Up 23° ± 2</td>
<td>Down 15° ± 2</td>
</tr>
<tr>
<td>Flap outboard</td>
<td>Down 40° ± 2</td>
<td></td>
</tr>
<tr>
<td>Flap inboard</td>
<td>Down 40° ± 2</td>
<td></td>
</tr>
</tbody>
</table>
XI - MODEL 681 (cont’d)
Serial Nos. eligible

Under the delegation option, provisions of Part 21 of the Federal Aviation Regulations, Delegation Option Manufacturer No. SW-2 is authorized to: Issue Airworthiness Certificates and approve design and production changes on airplane serial numbers 681-6001 through 6072. (See NOTES 15 and 22).

XII - MODEL 690, 11 PCLM (Normal Category), approved July 19, 1971

Engines
2 AiResearch Model TPE-331-5-251K Turboprop engines (Rockwell P/N 610495)

Fuel

Oil
MIL-L-23699A and MIL-L-7808G. (See Rockwell Service Letter 170H)

<table>
<thead>
<tr>
<th>Engine limits</th>
<th>HP</th>
<th>R.P.M.</th>
<th>I.T.T.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeoff</td>
<td>717.5</td>
<td>101%</td>
<td>923°C</td>
</tr>
<tr>
<td>Maximum continuous</td>
<td>717.5</td>
<td>101%</td>
<td>923°C</td>
</tr>
</tbody>
</table>

Propeller and Propeller limits

2 Hartzell 3-bladed feathering and reversing propellers. Rockwell Assembly No. 640053.

a. HC-B3TN-5FL Hubs with LT10282H-4 or LT10282H(B)+4 or LT10282+4 or LT10282(B)+4 or LT10282A+4 or LT10282AB+4 blades

OR
HC-B3TN-5DL or HC-B3TN-5NL hubs with LT10282A+4 or LT10282AB+4 blades.

b. Pitch settings at 30 in. Station: Low 13.5° ± 0.2°,
   Feather 90.0° ± 0.5°, Reverse -8.0° ± 0.5°,
   Start Locks +2.5° ± 0.2°
   Diameter: 106 in, 1/2 in. reduction per blade allowed.
   NOTE: Use AiResearch oil transfer tube No. 866533-3.
   See NOTE 16.

c. Spinner: 2 Hartzell 836-57

c. Governor: 2 AiResearch 895490-1 or 895490-3.

Airspeed Limits

Maneuvering 167 m.p.h. (145K) CAS
Maximum Operating 280 m.p.h. (234K) CAS
Flaps extended - half 180 m.p.h. (156K) CAS
Flaps extended - full 157 m.p.h. (136K) CAS
Landing gear extended 230 m.p.h. (200K) CAS

C.G. Range

Forward
212.93 inches aft of datum (22.72% MAC) at 10,250 lbs.
203.75 inches aft of datum (10.40% MAC) at 7,500 lbs.
203.75 inches aft of datum (10.40% MAC) at 5,750 lbs.
Straight line variation between points.

Aft
218.70 inches aft of datum (30.47% MAC) at 10,250 lbs.
217.81 inches aft of datum (29.28% MAC) at 5,750 lbs.
Variation between points:
   Inches aft of datum = 219.84 - (11653/Weight)

Datum
196 in. forward of wing leading edge at center section.

Leveling means
Longitudinal - top of fuselage on centerline aft of wing trailing edge.
Lateral - Transverse beam at front of rear baggage compartment floor.
XII - MODEL 690 (cont’d)

Maximum weight
Maximum takeoff 10,250 lbs. (ramp weight 10,300 lbs.)
Maximum loading 9600 lbs.
Zero fuel 8750 lbs.

Maximum operating altitude
25,000 feet

Maximum No. of seats
11 (Pilot + 10 passengers; pilot, co-pilot + 9 passengers)

Maximum baggage
600 lbs. (+260)

Fuel capacity
Total capacity 389.0 gal., usable fuel 384.0 gal.
(see NOTE 1 for system fuel)

Oil capacity
Oil capacity per engine @ +188
AiResearch Tank No. 896062-1  6.25 qt. total 5.25 qt. usable
AiResearch Tank No. 896417-1  6.00 qt. total 5.00 qt. usable
(See NOTE 1 for system oil)

Control surface movements

<table>
<thead>
<tr>
<th>Surface</th>
<th>Up</th>
<th>±</th>
<th>Down</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevator</td>
<td>30°</td>
<td>+ 1</td>
<td>10°</td>
</tr>
<tr>
<td>Elevator tab</td>
<td>1/2°</td>
<td>± 1</td>
<td>4°</td>
</tr>
<tr>
<td>Rudder</td>
<td>0°</td>
<td>± 2</td>
<td>0°</td>
</tr>
<tr>
<td>Rudder tab</td>
<td>26°</td>
<td>± 2</td>
<td>26°</td>
</tr>
<tr>
<td>Aileron</td>
<td>23°</td>
<td>± 2</td>
<td>15°</td>
</tr>
<tr>
<td>Flaps</td>
<td>0°</td>
<td>± 2</td>
<td>40°</td>
</tr>
<tr>
<td>Aileron tab</td>
<td>17°</td>
<td>± 2.5°</td>
<td>17° ± 2.5°</td>
</tr>
</tbody>
</table>

Serial Nos. eligible
Under the delegation option, provisions of Part 21 of the Federal Aviation Regulations, Delegation Option Manufacturer No. SW-2 is authorized to:
Issue Airworthiness Certificate and approve design and production changes on airplane serial numbers 690-11001 through 11099.  (See NOTES 15 and 22).

XIII - MODEL 685, 9 PCLM (Normal Category), Approved September 17, 1971

Engines
2 Continental Model GTSIO-520-F or GTSIO-520-K Turbosupercharged engines
(See NOTE 14) (Rockwell P/N 610503)

Fuel
Aviation gasoline, 100/130 octane.

Oil
Teledyne Continental Specification MHS-24A.

Engine limits

<table>
<thead>
<tr>
<th></th>
<th>HP</th>
<th>R.P.M.</th>
<th>M.A.P.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeoff</td>
<td>435</td>
<td>3400</td>
<td>44.5 ln.Hg</td>
</tr>
<tr>
<td>Maximum continuous</td>
<td>435</td>
<td>3400</td>
<td>44.5 ln.Hg</td>
</tr>
</tbody>
</table>

Propeller and Propeller limits
2 Hartzell 3-bladed feathering propellers
Rockwell Drawing No. 610505
a. HC-H3YN-2 or HC-H3YN-2F Hubs with C8475+2, FC8475+2, or FC8475B+2 blades.
   Pitch settings at 30 in. Station:  Low 18.1° ± 1.0°
   Feathered 83.5° ± 1.0°
   Diameter: 88 in., 1/2 in. reduction per blade allowed.
b. Spinner: 2 Hartzell D-3273-1
c. Governor: 2 Rockwell 610445-1, 610445-501, or 610445-503
XIII - MODEL 685  (cont’d)

Airspeed Limits

- Maneuvering: 156 m.p.h. (136K) CAS
- Never exceed: 290 m.p.h. (252K) CAS
- Never exceed Mach: 0.554
- Flaps extended - half: 180 m.p.h. (156K) CAS
- Flaps extended - full: 149 m.p.h. (130K) CAS
- Landing gear extended: 230 m.p.h. (200K) CAS
- Max structural cruise: 258 m.p.h. (224K)
  
  Max. structural cruise Mach: 0.493

C.G.Range

<table>
<thead>
<tr>
<th>Rear</th>
<th>216.88 (28.0%)</th>
<th>9,000 lbs. (Gear down)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>216.18 (27.1%)</td>
<td>5,850 lbs. (Gear down)</td>
</tr>
</tbody>
</table>

Variation between points: inches = 218.15 - (11653/Weight)

<table>
<thead>
<tr>
<th>Fwd</th>
<th>208.67 (17.0%)</th>
<th>9,000 lbs. (Gear down)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>203.45 (10.0%)</td>
<td>7,500 lbs. (Gear down)</td>
</tr>
<tr>
<td></td>
<td>203.45 (10.0%)</td>
<td>5,850 lbs. (Gear down)</td>
</tr>
</tbody>
</table>

Straight line variation between points given. Effect of retracting landing gear +11,653 in.-lb.

Datum

196 in. forward of wing leading edge at center section.

Leveling means

- Longitudinal - Top of fuselage on centerline aft of wing trailing edge.
- Lateral - Transverse beams at front of rear baggage compartment floor.

Maximum weight

- Maximum takeoff: 9000 lbs. (ramp weight 9050 lbs.)
- Maximum landing: 9000 lbs.

Maximum operating altitude

25,000 feet

Maximum number of seats

9 (Pilot + 8 passengers; pilot, co-pilot + 7 passengers)

Maximum baggage

600 lb. (+260)

Fuel capacity

- Total capacity: 261.0 gal., usable fuel 256.0 gal.
- Auxiliary (option): 66.0 gal. total usable 322.0 gal.
- Total undrainable: 10.7 lbs. (without auxiliary option)
- Total undrainable: 13.0 lbs. (with auxiliary option)

Oil capacity

24.0 qts. total (12.0 qts. each engine, 9.0 qts. usable - (See NOTE 1 for system oil) (+188)

Auxiliary with optional fuel 27.2 qts. total (13.6 qts. each engine, 10.6 qts. usable) (+188)

Control surface movements

<table>
<thead>
<tr>
<th>Elevator</th>
<th>Up 30° ± 1</th>
<th>Down 10° ± 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevator tab</td>
<td>Up 6 1/2° ± 1</td>
<td>Down 24° ± 1</td>
</tr>
<tr>
<td>Rudder</td>
<td>Right 20° ± 2</td>
<td>Left 20° ± 2</td>
</tr>
<tr>
<td>Rudder tab</td>
<td>Right 26° ± 2</td>
<td>Left 26° ± 2</td>
</tr>
<tr>
<td>Aileron</td>
<td>Up 23° ± 2</td>
<td>Down 15° ± 2</td>
</tr>
<tr>
<td>Flaps</td>
<td>Down 40° ± 2</td>
<td></td>
</tr>
<tr>
<td>Aileron tab</td>
<td>Up 17° ± 2.5°</td>
<td>Down 17° ± 2.5°</td>
</tr>
</tbody>
</table>

Serial Nos. eligible

Under the delegation option, provisions of Part 21 of the Federal Aviation Regulations, Delegation Option Manufacturer No. SW-2 is authorized to:

Issue Airworthiness Certificates and approve design and production changes on airplane serial numbers 685-12000 through 12066. (See NOTES 15 and 22).
XIV - MODEL 690A, 11 PCLM (Normal Category), Approved April 25, 1973

Engines
2 AiResearch Model TPE-331-5-251K Turboprop engines (Rockwell P/N 610495)

Fuel

Oil
MIL-L-23699A and MIL-L-7808G.
(See Mfg. Data Part V Approved F/M for List of Approved Lubricants)

Engine limits

<table>
<thead>
<tr>
<th>HP</th>
<th>R.P.M.</th>
<th>L.T.T.</th>
</tr>
</thead>
<tbody>
<tr>
<td>717.5</td>
<td>101%</td>
<td>923°C</td>
</tr>
</tbody>
</table>

Propeller and Propeller Limits
2 Hartzell 3-bladed feathering and reversing propellers. Rockwell Assembly No. 640053.

a. HC-B3TN-5FL Hubs with LT10282H-4 or LT10282H(B)+4 or LT10282+4 or LT10282(B)+4 or LT10282+4 or LT10282AB+4 blades.

OR
HC-B3TN-5DL or HC-B3TN-5NL hubs with LT10282A+4 or LT10282AB+4 blades.

Pitch settings at 30 in. Station:
- Low 13.5° ± 0.2°
- Feather 90.0° ± 0.5°, Reverse -8.0° ± 0.5°
- Start Locks +2.5° ± 0.2°

Diameter: 106 in, 1/2 in. reduction per blade allowed.

NOTE: Use AiResearch oil transfer tube No. 866533-3.
(See NOTE 16)
b. Spinner: 2 Hartzell 836-57P
c. Governor: 2 AiResearch 895490-1 or 895490-3

Airspeed Limits
Maneuvering 167 m.p.h. (145K) CAS
Maximum Operating 280 m.p.h. (243K) CAS .52 MACH
Flaps extended - half 207 m.p.h. (180K) CAS
Flaps extended - full 161 m.p.h. (140K) CAS
Landing gear extended 230 m.p.h. (200K) CAS

C.G. Range
Forward
212.93 inches aft of datum (22.72% MAC) at 10,250 lbs.
203.75 inches aft of datum (10.40% MAC) at 7,500 lbs.
203.75 inches aft of datum (10.40% MAC) at 6,749 lbs.
214.58 inches aft of datum (24.93% MAC) at 6,000 lbs.

Straight line variation between points

Aft
218.70 inches aft of datum (30.47% MAC) at 10,250 lbs.
217.98 inches aft of datum (29.50% MAC) at 6,278 lbs.

Variation between points:

Inches aft of datum = 219.84 - (11653/Weight)

Datum
196 in forward of wing leading edge at center section

Leveling means
Longitudinal - top of fuselage on centerline aft of wing trailing edge.
Lateral - Transverse beams at front of rear baggage compartment floor.

Maximum weight
Maximum takeoff 10,250 lbs. (ramp weight 10,300 lbs.)
Maximum landing 9600 lbs.
Zero fuel 8750 lbs.

Maximum operating altitude
31,000 feet

Maximum No. of seats
11 (Pilot +10 passengers; pilot, co-pilot + 9 passengers)
XIV - MODEL 690A (cont’d)

Maximum baggage 600 lb. (+260)

Fuel capacity
Total capacity 389.0 gal., usable fuel 384.0 gal. (See NOTE 1 for system fuel)

Oil capacity
12.0 qts. total (6.0 qts. total each tank) (+188)
10.0 qts. usable (See NOTE 1 for system oil)

Control surface movements
Elevator
Up 30° ± 1
Down 10° ± 2

Elevator tab
Up 0
Down 0

Rudder
Right 20° ± 2
Left 20° ± 2

Rudder tab
Right 0
Left 0

Aileron
Up 23° ± 2
Down 15° ± 2

Flaps
Down 40° ± 2

Aileron tab
Up 17° ± 2.5°
Down 17° ± 2.5°

Serial Nos. eligible
Under the delegation option, provisions of Part 21 of the Federal Aviation Regulations, Delegation Option Manufacturer No. SW-2 is authorized to: Issue Airworthiness Certificates and approve design and production changes on airplane serial numbers 690A-11100 through 11349. (See NOTES 15 and 22).

XV - MODEL 690B, 10 PCLM (Normal Category), Approved October 5, 1976

Engines
2 AiResearch Model TPE-331-5-251K Turboprop engines (Rockwell P/N 610495), S/N 11350 through 11542
2 AiResearch Model TPE-331-5-252K Turboprop engines (Rockwell P/N 610495), S/N 11431, S/N 11543 and subs.

Fuel

Oil
MIL-L-23699A and MIL-L-7808G (See Mfg. Data Part V Approved F/M for List of Approved Lubricants).

Engine limits

<table>
<thead>
<tr>
<th>Condition</th>
<th>HP</th>
<th>R.P.M</th>
<th>L.T.T.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeoff</td>
<td>717.5</td>
<td>101%</td>
<td>923°C</td>
</tr>
<tr>
<td>Maximum continuous</td>
<td>717.5</td>
<td>101%</td>
<td>923°C</td>
</tr>
</tbody>
</table>

Propeller and Propeller Limits
2 Hartzell 3-bladed feathering and reversing propellers.
Rockwell Assembly No. 640053.

a. HC-B3TN-5FL Hubs with LT10282H(4 or LT10282H)4 or LT10282H(B)+4 or LT10282(B)+4 or LT10282(B)+4 blades
b. HC-B3TN-5DL or HC-B3TN-5NL hubs with LT10282A4 or LT10282AB4 blades

Pitch settings at 30 in. Station: Low 13.5° ± 0.2°
Feather 90.0° ± 0.5°, Reverse -8.0° ± 0.5°
Start Locks +2.5° ± 0.2°
Diameter: 106 in, 1/2 in. reduction per blade allowed.
NOTE: Use AiResearch oil transfer tube No. 866533-3.
(See NOTE 16)

b. Spinner: 2 Hartzell 836-57P

c. Governor: 2 AiResearch 895490-1 or 895490-3 (for aircraft with TPE 331-5-251K engines)
2 AiResearch 895490-5 (for aircraft with TPE 331-5-252K engines)
Airspeed Limits (cont’d)

**XV - MODEL 690B**

<table>
<thead>
<tr>
<th>Maneuvering</th>
<th>171 m.p.h. (149K) CAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Operating</td>
<td>280 m.p.h. (243K) CAS .52 MACH</td>
</tr>
<tr>
<td>Flaps extended - half</td>
<td>207 m.p.h. (180K) CAS</td>
</tr>
<tr>
<td>Flaps extended - full</td>
<td>161 m.p.h. (140K) CAS</td>
</tr>
<tr>
<td>Landing gear extended</td>
<td>230 m.p.h. (200K) CAS</td>
</tr>
</tbody>
</table>

C.G. Range

Forward

- 213.14 inches aft of datum (23.00% MAC) at 10,325 lbs.
- 203.75 inches aft of datum (10.40% MAC) at 7,500 lbs.
- 203.75 inches aft of datum (10.40% MAC) at 6,749 lbs.
- 214.58 inches aft of datum (24.93% MAC) at 6,000 lbs.

Straight line variation between points.

Aft

- 218.64 inches aft of datum (30.39% MAC) at 10,325 lbs.
- 217.85 inches aft of datum (29.33% MAC) at 6,267 lbs.

Variation between points.

Inches aft of datum = 219.84 - (12444/Weight)

Datum

196 in. forward of wing leading edge at center section.

Leveling means

- Longitudinal - Top of fuselage on centerline aft of wing trailing edge.
- Lateral - Transverse beams at front of rear baggage compartment floor.

Maximum weight

- Maximum takeoff 10,325 lbs. (ramp weight 10,375 lbs.)
- Maximum landing 9675 lbs.
- Zero fuel 8750 lbs.

Maximum operating altitude

31,000 feet

Maximum No. of seats

10 (Pilot + 9 passengers; pilot, co-pilot + 8 passengers)

Maximum baggage

600 lb. (+260)

Fuel capacity

Total capacity 389.0 gal., usable fuel 384.0 gal.

(See NOTE 1 for systems fuel)

Oil capacity

12.0 qts. total (6.0 qts. total each tank) (+188)
10.0 qts. usable (See NOTE 1 for system oil)

Control surface movements

<table>
<thead>
<tr>
<th>Elevator</th>
<th>Up</th>
<th>30° ± 1</th>
<th>Down</th>
<th>10° ± 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>tab</td>
<td>Up</td>
<td>6 1/2° ± 1</td>
<td>Down</td>
<td>24° ± 1</td>
</tr>
<tr>
<td>Rudder</td>
<td>Right</td>
<td>20° ± 2</td>
<td>Left</td>
<td>20° ± 2</td>
</tr>
<tr>
<td>tab</td>
<td>Right</td>
<td>26° ± 2</td>
<td>Left</td>
<td>26° ± 2</td>
</tr>
<tr>
<td>Aileron</td>
<td>Up</td>
<td>23° ± 2</td>
<td>Down</td>
<td>15° ± 2</td>
</tr>
<tr>
<td>Flaps</td>
<td>Up</td>
<td>17° ± 2.5°</td>
<td>Down</td>
<td>17° ± 2.5°</td>
</tr>
</tbody>
</table>

Serial Nos. eligible

Under the delegation option, provisions of Part 21 of the Federal Aviation Regulations, Delegation Option Manufacturer No. SW-2 is authorized to:

Issue Airworthiness Certificates and approve design and production changes on airplane serial numbers 690B-11350 through 11566. (See NOTES 15 and 22).
XVI - MODEL 690C, 11 PCLM (Normal Category), Approved September 7, 1979

Engines
2 AiResearch Model TPE-331-5-254K Turboprop engines (Rockwell P/N 610495).

Fuel

Oil
MIL-L-23699B Type II, MIL-L-7808G Type I (See Mfg. Data Part VIII Approved POH for List of Approved Lubricants).

Engine limits
<table>
<thead>
<tr>
<th>Mode</th>
<th>HP</th>
<th>R.P.M.</th>
<th>L.T.T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeoff</td>
<td>717.5</td>
<td>101%</td>
<td>923°C</td>
</tr>
<tr>
<td>Maximum continuous</td>
<td>717.5</td>
<td>101%</td>
<td>923°C</td>
</tr>
</tbody>
</table>

Propeller and Propeller Limits
2 Dowty-Rotol Ltd. 3-bladed feathering and reversing propellers. Rockwell Assembly No. 640080.

a. Dowty-Rotol Ltd. Type No. (C) R306/3-82-F/7-(c) VP2926 includes B. F. Goodrich propeller de-icing kit No. 65-330-1 or Dowty Rotol Ltd. Type No. (C) R306/3-82-F/7-(c) VP 3027 includes Dowty Rotol Drice Boots 660709275 as B. F. Goodrich De-Ice Boots 4E 2598-10. See NOTE 17.

b. Spinner: 2 Dowty-Rotol Ltd. Type No. (C)SB7/3/1

c. Governor: 2 AiResearch P/N 895490-5, 897410-2B, or 897410-4

Airspeed Limits
Maneuvering 158 m.p.h. (137K) CAS
Maximum Operating 280 m.p.h. (234K) CAS .52 MACH
Flaps extended - half 207 m.p.h. (180K) CAS (S/N 11600-11729)
230 m.p.h. (200K) CAS (S/N 11730-11999)
Flaps extended - full 161 m.p.h. (140K) CAS (S/N 11600-11729)
184 m.p.h. (160K) CAS (S/N 11730-11999)
Landing gear extended 230 m.p.h. (200K) CAS

C.G. Range
Forward 210.51 inches aft of datum (20.06% MAC) at 10,325 lbs.
204.70 inches aft of datum (12.03% MAC) at 7,500 lbs.
204.70 inches aft of datum (12.03% MAC) at 6,798 lbs.
215.10 inches aft of datum (26.42% MAC) at 6,240 lbs.
Straight line variation between points.

Aft 218.67 inches aft of datum (31.35% MAC) at 10,325 lbs.
217.88 inches aft of datum (30.25% MAC) at 6,332 lbs.
Variation between points:
Inches aft of datum = 219.93 - (13029/Weight)

Datum 196 in. forward of wing leading edge at center section

Leveling means
Longitudinal - Top of fuselage on centerline aft of wing trailing edge.
Lateral - Transverse beams at front of rear baggage compartment floor.

Maximum weight
Maximum takeoff 10,325 lbs. (ramp weight 10,375 lbs.)
Maximum landing 9675 lbs.
Zero fuel 8800 lbs.
XVI - MODEL 690C (cont’d)

Maximum operating altitude
31,000 feet

Maximum No. of seats
11 (Pilot + 10 passengers; pilot, co-pilot + 9 passengers)

Maximum baggage
600 lb. (+260)

Fuel capacity
Total standard capacity 430 gal., usable 425 gal.
Total capacity with optional system 482 gal., usable 474 gal.
(See NOTE 1 for systems fuel.)

Oil capacity
12.0 qts. total (6.0 qts. total each tank) (+188)
10.0 qts. usable (See NOTE 1 for system oil)

Control surface movements
Elevator
Up: 30° ± 1
Down: 10° ± 2

Elevator tab
Up: 3° ± 1
Down: 24° ± 1

Rudder
Right: 20° ± 2
Left: 20° ± 2

Rudder tab
Right: 20° ± 2
Left: 20° ± 2

Aileron
Up: 23° ± 2
Down: 15° ± 2

Flaps
Down: 40° ± 2

Aileron tab
Up: 17° ± 2.5°
Down: 17° ± 2.5°

Serial Nos. eligible
Under the delegation option, provisions of Part 21 of the Federal Aviation Regulations, Delegation Option Manufacturer No. SW-2 is authorized to:
Issue Airworthiness Certificates and approve design and production changes on airplane serial numbers 11600 through 11735. (See NOTE 22)

XVII - MODEL 695, 11 PCLM (Normal Category), Approved November 1, 1979

Engines
2 AiResearch Model TPE-331-10-501K Turboprop Engines (Rockwell P/N 610653) or 2 Garrett Model TPE-331-10-511K Turboprop Engines (Gulfstream P/N 610653) See NOTE 19.

Fuel

Oil
MIL-L-23699B Type II, MIL-L-7808G Type I (See Mfg. Data Part VIII Approved POH for List of Approved Lubricants).

Engine Limits

<table>
<thead>
<tr>
<th></th>
<th>HP</th>
<th>R.P.M</th>
<th>E.G.T.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeoff</td>
<td>733</td>
<td>101%</td>
<td>650°C</td>
</tr>
<tr>
<td>Maximum continuous</td>
<td>733</td>
<td>101%</td>
<td>650°C</td>
</tr>
</tbody>
</table>

Propeller and Propeller Limits

2 Dowty-Rotol Ltd. 3-bladed feathering and reversing propellers.
Rockwell Assembly No. 640080.
a. Dowty-Rotol Ltd. Type No. (C) R306/3-82-F/7-(c) VP2926 includes
B. F. Goodrich propeller de-icing kit No. 65-330-1 or Dowty Rotol Ltd. Type No. (C) R306/3-82-F/7-(c) VP 3027 includes Dowty Rotol Deice Boots 660709275 as B. F. Goodrich De-Ice Boots 4E 2598-10. See NOTE 17.
Dowty-Rotol Propeller Blade Assembly P/N 660706330-XX
Pitch settings at .7 radius station:
Feather 83 10’ ± 20’, Reverse -13.75° ± 1.0°,
Start Locks -1.25° ± 1.0°, Flight Idle 6.0° ± 0.5°.
Diameter: 106 in., 1/2 in. reduction per blade allowed.

NOTE: Use AiResearch oil transfer tube Part No. 897458-2.

NOTE: Downwind ground operation above taxi power is prohibited when airplane is stationary.
**XVII - MODEL 695** (cont’d)

**Propeller and Propeller Limits** (cont’d)

b. Spinner: 2 Dowty-Rotol Ltd. Type No. (C)SB7/3/1


**Airspeed Limits**

- Maneuvering: 158 m.p.h. (137K) CAS
- Maximum Operating: 280 m.p.h. (143K) CAS .52 MACH
- Flaps extended - half: 207 m.p.h. (180K) CAS
- Flaps extended - full: 161 m.p.h. (140K) CAS
- Landing gear extended: 230 m.p.h. (200K) CAS

**C.G. Range**

- Forward:
  - 210.51 inches aft of datum (20.06% MAC) at 10,325 lbs.
  - 204.70 inches aft of datum (12.03% MAC) at 7,500 lbs.
  - 204.70 inches aft of datum (12.03% MAC) at 6,798 lbs.
  - 215.10 inches aft of datum (26.42% MAC) at 6,240 lbs.

- Aft:
  - 218.67 inches aft of datum (31.35% MAC) at 10,325 lbs.
  - 217.88 inches aft of datum (30.25% MAC) at 6,332 lbs.

Variation between points:

- Inches aft of datum = 219.93 - (13029/Weight)

**Datum**

- 196 in. forward of wing leading edge at center section

**Leveling means**

- Longitudinal - Top of fuselage on centerline aft of wing trailing edge.
- Lateral - Transverse beams at front of rear baggage compartment floor.

**Maximum weight**

- Maximum takeoff 10,325 lbs. (ramp weight 10,375 lbs.)
- Maximum landing 9,675 lbs.
- Zero fuel 8,800 lbs.

**Maximum operating altitude**

- 31,000 feet

**Maximum No. of seats**

- 11 (Pilot + 10 passengers; pilot, co-pilot + 9 passengers)

**Maximum baggage**

- 600 lb. (+260)

**Fuel capacity**

- Total standard capacity 430 gal., usable 425 gal. (S/N 95000 thru 95040).
- Total standard capacity 482 gal., usable 474 gal. (S/N 95041 thru 95999).

(See NOTE 1 for systems fuel.)

**Oil capacity**

- 12.0 qts. total (6.0 qts. total each tank) (+188)
- 10.0 qts. usable (See NOTE 1 for system oil).

**Control Surface movements**

- Elevator:
  - Up: 30° ± 1 deg.
  - Down: 10° ± 2 deg.
- Elevator tab:
  - Up: 3° ± 1 deg.
  - Down: 24° ± 1 deg.
- Rudder:
  - Right: 20° ± 2 deg.
  - Left: 20° ± 2 deg.
- Rudder tab:
  - Right: 20° ± 2 deg.
  - Left: 20° ± 2 deg.
- Aileron:
  - Up: 23° ± 2 deg.
  - Down: 15° ± 2 deg.
- Flaps:
  - Down: 40° ± 2 deg.
- Aileron tab:
  - Up: 17° ± 2.5°
  - Down: 17° ± 2.5°

**Serial Nos. eligible**

Under the delegation option, provisions of Part 21 of the Federal Aviation Regulations, Delegation Option Manufacturer No. SW-2 is authorized to:

Issue Airworthiness Certificates and approve design and production changes on airplane serial numbers 95000 through 95084. (See NOTE 22.)
XVIII - MODEL 695A, 11 PCLM (Normal Category), Approved April 30, 1981

Engines
2 AiResearch Model TPE-331-10-501K Turboprop Engines (Rockwell P/N 610653)
or 2 Garrett Model TPE-331-10-511K Turboprop Engines (Gulfstream P/N 610653)
See NOTE 19.

Fuel
Aviation turbine fuels ASTM designation D1655-68, Types Jet A, Jet A-1,
and Jet B; MIL-T-5624G-1, Grades JP-4 and JP-5; MIL-T-83133, Grade
JP-8, and MIL-F-46005A(MR)-1, Types I and II.

Oil
MIL-L-23699B Type II (See Mfg. Data Part VIII Approved POH for List of
Approved Lubricants).

Engine Limits

<table>
<thead>
<tr>
<th>Takeoff and</th>
<th>Torque</th>
<th>RPM</th>
<th>EGT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum continuous</td>
<td>102.5%(820)</td>
<td>101.0%</td>
<td>650°C</td>
</tr>
</tbody>
</table>

Propeller and Propeller Limits
2 Dowty-Rotol Ltd. 3-bladed feathering and reversing propellers.
Rockwell Assembly No. 640080.

a. Dowty-Rotol Ltd. Type No. (C) R306/3-82-F-7-(c) VP2926 includes
   B. F. Goodrich propeller de-icing kit No. 65-330-1 or Dowty Rotol
   Ltd. Type No. (C) R306/3-82-F-7-(c) VP 3027 includes Dowty Rotol
   Deice Boots 660709275 as B. F. Goodrich De-Ice Boots 4E 2598-10.
   See NOTE 17.
   Dowty-Rotol Propeller Blade Assembly P/N 660706330-XX
   Pitch settings at .7 radius station:
   Feather 83 10’ ± 20’, Reverse -13.75° ± 1.0°,
   Start Locks -1.25° ± 1.0°, Flight Idle 6.0° ± 0.5°.
   Diameter: 106 in., 1/2in. reduction per blade allowed.
   NOTE: Use AiResearch oil transfer tube Part No. 897458-2.
   NOTE: Downwind ground operation above taxi power is prohibited when airplane
   is stationary, must be done with the airplane headed into the wind.

b. Spinner: 2 Dowty-Rotol Ltd. Type No. (C)SB7/3/1


Airspeed Limits

<table>
<thead>
<tr>
<th>Maneuvering</th>
<th>162 m.p.h. (141K) CAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Operating</td>
<td>290 m.p.h. (252K) CAS .60 MACH</td>
</tr>
<tr>
<td>Flaps extended - half</td>
<td>207 m.p.h. (180K) CAS (S/N 96000-96055)</td>
</tr>
<tr>
<td></td>
<td>230 m.p.h. (200K) CAS (S/N 96056-96999)</td>
</tr>
<tr>
<td>Flaps extended- full</td>
<td>161 m.p.h. (140K) CAS (S/N 96000-96055)</td>
</tr>
<tr>
<td></td>
<td>184 m.p.h. (160K) CAS (S/N 96056-96999)</td>
</tr>
<tr>
<td>Landing gear extended</td>
<td>230 m.p.h. (200K) CAS</td>
</tr>
</tbody>
</table>

C.G. Range

Forward
209.78 inches aft of datum (19.1% MAC) at 11,200 lbs.
204.34 inches aft of datum (11.5% MAC) at 8,500 lbs.
204.34 inches aft of datum (11.5% MAC) at 7,010 lbs.
214.18 inches aft of datum (25.1% MAC) at 6,466 lbs.
Straight line variation between points
Aft
218.77 inches aft of datum (31.5% MAC) at 11,200 lbs.
217.95 inches aft of datum (30.4% MAC) at 6,582 lbs.
Variation between points:
   Inches aft of datum = 219.93 - (13029/Weight)

Datum
196 in forward of wing leading edge at center section.

Leveling means
Longitudinal - Top of fuselage on centerline aft of wing trailing edge.
Lateral - Transverse beams at front of rear baggage compartment floor.
XVIII - MODEL 695A (cont’d)

Maximum weight
- Maximum takeoff: 11,200 lbs. (ramp weight 11,250 lbs.)
- Maximum landing: 10,550 lbs.
- Zero fuel: 9,500 lbs.

Maximum operating altitude: 35,000 feet

Maximum No. of seats: 11 (Pilot + 10 passengers; pilot, co-pilot + 9 passengers)

Maximum baggage:
- 600 lb. (+290) Non pressurized compartment (See NOTE 18)
- 100 lb. (+245) Pressurized compartment

Fuel capacity:
- Total standard capacity: 482 gal., usable 474 gal.
  (See Note 1 for systems fuel)

Oil capacity:
- 12.0 qts. total (6.0 qts. total each tank) (+188)
- 10.0 qts. usable (See Note 1 for system oil)

Control Surface movements:
- Elevator: Up 30° ± 1, Down 10° ± 2
- Elevator tab: Up 3° ± 1, Down 24° ± 1
- Rudder: Right 20° ± 2, Left 20° ± 2
- Rudder tab: Right 20° ± 2, Left 20° ± 2
- Aileron: Up 23° ± 2, Down 15° ± 2
- Flaps
- Aileron tab: Up 17° ± 2.5°, Down 17° ± 2.5°

Serial Nos. eligible
- Under the delegation option, provisions of Part 21 of the Federal Aviation Regulations, Delegation Option Manufacturer No. SW-2 is authorized to:
  - Issue Airworthiness Certificates and approve design and production changes
  - on airplane serial numbers 96000 through 96100. (See Note 21 and 22)

XIX - MODEL 690D, 11 PCLM (Normal Category) Approved December 2, 1981

Engines
- 2 AiResearch Model TPE 331-5-254K Turboprop Engines (Gulfstream P/N 610495).

Fuel

Oil
- MIL-L-23699B Type II or MIL-L-7808G type I (See Mfg. Data Part VIII Approved POH for List of Approved Lubricants).

Engine limits
- HP
  - Takeoff and Maximum continuous: 748
- R.P.M.
  - 101.0% 923°

Propeller and Propeller Limits
- 2 Dowty-Rotol Ltd. 3-bladed feathering and reversing propellers.
  - Rockwell Assembly No. 640080.
  - Dowty-Rotol Ltd. Type No. (C) R306/3-82-F/7-(c) VP2926 includes B. F. Goodrich propeller de-icing kit No. 65-330-1 or Dowty Rotol Ltd. Type No. (C) R306/3-82-F/7-(c) VP 3027 includes Dowty Rotol Deice Boots 660709275 as B. F. Goodrich De-Ice Boots 4E 2598-10. See NOTE 17.
  - Dowty-Rotol Propeller Blade Assembly P/N 660706330-XX
  - Pitch settings at .7 radius station:
XIX - MODEL 690D (cont’d)
Propeller and Propeller Limits (cont’d)

Feather 83° 10’ ± 20’, Reverse -13.75° ± 1.0°
Start Locks -1.25° ± 1.0°, Flight Idle 6.0° ± 0.5°.
Diameter: 106 in., 1/2in. reduction per blade allowed.
NOTE: Use AiResearch oil transfer tube Part No. 897458-2.
NOTE: All engine ground running for maintenance test purposes, with the airplane stationary, must be done with the airplane head into the wind.
b. Spinner: 2 Dowty-Rotol Ltd. Type No. (C)SB7/3/1

Airspeed Limits

<table>
<thead>
<tr>
<th>Category</th>
<th>Maneuvering</th>
<th>Maximum Operating</th>
<th>Flaps extended - half</th>
<th>Flaps extended - full</th>
<th>landing gear extended</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS</td>
<td>160 m.p.h.</td>
<td>290 m.p.h.</td>
<td>207 m.p.h.</td>
<td>161 m.p.h.</td>
<td>230 m.p.h.</td>
</tr>
<tr>
<td>139K CAS</td>
<td>(180K) CAS</td>
<td>(252K) CAS .60 MACH</td>
<td>(S/N 15000-15024)</td>
<td>(S/N 15000-15024)</td>
<td>(S/N 15025-15999)</td>
</tr>
<tr>
<td>Maximum takeoff</td>
<td>10,700 lbs.</td>
<td>10,550 lbs.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum landing</td>
<td>10,550 lbs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zero fuel</td>
<td>9,500 lbs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

C.G. Range

| Forward                      | 208.77 inches aft of datum (17.7% MAC) at 10,700 lbs. | 204.34 inches aft of datum (11.5% MAC) at 8,500 lbs. | 204.34 inches aft of datum (11.5% MAC) at 7,010 lbs. | 214.18 inches aft of datum (25.1% MAC) at 6,466 lbs. |
|                             | Straight line variation between points.               |                                                       |                                                       |                                                       |
| Aft                         | 218.72 inches aft of datum (31.4% MAC) at 10,700 lbs. | 217.94 inches aft of datum (30.4% MAC) at 6,582 lbs. |                                                       |                                                       |
| Variation between points    | Inches aft of datum = 219.93 - (13029/Weight)        |                                                       |                                                       |                                                       |

Datum

196 in. forward of wing leading edge at center section

Leveling means

Longitudinal - Top of fuselage on centerline aft of wing trailing edge.
Lateral - Transverse beams at front of rear baggage compartment floor.

Maximum weight

- Maximum takeoff: 10,700 lbs. (ramp weight 10,775 lbs.)
- Maximum landing: 10,550 lbs.
- Zero fuel: 9,500 lbs.

Maximum operating altitude

31,000 feet (see note 23 for modification to increase to 35,000 feet)

Maximum No. of seats

11 (Pilot + 10 passengers; pilot, co-pilot + 9 passengers)

Maximum baggage

- 600 lb. (+290) Non pressurized compartment
- 100 lb. (+245) Pressurized compartment

Fuel capacity

- Total standard capacity 430 gal., usable fuel 425.0 gal.
- Total capacity with optional system 482 gal., usable 474 gal.
(See NOTE 1 for systems fuel).

Oil capacity

- 12.0 qts. total (6.0 qts. total each tank) (+188)
- 10.0 qts. usable (See NOTE 1 for system oil)
**XIX - MODEL 690D** (cont’d)

<table>
<thead>
<tr>
<th>Control Surface movements</th>
<th>Elevator</th>
<th>Up</th>
<th>30° + 1</th>
<th>Down</th>
<th>10° + 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Elevator tab</td>
<td>Up</td>
<td>3° ± 1</td>
<td>Down</td>
<td>24° ± 1</td>
</tr>
<tr>
<td>Rudder</td>
<td>Right</td>
<td>20° + 2</td>
<td>Left</td>
<td>20° + 2</td>
<td></td>
</tr>
<tr>
<td>Rudder tab</td>
<td>Right</td>
<td>20° + 2</td>
<td>Left</td>
<td>20° + 2</td>
<td></td>
</tr>
<tr>
<td>Aileron</td>
<td>Up</td>
<td>23° ± 2</td>
<td>Down</td>
<td>15° ± 2</td>
<td></td>
</tr>
<tr>
<td>Aileron tab</td>
<td>Up</td>
<td>17° ± 2.5°</td>
<td>Down</td>
<td>17° ± 2.5°</td>
<td></td>
</tr>
</tbody>
</table>

Serial Nos. eligible

Under the delegation option, provisions of Part 21 of the Federal Aviation Regulations, Delegation Option Manufacturer No. SW-2 is authorized to: Issue Airworthiness Certificates and approve design and production changes on airplane serial numbers 15000 through 15042. (See Notes 21 and 22.)

**XX - MODEL 695B, 11 PCLM (Normal Category), Approved February 15, 1984**

Engines

2 Garrett Model TPE 331-10-511K Turboprop engines (Gulfstream P/N 610653).

Fuel


Oil

MIL-L-23699B type II (See Mfg. Data Part VIII Approved POH for List of approved lubricants.)

Engine Limits

<table>
<thead>
<tr>
<th></th>
<th>Takeoff and Maximum Continuous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Torque (HP)</td>
<td>102.5% (820)</td>
</tr>
<tr>
<td>RPM</td>
<td>101.0%</td>
</tr>
<tr>
<td>EGT</td>
<td>650°C</td>
</tr>
</tbody>
</table>

Propeller and Propeller Limits

2 Dowty-Rotol Ltd. 3-bladed feathering and reversing propellers. Gulfstream Assembly No. 640080

a. Dowty-Rotol Ltd. Type No. (C) R306/3-82-F/7-(c) VP 3027 includes Dowty-Rotol Deice Boots 660709275 or B. F. Goodrich De-ice Boots 4E2498-10. Dowty-Rotol Propeller Blade Assembly P/N 660706330-XX

Pitch settings at .7 radius stations:

Feather 83° 10’ ± 20’, Reverse -13.75° ± 1.0°

Start Locks -1.25° ± 1.0°, Flight Idle 6.0° ± 0.5°

Diameter: 106 In., 1/2 in. reduction per blade allowed.

NOTE: Use Garrett oil transfer tube Part No. 897458-2.

NOTE: All engine ground running for maintenance and test purposes, with the airplane stationary, must be done with the airplane headed into the wind.

b. Spinner: 2 Dowty-Rotol Ltd. Type No. (C) SB7/3/1

c. Governor: 2 Garrett P/N 897410-4

Airspeed Limits

<table>
<thead>
<tr>
<th></th>
<th>Maneuvering 182 m.p.h. (158K) CAS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maximum Operating 290 m.p.h. (252K) CAS .60 MACH</td>
</tr>
<tr>
<td></td>
<td>Flaps extended - half 230 m.p.h. (200K) CAS</td>
</tr>
<tr>
<td></td>
<td>Flaps extended - full 184 m.p.h. (160K) CAS</td>
</tr>
<tr>
<td></td>
<td>Landing gear extended 230 m.p.h. (200K) CAS</td>
</tr>
</tbody>
</table>
### XX - MODEL 695B (cont’d)

#### C.G. Range

| Forward                  | 210.91 inches aft of datum (20.6% MAC) at 11,750 lbs. |
|                         | 204.34 inches aft of datum (11.5% MAC) at 8,500 lbs. |
|                         | 204.34 inches aft of datum (11.5% MAC) at 6,836 lbs. |
|                         | 211.56 inches aft of datum (21.5% MAC) at 6,410 lbs. |
| Straight line variation between points. Aft | 217.03 inches aft of datum (29.1% MAC) at 11,750 lbs. |
|                         | 218.71 inches aft of datum (31.4% MAC) at 11,628 lbs. |
|                         | 217.85 inches aft of datum (30.2% MAC) at 6,639 lbs. |
| Straight line variation except between 11,628 lbs. and 6,639 lbs. | Inches aft of datum = 219.87 - (13402/weight) |

#### Datum

196 In. forward of wing leading edge at center section

#### Leveling means

- Longitudinal - Top of fuselage on centerline aft of wing trailing edge.
- Lateral - Transverse beams at front of rear baggage compartment floor.

#### Maximum Weight

- Maximum takeoff: 11,750 lbs. (Maximum Ramp 11,800 lbs.)
- Maximum landing: 11,000 lbs.
- Zero Fuel: 9,800 lbs.

#### Maximum operating altitude

35,000 feet

#### Maximum No. of seats

11 (Pilot + 10 passengers; pilot, co-pilot + 9 passengers)

#### Maximum baggage

- 750 lb. (+290) Nonpressurized compartment
- 100 lb. (+245) Pressurized compartment

#### Fuel capacity

Total standard capacity 482 gal., usable 474 gal.
(See NOTE 1 for systems fuel).

#### Oil capacity

12.0 qts. total (6.0 qts. total each tank) (+188)
10.0 qts. usable (See NOTE 1 for system oil).

#### Control Surface movements

<table>
<thead>
<tr>
<th>Elevator</th>
<th>Up 30° ± 1</th>
<th>Down 10° ± 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elevator tab</td>
<td>Up 3° ± 1</td>
<td>Down 24° ± 1</td>
</tr>
<tr>
<td>Rudder</td>
<td>Right 20° ± 2</td>
<td>Left 20° ± 2</td>
</tr>
<tr>
<td>Rudder tab</td>
<td>Right 20° ± 2</td>
<td>Left 20° ± 2</td>
</tr>
<tr>
<td>Aileron</td>
<td>Up 23° ± 2</td>
<td>Down 15° ± 2</td>
</tr>
<tr>
<td>Flaps</td>
<td>Down 40° ± 2</td>
<td></td>
</tr>
<tr>
<td>Aileron tab</td>
<td>Up 17° ± 2.5°</td>
<td>Down 17° ± 2.5°</td>
</tr>
</tbody>
</table>

#### Serial Nos. eligible

Under the Delegation Option Provisions of Part 21 of the Federal Aviation Regulations, Delegaton Option Manufacturer No. SW-2 is authorized to:
Issue Airworthiness Certificates and approve design and production changes on airplane Serial Numbers 96201 thru 96208 (See NOTES 20 and 22).
Specifications Pertinent to All Models

**Certification basis** Type Certificate No. 2A4

**Models 680, 680E:**
CAR 3 effective Nov. 1, 1949, through Amdt. 3-12 dated May 18, 1954, and 3.197, 3.395, 3.396 of Amdt. 3-2 dated August 12, 1957.

**Model 720:**
CAR 3 effective Nov. 1, 1949, through Amdt. 3-12 dated May 18, 1954, and 3.197, 3.395, 3.396 of Amdt. 3-2 dated August 12, 1957.

**Models 560, 680F, 680FL:**
CAR 3 effective May 15, 1956, including Amdts. 3-3 dated May 17, 1958, and 3-4 dated October 6, 1958.

**Models 680F (Pressurized) 680 FL (Pressurized):**

**Model 680T:**

**Models 680V, 680W, 681:**

**Models 690, 690A, 690B**

**Model 685:**

**Models 690C, 695**

**Model 695A, 690D**

**Model 695B**

**Production basis** Production Certificate No. 203
Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. This equipment must include a current Airplane Flight Manual except for Models 690B, 690C, 690D, 695, 695A, and 695B which require a current Pilot’s Operating Handbook.

In addition, the following item(s) are required:

1. Stall warning system:
   - Models 690A (11249, 11269 through 11349), 690B - Gulfstream Dwg. 850016 and 800644.
   - Model 690C, 690D and 695 - Gulfstream Dwg. 200036 and 800644.
   - Model 695A and 695B - Gulfstream Dwg. 200036, 800644 and 800746.

2. Outside Air Temperature Thermometer

3. EGT System
   - Model 685 (with Service Letter 300 installed) Gulfstream Dwg. 890412.

NOTE 1:

Current weight and balance report, including list of equipment, included in certificated empty weight and loading instructions must be in each aircraft at the time of original airworthiness certification and at all times thereafter (except in the case of air carrier operators having an approved weight control system.)

The certificated empty weight and corresponding center of gravity location must include unusable fuel (included in total fuel capacity and undrainable oil (included in total oil capacity) as follows:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15.5 lb.(+187)</td>
<td>15.5 lb.(+187)</td>
<td>15.5 lb.(+187)</td>
<td>15.5 lb.(+187)</td>
<td>15.5 lb.(+231)</td>
</tr>
<tr>
<td></td>
<td>15.0 lb.(+191)</td>
<td>15.0 lb.(+191)</td>
<td>15.0 lb.(+191)</td>
<td>17.4 lb.(+150)</td>
<td>17.4 lb.(+194)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15.5 lb.(+187)</td>
<td>13 lb. (+231)</td>
<td>31 lb.(+231)</td>
<td>27 lb(+231)</td>
<td>0 lb.(+188)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>17.4 lb.(+191)</td>
<td>6.5 lb.(+188)</td>
<td>4 lb.(+188)</td>
<td>0 lb.(+188)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>690C, 690D Fuel</th>
<th>695 Fuel</th>
<th>695A, 695B Fuel</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Standard (SN 95000-95040)</td>
<td>(95041-95999)</td>
<td>(95041-95999)</td>
</tr>
<tr>
<td>Fuel</td>
<td>33.6 lb.(+230)</td>
<td>33.6 lb.(+230)</td>
<td>53.6 lb.(+230)</td>
</tr>
<tr>
<td></td>
<td>3.6 lb.(+188)</td>
<td>4.0 lb.(+188)</td>
<td>4.0 lb.(+188)</td>
</tr>
</tbody>
</table>

NOTE 2:

The placards specified in the Airplane Flight Manual must be displayed in front of and in clear view of the pilots.

NOTE 3:

Serial Numbers 466, 471, 529, and 530 of Military RL-26-D as defined by Aero Commander Dwg. 6100012-A are eligible as Model 680 airplanes.

NOTE 4:

When Lycoming GSO-480-B1A6 engines are installed, the following pertains: The oil cooler outlet gills must be relocated in accordance with Service Letter No. 62 and oil temperature gage markings changed per Service Letter No. 63. Engines must be operated in accordance with Airplane Flight Manual.

NOTE 5:

An optional pressurized version of the Model 680-F designated “680-F (Pressurized)” was approved June 29, 1962. This model is a standard 680-F incorporating a factory modification per Aero Commander Dwg. 610021. Note the special required equipment list and the special equipment column for this modified 680-F in Revision No. 24 or Service Information SI-118.
NOTE 6: Model 680FL S/N 1471 and up are manufactured as 8500 lb. gross weight aircraft. Serial Numbers 1261 through 1470 are manufactured as 8000 lb. gross weight aircraft and become 8500 lb. aircraft when modified per Aero Commander Dwg. 6100028. Serial Number 1441 through 1470 were modified per Rockwell Dwg. 6100028 at the factory.

NOTE 7: The Model 680 is eligible as a Model 680E when modified in accordance with Aero Commander Report G10-163.

NOTE 8: All Model 680T aircraft are to be modified or manufactured per Aero Commander Report G10-227 and are to be 8950 lb. gross weight aircraft.

NOTE 9: The Model 680T is eligible as a Model 680V when modified in accordance with Aero Commander Dwg. 6100034.

NOTE 10: Icing Approval:

a. The Models 680T, 680V, 680W, and 681 may be flown through known icing conditions when equipped in accordance with Aero Commander Service Letter No. 196.

b. The Model 690 may be flown through known icing conditions when equipped in accordance with Aero Commander Service Letter No. 241A or Drawing 890338. Flight Manual Supplement 4 dated 6/10/71 is required.

c. Models 690A and 690B are fully equipped and approved for flight into known icing. See Flight Manual (Pilots Operating Handbook) for list of required operable equipment. Safe Flight P/N C-01426 and C-01427 required to provide stall warning.

d. Model 690C Serial Numbers 11600 thru 11619 approved for flight into known icing after compliance with Rockwell Service Letter No. 329. Serial Numbers 11620 and Subs are fully equipped for flight into known icing. See Pilots Operating Handbook for list of required operable equipment.

e. Model 695, 695A, 695B and 690D are fully equipped for flight into known icing. See Pilots Operating Handbook for list of required operable equipment.

NOTE 11: The Models 680T and 680V may have the AiResearch engines TPE-331-43A installed as a product improvement item and in accordance with Aero Commander Service Letter No. 208.

NOTE 12: The Models 680T, 680V, 680W, and 681 may have auxiliary fuel tanks installed in accordance with Aero Commander Drawing 890326. These provide 25.5 usable gals. each side. (51 gal. total) Usable added is negligible.

NOTE 13: The Model 685 may be approved for flight into known icing conditions when equipped in accordance with Aero Commander Service Letter No. 241 or Drawing No. 890338. Flight Manual Supplement 5 dated April 15, 1972, is required.

NOTE 14: With GTS10-520-K engine installed, 2 Alcor turbine inlet temperature indicators must be installed per Rockwell Service Letter 300. Flight Manual Revision No. 5.

NOTE 15: In some cases, the serial number contains the basic number plus a dash followed by a second set of numbers. This second number is a model unit number and the basic serial number applies with or without the second number. Example as follows: 680FL-1779-148 can be referred to as S/N 1779-148 or by S/N 1779.

NOTE 16: If blades LT10673 or LT10673B are installed per STC SA546GL, propeller blade angles at the 42 inch station are: Reverse 14.0° ± 0.5°, Start Locks -8.7° ± 0.5°, Low 6.0° ± 0.5°, and Feather 77.9° ± 0.5°.

NOTE 17: Airframe electrical modifications per 800 788 required when installing Dowty Rotol boots 660709275 or B. F. Goodrich boots 4E2498-10 in place of previously installed B. F. Goodrich de-ice Kit 65-330-1.

NOTE 18: Maximum Baggage Weight increased to 750 pounds for Model 695A Serial Numbers 96063, 96069, 96075, 96078, and 96085.

NOTE 19: TPE 331-10-501K effective on Models 695 S/N 95000 through 95084, 695A S/N 96001 through 96071 except those complying with Service Information Letter 189. TPE 331-1Q-511K effective on Models 695 S/N 95087 and Subs. 695A S/N 96000, 96072 and Subs. plus those complying with Service Information Letter 189. It is acceptable to have one each -501K and -511K engine installed.
NOTE 20: Model 695A Serial Numbers 96062, 96063, 96069, 96075, and 96078, and 96085 are eligible as a Model 695B when modified in accordance with Gulfstream Aerospace Drawing 100062 Rework EO No. 3 except that the maximum value of zero fuel weights is limited to 9500 pounds.

NOTE 21: Model 690D airplanes, Serial Numbers 15000 through 15042, are eligible for conversion to Model 695A when modified in accordance with Gulfstream Drawing 100068.


NOTE 23: Model 690D maximum operating altitude may be increased to 35,000 feet through the installation of Twin Commander Aircraft Corporation Custom Kit No. 149.

...END...
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

E-284
Revision 9
Textron Lycoming

GSO-480-A1A6, -A1C6, -A2A6
GSO-480-B1A6, -B1B6 (O-480-1), -B1C6, -B1E6
-B1F6, -B1G6, -B1J6, -B2C6, -B2D6,
-B1B3, -B2G6, -B2H6
IGSO-480-A1A6 (O-480-3), -A1B6, -A1C6, -A1D6,

May 15, 1988

TYPE CERTIFICATE DATA SHEET NO. E-284

Engines of models described herein conforming with this data sheet (which is a part of type certificate No. 284) and other approved data on file with the Federal Aviation Administration, meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Civil Air Regulations/Federal Air Regulations provided they are installed, operated and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

Type Certificate Holder
Textron Lycoming/Subsidiary of Textron, Inc.
Williamsport Plant
Williamsport, Pennsylvania 17701

<table>
<thead>
<tr>
<th>Model</th>
<th>Lycoming</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>GSO-480-A1A6, -A1C6, -A2A6,</td>
</tr>
<tr>
<td></td>
<td>-B1A6, -B1B6, -B1C6, -B1E6,</td>
</tr>
<tr>
<td></td>
<td>-B1F6, -B1G6, -B1J6, -B2C6,</td>
</tr>
<tr>
<td></td>
<td>-B2D6, -B2G6, -B2H6, -B1B3</td>
</tr>
<tr>
<td>IGSO-480-A1A6, -A1B6, -A1C6,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-A1D6, -A1E6, -A1F6, -A1G6,</td>
</tr>
<tr>
<td></td>
<td>-A1F3</td>
</tr>
</tbody>
</table>

Type 6HOA-Reduction Gear Ratio 77:120
Rating
Max. continuous, hp, r.p.m., in Hg., at:
Rated pressure alt. (ft.) 320-3200-43.3-8000 320-3200-41.3-11,000
Sea level pressure alt. (ft.) 320-3200-45.0-S.L. 320-3200-45.0-S.L.
Takeoff (5 min.), hp, r.p.m. in Hg., at:
Rated pressure alt. (ft.) 340-3400-45.8-8000 340-3400-44.0-11,000
Fuel (min. grade aviation gasoline)* 100/130 - -
Lubricating Oil
(lubricant should conform to the specifications as listed or to subsequent revisions thereto)
Lycoming Spec. No. 301-F - -
and Service Instruction No. 1014 - -
Bore and stroke, in. 5.125 x 3.875 - -
Displacement, cu. in. 479.7 - -
Supercharging ratio 11.27:1 - -
Compression ratio 7.3:1 - -
Weight (dry) lb. See NOTE No. 8 - -
C.G. location (dry) See NOTE No. 8 - -
Propeller shaft, SAE No. See NOTE No. 8 - -
Carburetion See NOTE No. 8 - -
Ignition, dual See NOTE No. 8 - -
Timing °BTC 25 - -
Spark Plugs See NOTE No. 9 - -
Oil Sump - capacity Dry Sump - -
Notes 1 through 9 as applicable 1,2,3,4,5,6,7,8,9 - -

"- -" indicates "same as preceding model"
"#" indicates "does not apply"
"**" See latest revision of Lycoming Service Instruction No. 1070 for alternate fuel grades.
Certification basis:

<table>
<thead>
<tr>
<th>Regulations &amp; Amendments</th>
<th>Model</th>
<th>Date of Application</th>
<th>Date of Type Certificate No. 284 Issued/Revised</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAR 13 Effective March 5, 1952</td>
<td>GSO-480-A1A6</td>
<td>December 13, 1954</td>
<td>June 30, 1955</td>
</tr>
<tr>
<td>As Amended by 13-1 and 13-2</td>
<td>0-480-1</td>
<td>November 27, 1956</td>
<td>December 5, 1956</td>
</tr>
<tr>
<td>CAR 13 Effective June 15, 1956</td>
<td>GSO-480-B1A6</td>
<td>April 26, 1957</td>
<td>May 9, 1957</td>
</tr>
<tr>
<td></td>
<td>GSO-480-B1B6</td>
<td>April 26, 1957</td>
<td>May 9, 1957</td>
</tr>
<tr>
<td></td>
<td>GSO-480-B1C6</td>
<td>April 26, 1957</td>
<td>May 9, 1957</td>
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<tr>
<td></td>
<td>GSO-480-A1C6</td>
<td>June 18, 1957</td>
<td>June 27, 1957</td>
</tr>
<tr>
<td>As Amended by 13-1</td>
<td>IGSO-480-A1A6</td>
<td>January 10, 1958</td>
<td>May 14, 1958</td>
</tr>
<tr>
<td></td>
<td>GSO-480-B2D6</td>
<td>February 21, 1958</td>
<td>March 6, 1958</td>
</tr>
<tr>
<td></td>
<td>GSO-480-B1E6</td>
<td>May 26, 1961</td>
<td>June 19, 1961</td>
</tr>
<tr>
<td></td>
<td>GSO-480-B1F6</td>
<td>May 26, 1961</td>
<td>June 19, 1961</td>
</tr>
<tr>
<td></td>
<td>GSO-480-B1G6</td>
<td>May 26, 1961</td>
<td>June 19, 1961</td>
</tr>
<tr>
<td></td>
<td>GSO-480-B2C6</td>
<td>June 1, 1961</td>
<td>June 19, 1961</td>
</tr>
<tr>
<td></td>
<td>GSO-480-B2G6</td>
<td>June 1, 1961</td>
<td>June 19, 1961</td>
</tr>
<tr>
<td></td>
<td>O-480-3</td>
<td>June 26, 1961</td>
<td>June 14, 1961</td>
</tr>
<tr>
<td></td>
<td>IGSO-480-A1C6</td>
<td>September 13, 1961</td>
<td>October 17, 1961</td>
</tr>
<tr>
<td>And 13-4</td>
<td>IGSO-480-A1D6</td>
<td>May 2, 1962</td>
<td>May 6, 1963</td>
</tr>
<tr>
<td></td>
<td>IGSO-480-A1G6</td>
<td>August 16, 1966</td>
<td>August 26, 1966</td>
</tr>
<tr>
<td></td>
<td>IGSO-480-B1J6</td>
<td>January 5, 1967</td>
<td>January 21, 1967</td>
</tr>
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<td></td>
<td>IGSO-480-B1B3</td>
<td>June 21, 1971</td>
<td>July 7, 1971</td>
</tr>
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</table>

Production basis: Production Certificate No. 3

NOTE 1. Maximum permissible temperatures:

<table>
<thead>
<tr>
<th>Cylinder Head</th>
<th>Well type</th>
<th>Cylinder Base*</th>
<th>Oil Inlet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>500°F</td>
<td>350°F</td>
<td>225°F</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- GSO-480-A1A6, -A2A6, -A1C6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>245°F - All others</td>
</tr>
</tbody>
</table>

*This parameter dispensed with where pistons are internally cooled by oil jets.

NOTE 2. Fuel Pressure Limits:

<table>
<thead>
<tr>
<th>Oil Pressure Limits:</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Normal Operations)</td>
<td>55 p.s.i.</td>
<td>85 p.s.i.</td>
</tr>
<tr>
<td>(Idling)</td>
<td>25 p.s.i.</td>
<td>35 p.s.i. for IGSO-480-A1A6, -A1B6, -A1C6, -A1F6, -A1F3</td>
</tr>
</tbody>
</table>

NOTE 3. The following accessory provisions are made:

<table>
<thead>
<tr>
<th>Accessory</th>
<th>Rotation Facing</th>
<th>Speed Ratio to Crankshaft</th>
<th>Maximum Torque (in.-lb.)</th>
<th>Maximum Overhang Moment (in.-lb.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starter</td>
<td>C</td>
<td>1.000:1</td>
<td>#</td>
<td>12000</td>
</tr>
<tr>
<td>Generator</td>
<td>C</td>
<td>2.600:1</td>
<td>500</td>
<td>2200</td>
</tr>
<tr>
<td>Fuel Pump</td>
<td>CC</td>
<td>.803:1</td>
<td>7</td>
<td>50</td>
</tr>
<tr>
<td>Vacuum Pump</td>
<td>C</td>
<td>1.219:1</td>
<td>400</td>
<td>1650</td>
</tr>
<tr>
<td>Hydraulic Pump</td>
<td>C</td>
<td>1.083:1</td>
<td>200</td>
<td>800</td>
</tr>
<tr>
<td>Tachometer</td>
<td>CC</td>
<td>.500:1</td>
<td>125</td>
<td>1200</td>
</tr>
<tr>
<td>Propeller Governor</td>
<td>C</td>
<td>.801:1</td>
<td>7</td>
<td>50</td>
</tr>
</tbody>
</table>

"C" - Clockwise, "CC" - Counter-Clockwise
"#" Indicates "does not apply"
NOTE 4. The "6" in the engine model designation indicates the crankshaft has five 3rd order and one 6th order torsional vibration dampers. The IGSO-480-A1F3 and GSO-480-B1B3 have four heavy 3rd order and two 6th order torsional vibration dampers.

NOTE 5. All engines incorporate provisions for absorbing propeller thrust in both tractor and pusher type installations.

NOTE 6. Military Models 0-480-1 and -3 are identical to the corresponding civil designated engines except for ignition, which are the Scintilla S6LN-22 and S6RN-23 with AN 3105, primary ground terminal. When installed in certificate aircraft, the corresponding commercial model designations and type certificate number should be added to the engine data plate.

NOTE 7. The above models incorporate additional characteristics as follows:

<table>
<thead>
<tr>
<th>Models</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>GSO-480-A1A6</td>
<td>Basic model. Geared drive, six cylinder, horizontally opposed, supercharged, dry sump, aircooled engine with side mounted accessory drives and accessories.</td>
</tr>
<tr>
<td>GSO-480-A1C6</td>
<td>Similar to GSO-480-A1A6 except has provisions for a supercharger bearing thermocouple.</td>
</tr>
<tr>
<td>GSO-480-A2A6</td>
<td>Similar to GSO-480-A1A6 except has flange type propeller shaft with 2-way oil for reversible propeller.</td>
</tr>
<tr>
<td>GSO-480-B1A6</td>
<td>Similar to GSO-480-A1C6 except incorporates crankcase oil jets for increased piston cooling, provisions for supercharger inlet and an updraft carburetor.</td>
</tr>
<tr>
<td>GSO-480-B1B6</td>
<td>Similar to GSO-480-B1A6 except has a horizontal elbow and carburetor under the engine.</td>
</tr>
<tr>
<td>GSO-480-B1B3</td>
<td>Same as GSO-480-B1B6 except that the torsional damper system has been modified. (SEE NOTE 4)</td>
</tr>
<tr>
<td>GSO-480-B1C6</td>
<td>Similar to GSO-480-B1A6 except has a horizontal carburetor mounted directly on a straight-through air inlet supercharger housing.</td>
</tr>
<tr>
<td>GSO-480-B1E6</td>
<td>Similar to GSO-480-B1A6 excepting magnetos.</td>
</tr>
<tr>
<td>GSO-480-B1F6</td>
<td>Similar to GSO-480-B1B6 excepting magnetos.</td>
</tr>
<tr>
<td>GSO-480-B1G6</td>
<td>Similar to GSO-480-B1C6 excepting magnetos.</td>
</tr>
<tr>
<td>GSO-480-B1J6</td>
<td>Same as GSO-480-B1A6 except incorporates 1200 series Bendix magnetos.</td>
</tr>
<tr>
<td>GSO-480-B2C6</td>
<td>Similar to GSO-480-B1C6 except has flanged propeller shaft and provision for reversible propeller.</td>
</tr>
<tr>
<td>GSO-480-B2D6</td>
<td>Similar to GSO-480-A2A6 except has internal piston cooling, special supercharger inlet for down-draft carburetor and is also similar to the -B1 series engines except incorporates a flange type propeller shaft.</td>
</tr>
<tr>
<td>GSO-480-B2H6</td>
<td>Similar to GS-470-B2D6 excepting magnetos.</td>
</tr>
<tr>
<td>IGSO-480-A1A6</td>
<td>Basic fuel injection model.</td>
</tr>
<tr>
<td>IGSO-480-A1B6</td>
<td>Similar to IGSO-480-A1A6 except has retard breaker magnetos.</td>
</tr>
<tr>
<td>IGSO-480-A1C6</td>
<td>Similar to IGSO-480-A1A6 except has horizontal air inlet housing and throttle.</td>
</tr>
<tr>
<td>IGSO-480-A1D6</td>
<td>Similar to IGSO-480-A1B6, except for incorporation of service kit which included Bendix RS10-FB1 fuel injector and supercharger air inlet housing assembly, P/N 74323.</td>
</tr>
<tr>
<td>IGSO-480-A1E6</td>
<td>Similar to IGSO-480-A1D6 except for different configuration of supercharger air inlet housing and incorporation of retard breaker magnetos.</td>
</tr>
<tr>
<td>IGSO-480-A1F3</td>
<td>Similar to IGSO-480-A1F6 except that it has two 6th and four heavy 3rd order dynamic counterweights.</td>
</tr>
<tr>
<td>IGSO-480-A1F6</td>
<td>Similar to IGSO-480-A1C6 except has retard breaker magnetos in place of impulse type magnetos.</td>
</tr>
<tr>
<td>IGSO-480-A1G6</td>
<td>Same as IGSO-A1E6 with 1200 series magnetos but without the Bendix modulator unit.</td>
</tr>
</tbody>
</table>
NOTE 8. For all models - weights, carburetion, ignition, C.G. location and propeller shaft SAE designations.

<table>
<thead>
<tr>
<th>Models</th>
<th>Weight (dry) lb.</th>
<th>Carburetion</th>
<th>Ignition, dual</th>
<th>From front face of thrust nut, in.</th>
<th>Off propeller shaft C.L. in.</th>
<th>Propeller shaft, SAE No.</th>
</tr>
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<td>22.00 0.34 left 0.71 above</td>
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* See NOTE No. 6.

NOTE 9. Spark Plugs: See latest revision of Lycoming Service Instruction No. 1042 for approved equipment.

.....END.....
TYPE CERTIFICATE DATA SHEET NO. A9CE

This data sheet which is part of Type Certificate A9CE prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder  Cessna Aircraft Company
P O Box 7704
Wichita KS  67277

I. Model 188, AGwagon 230, 1 PCLM (Normal and Restricted Category), approved February 14, 1966

- Engine  Continental O-470-R
- *Fuel  80/87 minimum grade aviation gasoline
- *Engine limits  For all operations, 2600 rpm (230 hp)

Propeller and propeller limits

1. (a) McCauley 1A200/AOM fixed pitch
   Static rpm at max. permissible throttle setting:
   not over 2300, not under 2200
   No additional tolerance permitted
   Diameter:  not over 90 in., not under 88 in.
2. (a) McCauley constant speed, 2A34C50 hub with 90A-2 blades
   Diameter:  not over 88 in., not under 86 in.
   Pitch settings at 36 in. sta.:  low 8°, high 22°
   (b) Governor:  Garwin 34-828-01, McCauley C290D2/T1 or C290D3/T1, or Woodward A210452
3. (a) McCauley constant speed, 2A34C66 hub with 90AT-2 blades
   Diameter:  not over 88 in., not under 86 in.
   Pitch settings at 36 in. sta.:  low 8°, high 22°
   (b) Governor:  Garwin 34-828-01, McCauley C290D2/T1 or C290D3/T1, or Woodward A210452
4. (a) McCauley constant speed, 2A34C201 hub with 90DA-2 blades
   Diameter:  not over 88 in., not under 86.5 in.
   Pitch settings at 30 in. sta.:  low 10.5°, high 24.5°
   (b) Governor:  Garwin 34-828-01, McCauley C290D2/T1 or C290D3/T1, or Woodward A210452
5. (a) McCauley constant speed, 2A34C203 hub with 90DCA-2 blades
   Diameter:  not over 88 in., not under 86.5 in.
   Pitch settings at 30 in. sta.:
   Low 10.0°, high 24.5°
   (b) Governor:  Garwin 34-828-01, McCauley C290D2/T1 or C290D3/T1, or Woodward A210452

*Airspeed Limits (CAS)  (Normal Category)

- Maximum structural cruising  144 mph (125 knots)
- Maneuvering  127 mph (110 knots)
- Flaps extended  110 mph (96 knots)

(See Additional Limitation for Restricted Category.)
I. **Model 188, AGwagon 230** (cont'd)

C.G. Range (Normal Category) (+39.0) to (+45.5) at 2300 lb. or less
(+41.0) to (+45.5) at 3300 lbs.

Straight line variation between points given.

Empty weight C.G. range None

*Maximum weight 3300 lb. (Normal Category)

Number of Seats (Max.) 1 (at +91 to +95)

Maximum Baggage 100 lb. (+12.0) (optional)

Fuel Capacity 37 gal. (+11.0; 36.5 gal. usable)

*See Note 1 for data on unusable fuel.

Oil Capacity 12 qt. (-17.0; includes 9 lb. unusable)

*See Note 1 for data on undrainable oil.

Control surface movements

- Wing flaps (S/N 188-0001 through 188-0293) 0° - 28° ± 2°
- Wing flaps (S/N 188-0294 and on) 0° - 20° ± 1°
- Ailerons (from neutral) Up 18° ± 1° Down 10° ± 1°
- Elevators Up 26° 30' ± 1° Down 21° ± 1°
- Elevator tab Up 12° ± 1° Down 27° ± 1°
- Rudder Right 24° ± 0°, -1° Left 24° ± 0°, -1°

(Neutral aileron is rigged with trailing edge 3° ± 30' below trailing edge of wing.)

Additional Limitations for Restricted Category

*Airspeed limits (CAS) Maximum operating speed in agricultural operations 120 mph (104 knots)

*C.G. Range (+39.0) to (+45.5) at 2300 lbs. or less
(+42.0) to (+45.5) at 3800 lbs.

*Maximum Weight 3800 lb. (See Note 3.)

Serial numbers eligible 653, 188-0001 through 188-0572

II. **Model A188, AGwagon 300, 1 PCLM (Normal and Restricted Category), approved February 14, 1966**

Engine Continental IO-520-D

*Fuel 100/130 minimum grade aviation gasoline

*Engine limits Takeoff (5 min.) at 2850 rpm (300 hp)
For all other operations, 2700 rpm (285 hp)

Propeller and propeller limits

1. (a) McCauley D2A34C58 hub or D2A34C58-0 (oil filled) hub with 90AT-4 blades
- Diameter: not over 86 in., not under 84 in.
- Pitch settings at 36 in. sta.:
  - Low 8°, high 25°
(b) Governor: Garwin 34-828-01 or McCauley C290D2/T9 or C290D3/T9, or Woodward A210462
(c) Spinner, Cessna 0752040 (optional)
2. (a) McCauley F2A34C58 hub with 90AT-4 blades
- Diameter: not over 86 in., not under 84 in.
- Pitch settings at 36 in. sta.:
  - Low 8°, high 25°
II. Model A188, AGwagon 300  (cont’d)

(b) Governor: Garwin 34-828-01 or McCauley C290D2/T9 or C290D3/T9, or Woodward A210462

3. (a) McCauley D2A34C58/90AT-8 or D2A34C58-0/90AT-8 (oil filled)
  Diameter: not over 82 in., not under 80 in.
  Pitch settings at 36 in. sta.:
      Low 8.8°, high 25.8°

(b) Governor: Garwin 34-828-01, McCauley C290D2/T9 or C290D3/T9, or Woodward A210462

4. (a) McCauley D2A34C98/90AT-8 or D2A34C98-0/90AT-8 (oil filled)
  Diameter: not over 82 in., not under 80 in.
  Pitch settings at 36 in. sta.:
      Low 8°, high 25°

(b) Governor: Garwin 34-828-01, McCauley C290D2/T9 or C290D3/T9, or Woodward A210462

(c) Spinner, Cessna 0752040 (optional)

*Airspeed Limits (CAS)  
(Normal Category) 
Never exceed 181 mph (157 knots) 
Maximum structural cruising 144 mph (125 knots) 
Maneuvering 127 mph (110 knots)
Flaps extended 110 mph (96 knots)

(See Additional Limitation for Restricted Category.)

C.G. Range  
(Normal Category) 
(+39.0) to (+45.0) at 2300 lbs. or less 
(+41.0) to (+45.5) at 3300 lbs.
Straight line variation between points given.

Empty weight C.G. range None

*Maximum weight 3300 lbs. (normal category)

Number of seats (maximum) 1 (at +91 to +95)

Maximum baggage 100 lb. (+12.0) (optional)

Fuel capacity 37 gal. (+11.0; 36.5 gal. usable)
See Note 1 for data on unusable fuel.

Oil capacity 12 qt. (-17.0; includes 9 lb. usable)
See Note 1 for data on undrainable oil.

Control surface movements Wing flaps (S/N 188-0001 through 188-0293) 0° - 28° ± 2°
Wing flaps (S/N 188-0294 and on) 0° - 20° ± 1°
Ailerons (from neutral) Up 18° ± 1° Down 10° ± 1°
Elevators Up 26° 30’ ± 1° Down 21° ± 1°
Elevator tab Up 12° ± 1° Down 27° ± 1°
Rudder Right 24° + 0°, -1° Left 24° + 0°, -1°
(Neutral aileron is rigged with trailing edge 3° ± 30' below trailing edge of wing.)

Additional Limitations for Restricted Category

*Airspeed limits (CAS) Maximum operating speed in agricultural operations 120 mph (104 knots)

C.G. range (+39.0) to (+45.5) at 2300 lbs. or less (+42.4) to (+45.5) at 4000 lbs.

*Maximum weight 4000 lbs. (See Note 3.)

Serial numbers eligible 653, 188-0001 through 188-0572
III. Model 188A, AGwagon "A" & "B", 1 PCLM (Normal and Restricted Category), approved September 26, 1969

Engine
Continental O-470-R

*Fuel
80/87 minimum grade aviation gasoline

*Engine limits
For all operations, 2600 rpm (230 hp)

Propeller and propeller limits
1. (a) McCauley 1A200/AOM fixed pitch
   Static rpm at maximum permissible throttle setting:
   Not over 2300, not under 2200
   No additional tolerance permitted.
   Diameter: not over 90 in., not under 88 in.

2. (a) McCauley constant speed, 2A34C50 hub with 90A-2 blades
   Diameter: not over 88 in., not under 86 in.
   Pitch settings at 36 in. sta.:
   low 8°, high 22°
   (b) Governor: Woodward A210452, Garwin 34-828-01,
       McCauley C290D2/T1 or C290D3/T1

3. (a) McCauley constant speed, 2A34C66 hub with 90AT-2 blades
   Diameter: not over 88 in., not under 86 in.
   Pitch settings at 36 in. sta.:
   low 8°, high 22°
   (b) Governor: Woodward A210452, Garwin 34-828-01,
       McCauley C290D2/T1 or C290D3/T1

4. (a) McCauley constant speed, 2A34C201 hub with 90DA-2 blades
   Diameter: not over 88 in., not under 86.5 in.
   Pitch settings at 30 in. sta.:
   low 10.5°, high 24.5°
   (b) Governor: Woodward A210452, Garwin 34-828-01,
       McCauley C290D2/T1 or C290D3/T1

5. (a) McCauley constant speed 2A34C203 hub with 90 DCA-2 blades
   Diameter: not over 88 in., not under 86.5 in.
   Pitch settings at 30 in. sta.:
   low 10.0°, high 24.5°
   (b) Governor: Woodward A210452, Garwin 34-828-01,
       McCauley C290D2/T1 or C290D3/T1

*Airspeed Limits (CAS)
Never exceed 181 mph (157 knots)
Maximum structural cruising 144 mph (125 knots)
Maneuvering 127 mph (110 knots)
Flaps extended 110 mph (96 knots)
(See Additional Limitation for Restricted Category.)

C.G. range
(normal category)
(+39.0) to (+45.5) at 2300 lbs. or less
(+41.0) to (+45.5) at 3300 lbs.
Straight line variation between points given.

Empty weight C.G. range
None

*Maximum weight
3300 lbs. (normal category)

Number of seats (max.)
1 (at +91 to 95)

Maximum baggage
100 lb. (+12.0) (optional)

Fuel capacity
37 gal. (+11.0; 36.5 usable)
See Note 1 for data on unusable fuel.
III. Model 188A, AGwagon "A" & "B" (cont'd)

Oil capacity 12 qt. (-17.0; includes 9 lb. unusable)

See Note 1 for data on undrainable oil.

Control surface movements  
- Wing flaps  
- Ailerons (from neutral)  
- Elevators  
- Elevator tab  
- Rudder  
  
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<th>Surface</th>
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<th>Down</th>
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<td>Wing flaps</td>
<td>18° ± 1°</td>
<td>20° ± 1°</td>
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<td>Ailerons</td>
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<td>21° ± 1°</td>
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<td>Elevators</td>
<td>12° ± 1°</td>
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<td>Elevator tab</td>
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<td>Rudder</td>
<td>24° + 0°, -1°</td>
<td>24° + 0°, -1°</td>
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(Neutral aileron is rigged with trailing edge 3° ± 30' below trailing edge of wing.)

Additional Limitations for Restricted Category

*Airspeed limits (CAS)  
Maximum operating speed in agricultural operations 120 mph (104 knots)

C.G. range  
(+39.0) to (+45.5) at 2300 lbs. or less  
(+42.0) to (+45.5) at 3800 lbs.

Straight line variation between points given.

*Maximum weight  
See Note 3.

Serial numbers eligible 18800573 through 18800832

IV. Model A188A, AGwagon "A" & "B", 1 PCLM (Normal and Restricted Category), approved September 26, 1969

Engine  
Continental IO-520-D

*Fuel  
100/130 minimum grade aviation gasoline

*Engine limits  
Takeoff (5 min.) at 2850 rpm (300 hp)  
For all other operations, 2700 rpm (285 hp)

1. (a) McCauley D2A34C58 hub or D2A34C58-0 (oil filled) hub with 90AT-4 blades  
   Diameter: not over 86 in., not under 84 in.  
   Pitch settings at 36 in. sta.:  
   Low 8°, high 25°
   (b) Governor: Garwin 34-828-01, McCauley C290D2/T9 or C290D3/T9, or Woodward A210462

2. (a) McCauley F2A34C58 hub with 90AT-4 blades  
   Diameter: not over 86 in., not under 84 in.  
   Pitch settings at 36 in. sta.:  
   Low 8°, high 25°
   (b) Governor: Garwin 34-828-01, McCauley C290D2/T9 or C290D3/T9, or Woodward A210462

3. (a) McCauley D2A34C58/90AT-8 or D2A34C58-0/90AT-8 (oil filled)  
   Diameter: not over 82 in., not under 80 in.  
   Pitch settings at 36 in. sta.:  
   Low 8.8°, high 25.8°
   (b) Governor: Garwin 34-828-01, McCauley C290D2/T9 or C290D3/T9, or Woodward A210462

4. (a) McCauley D2A34C98/90AT-4 or D2A34C98-0/90AT-4 (oil filled)  
   Diameter: not over 86 in., not under 84 in.  
   Pitch settings at 36 in. sta.:  
   Low 8°, high 25°
   (b) Governor: Garwin 34-828-01, McCauley C290D2/T9 or C290D3/T9
IV. Model A188A, AGwagon "A" & "B" (cont'd)

5. (a) McCauley D2A34C98/90AT-8 or D2A34C98-0/90AT-8 (oil filled)

- Diameter: not over 82 in., not under 80 in.
- Pitch settings at 36 in. sta.:
  - Low 8.8°, high 25.8°

- Governor: Garwin 34-828-01, McCauley C290D2/T9 or C290D3/T9

*Airspeed Limits (CAS)

- Never exceed 181 mph (157 knots)
- Maximum structural cruising 144 mph (125 knots)
- Maneuvering 127 mph (110 knots)
- Flaps extended 110 mph (96 knots)

(See Additional Limitation for Restricted Category.)

C.G. Range

| Normal Category | Range: (+39.0) to (+45.5) at 2300 lbs. or less |
|                | (+41.0) to (+45.5) at 3300 lbs. |
|                | Straight line variation between points given. |

Empty weight C.G. Range

None

*Maximum weight

3300 lbs. (normal category)

Number of seats (max.)

1 (at +91 to +95)

Maximum baggage

100 lb. (+12.0) (Optional)

Fuel capacity

37 gal. (+11.0; 36.5 gal. usable)

See Note 1 for data on unusable fuel.

Oil capacity

12 qt. (-17.0; includes 9 lbs. unusable)

See Note 1 for data on undrainable oil.

Control surface movements

| Wing flaps | Down 20° ± 1° |
| Ailerons (from neutral) | Up 18° ± 1° Down 10° ± 1° |
| Elevators    | Up 26° ± 1° Down 21° ± 1° |
| Elevator tab | Up 12° ± 1° Down 27° ± 1° |
| Rudder       | Right 24° + 0°, -1° Left 24° + 0°, -1° |

(Neutral aileron is rigged with trailing edge 3° ± 30' below trailing edge of wing.)

Additional Limitations for Restricted Category

*Airspeed Limits (CAS)

Maximum operating speed in agricultural operations 120 mph (104 knots)

C.G. Range

| Range: (+39.0) to (+45.5) at 2300 lbs. or less |
| (+39.4) to (+45.7) at 2500 lbs. |
| (+42.4) to (+45.5) at 4000 lbs. |
| Straight line variation between points given. |

*Maximum weight

See Note 3.

Serial numbers eligible

18800573 through 18800832

V. Model 188B, AGpickup, 1 PCLM (Restricted Category), approved December 20, 1971

Model 188B, AGpickup, 1 PCLM (Normal Category) (See required equipment, item 2), approved December 20, 1971

Engine

Continental O-470-R (S/N 18800833 through 18801824)
Continental O-470-S (S/N 18801825 and up) (See Note 6.)

*Fuel

80/87 minimum grade aviation gasoline
V. Model 188B, A9Gpickup (cont'd)

*Engine limits

For all operations, 2600 rpm (230 hp)

Propeller and propeller limits

1. (a) McCauley 1A200/AOM Fixed Pitch
   Static rpm at max. permissible throttle setting:
   Not over 2300, not under 2200
   No additional tolerance permitted.
   Diameter: not over 90 in., not under 88 in.

2. (a) McCauley Constant Speed, 2A34C50 hub with 90A-2 blades
   Diameter: not over 88 in., not under 86 in.
   Pitch settings at 36 in. sta.:
   Low 8 \degree, high 22 \degree
   (b) Governor: Woodward A210452, Edo-Aire 34-828-01 or
       McCauley C290D2/T1 or C290D3/T1

3. (a) McCauley constant speed, 2A34C66 hub with 90AT-2 blades
   Diameter: not over 88 in., not under 86 in.
   Pitch settings at 36 in. sta.:
   Low 8 \degree, high 22 \degree
   (b) Governor: Woodward A210452, Edo-Aire 34-828-01 or
       McCauley C290D2/T1 or C290D3/T1

4. (a) McCauley constant speed, 2A34C201 hub with 90DA-2 blades
   Diameter: not over 88 in., not under 86.5 in.
   Pitch settings at 30 in. sta.:
   Low 10.5 \degree, high 24.5 \degree
   (b) Governor: Woodward 4210452, Edo-Aire 34-828-01 or
       McCauley C290D2/T1 or C290D3/T1

5. (a) McCauley constant speed, 2A34C203 hub with 90DCA-2 blades
   Diameter: not over 88 in., not under 86.5 in.
   Pitch settings at 30 in. sta.:
   Low 10.0 \degree, high 24.5 \degree
   (b) Governor: Woodward A210452, Edo-Aire 34-828-01, McCauley
       C290D2/T1 or C290D3/T1

*Airspeed Limits (CAS)

Never exceed 181 mph (157 knots)
Maximum structural cruising 144 mph (125 knots)
Maneuvering 116 mph (101 knots)
Flaps extended (5\degree) 120 mph (104 knots)
(10\degree - 20\degree) 110 mph (96 knots)

C.G. Range (normal category) (+39.0) to (+45.5) at 2300 lbs. or less
(+41.0) to (+45.5) at 3300 lbs.
Straight line variation between points given.

Empty weight C.G. range None

*Maximum weight 3300 lbs. (normal category)

Number of seats (max.) 1 (at +91 to +95)

Maximum cargo 26.7 cubic feet within operational gross weight

Fuel capacity 37 gal. (+11.0, 36.5 usable)
See Note 1 for data on unusable fuel.

Oil capacity 12 qt. (-17.0; includes 9 lb. unusable)
See Note 1 for data on undrainable oil.
V. Model 188B, AGpickup (cont’d)

Control surface movements

<table>
<thead>
<tr>
<th>Wing flaps</th>
<th>Down 20° ± 1°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ailerons (from neutral)</td>
<td>Up 18° ± 1°</td>
</tr>
<tr>
<td>Elevators</td>
<td>Up 26° ± 1°</td>
</tr>
<tr>
<td>Elevator tab</td>
<td>Up 12° ± 1°</td>
</tr>
<tr>
<td>Rudder</td>
<td>Right 24° + 0°, -1°</td>
</tr>
</tbody>
</table>

(Neutral aileron is rigged with trailing edge 3° ± 30’ below trailing edge of wing.)

Additional Limitations for Restricted Category

*Airspeed limits (CAS)* Maximum operating speed in agricultural operations 120 mph (104 knots)

C.G. Range (+39.0) to (+45.5) at 2300 lbs. or less

(+42.0) to (+45.5) at 3800 lbs.

Straight line variation between points given.

*Maximum Weight* See Note 3.

Serial numbers eligible 18800833 through 18802348

VI. Model A188B, AGwagon “C” and AGtruck, 1 PCLM (Restricted Category), approved December 20, 1971,
Model A188B, Agwagon “C” and AGtruck, 1 PCLM (Normal Category), (see required equipment, Item 2), approved December 20, 1971

Engine Continental IO-520-D

*Fuel* 100/130 minimum grade aviation gasoline (S/N 18800833 through 18803046)

100LL/130 minimum grade aviation gasoline (S/N 678T, 18803047 and on)

*Engine limits* Takeoff (5 min.) at 2850 rpm (300 hp)

For all other operations, 2700 rpm (285 hp)

Propeller and propeller limits

1. S/N 678T, 18800833 through 18803721

   (a) McCauley D2A34C58/90AT-8 or D2A34C98/90AT-8 or D2A34C58-0/90AT-8 (oil filled) or D2A34C98-0/90AT-8 (oil filled)

   Diameter: not over 82 in., not under 80 in.

   Pitch setting at 36 in. sta.:

   Low 8.8°, high 25.8°

   (b) Governor: Edo-Aire 34-828-01-1, McCauley C290D2/T9 or C290D3/T9, or Woodward A210462

2. S/N 678T, 18800833 through 18803721

   (a) McCauley D2A34C58/90AT-4 or D2A34C98/90AT-4 or D2A34C58-0/90AT-4 (oil filled) or D2A34C98-0/90AT-4 (oil filled)

   Diameter: not over 86 in., not under 84 in.

   Pitch settings at 36 in. sta.:

   Low 8°, high 25°

   (b) Governor: Edo-Aire 34-828-01-1, McCauley C290D2/T9 or C290D3/T9, or Woodward A210462

3. S/N 678T, 18802002 through 18803721 and those aircraft reworked per SE75-4

   (a) McCauley D3A32C90/82NC-2 or D3A32C90-N/82NC-2 (oil filled)

   Diameter: not over 80 in., not under 78.5 in.

   Pitch setting at 30 in. sta.:

   Low 10.4°, high 28.1°

   (b) Governor: McCauley C290D2/T9 or C290D3/T9, Edo-Aire 34-828-01-1 or Woodward A210462
VI. Model A188B (cont’d)

4. S/N 18803722 and on and those aircraft reworked per Cessna Service Kit SK188-76 or SK188-77
   (a) McCauley B2A34C205/90DHA-4
       Diameter: not over 86 in., not under 84.5 in.
       Pitch setting at 30 in. sta.:
           Low 9.7°, high 28.5°
   (b) Governor: McCauley C290D3/T9

5. S/N 18803722 and on
   (a) McCauley D3A32C408/82NDA-2
       Diameter: not over 80 in., not under 78.5 in.
       Pitch setting at 30 in. sta.:
           Low 10.4°, high 28.1°
   (b) Governor: McCauley C290D3/T9

*Airspeed limits (CAS)

<table>
<thead>
<tr>
<th>S/N 18800833 through 18802348</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never exceed</td>
</tr>
<tr>
<td>Maximum structural cruising</td>
</tr>
<tr>
<td>Maneuvering</td>
</tr>
<tr>
<td>Flaps extended (5°)</td>
</tr>
<tr>
<td>(10° - 20°)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S/N 678T, 18802349 through 18803721</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never exceed</td>
</tr>
<tr>
<td>Maximum structural cruising</td>
</tr>
<tr>
<td>Maneuvering</td>
</tr>
<tr>
<td>Flaps extended (5°)</td>
</tr>
<tr>
<td>(10° - 20°)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S/N 18803722 and on</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never exceed</td>
</tr>
<tr>
<td>Maximum structural cruising</td>
</tr>
<tr>
<td>Maneuvering</td>
</tr>
<tr>
<td>Flaps extended (5°)</td>
</tr>
<tr>
<td>(10° - 20°)</td>
</tr>
</tbody>
</table>

C.G. Range

| (+39.0) to (+45.5) at 2300 lbs. or less |
| (Normal Category) |
| (+41.0) to (+45.5) at 3300 lbs. |

Empty weight C.G. Range

None

*Maximum weight

3300 lbs. (Normal Category)

Number of seats (maximum)

1 at (+91) to (+95)

Maximum cargo

1670 lb. at +43.0 sta. (see Note 5)

Fuel capacity

37 gal. (+11.0); (36.5 gal. usable) fuselage tank (through S/N 18802745)
56 gal. (+48.0); (54 gal. usable) wing tanks (through S/N 18801346)
54 gal. (+48.0); (52 gal. usable) wing tanks (S/N 678T, 18801347 and on)
See Note 1 for data on unusable fuel.

Oil capacity

12 qt. (-17.0; includes 9 lb. unusable through S/N 18803856)
13 qt. (-15.9) (9 lb. usable) (S/N 18803857T and on)
See Note 1 for data on undrainable oil.
VI. Model A188B (cont’d)

Control surface movements

<table>
<thead>
<tr>
<th>Surface</th>
<th>Movement</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing flaps</td>
<td>Down</td>
<td>20° ± 1°</td>
</tr>
<tr>
<td>Ailerons (from neutral)</td>
<td>Up</td>
<td>18° ± 1°</td>
</tr>
<tr>
<td></td>
<td>Down</td>
<td>10° ± 1°</td>
</tr>
<tr>
<td>Elevators</td>
<td>Up</td>
<td>26° ± 1°</td>
</tr>
<tr>
<td></td>
<td>Down</td>
<td>21° ± 1°</td>
</tr>
<tr>
<td>Elevator tab</td>
<td>Up</td>
<td>12° ± 1°</td>
</tr>
<tr>
<td></td>
<td>Down</td>
<td>27° ± 1°</td>
</tr>
<tr>
<td>Rudder</td>
<td>Right</td>
<td>24° + 0°, -1°</td>
</tr>
<tr>
<td></td>
<td>Left</td>
<td>24° + 0°, -1°</td>
</tr>
</tbody>
</table>

Neutral aileron is rigged with trailing edge 3° ± 30' below trailing edge of wing.

Additional Limitations for Restricted Category

* Airspeed Limits (CAS)
  Max. operation speed in agricultural operations 120 mph (104 knots)
  (S/N 18800833 through 18802348)
  Max. operation speed in agricultural operations 121 mph (105 knots)
  (S/N 678T, 18802349 through 18803721)
  Max. operation speed in agricultural operations 130 mph (113 knots)
  (S/N 18803722 and on)

C.G. Range
(+39.0) to (+47.5) at 2300 lbs. or less
(+39.4) to (+47.5) at 2500 lbs.
(+41.0) to (+46.4) at 3300 lbs.
(+39.3) to (+45.2) at 4200 lbs. (see Note 3)

*Maximum Weight
See Note 3.

Serial numbers eligible 678T, 18800833 through 18803973 (See Note 5.)

VII. Model T188C, Aghusky, 1 PCLM (Restricted Category), approved September 8, 1978

Engine
Continental TSIO-520-T

*Fuel
100LL/100 minimum grade aviation gasoline

*Engine limits
310 hp at 2700 rpm and 39.5 in. Hg. for all operations

Propeller and propeller limits
1. (a) McCauley D3A34C402/90DFA-10
   Diameter: not over 80 in., not under 78.5 in.
   Pitch settings at 30 in. sta.:
   Low 12.4°, high 28.5°
   Avoid continuous operation between 2000 and 2250 rpm
   above 27 in. mp.
   (b) Cessna spinner 0750286
   (c) McCauley hydraulic governor C161031-0110

* Airspeed limits
(IAS) Maximum operational speed in agricultural operations 130 mph (113 knots)
(See Note 7 on use of IAS.)
(10° - 20°) 121 mph (105 knots)

C.G. Range
(+39.0) to (+45.9) at 2300 lbs. or less
(+39.7) to (+45.9) at 3300 lbs.
(+40.0) to (+45.5) at 3300 lbs.
(+39.2) to (+44.0) at 4400 lbs. (See Note 3.)

Empty weight C.G. Range None

*Maximum weight
3300 lbs. (See Note 3.)
VII. **Model T188C** (cont’d)

**Number of seats (Maximum)** 1 at (+91) to (+95)

**Maximum cargo**  
See Note 5.

**Fuel capacity** 54 gal. (+48.0); 52 gal. usable  
See Note 1 for data on unusable fuel.

**Oil capacity** 13 qt. (-18.7; includes 9 lb. unusable)  
See Note 1.

**Maximum operating altitude** 14,000 MSL

**Control surface movements**

| Wing flaps | Up 18° ± 1° Down 20° ± 1° |
| Ailerons (from neutral) | Up 18° ± 1° Down 10° ± 1° |
| Elevators | Up 26° ± 1° Down 21° ± 1° |
| Elevator tab | Up 12° ± 1° Down 27° ± 1° |
| Rudder | Right 24° + 0°, -1° Left 24° + 0°, -1° |

(Note: Neutral aileron is rigged with trailing edge 3° ± 30' below trailing edge of wing.)

**Serial numbers eligible**  
T18802839T, T18803307T, T18803308T, T18803325T through T18803974T

**Data Pertinent to All Models**

**Datum**  
Fuselage station 0.0 (front face of firewall)

**Leveling means**  
Two jig located nutplates and screws on left of tailcone

**Certification basis**

Part 21 of the Federal Aviation Regulations dated February 1, 1965, for Restricted Category.

Part 23 of the Federal Aviation Regulations dated February 1, 1965, for Normal Category.

In addition, (S/N 18803297 and on) FAR 23.1559 effective March 1, 1978, for Normal Category.

For the T188C only, Part 21 of the Federal Aviation Regulations dated February 1, 1965, and Part 23 of the Federal Aviation Regulations dated February 1, 1965, with exception to 23.221 per 21.25(a)(1). In addition, FAR 23.1559 effective March 1, 1978.

Application for Type Certificate dated April 7, 1965.  
Type Certificate No. A9CE issued February 14, 1966, obtained by the manufacturer under delegation option procedures.

**Equivalent Safety Items**

| S/N 678T, 18802349 and on |
| Equivalent Safety Items  |
| S/N T18802839T, T18803307T, T18803308T, T18803325T and on |

**Airspeed Indicator** FAR 23.1545 (See Note 7 on use of IAS)

**Airspeed Limitations** FAR 23.1583(a)(1)

**Production Basis**

Production Certificate No. 4. Delegation Option Manufacturer No. CE-1 authorized to issue airworthiness certification under delegation option provisions of Part 21 of the Federal Aviation Regulations.

**Equipment:** The basic required equipment as specified in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. This equipment must include a current Airplane Flight Manual effective S/N 678T, 18803297 and on and T18802839T and T18803307T, T18803308T, and T18803325T and on. In addition, the following items of equipment are required:

1. **Stall Warning Indicator,** Cessna Dwg. 1670056.
2. **Model 188B and A188B eligible for normal category certification when Cessna spring 1660206-3 replaces 1660206-2.**
NOTE 1. Current weight and balance report together with list of equipment included in the certificated empty weight, and loading instructions when necessary, must be provided for each aircraft at the time of original certification.

The certificated empty weight and corresponding center of gravity location must include unusable fuel of 3 lbs. at +6.0 with the fuselage tank, or 42 lbs. at +48.0 Serials 188-0446 through 188-0572 (or 12 lbs. at +37.3 Serials 18800573 and on) when wing tanks are installed, and undrainable oil of 0.0 lb. at -17.0 through S/N 18802348, or full oil of 22.5 lb. at -17.5 S/N 678T, 18802349 through S/N 18803856; 24.4 lb. at -15.9 S/N 18803857T and on; 24.4 lb. at -18.7 S/N T18802389T, T18803307T, T18803308T, T18803325T and on.

NOTE 2. The following information must be displayed in the form of composite or individual placards.

(a) In full view of the pilot: (S/N 188-0001 through 188-0572 and 18800573 through 18800832)
   (1) "This airplane must be operated as a normal category airplane in compliance with the operating limitations as stated in the form of placards, markings, and manuals. For restricted category operations, refer to additional placards and limitations."
   (2) "No acrobatic maneuvers including spins approved."
   (3) "Maximum design weight - 3300 lb. (Reference weight and balance data for loading instructions)."
   (4) "Maximum maneuvering speed - 127 mph, CAS."
   (5) "Maximum altitude loss in stall recovery - 200 ft."
   (6) "Maximum flight maneuvering load factors:
       Flaps Up +3.8, -1.52
       Flaps Down +3.0"
   (7) Maximum flap extension speed - 110 mph, CAS."
   (8) "Airplane controllable in 15 knot crosswind."
   (9) "VFR - DAY" or
   (10) "VFR - DAY - NIGHT."

(b) (1) In full view of the pilot: (S/N 18800833 through 18802348)
   "This airplane must be operated as a normal category airplane in compliance with the operating limitations as stated in the form of placards, markings, and manuals. For restricted category operations refer to additional placards and limitations.

   MAXIMUMS
   Maneuvering speed 116 mph CAS (101 knots)
   Gross weight (normal category) 3300 lb.
   Altitude loss in stall recovery 140 ft.
   Demonstrated crosswind 15 knots
   Flight load factor Flaps Up +3.8, -1.52
       Flaps Down 5° +2.5
       Flaps Down 10° - 20° +2.0

   Reference weight and balance data for loading instructions. No acrobatic maneuvers, including spins, approved. Known icing conditions to be avoided. This airplane is certified for the following flight operations as of date of original airworthiness certificate.
   VFR - DAY - NIGHT* (as applicable)

   (2) In full view of the pilot: (S/N 18802349 through S/N 18803296)
   "This airplane must be operated as a normal category airplane in compliance with the operating limitations as stated in the form of placards, markings, and manuals. For restricted category operations refer to additional placards and limitations.

   MAXIMUMS
   Maneuvering speed 118 mph IAS
   Gross weight (normal category) 3300 lb.
   Altitude loss in stall recovery 140 ft.
   Demonstrated crosswind 15 knots
   Flight load factor Flaps Up +3.8, -1.52
       Flaps Down 5° +2.5
       Flaps Down 10° - 20° +2.0
Reference weight and balance data for loading instructions. No acrobatic maneuvers, including spins, approved. Known icing conditions to be avoided. This airplane is certified for the following flight operations as of date of original airworthiness certificate.

VFR - DAY - NIGHT" (as applicable)

(3) In full view of the pilot: (S/N 678T, 18803297 and on)
"The markings and placards installed in this airplane contain operating limitations which must be complied with when operating this airplane in the Normal Category. Other operating limitations which must be complied with when operating this airplane in this category or in the Restricted Category are contained in the Airplane Flight Manual.

Refer to weight and balance data for loading instructions.
No acrobatic maneuvers, including spins, approved.
Flight into known icing conditions prohibited.

This airplane is certified for the following flight operations as of date of original airworthiness certificate.

DAY - NIGHT - VFR" (as applicable)

(4) In full view of the pilot: (S/N T18802839T, T18803307T, T18803308T, T18803325T and on)
"The markings and placards installed in this airplane contain operating limitations which must be complied with when operating this airplane in the Restricted Category. Other operating limitations which must be complied with when operating this airplane in this category are contained in the Airplane Flight Manual. Reference weight and balance data for loading instructions. No acrobatic maneuvers, including spins, approved. Flight into known icing conditions prohibited. This airplane is certified for the following flight operations as of date of original airworthiness certificate.

VFR - DAY - NIGHT" (as applicable)

(c) (1) On crash pad: (S/N 188-0001 through 18802348)
   Flaps 5°  120 mph
   Flaps 10° and 20°  110 mph
(2) On crash pad: (S/N 18802349 through 18803296)
   Flaps 5°  121 mph IAS
   Flaps 10° and 20°  109 mph IAS
(3) On crash pad: (effective S/N 678T, 18803297 through 18803721)

MAXIMUM AIRSPEEDS
Maneuver  118 MIAS
Flaps 5°  121 MIAS
Flaps 10° and 20°  109 MIAS
Agricultural operations  121 MIAS

(4) On crash pad: (effective S/N 18803722 and on)

MAXIMUM AIRSPEEDS - MIAS
Maneuver (3300 lbs.)  118
Flaps 5°  122
Flaps 10° and 20°  112
Agricultural operations  130
(d) (1) On flap handle: (S/N 188-0001 through 188-0293)
"FLAPS - WARNING Avoid slips with flaps extended."
"FLAPS - PULL TO EXTEND"
Takeoff Retracted
1st Notch 10°
2nd Notch 20°
Landing 0 to 3rd Notch 30°
(2) On flap handle: (S/N 188-0294 through 188-0572 and 18800573 through 18800832)
"FLAPS - PULL TO EXTEND"
Takeoff and Landing Retracted 0°
1st Notch 10°
2nd Notch 20°
(3) On flap handle: (S/N 678T, 18800833 and on)
"FLAPS - PULL TO EXTEND"
Takeoff Retracted 0°
and 1st Notch 5°
2nd Notch 10°
Landing 3rd Notch 20°

(e) (1) Adjacent to the fuel valve control:
"Fuel Valve Push-on; 36.5 gals. usable." (through S/N 18802745)
(2) Adjacent to the fuel valve control for models equipped with wing fuel tanks:
"Fuel Valve Push-on; 49 gals. usable." (S/N 188-0446 through 188-0572)
"Fuel Valve Push-on; 54 gals. usable." (S/N 18800573 through 18801346)
"Fuel Valve Push-on; 52 gals. usable." (S/N 678T, 18801347 and on)

(f) On Doors:
"Do not open doors in flight."

(g) On Baggage Door: (S/N 188-0001 through 188-0572 and S/N 18800573 through 18800832)
"Maximum baggage capacity 100 lb., articles stowed in this compartment to be securely tied down." Refer to Owner's Manual for details.

(h) On Instrument Panel:
"No Smoking." (Except with optional ash tray installation)

(i) On Hopper Lid:
(1) "Hopper capacity 200 U.S. Gal."
Serial 188-0001 through 18801040
"Maximum allowable hopper load - 1670 lb. See Weight and Balance Data."
Serial 18801041 and on
(2) "Max. allowable hopper load - 1800 lb. See Weight and Balance Data."
(On aircraft serials with "T" suffix)
(3) "Max. allowable hopper load - 1900 lb. See Weight and Balance Data."
(On aircraft serials with prefix and suffix "T")

(j) Adjacent to the master switch: (S/N 18800573 through 18801040)
(1) "Do not turn off alternator in flight except in emergency."

(k) Below the fuel flow gauge: (A188, A188A, and A188B through S/N 18802745)
"Fuel Flows at Full Throttle"

<table>
<thead>
<tr>
<th>S.L.</th>
<th>2850 rpm</th>
<th>2700 rpm</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>19</td>
<td></td>
</tr>
</tbody>
</table>

A188B (S/N 678T, 18802746 through 18803296)
"Max. Power Settings and Fuel Flow Takeoff (5 min. only) 2850 rpm
Max. Continuous Power 2700 rpm
Fuel Flows at Full Throttle

<table>
<thead>
<tr>
<th>RPM</th>
<th>S.L.</th>
<th>2700 rpm</th>
<th>2850 rpm</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.L.</td>
<td>23 gph</td>
<td>24 gph</td>
<td></td>
</tr>
<tr>
<td>4,000 ft.</td>
<td>21 gph</td>
<td>22 gph</td>
<td></td>
</tr>
<tr>
<td>8,000 ft.</td>
<td>19 gph</td>
<td>20 gph</td>
<td></td>
</tr>
</tbody>
</table>

A188B (S/N 18803297 and on)

"Min. Fuel Flows at Full Throttle"

<table>
<thead>
<tr>
<th>RPM</th>
<th>S.L.</th>
<th>4,000 ft.</th>
<th>8,000 ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2700</td>
<td>23 GPH</td>
<td>21 GPH</td>
<td>19 GPH</td>
</tr>
<tr>
<td>2850</td>
<td>24 GPH</td>
<td>22 GPH</td>
<td>20 GPH</td>
</tr>
</tbody>
</table>

T188C (S/N T18802839T, T18803307T, T18803308T, T18803325T and on)

"Maximum Allowable Manifold Pressure"

<table>
<thead>
<tr>
<th>Press Alt.</th>
<th>MP. in. Hg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.L.</td>
<td>39.5</td>
</tr>
<tr>
<td>2500</td>
<td>38.8</td>
</tr>
<tr>
<td>5000</td>
<td>38.1</td>
</tr>
<tr>
<td>7500</td>
<td>37.3</td>
</tr>
</tbody>
</table>

(l) (1) Adjacent to or on the fuel filler cap as applicable (fuselage tank)
"80/87 Octane 37 U.S. Gal. Cap." (O-470 engine)
"100/130 Octane 37 U.S. Gal. Cap." (IO-520 engine)

(2) Adjacent to or on the fuel filler caps (wing tanks)
"100/130 Octane 28 U.S. Gal. Cap." (through S/N 18801346)
"100/130 Octane 27 U.S. Gal. Cap." (S/N 18801347 through 18803046)
"Service this airplane with 100LL/100 Min. Aviation Grade Gasoline - Capacity 27.0 Ga." (S/N 678T, 18803047 and on)

(m) Near tailwheel lock control: (S/N 678T, 18800833 and on) (except for serials with "T" prefix) "Lock for flight."

(n) On outside of cockpit doors:
"For emergency door removal pull out hinge pins."

(o) Below each door sill on inside of cockpit:
"Pull - Emergency Door Release."

(p) On Control Lock:
"Control Lock - Unlock before starting engine."

(q) On Crash Pad (T18802839T, T18803307T, T18803308T, T18803325T and on)
"Avoid Continuous Operation above 27 in. M.P. between 2000 and 2250 rpm."

NOTE 3. When operating in restricted category, operators may approve higher maximum weights as permitted by FAA Advisory Circular No. 20-33B and Civil Aeronautics Manual 8. With respect to this action, these aircraft have demonstrated satisfactory operation in the restricted category envelope given at 1500 ft. altitude and standard day at the following restricted gross weights:

<table>
<thead>
<tr>
<th>Series</th>
<th>Gross Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>188 Series</td>
<td>3800 lb.</td>
</tr>
<tr>
<td>A188 Series</td>
<td>4000 lb.</td>
</tr>
<tr>
<td>(Serials 188-0001 and on)</td>
<td>4000 lb.</td>
</tr>
<tr>
<td>(Serials 18800967T through 18801374T)</td>
<td>4000 lb.</td>
</tr>
<tr>
<td>(Serials 678T, 18801375T and on)</td>
<td>4200 lb.</td>
</tr>
<tr>
<td>T188C Series</td>
<td>4400 lb.</td>
</tr>
<tr>
<td>(Serials T18802839T, T18803307T, T18803308T, T18803325T and on)</td>
<td>4400 lb.</td>
</tr>
</tbody>
</table>
The following additional information must be displayed in the form of placards when operating in the Restricted Category:

(a) On Instrument Panel in full view of the pilot:
   (1) "Maximum operating speed in agricultural operations - 120 mph (104 knots)"
      (S/N 188-0001 through 18802348)
   (2) "Maximum operating speed in agricultural operations - 121 mph IAS. (105 knots IAS)."
      (S/N 18802349 through 18803296)
   (3) T188C (Serials T18802839T, T18803307T, T18803308T, T18803325T and on)
      MAXIMUM AIRSPEEDS
         Maneuver (3300 lbs.)  117 MIAS
         Flaps 5°  121 MIAS
         Flaps 10° to 20°  109 MIAS
         Agricultural Operation  130 MIAS"
   (4) "Hopper Dump - Pull"
      (S/N 188-0001 through 18801374) (Airplanes with Transland dump plate assembly)
      "Hopper Dump - - - - - - -"
      (S/N 188-0390 and on) (on dump handle) (Airplanes with Transland or Cessna gate box assembly)
      "Dump"
      (S/N 18802311 and on) (Airplanes with Transland P/N 21767 Australian dump plate assembly)

(b) On canopy, side, window or fuselage side panel:
   "RESTRICTED"

NOTE 4. Cylinder head probe location No. 1 cylinder through S/N 18803046; S/N 18803722 and on.
   No. 5 cylinder S/N 678T, S/N 18803047 through S/N 18803721. No. 2 cylinder S/N T18802839T,
   T18803307T, T18803308T, T18803325T and on.

NOTE 5. The letter "T" suffix after the serial number indicates an A188 series aircraft with an 1800 lb.
   maximum capacity hopper (Ex: 18800967T). Serial numbers with prefix "T" and suffix "T" indicate T188C aircraft with 1900 lb. maximum capacity hopper. (Ex: T18803329T)

NOTE 6. The installation of the O-470-S engine in Model 188B (1972 through 1974) will require a
   change of the oil temperature gauge. Reference Cessna Service Letter SE 75-2 for this change.

NOTE 7. (a) The marking of the airspeed indicator with IAS provides an equivalent level of safety to
   FAR 23.1545 when the approved airspeed calibration data presented in Section VI of the
   Owner's Manual listed below is available to the pilot:

   A188B  Cessna P/N D1064-13  (S/N 18802349 through S/N 18802745)
   A188B  Cessna P/N D1089-13  (S/N 18802746 through S/N 18803046)
   A188B  Cessna P/N D1117-13  (S/N 18803047 through S/N 18803296)

   (b) The marking of the airspeed indicator with IAS provides an equivalent level of safety to
   FAR 23.1545 when the approved airspeed calibration data presented in the FAA approved
   Airplane Flight Manual listed below is available to the pilot:

   A188B  Cessna P/N D1166-13  (S/N 678T, 18803297 through S/N 18803521)
   T188C  Cessna P/N D1168-13  (S/N T18803307T, T18803308T, T18803325T
      through S/N T18803521T)
   A188B  Cessna P/N D1180-13FM  (S/N 18803522 through S/N 18803721)
   T188C  Cessna P/N D1181-13FM  (S/N T18803522T through T18803721T)
   A188B  Cessna P/N D1201-13FM  (S/N 18803722 through 18803856)
   T188C  Cessna P/N D1202-13FM  (S/N T18803722T through T18803856T)
   A188B  Cessna P/N D1220-13FM  (S/N 18803857T through 18803926T)
   T188C  Cessna P/N D1221-13FM  (S/N T18803857T through T18803926T
   A188B  Cessna P/N D1238-13FM  (S/N 18803927T through 18803973T)
   T188C  Cessna P/N D1239-13FM  (S/N T18802839T, T18803927T through T18803974T)
NOTE 8.  

14 volt electrical system  
188/A188 series through Serial 18803046

28 volt electrical system  
A188 Series, Serial 678T, 18803047 and on  
T188 Series, Serial T18803307T, T18803308T, T18803325T and on

In addition to the placards specified above, the prescribed operating limitations indicated by an asterisk (*) under Sections I through VII of this data sheet must also be displayed by permanent markings.

Note: For 188, A188, and T188:

“WARNING”: Use of alcohol-based fuels can cause serious performance degradation and fuel system component damage, and is therefore prohibited on Cessna airplanes.”

....END....
"WARNING: Use of alcohol-based fuels can cause serious performance degradation and fuel system component damage, and is therefore prohibited on Cessna airplanes."

**TYPE CERTIFICATE DATA SHEET NO. 3A12**

This data sheet which is part of Type Certificate No. 3A12 prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder Cessna Aircraft Company  
P.O. Box 7704  
Wichita, Kansas  67277

I. Model 172, 4 PCLM (Normal Category), approved November 4, 1955; 2 PCLM (Utility Category), approved December 14, 1956

<table>
<thead>
<tr>
<th>Engine</th>
<th>Continental O-300-A or O-300-B</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Fuel</td>
<td>80/87 minimum grade aviation gasoline</td>
</tr>
<tr>
<td>*Engine Limits</td>
<td>For all operations, 2700 rpm (145 hp)</td>
</tr>
</tbody>
</table>

*Propeller and Propeller Limits*

1. Propeller  
   (a) McCauley 1A170  
      Static rpm at maximum permissible throttle setting:  
      Not over 2360, not under 2230  
      No additional tolerance permitted  
      Diameter: not over 76 in., not under 74.5 in.  
   (b) Spinner, Dwg. 0550162

2. Propeller  
   (a) Sensenich M74DR or 74DR  
      Static rpm at maximum permissible throttle setting:  
      Not over 2430, not under 2300  
      No additional tolerance permitted  
      Diameter: not over 74 in., not under 72.0 in.  
   (b) Spinner, Dwg. 0550162
I. Model 172 (cont’d)

Propeller and Propeller Limits (cont’d)

3. Propeller
   (a) McCauley 1C172/MDM 7652, 53, or 55 30 lb. (-39.0)
      Static rpm at maximum permissible throttle setting:
      Not over 2350, not under 2250
      No additional tolerance permitted
      Diameter: not over 76 in., not under 74.5 in.
   (b) Spinner, Dwg. 0550216

*Airspeed Limits Maneuvering  115 mph (100 knots)
   (CAS) Maximum structural cruising  140 mph (122 knots)
   Never exceed 160 mph (139 knots)
   Flaps extended  100 mph (87 knots)

C.G. Range
   Normal  (+40.8) to (+46.4) at 2200 lbs.
   Utility category  (+38.4) to (+40.3) at 1950 lbs.
   (+36.4) to (+40.3) at 1733 lbs.
   Straight line variation between points given.

Empty Weight C.G. Range None

*Maximum Weight
   Normal category  2200 lbs.
   Utility category  1950 lbs.

Number of Seats  4 (2 at +36, 2 at +70) (For child's optional jump seat, refer to Equipment List.)

Maximum Baggage  120 lbs. (+95)

Fuel Capacity  42 gal. total, 37 gal. usable (two 21 gal. tanks in wings at +48)
   See Note 1 for weight of unusable fuel and oil.

Oil capacity  2 gal. (-20), includes 1 gal. unusable

Control Surface Movements
   Wing flaps
      Takeoff Retracted 0°
      1st notch 10°
      Landing 2nd notch 20°
      3rd notch 30°
      4th notch 40°
   Ailerons Up 20° Down 14°
   Elevator tab Up 28° Down 13°
   Elevator Up 28° Down 26°
   Rudder Right 16° Left 16°

Serial Numbers Eligible  610, 612, 615, 28000 through 29999, 36000 through 36999 and 46001 through 46754

II. Model 172A, 4 PCL-SM (Normal Category), 2 PCLM (Utility Category), approved July 16, 1959;
   Model 172B, Skyhawk, 4 PCL-SM (Normal Category), 2 PCLM (Utility Category), approved June 14, 1960

Engine  Continental O-300-C or O-300-D

*Fuel  80/87 minimum grade aviation gasoline

*Engine Limits  For all operations, 2700 rpm (145 hp)
II. **Model 172A, Model 172B**  
(cont’d)

<table>
<thead>
<tr>
<th>Propeller and Propeller Limits</th>
<th>1. Propeller</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) McCauley 1C172/EM 7652, 53, or 55</td>
<td></td>
</tr>
<tr>
<td>Static rpm at maximum permissible throttle setting:</td>
<td></td>
</tr>
<tr>
<td>Not over 2350, not under 2230</td>
<td></td>
</tr>
<tr>
<td>No additional tolerance permitted</td>
<td></td>
</tr>
<tr>
<td>Diameter: not over 76 in., not under 74.5 in.</td>
<td></td>
</tr>
<tr>
<td>(b) Spinner, Dwg. 0550216, 0550221 or 0550228</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Propeller (seaplane only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) McCauley 1A175/SFC 8040</td>
</tr>
<tr>
<td>Static rpm at maximum permissible throttle setting:</td>
</tr>
<tr>
<td>Not over 2480, not under 2380</td>
</tr>
<tr>
<td>No additional tolerance permitted</td>
</tr>
<tr>
<td>Diameter: not over 80 in., not under 78.4 in.</td>
</tr>
<tr>
<td>(b) Spinner, Dwg. 0550216 or 0550221</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Propeller</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Sensenich 74DC-0-56</td>
</tr>
<tr>
<td>Static rpm at maximum permissible throttle setting:</td>
</tr>
<tr>
<td>Not over 2420, not under 2300</td>
</tr>
<tr>
<td>No additional tolerance permitted</td>
</tr>
<tr>
<td>Diameter: not over 74 in., not under 72.5 in.</td>
</tr>
</tbody>
</table>

*Airspeed Limits*  
**Maneuvering** 115 mph (100 knots)  
**Maximum structural cruising** 140 mph (122 knots)  
**Never exceed** 160 mph (139 knots)  
**Flaps extended** 100 mph (87 knots)

<table>
<thead>
<tr>
<th>C.G. Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landplane (Model 172A):</td>
</tr>
<tr>
<td>Normal category (⁺40.8) to (⁺46.4) at 2200 lbs.</td>
</tr>
<tr>
<td>Utility category (⁺36.4) to (⁺46.4) at 1733 lbs. or less</td>
</tr>
<tr>
<td>Straight line variation between points given.</td>
</tr>
</tbody>
</table>

| Landplane (Model 172B): |
| Normal category (⁺40.4) to (⁺46.4) at 2200 lbs. |
| Utility category (⁺36.4) to (⁺46.4) at 1850 lbs. or less |

| Seaplane (Models 172A and 172B): |
| Normal category (⁺39.8) to (⁺45.5) at 2220 lbs. |
| (⁺36.4) to (⁺45.5) at 1825 lbs. or less |

<table>
<thead>
<tr>
<th>Empty Weight C.G. Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
</tr>
</tbody>
</table>

*Maximum Weight*  
**Landplane:** |
| Normal category 2200 lb. |
| Utility category 1950 lb. |

| Seaplane: |
| Normal category 2220 lb. |

<table>
<thead>
<tr>
<th>Number of Seats</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 (2 at +36, 2 at +70) (For child's optional jump seat, refer to Equipment List.)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Maximum Baggage</th>
</tr>
</thead>
<tbody>
<tr>
<td>120 lb. (+95)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fuel Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>42 gal. total, 37 gal. usable (172A); 39 gal. usable (172B) (two 21 gal. tanks in wings at +48)</td>
</tr>
</tbody>
</table>

*See Note 1 for weight of unusable fuel and oil.*

<table>
<thead>
<tr>
<th>Oil Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 gal. (-20), 1 gal. usable</td>
</tr>
</tbody>
</table>
II. Model 172A, Model 172B (cont’d)

Control Surface Movements

<table>
<thead>
<tr>
<th>Surface</th>
<th>Takeoff</th>
<th>Retracted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing flaps</td>
<td>0°</td>
<td>0°</td>
</tr>
<tr>
<td>1st notch</td>
<td>10°</td>
<td></td>
</tr>
<tr>
<td>Landing</td>
<td>2nd notch</td>
<td>20°</td>
</tr>
<tr>
<td></td>
<td>3rd notch</td>
<td>30°</td>
</tr>
<tr>
<td></td>
<td>4th notch</td>
<td>40°</td>
</tr>
<tr>
<td>Ailerons</td>
<td>Up 20°</td>
<td>Down 15°</td>
</tr>
<tr>
<td>Elevator tab</td>
<td>Up 28°</td>
<td>Down 13°</td>
</tr>
<tr>
<td>Elevator</td>
<td>Up 28°</td>
<td>Down 26°</td>
</tr>
<tr>
<td>Rudder (landplane)</td>
<td>Right 16°</td>
<td>Left 16°</td>
</tr>
<tr>
<td>(seaplane)</td>
<td>Right 19°</td>
<td>Left 15°</td>
</tr>
</tbody>
</table>

(Measured parallel to W.L.)

Serial Numbers Eligible

Model 172A: 622, 625, 46755 through 47746
Model 172B: 630, 17247747 through 17248734

III. Model 172C, 4 PCL-SM (Normal Category), 2 PCLM (Utility Category), approved July 18, 1961

Engine

Continental O-300-C or O-300-D

*Fuel

80/87 minimum grade aviation gasoline

*Engine Limits

For all operations, 2700 rpm (145 hp)

Propeller and Propeller Limits

1. Propeller

   (a) McCauley 1C172/EM 7652, 53, or 55
       Static rpm, at maximum permissible throttle setting:
       Not over 2350, not under 2230
       No additional tolerance permitted
       Diameter: not over 76 in., not under 74.5 in.
   (b) Spinner, Dwg. 0550216, 0550221 or 0550228

2. Propeller (seaplane only)

   (a) McCauley 1A175/SFC 8040
       Static rpm, at maximum permissible throttle setting:
       Not over 2480, not under 2380
       No additional tolerance permitted
       Diameter: not over 80 in., not under 78.4 in.
   (b) Spinner, Dwg. 0550216 or 0550221

3. Propeller

   (a) Sensenich 74DC-0-56
       Static rpm at maximum permissible throttle setting:
       Not over 2420, not under 2300
       No additional tolerance permitted
       Diameter: not over 74 in., not under 72.5 in.

*Airspeed Limits

(Maneuvering) 115 mph (100 knots)
(Maximum structural cruising) 140 mph (122 knots)
(Never exceed) 160 mph (139 knots)
(Flaps extended) 100 mph (87 knots)

C.G. Range

Landplane

Normal category (+40.5) to (+46.4) at 2250 lbs.
(+36.4) to (+46.4) at 1850 lbs. or less

Utility category (+37.4) to (+40.3) at 1950 lbs.
(+36.4) to (+40.3) at 1850 lbs. or less

Seaplane

Normal category (+39.8) to (+45.5) at 2220 lbs.
(+36.4) to (+45.5) at 1825 lbs. or less

Straight line variation between points given.
III. Model 172C (cont'd)

Empty Weight C.G. Range None

*Maximum Weight

<table>
<thead>
<tr>
<th>Category</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landplane</td>
<td>2250 lbs.</td>
</tr>
<tr>
<td>Utility</td>
<td>1950 lbs.</td>
</tr>
<tr>
<td>Seaplane</td>
<td>2220 lbs.</td>
</tr>
</tbody>
</table>

Number of Seats 4 (2 at +36, 2 at +70) (For child's optional jump seat, refer to Equipment List.)

Maximum Baggage 120 lbs. (+95)

Fuel Capacity 39 gal. total, 36 gal. usable (two 19.5 gal. tanks in wings at +48)

See Note 1 for weight of unusable fuel and oil.

Oil Capacity 2 gal. (-20), includes 1 gal. unusable

Control Surface Movements

<table>
<thead>
<tr>
<th>Surface</th>
<th>Takeoff</th>
<th>Retracted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing flaps</td>
<td></td>
<td>0°</td>
</tr>
<tr>
<td></td>
<td>1st notch</td>
<td>10°</td>
</tr>
<tr>
<td></td>
<td>2nd notch</td>
<td>20°</td>
</tr>
<tr>
<td></td>
<td>3rd notch</td>
<td>30°</td>
</tr>
<tr>
<td></td>
<td>4th notch</td>
<td>40°</td>
</tr>
<tr>
<td>1st notch</td>
<td>20°</td>
<td>Down 15°</td>
</tr>
<tr>
<td>2nd notch</td>
<td>20°</td>
<td>Down 13°</td>
</tr>
<tr>
<td>3rd notch</td>
<td>20°</td>
<td>Down 13°</td>
</tr>
<tr>
<td>4th notch</td>
<td>20°</td>
<td>Down 13°</td>
</tr>
</tbody>
</table>

(a) McCauley 1C172/EM 7652, 53

Static rpm at maximum permissible throttle setting:
Not over 2420, not under 2230
No additional tolerance permitted
Diameter: not over 76 in., not under 74.5 in.

(b) Spinner

Model 172D, E, F, Dwg. 0550216, 0550221 or 0550228
Model 172G, H, Dwg. 0550236

IV. Model 172D, 4 PCL-SM (Normal Category), 2 PCLM (Utility Category), approved June 19, 1962
Model 172E, 4 PCL-SM (Normal Category), 2 PCLM (Utility Category), approved June 27, 1963
Model 172F (USAF T-41A), 4 PCL-SM (Normal Category), 2 PCLM (Utility Category), approved April 21, 1964
Model 172G, 4 PCL-SM (Normal Category), 2 PCLM (Utility Category), approved June 15, 1965
Model 172H (USAF T-41A), 4 PCL-SM (Normal Category), 2 PCLM (Utility Category), approved June 7, 1966

Engine Continental O-300-C or O-300-D

*Fuel 80/87 minimum octane aviation gasoline

*Engine Limits For all operations, 2700 rpm (145 hp)

Propeller and Propeller Limits

1. Propeller
   (a) McCauley 1A175/SFC 8040
      Static rpm at maximum permissible throttle setting:
      Not over 2480, not under 2380
      No additional tolerance permitted
      Diameter: not over 78.4 in., not under 74.5 in.
   (b) Spinner
      Model 172D, E, F, Dwg. 0550216, 0550221 or 0550228
      Model 172G, H, Dwg. 0550236

2. Propeller (seaplane only)
   (a) McCauley 1A175/SFC 8040
      Static rpm at maximum permissible throttle setting:
      Not over 2480, not under 2380
      No additional tolerance permitted
      Diameter: not over 80 in., not under 78.4 in.
IV. Model 172D, Model 172E, Model 172F, Model 172G, Model 172H (cont’d)

Propeller and Propeller Limits (cont’d)

2. Propeller (seaplane only) (cont’d)
   (b) Spinner
   Model 172D, E, F, Dwg. 0550216, 0550221
   Model 172G, H, Dwg. 0550236

*Airspeed Limits
   Maneuvering 122 mph (106 knots)
   (CAS)
   Maximum structural cruising 142 mph (122 knots)
   Never exceed 174 mph (151 knots)
   Flaps extended 100 mph (87 knots)

C.G. Range
   Landplane
   Normal category (+38.5) to (+47.3) at 2300 lbs.
   Utility category (+35.0) to (+47.3) at 1950 lbs. or less
   (+35.0) to (+40.5) at 2000 lbs.
   (+35.0) to (+40.5) at 1950 lbs. or less

Seaplane
   Normal category (+39.8) to (+45.5) at 2220 lbs.
   (+36.4) to (+45.5) at 1825 lbs. or less

Straight line variation between points given.

Empty Weight C.G. Range
   None

*Maximum Weight
   Landplane:
   Normal category 2300 lbs.
   Utility category 2000 lbs.

Seaplane:
   Normal category 2220 lbs.

Number of Seats
   4 (2 at +36, 2 at +70) (For child's optional jump seat, refer to Equipment List.)

Maximum Baggage
   120 lbs. (+95)

Fuel Capacity
   39 gal. total, 36 gal. usable (two 19.5 gal. tanks in wings at +48)
   See Note 1 for weight of unusable fuel and oil.

Oil Capacity
   2 gal. (-20), 1 gal. usable

Control Surface Movements
   Wing flaps
   Takeoff Retracted
   1st notch 0°
   Landing 0°
   10°
   Ailerons Up 20°
   Down 15°
   Elevator tab Up 28°
   Down 13°
   Elevator Up 28°
   Down 23°
   (Neutral position is with bottom of balance area flush with bottom of stabilizer.)
   Rudder (landplane) Right 16°
   (seaplane) Right 19°
   Left 16°
   Left 15°

Serial Numbers Eligible
   Model 172D: 17249545 through 17250572
   Model 172E: 639, 17250573 through 17251822
   Model 172F: 17251823 through 17253392
   Model 172G: 17253393 through 17254892
   Model 172H: 638, 17254893 through 17256512 (except 17256493)
V. Model 172I, 4 PCL-SM (Normal Category), 2 PCLM (Utility Category), approved December 15, 1967
Model 172K, 4 PCL-SM (Normal Category), 2 PCLM (Utility Category), approved May 9, 1968

Engine
Lycoming O-320-E2D

*Fuel
80/87 minimum grade aviation gasoline

*Engine Limits
For all operations, 2700 rpm (150 hp)

Propeller and Propeller Limits

1. Propeller
   (a) McCauley 1C172/MTM 7653
      Static rpm at maximum permissible throttle setting:
      Not over 2360, not under 2260
      No additional tolerance permitted (see Note 3)
      Diameter: not over 76 in., not under 74 in.
   (b) Spinner, Dwg. 0550320

2. Propeller (seaplane only)
   (a) McCauley 1A175/ATM 8042
      Static rpm at maximum permissible throttle setting:
      Not over 2480, not under 2380
      No additional tolerance permitted (see Note 3)
      Diameter: not over 80 in., not under 78.4 in.
   (b) Spinner, Dwg. 0550320

3. Propeller
   (a) McCauley 1C160/CTM 7553
      Static rpm at maximum permissible throttle setting:
      Not over 2370, not under 2270
      No additional tolerance permitted (see Note 3)
      Diameter: not over 75 in., not under 74 in.
   (b) Spinner, Dwg. 0550320

4. Propeller (seaplane only)
   (a) McCauley 1A175/ETM 8042
      Static rpm at maximum permissible throttle setting:
      Not over 2480, not under 2380
      No additional tolerance permitted (see Note 3)
      Diameter: not over 80 in., not under 78.4 in.
   (b) Spinner, Dwg. 0550321

5. Propeller
   (a) McCauley 1C160/DTM 7553
      Static rpm at maximum permissible throttle setting:
      Not over 2370, not under 2270
      No additional tolerance permitted (see Note 3)
      Diameter: not over 75 in., not under 74 in.
   (b) Spinner, Dwg. 0550320

*Airspeed Limits
(CAS)

   Maneuvering               122 mph (106 knots)
   Maximum structural cruising 140 mph (122 knots)
   Never exceed               174 mph (151 knots)
   Flaps extended             100 mph (87 knots)

C.G. Range

   Landplane
      Normal category          (+38.5) to (+47.3) at 2300 lbs.
      (+35.0) to (+47.3) at 1950 lbs. or less
      Utility category         (+35.5) to (+40.5) at 2000 lbs.
      (+35.0) to (+40.5) at 1950 lbs. or less

   Seaplane (Edo 89-2000 or 89A2000 floats)
      Normal category          (+39.8) to (+45.5) at 2220 lbs.
      (+36.4) to (+45.5) at 1825 lbs. or less

Straight line variation between points given.
V. Model 172I, Model 172K (cont'd)

Empty Weight C.G. Range None

*Maximum Weight

Landplane:
- Normal category 2300 lbs.
- Utility category 2000 lbs.

Seaplane:
- Normal category 2220 lbs.

Number of Seats 4 (2 at +34 to +46, 2 at +73) (Occupant on child's optional jump seat at +93)

Maximum Baggage 120 lb. at +95

Fuel Capacity 42 gal. total, 38 gal. usable (two 21 gal. tanks in wings at +48)
*See Note 1 for weight of unusable fuel and oil.

Oil Capacity 2 gal. (-14.0), 1-1/2 gal. usable

Control Surface Movements

Wing flaps
- Takeoff 0° - 10°
- Landing 0° - 40° ±2°

Ailerons Up 20° ±1°
- Down 15° ±1°

Elevator
- Up 28° +1°, -0°
- Down 13° +1°, -0°

Elevator tab
- Up 28° +1°, -0°
- Down 23° +1°, -0°

(Neutral position is with bottom of balance area flush with bottom of stabilizer.)

Rudder (landplane) Right 16° ±1°
- Left 16° ±1°

(seaplane)
- Right 19° ±1°
- Left 15° ±1°

(Measured parallel to W.L.)

Serial Numbers Eligible

Model 172I: 17256513 through 17257161
Model 172K: 17257162 through 17258486 (1969 model)
- 17258487 through 17259223 (1970 model)

VI. Model 172L, 4 PCL-SM (Normal Category), 2 PCLM (Utility Category), approved May 13, 1970

Engine Lycoming O-320-E2D

*Fuel 80/87 minimum grade aviation gasoline

*Engine Limits For all operations, 2700 rpm (150 hp)

Propeller and Propeller Limits

1. Propeller
   (a) McCauley 1C172/MTM 7653
      Static rpm at maximum permissible throttle setting:
      - Not over 2360, not under 2260
      - No additional tolerance permitted (see Note 3)
      Diameter: not over 76 in., not under 74 in.
      (b) Spinner, Dwg. 0550320

2. Propeller (seaplane only)
   (a) McCauley 1A175/ATM 8042
      Static rpm at maximum permissible throttle setting:
      - Not over 2480, not under 2380
      - No additional tolerance permitted (see Note 3)
      Diameter: not over 80 in., not under 78.4 in.
      (b) Spinner, Dwg. 0550320
VI. Model 172L (cont'd)

Propeller and Propeller Limits (cont’d)

3. Propeller
   (a) McCauley 1C160/CTM 7553
      Static rpm at maximum permissible throttle setting:
      Not over 2370, not under 2270
      No additional tolerance permitted (see Note 3)
      Diameter: not over 75 in., not under 74 in.
   (b) Spinner, Dwg. 0550320

4. Propeller
   (a) McCauley 1A160/DTM 7553
      Static rpm at maximum permissible throttle setting:
      Not over 2370, not under 2270
      No additional tolerance permitted (see Note 3)
      Diameter: not over 75 in., not under 74 in.
   (b) Spinner, Dwg. 0550320

5. Propeller (Seaplane only)
   (a) McCauley 1A175/ETM 8042
      Static rpm at maximum permissible throttle setting:
      Not over 2480, not under 2380
      No additional tolerance permitted (see Note 3)
      Diameter: not over 80 in., not under 78.4 in.
   (b) Spinner, Dwg. 0550321

6. Propeller
   (a) McCauley 1C160/DTM 7553
      Static rpm at maximum permissible throttle setting:
      Not over 2370, not under 2270
      No additional tolerance permitted (see Note 3)
      Diameter: not over 75 in., not under 74 in.
   (b) Spinner, Dwg. 0550320

*Airspeed Limits Maneuvering  122 mph  (106 knots)
   (CAS) Maximum structural cruising  140 mph  (122 knots)
   Never exceed  174 mph  (151 knots)
   Flaps extended  100 mph  ( 87 knots)

C.G. Range

Landplane
   Normal category (+38.5) to (+47.3) at 2300 lbs.
   Utility category (+35.0) to (+47.3) at 1950 lbs. or less
   (+35.0) to (+40.5) at 2000 lbs.
   (+35.0) to (+40.5) at 1950 lbs. or less

Seaplane (Edo 89-2000 or 89A2000 floats)
   Normal category (+39.8) to (+45.5) at 2220 lbs.
   Utility category (+36.4) to (+45.5) at 1825 lbs. or less

Empty Weight C.G. Range None

*Maximum Weight

Landplane:
   Normal category  2300 lbs.
   Utility category  2000 lbs.

Seaplane:
   Normal category  2220 lbs.

Number of Seats  4  (2 at +34 to +46, 2 at +73)  (Occupant on child's optional jump seat at +96)

Maximum Baggage 120 lb. at +95

Fuel Capacity  42 gal. total, 38 gal. usable (two 21 gal. tanks in wings at +48)

See Note 1 for weight of unusable fuel.
VI. Model 172L (cont’d)

Oil Capacity
2 gal. (-14.0), 1-1/2 gal. usable
See Note 1 for data on undrainable oil.

Control Surface Movements

<table>
<thead>
<tr>
<th>Surface</th>
<th>Takeoff</th>
<th>Landing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing flaps</td>
<td>0° - 10°</td>
<td>0° - 40° ±2°</td>
</tr>
<tr>
<td>Ailerons</td>
<td>Up 20°±1°</td>
<td>Down 15°±1°</td>
</tr>
<tr>
<td>Elevator tab</td>
<td>Up 28°+1°,-0°</td>
<td>Down 13°+1°,-0°</td>
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<tr>
<td>Elevator</td>
<td>Up 28°+1°,-0°</td>
<td>Down 23°+1°,-0°</td>
</tr>
</tbody>
</table>

(Neutral position is with bottom of balance area flush with bottom of stabilizer.)

Rudder (landplane) Right 16°±1° Left 16°±1°
(seaplane) Right 19°±1° Left 15°±1°

(Measured parallel to W.L.)

Serial Numbers Eligible
Model 172L: 17259224 through 17259903 (1971 model)
Model 172L: 17259904 through 17260758 (1972 model)

VII. Model 172M, Skyhawk, 4 PCL-SM (Normal Category), 2 PCLM (Utility Category, approved May 12, 1972)

Engine
Lycoming O-320-E2D

Fuel
80/87 minimum grade aviation gasoline

*Engine Limits
For all operations, 2700 rpm (150 hp)

Propeller and Propeller Limits

1. Propeller
(a) McCauley 1C160/CTM 7553
Static rpm at maximum permissible throttle setting:
Not over 2370, not under 2270
No additional tolerance permitted (see Note 3)
Diameter: not over 75 in., not under 74 in.
(b) Spinner: Dwg. 0550320

2. Propeller
(a) McCauley 1C160/DTM 7553
Static rpm at maximum permissible throttle setting:
Not over 2370, not under 2270
No additional tolerance permitted (see Note 3)
Diameter: not over 75 in., not under 74 in.
(b) Spinner, Dwg. 0550320

3. Propeller (seaplane only)
(a) McCauley 1A175/ATM 8042
Static rpm at maximum permissible throttle setting:
Not over 2545, not under 2445
No additional tolerance permitted (see Note 3)
Diameter: not over 80 in., not under 78.4 in.
(b) Spinner, Dwg. 0550320

4. Propeller (seaplane only)
(a) McCauley 1A175/ETM 8042
Static rpm at maximum permissible throttle setting:
Not over 2545, not under 2445
No additional tolerance permitted (see Note 3)
Diameter: not over 80 in., not under 78.4 in.
(b) Spinner, Dwg. 0550320

*Airspeed Limits
(CAS)
17256493, 17260759 through 17265684
Maneuvering 112 mph ( 97 knots)
Maximum structural cruising 145 mph (126 knots)
Never exceed 182 mph (158 knots)
Flaps extended 100 mph ( 87 knots)
VII.  Model 172M  (cont'd)

*Airspeed Limits  (CAS)
Maneuvering  97 knots
Maximum structural cruising  128 knots
Never exceed  160 knots
Flaps extended  85 knots

C.G. Range  Landplane:
  Normal category  (+38.5) to (+47.3) at 2300 lbs.
  Utility category  (+35.0) to (+45.5) at 2000 lbs.

Seaplane:  (Edo 89-2000 or 89A2000 floats)
  Normal category  (+39.8) to (+45.5) at 2220 lbs.
  Utility category  (+36.4) to (+45.5) at 1825 lbs. or less

Straight line variation between points given.

Empty Weight C.G. Range  None

*Maximum Weight  Normal category:  2300 lb. (landplane); 2220 lb. (seaplane)
Utility category:  2000 lb. (landplane)

Number of Seats  4  (2 at +34 to +46, 2 at +73)  (Occupant on child's optional jump seat at +96)

Maximum Baggage  120 lb. at +95

Fuel Capacity  42 gal. total, 38 gal. usable (two 21 gal. tanks in wings at +48)
See Note 1 for data on unusable fuel.

Oil Capacity  2 gal.  (-14.0), 1-1/2 gal. usable
See Note 1 for data on undrainable oil.

Control Surface Movements  Wing flaps
  Takeoff  0° - 10° (landplane) (seaplane)
  Landing  0° - 40° +0°, -2° (landplane)
  0° - 30° ±2° (seaplane)

Ailerons
  Up  20° ±1°
  Down  15° ±1°

Elevator tab
  Up  28° +1°, -0°
  Down  13° +1°, -0°

Elevator
  Up  28° +1°, -0°
  Down  23° +1°, -0°

(Neutral position is with bottom of balance area flush with bottom of stabilizer.)

Rudder (landplane)
  Right  16° ±1°
  Left  16° ±1° (landplane)

Rudder (seaplane)
  Right  19° ±1°
  Left  15° ±1° (seaplane)

(Measured parallel to W.L.)

Serial Numbers Eligible  17256493, 17260759 through 17267584 (1973 model) (except 17261445 and 17261578)
17261899 through 17263458 (1974 model)
17263459 through 17265684 (1975 model)
17265685 through 17267584 (1976 model)

VIII.  Model 172N, Skyhawk, 4 PCL-SM (Normal Category), 2 PCLM (Utility Category), approved May 17, 1976

Engine  Lycoming O-320-H2AD

*Fuel  100/130 minimum grade aviation gasoline
  (S/N 17261445, 17267585 through 17269309)
  100LL/100 minimum grade aviation gasoline
  (S/N 17261578, 17269310 through 17274009)
VIII. **Model 172N** (cont'd)

*Engine Limits*

For all operations, 2700 rpm (160 hp)

Propeller and Propeller Limits

1. Propeller
   (a) McCauley 1C160/DTM 7557
      Static rpm at maximum permissible throttle setting:  
      Not over 2400, not under 2280  
      No additional tolerance permitted  
      Diameter: not over 75 in., not under 74 in.
   (b) Spinner: Dwg. 0550320

2. Propeller (seaplane only)
   (a) McCauley 1A175/ETM 8042
      Static rpm at maximum permissible throttle setting:  
      Not over 2570, not under 2470  
      No additional tolerance permitted  
      Diameter: not over 80 in., not under 78.5 in.
   (b) Spinner: Dwg. 0550320

*Airspeed Limits*

1977 Model through 1979 Model:

(CAS) Maneuvering 97 knots
Maximum structural cruising 128 knots
Never exceed 160 knots
Flaps extended 85 knots

1980 Model:

Maneuvering 97 knots
Maximum structural cruising 127 knots
Never exceed 158 knots
Flaps extended 85 knots

C.G. Range

Landplane:

Normal category (+38.5) to (+47.3) at 2300 lbs.  
(+35.0) to (+47.3) at 1950 lbs. or less

Utility category (+35.5) to (+40.5) at 2000 lbs.  
(+35.0) to (+40.5) at 1950 lbs. or less

Seaplane: (Edo 89-2000 or 89A2000 floats)

Normal category (+39.8) to (+45.5) at 2220 lbs.  
(+36.4) to (+45.5) at 1825 lbs. or less

Straight line variation between points given.

Empty Weight C.G. Range None

*Maximum Weight*

Normal category: 2300 lb. (landplane); 2220 lb. (seaplane)
Utility category: 2000 lb. (landplane)

Number of Seats 4 (2 at +34 to +46, 2 at +73) (Occupant on child's optional jump seat at +96)

Maximum Baggage 120 lb. at +95

Fuel Capacity 42 gal. total, 40 gal. usable (two 21.5 gal. tanks in wings at +48)

See Note 1 for data on unusable fuel.

Oil Capacity 1.5 gal. (-14.0), 1.0 gal. usable
**VIII. Model 172N** (cont'd)

Control Surface Movements

| Wing flaps | Takeoff  | 0° - 10°  | (landplane) (seaplane) |
| Leather | Landing | 0° - 40° +0°, -2°  | (landplane) |
| Leather | 0° - 30° ±2°  | (seaplane) |
| Ailerons | Up | 20° ±1°  | Down 15° ±1°  |
| Elevator tab | Up | 28° +1°, -0°  | Down 13° +1°, -0°  |
| Elevator | Up | 28° +1°, -0°  | Down 23° +1°, -0°  |

(Neutral position is with bottom of balance area flush with bottom of stabilizer.)

Rudder (landplane) Right 16° ±1°  Left 16° ±1° (landplane)

(seaplane) Right 19° ±1°  Left 15° ±1° (seaplane)

(Measured parallel to W.L.)

Serial Numbers Eligible

17261445, 17267585 through 17269309 (1977 model)
17261578, 17269310 through 17271034 (1978 model) (except 17270050)
17271035 through 17272884 (1979 model)
17270050, 17272885 through 17274009 (1980 model)

**IX. Model 172P, Skyhawk, 4 PCL-SM (Normal Category), 2 PCLM (Utility Category), approved May 13, 1980**

| Engine | Lycoming O-320-D2J |
| Fuel | 100LL/100 minimum grade aviation gasoline |
| Engine Limits | For all operations, 2700 rpm (160 hp) |

Propeller and Propeller Limits

1. Propeller
   (a) McCauley 1C160/DTM 7557
      Static rpm at maximum permissible throttle setting:
      Not over 2420, not under 2300
      No additional tolerance permitted
      Diameter: not over 75 in., not under 74 in.
   (b) Spinner: Dwg. 0550320

2. Propeller (floatplane only)
   (a) McCauley 1A175/ETM 8043
      Static rpm at maximum permissible throttle setting:
      Not over 2570, not under 2470
      No additional tolerance permitted
      Diameter: not over 80 in., not under 78.5 in.
   (b) Spinner: Dwg. 0550320

*Airspeed Limits (CAS)

(See Note 4 on use of CAS)

Maneuvering 99 knots (landplane) 96 knots (floatplane)

Maximum structural cruising 127 knots

Never exceed 158 knots

Flaps extended 85 knots

C.G. Range

**Landplane:**

- Normal category (+39.5) to (+47.3) at 2400 lbs.
- Utility category (+36.5) to (+40.5) at 2100 lbs.
- (+35.0) to (+40.5) at 1950 lbs. or less

**Seaplane:** (Edo 89-2000 or 89A2000 floats)

- Normal category (+39.8) to (+45.5) at 2220 lbs.
- (+36.4) to (+45.5) at 1825 lbs. or less

Straight line variation between points given.

Empty Weight C.G. Range None
IX. Model 172P (cont'd)

*Maximum Weight
Normal category: 2400 lb. (landplane); 2220 lb. (seaplane)
Utility category: 2100 lb. (landplane)

Number of Seats
4 (2 at +34 to +46, 2 at +73) (Occupant on child's optional jump seat at +96)

Maximum Baggage
120 lb. at +95

Fuel Capacity
42 gal. total, 40 gal. usable (two 21.5 gal. tanks in wings at +48)
See Note 1 for data on unusable fuel.

Oil Capacity
2 gal. (-13.1), 3.5 gal. usable

Control Surface Movements

<table>
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<tr>
<th>Wing flaps</th>
<th>Takeoff</th>
<th>Landing</th>
</tr>
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<tr>
<td>Ailerons</td>
<td>Up 20° ±1°</td>
<td>Down 15° ±1°</td>
</tr>
<tr>
<td>Elevator tab</td>
<td>Up 28° ±1°, -0°</td>
<td>Down 13° ±1°, -0° (floatplane)</td>
</tr>
<tr>
<td>Elevator</td>
<td>Up 28° ±1°, -0°</td>
<td>Down 23° ±1°, -0° (landplane)</td>
</tr>
</tbody>
</table>

(Neutral position is with bottom of balance area flush with bottom of stabilizer.)

Rudder (landplane) Right 16° ±1° Left 16° ±1° (landplane)
(seaplane) Right 19° ±1° Left 15° ±1° (seaplane)
(Measured parallel to W.L.)

Serial Numbers Eligible
17274010 through 17275034 (1981 model)
17275035 through 17275759 (1982 model)
17275760 through 17276079 (1983 model)
17276080 through 17276259 (1984 model)
17276260 through 17276516 (1985 model)
17276517 through 17276654 (1986 model)

X. Model 172Q, Cutlass, 4 PCLM (Normal Category), approved October 15, 1982

Engine
Lycoming O-360-A4N

*Fuel
100LL/100 minimum grade aviation gasoline

*Engine Limits
For all operations, 2700 rpm (180 hp)

Propeller and Propeller Limits
1. Propeller
   (a) McCauley 1A170E/JFA 7658
Static rpm at maximum permissible throttle setting:
   Not over 2450, not under 2350
   No additional tolerance permitted
Diameter: not over 76 in., not under 74.5 in.
   (b) Spinner: Dwg. 0509077

*Airspeed Limits
Maneuvering 105 knots
Maximum structural cruising 127 knots
Never exceed 158 knots
Flaps extended 85 knots

C.G. Range
Normal category (+41.0) to (+47.3) at 2550 lbs.
(+35.0) to (+47.3) at 1950 lbs. or less
Straight line variation between points given.

Empty Weight C.G. Range
None

*Maximum Weight
Normal category: 2550 lb.
**X. Model 172Q (cont'd)**

Number of Seats 4 (2 at +34 to +46, 2 at +73) (Occupant on optional child's seat at +96)

Maximum Baggage 120 lbs. at +95

Fuel Capacity 54 gal. total, 50 gal. usable (two 27 gal. tanks in wings at +48)

See Note 1 for data on unusable fuel.

Oil Capacity 9 qt. at -15.5, 2 qt. unusable

Control Surface Movements

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<th>Landing</th>
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<tr>
<td>Ailerons</td>
<td>Up 20° ±1°</td>
<td>Down 15° ±1°</td>
</tr>
<tr>
<td>Elevator tab</td>
<td>Up 22° ±1°, -0°</td>
<td>Down 19° ±1°, -0°</td>
</tr>
<tr>
<td>Elevator</td>
<td>Up 28° ±1°, -0°</td>
<td>Down 23° ±1°, -0°</td>
</tr>
</tbody>
</table>

(Neutral position is with bottom of balance area flush with bottom of stabilizer.)

Rudder Right 16° ±1°, Left 16° ±1°

(Measured parallel to W.L.)

Serial Numbers Eligible 17275869 through 17276054 (1983 model)

17276101 through 17276211 (1984 model)

**DATA PERTINENT TO ALL MODELS 172 THROUGH 172Q**

Datum Front face of firewall (28000 through 47746)

Lower front face of firewall (17247747 through 17276654)

Leveling Means Upper doorsill

Certification Basis Models 172 through 172P

Part 3 of the Civil Air Regulations effective November 1, 1949, as amended by 3-1 through 3-12. In addition, effective S/N 17271035 and on, FAR 23.1559 effective March 1, 1978. FAR 36 dated December 1, 1969, plus Amendments 36-1 through 36-5 for Model 172N; FAR 36 dated December 1, 1969, plus Amendments 36-1 through 36-12 for Model 172P through 172Q. In addition, effective S/N 17272620 and on, FAR 23.1545(a), Amendment 23-23 dated December 1, 1978.

Equivalent Safety Items 17261445, 17261578, 17265685

Airspeed Indicator CAR 3.757 (see Note 4 on use of CAS)

Operating Limitations (17261445, 17261578, 17265685 through 17276259) CAR 3.778(a)

Model 172Q

Part 3 of the Civil Air Regulations dated November 1, 1949, as amended by 3-1 through 3-12. In addition, FAR 23.1559 effective March 1, 1978; FAR 25.951(b)(2), Amendment 23-15 effective October 31, 1974; and FAR 23.1545(a), Amendment 23-23 effective December 1, 1978. FAR 36 dated December 1, 1969, plus amendments 36-1 through 36-12.


Production Basis Production Certificate No. 4. Delegation Option Manufacturer No. CE-1 authorized to issue airworthiness certificates under delegation option provisions of Part 21 of the Federal Aviation Regulations.
DATA PERTINENT TO ALL MODELS 172 THROUGH 172Q (cont'd)

Equipment:  The basic required equipment as prescribed in the applicable airworthiness requirements (see Certification Basis) must be installed in the aircraft for certification. This equipment must include a current Airplane Flight Manual effective S/N 17271035 and on.

1. Model 172 through 172G: Stall warning indicator, Dwg. 0511062.

The equipment portion of Aircraft Specification 3A12, Revision 17, or Cessna Publication TS1000-13 should be used for equipment references on all aircraft prior to the Model 172E. Refer to applicable equipment list for the Model 172E and subsequent models.

NOTE 1:  Current weight and balance report including list of equipment included in certificated empty weight, and loading instructions when necessary must be provided for each aircraft at the time of original certification.

Serial Nos. 28000 through 29999, 36000 through 36999 and 46001 through 47746, 17247747 through 17265684
The certificated empty weight and corresponding center of gravity location must include unusable fuel of 30 lbs. at (+46) on Models 172 and 172A, or 18 lbs. at (+46) for Models 172B through 172H, or 24 lbs. at (+46) for Models 172I through 172M (17265684) and undrainable oil of (0) lb. at -20) for 172 through 172H and (0) lb. at (-14) for 172I through 172M (17265684).

Serial Nos. 17261578, 17261445, 17265685 through 17274009
The certificated empty weight and corresponding center of gravity location must include unusable fuel of 24 lbs. at (+46) through 172M (17265784) or 18 lbs. at (+46) 17267585 and on and full oil of 11.3 lb. at (-14).

Serial Nos. 17274010 through 17276654: (Model 172P)
The certificated empty weight and corresponding center of gravity location must include unusable fuel of 18 lb. at (+46) and full oil of 15 lb. at (-13.1).

Serial Nos. 17275869 through 17276211; (Model 172Q)
The certificated empty weight and corresponding center of gravity location must include unusable fuel of 24 lb. at (+46) and full oil of 16.88 lb. at (-15.5).

NOTE 2.  The following placards must be displayed as indicated:

A.  In full view of the pilot:
   (1) Models 172, 172A and 172B
      "This airplane must be operated in compliance with the operating limitations stated in the form of placards, markings, and manuals.

      NORMAL CATEGORY
      Maximum design weight 2200 lbs.
      Refer to weight and balance data for loading instructions.
      Flight maneuvering load factors Flaps up +3.8 -1.52
      Flaps down +3.5
      No acrobatic maneuvers including spins approved.

      UTILITY CATEGORY
      Maximum design weight 1950 lbs.
      Baggage compartment and rear seat must not be occupied
      Flight maneuvering load factors Flaps up +4.4 -1.76
      Flaps down +3.5
      No acrobatic maneuvers approved except those listed below.

      Maneuver        Entry speed
      Chandelles  115 mph (100 knots)
      Lazy eights  115 mph (100 knots)
      Steep turns  115 mph (100 knots)
      Spins        Slow deceleration
      Stalls (except whip stalls) Slow deceleration"
NOTE 2. (cont’d)

A. (2) Model 172C

"This airplane must be operated in compliance with the operating limitations stated in the form of placards, markings, and manuals.

NORMAL CATEGORY

Maximum design weight 2250 lbs.
Refer to weight and balance data for loading instructions.
Flight maneuvering load factors
  Flaps up +3.8
  Flaps down +3.5

No acrobatic maneuvers including spins approved.

UTILITY CATEGORY

Maximum design weight 1950 lbs.
Baggage compartment and rear seat must not be occupied.
Flight maneuvering load factors
  Flaps up +4.4
  Flaps down +3.5

No acrobatic maneuvers approved except those listed below.

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<tr>
<th>Maneuver</th>
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<tr>
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<td>Slow deceleration</td>
</tr>
</tbody>
</table>


"This airplane must be operated in compliance with the operating limitations stated in the form of placards, markings, and manuals.

NORMAL CATEGORY

Maximum design weight 2300 lbs.
Refer to weight and balance data for loading instructions.
Flight maneuvering load factors
  Flaps up +3.8
  Flaps down +3.5

No acrobatic maneuvers including spins approved.

UTILITY CATEGORY

Maximum design weight 2000 lbs.
Baggage compartment and rear seat must not be occupied.
Flight maneuvering load factors
  Flaps up +4.4
  Flaps down +3.5

No acrobatic maneuvers except those listed below.

<table>
<thead>
<tr>
<th>Maneuver</th>
<th>Max. Entry speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chandelles</td>
<td>122 mph (106 knots)</td>
</tr>
<tr>
<td>Lazy eights</td>
<td>122 mph (106 knots)</td>
</tr>
<tr>
<td>Steep turns</td>
<td>122 mph (106 knots)</td>
</tr>
<tr>
<td>Spins</td>
<td>Slow deceleration</td>
</tr>
<tr>
<td>Stalls (except whip stalls)</td>
<td>Slow deceleration</td>
</tr>
</tbody>
</table>
NOTE 2. (cont’d)

A. (4) Model 172L (1971 model)

"This airplane must be operated in compliance with the operating limitations stated in the form of placards, markings, and manuals.

**MAXIMUMS**

<table>
<thead>
<tr>
<th></th>
<th>Normal Category</th>
<th>Utility Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maneuvering speed (CAS)</td>
<td>122 mph (106 knots)</td>
<td>122 mph (106 knots)</td>
</tr>
<tr>
<td>Gross weight</td>
<td>2300 lbs.</td>
<td>2000 lbs.</td>
</tr>
<tr>
<td>Flight load factor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flaps up</td>
<td>+3.8</td>
<td>-1.52</td>
</tr>
<tr>
<td>Flaps down</td>
<td>+3.5</td>
<td>+3.5</td>
</tr>
</tbody>
</table>

Normal category - No acrobatic maneuvers including spins approved
Utility category - Baggage compartment and rear seat must not be occupied.

No acrobatic maneuvers approved except those listed below.

**Maneuver** | **Max. Entry speed** |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chandelles</td>
<td>122 mph (106 knots)</td>
</tr>
<tr>
<td>Lazy eights</td>
<td>122 mph (106 knots)</td>
</tr>
<tr>
<td>Steep turns</td>
<td>122 mph (106 knots)</td>
</tr>
<tr>
<td>Spins</td>
<td>Slow deceleration</td>
</tr>
<tr>
<td>Stalls (except whip stalls)</td>
<td>Slow deceleration</td>
</tr>
</tbody>
</table>

Spin recovery: opposite rudder - forward elevator - neutralize controls

Known icing conditions to be avoided. This airplane is certified for the following flight operations as of date of original airworthiness certificate:

(DAY    NIGHT    VFR    IFR)" (as applicable)

(5) Model 172L (1972 model)

"This airplane must be operated in compliance with the operating limitations as stated in the form of placards, markings, and manuals:

**MAXIMUMS**

<table>
<thead>
<tr>
<th></th>
<th>Normal Category</th>
<th>Utility Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maneuvering speed (CAS)</td>
<td>122 mph (106 knots)</td>
<td>122 mph (106 knots)</td>
</tr>
<tr>
<td>Gross weight</td>
<td>2300 lbs.</td>
<td>2000 lbs.</td>
</tr>
<tr>
<td>Flight load factor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flaps up</td>
<td>+3.8</td>
<td>-1.52</td>
</tr>
<tr>
<td>Flaps down</td>
<td>+3.5</td>
<td>+3.5</td>
</tr>
</tbody>
</table>

Normal category - No acrobatic maneuvers including spins approved
Utility category - Baggage compartment and rear seat must not be occupied.

No acrobatic maneuvers approved except those listed below.

**Maneuver** | **Max. Entry speed** |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chandelles</td>
<td>122 mph (106 knots)</td>
</tr>
<tr>
<td>Lazy eights</td>
<td>122 mph (106 knots)</td>
</tr>
<tr>
<td>Steep turns</td>
<td>122 mph (106 knots)</td>
</tr>
<tr>
<td>Spins</td>
<td>Slow deceleration</td>
</tr>
<tr>
<td>Stalls (except whip stalls)</td>
<td>Slow deceleration</td>
</tr>
</tbody>
</table>

Spin recovery: opposite rudder - forward elevator - neutralize controls.

Intentional spins with flaps extended are prohibited. Known icing conditions to be avoided. This airplane is certified for the following flight operations as of date of original airworthiness certificate:

(DAY    NIGHT    VFR    IFR)" (as applicable)
NOTE 2. (cont’d)

A. (6) Model 172M (Landplane) 17256493, 17260759 through 17265684 except 17261445 and 17261578

*This airplane must be operated in compliance with the operating limitations as stated in the form of placards, markings, and manuals.

**MAXIMUMS**

<table>
<thead>
<tr>
<th></th>
<th>Normal Category</th>
<th>Utility Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maneuvering speed (CAS)</td>
<td>112 mph (97 knots)</td>
<td>112 mph (97 knots)</td>
</tr>
<tr>
<td>Gross weight</td>
<td>2300 lbs.</td>
<td>2000 lbs.</td>
</tr>
<tr>
<td>Flight load factor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flaps up</td>
<td>+3.8, -1.52</td>
<td>+4.4, -1.76</td>
</tr>
<tr>
<td>Flaps down</td>
<td>+3.0</td>
<td>+3.0</td>
</tr>
</tbody>
</table>

Normal category - No acrobatic maneuvers including spins approved
Utility category - Baggage compartment and rear seat must not be occupied.

No acrobatic maneuvers approved except those listed below.

<table>
<thead>
<tr>
<th>Maneuver</th>
<th>Recommended Entry speed</th>
<th>Maneuver</th>
<th>Recommended Entry Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chandelles</td>
<td>120 mph (104 knots)</td>
<td>Spins</td>
<td>Slow deceleration</td>
</tr>
<tr>
<td>Lazy eights</td>
<td>120 mph (104 knots)</td>
<td>Stalls (except whip stalls)</td>
<td>Slow deceleration</td>
</tr>
<tr>
<td>Steep turns</td>
<td>112 mph (97 knots)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Altitude loss in stall recovery -- 180 feet.
Abrupt use of the controls prohibited above 112 mph
Spin recovery: opposite rudder -- forward elevator -- neutralize controls
Intentional spins with flaps extended are prohibited. Flight into known icing conditions prohibited. This airplane is certified for the following flight operations as of date of original airworthiness certificate:

(DAY - NIGHT - VFR - IFR)" (as applicable)

Model 172M (Floatplane) 17256493, 17260759 through 17265684 except 17261445 and 17261578

*This airplane must be operated as a normal category airplane in compliance with the operating limitations as stated in the form of placards, markings, and manuals.

**MAXIMUMS**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Maneuvering speed</td>
<td>110 mph (96 knots) (CAS)</td>
</tr>
<tr>
<td>Gross weight</td>
<td>2220 lbs.</td>
</tr>
<tr>
<td>Flight load factor</td>
<td></td>
</tr>
<tr>
<td>Flaps up</td>
<td>+3.8, -1.52</td>
</tr>
<tr>
<td>Flaps down</td>
<td>+3.0</td>
</tr>
</tbody>
</table>

WATER RUDDER: Extend for taxi; retract for takeoff, flight, and landing.

No acrobatic maneuvers, including spins approved. Altitude loss in a stall recovery - 200 ft. Flight into known icing conditions prohibited. This airplane is certified for the following flight operations as of date of original airworthiness certificate:

(DAY - NIGHT - VFR - IFR)" (as applicable)
DATA PERTINENT TO ALL MODELS 172 THROUGH 172Q  (cont'd)

NOTE 2. (cont’d)

A.  (7)  Model 172M and 172N (Landplane)  (17261445, 17261578, 17265685 through 17271034 except 17270050)

"This airplane must be operated in compliance with the operating limitations stated in the form of placards, markings, and manuals.

<table>
<thead>
<tr>
<th>MAXIMUMS</th>
<th>Normal Category</th>
<th>Utility Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maneuvering speed (CAS)</td>
<td>97 knots</td>
<td>97 knots</td>
</tr>
<tr>
<td>Gross weight</td>
<td>2300 lbs.</td>
<td>2000 lbs.</td>
</tr>
<tr>
<td>Flight load factor Flaps up</td>
<td>+3.8, -1.52</td>
<td>+4.4, -1.76</td>
</tr>
<tr>
<td>Flaps down</td>
<td>+3.0</td>
<td>+3.0</td>
</tr>
</tbody>
</table>

Normal category - No acrobatic maneuvers including spins approved.
Utility category - Baggage compartment and rear seat must not be occupied.

NO ACROBATIC MANEUVERS EXCEPT THOSE LISTED BELOW:

<table>
<thead>
<tr>
<th>Maneuver</th>
<th>Entry speed</th>
<th>Maneuver</th>
<th>Entry Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chandelles</td>
<td>105 knots</td>
<td>Spins</td>
<td>Slow deceleration</td>
</tr>
<tr>
<td>Lazy eights</td>
<td>105 knots</td>
<td>Stalls (except</td>
<td>Slow deceleration</td>
</tr>
<tr>
<td>Steep turns</td>
<td>95 knots)</td>
<td>whip stalls)</td>
<td></td>
</tr>
</tbody>
</table>

Altitude loss in stall recovery - 180 feet.
Abrupt use of the controls prohibited above 97 knots

Spin recovery: opposite rudder - forward elevator - neutralize controls.
Intentional spins with flaps extended are prohibited. Flight into known icing conditions prohibited. This airplane is certified for the following flight operations as of date of original airworthiness certificate.

(DAY - NIGHT - VFR - IFR)” (as applicable)

B.  Forward of fuel selector valve: (All models through S/N 17265684 except 17261445 and 17261578)

"Both tanks on for takeoff and landing."
DATA PERTINENT TO ALL MODELS 172 THROUGH 172Q (cont'd)

NOTE 2. (cont'd)

C. On the fuel selector valve (at appropriate location)

(1) Model 172 and 172A
   "Both - 37 gal.
   Left - 18.5 gal.
   Right - 18.5 gal.
   Off"

(2) Model 172B
   "Both - 39 gal.
   Left - 19.5 gal.
   Right - 19.5 gal.
   Off"

   "Both - 36 gal.
   Left - 18 gal.
   Right - 18 gal.
   Off"

(4) Model 172I through 172M (except 17261445 and 17261578)
   "Both - 38 gal. (all flight attitudes)
   Left - 19 gal. (level flight only)
   Right - 19 gal. (level flight only)
   Off"

(5) Model 172N (17261445, 17261578, 17267585 through 17271034, excluding 17270050)
   "Both - 40 gal. (all flight altitudes) (Takeoff-landing)
   Left - 20 gal. (level flight only)
   Right - 20 gal. (level flight only)
   Off"

D. On flap handle, Models 172 through 172E

(1) "Flaps - Pull to extend
   Takeoff Retract 0°
   1st notch 10°
   Landing 0° - 40°
(2) "Avoid slips with flaps down."

E. Near flap indicator Models 172F (electric flaps) through 17271034, excluding 17270050)
   "Avoid slips with flaps extended."

F. In baggage compartment:

(1) Models 172 through 172B
   "Maximum baggage 120 lb. For additional loading instructions, see weight
   and balance data."

(2) Model 172C through 172M (1973 model)
   "120 lb. maximum baggage and/or auxiliary seat passenger. For additional loading
   instructions see weight and balance data."

(3) 17261899 through 17271034, excluding 17270050
   "120 lb. maximum baggage and/or auxiliary passenger forward of baggage door latch."
   "50 lb. maximum baggage aft of baggage door latch maximum 120 lb. combined."
   For additional loading instructions see weight and balance data."

G. Near ammeter (Models 17258487 through 17259903)
   "Do not turn off alternator in flight except in emergency."
DATA PERTINENT TO ALL MODELS 172 THROUGH 172Q  (cont’d)

NOTE 2. (cont’d)

H. Additional placards required in seaplane.
   (1) Model 172A through 172I in full view of the pilot.
       "Operate as normal category airplane except:
       Maximum weight 2220 lbs.
       Maximum altitude loss in stall recovery 120 ft.
       Flaps - takeoff - 1st notch - 10°
       Water rudder - pull to extract
       Retract - takeoff, flight and landing
       Extend - taxi."

(2) Model 172K in full view of the pilot:
"THIS AIRPLANE MUST BE OPERATED IN COMPLIANCE WITH THE OPERATING
LIMITATIONS AS STATED IN THE FORM OF PLACARDS, MARKINGS, AND MANUALS

NORMAL CATEGORY - FLOATPLANE
Maximum weight 2220 lb.
Refer to weight and balance data for loading instructions.
Flight maneuvering load factors
   Flaps up +3.8, -1.52
   Flaps down +3.5

No acrobatic maneuvers including spins approved.
Maximum altitude loss in stall recovery - 120 ft.
Retract: Takeoff, flight and landing . . . . Extend: Taxi."

(3) Model 172F through 17271034, excluding 17270050, in full view of the pilot.
"Floatplane Max. Flaps - 30°."

(4) Model 172L in full view of the pilot:

"FLOATPLANE
THIS AIRPLANE MUST BE OPERATED AS A NORMAL CATEGORY AIRPLANE
IN COMPLIANCE WITH THE OPERATING LIMITATIONS AS STATED IN THE
FORM OF PLACARDS, MARKINGS, AND MANUALS.

"MAXIMUMS
Maneuvering speed 122 mph CAS (106 knots)
Gross weight 2220 lbs.
Flight load factor Flaps up +3.8, -1.52
               Flaps down +3.5

WATER RUDDER: Extend for taxi; retract for takeoff, flight and landing.

FLAPS: 10° for takeoff

No acrobatic maneuvers, including spins, approved. Altitude loss in stall recovery - 120 ft.
Known icing conditions to be avoided. This airplane is certified for the following flight
operations as of date of original airworthiness certificate:

DAY NIGHT VFR IFR" (as applicable)

I. Near tachometer on Models 172L, 172K and 172L (with IC172/MTM propeller):
"Avoid continuous operation
1. Above 75 percent power in cruise
2. Above 2500 rpm in full throttle climb."

J. Near ammeter and adjacent to overvoltage light:
   (1) Model 172L (1972) through Model 172N (1978)
       "High Voltage"
DATA PERTINENT TO ALL MODELS 172 THROUGH 172Q (cont'd)

NOTE 2. (cont'd)

K. Near fuel selector valve on models with serial numbers 28000 through 17258855, except those with Cessna Kit No. SK-172-31B or SK-172-32 installed:

"SWITCH TO SINGLE TANK OPERATION IMMEDIATELY UPON REACHING CRUISE ALTITUDES ABOVE 5000 FEET."

L. Near fuel tank filler

(1) Model 172, 172A and 172B

"FUEL
80/87 min. grade aviation gasoline
Cap. 21 U.S. gal."

(2) Model 172C, 172D, 172E, 172F, 172G, and 172H

"FUEL
80/87 min. grade aviation gasoline
Cap. 19.5 U.S. gal."

(3) Model 172I through 172M (except 17261445 and 17261578)

"FUEL
80/87 min. grade aviation gasoline
Cap. 21 US. gal."

(4) Model 172N (17261445, 17267585 through 17269309)

"FUEL
100/130 min. grade aviation gasoline
Cap. 21.5 U.S. gal."

(5) Model 172N (17261578, 17269310 through 17271034, excluding 17270050)

"FUEL
100LL/100 min. grade aviation gasoline
Cap. 21.5 U.S. gal."

M. Effective 17270050, 17271035 through 17276654
All placards required in the Pilot's Operating Handbook and FAA Approved Airplane Flight Manual must be installed in the appropriate locations.

NOTE 3. Compliance with Service Letter SE74-16 - Carburetor Nozzle Replacement - allows rpm's as follows:

Landplane: not over 2420, not under 2300
Seaplane: not over 2570, not under 2445

NOTE 4. The marking of the airspeed indicator in CAS provides an equivalent level of safety to CAR 3.757 when approved airspeed calibration data presented in Section V of the Pilot's Operating Handbooks listed below is available to the pilot (TIAS is exactly equal to CAS):

172M, Cessna P/N D1057-13 (S/N 17265685 through 17267584)
172N, Cessna P/N D1082-13 (S/N 17261445, 17267585 through 17269309)
172N, Cessna P/N D1109-13 (S/N 17261578, 17269310 through 17271034 except 17270050)
172N, Cessna P/N D1138-13PH (S/N 17270050, 17272885 through 17274009)
172P, Cessna P/N D1192-13PH (S/N 17274010 through 17275034)
172P, Cessna P/N D1212-13PH (S/N 17275035 through 17275759)
172P, Cessna P/N D1231-13PH (S/N 17275760 through 17276079)
172P, Cessna P/N D1251-13PH (S/N 17276080 through 17276259)

NOTE 5. 14-volt electrical system

(172 series through S/N 17269309, except 17258105 through 17258112 and 17261578)

28-volt electrical system

(S/N 17258105 through 17258112, 17261578 and 17269310 through 17276654)
DATA PERTINENT TO ALL MODELS 172 THROUGH 172Q  (cont'd)

NOTE 6: Special Ferry Flight Authorization. Flight Standards District Offices are authorized to issue Special overweight ferry flight authorizations. These airplanes are structurally satisfactory for ferry flight if maintained within the following limits: (1) Takeoff weight must not exceed 130% of the maximum weight for Normal Category; and (2) The Never Exceed Airspeed (V_{NE}) and Maximum Structural Cruising Speed (V_{C}) must be reduced by 30%; and (3) Forward and aft center of gravity limits may not be exceeded; and (4) Structural load factors of +2.5 g. to -1.0 g. may not be exceeded. Requirements for any additional oil should be established in accordance with Advisory Circular AC23.1011-1. Increased stall speeds and reduced climb performance should be expected for the increased weights. Flight characteristics and performance at the increased weights have not been evaluated. Flight Permit for operations of overweight aircraft may be found in Advisory Circular AC21-4B.

In addition to the placards specified above, the prescribed operating limitations indicated by an asterisk (*) under Sections I through X of this data sheet must also be displayed by permanent markings.

XI - Model 172R, Skyhawk, 4 PCLM (Normal Category), 2 PCLM (Utility Category), Approved June 21, 1996

<table>
<thead>
<tr>
<th>Engine</th>
<th>Lycoming IO-360-L2A, Rated 160 Horsepower</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>When Modified by Cessna Modification Kit MK172-72-01 (See NOTE 4)</td>
</tr>
<tr>
<td></td>
<td>Lycoming IO-360-L2A, Rated 180 Horsepower</td>
</tr>
<tr>
<td>Fuel</td>
<td>100/100LL minimum grade aviation gasoline</td>
</tr>
<tr>
<td>Engine Limits</td>
<td>For all operations, 2,400 RPM</td>
</tr>
<tr>
<td></td>
<td>When Modified by Cessna Modification Kit MK172-72-01 (See NOTE 4)</td>
</tr>
<tr>
<td></td>
<td>For all operations, 2,700 RPM</td>
</tr>
<tr>
<td>Propeller</td>
<td>(a) McCauley Model IC235/LFA7570</td>
</tr>
<tr>
<td></td>
<td>(b) Spinner: Drawing No. 0550236</td>
</tr>
<tr>
<td></td>
<td>When Modified by Cessna Modification Kit MK172-72-01 (See NOTE 4)</td>
</tr>
<tr>
<td></td>
<td>(a) McCauley Model 1A170E/JHA7660</td>
</tr>
<tr>
<td></td>
<td>(b) Spinner: Drawing No. 0550236</td>
</tr>
<tr>
<td>Propeller Limits</td>
<td>Static RPM at full throttle: Not over 2,165; Not Under 2,065</td>
</tr>
<tr>
<td></td>
<td>No Additional Tolerance Permitted</td>
</tr>
<tr>
<td></td>
<td>Diameter: Not over 75 inches; not under 74 inches</td>
</tr>
<tr>
<td></td>
<td>When Modified by Cessna Modification Kit MK172-72-01 (See NOTE 4)</td>
</tr>
<tr>
<td></td>
<td>Static RPM at full throttle: Not over 2,400; Not Under 2,300</td>
</tr>
<tr>
<td></td>
<td>No Additional Tolerance Permitted</td>
</tr>
<tr>
<td></td>
<td>Diameter: Not over 76 inches; not under 75 inches</td>
</tr>
<tr>
<td>Airspeed Limits</td>
<td>Maneuvering 99 Knots IAS (97 Knots CAS)</td>
</tr>
<tr>
<td></td>
<td>Max Structural Cruising 129 Knots IAS (126 Knots CAS)</td>
</tr>
<tr>
<td></td>
<td>Never Exceed 163 Knots IAS (160 Knots CAS)</td>
</tr>
<tr>
<td></td>
<td>Flaps Extended 85 Knots IAS (84 Knots CAS)</td>
</tr>
<tr>
<td></td>
<td>When Modified by Cessna Modification Kit MK172-72-01 (See NOTE 4)</td>
</tr>
<tr>
<td></td>
<td>Maneuvering 105 Knots IAS (102 Knots CAS)</td>
</tr>
<tr>
<td></td>
<td>Max Structural Cruising 129 Knots IAS (126 Knots CAS)</td>
</tr>
<tr>
<td></td>
<td>Never Exceed 163 Knots IAS (160 Knots CAS)</td>
</tr>
<tr>
<td></td>
<td>Flaps Extended 85 Knots IAS (84 Knots CAS)</td>
</tr>
</tbody>
</table>
XI - Model 172R  (cont’d)

C.G. Range

Normal Category
(1) Aft Limits 47.3 inches aft of datum at 2,450 pounds or less.
(2) Forward Limits Linear variation from 40.0 inches aft of datum at 2,450 pounds to 35.0 inches aft of datum at 1,950 pounds; 35.0 inches aft of datum at 1,950 pounds or less.

Utility Category
(1) Aft Limits 40.5 inches aft of datum at 2,100 pounds or less.
(2) Forward Limits Linear variation from 36.5 inches aft of datum at 2,100 pounds to 35.0 inches aft of datum at 1,950 pounds; 35.0 inches aft of datum at 1,950 pounds or less.

When Modified by Cessna Modification Kit MK172-72-01 (See NOTE 4)
Normal Category
(1) Aft Limits 47.3 inches aft of datum at 2,550 pounds or less.
(2) Forward Limits Linear variation from 41.0 inches aft of datum at 2,550 pounds to 35.0 inches aft of datum at 1,950 pounds; 35.0 inches aft of datum at 1,950 pounds or less.

Utility Category
(1) Aft Limits 40.5 inches aft of datum at 2,200 pounds or less.
(2) Forward Limits Linear variation from 37.5 inches aft of datum at 2,200 pounds to 35.0 inches aft of datum at 1,950 pounds; 35.0 inches aft of datum at 1,950 pounds or less.

Empty Wt. C.G. Range None

Reference Datum Lower portion of front face of firewall

MAC 58.8 inches; Leading edge of MAC 25.9 inches aft of datum

Leveling Means Left side of Tailcone at 108.0 inches and 142.0 inches aft of datum

Maximum Weights

Normal Category
Maximum Ramp 2,457 pounds
Maximum Takeoff and Landing 2,450 pounds

Utility Category
Maximum Ramp 2,207 pounds
Maximum Takeoff and Landing 2,200 pounds

When Modified by Cessna Modification Kit MK172-72-01 (See NOTE 4)
Normal Category
Maximum Ramp 2,558 pounds
Maximum Takeoff and Landing 2,550 pounds

Utility Category
Maximum Ramp 2,208 pounds
Maximum Takeoff and Landing 2,200 pounds

No. of Seats 4 (2 at 34.0 to 46.0 inches aft of datum; 2 at 73.0 inches aft of datum)

Maximum Baggage 120 pounds at 95.0 inches aft of datum

When Modified by Cessna Modification Kit MK172-72-01 (See NOTE 4)
120 pounds at 82.0 to 108.0 inches aft of datum
50 pounds at 108.0 to 142.0 inches aft of datum
(Maximum combined weight capacity for baggage areas is 120 pounds.)

Fuel Capacity (Gal.) 56 gallons total; 53 gallons usable
(Two 28 gallon tanks in wings at 48.0 inches aft of datum)
See NOTE 1 for data on unusable fuel.
**XI - Model 172R (cont’d)**

**Oil Capacity (Gal.)**
- 2.0 gallons at 13.1 inches forward of datum
- 3.5 quarts usable

When Modified by Cessna Modification Kit MK172-72-01 (See NOTE 4)
- 2.0 gallons at 13.1 inches forward of datum
- 3.0 quarts usable

**Control Surface Movements**

<table>
<thead>
<tr>
<th>Surface</th>
<th>Takeoff</th>
<th>Landing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing flaps</td>
<td>0° - 10°</td>
<td>0° - 30° + 0°/-2°</td>
</tr>
<tr>
<td>Ailerons</td>
<td>Up 20° ± 1°</td>
<td>Down 15° ± 1°</td>
</tr>
<tr>
<td>Elevator tab</td>
<td>Up 22° + 1°/-0°</td>
<td>Down 19° + 1°/-0°</td>
</tr>
<tr>
<td>Elevator</td>
<td>Up 28° + 1°/-0°</td>
<td>Down 23° + 1°/-0°</td>
</tr>
</tbody>
</table>

(Neutral position is with bottom of balance area flush with bottom of stabilizer)

**Rudder** (Measured parallel to W.L.): Right 16° 10’ ± 1° Left 16° 10’ ± 1°

**Rudder (Measured perpendicular to Hinge):** Right 16° 44’ ± 1° Left 16° 44’ ± 1°

**Certification Basis**

Part 23 of the Federal Aviation Regulations effective February 1, 1965, as amended by 23-1 through 23-6, except as follows:

- FAR 23.423; 23.611; 23.619; 23.623; 23.689; 23.775; 23.871; 23.1323; and 23.1563 as amended by Amendment 23-7.
- FAR 23.807 and 23.1524 as amended by Amendment 23-10.
- FAR 23.507; 23.771; 23.853(a), (b) and (c); and 23.1365 as amended by Amendment 23-14.
- FAR 23.607; 23.675; 23.733; 23.787; 23.1309 and 23.1322 as amended by Amendment 23-17.
- FAR 23.1301 as amended by Amendment 23-20.
- FAR 23.1353; and 23.1559 as amended by Amendment 23-21.
- FAR 23.603; 23.605; 23.613; 23.1329 and 23.1545 as amended by Amendment 23-23.
- FAR 23.779 and 23.781 as amended by Amendment 23-33.
- FAR 23.1; 23.51 and 23.561 as amended by Amendment 23-34.
- FAR 23.301; 23.331; 23.351; 23.427; 23.677; 23.701; 23.735; and 23.831 as amended by Amendment 23-42.
- FAR 23.961; 23.1303; 23.1357; 23.1361 and 23.1385 as amended by Amendment 23-43.
- FAR 23.562(a), 23.562(b), 23.562(c), 23.562(c3), and 23.562(c4) as amended by Amendment 23-44.
- FAR 23.33; 23.53; 23.305; 23.321; 23.485; 23.621; 23.655 and 23.731 as amended by Amendment 23-45.

FAR 36 dated December 1, 1969, as amended by Amendments 36-1 through 36-21.

**Additions for the Garmin G1000 Integrated Cockpit System (ICS) Only:**

XI - Model 172R (cont’d)

Certification Basis (cont’d)  Additions for the Garmin GFC-700 Automatic Flight Control System (AFCS) only:


Equivalent Safety Items

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Regulation/Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Induction System Icing Protection</td>
<td>FAR § 23.1093; Refer to FAA letter dated 5/3/96</td>
</tr>
<tr>
<td>2</td>
<td>Throttle Control</td>
<td>FAR § 23.1143(g); Refer to FAA letter dated 3/22/96</td>
</tr>
<tr>
<td>3</td>
<td>Mixture Control</td>
<td>FAR § 23.1147(b); Refer to FAA letter dated 3/22/96</td>
</tr>
<tr>
<td>4</td>
<td>Anti-Collision Light System</td>
<td>14 CFR § 23.1401(d); Refer to ACE-07-09, FAA letter dated 10/12/07</td>
</tr>
<tr>
<td>5</td>
<td>Aviation White Color Reqmt</td>
<td>14 CFR § 23.1397(c); Refer to ACE-07-10, FAA letter dated 11/29/07</td>
</tr>
</tbody>
</table>

Date of Application for Amended Type Certificate was September 25, 1995.

Type Certificate No. 3A12 was amended June 21, 1996.

Serial Numbers Eligible  17280001 and On

Special Conditions as follows:


Data Pertinent to Model 172R:

Production Basis

Production Certificate No. PC-4 issued March 28, 1997. Applies to airplane serial numbers 17280014, 17280015, 17280017, 17280021 through 17280029, and 17280031 and on. Airplane serial numbers not listed were produced under Type Certificate only. Cessna is authorized to issue airworthiness certificates under the delegation provisions of Delegation Option Authorization No. CE-1 in accordance with Part 21 of the Federal Aviation Regulations.

Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the airplane for certification.

NOTE 1: Weight and Balance:

Serial Nos. 17280001 and On

The certificated empty weight and corresponding center of gravity location must include unusable fuel of 18 pounds at 46.0 inches aft of datum, and full oil of 15.0 pounds at 13.1 inches forward of datum.

NOTE 2: The airplane must be operated according to the appropriate Pilot’s Operating Handbook and FAA Approved Airplane Flight Manual (POH/AFM). POH/AFM part number 172RPHUS00 (or later approved revision) is applicable to Production Model 172R. POH/AFM part number 172R180PH00 (or later approved revision) is applicable to Production Model 172R airplanes when modified by Cessna Modification Kit MK172-72-01. All POH/AFM Supplements approved for part number 172RPHUS00, are also applicable to part number 172R180PH00, unless specifically noted otherwise in the Supplement. All FAA required placards are included in Section 2 of the applicable POH/AFM. Placards may also be found in the Maintenance Manual, part number 172RMM00 (or later revision), Chapter Eleven (11), “Placards and Markings.”

FAA Approved Airplane Flight Manual (AFM): Part Number 172RPHAUS-00 (or later FAA approved revisions) is applicable to the Model 172R equipped with Garmin G1000 Integrated Cockpit System. The airplane must be operated according to the appropriate AFM. Required placards are included in the AFM.

FAA Approved Airplane Flight Manual (AFM): Part Number 172RPHBUS-00 (or later FAA approved revisions) are applicable to the Model 172R equipped with Garmin G1000 Integrated Cockpit System and Garmin GFC-700 AFCS. The airplane must be operated according to the appropriate AFM. Required placards are included in the AFM.
Data Pertinent to Model 172R: (cont’d)

NOTE 3: Special Ferry Flight Authorization. Flight Standards District Offices are authorized to issue Special "overweight" ferry flight authorizations. This airplane is structurally satisfactory for ferry flight if maintained within the following limits: (1) Takeoff weight must not exceed 130% of the maximum weight for Normal Category; and (2) The Never Exceed Airspeed (VNE) and Maximum Structural Cruising Speed (VC) must be reduced by 30%; and (3) Forward and aft center of gravity limits may not be exceeded; and (4) Structural load factors of +2.5 g. to -1.0 g. may not be exceeded. Requirements for any additional oil should be established in accordance with Advisory Circular AC23.1011-1. Increased stall speeds and reduced climb performance should be expected for the increased weights. Flight characteristics and performance at the increased weights have not been evaluated. Flight Permit for operations of overweight aircraft may be found in Advisory Circular AC21-4B.

NOTE 4: Only certain Model 172R airplane serial numbers are eligible for modification by Cessna Modification Kit MK172-72-01. Applicable serial numbers are as follows:

<table>
<thead>
<tr>
<th>Serial Number</th>
<th>Serial Number</th>
<th>Serial Number</th>
<th>Serial Number</th>
</tr>
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<tbody>
<tr>
<td>17280159</td>
<td>17280242</td>
<td>17280251</td>
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</tr>
<tr>
<td>17280707</td>
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</tbody>
</table>

XII - Model 172S, Skyhawk SP, 4 PCLM (Normal Category), 2 PCLM (Utility Category), Approved May 1, 1998

<p>| Engine          | Lycoming IO-360-L2A, Rated 180 Horsepower |
| Fuel            | 100/100LL minimum grade aviation gasoline |
| Engine Limits   | For all operations, 2,700 RPM               |
| Propeller       | (a) McCauley Model 1A170E/JHA7660          |
|                 | (b) Spinner: Drawing No. 0550236           |
| Propeller Limits| Static RPM at full throttle: Not over 2400; Not Under 2300 |
|                 | Diameter: Not over 76 inches; not under 75 inches |
| Airspeed Limits | Maneuvering 105 Knots IAS (102 Knots CAS) |
|                 | Max Structural Cruising 129 Knots IAS (126 Knots CAS) |
|                 | Never Exceed 163 Knots IAS (160 Knots CAS) |
|                 | Flaps Extended 85 Knots IAS (85 Knots CAS) |
| C.G. Range      | Normal Category 47.3 inches aft of datum at 2,550 pounds or less. |
|                 | (1) Aft Limits Linear variation from 41.0 inches aft of datum at 2,550 pounds to 35.0 inches aft of datum at 1,950 pounds; 35.0 inches aft of datum at 1,950 pounds or less. |
|                 | (2) Forward Limits                             |
|                 | Utility Category 40.5 inches aft of datum at 2,200 pounds or less. |
|                 | (1) Aft Limits Linear variation from 37.5 inches aft of datum at 2,200 pounds to 35.0 inches aft of datum at 1,950 pounds; 35.0 inches aft of datum at 1,950 pounds or less. |
|                 | (2) Forward Limits                             |
| Empty Wt. C.G. Range | None                                         |</p>
<table>
<thead>
<tr>
<th>XII - Model 172S (cont’d)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reference Datum</strong></td>
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<tr>
<td><strong>MAC</strong></td>
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<td><strong>Leveling Means</strong></td>
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<td><strong>Maximum Weights</strong></td>
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<td><strong>No. of Seats</strong></td>
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<td><strong>Maximum Baggage</strong></td>
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<td><strong>Oil Capacity (Gal.)</strong></td>
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<td><strong>Control Surface Movements</strong></td>
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<td></td>
</tr>
<tr>
<td><strong>Certification Basis</strong></td>
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</tbody>
</table>
XII - Model 172S

Certification Basis (cont’d) Additions for the Garmin G1000 Integrated Cockpit System (ICS) Only: Additions for the Garmin G1000 Integrated Cockpit System (ICS) Only:


Additions for the Garmin GFC-700 Automatic Flight Control System (AFCS) only:


Equivalent Safety Items

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>Induction System Icing Protection</td>
<td>FAR § 23.1093; Refer to FAA letter dated 5/1/98</td>
</tr>
<tr>
<td>(2)</td>
<td>Throttle Control</td>
<td>FAR § 23.1143(g); Refer to FAA letter dated 5/1/98</td>
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<tr>
<td>(3)</td>
<td>Mixture Control</td>
<td>FAR § 23.1147(b); Refer to FAA letter dated 5/1/98</td>
</tr>
<tr>
<td>(4)</td>
<td>Anti-Collision Light System</td>
<td>14 CFR § 23.1401(d); Refer to ACE-07-09, FAA letter dated 10/12/07</td>
</tr>
<tr>
<td>(5)</td>
<td>Aviation White Color Reqmt</td>
<td>14 CFR § 23.1397(c); Refer to ACE-07-10, FAA letter dated 11/29/07</td>
</tr>
</tbody>
</table>

Date of Application for Amended Type Certificate for the 172S was November 13, 1997.

Type Certificate No. 3A12 was amended May 1, 1998 for the Model 172S.

Serial Numbers Eligible 172S8001 and on

Special Conditions as follows:

Data Pertinent to Model 172S:

Production Basis

Production Certificate No. PC-4 issued August 27, 1998. Applies to airplane serial numbers 172S8003 and on. Airplane serial numbers not listed were produced under Type Certificate only. Cessna is authorized to issue airworthiness certificates under the delegation provisions of Delegation Option Authorization No. CE-1 in accordance with Part 21 of the Federal Aviation Regulations.

Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the airplane for certification.
Data Pertinent to Model 172S: (cont’d)

NOTE 1: Weight and Balance:

Serial Nos. 172S8001 and On
The certificated empty weight and corresponding center of gravity location must include unusable fuel of 18 pounds at 46.0 inches aft of datum, and full oil of 15.0 pounds at 13.1 inches forward of datum.

NOTE 2: Pilot’s Operating Handbook and FAA Approved Airplane Flight Manual (POH/AFM): part number 172SPHU00 (or later approved revision) is applicable to the Model 172S. The airplane must be operated according to the appropriate POH/AFM. All FAA required placards are included in Section 2 of the POH/AFM. Placards may also be found in the Maintenance Manual, part number 172RMM02 (or later revision) for the Model 172S, Chapter 11, Placards and Markings.”

FAA Approved Airplane Flight Manual (AFM): Part Number 172SPHAUS-00 (or later FAA approved revisions) is applicable to Model 172S equipped with Garmin G1000 Integrated Cockpit System. The airplane must be operated according to the appropriate AFM. Required placards are included in the AFM.

FAA Approved Airplane Flight Manual (AFM): Part Number 172SPHBUS-00 (or later FAA approved revisions) are applicable to the Model 172S equipped with Garmin G1000 Integrated Cockpit System and Garmin GFC-700 AFCS. The airplane must be operated according to the appropriate AFM. Required placards are included in the AFM.

NOTE 3: Special Ferry Flight Authorization. Flight Standards District Offices are authorized to issue Special overweight ferry flight authorizations. This airplane is structurally satisfactory for ferry flight if maintained within the following limits: (1) Takeoff weight must not exceed 130% of the maximum weight for Normal Category; and (2) The Never Exceed Airspeed (VNE) and Maximum Structural Cruising Speed (Vc) must be reduced by 30%; and (3) Forward and aft center of gravity limits may not be exceeded; and (4) Structural load factors of +2.5 g. to -1.0 g. may not be exceeded. Requirements for any additional oil should be established in accordance with Advisory Circular AC23.1011-1. Increased stall speeds and reduced climb performance should be expected for the increased weights. Flight characteristics and performance at the increased weights have not been evaluated. Flight Permit for operations of overweight aircraft may be found in Advisory Circular AC21-4B

.....END....
TYPE CERTIFICATE DATA SHEET NO. A16CE

This data sheet which is part of Type Certificate A16CE prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder  Cessna Aircraft Company
                          P. O. Box 7704
                          Wichita, Kansas  67277

I - Model 207/T207, Skywagon/Turbo Skywagon, 7 PCLM (Normal Category), Approved December 31, 1968

Model 207

  Engine  Continental IO-520-F

  *Fuel  100/130 minimum grade aviation gasoline

  *Engine Limits  Takeoff (5 min.) at 2850 r.p.m.  (300 hp.)
                    For all other operations, 2700 r.p.m.  (285 hp.)

  Propeller and Landplane

Propeller Limits

  1. (a) McCauley D2A34C58/90AT-8 (C161004-0106)
         Diameter:  not over 82 in., not under 80 in.
         Pitch settings at 36 in. sta.:
         low 9.5°, high 25.8°
         (b) Cessna spinner dome 1250909-3
         (c) Woodward hydraulic governor 210462
         (d) McCauley hydraulic governor C290D2/T4 or C290D4/T4

  2. (a) McCauley D3A32C90/82NC-2 (C161006-0205)
         Diameter:  not over 80 in., not under 78 in.
         Pitch settings at 30 in. sta.:
         low 11.5°, high 28.1°
         (b) Cessna spinner dome 1250909-8
         (c) Woodward hydraulic governor 210462
         (d) McCauley hydraulic governor C290D2/T4 or C290D4/T4

Model T207

  Engine  Continental TSIO-520-G

  *Fuel  100/130 minimum grade aviation gasoline

  *Engine Limits  Takeoff (5 min.) at 2700 r.p.m.  (300 hp.)
                    For all other operations, 2600 r.p.m.  (285 hp.)
Propeller and Landplane

Propeller Limits

1. (a) McCauley D2A34C78/90AT-8.5 (C161004-0108)
   - Diameter: not over 81.5 in., not under 80.5 in.
   - Pitch settings at 36 in. sta.:
     - low 11.8°, high 32.0°
   (b) Cessna spinner dome 1250909-3
   (c) Woodward hydraulic governor G210452
   (d) McCauley hydraulic governor C290D2/T2 or C290D4/T2

2. (a) McCauley D3A32C90/82NC-2 (C161006-0204)
   - Diameter: not over 80 in., not under 79 in.
   - Pitch settings at 30 in. sta.:
     - low 14°, high 33°
   (b) Cessna spinner dome 1250909-8
   (c) Woodward hydraulic governor G210452
   (d) McCauley hydraulic governor C290D2/T2 or C290D4/T2

Models 207 & T207

*Airspeed Limits

<table>
<thead>
<tr>
<th>CAS</th>
<th>S/N 20700001 through 20700314</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never exceed 210 m.p.h. (182 knots)</td>
</tr>
<tr>
<td></td>
<td>Maximum structural cruising 170 m.p.h. (148 knots)</td>
</tr>
<tr>
<td></td>
<td>Maneuvering (3800 lb. landplane) 148 m.p.h. (129 knots)</td>
</tr>
<tr>
<td></td>
<td>Flaps extended 0° - 10° 160 m.p.h. (139 knots)</td>
</tr>
<tr>
<td></td>
<td>10° - 30° 110 m.p.h. (96 knots)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IAS</th>
<th>S/N 20700315 and up</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Never exceed 186 knots</td>
</tr>
<tr>
<td></td>
<td>Maximum structural cruising 151 knots</td>
</tr>
<tr>
<td></td>
<td>Maneuvering (3800 lb. landplane) 132 knots</td>
</tr>
<tr>
<td></td>
<td>Flaps extended 0° - 10° 140 knots</td>
</tr>
<tr>
<td></td>
<td>10° - 30° 100 knots</td>
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</tbody>
</table>

*C.G. Range

<table>
<thead>
<tr>
<th>Landplane</th>
</tr>
</thead>
<tbody>
<tr>
<td>(+43.0) to (+50.5) at 3800 lb.</td>
</tr>
<tr>
<td>(+31.0) to (+50.5) at 2600 lb. or less</td>
</tr>
</tbody>
</table>

Empty Wt. C.G. Range

None

*Maximum Weight

| Landplane 3800 lb. |

No. of Seats

(S/N 20700001 through 20700148)
7 (2 at +35 to +47, 2 at +68 to +78, 2 at +99 to +109, 1 at +130)

(S/N 20700149 and on)
7 (2 at +34 to +48, 2 at +69 to +79, 2 at +100 to +110, 1 at +124 to +130)

Maximum Baggage

Reference weight and balance data

Fuel Capacity

(S/N 20700001 through 20700225)
65 gal. (58 gal. usable), two 32.5 gal. tanks in wings at +48

(S/N 20700226 and on)
61 gal. (54 gal. usable), two 30.5 gal. tanks in wings at +48

See NOTE 1 for data on unusable fuel

Oil Capacity

12 qt. at -37.4 (6 qt. usable)

See NOTE 1 for data on undrainable oil
### Control Surface Movements

<table>
<thead>
<tr>
<th>Surface</th>
<th>Up</th>
<th>Down</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing flaps</td>
<td>$21^\circ \pm 2^\circ$</td>
<td>$14^\circ \pm 2^\circ$</td>
</tr>
<tr>
<td>Ailerons</td>
<td>$21^\circ \pm 1^\circ$</td>
<td>$19^\circ \pm 1^\circ$</td>
</tr>
<tr>
<td>Elevator</td>
<td>$25^\circ \pm 1^\circ$</td>
<td>$5^\circ \pm 1^\circ$</td>
</tr>
<tr>
<td>Elevator tab</td>
<td>$27^\circ 13' \pm 1^\circ$</td>
<td>$27^\circ 13' \pm 1^\circ$</td>
</tr>
<tr>
<td>Rudder</td>
<td>$24^\circ \pm 1^\circ$</td>
<td>$24^\circ \pm 1^\circ$</td>
</tr>
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</table>

### Serial Nos. Eligible

<table>
<thead>
<tr>
<th>Serial Nos.</th>
<th>Model</th>
</tr>
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<tbody>
<tr>
<td>20700001 through 20700148</td>
<td>1969 Model</td>
</tr>
<tr>
<td>20700149 through 20700190</td>
<td>1970 Model</td>
</tr>
<tr>
<td>20700191 through 20700205</td>
<td>1971 Model</td>
</tr>
<tr>
<td>20700206 through 20700215</td>
<td>1972 Model</td>
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<td>20700216 through 20700227</td>
<td>1973 Model</td>
</tr>
<tr>
<td>20700228 through 20700267</td>
<td>1974 Model</td>
</tr>
<tr>
<td>20700268 through 20700314</td>
<td>1975 Model</td>
</tr>
<tr>
<td>20700315 through 20700362</td>
<td>1976 Model</td>
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</tbody>
</table>

### II - Model 207A/T207A, Skywagon/Turbo Skywagon; Stationair/Turbo Stationair, 7 PCLM (Normal Category), Approved July 12, 1976; 8 PCLM (Normal Category), Approved September 11, 1979

#### Model 207A

**Engine**
Continental IO-520-F

**Fuel**
- 100/130 minimum grade aviation gasoline (S/N 20700363 through 20700414)
- 100LL/100 minimum aviation grade gasoline (S/N 20700415 and up)

**Engine Limits**
Takeoff (5 min.) at 2850 r.p.m., 300 hp.
For all other operations, 2700 r.p.m., 285 hp.

**Propeller and Propeller Limits**

1. (a) McCauley D3A32C90/82NC-2 (S/N 20700363 through 20700482)
   - Diameter: not over 80 in., not under 78 in.
   - Pitch settings at 30 in. sta.:
     - low 11.5°, high 28.1°
   (b) Cessna spinner 1250909
   (c) Woodward hydraulic governor 210462 or McCauley hydraulic governor C290D4/T4

2. (a) McCauley D3A34C404/80VA-0 (S/N 20700483 and up)
   - Diameter: not over 80 in., not under 78.5 in.
   - Pitch settings at 30 in. sta.:
     - low 11.0°, high 27.0°
   (b) Cessna spinner 1250030
   (c) McCauley hydraulic governor C290D4/T4

#### Model T207A

**Engine**
Continental TSIO-520-M

**Fuel**
- 100/130 minimum grade aviation gasoline (S/N 20700363 through 20700414)
- 100LL/100 minimum aviation grade gasoline (S/N 20700415 and up)

**Engine Limits**
Takeoff (5 min.) at 2700 r.p.m., 36.5 in. Hg. mp., 310 hp.
For all other operations, 2600 r.p.m., 35 in. Hg. mp., 285 hp.

**Propeller and Propeller Limits**

1. (a) McCauley D3A34C401/90DFA-10
   - Diameter: not over 80 in., not under 78.5 in.
   - Pitch settings at 30 in. sta.:
     - low 12.4°, high 28.5°
   - Avoid continuous operation between 1850 and 2150 r.p.m. above 24 in. mp.
   (b) Cessna spinner 1250909
   (c) McCauley hydraulic governor C290D4/T2
Models 207A & T207A

*Airspeed Limits (IAS)

(See NOTE 5 on use of IAS)

<table>
<thead>
<tr>
<th>S/N 20700363 through 20700482</th>
<th>Never exceed (207A)</th>
<th>186 knots</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(T207A)</td>
<td>182 knots</td>
</tr>
<tr>
<td>Maximum structural cruising</td>
<td>(207A)</td>
<td>151 knots</td>
</tr>
<tr>
<td></td>
<td>(T207A)</td>
<td>148 knots</td>
</tr>
<tr>
<td>Maneuvering</td>
<td></td>
<td>130 knots</td>
</tr>
<tr>
<td>Flaps extended</td>
<td>0° - 10°</td>
<td>140 knots</td>
</tr>
<tr>
<td></td>
<td>10° - 30°</td>
<td>100 knots</td>
</tr>
</tbody>
</table>

S/N 20700483 and up

| Never exceed                  | 182 knots |
| Maximum structural cruising   | 148 knots |
| Maneuvering                   | 130 knots |
| Flaps extended                | 0° - 10°  | 140 knots |
|                               | 10° - 30° | 105 knots |

*C.G. Range

(+43.0) to (+50.5) at 3800 lb.
(+31.0) to (+50.5) at 2600 lb. or less
Straight line variation between points given

Empty Wt. C.G. Range

None

*Maximum Weight

3800 lb.

No. of Seats

7 (2 at +34 to +48, 2 at +69 to +79, 2 at +100 to +110, 1 at +124 to +130)
S/N 20700363 through 20700562
8 (2 at +34 to +48, 2 at +69 to +79, 2 at +100 to +110, 2 at +124 to +130)
S/N 20700563 and up

Maximum Baggage

Reference weight and balance data

Fuel Capacity

Std.: 61 gal. (54 gal. usable), two 30.5 gal. tanks in wings at +48
Opt.: 80 gal. (73 gal. usable), two 40 gal. tanks in wings at +48
See NOTE 1 for data on unusable fuel

Oil Capacity

12 qt. at -37.4 (6 qt. usable)
See NOTE 1 for data on undrainable oil

Control Surface Movements

<table>
<thead>
<tr>
<th>Wing flaps</th>
<th>30° ±1° -2°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ailerons</td>
<td>Up 21° ±2°</td>
</tr>
<tr>
<td></td>
<td>Down 14° 30° ±2°</td>
</tr>
<tr>
<td>Elevator</td>
<td>Up 21° ±1°</td>
</tr>
<tr>
<td></td>
<td>Down 19° ±1°</td>
</tr>
<tr>
<td>Elevator tab</td>
<td>Up 25° ±1° -0°</td>
</tr>
<tr>
<td></td>
<td>Down 5° ±1° -0°</td>
</tr>
<tr>
<td>Rudder (measured perpendicular to hinge line)</td>
<td>Right 27° 13° ±1°</td>
</tr>
<tr>
<td>(measured parallel to 0.0.W.L.)</td>
<td>Left 27° 13° ±1°</td>
</tr>
<tr>
<td></td>
<td>Right 24° ±1°</td>
</tr>
<tr>
<td></td>
<td>Left 24° ±1°</td>
</tr>
</tbody>
</table>

Serial Nos. Eligible

20700363 through 20700414  1977 Model
20700415 through 20700482  1978 Model
20700483 through 20700562  1979 Model
20700563 through 20700654  1980 Model
20700655 through 20700729  1981 Model
20700730 through 20700762  1982 Model
20700763 through 20700767  1983 Model
20700768 through 20700788  1984 Model
**Data Pertinent to All Models**

**Datum**
Fuselage sta. 0.0 (front face of lower baggage bulkhead)

**Leveling Means**
Screws and nutplates located on the left hand side of the fuselage at 0.0 W.L. and sta. +25.57 and -1.00

**Certification Basis**
Part 23 of the Federal Aviation Regulations effective February 1, 1965, as amended by 23-1 through 23-6. In addition, effective S/N 20700483 and up, FAR 23.1559 effective March 1, 1978. FAR 36 dated December 1, 1969, plus Amendments 36-1 through 36-6 for S/N 20700363 and up.

Application for Type Certificate dated May 15, 1968.

Type Certificate No. A16CE issued December 31, 1968, obtained by the manufacturer under delegation option procedures.

**Equivalent Safety Items**
S/N 20700315 and on

- **Airspeed Indicator**: FAR 23.1545 (See NOTE 5 on use of IAS)
- **Airspeed Limitations**: FAR 23.1583(a)(1)

**Production Basis**
Production Certificate No. 4. Delegation Option Manufacturer No. CE-1 authorized to issue airworthiness certificates under delegation option provisions of Part 21 of the Federal Aviation Regulations.

**Equipment**
The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. This equipment must include a current Airplane Flight Manual effective S/N 20700480 and on. In addition, the following item of equipment is required:


**NOTE 1.**
Current weight and balance report including list of equipment included in the certificated empty weight and loading instructions when necessary, must be provided for each aircraft at the time of original certification. The certificated empty weight and corresponding center of gravity location must include unusable fuel of 42 lb. at +48 on the 207 and T207 Series, and undrainable oil of 0.0 at (-37.4) through S/N 20700314 and full oil of 22.5 lb. at (-37.4) for S/N 20700315 and on.

**NOTE 2.**
The following placards must be displayed as indicated:

A. **Applicable to Models 207 and T207 Landplane**

1. In full view of the pilot:
   (a) S/N 20700001 through 2070314
   "This airplane must be operated as a normal category airplane in compliance with the operating limitations as stated in the form of placards, markings and manuals. No acrobatic maneuvers including spins approved.

   **Maximums**
   - Maneuvering speed: 148 m.p.h. (CAS)
   - Gross weight: 3800 lb.
   - Flight maneuvering load factors:
     - Flaps up +3.8, -1.52
     - Flaps down +2.40
   - Altitude loss in stall recovery: 350 ft.
   - Flap extension speed: 110 m.p.h. (CAS) 0° - 30°
   - 160 m.p.h. (CAS) 0° - 10°

   Airplane is controllable in 20 knot cross-winds.
   Known icing conditions to be avoided.

   This airplane is certified for the following flight operations as of date of original airworthiness certification:

   VFR - IFR - DAY - NIGHT" (as applicable)
(b) S/N 20700315 and up

"This airplane must be operated as a normal category airplane in compliance with the operating limitations as stated in the form of placards, markings, and manuals.

Maximums

<table>
<thead>
<tr>
<th>Limitation</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maneuvering speed (IAS)</td>
<td>132 knots</td>
</tr>
<tr>
<td>Gross weight</td>
<td>3800 lb.</td>
</tr>
<tr>
<td>Flight load factor</td>
<td></td>
</tr>
<tr>
<td>Flaps Up</td>
<td>+3.8 -1.52</td>
</tr>
<tr>
<td>Flaps Down</td>
<td>+2.4</td>
</tr>
</tbody>
</table>

No acrobatic maneuvers, including spins, approved. Altitude loss in a stall recovery -350 ft.

Flight into known icing conditions prohibited. This airplane is certified for the following flight operations as of date of original airworthiness certificate:

DAY - NIGHT - VFR - IFR" (As applicable)

(2) On control lock:

"Control lock - remove before starting engine."

(3) On fuel selector plate:

<table>
<thead>
<tr>
<th>S/N Range</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>20700001 through 20700221</td>
<td>(Standard range tanks) Off - Left tank 29.0 gal. Right tank 29.0 gal. Use full rich mixture to switch tanks. Take off and land on fuller tank.</td>
</tr>
<tr>
<td>Optional long range tanks</td>
<td>&quot;Off - Left tank 38.5 gal. Right tank 38.5 gal. Use full rich mixture to switch tanks. Take off and land on fuller tank.&quot;</td>
</tr>
<tr>
<td>20700222 through 20700225</td>
<td>(Standard range tanks) &quot;Off - Left tank 29.0 gal. Right tank 29.0 gal. Take off and land on fuller tank.&quot;</td>
</tr>
<tr>
<td>Optional long range tanks</td>
<td>&quot;Off - Left tank 38.5 gal. Right tank 38.5 gal. Take off and land on fuller tank.&quot;</td>
</tr>
<tr>
<td>20700226 and up</td>
<td>(Standard range tanks) &quot;Off - Left tank 27.0 gal. Right tank 27.0 gal. Take off and land on fuller tank.&quot;</td>
</tr>
<tr>
<td>Optional long range tanks</td>
<td>&quot;Off - Left tank 36.5 gal. Right tank 36.5 gal. Take off and land on fuller tank.&quot;</td>
</tr>
<tr>
<td>20700001 through 20700203</td>
<td>(Standard range tanks) &quot;Tank capacity 32.5 U.S. Gal., 100/130.&quot;</td>
</tr>
<tr>
<td>Optional long range tanks</td>
<td>&quot;Tank capacity 42 U.S. Gal., 100/130.&quot;</td>
</tr>
<tr>
<td>20700204 through 20700225</td>
<td>(Standard range tanks) &quot;Service this airplane with 100/130 min. aviation grade gasoline - capacity 32.5 gal.&quot;</td>
</tr>
<tr>
<td>Optional long range tanks</td>
<td>&quot;Service this airplane with 100/130 min. aviation grade gasoline - capacity 42.0 gal.&quot;</td>
</tr>
<tr>
<td>20700226 and on</td>
<td>(Standard range tanks) &quot;Service this airplane with 100/130 min. aviation grade gasoline - capacity 30.5 gal.&quot;</td>
</tr>
<tr>
<td>Optional long range tanks</td>
<td>&quot;Service this airplane with 100/130 min. aviation grade gasoline - capacity 40.0 gal.&quot;</td>
</tr>
</tbody>
</table>

(5) Above selector valve:

<table>
<thead>
<tr>
<th>S/N Range</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>20700001 through 20700227</td>
<td>(Standard range tanks) &quot;When switching from dry tank turn pump on 'HI' momentarily.&quot;</td>
</tr>
<tr>
<td>20700228 and up</td>
<td>&quot;When switching from dry tank turn auxiliary fuel pump 'on' momentarily.&quot;</td>
</tr>
</tbody>
</table>
(6) On cargo door: "Baggage net 180 lb. max. capacity. Refer to weight and balance data for baggage/cargo loading."

(7) On the following model(s) near manifold pressure gauge:

```
207
```

"Fuel flow at full throttle"

<table>
<thead>
<tr>
<th></th>
<th>2850 rpm</th>
<th>2700 rpm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea level</td>
<td>24 gph</td>
<td>23 gph</td>
</tr>
<tr>
<td>4,000 ft.</td>
<td>22 gph</td>
<td>21 gph</td>
</tr>
<tr>
<td>8,000 ft.</td>
<td>20 gph</td>
<td>19 gph</td>
</tr>
</tbody>
</table>

```
T207
```

Maximum Power Settings and Fuel Flow

<table>
<thead>
<tr>
<th>Takeoff (5 min. only)</th>
<th>2700 rpm</th>
</tr>
</thead>
<tbody>
<tr>
<td>35 In. Mp.</td>
<td>30 gph</td>
</tr>
</tbody>
</table>

Max. continuous power 2600 rpm

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>S.L. to 17,000</td>
<td>35</td>
<td>28</td>
</tr>
<tr>
<td>18,000</td>
<td>34</td>
<td>27</td>
</tr>
<tr>
<td>20,000</td>
<td>32</td>
<td>25</td>
</tr>
<tr>
<td>22,000</td>
<td>30</td>
<td>23</td>
</tr>
<tr>
<td>24,000</td>
<td>28</td>
<td>21</td>
</tr>
<tr>
<td>26,000</td>
<td>26</td>
<td>19</td>
</tr>
<tr>
<td>28,000</td>
<td>24</td>
<td>18</td>
</tr>
<tr>
<td>30,000</td>
<td>22</td>
<td>17</td>
</tr>
</tbody>
</table>

75% Power Climb: 2500 rpm 28 In. MP., 20 GPH."

(8) On instrument panel above fuel pump switch (S/N 20700001 through 20700148)
"Use 'HI' for emergency only."

(9) On the baggage door:
"Max. baggage 120 lb. Refer to weight and balance data for baggage/cargo loading."

(10) Below oil temperature gauge: (S/N 20700216 and up)
"High voltage."

(11) On the flap control indicator for the following models:

(a) S/N 20700001 through 20700314
"(i) Up to 10° (Partial flap range with blue color code and 160 m.p.h. callout; also mechanical detent at 10°).
(ii) 10° to Full (Indices at these positions with white color code and 110 m.p.h. callout; also mechanical detent at 20°)."

(b) S/N 20700315 through 20700362
"(i) Up to 10° (Partial flap range with blue color code and 140 knot callout; also mechanical detent at 10°).
(ii) 10° to Full (Indices at these positions with white color code and 100 knot callout; also mechanical detent at 20°)."

(12) In full view of the pilot:
"MAJOR FUEL FLOW FLUCTUATIONS/POWER SURGES
1. AUX FUEL PUMP ON ADJUST MIXTURE
2. SELECT OPPOSITE TANK
3. WHEN FUEL FLOW STEADY, RESUME NORMAL OPERATIONS
SEE PROCEDURE CARD DL189-13 FOR EXPANDED INSTRUCTIONS."
B. Applicable to Models 207A and T207A

(1) In full view of the pilot:
(a) S/N 20700363 through 20700482

"This airplane must be operated as a normal category airplane in compliance with the operating limitations as stated in the form of placards, markings, and manuals.

**Maximums**

<table>
<thead>
<tr>
<th>Maximum</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maneuvering speed (IAS)</td>
<td>130 knots</td>
</tr>
<tr>
<td>Gross weight</td>
<td>3800 lb.</td>
</tr>
<tr>
<td>Flight load factor</td>
<td></td>
</tr>
<tr>
<td>Flaps Up</td>
<td>+3.8</td>
</tr>
<tr>
<td>Flaps Down</td>
<td>-1.52</td>
</tr>
<tr>
<td></td>
<td>+2.4</td>
</tr>
</tbody>
</table>

No acrobatic maneuvers, including spins, approved. Altitude loss in a stall recovery -350 ft. Flight into known icing conditions prohibited. This airplane is certified for the following flight operations as of date of original airworthiness certificate:

**DAY - NIGHT - VFR - IFR** (As applicable)

(b) S/N 20700483 through 20700729

"The markings and placards installed in this airplane contain operating limitations which must be complied with when operating this airplane in the Normal Category. Other operating limitations which must be complied with when operating this airplane in this category are contained in the Pilot's Operating Handbook and FAA Approved Airplane Flight Manual.

No acrobatic maneuvers, including spins, approved. Flight into known icing conditions prohibited. This airplane is certified for the following flight operations as of date of original airworthiness certificate:

**DAY - NIGHT - VFR - IFR** (As applicable)

(2) On control lock through 20700729:
"Control lock - remove before starting engine."

(3) On fuel selector plate through 20700729:
   (Standard range tanks) "Off - Left on 27.0 gal. Right on 27.0 gal. Take off and land on fuller tank."
   (Optional long range tanks) "Off - Left on 36.5 gal. Right on 36.5 gal. Take off and land on fuller tank."

(4) (a) Forward of fuel tank filler cap: (S/N 20700363 through 20700414)
   (Standard range tanks) "Service this airplane with 100/130 min. aviation grade gasoline - capacity 30.5 gal."
   (Optional long range tanks) "Service this airplane with 100/130 min. aviation grade gasoline - capacity 40.0 gal."

(b) Forward of fuel tank filler cap: (S/N 20700415 through 20700729)
   (Standard range tanks) "Service this airplane with 100LL/100 min. aviation grade gasoline - capacity 30.5 gal."
   (Optional long range tanks) "Service this airplane with 100LL/100 min. aviation grade gasoline - capacity 40.0 gal."

(5) Above selector valve through 20700729:
"When switching from dry tank turn auxiliary fuel pump 'on' momentarily."

(6) On cargo door through 20700729: "Baggage net 180 lb. max. capacity. Refer to weight and balance data for baggage/cargo loading."
(7) Near the manifold pressure gauge:
   (a) Model 207A:
   S/N 20700363 through 20700482
   "Maximum power setting and fuel flow
   Takeoff (5 min. only): 2850 r.p.m., maximum continuous pwr.: 2700 r.p.m.,
   Fuel flow at full throttle
   \[
   \begin{array}{l|l|l}
   & \text{2700 r.p.m.} & \text{2850 r.p.m.} \\
   \hline
   \text{S.L.} & 23 \text{ g.p.h.} & 24 \text{ g.p.h.} \\
   4000 \text{ ft.} & 21 \text{ g.p.h.} & 22 \text{ g.p.h.} \\
   8000 \text{ ft.} & 19 \text{ g.p.h.} & 20 \text{ g.p.h.} \\
   12000 \text{ ft.} & 17 \text{ g.p.h.} & 18 \text{ g.p.h.} \\
   \end{array}
   \]
   S/N 20700483 through 20700729
   "Min. fuel flows at full throttle
   \[
   \begin{array}{l|l|l|l|l}
   \text{R.P.M.} & \text{S.L.} & 4000 & 8000 & 12000 \\
   \hline
   2700 & 23 \text{ g.p.h.} & 21 \text{ g.p.h.} & 19 \text{ g.p.h.} & 17 \text{ g.p.h.} \\
   2850 & 24 \text{ g.p.h.} & 22 \text{ g.p.h.} & 20 \text{ g.p.h.} & 18 \text{ g.p.h.} \\
   \end{array}
   \]
   (b) Model T207A
   (1) S/N 20700363 through 20700482
   "Maximum power setting and fuel flow
   Takeoff (5 min. only): 2700 r.p.m., 36.5 in. mp., 31 g.p.h.
   Maximum continuous power: 2600 r.p.m., 35.0 in. mp., 27 g.p.h.
   \[
   \begin{array}{l|l|l|l|l|l|l|l|l|l}
   \text{Alt. Ft.} & \text{Man. Press} & \text{Fuel Flow} \\
   \hline
   \text{S.L. to 17,000} & 35 & 27 \\
   18,000 & 34 & 26 \\
   20,000 & 32 & 24 \\
   22,000 & 30 & 22 \\
   24,000 & 28 & 20 \\
   26,000 & 26 & 18 \\
   28,000 & 24 & 17 \\
   30,000 & 22 & 16 \\
   \end{array}
   \]
   normal climb 2500 r.p.m., 30.0 in. mp., 22 g.p.h."
   S/N 20700483 through 20700729
   "MINIMUM FUEL FLOWS
   TAKEOFF Maximum Continuous Power: 2600 RPM
   \[
   \begin{array}{l|l|l|l|l|l|l|l|l|l}
   \text{2700 RPM} & \text{ALT - FT/1000} & \text{SL-17} & \text{20} & \text{22} & \text{24} & \text{26} & \text{28} & \text{30} \\
   \text{36.5 In. Hp.} & \text{MP. In. Hp.} & 35 & 34 & 32 & 30 & 28 & 26 & 24 & 22 \\
   \text{31 GPH} & \text{Fuel flow - GPH} & 27 & 26 & 24 & 22 & 20 & 18 & 17 & 16 \\
   \end{array}
   \]
   (2) S/N 20700363 through 20700729
   "Avoid continuous operation between 1850 and 2150 r.p.m. above 24 in. mp."

(8) On the baggage door through 20700729:
   "Max. baggage 120 lb. Refer to weight and balance data for baggage/cargo loading."

(9) Adjacent to the voltage light:
   S/N 20700363 through 20700482
   "High Voltage"
   S/N 20700483 through 20700729
   "Low Voltage"
(10) (a) S/N 20700363 through 20700482
On the flap control indicator
"Up to 10° (Partial flap range with blue color code and 140 knot callout; also mechanical detent at 10°).
10° to Full (Indices at these positions with white color code and 100 knot callout; also mechanical detent at 20°)."

(b) S/N 20700483 through 20700729
On the flap control indicator
"Up to 10° (Partial flap range with blue color code and 140 knot callout; also mechanical detent at 10°).
10° to Full (Indices at these positions with white color code and 105 knot callout; also mechanical detent at 20°)."

(11) Near airspeed indicator:
S/N 20700483 through 20700729
"Maneuver Speed
130 KIAS"

(12) In full view of the pilot:
(a) Model 207A and T207A, S/N 20700363 through 20700482
"MAJOR FUEL FLOW FLUCTUATIONS/POWER SURGES
1. AUX FUEL PUMP ON ADJUST MIXTURE
2. SELECT OPPOSITE TANK
3. WHEN FUEL FLOW STEADY, RESUME NORMAL OPERATIONS
SEE PROCEDURE CARD D1189-13 FOR EXPANDED INSTRUCTIONS."

(b) Model 207A, S/N 20700483 through 20700562
"MAJOR FUEL FLOW FLUCTUATIONS/POWER SURGES
1. AUX FUEL PUMP ON ADJUST MIXTURE
2. SELECT OPPOSITE TANK
3. WHEN FUEL FLOW STEADY, RESUME NORMAL OPERATIONS
SEE P.O.H. FOR EXPANDED INSTRUCTIONS."

(c) Model T207A, S/N 20700483 through 20700729
"MAJOR FUEL FLOW FLUCTUATIONS/POWER SURGES
1. AUX FUEL PUMP ON ADJUST MIXTURE
2. SELECT OPPOSITE TANK
3. WHEN FUEL FLOW STEADY, RESUME NORMAL OPERATIONS
SEE P.O.H. FOR EXPANDED INSTRUCTIONS."

(13) Effective 20700730 and up:
All placards required in the Pilot's Operating Handbook and FAA Approved Airplane Flight Manual must be installed in the appropriate locations."

In addition to the above placards, the prescribed operating limitations indicated by an asterisk (*) under Sections I and II of this data sheet must also be displayed by permanent markings.

NOTE 3. Reserved.

NOTE 4. The cylinder head thermistors must be installed as follows:

<table>
<thead>
<tr>
<th>MODEL</th>
<th>CYLINDER HEAD NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>207</td>
<td>3</td>
</tr>
<tr>
<td>T207</td>
<td>1</td>
</tr>
<tr>
<td>207A (1977 &amp; 1978 Models)</td>
<td>3</td>
</tr>
<tr>
<td>207A (1979 Model and on)</td>
<td>6</td>
</tr>
<tr>
<td>T207A</td>
<td>6</td>
</tr>
</tbody>
</table>
NOTE 5. The marking of the airspeed indicator with IAS provides an equivalent level of safety to FAR 23.1545 when the approved airspeed calibration data presented in Section V of the Pilot’s Operating Handbooks listed below is available to the pilot:

207    Cessna P/N D1068-13
T207    Cessna P/N D1067-13
207A (1977)  Cessna P/N D1092-13
207A (1979)  Cessna P/N D1149-13PH
T207A (1979) Cessna P/N D1150-13PH

NOTE 6. 14-volt electrical system
(207 series through S/N 20700414)

28-volt electrical system
(207 series S/N 20700415 and up)

“WARNING: Use of alcohol-based fuels can cause serious performance degradation and fuel system component damage, and is therefore prohibited on Cessna airplanes.”

.....END.....
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

TYPE CERTIFICATE DATA SHEET NO. 3A21

This data sheet which is part of Type Certificate No.3A21 prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder
Cessna Aircraft Company
P. O. Box 7704
Wichita, Kansas  67277

I - Model 210, 4 PCLM (Normal Category), Approved April 20, 1959

Engine
Continental IO-470-E

*Fuel
100/130 minimum grade aviation gasoline

*Engine Limits
For all operations, 2625 r.p.m. (260 b.h.p.)

Propeller and Propeller Limits
1. (a) Hartzell HC-A2XF-1/8433-2
Diameter: not over 82 in., not under 80 in.
Pitch settings at 30 in. sta.:
  low 13.5°, high 28.0°
(b) Cessna spinner 0752006

or 2. (a) McCauley D2A36C33/90M-8 or D2A34C49/90A-8 or D2A34C58/90AT-8
Diameter: not over 82 in., not under 80 in.
Pitch settings at 36 in. sta.:
  low 10.8°, high 25.8°
(b) Cessna spinner 0752004

3. Woodward hydraulic governor 210270, 210280, 210340 or 210345
I - Model 210 (cont’d)

*Airspeed Limits (CAS)

Never exceed 200 m.p.h. (174 knots)
Maximum structural cruising 175 m.p.h. (152 knots)
Maneuvering 130 m.p.h. (113 knots)
Flaps extended 110 m.p.h. (96 knots)
Landing gear operating speed 160 m.p.h. (139 knots)
Landing gear extension speed 160 m.p.h. (139 knots)

C.G. Range (Landing Gear Extended)

(+38.4) to (+46.5) at 2900 lb.
(+34.5) to (+46.5) at 2550 lb. or less

Moment change due to retracting landing gear (+2456 in.-lb.)

Empty Wt. C.G. Range None

*Maximum Weight 2900 lb.

No. of Seats 2 (2 at +36, 2 at +70)

Maximum Baggage 120 lb. (+95)

Fuel Capacity 65 gal. (55 gal. usable); two 32.5 gal. tanks in wings at +48.
See NOTE 1 for data on unusable fuel

Oil Capacity 12 qt. (-19.4), 6 qt. usable
See NOTE 1 for data on undrainable oil

Control Surface Movements

Wing flaps
Up 0° Down 38° ±2°, -1°

Ailerons
Up 20° ±2° Down 14° ±2°

Elevator
Up 26°30' ±1° Down 15° ±1°, -0°

Rudder
Right 24° ±1°
Left 24° ±1°

(measured parallel to 0.0 W.L.)

Serial Nos. Eligible Model 210: 618, 57001 through 57575 (1960 Model)

II - Model 210A, 4 PCLM (Normal Category), Approved June 14, 1960

Engine Continental IO-470-E

*Fuel 100/130 minimum grade aviation gasoline

*Engine Limits For all operations, 2625 r.p.m. (260 b.h.p.)

Propeller and Propeller Limits

1. (a) Hartzell HC-A2XF-1/8433-2
Diameter: not over 82 in., not under 80
Pitch settings at 30 in. sta.:
low 13.5°, high 28.0°
(b) Cessna spinner 0752006

1. (b) McCauley D2A36C33/90M-8 or D2A34C49/90A-8 or D2A34C58/90AT-8
Diameter: not over 82 in., not under 80 in.
Pitch settings at 36 in. sta.:
low 10.8°, high 25.8°
(b) Cessna spinner 0752004

3. Woodward hydraulic governor 210270, 210280, 210340, 210345
**II - Model 210A** (cont’d)

*Airspeed Limits (CAS)*

- Never exceed 200 m.p.h. (174 knots)
- Maximum structural cruising: 175 m.p.h. (152 knots)
- Maneuvering: 130 m.p.h. (113 knots)
- Flaps extended: 110 m.p.h. (96 knots)
- Landing gear operating speed: 160 m.p.h. (139 knots)
- Landing gear extended speed: 160 m.p.h. (139 knots)

*C.G. Range (Landing Gear Extended)*

- (+38.4) to (+44.4) at 2900 lb.
- (+33.7) to (+44.4) at 2250 lb. or less

Straight line variation between points given.

Moment change due to retracting landing gear (+2456 in.-lb.)

Empty Wt. C.G. Range

None

*Maximum Weight*

2900 lb.

No. of Seats

4 (2 at +36, 2 at +70)

Maximum Baggage

120 lb. (+103)

Fuel Capacity

65 gal. (55 gal. usable); two 32.5 gal. tanks in wings at +48.

See NOTE 1 for data on unusable fuel

Oil Capacity

12 qt. (-19.4), 6 qt. usable

See NOTE 1 for data on undrainable oil

Control surface movements

- Wing flaps: Up 0°, Down 38° +2°, -1°
- Ailerons: Up 20° ±2°, Down 14° ±2°
- Elevator: Up 26°30′ ±1°, Down 22° ±1°
- Elevator tab: Up 10° ±2°, Down 25° ±2°, -0°
- Rudder: Right 24° ±1°, Left 24° ±1° (measured parallel to 0.0. W.L.)

Serial Nos. Eligible

Model 210A: 616, 21057576 through 21057840 (1961 Model)

**III - Model 210B, 4 PCLM (Normal Category), Approved June 27, 1961**

**Model 210C, 4 PCLM (Normal Category), Approved June 14, 1962**

Engine

Continental IO-470-S

*Fuel

100/130 minimum grade aviation gasoline

*Engine Limits

For all operations, 2625 r.p.m. (260 b.h.p.)

Propeller and Propeller Limits

1. (a) Hartzell HC-A2XF-1/8433-2

Diameter: not over 82 in., not under 80 in.

Pitch settings at 30 in. sta.:

- Low 13.5°, high 28.0°

(b) Cessna spinner 0752006

or

2. (a) McCauley D2A36C33/90M-8 or D2A34C49/90A-8 or D2A34C58/90AT-8

Diameter: not over 82 in., not under 80 in.

Pitch settings at 36 in. sta.:

- Low 10.8°, high 25.8°

(b) Cessna spinner 0752004

3. Woodward hydraulic governor 210270, 210280, 210340, 210345, 210451, 210452
III - Model 210B, Model 210C (cont’d)

*Airspeed Limits (CAS)

Never exceed 225 m.p.h. (196 knots)
Maximum structural cruising 190 m.p.h. (165 knots)
Maneuvering 132 m.p.h. (115 knots)
Flaps extended 110 m.p.h. (96 knots)
Landing gear operating speed 160 m.p.h. (139 knots)
Landing gear extended speed 160 m.p.h. (139 knots)

C.G. Range (Landing Gear Extended)
(+39.2) to (+45.0) at 3000 lb.
(+33.0) to (+45.0) at 2250 lb. or less

Straight line variation between points given.
Moment change due to retracting landing gear (+2456 in.-lb.)

Empty Wt. C.G. Range None

*Maximum Weight 3000 lb.

No. of Seats 4 (2 at +36, 2 at +70)

Maximum Baggage 120 lb. (+103)

Fuel Capacity 65 gal. (63.4 gal. usable); two 32.5 gal. tanks in wings at +48.
See NOTE 1 for data on unusable fuel

Oil Capacity 12 qt. (-19.4), 6 qt. usable.
See NOTE 1 for data on undrainable oil

Control Surface Movements

Wing flaps
Up 0° Down 40° +1°, -2°

Ailerons
Up 20° ±2° Down 14° ±2°

Elevator
Up 26°30’ ±1° Down 18° ±1°

Elevator tab
Up 20° +1°, -0° Down 20° +1°, -0°

Rudder
Right 24° ±1° Left 24° ±1°

(measured parallel to 0.0 W.L.)

Serial Nos. Eligible
Model 210B: 21057841 through 21058085 (1962 Model)
Model 210C: 21058086 through 21058139 and 21058141 through 21058220 (1963 Model)

IV - Model 210-5 (205), 6 PCLM (Normal Category), Approved June 14, 1962
Model 210-5A (205A), 6 PCLM (Normal Category), Approved July 19, 1963

Engine Continental IO-470-S

*Fuel 100/130 minimum grade aviation gasoline

*Engine Limits For all operations, 2625 r.p.m. (260 b.h.p.)

Propeller and Propeller Limits

1. (a) Hartzell HC-A2XF-1A13.5/8433-2
Diameter: not over 82 in., not under 80 in.
Pitch settings at 30 in. sta.:
low 13.5°, high 28.0°
(b) Cessna spinner 0752614

or 2. (a) McCauley D2A36C33/90M-8 or D2A34C49/90A-8 or D2A34C58/90AT-8
Diameter: not over 82 in., not under 80 in.
Pitch settings at 36 in. sta.:
low 10.8°, high 25.8°
(b) Cessna spinner 0752614

3. Woodward hydraulic governor 210270, 210280, 210340, 210345, 210451, 210452
### IV - Model 210-5 (205), Model 210-5A (205A)

<table>
<thead>
<tr>
<th><strong>Airspeed Limits (CAS)</strong></th>
<th>Never exceed 210 m.p.h</th>
<th>(182 knots)</th>
<th>Maximum structural cruising 170 m.p.h.</th>
<th>(148 knots)</th>
<th>Maneuvering 138 m.p.h.</th>
<th>(120 knots)</th>
<th>Flaps extended 110 m.p.h.</th>
<th>(96 knots)</th>
</tr>
</thead>
</table>

- C.G. Range (Landing Gear Extended) *(+40.5) to (+47.4) at 3300 lb.*
- *(+33.0) to (+47.4) at 2250 lb. or less*

Straight line variation between points given.

<table>
<thead>
<tr>
<th>Empty Wt. C.G. Range</th>
<th>None</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>*Maximum Weight</th>
<th>3300 lb.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>No. of Seats</th>
<th>6 (2 at +36, 2 at +69, 2 at +100)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Maximum Baggage</th>
<th>Reference weight and balance data</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Fuel Capacity</th>
<th>65 gal. (63.4 gal. usable); two 32.5 gal. tanks in wings at +48. See NOTE 1 for data on unusable fuel.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Oil Capacity</th>
<th>12 qt. (-19.4), 6 qt. usable. See NOTE 1 for data on undrainable oil.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Control Surface Movements</th>
<th>Wing flaps Up 0° Down 40° +1°, -2°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ailerons</td>
<td>Up 20° ±2° Down 14° ±2°</td>
</tr>
<tr>
<td>Elevator</td>
<td>Up 26°30' ±1° Down 18° ±1°</td>
</tr>
<tr>
<td>Elevator tab</td>
<td>Up 20° ±1°, -0° Down 20° ±1°, -0°</td>
</tr>
<tr>
<td>Rudder</td>
<td>Right 24° ±1° Left 24° ±1°</td>
</tr>
</tbody>
</table>

(measured parallel to 0.0. W.L.)

<table>
<thead>
<tr>
<th>Serial Nos. Eligible</th>
<th>Model 210-5 (205) : 641, 205-0001 through 205-0480 (1963 Model)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 210-5A (205A) : 205-0481 through 205-0577 (1964 Model)</td>
</tr>
</tbody>
</table>

### V - Model 210D, 4 PCLM (Normal Category), Approved July 19, 1963

<table>
<thead>
<tr>
<th>Engine</th>
<th>Continental IO-520-A</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>*Fuel</th>
<th>100/130 minimum grade aviation gasoline</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>*Engine Limits</th>
<th>For all operations, 2700 r.p.m. (285 b.h.p.)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Propeller and propeller limits</th>
<th>1. (a) McCauley D2A34C58/90AT-8 Diameter: not over 82 in., not under 80 in. Pitch settings at 36 in. sta.: low 10.3°, high 25.8°</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(b) Cessna spinner 0752004</td>
</tr>
<tr>
<td></td>
<td>(c) Woodward hydraulic governor D210452</td>
</tr>
</tbody>
</table>

|------------------------|-----------------------------------|-----------------------------------------------|-------------------------------|---------------------------------|-----------------------------------------------|-----------------------------------------------|

- C.G. range (landing gear extended) *(+39.2) to (+46.6) at 3100 lb.* *(+33.0) to (+46.6) at 2250 lb. or less*

Straight line variation between points given.

Moment change due to retracting landing gear (+2456 in.-lb.)
**V - Model 210D**  (cont’d)

- Empty wt. C.G. range: None
- *Maximum weight: 3100 lb.*
- No. of seats: 4 (2 at +36, 2 at +70)
- Maximum baggage: Reference weight and balance data
- Fuel capacity: 65 gal. (63.4 gal. usable); two 32.5 gal. tanks in wings at +48. See Note 1 for data on unusable fuel.
- Oil capacity: 12 qt. (-19.4), 6 qt. usable. See Note 1 for data on undrainable oil.

<table>
<thead>
<tr>
<th>Control surface movements</th>
<th>Wing flaps</th>
<th>Up 0°</th>
<th>Down 40° +1°, -2°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ailerons</td>
<td>Up 21° ±2°</td>
<td>Down 14°30’ ±2°</td>
<td></td>
</tr>
<tr>
<td>Elevator</td>
<td>Up 26°30’ ±1°</td>
<td>Down 18° ±1°</td>
<td></td>
</tr>
<tr>
<td>Elevator tab</td>
<td>Up 20° +1°, -0°</td>
<td>Down 10° +1°, -0°</td>
<td></td>
</tr>
<tr>
<td>Rudder</td>
<td>Right 24° ±1°</td>
<td>Left 24° ±1°</td>
<td></td>
</tr>
</tbody>
</table>

(measured parallel to 0.0. W.L.)

**Serial Nos. eligible:** Model 210D: 21058221 through 21058510 (1964 Model)

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**VI - Model 210E, 4 PCLM (Normal Category), Approved September 17, 1964**

- **Engine:** Continental IO-520-A
- *Fuel: 100/130 minimum grade aviation gasoline*
- *Engine limits: For all operations, 2700 rpm. (285 b.hp.)*
- Propeller and propeller limits
  1. (a) McCauley E2A34C64/90AT-8
     - Diameter: not over 82 in., not under 80 in.
     - Pitch settings at 36 in. sta.:
       - low 10.3°, high 25.8°
     - (b) Cessna spinner 1250411
     - (c) Woodward hydraulic governor D210452
  2. (a) McCauley E2A34C73/90AT-8
     - Diameter: not over 82 in., not under 80 in.
     - Pitch settings at 36 in. sta.:
       - low 10.3°, high 25.8°
     - (b) Cessna spinner 1250415
     - (c) Woodward hydraulic governor D210452

- *Airspeed limits (CAS):* Never exceed 225 mph. (196 knots)
  - Maximum structural cruising: 190 mph. (165 knots)
  - Maneuvering: 134 mph. (116 knots)
  - Flaps extended: 110 mph. (96 knots)
  - Landing gear operating speed: 160 mph. (139 knots)
  - Landing gear extended speed: 160 mph. (139 knots)

**C.G. range (landing gear extended):** (+39.2) to (+46.6) at 3100 lb.
(+33.0) to (+46.6) at 2250 lb. or less

Straight line variation between points given.
Moment change due to retracting landing gear (+2456 in.-lb.)

**Empty wt. C.G. range:** None
VI - Model 210E (cont’d)

*Maximum weight: 3100 lb.

No. of seats: 4 (2 at +36, 2 at +70)

Maximum baggage: Reference weight and balance data

Fuel capacity: 65 gal. (63.4 gal. usable); two 32.5 gal. tanks in wings at +48. See Note 1 for data on unusable fuel.

Oil capacity: 12 qt. (-19.5), 6 qt. usable

See Note 1 for data on undrainable oil.

Control surface movements:
- Wing flaps: Up 0°, Down 40° +1°, -2°
- Ailerons: Up 21° ±2°, Down 14°30' ±2°
- Elevator: Up 26°30' ±1°, Down 18° ±1°
- Elevator tab: Up 20° +1°, -0°, Down 10° +1°, -0°
- Rudder: Right 24° ±1°, Left 24° ±1°

(measured parallel to 0.0. W.L.)

Serial Nos. eligible: Model 210E: 21058511 through 21058715 (1965 Model)

VII - Model T210F, 4 PCLM (Normal Category). Approved August 3, 1965

Engine: Continental TSIO-520-C

*Fuel: 100/130 minimum grade aviation gasoline

*Engine limits: For all operations, 2700 r.p.m., 32.5 in. Hg. mp. (285 b.hp.)

Propeller and propeller limits:
1. (a) McCauley E2A34C70/90AT-8
   - Diameter: not over 82 in., not under 80 in.
   - Pitch settings at 36 in. sta.:
     - low 11.8°, high 32.0°
   (b) Cessna spinner 1250415
   (c) Woodward hydraulic governor G210452
2. (a) McCauley D3A32C77/82NK-2
   - Diameter: not over 80 in., not under 78 in.
   - Pitch settings at 30 in. sta.:
     - low 13.2°, high 32.5°
   (b) Cessna spinner 1250419-2
   (c) Woodward hydraulic governor G210452
3. (a) McCauley D3A32C88/82NC-2
   - Diameter: not over 80 in., not under 78 in.
   - Pitch settings at 30 in. sta.:
     - low 14.0°, high 33.0°
   (b) Cessna spinner 1250419-2
   (c) Woodward hydraulic governor G210452

*Airspeed limits (CAS): Never exceed 225 mph. (196 knots)

Maximum structural cruising: 190 mph. (165 knots)
Maneuvering: 131 mph. (114 knots)
Flaps extended: 110 mph ( 96 knots)
Landing gear operating speed: 160 mph. 139 knots)
Landing gear extended speed: 160 mph. (139 knots)
VII - Model T210F (cont’d)
C.G. range (landing gear extended) (+39.0) to (+46.6) at 3300 lb.  
(+33.0) to (+46.6) at 2480 lb. or less  
Straight line variation between points given.  
Moment change due to retracting landing gear (+2456 in.-lb.)  
Empty wt. C.G. range  None  
*Maximum weight  3300 lb.  
No. of seats  4 (2 at +36, 2 at +70)  
Maximum baggage  Reference weight and balance data  
Fuel capacity  65 gal. (63 gal. usable); two 32.5 gal. tanks in wings at +48.  
See Note 1 for data on unusable fuel.  
Oil capacity  12 qt. (-19.4), 6 qt. usable.  
See Note 1 for data on undrainable oil.  
Control surface movements  
Wing flaps  Up 0°  Down 40° +1°, -2°  
Ailerons  Up 21° ±2°  Down 14°30’ ±2°  
Elevator  Up 26°30’ ±1°  Down 20° ±1°  
Elevator tab  Up 20° ±1°  Down 20° ±1°  
Rudder  Right 24° ±1°  Left 24° ±1°  
(measured parallel to 0.0. W.L.)  
Serial Nos. eligible  Model T210F:  T210-0001 through T210-0197 (1966 Model)  

VIII - Model 210F, 4 PCLM (Normal Category), Approved August 3, 1965  
Engine  Continental IO-520-A  
*Fuel  100/130 minimum grade aviation gasoline  
*Engine limits  For all operations, 2700 rpm. (285 b.h.p.)  
Propeller and propeller limits  
1. (a) McCauley E2A34C73/90AT-8  
Diameter: not over 82 in., not under 80 in.  
Pitch settings at 36 in. sta.:  
low 10.3°, high 25.8°  
(b) Cessna spinner 1250415  
(c) Woodward hydraulic governor D210452  
2. (a) McCauley D3A32C77/82NK-2  
Diameter: not over 80 in., not under 78 in.  
Pitch settings at 30 in. sta.:  
low 11.3°, high 27.6°  
(b) Cessna spinner 1250419-2  
(c) Woodward hydraulic governor D210452  
3. (a) McCauley D3A32C88/82NC-2  
Diameter: not over 80 in., not under 78 in.  
Pitch settings at 30 in. sta.:  
low 13.8°, high 28.1°  
(b) Cessna spinner 1250419-2  
(c) Woodward hydraulic governor D210452
VIII - Model 210F (cont'd)

*Airspeed limits (CAS)

Never exceed 225 mph. (196 knots)
Maximum structural cruising 190 mph. (165 knots)
Maneuvering 131 mph (114 knots)
Flaps extended 110 mph (96 knots)
Landing gear operating speed 160 mph (139 knots)
Landing gear extended speed 160 mph. (139 knots)

C.G. range (landing gear extended)
(+39.0) to (+46.6) at 3300 lb.
(+33.0) to (+46.6) at 2400 lb. or less
Straight line variation between points given.
Moment change due to retracting landing gear (+2456 in.-lb.)

Empty wt. C.G. range
None

*Maximum weight
3300 lb.

No. of seats
4 (2 at +36, 2 at +70)

Maximum baggage
Reference weight and balance data

Fuel capacity
65 gal. (63 gal. usable), two 32.5 gal. tanks in wings at +48.
See Note 1 for data on unusable fuel.

Oil capacity
12 qt. (-19.4), 6 qt. usable
See Note 1 for data on undrainable oil.

Control surface movements

Wing flaps  Up 0° Down 40° +1°, -2°
Ailerons  Up 21° ±2 Down 14°30' ±2°
Elevator  Up 26°30' ±1° Down 18° ±1°
Elevator tab  Up 20° ±1° Down 20° ±1°
Rudder  Right 24° ±1° Left 24° ±1°
(measured parallel to 0.0. W.L.)

Serial Nos. eligible
Model 210F: 21058716 through 21058818 (1966 Model)

IX - Model T210G, 4 PCLM (Normal Category), Approved August 23, 1966
Model T210H, 4 PCLM (Normal Category), Approved August 16, 1967

Engine
Continental TSIO-520-C

*Fuel
100/130 minimum grade aviation gasoline

*Engine limits
For all operations, 2700 rpm., 32.5 in. Hg. mp. (285 b.hp.)

Propeller and propeller limits

1. (a) McCauley E2A34C70/90AT-8
   Diameter: not over 82 in., not under 80 in.
   Pitch settings at 36 in. sta.:
   Low 11.8°, high 32.0°
   (b) Cessna spinner 1250415
   (c) Woodward hydraulic governor G210452
   (d) McCauley hydraulic governor C290D2/T2 or C290D4/T2

2. (a) McCauley D3A32C88/82NC-2
   Diameter: not over 80 in., not under 78 in.
   Pitch settings at 30 in. sta.:
   Low 14.0°, high 33.0°
   (b) Cessna spinner 1250419-2
   (c) Woodward hydraulic governor G210452
   (d) McCauley hydraulic governor C219D2/T2 or C290D4/T2
IX - Model T210G, Model T210H (cont’d)

Propeller and propeller limits

3. (a) McCauley D3A32C77/82NK-2 (T-210G Only)
Diameter: not over 80 in., not under 78 in.
Pitch settings at 30 in. sta.:
low 13.2°, high 32.5°
(b) Cessna spinner 1250419-2
(c) Woodward hydraulic governor G210452

*Airspeed limits (CAS)

Never exceed 225 mph. (196 knots)
Maximum structural cruising 190 mph (165 knots)
Maneuvering 135 mph. (117 knots)
Flaps extended 110 mph. (96 knots)
Landing gear operating speed 160 mph. (139 knots)
Landing gear extended speed 160 mph. (139 knots)

C.G. range (landing gear extended)

(+39.7) to (+47.8) at 3400 lb.
(+35.5) to (+47.8) at 2800 lb. or less
Straight line variation between points given.
Moment change due to retracting landing gear (+2456 in.-lb.)

Empty wt. C.G. range

None

*Maximum weight

3400 lbs.

No. of seats

4 (2 at +36, 2 at +70)

Maximum baggage

Reference weight and balance data.

Fuel capacity

90 gal. (89 gal. usable), two 45.0 gal. tanks in wings at +43.
See Note 1 for data on unusable fuel

Oil capacity

12 qt. (-19.4), 6 qt. usable.
See Note 1 for data on undrainable oil

Control surface movements

Wing flaps
Up 0° Down 30°
Ailerons
Up 20° ±2° Down 15° ±2°
Elevator
Up 23° ±1° Down 15° ±1°
Elevator tab
Up 20° ±1° Down 5° ±1°
Rudder
Right 24° ±1° Left 24° ±1°
(measured parallel to 0.0. W.L.)

Serial Nos. eligible

Model T210G: T210-0198 through T210-0307 (1967 Model)
Model T210H: T210-0308 through T210-0392 (1968 Model)

X - Model 210G, 4 PCLM (Normal Category), Approved August 23, 1966
Model 210H, 4 PCLM (Normal Category), Approved August 16, 1967

Engine
Continental IO-520-A

*Fuel
100/130 minimum grade aviation gasoline

*Engine limits
For all operations, 2700 rpm. (285 b.hp.)

Propeller and propeller limits

1. (a) McCauley E2A34C73/90AT-8
Diameter: not over 82 in., not under 80 in.
Pitch settings at 36 in. sta.:
low 10.3°, high 25.8°
(b) Cessna spinner 1250415
(c) Woodward hydraulic governor D210452
(d) McCauley hydraulic governor C290D2/T5 or C290D3/T5
X - Model 210G, Model 210H
(cont’d)

2. (a) McCauley D3A32C88/82NC-2
   Diameter: not over 80 in., not under 78 in.
   Pitch settings at 30 in. sta.:
   low 13.8°, high 28.1°
   (b) Cessna spinner 1250419-2
   (c) Woodward hydraulic governor D210452
   (d) McCauley hydraulic governor C290D2/T5 or C290D3/T5

*Airspeed limits (CAS)

Never exceed 225 mph (196 knots)
Maximum structural cruising 190 mph (165 knots)
Maneuvering 135 mph. (117 knots)
Flaps extended 110 mph. ( 96 knots)
Landing gear operating speed 160 mph. (139 knots)
Landing gear extended speed 160 mph. (139 knots)

C.G. range (landing gear extended)
(+39.7) to (+47.8) at 3400 lb.
(+35.5) to (+47.8) at 2800 lb. or less
Straight line variation between points given.
Moment change due to retracting landing gear (+2456 in.-lb.)

Empty wt. C.G. range
None

*Maximum weight
3400 lb.

No. of seats
4 (2 at +36, 2 at +70)

Maximum baggage
Reference weight and balance data

Fuel capacity
90 gal. (89 gal. usable); two 45.0 gal. tanks in wings at +43.
See Note 1 for data on unusable fuel.

Oil capacity
12 qt. (-19.4); 6 qt. usable
See Note 1 for data on undrainable oil.

Control surface movements
Wing flaps Up 0° Down 30°
Ailerons Up 20° ±2° Down 15° ±2°
Elevator Up 23° ±1° Down 15° ±1°
Elevator tab Up 20° ±1° Down 5° ±1°
Rudder Right 24° ±1° Left 24° ±1°
(measured parallel to 0.0. W.L.)

Serial Nos. eligible
Model 210G: 21058819 through 21058936 (1967 Model)
Model 210H: 21058937 through 21059061 (1968 Model)

XI - Model T210J, 4 PCLM (Normal Category), Approved July 17, 1968

Engine
Continental TSIO-520-H

*Fuel
100/130 minimum grade aviation gasoline

*Engine limits
For all operations, 2700 rpm., 32.5 in. Hg. mp. (285 b.hp.)

Propeller and propeller limits
1. (a) McCauley E2A34C70/90AT-8
   Diameter: not over 82 in., not under 80 in.
   Pitch settings at 36 in. sta.:
   low 11.8°, high 32.0°
   (b) Cessna spinner 1250415
   (c) Woodward hydraulic governor G210452
   (d) McCauley hydraulic governor C290D2/T2 or C290D4/T2
XI - Model T210J (cont’d)

2. (a) McCauley D3A32C88/82NC-2
   Diameter: not over 80 in., not under 78 in.
   Pitch settings at 30 in. sta.:
       low 14.0°, high 33.0°
   (b) Cessna spinner 1250419-2
   (c) Woodward hydraulic governor G210452
   (d) McCauley hydraulic governor C219D2/T2 or C290D4/T2

Airspeed limits (CAS)

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never exceed</td>
<td>225 mph.</td>
</tr>
<tr>
<td>Maximum structural cruising</td>
<td>90 mph.</td>
</tr>
<tr>
<td>Maneuvering</td>
<td>135 mph.</td>
</tr>
<tr>
<td>Flaps extended</td>
<td>110 mph.</td>
</tr>
<tr>
<td>Landing gear operating speed</td>
<td>160 mph.</td>
</tr>
<tr>
<td>Landing gear extended speed</td>
<td>160 mph.</td>
</tr>
</tbody>
</table>

C.G. range (landing gear extended)

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>(+39.7) to (+47.8) at 3400 lb.</td>
<td></td>
</tr>
<tr>
<td>(+35.5) to (+47.8) at 2800 lb. or less</td>
<td></td>
</tr>
<tr>
<td>Straight line variation between points given.</td>
<td></td>
</tr>
<tr>
<td>Moment change due to retracting landing gear (+2456 in.-lb.)</td>
<td></td>
</tr>
</tbody>
</table>

Empty wt. C.G. range

None

*Maximum weight

3400 lb.

No. of seats

4 (2 at +36, 2 at +70)

Maximum baggage

Reference weight and balance data.

Fuel capacity

90 gal. (89 gal. usable), two 45.0 gal. tanks in wings at +43.
See Note 1 for data on unusable fuel.

Oil capacity

10 qt. (-12.5), 8 qt. usable
See Note 1 for data on undrainable oil.

Control surface movements

<table>
<thead>
<tr>
<th>Description</th>
<th>Up</th>
<th>Down</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing flaps</td>
<td>0°</td>
<td>30°</td>
</tr>
<tr>
<td>Ailerons</td>
<td>20° ±2°</td>
<td>15° ±2°</td>
</tr>
<tr>
<td>Elevator</td>
<td>23° ±1°</td>
<td>15° ±1°</td>
</tr>
<tr>
<td>Elevator tab</td>
<td>20° ±1°</td>
<td>5° ±1°</td>
</tr>
<tr>
<td>Rudder</td>
<td>Right 24° ±1°, Left 24° ±1°</td>
<td></td>
</tr>
<tr>
<td>(measured parallel to 0.0. W.L.)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Serial Nos. eligible

Model T210J: 21058140, T210-0393 through T210-0454 (1969 Model)

XII - Model 210J, 4 PCLM (Normal Category), Approved July 17, 1968

Engine

Continental IO-520-J

*Fuel

100/130 minimum grade aviation gasoline

*Engine limits

For all operations, 2700 rpm. (285 b.hp.)

Propeller and propeller limits

1. (a) McCauley E2A34C73/90AT-8
   Diameter: not over 82 in., not under 80 in.
   Pitch settings at 36 in. sta.:
       low 10.3°, high 25.8°
   (b) Cessna spinner 1250415
   (c) Woodward hydraulic governor D210452
   (d) McCauley hydraulic governor C290D2/T5 or C290D3/T5
XII - Model 210J (cont’d)

2. (a) McCauley D3A32C88/82NC-2
   Diameter: not over 80 in., not under 78 in.
   Pitch settings at 30 in. sta.:
   low 13.8°, high 28.1°
(b) Cessna spinner 1250419-2
(c) Woodward hydraulic governor D210452
(d) McCauley hydraulic governor C290D2/T5 or C290D3/T5

*Airspeed limits (CAS)
   Never exceed 225 mph. (196 knots)
   Maximum structural cruising 190 mph (165 knots)
   Maneuvering 135 mph. (117 knots)
   Flaps extended 110 mph. (96 knots)
   Landing gear operating speed 160 mph. (139 knots)
   Landing gear extended speed 160 mph. (139 knots)

C.G. range (landing gear extended)
(+39.7) to (+47.8) at 3400 lb.
(+35.5) to (+47.8) at 2800 lb. or less
   Straight line variation between points given.
   Moment change due to retracting landing gear (+2456 in.-lb.)

Empty wt. C.G. range None

*Maximum weight
   3400 lb.

No. of seats
   4 (2 at +36, 2 at +70)

Maximum baggage Reference weight and balance data

Fuel capacity
   90 gal. (89 gal. usable); two 45.0 gal. tanks in wings at +43.
   See Note 1 for data on unusable fuel.

Oil capacity
   10 qt. (-12.5); 8 qt. usable
   See Note 1 for data on undrainable oil.

Control surface movements
   Wing flaps Up 0° Down 30°
   Ailerons Up 20° ±2° Down 15° ±2°
   Elevator Up 23° ±1° Down 15° ±1°
   Elevator tab Up 20° ±1° Down 5° ±1°
   Rudder Right 24° ±1° Left 24° ±1°
   (measured parallel to 0.0. W.L.)

Serial Nos. eligible Model 210J: 21059062 through 21059199 (1969 Model)

XIII - Model 210K/T210K, 6 PCLM (Normal Category), Approved September 26, 1969
Model 210L/T210L, 6 PCLM (Normal Category), Approved October 7, 1971

Model 210K/210L

Engine
   Continental IO-520-L

*Fuel
   100/130 minimum grade aviation gasoline

*Engine limits
   Takeoff (5 min.) at 2850 rpm. (300 hp.)
   For all other operations, 2700 r.p.m. (285 hp.)
XIII  Model 210K/T210K, Model 210L/T210L  (cont’d)

Propeller and propeller limits

1. Model 210K/210L (S/N 21059200 through 21060539)
   (a) McCauley E2A34C73/90AT-8
       Diameter: not over 82 in., not under 80 in.
       Pitch settings at 36 in. sta.:
       low 10.3°, high 25.8°
   (b) Cessna spinner 1250419
   (c) Woodward hydraulic governor 2104562
   (d) McCauley hydraulic governor C290D2/T4 or C290D4/T4

2. (a) McCauley D3A32C88/82NC-2
       Diameter: not over 80 in., not under 78.5 in.
       Pitch settings at 30 in. sta.:
       low 11.5°, high 28.1°
   (b) Cessna spinner 1250419-2
   (c) Woodward hydraulic governor 210462
   (d) McCauley hydraulic governor C290D2/T4 or C290D4/T4

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Model T210K/T210L

*Engine* Continental TSIO-520-H

*Fuel* 100/130 minimum grade aviation gasoline

*Engine limits* For all operations, 2700 rpm., 32.5 in. Hg. mp. (285 b.hp.)

Propeller and Propeller Limits

1. Model T210K/T210L (S/N 21059200 through 21060539)
   (a) McCauley E2A34C70/90AT-8
       Diameter: not over 82 in., not under 80 in.
       Pitch settings at 36 in. sta.:
       low 11.8°, high 32.0°
   (b) Cessna spinner 1250415
   (c) Woodward hydraulic governor G210452
   (d) McCauley hydraulic governor C290D2/T2 or C290D4/T4

2. (a) McCauley D3A32C88/82NC-2
       Diameter: not over 80 in., not under 78.5 in.
       Pitch settings at 30 in. sta.:
       low 14.0°, high 33.0°
   (b) Cessna spinner 1250419-2
   (c) Woodward hydraulic governor G210452
   (d) McCauley hydraulic governor C290D2/T2 or C290D4/T2

---

Models 210K/210L/T210K/T210L

*Airspeed Limits (CAS)*

Model 210K/T210K, 210L/T210L (S/N 21059200 through 21061039)

Never exceed 225 m.p.h. (196 knots)

Maximum structural cruising 190 m.p.h (165 knots)
Maneuvering 135 m.p.h (117 knots)
Flaps extended (210K/T210K) 110 m.p.h (96 knots)
Flaps extended (210L/T210L) 120 m.p.h (104 knots)
Landing gear operating speed 160 m.p.h (139 knots)
Landing gear extended speed 160 m.p.h (139 knots)

* (IAS)

Model 210L/T210L (S/N 21061040 through 21061573)

Never exceed 199 knots

Maximum structural cruising 168 knots
Maneuvering 119 knots
Flaps extended 105 knots
Landing gear operating speed 140 knots
Landing gear extended speed 140 knots

(See NOTE 4 on use of IAS)
Models 210K/210L/T210K/T210L (cont’d)

C.G. Range (Landing Gear Extended)
(+42.5) to (+53.0) at 3800 lb.
(+37.0) to (+53.0) at 3000 lb. or less
Straight line variation between points given.
Moment change due to retracting landing gear (+3207 in.-lb.)

Empty Wt. C.G. Range
None

*Maximum Weight
3800 lb.

No. of Seats
Standard 6 (2 at +34 to +46, 2 at +61 to +77, 2 at +101)
Optional 4 (2 at +34 to +46, 2 at +77) (210K/T210K)

Maximum Baggage
Reference weight and balance data

Fuel Capacity
90 gal. (89 gal. usable); two 45.0 gal. tanks in wings at +43
See NOTE 1 for data on unusable fuel.

Oil Capacity
10 qt. (-12.5); 8 qt. usable
See NOTE 1 for data on undrainable oil.

Control Surface Movements

<table>
<thead>
<tr>
<th>Surface</th>
<th>Up</th>
<th>Down</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing flaps</td>
<td>0°</td>
<td>30°+1°, -2°</td>
</tr>
<tr>
<td>Ailerons</td>
<td>20°±2°</td>
<td>15°±2°</td>
</tr>
<tr>
<td>Elevator</td>
<td>23°±1°</td>
<td>17°±1°</td>
</tr>
<tr>
<td>Elevator tab</td>
<td>25°±1°</td>
<td>10°±1°</td>
</tr>
<tr>
<td>Rudder</td>
<td>24°±1°</td>
<td>24°±1°</td>
</tr>
<tr>
<td>(measured parallel to 0.0 W.L.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rudder</td>
<td>27°13’±1°</td>
<td>27°13’±1°</td>
</tr>
<tr>
<td>(measured perpendicular to hinge line)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Serial Nos. Eligible
Models 210K/T210K: 21059200 through 21059351 (1970 Model)
21059352 through 21059502 (1971 Model)
Models 210L/T210L: 21059503 through 21059719 (1972 Model)
21059720 through 21060089 (1973 Model)
21060090 through 21060539 (1974 Model)
21060540 through 21061039 (1975 Model)
21061040 through 21061041 (1976 Model)
21061043 through 21061573 (1976 Model)

XIV - Model 210M/T210M, 6 PCLM (Normal Category), October 7, 1976

Model 210M

Engine
Continental IO-520-L

*Fuel
Model 210M (S/N 21061574 through 21062273)
100/130 minimum grade aviation gasoline

Model 210M (S/N 21062274 through 21062953)
100LL/100 minimum grade aviation gasoline

*Engine Limits
Takeoff (5 min.) at 2850 r.p.m. (300 hp.)
For all other operations, 2700 r.p.m. (285 hp.)
XIV - Model 210M/T210M (cont’d)

Propeller and Propeller Limits

1. Model 210M (S/N 21061574 through 21062273)
   (a) McCauley D3A32C88/82NC-2
       Diameter: not over 80 in., not under 78.5 in.
       Pitch settings at 30 in. sta.:
       low 11.5°, high 28.1°
   (b) Cessna spinner 1250419-2
   (c) Woodward hydraulic governor 210462
   (d) McCauley hydraulic governor C290D4/T4

2. Model 210M (S/N 21062274 and up)
   (a) McCauley D3A34C404/80VA-0
       Diameter: not over 80 in., not under 78.5 in.
       Pitch settings at 30 in. sta.:
       low 11.0°, high 27.0°
   (b) Cessna spinner 1250419
   (c) McCauley hydraulic governor C290D4/T4

*Airspeed Limits (IAS)  
(See NOTE 4 on use of IAS)

1. Model 210M (S/N 21061574 through 21062273)
   Never exceed 199 knots
   Maximum structural cruising 168 knots
   Maneuvering 119 knots
   Flaps extended 105 knots
   Landing gear operating speed 140 knots
   Landing gear extended speed 140 knots

2. Model 210M (S/N 21062274 through 21062953)
   Never exceed 199 knots
   Maximum structural cruising 168 knots
   Maneuvering 119 knots
   Flaps extended 115 knots
   Landing gear operating speed 140 knots
   Landing gear extended speed 199 knots

Model T210M

Engine
Continental TSIO-520-R

*Fuel
Model T210M (S/N 21061574 through 21062273)
100/130 minimum grade aviation gasoline

Model T210M (S/N 21062274 through 21062953)
100LL/100 minimum grade aviation gasoline

Engine Limits
Takeoff (5 min. at 2700 r.p.m., 36.5 in. Hg. mp. (310 hp.)
For all other operations 2600 r.p.m., 35 in. Hg. mp. (285 hp.)

Propeller and Propeller Limits

1. (a) McCauley D3A34C402/90DFA-10
       Diameter: not over 80 in., not under 78.5 in.
       Pitch settings at 30 in. sta.:
       low 12.4°, high 28.5°
   (b) Cessna spinner 1250419-10
   (c) McCauley hydraulic governor C290D4/T2
   (d) Woodward hydraulic governor G210452

*Airspeed Limits (IAS)  
(See NOTE 4 on use of IAS)

1. Model T210M (S/N 21061574 through 21062273)
   Never exceed 195 knots
   Maximum structural cruising 165 knots
   Maneuvering 119 knots
   Flaps extended 105 knots
   Landing gear operating speed 140 knots
   Landing gear extended speed 140 knots
2. Model T210M (S/N 21062274 through 21062953)
   - Never exceed: 195 knots
   - Maximum structural cruising: 165 knots
   - Maneuvering: 119 knots
   - Flaps extended: 115 knots
   - Landing gear operating speed: 140 knots
   - Landing gear extended speed: 195 knots

**Models 210M/T210M**

| C.G. Range (Landing Gear Extended) | (+42.5) to (+53.0) at 3800 lb.  
|                                  | (+37.0) to (+53.0) at 3000 lb. or less
| Straight line variation between points given |
| Moment change due to retracting landing gear (+3207 in.-lb.) |

| Empty Wt. C.G. Range | None |

| *Maximum Weight | 3800 lb. |

| No. of Seats | 6 (2 at +34 to +46, 2 at +61 to +77, 2 at +101) |

| Maximum Baggage | Reference weight and balance data |

| Fuel Capacity | 90 gal. (89 gal. usable), two 45.0 gal. tanks in wings at +43. See NOTE 1 for data on unusable fuel |

| Oil Capacity | 10 qt. (-12.5), 8 qt. usable |

<table>
<thead>
<tr>
<th>Control Surface Movements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing flaps</td>
</tr>
</tbody>
</table>
| Up: 0°  
| Down: 30° +1°, -2° |
| Ailerons |
| Up: 20° ±2°  
| Down: 15° ±2° |
| Elevator |
| Up: 23° ±1°  
| Down: 17° ±1° |
| Elevator tab |
| Up: 25° ±1°  
| Down: 10° ±1° |
| Rudder (measured parallel to 0.0 W.L.) |
| Right: 24° ±1°  
| Left: 24° ±1° |
| Rudder (measured perpendicular to hinge line) |
| Right: 27° 13' ±1°  
| Left: 27° 13' ±1° |

|                     | 21061042, 21062274 through 21062954 (1978 Model) |

**XV - Model P210N, Pressurized Centurion, 6 PCLM (Normal Category), Approved August 10, 1977**

| Engine | Model P210N (S/N P21000001 through P21000760): Continental TSIO-520-P  
|        | Model P210N (S/N P21000761 and up): Continental TSIO-520-AF |

| *Fuel | 100LL/100 minimum grade aviation gasoline |

<table>
<thead>
<tr>
<th>*Engine Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model P210N (S/N P21000001 through P21000760)</td>
</tr>
</tbody>
</table>
| Takeoff (5 min.) at 2700 r.p.m., 36.5 in. Hg. mp. (310 hp.)  
| For all other operations 2600 r.p.m., 33.5 in. Hg. mp. (285 hp.) |
| Model P210N (S/N P21000761 and up) |
| Takeoff (5 min.) at 2700 r.p.m., 35.5 in. Hg. mp. (310 hp.)  
| For all other operations, 2600 r.p.m., 34.5 in. Hg. mp. (285 hp.) |
**V - Model P210N** (cont’d)

**Propeller and Propeller Limits**

1. (a) McCauley D3A34C402/90DFA-10
   - Diameter: not over 80 in., not under 78.5 in.
   - Pitch settings at 30 in. sta.:
     - low 12.4°, high 28.5°
   - Model P210N (S/N P21000001 through P21000760)
   - Avoid continuous operation between 1850 and 2150 r.p.m. above 24 in. mp.
   - Model P210N (S/N P21000761 and up)
   - Avoid continuous operation between 1850 and 2150 r.p.m. above 23 in. mp.

   (b) Cessna spinner 1250419

   (c) McCauley hydraulic governor C290D4/T2

*Airspeed Limits (IAS)*

1. Model P210N (S/N P21000001 through P21000150)
   - Never exceed 200 knots
   - Maximum structural cruising 167 knots
   - Maneuvering 130 knots
   - Flaps extended 115 knots
   - Landing gear operating speed 140 knots
   - Landing gear extended speed 200 knots

2. Model P210N (S/N P21000151 and up)
   - Never exceed 200 knots
   - Maximum structural cruising 167 knots
   - Maneuvering 130 knots
   - Flaps extended 115 knots
   - Landing gear operating speed 165 knots
   - Landing gear extended speed 200 knots

**C.G. Range (Landing Gear Extended)**

(+43.9) to (+52.0) at 4000 lb.
(+42.5) to (+52.0) at 3800 lb.
(+37.0) to (+52.0) at 3000 lb. or less

Straight line variation between points given

Moment change due to retracting landing gear
(+3207 in.-lb.) S/N P21000001 through P21000150
(+2907 in.-lb.) S/N P21000151 and up

**Empty Wt. C.G. Range**

None

*Maximum Weight*

4000 lb. takeoff and flight
3800 lb. landing
4016 lb. ramp, S/N 21000151 and up

**No. of Seats**

6 (2 at +34 to +46, 2 at +61 to +77, 2 at +101)

**Maximum Baggage**

Reference weight and balance data

**Fuel Capacity**

90 gal. (89 gal. usable), S/N P21000001 through P21000760
90 gal. (87 gal. usable), S/N P21000761 and up

Two 45.0 gal. tanks in wings at +43

See NOTE 1 for data on unusable fuel.

**Oil Capacity**

10 qt. (-12.5); 8 qt. usable

**Control Surface Movements**

- **Wing flaps**
  - Up 0°
  - Down 30° +1°, -2°

- **Ailerons**
  - Up 20° ±2°
  - Down 15° ±2°

- **Elevator**
  - Up 23° ±1°
  - Down 17° ±1°

- **Elevator tab**
  - Up 25° ±1°
  - Down 10° ±1°

- **Rudder**
  - Right 24° ±1°
  - Left 24° ±1°

(measured parallel to 0.0 W.L.)

- **Rudder**
  - Right 27° 13’ ±1°
  - Left 27° 13’ ±1°

(measured perpendicular to hinge line)
**XV - Model P210N** (cont’d)

Serial Nos. Eligible

Model P210N:  
- P21000001 through P21000150 (1978 Model)  
- P21000151 through P21000385 (1979 Model)  
- P21000386 through P21000590 (1980 Model)  
- P21000591 through P21000760 (1981 Model)  
- P21000761 through P21000811 (1982 Model)  
- P21000812 through P21000834 (1983 Model)

**XVI - Model 210N/T210N, Centurion/Turbo System Centurion, 6 PCLM (Normal Category), approved October 19, 1978**

**Model 210N**

**Engine**

Continental IO-520-L

**Fuel**

100LL/100 minimum grade aviation gasoline

**Engine Limits**

Takeoff full throttle (5 min.) at 2850 r.p.m. (300 hp. rating)

For all other operations, full throttle 2700 r.p.m. (285 hp. rating)

**Propeller and Propeller Limits**

1. (a) McCauley D3A34C404/80VA-0

   Diameter: not over 80 in., not under 78.5 in.

   Pitch settings at 30 in. sta.:
   - low 11.0°, high 27.0°

   (b) Cessna spinner 1250419

   (c) McCauley hydraulic governor C290D4/T4

**Airspeed Limits (IAS)**

1. Model 210N (S/N 21062954 and up)

   - Never exceed 200 knots
   - Maximum structural cruising 165 knots
   - Maneuvering 125 knots
   - Flaps extended 115 knots
   - Landing gear operating speed 165 knots
   - Landing gear extended speed 200 knots

**C.G. Range (Landing Gear Extended)**

(+42.5) to (+53.0) at 3800 lb.

(+37.0) to (+53.0) at 3000 lb. or less

Straight line variation between points given

Moment change due to retracting landing gear (+2907 in.-lb.)

**Empty Wt. C.G. Range**

None

**Maximum Weight**

3800 lb.

3812 lb. ramp

**No. of Seats**

6 (2 at +34 to +46, 2 at +61 to +77, 2 at +101)

**Maximum Baggage**

Reference weight and balance data

**Fuel Capacity**

90 gal. (89 gal. usable), S/N 21062955 through 21064535

90 gal. (87 gal. usable), S/N 21064536 and up

Two 45.0 gal. tanks in wings at +43

See NOTE 1 for data on unusable fuel.

**Oil Capacity**

10 qt. (-12.5), 8 qt. usable
**Model 210N** (cont’d)

<table>
<thead>
<tr>
<th>Control Surface</th>
<th>Movements</th>
<th>Wing flaps</th>
<th>Up 0°</th>
<th>Down 30° ±1°, -2°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ailerons</td>
<td>Up</td>
<td>20° ±2°</td>
<td>Down 15° ±2°</td>
<td></td>
</tr>
<tr>
<td>Elevator</td>
<td>Up</td>
<td>23° ±1°</td>
<td>Down 17° ±1°</td>
<td></td>
</tr>
<tr>
<td>Elevator tab</td>
<td>Up</td>
<td>25° ±1°</td>
<td>Down 10° ±1°</td>
<td></td>
</tr>
<tr>
<td>Rudder</td>
<td>Right</td>
<td>24° ±1°</td>
<td>Left 24° ±1°</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Right</td>
<td>27° 13' ±1°</td>
<td>Left 27° 13' ±1°</td>
<td></td>
</tr>
</tbody>
</table>

(Movement parallel to 0.0 W.L.)

Serial Nos. Eligible

Model 210N: 21062955 through 21063640 (1979 Model)
21063641 through 21064135 (1980 Model)
21064136 through 21064535 (1981 Model)
21064536 through 21064772 (1982 Model)
21064773 through 21064822 (1983 Model)
21064823 through 21064897 (1984 Model)

**Model T210N**

<table>
<thead>
<tr>
<th>Engine</th>
<th>Continental TSIO-520-R</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Fuel</th>
<th>100LL/100 minimum grade aviation gasoline</th>
</tr>
</thead>
</table>

*Engine Limits

Takeoff (5 min.) at 2700 r.p.m., 36.5 in. Hg. mp. (310 hp. rating)
For all other operations 2600 r.p.m., 35 in. Hg. mp. (285 hp. rating)

Propeller and Propeller Limits

1. (a) McCauley D3A34C402/90DFA-10
   - Diameter: not over 80 in., not under 78.5 in.
   - Pitch settings at 30 in. sta.:
     - low 12.4°, high 28.5°
     - Avoid continuous operation between 1850 and 2150 r.p.m.
     - above 24 in. mp.

   (b) Cessna spinner 1250419
   (c) McCauley hydraulic governor C290D4/T2 or Woodward hydraulic governor G210452

*Airspeed Limits (IAS)

(See NOTE 4 on Use of IAS)

1. Model T210N (S/N 21062954 and up)
   - Never exceed 203 knots
   - Maximum structural cruising 168 knots
   - Maneuvering 130 knots
   - Flaps extended 115 knots
   - Landing gear operating speed 165 knots
   - Landing gear extended speed 203 knots

C.G. Range (Landing Gear Extended)

(+43.9) to (+52.0) at 4000 lbs.
(+42.5) to (+53.0) at 3800 lbs.
(+37.0) to (+53.0) at 3000 lbs.

Straight line variation between points given
Moment change due to retracting landing gear (+2907 in.-lb.)

Empty Wt. C.G. Range

None

*Maximum Weight

4000 lb. takeoff and flight
3800 lb. landing
4016 lb. ramp

No. of Seats

6 (2 at +34 to +46, 2 at +61 to +77, 2 at +101)

Maximum Baggage

Reference weight and balance data
Model T210N (cont’d)

Fuel Capacity
90 gal. (89 gal. usable), S/N 21062955 through 21064535
90 gal. (87 gal. usable), S/N 21064536 and up
two 45.0 gal. tanks in wings at +43
See NOTE 1 for data on unusable fuel.

Oil Capacity
10 qt. (-12.5); 8 qt. usable

Control Surface Movements
- Wing flaps: Up 0°, Down 30°, 1°, -2°
- Ailerons: Up 20° ±2°, Down 15° ±2°
- Elevator: Up 23° ±1°, Down 17° ±1°
- Elevator tab: Up 25° ±1°, Down 10° ±1°
- Rudder (measured parallel to 0.0 W.L.): Right 24° ±1°, Left 24° ±1°
- Rudder (measured perpendicular to hinge line): Right 27° 13' ±1°, Left 17° 13' ±1°

Serial Nos. Eligible
Model T210N: 21062955 through 21063640 (1979 Model)
21063641 through 21064135 (1980 Model)
21064136 through 21064535 (1981 Model)
21064536 through 21064772 (1982 Model)
21064773 through 21064822 (1983 Model)
21064823 through 21064897 (1984 Model)

XVII - Model P210R, Pressurized Centurion, 6 PCLM (Normal Category), Approved September 24, 1984

Engine
Continental TSIO-520-CE

*Fuel
100LL/100 minimum grade aviation gasoline

*Engine Limits
For all operations 2700 r.p.m., 37 in. Hg. mp. (325 hp.)

Propeller and Propeller Limits
1. (a) McCauley D3A36C410/80VMB-0
Diameter: not over 80 in., not under 78.5 in.
Pitch settings at 30 in. sta.:
  low 14.2°, high 36.5°
(b) Cessna spinner 2150150
(c) McCauley hydraulic governor C290D4/T2

*Airspeed Limits (IAS)
Never exceed 200 knots
Maximum structural cruising 167 knots
Flaps extended 115 knots
Maneuvering 130 knots
Landing gear operating speed 165 knots
Landing gear extended speed 200 knots

C.G. Range (Landing Gear Extended)
(+42.0) to (+52.0) at 4100 lb.
(+37.0) to (+52.0) at 3350 lb. or less
Straight line variation between points given
Moment change due to retracting landing gear (+2907 in.-lb.)

Empty Wt. C.G. Range
None

*Maximum Weight
4100 lb. takeoff and flight
3900 lb. landing
4116 lb. ramp

No. of Seats
6 (2 at +34 to 46, 2 at +61 to +77, 2 at +101)

Maximum Baggage
Reference weight and balance data
XVII - Model P210R (cont’d)

Fuel Capacity
Std.: 90 gal. (87 gal. usable)
Two 45.0 gal. tanks in wings at +42.5
Opt.: 120 gal. (115 gal. usable)
Two 60.0 gal. tanks in wings at +42.5
See NOTE 1 for data on unusable fuel

Oil Capacity
10 qt. (-12.5), 8 qt. usable

Maximum Operating Altitude
25,000 ft.

Control Surface Movements
- Wing flaps: Up 0° Down 30° +1°, -2°
- Ailerons: Up 20° ±2° Down 15° ±2°
- Elevator: Up 25° ±1° Down 20° ±1°
- Elevator tab: Up 20° ±1° Down 15° ±1°
- Rudder: Right 24° ±1° Left 24° ±1°
  (measured parallel to 0.0 W.L.)
  Rudder: Right 27° 13′ ±1° Left 27° 13′ ±1°
  (measured perpendicular to hinge line)

Serial Nos. Eligible
Model P210R: P21000835 through P21000866 (1985 Model)
  P21000867 through P21000874 (1986 Model)

XVIII - Model T210R, Turbo System Centurion, 6 PCLM (Normal Category), Approved December 4, 1984

Model 210R, Centurion, 6 PCLM (Normal Category), Approved December 20, 1984

Engine
Contiental IO-520-L

*Fuel
100LL/100 minimum grade aviation gasoline

*Engine Limits
Takeoff full throttle (5 min.) at 2850 r.p.m. (300 hp. rating)
For all other operations, full throttle 2700 r.p.m. (285 hp. rating)

Propeller and Propeller Limits
1. (a) McCauley D3A34C404/80VA-0
   Diameter: not over 80 in., not under 78.5 in.
   Pitch settings at 30 in. sta.:
   low 11.0°, high 27.0°
(b) Cessna spinner 1250419
(c) McCauley hydraulic governor C290D4/T4

*Airspeed Limits (IAS)
(See NOTE 4 on use of IAS)
Never exceed 200 knots
Maximum structural cruising 167 knots
Maneuvering 125 knots
Flaps extended 115 knots
Landing gear operating speed 165 knots
Landing gear extended speed 200 knots

C.G. Range (Landing Gear Extended)
(+40.33) to (+52.0) at 3850 lb.
(+37.0) to (+52.0) at 3350 lb. or less
Straight line variation between points given
Moment change due to retracting landing gear (+2907 in.-lb.)

Empty Wt. C.G. Range
None

*Maximum Weight
3850 lb.
3862 lb. ramp

No. of Seats
6 (2 at +34 to 46, 2 at +61 to +77, 2 at +101)
XVIII - Model T210R, 210R (cont’d)

Maximum Baggage

Reference weight and balance data

Fuel Capacity

Std.: 90 gal. (87 gal. usable)
Two 45.0 gal. tanks in wings at +42.5
Opt: 120 gal. (115 gal. usable)
Two 60 gal. tanks in wings at +42.5
See NOTE 1 for data on unusable fuel.

Oil Capacity

10 qt. (-12.5), 8 qt. usable

Control Surface Movements

Wing flaps
Up 0° Down 30° +1°, -2°

Ailerons
Up 20° ±2° Down 15° ±2°

Elevator
Up 25° ±1° Down 20° ±1°

Elevator tab
Up 20° ±1° Down 15° ±1°

Rudder
Right 24° ±1° Left 24° ±1°
(measured parallel to 0.0 W.L.)

Rudder
Right 27° 13’ ±1° Left 27° 13’ ±1°
(measured perpendicular to hinge line)

Serial Nos. Eligible

Model 210R: 21064898 through 21064949 (1985 Model)
21064950 through 21065009 (1986 Model)

Model T210R

Engine
Continental TSIO-520-CE

*Fuel
100LL/100 minimum grade aviation gasoline

*Engine Limits
For all operations 2700 r.p.m., 37 in. Hg. mp. (325 hp.)

Propeller and Propeller Limits
1. (a) McCauley D3A36C410/80VMB-0
Diameter: not over 80 in., not under 78.5 in.
Pitch settings at 30 in. sta.:
low 14.2°, high 36.5°
(b) Cessna spinner 2150150
(c) McCauley hydraulic governor C290D4/T2

*Airspeed Limits
(IAS)
Never exceed 203 knots
Maximum structural cruising 167 knots
Maneuvering 130 knots
Flaps extended 115 knots
Landing gear operating speed 165 knots
Landing gear extended speed 200 knots

C.G. Range (Landing Gear Extended)
(+42.0) to (+52.0) at 4100 lb.
(+37.0) to (+52.0) at 3350 lb.
Straight line variation between points given
Moment change due to retracting landing gear (+2907 in.-lb.)

Empty Wt. C.G. Range
None

*Maximum Weight
4100 lb. takeoff and flight
3900 lb. landing
4116 lb. ramp

No. of Seats
6 (2 at +34 to 46, 2 at +61 to +77, 2 at +101)

Maximum Baggage
Reference weight and balance data
**Model T210R** (cont’d)

**Fuel Capacity**
- **Std.:** 90 gal. (87 gal. usable)
- **Opt.:** 120 gal. (115 gal. usable)
- Two 60 gal. tanks in wings at +42.5
- Two 45.0 gal. tanks in wings at +42.5
- See NOTE 1 for data on unusable fuel

**Oil Capacity**
- 10 qt. (-12.5), 8 qt. usable

**Control Surface Movements**
- Wing flaps: Up 0°, Down 30° ±1°, -2°
- Ailerons: Up 20° ±2°, Down 15° ±2°
- Elevator: Up 25° ±1°, Down 20° ±1°
- Elevator tab: Up 20° ±1°, Down 15° ±1°
- Rudder: Right 24° ±1°, Left 24° ±1°
  (measured parallel to 0.0 W.L.)
- Rudder: Right 27° 13’ ±1°, Left 27° 13’ ±1°
  (measured perpendicular to hinge line)

**Serial Nos. Eligible**
- Model T210R: 21064898 through 21064949 (1985 Model)
- 21064950 through 21065009 (1986 Model)

**Data Pertinent to All Models**

**Datum**
- Fuselage station 0.0 (front face of firewall)

**Leveling Means**
- Baggage compartment floor (except for 210-5(205) and 210-5A(205A)) - Top of tailcone (except 210K/T210K/P210N and up, screws on left side tailcone)

**Certification Basis**
- Models 210/210A: Part 3 of the Civil Air Regulations effective May 15, 1956, with no amendments.
- Model T210R: Part 3 of the Civil Air Regulations dated May 15, 1956, Paragraph 3.112 as amended October 1, 1959, and 23.901, 23.909, 23.1041, 23.1043, 23.1143, 23.1305 of FAR 23 effective February 1, 1965, as amended to February 14, 1975; FAR 23.1323 effective September 1, 1977; FAR 23.1545 effective December 1, 1978; and FAR 23.1559 effective March 1, 1978; FAR 36 dated December 1, 1969, plus Amendments 36-1 through 36-12. Compliance with ice protection has been demonstrated in accordance with FAR 23.1419, as amended through Amendment 23-14, when ice protection equipment is installed in accordance with the airplane equipment list (Models P210N, T210N, P210R, and T210R only).
Certification basis (cont’d) Application for type certificate dated August 13, 1956.

Type Certificate No. 3A21 issued April 20, 1959, obtained by the manufacturer under delegation option procedures.

Equivalent Safety Items (S/N 21061040 through 21064897 (T210 only), and S/N P21000001 through P21000835)

Airspeed Indicator Operating Limitations (S/N 21061040 through 21065009) (T210 S/N 21061040 through 21064897) (P210 S/N P21000001 through P21000834)


Production Basis Production Certificate No. 4. Delegation Option Manufacturer No. CE-1 authorized to issue airworthiness certificates under delegation option provisions of Part 21 of the Federal Aviation Regulations.

Equipment The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. This equipment must include a current Airplane Flight Manual effective S/N 21062955 and up and P21000151 and up. In addition, the following item of equipment is required:

1. Stall warning indicator, Cessna Dwg. 0511062-4: S/N 21057001 through 21058818 S/N T210-0001 through T210-0197

Cessna Dwg. S-1672-1: S/N 21058819 and up S/N T210-0198 through T210-0454 S/N P21000001 and up

NOTE 1. Current weight and balance report including list of equipment included in certified empty weight, and loading instructions when necessary must be provided for each aircraft at the time of original certification. The certified empty weight and corresponding center of gravity location must include unusable fuel of 60 lb. at (+46) on Models 210 and 210A, 9 lb. at (+46) on the 210B, 210C, 210D, 210E, 210-5(205) 210-5A(205A); 12 lb. at (+46) on the 210F, T210F; and 6 lb. at (+23) on the 210G, T210G, 210H, T210H, 210J, T210J, 210K, T210K, 210L, T210L, T210M, T210M, 210N, T210N, P210N through S/N's 21064535 and P21000760; and 18 lb. at (+38) on S/N's 21064536 and up, and P21000761 and up; and undrainable oil of 0 lb. at (-19) through S/N 21061039 and full oil of 18.8 lb. at (-12.5) S/N 21061040 and up, and S/N P21000001 and up.

NOTE 2. The following placards must be displayed in locations as indicated:

A. Applicable to Models 210/210A
   (1) In full view of the pilot:
      (i) "This airplane must be operated as a normal category airplane in compliance with the operating limitations as stated in the form of placards, markings and manuals. No acrobatic maneuvers, including spins, approved. Maximum maneuvering speed 130 m.p.h. - CAS. Maximum design weight 2900 lb. Maximum flight maneuvering load factors - Flaps up +3.8, -1.52; Flaps down +3.5. Maximum gear extension speed 160 m.p.h. - CAS. Maximum flap extension speeds 10° flaps - 160 m.p.h. - CAS; 10°-40° flaps - 110 m.p.h. - CAS.

   Before takeoff
   1. Set tabs
   2. Flaps 0°–20°
   3. Check induction air-cold
   4. Mixture rich
   5. Propeller full in
   6. Check cowl flaps open
   7. Check fuel selector on fullest tank

   Before landing
   1. Gear down
   2. Flaps down
   3. Check induction air-cold
   4. Mixture rich
   5. Propeller full in
   6. Check cowl flaps closed
   7. Check fuel selector on fullest tank”
NOTE 2. (cont’d) or
(i) “This airplane must be operated as a normal category airplane in compliance with the operating limitations as stated in the form of placards, markings and manuals. No acrobatic maneuvers, including spins, approved. Maximum maneuvering speed - 130 mph - CAS. Maximum design weight 2900 lb. Maximum flight maneuver load factors - Flaps up +3.8, -1.52; Flaps down +3.5. Maximum gear extension speed 160 mph - CAS. Maximum flap extension speeds 10° flaps - 160 mph - CAS; 10° - 40° flaps - 110 mph - CAS.

Before takeoff
1. Set tabs
2. Fuel selector full tank
3. Cowl flaps open
4. Mixture rich
5. Propeller full in
6. Flaps 0° -20°

Before landing
1. Gear down
2. Fuel selector full tank
3. Cowl flaps closed
4. Mixture rich
5. Propeller full in
6. Flaps down”

(2) On the control lock: "Control lock - remove before starting engine."

(3) On the upper pack cover: "To extend gear manually, place gear handle in full down position, pull emergency handle and pump vertically."

(4) On fuel selector valve plate: "Both off. Left tank - 27.5 gal. Right tank 27.5 gal. Use full rich mixture to switch tanks. Take off and land on fullest tank."

(5) On the baggage door: "Maximum baggage 120 lb. For additional loading instructions see weight and balance data."

(6) On the fuel tank filler cap: "Tank capacity 32.5 U.S. gallons, 100/130."

(7) On the instrument panel directly below the fuel gauge indicators: "Avoid landing approaches in red arc and over 30 second slips under 1/2 tank. (Reference Owner’s Manual)."

(8) In full view of the pilot:
"MAJOR FUEL FLOW FLUCTUATIONS/POWER SURGES
1. AUX FUEL PUMP ON ADJUST MIXTURE
2. SELECT OPPOSITE TANK
3. WHEN FUEL FLOW STEADY, RESUME NORMAL OPERATIONS
SEE PROCEDURE CARD D1189-13 FOR EXPANDED INSTRUCTIONS."

B. Applicable to Models 210B/210C
(1) In full view of the pilot:
"This airplane must be operated as a normal category airplane in compliance with the operating limitations as stated in the form of placards, markings and manuals. No acrobatic maneuvers including spins approved. Maximum maneuvering speed - 132 m.p.h. - CAS. Maximum design weight 3000 lb. Maximum flight maneuvering load factors - Flaps up +3.8, -1.52; Flaps down +3.5. Maximum gear extension speed 160 m.p.h. - CAS; Maximum flap extension speeds 10° flaps - 160 m.p.h. - CAS; 10° - 40° flaps - 110 m.p.h. - CAS.

Before Takeoff
1. Set tabs
2. Fuel selector full tank
3. Cowl flaps open
4. Mixture rich
5. Propeller full in
6. Flaps 0°-20°

Before Landing
1. Gear down
2. Fuel selector full tank
3. Cowl flaps closed
4. Mixture rich
5. Propeller full in
6. Flaps down”

(2) On the control lock: "Control lock - remove before starting engine."

(3) On the upper pack cover: "To extend gear manually, place gear handle in full down position, pull emergency handle and pump vertically."
(4) On fuel selector valve plate: "Both off. Left tank - 31.7 gal. Right tank - 31.7 gal. Use full rich mixture to switch tanks. Take off and land on fullest tank."

(5) On the baggage door: "Maximum baggage 120 lb. For additional loading instructions see weight and balance data."

(6) On the fuel tank filler cap: "Tank capacity 32.5 U.S. gallons, 100/130."

(7) In full view of the pilot:
"MAJOR FUEL FLOW FLUCTUATIONS/POWER SURGES
1. AUX FUEL PUMP ON ADJUST MIXTURE
2. SELECT OPPOSITE TANK
3. WHEN FUEL FLOW STEADY, RESUME NORMAL OPERATIONS
SEE PROCEDURE CARD D1189-13 FOR EXPANDED INSTRUCTIONS."

C. Applicable to Model 210-5(205) and 210-5A(205A)
(1) In full view of the pilot:
"This airplane must be operated as a normal category airplane in compliance with the operating limitations as stated in the form of placards, markings and manuals. No acrobatic maneuvers including spins approved. Maximum maneuvering speed - 138 m.p.h. - CAS. Maximum design weight 3300 lb. Maximum flight maneuvering load factors - Flaps up +3.8, -1.52; Flaps down +3.0; altitude load in stall recovery 200 ft.; Flap extension speed - 110 m.p.h. - CAS."

(2) On the control lock: "Control lock - remove before starting engine."

(3) On fuel selector valve plate: "Both off. Left tank - 31.7 gal. Right tank - 31.7 gal. Use full rich mixture to switch tanks. Take off and land on fullest tank."

(4) On the fuel tank filler cap: "Tank capacity 32.5 U.S. gallons, 100/130."

(5) In full view of the pilot:
"MAJOR FUEL FLOW FLUCTUATIONS/POWER SURGES
1. AUX FUEL PUMP ON ADJUST MIXTURE
2. SELECT OPPOSITE TANK
3. WHEN FUEL FLOW STEADY, RESUME NORMAL OPERATIONS
SEE PROCEDURE CARD D1189013 FOR EXPANDED INSTRUCTIONS."

D. Applicable to Models 210D/210E
(1) In full view of the pilot:
"This airplane must be operated as a normal category airplane in compliance with the operating limitations as stated in the form of placards, markings and manuals. No acrobatic maneuvers including spins approved. Maximum maneuvering speed - 134 m.p.h. - CAS. Maximum design weight 3100 lb. Maximum flight maneuvering load factors - Flaps up +3.8, -1.52; Flaps down +3.5. Maximum gear extension speed 160 m.p.h. - CAS; Maximum flap extension speeds 10°, flaps - 160 m.p.h. - CAS; 10°-40° flaps - 110 m.p.h. - CAS; altitude loss in stall recovery 130 ft.

Before Takeoff
1. Set tabs
2. Fuel selector full tank
3. Cowl flaps open
4. Mixture rich
5. Propeller full in
6. Flaps 0°-20°

Before Landing
1. Gear down
2. Fuel selector full tank
3. Cowl flaps closed
4. Mixture rich
5. Propeller full in
6. Flaps down."

(2) On the control lock: "Control lock - remove before starting engine."

(3) On the upper pack cover: "To extend gear manually, place gear handle in full down position, pull emergency handle out and pump vertically."
NOTE 2. (4) On fuel selector valve plate: "Both off. Left tank - 31.7 gal. Right tank - 31.7 gal. Use full rich mixture to switch tanks. Take off and land on fullest tank."

(5) On baggage door: "Maximum weight each child's seat, 140 lb. Refer to weight and balance data for baggage/cargo loading."

(6) On the fuel tank filler cap: "Tank capacity 32.5 U.S. gallons, 100/130."

(7) Above selector valve: "Turn pump on 'HI' when switching from a dry tank to a tank containing fuel."

(8) In full view of the pilot:
"MAJOR FUEL FLOW FLUCTUATIONS/POWER SURGES
1. AUX FUEL PUMP ON ADJUST MIXTURE
2. SELECT OPPOSITE TANK
3. WHEN FUEL FLOW STEADY, RESUME NORMAL OPERATIONS
SEE PROCEDURE CARD D1189-13 FOR EXPANDED INSTRUCTIONS."

E. Applicable to Models 210F/T210F

(1) In full view of the pilot:
"This airplane must be operated as a normal category airplane in compliance with the operating limitations as stated in the form of placards, markings and manuals. No acrobatic maneuvers including spins approved. Maximum maneuvering speed - 131.0 m.p.h. - CAS. Maximum design weight 3300 lb. Maximum flight maneuvering load factors - Flaps up +3.8, -1.52; Flaps down +3.0. Maximum gear extension speed 160 m.p.h. - CAS; Maximum flap extension speeds 10° flaps - 160 m.p.h. - CAS; 10°-40° flaps - 110 m.p.h. - CAS; Altitude loss in stall recovery 240 feet.

<table>
<thead>
<tr>
<th>Before Takeoff</th>
<th>Before Landing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Set tabs</td>
<td>1. Gear down</td>
</tr>
<tr>
<td>2. Fuel selector full tank</td>
<td>2. Fuel selector full tank</td>
</tr>
<tr>
<td>3. Cowl flaps open</td>
<td>3. Cowl flaps closed</td>
</tr>
<tr>
<td>4. Mixture rich</td>
<td>4. Mixture rich</td>
</tr>
<tr>
<td>5. Propeller full in</td>
<td>5. Propeller full in</td>
</tr>
</tbody>
</table>

(2) On control lock: "Control lock - remove before starting engine."

(3) On the power pack cover: "To extend gear manually, place gear handle in full down position, pull emergency handle and pump vertically."

(4) On fuel selector valve plate: "Both off. Left tank - 31.5 gal. Right tank - 31.5 gal. Use full rich mixture to switch tanks. Take off and land on fullest tank."

(5) On baggage door: "Maximum weight each child's seat, 140 lb. Refer to weight and balance data for baggage/cargo loading."

(6) On the fuel tank filler cap: "Tank capacity 32.5 U.S. gallons, 100/130."

(7) Above selector valve: "Turn pump on 'HI' when switching from a dry tank to a tank containing fuel."
NOTE 2. (cont’d)  (8) Near the engine power instruments: (T210F only)

<table>
<thead>
<tr>
<th><em>Altitude in Feet</em></th>
<th>Manifold Pressure in Hg.</th>
<th>Fuel Flow Gal/Hr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea Level to:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19,000</td>
<td>32.5</td>
<td>28</td>
</tr>
<tr>
<td>20,000</td>
<td>31.5</td>
<td>26</td>
</tr>
<tr>
<td>22,000</td>
<td>29.5</td>
<td>24</td>
</tr>
<tr>
<td>24,000</td>
<td>27.5</td>
<td>22</td>
</tr>
<tr>
<td>26,000</td>
<td>25.5</td>
<td>20</td>
</tr>
<tr>
<td>28,000</td>
<td>23.5</td>
<td>19</td>
</tr>
<tr>
<td>30,000</td>
<td>21.5</td>
<td>18</td>
</tr>
</tbody>
</table>

75% power climb - 2500 r.p.m. - 27.5 manifold pressure - 20 g.p.h."

(9) On instrument panel above fuel boost pump switch:  
"Use 'HI' for emergency only ↓."

(10) In full view of the pilot:  
"MAJOR FUEL FLOW FLUCTUATIONS/POWER SURGES  
1. AUX FUEL PUMP ON ADJUST MIXTURE  
2. SELECT OPPOSITE TANK  
3. WHEN FUEL FLOW STEADY, RESUME NORMAL OPERATIONS  
SEE PROCEDURE CARD D1189-13 FOR EXPANDED INSTRUCTIONS."


(1) In full view of the pilot:  
"This airplane must be operated as a normal category airplane in compliance with the operating limitations as stated in the form of placards, markings and manuals. No acrobatic maneuvers, including spins, approved. Maximum maneuvering speed - 135 m.p.h. - (CAS). Maximum design weight 3400 lb. Maximum flight maneuvering load factors - Flaps up +3.8, -1.52; Flaps down +3.0. Maximum gear extension speed - 160 m.p.h. - (CAS); Maximum flap extension speeds 10° flaps - 160 m.p.h. - (CAS); 10°-30° flaps - 110 m.p.h. - (CAS); Altitude loss in stall recovery 250 feet.

Before Takeoff

1. Set tabs  
2. Fuel selector full tank  
3. Cowl flaps open  
4. Mixture rich  
5. Propeller full in  
6. Flaps 0°-20°

Before Landing

1. Gear down  
2. Fuel selector full tank  
3. Cowl flaps closed  
4. Mixture rich  
5. Propeller full in  
6. Flaps down."

(2) On control lock: "Control lock - remove before starting engine"

(3) On the power pack cover: "To extend gear manually, place gear handle in full down position, pull emergency handle out and pump vertically."

(4) On fuel selector valve plate: "Both off. Left-44.5 gal. Right-44.5 gal. Use full rich mixture to switch tanks. Take off and land on fullest tank."

(5) On baggage door: "Maximum weight each child's seat 140 lb. Refer to weight and balance data for baggage/cargo loading."

(6) Aft of the filler cap on the adapter plate: "Tank capacity 45.0 U.S. gallons. Service this airplane with 100/130 minimum grade aviation gasoline."
NOTE 2. (cont’d)  

(7) Above selector valve: "Turn pump on 'HI' when switching from a dry tank to a tank containing fuel."

(8) Near the engine power instruments: (T210G/T210H/T210J)  

**Altitude in Feet**  
**Manifold Pressure in. Hg.**  
**Fuel Flow Gal/Hr**  

<table>
<thead>
<tr>
<th>Sea Level to:</th>
<th>19,000</th>
<th>20,000</th>
<th>22,000</th>
<th>24,000</th>
<th>26,000</th>
<th>28,000</th>
<th>30,000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>32.5</td>
<td>31.5</td>
<td>29.5</td>
<td>27.5</td>
<td>25.5</td>
<td>23.5</td>
<td>21.5</td>
</tr>
<tr>
<td></td>
<td>28</td>
<td>26</td>
<td>24</td>
<td>22</td>
<td>20</td>
<td>19</td>
<td>18</td>
</tr>
</tbody>
</table>

75% power climb - 2500 r.p.m. - 27.5 manifold pressure - 20 g.p.h."

(9) On instrument panel above fuel boost pump switch:  
"Use 'HI' for emergency only ."

(10) In full view of the pilot:  
"MAJOR FUEL FLOW FLUCTUATIONS/POWER SURGES  
1. AUX FUEL PUMP ON ADJUST MIXTURE  
2. SELECT OPPOSITE TANK  
3. WHEN FUEL FLOW STEADY, RESUME NORMAL OPERATIONS  
SEE PROCEDURE CARD D1189-13 FOR EXPANDED INSTRUCTIONS."

G. Applicable to Model 210K/T210K (S/N 21059200 through 21059351)  

(1) In full view of the pilot:  
"This airplane must be operated as a normal category airplane in compliance with the operating limitations as stated in the form of placards, markings and manuals. No acrobatic maneuvers, including spins, approved. Maximum maneuvering speed - 135 m.p.h.(CAS). Maximum design weight 3800 lb. Maximum flight maneuvering load factors - Flaps up +3.8, -1.52; Flaps down +2.0. Maximum gear extension speed - 160 m.p.h. - (CAS); Maximum flap extension speed 10° flaps - 160 m.p.h. - (CAS); 10°-30° flaps - 110 m.p.h. - (CAS); Altitude loss in stall recovery 300 feet."

<table>
<thead>
<tr>
<th>Checklist Placard</th>
<th>Before Takeoff</th>
<th>Before Landing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Adjust trim controls</td>
<td>1. Fuel selector full tank</td>
<td></td>
</tr>
<tr>
<td>2. Fuel selector full tank</td>
<td>2. Gear down</td>
<td></td>
</tr>
<tr>
<td>3. Cowl flaps open</td>
<td>3. Cowl flaps closed</td>
<td></td>
</tr>
<tr>
<td>4. Mixture rich</td>
<td>4. Mixture rich</td>
<td></td>
</tr>
<tr>
<td>5. Propeller full in</td>
<td>5. Propeller full in</td>
<td></td>
</tr>
</tbody>
</table>
| 6. Flaps 0°-10° | 6. Flaps down."

(2) On control lock: "Control lock - remove before starting engine."

(3) On the power pack cover: "To extend gear manually, place gear handle in full down position, pull emergency handle and pump vertically."

(4) On fuel selector valve plate: "Both off. Left on-44.5 gal. Right on -44.5 gal. Take off and land on fuller tank."

(5) On baggage door: "Maximum baggage 120 lb. Refer to weight and balance data for baggage/cargo loading."

(6) Aft of the filler cap on the adapter plate: "Tank capacity 45.0 U.S. gallons. Service this airplane with 100/130 minimum grade aviation gasoline."
NOTE 2. (cont’d)  G. (7) Above selector valve: "When switching from a dry tank turn pump on 'HI' momentarily."

(8) Above fuel flow and manifold pressure indicator: (Model 210K)

"Fuel flow at Full Throttle

<table>
<thead>
<tr>
<th>Sea Level</th>
<th>2700 r.p.m.</th>
<th>2850 r.p.m.</th>
</tr>
</thead>
<tbody>
<tr>
<td>23 gal/hr</td>
<td>24 gal/hr</td>
<td></td>
</tr>
<tr>
<td>21 gal/hr</td>
<td>22 gal/hr</td>
<td></td>
</tr>
<tr>
<td>19 gal/hr</td>
<td></td>
<td>20 gal/hr</td>
</tr>
</tbody>
</table>

(9) Near the engine power instruments: (Model T210K)

<table>
<thead>
<tr>
<th>*Altitude in Feet</th>
<th>Manifold Pressure in. Hg.</th>
<th>Fuel Flow Gal/Hr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea Level to:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19,000</td>
<td>32.5</td>
<td>28</td>
</tr>
<tr>
<td>20,000</td>
<td>31.5</td>
<td>26</td>
</tr>
<tr>
<td>22,000</td>
<td>29.5</td>
<td>24</td>
</tr>
<tr>
<td>24,000</td>
<td>27.5</td>
<td>22</td>
</tr>
<tr>
<td>26,000</td>
<td>25.5</td>
<td>20</td>
</tr>
<tr>
<td>28,000</td>
<td>23.5</td>
<td>19</td>
</tr>
<tr>
<td>30,000</td>
<td>21.5</td>
<td>18</td>
</tr>
</tbody>
</table>

75% power climb - 2500 r.p.m. - 27.5 manifold pressure - 20 g.p.h."

(10) On flap control indicator:

"a. 0°-10° - T.O. (Takeoff range with blue color code and 160 m.p.h. callout; also mechanical detent at 10°)"

"b. 10°-20° - Full (Indices at these positions with white color code and 110 m.p.h. callout; also, mechanical detent at 20°."

(11) In plain view of the pilot:

"MAJOR FUEL FLOW FLUCTUATIONS/POWER SURGES
1. AUX FUEL PUMP ON ADJUST MIXTURE
2. SELECT OPPOSITE TANK
3. WHEN FUEL FLOW STEADY, RESUME NORMAL OPERATIONS SEE PROCEDURE CARD D1189-13 FOR EXPANDED INSTRUCTIONS."

H. Applicable to Model 210K/T210K (S/N 21059352 through 21059502)
Applicable to Model 210L/T210L (S/N 21059503 through 21061039)

(1) In full view of the pilot:

(a) Applicable to Model 210K/T210K (S/N 21059352 through 21059502)
Applicable to Model 210L/T210L (S/N 21059503 through 21061039)

"This airplane must be operated as a normal category airplane in compliance with the operating limitations as stated in the form of placards, markings, and manuals.

**MAXIMUMS**

- Maneuvering speed: 135 m.p.h. CAS (117 knots)
- Gear extension speed: 160 m.p.h. CAS (139 knots)
- Gross weight: 3800 lbs.
- Flight load factor: Flaps up +3.8, -1.52
  Flaps down +2.0

No acrobatic maneuvers, including spins, approved. Altitude loss in a stall recovery - 300 ft. Known icing conditions to be avoided. This airplane is certificated for the following flight operations as of date of original airworthiness certificate:

DAY - NIGHT - VFR - IFR"  (As applicable)
NOTE 2. (cont’d) H. (1) (b) Applicable to Model 210L/T210L (S/N 21061040 and up)

"This airplane must be operated as a normal category airplane in accordance with the operating limitations as stated in the form of placards, markings, and manuals.

MAXIMUMS

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Maneuvering speed (IAS)</td>
<td>119 knots</td>
</tr>
<tr>
<td>Gear extension speed (IAS)</td>
<td>140 knots</td>
</tr>
<tr>
<td>Gross weight</td>
<td>3800 lbs</td>
</tr>
<tr>
<td>Flight load factor Flaps up</td>
<td>+3.8, -1.52</td>
</tr>
<tr>
<td>Flaps down</td>
<td>+2.0</td>
</tr>
</tbody>
</table>

No acrobatic maneuvers, including spins, approved. Altitude loss in a stall recovery - 300 ft. Flight into known icing conditions prohibited. This airplane is certified for the following flight operations as of date of original airworthiness certificate:

DAY - NIGHT - VFR - IFR” (As applicable)

Checklist Placard (Model 210K/T210K)(S/N 21059352 through 21059502)

“Checklist Placard

Before Takeoff
1. Adjust trim controls
2. Fuel selector full tank
3. Cowl flaps open
4. Mixture rich
5. Propeller full in
6. Flaps 0°-10°

Before Landing
1. Fuel selector full tank
2. Gear down
3. Cowl flaps closed
4. Mixture rich
5. Propeller full in
6. Flaps down.”

Checklist (Model 210L/T210L)(S/N 21059503 through 21060539)
(Stowed - not required for flight)

"Cessna 210L & T210L or Centurion & Centurion II (as applicable)

Checklist

Before Takeoff
1. Controls - free and correct
2. Elevator and rudder trim - set
3. Fuel selector - fullest tank
4. Cowl flaps - open
5. Propeller - high r.p.m.
6. Mixture - as required
7. Flaps - 0° to 10°
8. Instruments - check and set
9. Seats and belts - secure

Before Landing
1. Fuel selector - fullest tank
2. Landing gear - DN 160 m.p.h. max
3. Mixture - rich
4. Propeller - high r.p.m.
5. Airspeed - 100 m.p.h. flaps up
6. Flaps - 90 m.p.h. flaps down”

(2) On control lock: "Control lock - remove before starting engine."

(3) On the power pack cover: (210K/T210K) (S/N 21059200 through 21059502)

To extend gear manually, place gear handle in full down position, pull emergency handle out and pump vertically.”

On hand pump cover: (210L/T210L) (S/N 21059503 and up)

"Manual gear extension: 1. select gear down; 2. pull handle forward; 3. pump vertically."

(4) On fuel selector valve plate: "Off. Left on -44.5 gal.

On right on -44.5 gal. Takeoff and land on fuller tank."

(5) On baggage door: "Maximum baggage 120 lb. Refer to weight and balance data for baggage/cargo loading."
NOTE 2. (cont’d) H. (6) Aft of the filler cap on the adapter plate: "Service this airplane with 100/130 minimum aviation grade gasoline. Total capacity 45.0 gal."

(7) Above fuel selector valve: "When switching from dry tank, turn pump on 'HI' momentarily" (210L/T210L) (S/N 21059503 through 21060089)

Above fuel selector valve: "When switching from dry tank, turn Auxiliary fuel pump 'ON' momentarily" (210L/T210L) (S/N 21060090 and up).

(8) In front of pilot on lower instrument panel knee pad: "Alternate static air ↓ on."

(9) Above ammeter: "Do not turn off alternator in flight except in emergency." (Model 210K/T210K) (S/N 21059200 through 21059502)

(10) Adjacent to overvoltage light: "High voltage" (Models 210L/T210L) (S/N 21059503 and up)

(11) Above left fuel gauge: "Do not turn off alternator in flight except in emergency." (Models 210L/T210L) (S/N 21059503 through 21059719)

(12) Above fuel flow and manifold pressure indicator: (Model 210K/210L)

"Fuel flow at full throttle"  
<table>
<thead>
<tr>
<th></th>
<th>2700 r.p.m.</th>
<th>2850 r.p.m.</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.L.</td>
<td>138 lbs/hr</td>
<td>144 lbs/hr</td>
</tr>
<tr>
<td>400 ft.</td>
<td>126 lbs/hr</td>
<td>132 lbs/hr</td>
</tr>
<tr>
<td>8000 ft.</td>
<td>114 lbs/hr</td>
<td>120 lbs/hr</td>
</tr>
</tbody>
</table>

(13) Near the engine power instruments (Models T210K/T210L)

"Max. allowable manifold press. & climb fuel flow"

<table>
<thead>
<tr>
<th>Alt.-ft/1000</th>
<th>SL-19</th>
<th>20</th>
<th>22</th>
<th>24</th>
<th>26</th>
<th>28</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.P.-In. Hg.</td>
<td>32.5</td>
<td>31.5</td>
<td>29.5</td>
<td>27.5</td>
<td>25.5</td>
<td>23.5</td>
<td>21.5</td>
</tr>
<tr>
<td>Fuel flow-lbs/hr</td>
<td>168</td>
<td>156</td>
<td>144</td>
<td>132</td>
<td>120</td>
<td>114</td>
<td>108</td>
</tr>
</tbody>
</table>

75% power climb - 2500 r.p.m., 27.5 in. M.P., 120 lbs/hr"

(14) On lower surface of right hand wing just outboard of fuselage: "Oxygen filler door." (All models with oxygen)

(15) On flap control indicator: (210K/T210K) (S/N 21059352 through 21059502)

"a. 0°-10° (Takeoff range with blue color code and 160 m.p.h. callout; also mechanical detent at 10°)"

b. 10°-20°  Full (Indices at these positions with white color code and 110 m.p.h. callout; also mechanical detent at 20°)"

On flap control indicator: (210L/T210L) (S/N 21059503 through 21061039)

"a. 0°-10° (Takeoff range with blue color code and 160 m.p.h. callout; also mechanical detent at 10°)"

b. 10°-20°  Full (Indices at these positions with white color code 120 m.p.h. callout; also mechanical detent at 20°)"
NOTE 2. (cont’d)  H. (15) On flap control indicator: (210L/T210L) (S/N 21051040 and up)
   "a. 0°-10°  (Takeoff range with blue color code and 140 knots callout; also mechanical
detent at 10°)"
   b. 10°-20° -  Full (Indices at these positions with white color code and 105 knots callout; also
mechanical detent at 20°)"

(16) On inside nose wheel doors:
"WARNING - before working in wheel well area pull hydraulic pump circuit breaker off."  (Model
210L/T210L) (S/N 21059503 and up)

(17) In full view of the pilot:
"MAJOR FUEL FLOW FLUCTUATIONS/POWER SURGES
1. AUX FUEL PUMP ON ADJUST MIXTURE
2. SELECT OPPOSITE TANK
3. WHEN FUEL FLOW STEADY, RESUME NORMAL OPERATIONS
SEE PROCEDURE CARD D1189-13 FOR EXPANDED INSTRUCTIONS."

J. Applicable to Model 210M/T210M, 210N/T210N, 210R/T210R
(1) In full view of the pilot:
   (a) Applicable to Model 210M/T210M (S/N 21061574 through 21062273)
   "This airplane must be operated as a normal category airplane in
   compliance with operating limitations as stated in the form of placards,
   markings and manuals.

   **MAXIMUMS**
   Maneuvering speed (IAS) 119 knots
   Gear extension speed (IAS) 140 knots
   Gross weight 3800 lbs.
   Flight load factor  
      Flaps up +3.8, -1.52
      Flaps down +2.0

   No acrobatic maneuvers, including spins, approved. Altitude loss in a stall recovery - 300 ft.
   Flight into known icing conditions prohibited. This airplane is certified for the following
   flight operations as of date of original airworthiness certificate:
   DAY - NIGHT - VFR - IFR”  (As applicable)

   (b) Applicable to Model 210M/T210M (S/N 21061042, 21062274 through 21062954
   "This airplane must be operated as a normal category airplane in compliance with the
   operating limitations as stated in the form of placards, markings and manuals.

   **MAXIMUMS**
   Maneuvering speed (IAS) 119 knots
   Gross weight 3800 lbs.
   Flight load factor  
      Flaps up +3.8, -1.52
      Flaps down +2.0

   No acrobatic maneuvers, including spins, approved. Altitude loss in a stall recovery 300 ft.
   Flight into known icing conditions prohibited. This airplane is certified for the following
   flight operations as of date of original airworthiness certificate:
   DAY - NIGHT - VFR - IFR”  (As applicable)

   (c) Applicable to Models 210N/T210N (S/N 21062955 through 21064535)
   "The markings and placards installed in this airplane contain operating limitations which must
   be complied with when operating this airplane in the Normal Category. Other operating
   limitations which must be complied with when operating this airplane in this category are

   No acrobatic maneuvers, including spins, approved.
   Flight into known icing conditions prohibited.
NOTE 2. (cont’d) J. (1) (c) This airplane is certified for the following flight operations as of date of original airworthiness certificate:

DAY - NIGHT - VFR - IFR" (As applicable)

(2) On control lock through 21064535: "Control Lock - Remove Before Starting Engine."

(3) On the hand pump cover:
(S/N 21061574 through 21062273)
"Manual gear extension: 1. Select gear down; 2. pull handle forward; 3. pump vertically."

(S/N 21061042, 21062274 through 21064535)

CAUTION: Do not pump with gear up selected"

(4) On fuel selector valve plate through 21064535:
"Off. Left on - 44.5 gal. Right on - 44.5 gal.
Takeoff and land on fuller tank."

(5) 210M/T210M (S/N 21061042, 21061574 through 21062954)
On baggage door: "Maximum baggage 120 lb. Refer to weight and balance data for baggage/cargo loading."

210N/T210N (S/N 21062955 through 21064535)
On baggage door: "Maximum baggage 200 lbs. total. Refer to weight and balance data for baggage/cargo loading."

(6) Near the wing filler caps:
(S/N 21061574 through 21062273)
"Service this airplane with 100/130 minimum aviation grade gasoline. Total capacity 45.0 gal."

(S/N 21061042, 21062274 through 21064535)
"Service this airplane with 100LL/100 minimum aviation grade gasoline. Total capacity 45.0 gal."

(7) Near fuel selector valve through 21064535:
"When switching from dry tank, turn auxiliary fuel pump on momentarily."

(8) In front of pilot on lower instrument panel:
(S/N 21061574 through 21062273)
"Alternate static air pull on."

(S/N 21061042, 21062274 through 21064535)
"Alternate static air pull on."

(9) 210M/T210M (S/N 21061042 through 21062954)
Adjacent to overvoltage light: "High Voltage."

210N/T210N (S/N 21062955 through 21064535)
Adjacent to low voltage light: "Low Voltage"

(10) Near the engine power instruments (Model 210M, S/N 21061574 through 21062954):
"Fuel Flow at Full Throttle"

<table>
<thead>
<tr>
<th>S.L.</th>
<th>2700 r.p.m.</th>
<th>2850 r.p.m.</th>
</tr>
</thead>
<tbody>
<tr>
<td>138 lbs/hr</td>
<td>144 lbs/hr</td>
<td></td>
</tr>
<tr>
<td>126 lbs/hr</td>
<td>132 lbs/hr</td>
<td></td>
</tr>
<tr>
<td>114 lbs/hr</td>
<td>120 lbs/hr</td>
<td></td>
</tr>
</tbody>
</table>

"Max. power setting
Takeoff (5 min. only) 2850 r.p.m.
Max. continuous power 2700 r.p.m."
NOTE 2. (cont’d)  J. (10) Near the engine power instruments (Model 210N, S/N 21062955 through 21064535):
"Min. Fuel Flows at Full Throttle

<table>
<thead>
<tr>
<th></th>
<th>2700 r.p.m.</th>
<th>2850 r.p.m.</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.L.</td>
<td>138 lbs/hr</td>
<td>144 lbs/hr</td>
</tr>
<tr>
<td>4000 ft.</td>
<td>126 lbs/hr</td>
<td>132 lbs/hr</td>
</tr>
<tr>
<td>8000 ft.</td>
<td>114 lbs/hr</td>
<td>120 lbs/hr</td>
</tr>
<tr>
<td>12000 ft.</td>
<td>102 lbs/hr</td>
<td>108 lbs/hr</td>
</tr>
</tbody>
</table>

(11) Near the engine power instruments (T210M):
(S/N 21061574 through 21062273)

"Maximum power setting & fuel flow
T.O. (5 min. only): 2700 r.p.m. Normal climb: 2500 r.p.m.
36.5 in. mp., 186 lbs/hr 30.0 in. mp., 126 lbs/hr

Max. continuous power: 2600 r.p.m.

<table>
<thead>
<tr>
<th>Alt.-ft/1000</th>
<th>SL-17</th>
<th>18</th>
<th>20</th>
<th>22</th>
<th>24</th>
<th>26</th>
<th>28</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.P.-In. Hg.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel flow-lbs/hr</td>
<td>162</td>
<td>156</td>
<td>144</td>
<td>132</td>
<td>120</td>
<td>108</td>
<td>102</td>
<td>96</td>
</tr>
</tbody>
</table>

"Avoid continuous operation between 1850 and 2150 r.p.m. above 24 in. M.P."

(S/N 21061042, 21062274 through 21062953)

"Maximum power setting & fuel flow
T.O. (5 min. only): 2700 r.p.m. Normal climb: 2500 r.p.m.
36.5 in. mp., 186 lbs/hr 30.0 in. mp., 126 lbs/hr

Max. continuous power: 2600 r.p.m.

<table>
<thead>
<tr>
<th>Alt.-ft/1000</th>
<th>SL-17</th>
<th>18</th>
<th>20</th>
<th>22</th>
<th>24</th>
<th>26</th>
<th>28</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.P.-In. Hg.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel flow-lbs/hr</td>
<td>162</td>
<td>156</td>
<td>144</td>
<td>132</td>
<td>120</td>
<td>108</td>
<td>102</td>
<td>96</td>
</tr>
</tbody>
</table>

"Avoid continuous operation between 1850 and 2150 r.p.m. above 24 in. M.P."

Near the engine power instruments (T210N, S/N 21062955 through 21064535):

"Minimum Fuel Flows
T.O.: 2700 r.p.m.
36.5 in. mp., 186 lbs/hr

Maximum continuous power: 2600 r.p.m.

<table>
<thead>
<tr>
<th>Alt.-ft/1000</th>
<th>SL-17</th>
<th>18</th>
<th>20</th>
<th>22</th>
<th>24</th>
<th>26</th>
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<tr>
<td>M.P.-In. Hg.</td>
<td></td>
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<td></td>
</tr>
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<td>144</td>
<td>132</td>
<td>129</td>
<td>108</td>
<td>102</td>
<td>96</td>
</tr>
</tbody>
</table>

"Avoid continuous operation between 1850 and 2150 r.p.m. above 24 in. M.P."

(12) On lower surface of right hand wing just outboard of fuselage through 21064535:
“Oxygen filler door.” (All models with oxygen.)

(13) On flap indicator:
(S/N 21061574 through 21062273)

a. "0° - 10° - (Partial flap range with blue color code and 140 knots callout; also, mechanical detent at 10°)"
b. "10° - 20° - Full - (Indices at these positions with white color code and 105 knots callout; also, mechanical detent at 20°)"
NOTE 2. (cont’d) J. (13) (S/N 21061042, 21062274 through 21063640)
   a. "0° - 10° - (Partial flap range with blue color code and 150 knots callout; also, mechanical detent at 10°)"
   b. "10°- 20° - Full - (Indices at these positions with white color code and 115 knots callout; also, mechanical detent at 20°)"

(S/N 21063641 through 21064535)
   a. "0° - 10° - (Partial flap range with dark blue color code and 160 knot callout; also, mechanical detent at 10°)"
   b. "10°- 20° - (Indices at these positions with light blue color code and 130 knot callout; also, mechanical detent at 20°)"
   c. "20°- 30° - (Indices at these positions with white color code and 115 knot callout)"

(14) On inside nose wheel doors, strut doors and main wheel doors through 21062954 and on inside of nose wheel doors S/N 21064535: "Warning - Before working in the wheel well area pull hydraulic pump circuit breaker off."

(15) Applicable to the Model 210M: (S/N 21062274 through 21062954)
    Near the gear selector handle:
    "Maximum speed IAS
    Gear oper.  140 knots
    Gear down  199 knots"

(16) Applicable to the Model T210M: (S/N 21061042, 21062274 through 21062953)
    Near the gear selector handle:
    "Maximum speed IAS
    Gear oper.  140 knots
    Gear down  195 knots"

(17) Applicable to the Model 210N: (S/N 21062955 through 21064535)
    Near the gear selector handle:
    "Maximum speed IAS
    Gear oper.  165 knots
    Gear down  200 knots"

(18) Applicable to the Model T210N: (S/N 21062955 through 21064535)
    Near the gear selector handle:
    "Maximum speed IAS
    Gear oper.  165 knots
    Gear down  203 knots"

(19) Near the airspeed indicator
    (a) Model 210N (S/N 21062955 through 21064535)
        "Maneuver Speed 125 KIAS"
    (b) Model T210N (S/N 21062955 through 21064535)
        "Maneuver Speed 130 KIAS"

(20) Near the fuel cap
    Models 210N/T210N (S/N 21062955 through 21063640)
        "For 32 gal. fuel load fill to bottom of filler neck extension."

Models 210N/T210N (S/N 21063641 through 21064535)
        "Capacity 33.5 gallons to bottom of filler neck extension."
NOTE 2. (cont’d)  J. (21) Near the oil filler
   Models 210N/T210N (S/N 21062955 through 21064135)
   "Oil 10 qts."

   (22) On the nose gear strut
   Models 210N/T210N (S/N 21062955 through 21064135)
   "WARNING
   Release air and fluid pressure before removing any part of this assembly."

   (23) In full view of the pilot:
   (a) Models 210M/T210M (S/N 21061574 through 21062954)
      "MAJOR FUEL FLOW FLUCTUATIONS/POWER SURGES
      1. AUX FUEL PUMP ON ADJUST MIXTURE
      2. SELECT OPPOSITE TANK
      3. WHEN FUEL FLOW STEADY, RESUME NORMAL OPERATIONS
         SEE PROCEDURE CARD D1189-13 FOR EXPANDED INSTRUCTIONS."
   (b) Model 210N (S/N 21062955 through 21063640)
      "MAJOR FUEL FLOW FLUCTUATIONS/POWER SURGES
      1. AUX FUEL PUMP ON ADJUST MIXTURE
      2. SELECT OPPOSITE TANK
      3. WHEN FUEL FLOW STEADY, RESUME NORMAL OPERATIONS
      SEE P.O.H. FOR EXPANDED INSTRUCTIONS."
   (c) Model T210N (S/N 21062955 through 21064535)
      "MAJOR FUEL FLOW FLUCTUATIONS/POWER SURGES
      1. AUX FUEL PUMP ON, ADJUST MIXTURE
      2. SELECT OPPOSITE TANK
      3. WHEN FUEL FLOW STEADY, RESUME NORMAL OPERATIONS
      SEE P.O.H. FOR EXPANDED INSTRUCTIONS."

   (24) Effective S/N 21064536 and up:
   "All placards required in the Pilot's Operating Handbook and FAA Approved
   Airplane Flight Manual must be installed in the appropriate locations."

K. Applicable to Model P210N and P210R
   (1) In full view of the pilot:
      Model P210N (S/N P21000001 through P21000150)
      "This airplane must be operated as a normal category airplane in compliance with the operating
      limitations as stated in the form of placards, markings and manuals.

      MAXIMUMS
      Operating altitude  23,000 ft.
      Maneuvering speed (IAS)  130 knots
      Gross weight
         Takeoff  4000 lbs.
         Landing  3800 lbs.
      Flight load factor
         Flaps up  +3.8, -1.52
         Flaps down  +2.0

      No acrobatic maneuvers, including spins, approved. Landing with cabin pressurized is prohibited.
      Altitude loss in a stall recovery - 300 ft. Flight into known icing conditions prohibited. This
      airplane is certified for the following flight operations as of date of original airworthiness
      certificate:
      DAY - NIGHT - VFR - IFR" (As applicable)
NOTE 2. (cont’d) K. (1) Model P210N (S/N P21000151 and up)
"The markings and placards installed in this airplane contain operating limitations which must be
complied with when operating this airplane in the Normal Category. Other operating limitations
which must be complied with when operating this airplane in this category are contained in the
No aerobatic maneuvers, including spins, approved.
Landing with cabin pressurized is prohibited.
Flight into known icing conditions prohibited.

This airplane is certified for the following flight operations as of date of original airworthiness
certificate:
DAY - NIGHT - VFR - IFR"  (As applicable)

(2) On control lock through P21000760: "Control Lock - Remove Before Starting Engine."

(3) On the hand pump cover through P21000760:
"Manual gear extension: 1. Select gear down; 2. pull handle forward;
3. pump vertically. CAUTION: Do Not Pump With Gear Up Selected."

(4) On fuel selector valve plate through P21000760: "Off. Left on - 44.5 gal., Right on - 44.5 gal.,
Takeoff and land on fuller tank"

(5) On baggage door through P21000760:
"Maximum baggage 200 lbs. total. Raised area aft of baggage door 80 lbs. maximum.
Refer to weight and balance data for baggage cargo loading."

(6) Near the wing filler caps through P21000760: "Service this airplane with 100LL/100 minimum
aviation grade gasoline. Total capacity 45.0 gal."

(7) Near fuel selector valve through P21000760: "When switching from dry tank, turn auxiliary fuel
pump on momentarily."

(8) P210N (S/N P21000001 through P21000150)
Adjacent to over voltage light: "HIGH VOLTAGE"

P210N (S/N P21000151 through P21000760)
Adjacent to low voltage light: "LOW VOLTAGE"

(9) Near the engine power instruments through P21000760:
"Minimum Fuel Flows

<table>
<thead>
<tr>
<th>TAKEOFF</th>
<th>MAX. CONTINUOUS POWER: 2600 RPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>2700 R.P.M.</td>
<td>ALT-FT/1000</td>
</tr>
<tr>
<td>36.5 M.P.</td>
<td>M.P. IN. HG.</td>
</tr>
<tr>
<td>180 LBS/HR</td>
<td>Fuel Flow - lbs/hr</td>
</tr>
</tbody>
</table>

(10) On flap indicator:
P210N (S/N P21000001 through P21000385)
a. "9° - 10° - (Partial flap range with dark blue color code and 150 knots callout; also,
mechanical detent at 10°)"
b. "10°- 20° - Full - (Indices at these positions with white color code and 115 knot callout; also,
mechanical detent at 20°)"

P210N (S/N P21000386 through P21000760)
a. "9° - 10° - (Partial flap range with dark blue color code and 160 knot callout; also,
mechanical detent at 10°)"
b. "10°- 20° - Full - (Indices at these positions with light blue color code and 130 knot callout;
also, mechanical detent at 20°)"
c. "20°- 30° - (Indices at these positions with white color code and 115 knot callout)"
(Full)
NOTE 2. (cont’d)  K.  (11) On inside nose wheel doors, strut doors and main wheel doors:
"Warning - Before working in wheel well area pull hydraulic pump circuit breaker off."

(12) Near the gear selector handle:
P210N (S/N P21000001 through P21000150)
"Maximum speed IAS
Gear oper.  140 knots
Gear down  200 knots"
P210N (S/N P21000151 through P21000760)
"Maximum speed IAS
Gear oper.  165 knots
Gear down  200 knots"

(13) Near the pilot's outside door handle through P21000760:
"Close
Open"

(14) Near the emergency button to unlock the pilot's cabin door from the outside through P21000760:
"Emergency
Push to unlock"

(15) Near the secondary lock for the inside pilot's door handle through P21000760:
"Door Handle Safety Lock
Push Flush to Lock
Pull To Unlock"

(16) Near the pilot's inside door handle through P21000760:
"Close
Open ↔ Lock"

(17) Near the right exit handle through P21000760:
"Open ↔ Close ↔ Latch
Push Flush to Lock
Close and Lock for Flight"

(18) Near the airspeed indicator:
P210 (S/N P21000151 through P21000760)
"Maneuver Speed - 130 KIAS"

(19) Near the oil filler:
P210N (S/N P21000151 through P21000760)
"Oil 10 qts"

(20) Near the fuel cap:
P210N (S/N P21000151 through P21000760)
"For 32 gal. fuel load fill to bottom of filler neck extension."

(21) On emergency exit through P21000760:
"Emergency Exit - To Open
1. Lift handle (Do not pull inward)
2. Rotate counter clockwise to 'OPEN' position
3. Push door outward"
NOTE 2. (cont’d)  K.  (22) On the main cabin door through P21000760:
"Door Handle Safety Lock
Push Flush To Lock
Pull to Unlock"

And

"To Open Door
1. Unlock safety lock (pull out)
2. Rotate handle to 'OPEN' position
3. Push door outward"

(23) In full view of the pilot:
S/N P21000001 through P21000150
"MAJOR FUEL FLOW FLUCTUATIONS/POWER SURGES
1. AUX FUEL PUMP ON ADJUST MIXTURE
2. SELECT OPPOSITE TANK
3. WHEN FUEL FLOW STEADY, RESUME NORMAL OPERATIONS
SEE PROCEDURE CARD D1189-13 FOR EXPANDED INSTRUCTIONS."

S/N P21000151 through P21000760:
"MAJOR FUEL FLOW FLUCTUATIONS/POWER SURGES
1. AUX FUEL PUMP ON ADJUST MIXTURE
2. SELECT OPPOSITE TANK
3. WHEN FUEL FLOW STEADY, RESUME NORMAL OPERATIONS
SEE P.O.H. FOR EXPANDED INSTRUCTIONS."

(24) When equipped with optional EGT gauge: On the left forward side panel near instrument panel
(S/N P21000001 through P21000150):

"EGT LIMITATION
USE OF EGT GAUGE IS PROHIBITED
AT ALL R.P.M. SETTINGS ABOVE 2500
R.P.M. AT ALL ALTITUDES"

(25) When equipped with optional EGT gauge: On the left side panel near instrument panel (S/N P21000001 through P21000150):

"EGT LIMITATIONS
USE OF EGT GAUGE IS PROHIBITED AT ALL POWER SETTINGS
ABOVE 80% AT ALL ALTITUDES; OR ABOVE THE FOLLOWING
POWERS AT THE LISTED ALTITUDES WHEN OAT IS ABOVE STANDARD.
75% AT 17,000 FEET OR HIGHER
70% AT 20,000 FEET OR HIGHER
65% AT 22,000 FEET OR HIGHER
CONTINUOUS OPERATIONLEANER THAN SHOWN IN THE TABLE IS PROHIBITED."

**EXHAUST GAS TEMPERATURE (°F RICH OF PEAK)**

<table>
<thead>
<tr>
<th>POWER</th>
<th>2500 R.P.M.</th>
<th>2400 R.P.M.</th>
<th>2300 R.P.M.</th>
<th>2200 R.P.M.</th>
</tr>
</thead>
<tbody>
<tr>
<td>76 to 80%</td>
<td>100%</td>
<td>75%</td>
<td>75%</td>
<td>50%</td>
</tr>
<tr>
<td>71 to 75%</td>
<td>75°</td>
<td>75°</td>
<td>50°</td>
<td>50°</td>
</tr>
<tr>
<td>66 to 70%</td>
<td>75°</td>
<td>50°</td>
<td>50°</td>
<td>25°</td>
</tr>
<tr>
<td>61 to 65%</td>
<td>50°</td>
<td>50°</td>
<td>25°</td>
<td>25°</td>
</tr>
<tr>
<td>56 to 60%</td>
<td>50°</td>
<td>25°</td>
<td>25°</td>
<td>Peak EGT</td>
</tr>
<tr>
<td>51 to 55%</td>
<td>25°</td>
<td>25°</td>
<td>Peak EGT</td>
<td>Peak EGT</td>
</tr>
<tr>
<td>46 to 50%</td>
<td>25°</td>
<td>Peak EGT</td>
<td>Peak EGT</td>
<td>Peak EGT</td>
</tr>
<tr>
<td>45% or less</td>
<td>Peak EGT</td>
<td>Peak EGT</td>
<td>Peak EGT</td>
<td>Peak EGT</td>
</tr>
</tbody>
</table>

2105030-1
NOTE 2. K. (26) Effective P21000761 and up: 
"All placards required in the Pilot's Operating Handbook and FAA Approved Airplane 
Flight Manual must be installed in the appropriate locations."

NOTE 3. The cylinder head thermistors must be installed as follows:

<table>
<thead>
<tr>
<th>Model</th>
<th>Cylinder Head Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>210, 210A</td>
<td>(1960-61 Model)</td>
</tr>
<tr>
<td>210B, 210C, 210D</td>
<td>(1962-64 Model)</td>
</tr>
<tr>
<td>210F, 210G, 210H, 210J</td>
<td>(1967-68 Model)</td>
</tr>
<tr>
<td>210K</td>
<td>(1970-71 Model)</td>
</tr>
<tr>
<td>T210K</td>
<td>(1970-71 Model)</td>
</tr>
<tr>
<td>210L</td>
<td>(1972-73 Model)</td>
</tr>
<tr>
<td>T210L</td>
<td>(1972-73 Model)</td>
</tr>
<tr>
<td>T210L</td>
<td>(1974-75 Model)</td>
</tr>
<tr>
<td>210M</td>
<td>(1977 Model)</td>
</tr>
<tr>
<td>210M</td>
<td>(1978 Model)</td>
</tr>
<tr>
<td>T210M</td>
<td>(1977-78 Model)</td>
</tr>
<tr>
<td>P210N</td>
<td>(1978-81 Model)</td>
</tr>
<tr>
<td>210N</td>
<td>(1979-81 Model)</td>
</tr>
<tr>
<td>T210N</td>
<td>(1979 Model)</td>
</tr>
<tr>
<td>T210N</td>
<td>(1980-81 Model)</td>
</tr>
<tr>
<td>T210N</td>
<td>(1980-81 Model)</td>
</tr>
<tr>
<td>210N, 210R</td>
<td>(1982 Model and up)</td>
</tr>
<tr>
<td>210N, 210R</td>
<td>(1982 Model and up)</td>
</tr>
<tr>
<td>T210N</td>
<td>(1982 Model and up)</td>
</tr>
<tr>
<td>P210N, T210R</td>
<td>(1985 Model and up)</td>
</tr>
</tbody>
</table>

NOTE 4. The marking of the airspeed indicator with I.A.S. provides an equivalent level of safety 
to CAR 3.757 when the approved airspeed calibration data presented in Section V of the 
Pilot's Operating Handbooks listed below is available to the pilot:

210L Cessna P/N D1069-13 (S/N 21061040 through 21061573)
T210L Cessna P/N D1070-13 (S/N 21061040 through 21061573 except 21061042)
210M Cessna P/N D1094-13 (S/N 21061574 through 21062273)
T210M Cessna P/N D1095-13 (S/N 21061574 through 21062273)
210M Cessna P/N D1122-13 (S/N 21062274 through 21063954)
T210M Cessna P/N D1123-13 (S/N 21061042, 21062274 through 21062954)
P210N Cessna P/N D1124-13 (S/N P21000001 through P21000150)
210N Cessna P/N D1151-13PH (S/N 21062955 through 21063640)
T210N Cessna P/N D1152-13PH (S/N 21062955 through 21063640)
P210N Cessna P/N D1153-13PH (S/N P21000151 through P21000385)
210N Cessna P/N D1186-13PH (S/N 21063641 through 21064135)
T210N Cessna P/N D1187-13PH (S/N 21063641 through 21064135)
P210N Cessna P/N D1188-13PH (S/N P21000386 through P21000590)
210N Cessna P/N D1207-13PH (S/N 21064136 through 21064535)
T210N Cessna P/N D1208-13PH (S/N 21064136 through 21064535)
P210N Cessna P/N D1209-13PH (S/N P21000591 through P21000760)
210N Cessna P/N D1226-13PH (S/N 21064536 through 21064772)
T210N Cessna P/N D1227-13PH (S/N 21064536 through 21064772)
P210N Cessna P/N D1228-13PH (S/N P210000761 through P21000811)
210N Cessna P/N D1244-13PH (S/N 21064773 through 21064822)
T210N Cessna P/N D1245-13PH (S/N 21064773 through 21064822)
P210N Cessna P/N D1246-13PH (S/N P21000812 through P21000834)
210N Cessna P/N D1265-13PH (S/N 21064823 through 21064897)
T210N Cessna P/N D1266-13PH (S/N 21064823 through 21064897)
210R Cessna P/N D1288-13PH (S/N 21064898 through 21065009)
NOTE 5. Service information applicable to Models P210N and P210R:

Components subject to the establishment of a retirement life as shown below with the corresponding retirement life hours:

<table>
<thead>
<tr>
<th>Component Name</th>
<th>Retirement Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windshield, rear cabin top windows</td>
<td>13,000 hours</td>
</tr>
<tr>
<td>Side windows, and ice detector light lens</td>
<td></td>
</tr>
</tbody>
</table>

NOTE 6. 14-volt electrical system
(210/T210 series through S/N 21059502)
(205 series through S/N 205-0577)

28-volt electrical system
(210/T210 series effective S/N 21059503 and up)
(P210 series effective S/N P21000001 and up)

In addition to the placards specified above, the prescribed operating limitations indicated by an asterisk (*) under Sections I through XVIII of this data sheet must also be displayed by permanent markings.

"WARNING: Use of alcohol-based fuels can cause serious performance degradation and fuel system component damage, and is therefore prohibited on Cessna airplanes."

...END...
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

TYPE CERTIFICATE DATA SHEET NO. A3SO

This data sheet which is a part of Type Certificate No. A3SO, prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder
Piper Aircraft, Inc.
2926 Piper Drive
Vero Beach, Florida 32960

Type Certificate Holder Record


   Engine
   Lycoming O-540-E4B5 with carburetor setting 10-4404, 10-5042, or 10-5054
   Oil cooler P/N 8529245 required with 10-5042 setting

   Fuel
   100/130 minimum grade aviation gasoline

   Engine Limits
   For all operations, 2700 r.p.m. (260 hp)

   Propeller and Propeller Limits
   McCauley fixed pitch metal 1P235PFA82 (See NOTE 8)
   Static r.p.m. at maximum permissible throttle setting, not over 2480 r.p.m.,
   not under 2270 r.p.m.
   Diameter: Not over 82 in., not under 80.5 in.
   Spinner: P/N 63760-00 or 63760-03 (See NOTE 6)
   Hartzell constant speed Model HC-C2YK-1( )F and Blade Model F8477-2
   Pitch: High 32° ± 2°, Low 12.0° ± .2° at 30 in. station
   Diameter: Not over 82 in., not under 80.5 in.
   Governor Assembly: Hartzell F-4-4( ) or F-4-11( ) (See NOTE 10)
   Spinner: P/N 68713 or 66785 Spinner Tip and P/N 66786 Spinner
   Shell or P/N 67790-0 Spinner, P/N 67791-0 Bulkhead, P/N 67793-0
   Bulkhead, P/N 99499-0 Plate, two each P/N 67794-0 Cuff or
   Kit 760-452V (See NOTE 6)
I. - Model PA-32-260  (cont’d)

Airspeed Limits

- Never exceed 212 m.p.h. (184 knots) CAS
- Maximum structural cruise 168 m.p.h. (146 knots) CAS
- Manoeuvering 149 m.p.h. (130 knots) CAS
- Flaps extended 125 m.p.h. (109 knots) CAS

C.G. Range (gear extended)

- (+91.4) to (+95.5) at 3400 lb.
- (+90.2) to (+96.2) at 3300 lb.
- (+81.4) to (+96.2) at 2600 lb.
- (+78.0) to (+96.2) at 2060 lb. or less

Straight line variation between points given.

<table>
<thead>
<tr>
<th>LBS.</th>
<th>2060</th>
<th>2400</th>
<th>2600</th>
<th>2900</th>
<th>3300</th>
<th>3400</th>
</tr>
</thead>
<tbody>
<tr>
<td>INCHES</td>
<td>78.0</td>
<td>80.0</td>
<td>89.0</td>
<td>91.7</td>
<td>95.5</td>
<td>96.2</td>
</tr>
</tbody>
</table>

(S/N 32-1 through 32-1075)

- (+91.4) to (+95.5) at 3400 lb.
- (+89.0) to (+96.2) at 3300 lb.
- (+80.0) to (+96.2) at 2900 lb.
- (+76.0) to (+96.2) at 2400 lb. or less

Straight line variation between points given.

<table>
<thead>
<tr>
<th>LBS.</th>
<th>2060</th>
<th>2400</th>
<th>2600</th>
<th>2900</th>
<th>3300</th>
<th>3400</th>
</tr>
</thead>
<tbody>
<tr>
<td>INCHES</td>
<td>76.0</td>
<td>78.0</td>
<td>89.0</td>
<td>91.7</td>
<td>95.5</td>
<td>96.2</td>
</tr>
</tbody>
</table>

(S/N 32-1111 through 32-1297, and 32-7100001 through 32-7800008)

Empty Weight C.G. Range

None

Maximum Weight

3400 lb.
I. - Model PA-32-260 (cont'd)

<table>
<thead>
<tr>
<th>No. of Seats</th>
<th>6 (2 at +85.5, 2 at +118.1, 2 at +155.7)</th>
<th>7 (2 at +85.5, 3 at +118.1, 2 at +155.7) (See NOTE 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6 (2 at +85.5, 2 at +118.1, 2 at +157.6)</td>
<td>7 (2 at +85.5, 3 at +118.1, 2 at +157.6) (See NOTE 3)</td>
</tr>
<tr>
<td></td>
<td>6 (2 at +85.5, *2 at +119.1, 2 at +157.6) (See NOTE 11)</td>
<td>* - Optional Club Seats</td>
</tr>
<tr>
<td>Maximum Baggage</td>
<td>200 lb. (100 lb. at +42.0, 100 lb. at +178.7)</td>
<td></td>
</tr>
<tr>
<td>Fuel Capacity</td>
<td>84 gallons at +95.0 (4 wing tanks)</td>
<td></td>
</tr>
<tr>
<td>Oil Capacity</td>
<td>12 qt. at +16.6 (9-1/4 qt. usable)</td>
<td></td>
</tr>
<tr>
<td>Control Surface Movements</td>
<td>Wing Flaps Up 0° (±2°) Down 40° (±2°)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ailerons Up 30° (±2°) Down 15° (±2°)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rudder Left 27° (±2°) Right 27° (±2°)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stabilator Up 16° (±1°) Down 2° (±1°)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stabilator Tab Up 5° (±1°) Down 8° (±1°)</td>
<td></td>
</tr>
</tbody>
</table>

Nose Wheel Travel

| Manufacturer's Serial Nos. | S/N 32-1 through 32-1297, and 32-7100001 through 32-7300066: |
|                          | Left 30° (±2°) Right 30° (±2°) |
|                          | S/N 32-7400001 through 32-7800008: |
|                          | Left 24° (±2°) Right 24° (±2°) |

II. - Model PA-32-300 (Cherokee Six 300), 6 PCLM (Normal Category), Approved May 27, 1966; 7 PCLM (Normal Category), Approved November 15, 1966.

Same as Model PA-32-260 except for engine installation and fuel system.

Engine

Lycoming IO-540-K1A5, Bendix injector type RSA-10ED1
Lycoming IO-540-K1G5 (See NOTE 12)
Flow Setting No. 2524273

Fuel

100/130 minimum grade aviation gasoline

Engine Limits

For all operations, 2700 r.p.m. (300 hp)

Propeller and Propeller Limits

Hartzell constant speed Model HC-C2YK-1( ), Blade Models 8475-4 & 8475D-4, or Hartzell constant speed Model HC-C2YK-1( )F, Blade Models F8475D-4
Pitch: High 34° ± 1°, Low 13.5° ± 2° at 30 in. station
Diameter: Not over 80 in., not under 78.5 in.
Governor Assembly: Hartzell F-4-4( ) or F-4-11( ) (See NOTE 10)
Spinner: P/N 68713 or P/N 66785 Spinner Tip and P/N 66786 Spinner Shell, or P/N 67790-0 Spinner, P/N 67791-0 Bulkhead, P/N 67793-0 Bulkhead, P/N 99499-0 Plate, two each P/N 67794-0 Cuff or Kit 760-452V (See NOTE 6)
II. - Model PA-32-300 (cont’d)

**Propeller and Propeller Limits (continued)**

Hartzell constant speed Model HC-C2YK-1, Blade Model 8475R-0, or Hartzell constant speed Model HC-C2YK-1F, Blade Model F8475R-0

**Pitch:**
- High 29° ± 1°, Low 12.4° ± 0.2° at 30 in. station

**Diameter:** Not over 84 in., not under 82.3 in.

**Governor Assembly:** Hartzell F-4-4( ) or F-4-11( ) (See NOTE 10)

**Spinner:**
- P/N 68713 or P/N 66785 Spinner Tip and P/N 66786 Spinner Shell or P/N 67790-0 Spinner, P/N 67791-0 Bulkhead, P/N 67793-0 Bulkhead, P/N 99499-0 Plate, two each P/N 67794-0 Cuff or Kit 760-452V (See NOTE 6)

**Airspeed Limits**

- Never exceed 212 m.p.h. (184 knots) CAS
- Maximum structural cruise 168 m.p.h. (146 knots) CAS
- Maneuvering 149 m.p.h. (130 knots) CAS
- Flaps extended 125 m.p.h. (109 knots) CAS

**C.G. Range (gear extended)**

- (+91.4) to (+95.5) at 3400 lb.
- (+90.2) to (+96.2) at 3300 lb.
- (+81.4) to (+96.2) at 2600 lb.
- (+78.0) to (+96.2) at 2060 lb. or less

Straight line variation between points given.

---

(S/N 32-40001 through 32-40565)

---

(+91.4) to (+95.5) at 3400 lb.
(+89.0) to (+96.2) at 3300 lb.
(+80.0) to (+96.2) at 2900 lb.
(+76.0) to (+96.2) at 2400 lb. or less

Straight line variation between points given.

---

(S/N 32-40566 through 32-40974, and 32-7140001 through 32-7940290)
II. - Model PA-32-300 (cont'd)

Empty Weight C.G. Range
None

Maximum Weight
3400 lb.

No. of Seats
6 (2 at +85.5, 2 at +118.1, 2 at +155.7)
7 (2 at +85.5, 3 at +118.1, 2 at +155.7) (See NOTE 3)
6 (2 at +85.5, 2 at +118.1, 2 at +157.6)
7 (2 at +85.5, 3 at +118.1, 2 at +157.6) (See NOTE 3)
6 (2 at +85.5, *2 at +119.1, 2 at +157.6) (See NOTE 11)
* - Optional Club Seats

Maximum Baggage
200 lb. (100 lb. at +42.0, 100 lb. at +178.7)

Fuel Capacity
S/N 32-15, 32-21, 32-40000 through 32-40974, and 32-7140001 through 32-7840202:
84 gallons at +95.0 (4 wing tanks)
S/N 32-7940001 through 32-7940290:
98 gallons at +93.6 (2 wing tanks) (94 gallons usable)
See NOTE 1 for data on system fuel

Oil Capacity
12 qt. at +16.6 (9-1/4 qt. usable)
See NOTE 1 for data on system oil

Control Surface Movements
Wing Flaps
Up 0° (±2°) Down 40° (±2°)

Ailerons
Up 30° (±2°) Down 15° (±2°)

Rudder
Left 27° (±2°) Right 27° (±2°)

Stabilator
Up 16° (±1°) Down 2° (±1°)

Stabilator Tab
Up 5° (±1°) Down 8° (±1°)

Nose Wheel Travel
S/N 32-40001 through 32-40974, and 32-7140001 through 32-7340191:
Left 30° (±2°) Right 30° (±2°)
S/N 32-7400001 through 32-7940290:
Left 24° (±2°) Right 24° (±2°)

Manufacturer's Serial Nos.
32-15, 32-21, 32-40000 through 32-40974, and 32-7140001 through 32-7940290. The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers 32-40382, 32-40385, 32-40403, 32-40465 through 32-40469, 32-40471 through 32-40974, and 32-7140001 through 32-7940290 under the delegation option provisions of FAR 21 (See NOTE 7 and 9).

III. - Model PA-32S-300 (Cherokee Six Seaplane), 7 PCSM (Normal Category), Approved February 14, 1967.
Same as Model PA-32-300 except for float installation.

Engine
Lycoming IO-540-K1A5
Flow Setting No. 2524273

Fuel
100/130 minimum grade aviation gasoline

Engine Limits
For all operations, 2700 r.p.m. (300 hp)
III. - Model PA-32S-300 (cont’d)

Propeller and Propeller Limits

Hartzell constant speed Model HC-C2YK-1( ), Blade Models 8475-4 & 8475D-4, or Hartzell constant speed Model HC-C2YK-1( )F, Blade Model F8475D-4

Pitch:    High 34° ± 1°, Low 13.5° ± .2° at 30 in. station
Diameter: Not over 80 in., not under 78.5 in.
Governor Assembly: Hartzell F-4-4( ) or F-4-11( ) (See NOTE 10)
Spinner:   P/N 68713 or P/N 66785 Spinner Tip and P/N 66786 Spinner Shell (See NOTE 6)

Hartzell constant speed Model HC-C2YK-1( ), Blade Model 8475R-0, or Hartzell constant speed Model HC-C2YK-1( )F, Blade Model F8475R-0

Pitch:    High 29° ± 1°, Low 12.4° ± .2° at 30 in. station
Diameter: Not over 84 in., not under 82.3 in.
Governor Assembly: Hartzell F-4-4( ) or F-4-11( ) (See NOTE 10)
Spinner:   P/N 68713 or P/N 66785 Spinner Tip and P/N 66786 Spinner Shell or P/N 67790-0 Spinner, P/N 67791-0 Bulkhead, P/N 67793-0 Bulkhead, P/N 99499-0 Plate, two each P/N 67794-0 Cuff or Kit 760-452V (See NOTE 6)

Airspeed Limits

Never exceed               176 m.p.h. (153 knots) CAS
Maximum structural cruise  140 m.p.h. (122 knots) CAS
Maneuvering                140 m.p.h. (122 knots) CAS
Flaps extended             125 m.p.h. (109 knots) CAS

C.G. Range (gear extended)

(+87.6) to (+94.5) at 3400 lb.
(+82.6) to (+94.5) at 2940 lb.
(+79.8) to (+94.5) at 2400 lb.
Straight line variation between points given.
(See NOTE 4 for operation in landplane configuration)

Empty Weight C. G. Range

None

Maximum Weight

3400 lb.

No. of Seats

7 (2 at +85.5, 2 at +118.1, 2 at +155.7)

Maximum Baggage

200 lb. (100 lb. at +42.0, 100 lb. at +178.7)
III. - Model PA-32S-300 (cont’d)

Fuel Capacity
84 gallons at +95.0 (4 wing tanks)
See NOTE 1 for data on system fuel

Oil Capacity
12 qt. at +16.6 (9-1/4 qt. usable)
See NOTE 1 for data on system oil

Control Surface Movements
- Wing Flaps: Up 0° (±2°) Down 40° (±2°)
- Ailerons: Up 30° (±2°) Down 15° (±2°)
- Rudder: Left 27° (±2°) Right 27° (±2°)
- Stabilator: Up 16° (±1°) Down 2° (±1°)
- Stabilator Tab: Up 5° (±1°) Down 8° (±1°)

Manufacturer’s Serial Nos.

IV. - Model PA-32R-300 (Lance), 7 PCLM (Normal Category), Approved February 25, 1975.
Same as Model PA-32-300 except for redesigned wing and engine mount to accommodate retractable landing gear, gross weight increase, increased capability fuel system and other minor changes.

Engine
Lycoming IO-540-K1A5D
Lycoming IO-540-K1G5D for S/N 32R-7680141 through 32R-7880068 (See NOTE 13)

Flow Setting No. 2524273

Fuel
100/130 minimum grade aviation gasoline

Engine Limits
For all operations, 2700 r.p.m. (300 hp)

Propeller and Propeller Limits
- Hartzell constant speed Model HC-C2YK-1( )F, Blade Model F8475D-4
- Pitch: High 34° ± 1°, Low 13.5° ± .2° at 30 in. station
- Diameter: Not over 80 in., not under 78.5 in.
- Governor Assembly: Hartzell F-4-11B( )
- Spinner: P/N 67790-0 Spinner, P/N 67791-0 Bulkhead, P/N 67793-0 Bulkhead, P/N 99499-0 Plate, and two each P/N 67794-0 Cuff (See NOTE 6)

Airspeed Limits
- Never exceed 217 m.p.h. (188 knots) CAS
- Maximum structural cruise 172 m.p.h. (149 knots) CAS
- Maneuvering 125 m.p.h. (109 knots) CAS
- Maximum flaps extended 125 m.p.h. (109 knots) CAS
- Maximum gear extension 150 m.p.h. (130 knots) CAS
- Maximum gear retraction 125 m.p.h. (109 knots) CAS
IV. - Model PA-32R-300  (cont'd)

C.G. Range (gear extended)  (+91.4) to (+95.0) at 3600 lb.
(+80.0) to (+95.0) at 2900 lb.
(+76.0) to (+95.0) at 2400 lb. or less
Straight line variation between points given.

<table>
<thead>
<tr>
<th>LBS.</th>
<th>INCHES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1600</td>
<td>76.0</td>
</tr>
<tr>
<td>2400</td>
<td>80.0</td>
</tr>
<tr>
<td>2900</td>
<td>91.4</td>
</tr>
<tr>
<td>3600</td>
<td>95.0</td>
</tr>
</tbody>
</table>

Empty Weight C.G. Range  None

Maximum Weight  3600 lb.

No. of Seats  7 (2 at +85.5, 3 at +118.1, 2 at +155.7)
7 (2 at +85.5, 3 at +118.1, 2 at +157.6)
6 (2 at +85.5, *2 at +119.1, 2 at +157.6)  (See NOTE 11)
* - Optional Club Seats

Maximum Baggage  200 lb. (100 lb. at +42.0, 100 lb. at +178.7)

Fuel Capacity  98 gallons at +93.6 (2 wing tanks)  (94 gallons usable)
See NOTE 1 for data on system fuel

Oil Capacity  12 qt. at +16.6  (9-1/4 qt. usable)
See NOTE 1 for data on system oil

Control Surface Movements

<table>
<thead>
<tr>
<th>Wing Flaps</th>
<th>Ailerons</th>
<th>Rudder</th>
<th>Stabilator</th>
<th>Stabilator Tab</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up</td>
<td>Up</td>
<td>Left</td>
<td>Up</td>
<td>Up</td>
</tr>
<tr>
<td>0° (±2°)</td>
<td>30° (±2°)</td>
<td>27° (±2°)</td>
<td>16° (±1°)</td>
<td>5° (±1°)</td>
</tr>
<tr>
<td>Down</td>
<td>Down</td>
<td>Right</td>
<td>Down</td>
<td>Down</td>
</tr>
<tr>
<td>40° (±2°)</td>
<td>15° (±2°)</td>
<td>27° (±2°)</td>
<td>2° (±1°)</td>
<td>8° (±1°)</td>
</tr>
</tbody>
</table>

Manufacturer's Serial Nos.  32R-7680001 through 32R-7880068. The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers 32R-7680001 through 32R-7880068 under the delegation option provisions FAR 21 (See NOTE 7).
V. - Model PA-32RT-300 (Lance II), 7 PCLM (Normal Category), Approved December 13, 1977.
Same as Model PA-32R-300 except for redesigned tail surfaces in "T" configuration and other minor changes.

**Engine**
- Lycoming IO-540-K1G5D
- Flow Setting No. 2524273

**Fuel**
- 100/130 minimum grade aviation gasoline

**Engine Limits**
- For all operations, 2700 r.p.m. (300 hp)

**Propeller and Propeller Limits**
- Hartzell constant speed Model HC-C2YK-1( )F, Blade Model F8475D-4
  - Pitch: High 34° ± 1°, Low 13.5° ± 2° at 30 in. station
  - Diameter: Not over 80 in., not under 78.5 in.
  - Governor Assembly: Hartzell F-4-11B( )
  - Spinner: P/N 99374 (See NOTE 6)

**Airspeed Limits**
- Never exceed 217 m.p.h. (189 knots) CAS
- Maximum structural cruise 173 m.p.h. (150 knots) CAS
- Maneuvering 152 m.p.h. (132 knots) CAS
  (with 3600 lb. gross weight)
- Maximum flaps extended 125 m.p.h. (109 knots) CAS
- Maximum gear extension 150 m.p.h. (130 knots) CAS
- Maximum gear retraction 125 m.p.h. (109 knots) CAS

**C.G. Range (gear extended)**
- (+91.4) to (+96.0) at 3600 lb.
- (+84.0) to (+96.0) at 3000 lb.
- (+82.0) to (+96.0) at 2500 lb. or less

**Empty Weight C.G. Range**
- None

**Maximum Weight**
- 3600 lb.

**No. of Seats**
- 7 (2 at +85.5, 3 at +118.1, 2 at +157.6)
- 6 (2 at +85.5, *2 at +119.1, 2 at +157.6) (See NOTE 11)
  * - Optional Club Seats

**Maximum Baggage**
- 200 lb. (100 lb. at +42.0, 100 lb. at +178.7)
V. - Model PA-32RT-300 (cont'd)

**Fuel Capacity**
98 gallons at +93.6 (2 wing tanks)  
(94 gallons usable)
See NOTE 1 for data on system fuel

**Oil Capacity**
12 qt. at +16.6  
(9-1/4 qt. usable)
See NOTE 1 for data on system oil

<table>
<thead>
<tr>
<th>Control Surface Movements</th>
<th>Wing Flaps Up 0° (±2°)</th>
<th>Down 30° (±2°)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ailerons</td>
<td>Up 30° (±2°)</td>
<td>Down 15° (±2°)</td>
</tr>
<tr>
<td>Rudder</td>
<td>Left 36° (±2°)</td>
<td>Right 36° (±2°)</td>
</tr>
<tr>
<td>Stabilator</td>
<td>Up 14.5° (±5°)</td>
<td>Down 10° (±1°)</td>
</tr>
<tr>
<td>Stabilator Tab</td>
<td>Up 2.5° (±1°)</td>
<td>Down 10° (±5°)</td>
</tr>
</tbody>
</table>

**Manufacturer's Serial Nos.**
32R-7885002 through 32R-7985106. The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers 32R-7885002 through 32R-7985106 under the delegation option provisions FAR 21 (See NOTE 7).

VI. - Model PA-32RT-300T (Turbo Lance II), 7 PCLM (Normal Category), Approved April 20, 1978.
Same as Model PA-32RT-300 except for turbocharged engine installation and other minor changes.

**Engine**
Lycoming TIO-540-S1AD

Bendix Injector Type RSA-10ED1
Flow Setting No. 2524693 for S/N 32R-7787001, 32R-7887002 through 32R-7887041

Bendix Injector Type RSA-10ED2
Flow Setting No. 2524791 for S/N 32R-7787001, 32R-7887002 through 32R-7987126

**Fuel**
100/130 minimum grade aviation gasoline

**Engine Limits**
For 5 minute takeoff, 2700 r.p.m. and 36.0" Hg MAP (300 hp)
For maximum continuous operation, 2575 r.p.m. and 33.0" Hg MAP (270 hp)

**Propeller and Propeller Limits**
Hartzell constant speed Model HC-E2YR-1( )F, Blade Model F8477-4
Pitch: High 34° ± 1°, Low 15.6° ± .2° at 30 in. station
Diameter: Not over 80 in., not under 78.5 in.
Governor Assembly: Hartzell F-4-11B or F-4-11B( )
Spinner: Piper P/N 98708-2 or Hartzell P/N A-2298-2

**Airspeed Limits**
Never exceed 217 m.p.h. (189 knots) CAS
Maximum structural cruise 173 m.p.h. (150 knots) CAS
Maneuvering 152 m.p.h. (132 knots) CAS
(with 3600 lb. gross weight)
Maximum flaps extended 125 m.p.h. (109 knots) CAS
Maximum gear extension 150 m.p.h. (130 knots) CAS
Maximum gear retraction 125 m.p.h. (109 knots) CAS
VI. - Model PA-32RT-300T  (cont'd)

C.G. Range (gear extended) (+91.4) to (+95.0) at 3600 lb.
(+80.0) to (+95.0) at 2900 lb. or less
Straight line variation between points given.

Empty Weight C.G. Range None
Maximum Weight 3600 lb.
No. of Seats 7 (2 at +85.5, 3 at +118.1, 2 at +157.6)
6 (2 at +85.5, *2 at +119.1, 2 at +157.6)  (See NOTE 11)
* - Optional Club Seats
Maximum Baggage 200 lb. (100 lb. at +42.0, 100 lb. at +178.7)
Fuel Capacity 98 gallons at +93.6 (2 wing tanks)  (94 gallons usable)
See NOTE 1 for data on system fuel
Oil Capacity 12 qt. at +16.6  (9-1/4 qt. usable)
See NOTE 1 for data on system oil
Control Surface Movements

<table>
<thead>
<tr>
<th>Surface</th>
<th>Up</th>
<th>Down</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing Flaps</td>
<td>0° (±2°)</td>
<td>40° (±2°)</td>
</tr>
<tr>
<td>Ailerons</td>
<td>30° (±2°)</td>
<td>15° (±2°)</td>
</tr>
<tr>
<td>Rudder</td>
<td>36° (±2°)</td>
<td>36° (±2°)</td>
</tr>
<tr>
<td>Stabilator</td>
<td>14.5° (±.5°)</td>
<td>10° (±1°)</td>
</tr>
<tr>
<td>Stabilator Tab</td>
<td>1.0° (±1°)</td>
<td>10° (±.5°)</td>
</tr>
</tbody>
</table>

Manufacturer's Serial Nos. 32R-7787001, 32R-7887002 through 32R-7987126. The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers 32R-7787001, 32R-7887002 through 32R-7987126 under the delegation option provisions of FAR 21  (See NOTE 7).

VII. - Model PA-32R-301 (Saratoga SP), 7 PCLM (Normal Category), Approved November 7, 1979.
Same as Model PA-32R-300 except for tapered wings and other minor changes.

Engine Lycoming IO-540-K1G5D
Bendix Injector Type RSA-10ED1
Flow Setting No. 2524273

Fuel 100 or 100LL aviation grade fuel
VII. - Model PA-32R-301  (cont'd)

**Engine Limits**
For airplanes equipped with standard Hartzell 2 blade propeller
HC-C2Y(K,R)-1( )F/F8475D-4:
For 5 minute takeoff, 2700 r.p.m. and full throttle (300 rated hp)
For maximum continuous operation, 2600 r.p.m. and full throttle (294 rated hp)

For airplanes equipped with optional Hartzell 3 blade propeller
HC-C3YR-1( )F/F7663R-0:
For all operations, 2700 r.p.m. and full throttle (300 rated hp)

**Propeller and Propeller Limits**
Hartzell constant speed Model HC-C2Y(K,R)-1( )F/F8475D-4 (standard 2 blade):
Pitch: High 34° ± 1°, Low 13.5° ± .2° at 30 in. station
Diameter: Not over 80 in., not under 78.5 in.
Governor Assembly: Hartzell F-4-11B or F-4-11B( )
Spinner: Piper P/N 98708-2 or Hartzell P/N A-2298-2

Hartzell constant speed Model HC-C3YR-1( )F/F7663R-0 (optional 3 blade):
Pitch: High 32.0° ± 1°, Low 12.4° ± .2° at 30 in. station
Diameter: Not over 78 in., not under 76 in.
Governor Assembly: Hartzell F-4-11B or F-4-11B( )
Spinner: Piper PSS0077-56 or Hartzell P/N 835-47

**Airspeed Limits**
(Indicated)
Never exceed 197 knots (226 m.p.h.)
Maximum structural cruise 154 knots (177 m.p.h.)
Maneuvering 134 knots (154 m.p.h.)
(with 3600 lb. gross weight)
Maximum flaps extended 112 knots (129 m.p.h.)
Maximum gear extension 132 knots (151 m.p.h.)
Maximum gear retraction 110 knots (126 m.p.h.)
Maximum gear extended 132 knots (151 m.p.h.)

**C.G. Range (gear extended)**
(+91.4) to (+95.0) at 3600 lb.
(+83.5) to (+95.0) at 3200 lb.
(+78.0) to (+95.0) at 2400 lb.
Straight line variation between points given.

<table>
<thead>
<tr>
<th>LBS.</th>
<th>INCHES</th>
</tr>
</thead>
<tbody>
<tr>
<td>3600</td>
<td>95.0</td>
</tr>
<tr>
<td>3200</td>
<td>83.5</td>
</tr>
<tr>
<td>2400</td>
<td>78.0</td>
</tr>
</tbody>
</table>

**Empty Weight C.G. Range**
None

**Maximum Weight**
Ramp: 3615 lb.
Takeoff: 3600 lb.
Landing: 3600 lb.

**No. of Seats**
7 (2 at +85.5, 3 at +118.1, 2 at +157.6)
6 (2 at +85.5, *2 at +119.1, 2 at +157.6)  (See NOTE 11)
* - Optional Club Seats
VII. - Model PA-32R-301 (cont'd)

<table>
<thead>
<tr>
<th>Maximum Baggage</th>
<th>200 lb. (100 lb. at +42.0, 100 lb. at +178.7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel Capacity</td>
<td>107 gallons at +94.0 (2 wing tanks) (102 gallons usable)</td>
</tr>
<tr>
<td></td>
<td>See NOTE 1 for data on system fuel</td>
</tr>
<tr>
<td>Oil Capacity</td>
<td>12 qt. at +16.6 (9-1/4 qt. usable)</td>
</tr>
<tr>
<td></td>
<td>See NOTE 1 for data on system oil</td>
</tr>
</tbody>
</table>

Control Surface Movements

<table>
<thead>
<tr>
<th>Wing Flaps</th>
<th>Up 0° (±1°)</th>
<th>Down 40° (±2°)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ailerons</td>
<td>Up 28° (±1°)</td>
<td>Down 22° (±1°)</td>
</tr>
<tr>
<td>Rudder</td>
<td>Left 28° (±1°)</td>
<td>Right 28° (±1°)</td>
</tr>
<tr>
<td>Stabilator</td>
<td>Up 14.5° (±.5°)</td>
<td>Down 5.5° (±.5°)</td>
</tr>
<tr>
<td>Stabilator Tab</td>
<td>Up 5° (±1°)</td>
<td>Down 8° (±1°)</td>
</tr>
</tbody>
</table>

Manufacturer's Serial Nos.

32R-8013001 through 32R-8613006, 3213001 through 3213028, and 3213030 through 3213041. The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers 32R-8013001 through 32R-8613006, 3213001 through 3213028, and 3213030 through 3213041 under the delegation option provisions of FAR 21.

VIII. - Model PA-32R-301 (Saratoga II HP), 7 PCLM (Normal Category), Approved May 26, 1993.

Same as Model PA-32R-301, Saratoga SP, except for engine cowling, engine model designation and other minor changes.

Engine

Lycoming IO-540-K1G5
Precision Airmotive Injector, Type RSA-10ED1
Flow Setting No. 2524273 for S/N 3213042 through 3213103, and 3246001 and up
Lycoming IO-540-K1G5D for S/N 3213029 only

Fuel

100 or 100LL aviation grade fuel

Engine Limits

Equipped with Hartzell 3 blade propeller HC-I3YR-1RF/F7663DR:
For all operations, 2700 r.p.m. and full throttle (300 rated hp)

Propeller and Propeller Limits

Hartzell constant speed Model HC-I3YR-1RF/F7663DR (3 blade)
Hartzell constant speed Model HC-I3YR-1RF/F7663DRB (3 blade with TKS Ice Protection System)
Pitch: High 32.0° ± 1°, Low 12.4° ± .2° at 30 in. station
Diameter: Not over 78 in., not under 77 in.
Governor: Hartzell V-5-4
Spinner Assy: Hartzell P/N C3575-1 (P)
Dome: Hartzell P/N C-3532-16P (with TKS Ice Protection System)
Do not exceed 23° manifold pressure below 2100 r.p.m.

Airspeed Limits

For S/N 3213029, 3213042 through 3213103, and 3246001 through 3246017:
(Indicated)

Never exceed 193 knots (222 m.p.h.)
Maximum structural cruise 160 knots (184 m.p.h.)
Maneuvering 132 knots (152 m.p.h.)
(with 3600 lb. gross weight)
Flaps extended 108 knots (124 m.p.h.)
Maximum gear extension 130 knots (150 m.p.h.)
Maximum gear retraction 108 knots (124 m.p.h.)
Maximum gear extended 130 knots (150 m.p.h.)

For S/N 3246018 and up:
Never exceed 191 knots (220 m.p.h.)
Maximum structural cruise 160 knots (184 m.p.h.)
Maneuvering 134 knots (154 m.p.h.)
(with 3600 lb. gross weight)
Flaps extended 110 knots (127 m.p.h.)
Maximum gear extension 132 knots (152 m.p.h.)
Maximum gear retraction 110 knots (127 m.p.h.)
Maximum gear extended 132 knots (152 m.p.h.)
VIII. - Model PA-32R-301 (cont'd)

C.G. Range (gear extended)
(+91.4) to (+95.0) at 3600 lb.
(+83.5) to (+95.0) at 3200 lb.
(+78.0) to (+95.0) at 2400 lb.
Straight line variation between points given.

LBS.

INCHES

Empty Weight C.G. Range
None

Maximum Weight
Ramp: 3615 lb.
Takeoff: 3600 lb.
Landing: 3600 lb.

No. of Seats
6 (2 at +85.5, 2 at +119.1, 2 at +157.6)

Maximum Baggage
200 lb. (100 lb. at +42.0, 100 lb. at +178.7)

Fuel Capacity
107 gallons at +94.0 (2 wing tanks) (102 gallons usable)
See NOTE 1 for data on fuel system

Oil Capacity
12 qt. at +16.6 (9-1/4 qt. usable)
See NOTE 1 for data on oil system

Control Surface Movements
Wing Flaps
Up 0° (±1°)
Down 40° (±2°)

Ailerons
Up 28° (±1°)
Down 22° (±1°)

Rudder
Left 28° (±1°)
Right 28° (±1°)

Stabilator
Up 14.5° (±.5°)
Down 5.5° (±.5°)

Stabilator Tab
Up 5° (±1°)
Down 8° (±1°)

Manufacturer's Serial Nos.
3213029, 3213042 through 3213103 (14v), 3246001 through 3246017 (14v), and 3246018 and up (28v). The manufacturer is authorized to issue airworthiness certificates under the delegation option provisions of FAR 21.

IX. - Model PA-32R-301T (Turbo Saratoga SP), 7 PCLM (Normal Category), Approved November 7, 1979.
Same as Model PA-32R-300 except for tapered wings, turbocharged powerplant installation and other minor changes.

Engine
Lycoming TIO-540-S1AD
Bendix Injector, Type RSA-10ED2
Flow Setting No. 2524791

Fuel
100 or 100LL aviation grade fuel
IX. - Model PA-32R-301T (cont'd)

**Engine Limits**

For airplanes equipped with standard Hartzell 2 blade propeller HC-E2YR-1( )F/F8477-4:
- For 5 minute take-off, 2700 r.p.m. and 36.0" Hg MAP (300 hp) - Sea level to 16,000 ft. altitude
- For maximum continuous operation, 2575 r.p.m. and 36.0" Hg MAP (294 hp) - Sea level to 16,000 ft. altitude

For airplanes equipped with optional Hartzell 3 blade propeller HC-E3YR-1( )F/F7673DR-0:
- For all operations, 2700 r.p.m. and 36.0" Hg MAP (300 rated hp) - Sea level to 16,000 ft. altitude

**Propeller and Propeller Limits**

Hartzell constant speed Model HC-E2YR-1( )F/F8477-4 (standard 2 blade):
- Pitch: High 34.0° ± 1°, Low 15.6° ± .2° at 30 in. station
- Diameter: Not over 80 in., not under 78.5 in.
- Governor Assembly: Hartzell F-4-11B or F-4-11B( )
- Spinner: Piper P/N 98708-2 or Hartzell P/N A-2298-2

Hartzell constant speed Model HC-E3YR-1( )F/F7673DR-0 (optional 3 blade):
- Pitch: High 34.5° ± 1°, Low 13.2° ± .2° at 30 in. station
- Diameter: Not over 78 in., not under 76 in.
- Governor Assembly: Hartzell F-4-11B or F-4-11B( )
- Spinner: Piper P/N PS50077-58 or Hartzell P/N C-3575

**Airspeed Limits**

(Indicated)

- Never exceed: 197 knots
- Maximum structural cruise: 154 knots
- Maneuvering: 134 knots
- (with 3600 lb. gross weight)
- Flaps extended: 112 knots
- Maximum gear extension: 132 knots
- Maximum gear retraction: 110 knots
- Maximum gear extended: 132 knots

**C.G. Range (gear extended)**

(+91.4) to (+95.0) at 3600 lb.
(+82.75) to (+95.0) at 3200 lb.
(+78.0) to (+95.0) at 2400 lb.

Straight line variation between points given.

<table>
<thead>
<tr>
<th>LBS.</th>
<th>INCHES</th>
</tr>
</thead>
<tbody>
<tr>
<td>3600</td>
<td>91.4</td>
</tr>
<tr>
<td>3200</td>
<td>82.75</td>
</tr>
<tr>
<td>2400</td>
<td>78.0</td>
</tr>
<tr>
<td>2000</td>
<td>87.4</td>
</tr>
</tbody>
</table>

**Empty Weight C.G. Range**

None

**Maximum Weight**

- Ramp: 3615 lb.
- Takeoff: 3600 lb.
- Landing: 3600 lb.
IX. - Model PA-32R-301T (cont'd)

No. of Seats
7 (2 at +85.5, 3 at +118.1, 2 at +157.6)
6 (2 at +85.5, *2 at +119.1, 2 at +157.6) (See NOTE 11)
* - Optional Club Seats

Maximum Baggage
200 lb. (100 lb. at +42.0, 100 lb. at +178.7)

Fuel Capacity
107 gallons at +94.0 (2 wing tanks) (102 gallons usable)
See NOTE 1 for data on system fuel

Oil Capacity
12 qt. at +16.6 (9-1/4 qt. usable)
See NOTE 1 for data on system oil

Control Surface Movements

<table>
<thead>
<tr>
<th>Surface</th>
<th>Up</th>
<th>Down</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing Flaps</td>
<td>0° (±1°)</td>
<td>40° (±2°)</td>
</tr>
<tr>
<td>Ailerons</td>
<td>28° (±1°)</td>
<td>22° (±1°)</td>
</tr>
</tbody>
</table>
| Rudder    | Left 28° (±1°), Right 28° (±1°)
| Stabilator| Up 14.5° (±.5°), Down 5.5° (±0.5°) |
| Stabilator Tab | Up 5° (±1°), Down 8° (±1°) |

Manufacturer's Serial Nos.
32R-8029001 through 32R-8629008, and 3229001 through 3229003. The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers 32R-8029001 through 32R-8629008, and 3229001 through 3229003 under the delegation option provisions of FAR 21 (See NOTE 7).

X. - Model PA-32-301 (Saratoga), 7 PCLM (Normal Category), Approved January 9, 1980.
Same as Model PA-32-300 except for tapered wings, increased gross weight and other minor changes.

Engine
Lycoming IO-540-K1G5
Bendix Injector Type RSA-10ED1
Flow Setting No. 2524273

Fuel
100 or 100LL aviation grade fuel

Engine Limits
For airplanes equipped with standard Hartzell 2 blade propeller
HC-C2Y(K,R)-1( )F/F8475D-4:
- For 5 minute takeoff, 2700 r.p.m. and full throttle (300 rated hp)
- For maximum continuous operation, 2600 r.p.m. and full throttle (294 rated hp)

For airplanes equipped with optional Hartzell 3 blade propeller
HC-C3YR-1( )F/F7663R-0:
- For all operations, 2700 r.p.m. and full throttle (300 rated hp)

Propeller and Propeller Limits
Hartzell constant speed Model HC-C2Y(K,R)-1( )F/ F8475D-4 (standard 2 blade):
Pitch: High 34° ± 1°, Low 13.5° ± .2° at 30 in. station
Diameter: Not over 80 in., not under 78.5 in.
Governor Assembly: Hartzell F-4-11 or F-4-11( )
Spinner: P/N 67790-0 Spinner, P/N 67791-0 Bulkhead, P/N 67793-0 Bulkhead, P/N 99499-0 Plate, and two each 67794-0 Cuff (See NOTE 6)

Hartzell constant speed Model HC-C3YR-1( )F/F7663R-0 (optional 3 blade):
Pitch: High 32° ± 1°, Low 12.4° ± .2° at 30 in. station
Diameter: Not over 78 in., not under 76 in.
Governor Assembly: Hartzell F-4-11B or F-4-11B( )
Spinner: Hartzell P/N 835-47 (See NOTE 6)
X. - Model PA-32-301 (cont’d)

Airspeed Limits

<table>
<thead>
<tr>
<th>Condition</th>
<th>Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Indicated) Never exceed</td>
<td>197 knots</td>
</tr>
<tr>
<td>Maximum structural cruise (with 3600 lb. gross weight)</td>
<td>154 knots</td>
</tr>
<tr>
<td>Maneuvering</td>
<td>134 knots</td>
</tr>
<tr>
<td>Flaps extended</td>
<td>112 knots</td>
</tr>
</tbody>
</table>

C.G. Range (gear extended)

<table>
<thead>
<tr>
<th>Weight</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>(+90.0) to (+95.0) at 3600 lb.</td>
<td>(+90.0) to (+95.0) at 3600 lb.</td>
</tr>
<tr>
<td>(+83.5) to (+95.0) at 3200 lb.</td>
<td>(+83.5) to (+95.0) at 3200 lb.</td>
</tr>
<tr>
<td>(+78.0) to (+95.0) at 2400 lb.</td>
<td>(+78.0) to (+95.0) at 2400 lb.</td>
</tr>
</tbody>
</table>

Straight line variation between points given.

Empty Weight C.G. Range

None

Maximum Weight

<table>
<thead>
<tr>
<th>Condition</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ramp:</td>
<td>3615 lb.</td>
</tr>
<tr>
<td>Takeoff:</td>
<td>3600 lb.</td>
</tr>
<tr>
<td>Landing:</td>
<td>3600 lb.</td>
</tr>
</tbody>
</table>

No. of Seats

6 (2 at +85.5, 2 at +118.1, 2 at +157.6)
7 (2 at +85.5, 3 at +118.1, 2 at +157.6)
6 (2 at +85.5, *2 at +119.1, 2 at +157.6)  (See NOTE 11)

* - Optional Club Seats

Maximum Baggage

200 lb. (100 lb. at +42.0, 100 lb. at +178.7)

Fuel Capacity

107 gallons at +94.0  (2 wing tanks)  (102 gallons usable)
See NOTE 1 for data on system fuel

Oil Capacity

12 qt. at +16.6  (9-1/4 qt. usable)
See NOTE 1 for data on system oil

Control Surface Movements

<table>
<thead>
<tr>
<th>Surface</th>
<th>Up</th>
<th>Down</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing Flaps</td>
<td>0° (±1°)</td>
<td>40° (±2°)</td>
</tr>
<tr>
<td>Ailerons</td>
<td>28° (±1°)</td>
<td>22° (±1°)</td>
</tr>
<tr>
<td>Rudder</td>
<td>28° (±1°)</td>
<td>Right 28° (±1°)</td>
</tr>
<tr>
<td>Stabilator</td>
<td>Up 14.5° (±0.5°)</td>
<td>Down 5.5° (±0.5°)</td>
</tr>
<tr>
<td>Stabilator Tab</td>
<td>Up 5° (±1°)</td>
<td>Down 8° (±1°)</td>
</tr>
<tr>
<td>Nose Wheel Travel</td>
<td>Left 24° (±2°)</td>
<td>Right 24° (±2°)</td>
</tr>
</tbody>
</table>

Manufacturer's Serial Nos.

32-8006002 through 32-8606023, and 3206001 through 3206019, 3206042 through 3206044, 3206047, 3206050 through 3206055, and 3206060. The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers 32-8006002 through 32-8606023, and 3206001 through 3206019 under the delegation option provisions of FAR 21  (See NOTE 7).
XI. - Model PA-32-301T (Turbo Saratoga), 7 PCLM (Normal Category), Approved January 9, 1980.
Same as Model PA-32-300 except for tapered wings, turbocharged powerplant, increased gross weight, and other minor changes.

Engine
Lycoming TIO-540-S1AD
Bendix Injector Type RSA-10ED2
Flow Setting No. 2524791

Fuel
100 or 100LL aviation grade fuel

Engine Limits
For airplanes equipped with standard Hartzell 2 blade propeller HC-E2YR-1( )F/F8477-4:
- For 5 minute takeoff, 2700 r.p.m. and 36.0" Hg MAP (300 hp) - Sea level to 16,000 ft. altitude
- For maximum continuous operation, 2575 r.p.m. and 36.0" Hg MAP (294 rated hp) - Sea level to 16,000 ft. altitude

For airplanes equipped with optional Hartzell 3 blade propeller HC-E3YR-1( )F/F7673DR-0:
- For all operations, 2700 r.p.m. and 36.0" Hg MAP (300 rated hp) - Sea level to 16,000 ft.

Propeller and Propeller Limits
Hartzell constant speed Model HC-E2YR-1( )F/F8477-4 (standard 2 blade):
- Pitch: High 34° ± 1°, Low 15.6° ± .2° at 30 in. station
- Diameter: Not over 80 in., not under 78.5 in.
- Governor Assembly: Hartzell F-4-11B or F-4-11B( )
- Spinner: Piper P/N 98708-2 or Hartzell P/N A-2298-2

Hartzell constant speed Model HC-E3YR-1( )F/F7673R-0 (optional 3 blade):
- Pitch: High 34.5° ± 1°, Low 13.2° ± .2° at 30 in. station
- Diameter: Not over 78 in., not under 76 in.
- Governor Assembly: Hartzell F-4-11B or F-4-11B( )
- Spinner: Piper P/N PS50077-58 or Hartzell P/N C-3575

Airspeed Limits (Indicated)
Never exceed 197 knots (226 m.p.h.)
Maximum structural cruise 154 knots (177 m.p.h.) (with 3600 lb. gross weight)
Maneuvering 134 knots (154 m.p.h.)
Maximum flaps extended 112 knots (129 m.p.h.)
XI. - Model PA-32-301T (cont'd)

C.G. Range (gear extended)
(+90.0) to (+95.0) at 3600 lb.
(+83.5) to (+95.0) at 3200 lb.
(+78.0) to (+95.0) at 2400 lb.
Straight line variation between points given.

Empty Weight C.G. Range  None

Maximum Weight  
Ramp:  3617 lb.
Takeoff:  3600 lb.
Landing:  3600 lb.

No. of Seats  
6 (2 at +85.5, 2 at +118.1, 2 at +157.6)
7 (2 at +85.5, 3 at +118.1, 2 at +157.6)
6 (2 at +85.5, *2 at +119.1, 2 at +157.6)  (See NOTE 11)
* - Optional Club Seats

Maximum Baggage  
200 lb. (100 lb. at +42.0, 100 lb. at +178.7)

Fuel Capacity  
107 gallons at +94.0  (2 wing tanks)  (102 gallons usable)
See NOTE 1 for data on system fuel

Oil Capacity  
12 qt. at +16.6  (9-1/4 qt. usable)
See NOTE 1 for data on system oil

Control Surface Movements  
Wing Flaps  
Up  0° (±1°)  Down  40° (±2°)

Ailerons  
Up  28° (±1°)  Down  22° (±1°)

Rudder  
Left  28° (±1°)  Right  28° (±1°)

Stabilator  
Up  14.5° (±0.5°)  Down  5.5° (±0.5°)

Stabilator Tab  
Up  5° (±1°)  Down  8° (±1°)

Nose Wheel Travel  
Left  24° (±2°)  Right  24° (±2°)

Manufacturer's Serial Nos.  
32-8024001 and 32-8424002. The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers 32-8024001 through 32-8424002 the delegation option provisions of FAR 21  (See NOTE 7).
XII. - Model PA-32R-301T (Saratoga II TC), 6 PCLM (Normal Category), Approved July 9, 1997.
Same as Model PA-32R-301T, Turbo Saratoga SP, except for new turbocharged powerplant, 28 Volt electrical system and other
minor changes.

**Engine**
Lycoming TIO-540-AH1A
Precision Airmotive Injector, Type RSA-10ED1
Flow Setting No. 2576554-2

**Fuel**
100 or 100LL aviation grade fuel

**Engine Limits**
For all operations, 2500 r.p.m. and 38.0" Hg MAP (300 rated hp) - Sea level to
12,000 ft. altitude
Do not operate above 26.0" Hg MAP below 2100 r.p.m.

**Propeller and Propeller Limits**
Hartzell constant speed Model HC-I3YR-1RF/F7663DR (3 blade)
Hartzell constant speed Model HC-I3YR-1RF/F7663DRB
(3 blade with TKS Ice Protection System)
Pitch: High 34.0° ± 0.5°, Low 15.2° ± 0.2° at 30 in. station
Diameter: Not over 78 in., not under 76 in.
Governor: Hartzell V-5-6
Spinner Assy: Piper P/N PS50077-90 or Hartzell P/N C-3575-1 (P)
Dome: Hartzell P/N 3532-16P (with TKS Ice Protection System)

**Airspeed Limits**
(Indicated)
- Never exceed 191 knots
- Maximum structural cruise 167 knots
- Maneuvering 134 knots
  (with 3600 lb. gross weight)
- Flaps extended 110 knots
- Maximum gear extension 132 knots
- Maximum gear retraction 110 knots
- Maximum gear extended 132 knots

**C.G. Range (gear extended)**
(+91.4) to (+95.0) at 3600 lb.
(+83.5) to (+95.0) at 3200 lb.
(+78.0) to (+95.0) at 2400 lb.
Straight line variation between points given.

**Empty Weight C.G. Range**
None

**Maximum Weight**
- Ramp: 3615 lb.
- Takeoff: 3600 lb.
- Landing: 3600 lb.

**No. of Seats**
6 (2 at +85.5, 2 at +119.1, 2 at +157.6)
5 (2 at +85.5, 1 at +119.1, 2 at +157.6)

**Maximum Baggage**
200 lb. (100 lb. at +42.0, 100 lb. at +178.7)
XII. - Model PA-32R-301T (cont’d)

Fuel Capacity

107 gallons at +94.0° (2 wing tanks) (102 gallons usable)

See NOTE 1 for data on fuel system

Oil Capacity

12 qt. at +16.6° (9-1/4 qt. usable)

See NOTE 1 for data on oil system

Control Surface Movements

<table>
<thead>
<tr>
<th>Surface</th>
<th>Movement</th>
<th>Up</th>
<th>Down</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing Flaps</td>
<td>Up</td>
<td>0° (±1°)</td>
<td>40° (±2°)</td>
</tr>
<tr>
<td></td>
<td>Down</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ailerons</td>
<td>Up</td>
<td>28° (±1°)</td>
<td>22° (±1°)</td>
</tr>
<tr>
<td>Rudder</td>
<td>Left</td>
<td>28° (±1°)</td>
<td>28° (±1°)</td>
</tr>
<tr>
<td></td>
<td>Right</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stabilator</td>
<td>Up</td>
<td>14.5° (±.5°)</td>
<td>5.5° (±.5°)</td>
</tr>
<tr>
<td>Stabilator Tab</td>
<td>Up</td>
<td>5° (±1°)</td>
<td>8° (±1°)</td>
</tr>
</tbody>
</table>

Manufacturer’s Serial Nos.

3257001 and up. The manufacturer is authorized to issue airworthiness certificates for serial numbers 3257001 and up under the delegation option provisions of FAR 21.


Similar to Model PA-32R-301, Saratoga IIHP, except for fixed landing gear and other minor changes.

Engine

Lycoming IO-540-K1G5

Precision Airmotive Injector, Type RSA-10ED1

Flow Setting No. 2524273

Fuel

100 or 100LL aviation grade fuel

Engine Limits

Equipped with Hartzell 3 blade propeller HC-13YR-1RF/F7663DR:
For all operations, 2700 r.p.m. and full throttle (300 rated hp)

Propeller and Propeller Limits

Hartzell constant speed Model HC-13YR-1RF/F7663DR (3 blade)
Hartzell constant speed Model HC-13YR-1RF/F7663DRB (3 blade with TKS Ice Protection System)
Pitch: High 32.0° ± 1°, Low 12.4° ± .2° at 30 in. station
Diameter: Not over 78 in., not under 77 in.
Governor: Hartzell V-5-4
Spinner Assy: Hartzell P/N C3575-1 (P)
Dome: Hartzell P/N C-3532-16P (with TKS Ice Protection System)
Do not exceed 23” manifold pressure below 2100 r.p.m.

Airspeed Limits (Indicated)

<table>
<thead>
<tr>
<th>Condition</th>
<th>Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never exceed</td>
<td>189 knots (218 m.p.h.)</td>
</tr>
<tr>
<td>Maximum structural cruise</td>
<td>150 knots (173 m.p.h.)</td>
</tr>
<tr>
<td>Maneuvering (with 3600 lb. gross weight)</td>
<td>132 knots (152 m.p.h.)</td>
</tr>
<tr>
<td>Flaps extended</td>
<td>113 knots (130 m.p.h.)</td>
</tr>
</tbody>
</table>
XIII. - Model PA-32-301FT (cont'd)

C.G. Range

(+90.0) to (+95.0) at 3600 lb.
(+83.5) to (+95.0) at 3200 lb.
(+78.0) to (+95.0) at 2400 lb.

Straight line variation between points given.

Empty Weight C.G. Range  None

Maximum Weight
Ramp: 3615 lb.
Takeoff: 3600 lb.
Landing: 3600 lb.

No. of Seats  6 (2 at +85.5, 2 at +119.1, 2 at +157.6)

Maximum Baggage  200 lb. (100 lb. at +42.0, 100 lb. at +178.7)

Fuel Capacity  107 gallons at +94.0 (2 wing tanks) (102 gallons usable)

Oil Capacity  12 qt. at +16.6 (9-1/4 qt. usable)

Control Surface Movements

<table>
<thead>
<tr>
<th>Movement</th>
<th>Up</th>
<th>Down</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wing Flaps</td>
<td>0° (±1°)</td>
<td>40° (±2°)</td>
</tr>
<tr>
<td>Ailerons</td>
<td>28° (±1°)</td>
<td>22° (±1°)</td>
</tr>
<tr>
<td>Rudder</td>
<td>28° (±1°)</td>
<td>28° (±1°)</td>
</tr>
<tr>
<td>Stabilator</td>
<td>14.5° (±0.5°)</td>
<td>5.5° (±0.5°)</td>
</tr>
<tr>
<td>Stabilator Tab</td>
<td>5° (±1°)</td>
<td>8° (±1°)</td>
</tr>
<tr>
<td>Nose Wheel</td>
<td>Left 24° (±2°)</td>
<td>Right 24° (±2°)</td>
</tr>
</tbody>
</table>

Manufacturer's Serial Nos.  3232001 and up. The manufacturer is authorized to issue airworthiness certificates for serial numbers 3232001 and up under the delegation option provisions of FAR 21.
Similar to Model PA-32R-301T, Saratoga IITC, except for fixed landing gear and other minor changes.

**Engine**
- Lycoming TIO-540-AH1A
- Precision Airmotive Injector, Type RSA-10ED1
- Flow Setting No. 2576554-2

**Fuel**
- 100 or 100LL aviation grade fuel

**Engine Limits**
- For all operations, 2500 r.p.m. and 38.0" Hg MAP (300 rated hp) - Sea level to 12,000 ft. altitude
- Do not operate above 26.0" Hg MAP below 2100 r.p.m.

**Propeller and Propeller Limits**
- Hartzell constant speed Model HC-I3YR-1RF/F7663DR (3 blade)
- Hartzell constant speed Model HC-I3YR-1RF/F7663DRB (3 blade with TKS Ice Protection System)
- Pitch: High 34.0° ± 0.5°, Low 15.2° ± 0.2° at 30 in. station
- Diameter: Not over 78 in., not under 76 in.
- Governor: Hartzell V-5-6
- Spinner Assy: Piper P/N PS50077-90 or Hartzell P/N C-3575-1 (P)
- Dome: Hartzell P/N C-3532-16P (with TKS Ice Protection System)

**Airspeed Limits**
- Never exceed 189 knots (218 m.p.h.)
- Maximum structural cruise 150 knots (173 m.p.h.)
- Maneuvering 132 knots (152 m.p.h.)
- (with 3600 lb. gross weight)
- Flaps extended 113 knots (130 m.p.h.)

**C.G. Range**
- (+90.0) to (+95.0) at 3600 lb.
- (+83.5) to (+95.0) at 3200 lb.
- (+78.0) to (+95.0) at 2400 lb.
- Straight line variation between points given.

**Empty Weight C.G. Range**
- None

**Maximum Weight**
- Ramp: 3615 lb.
- Takeoff: 3600 lb.
- Landing: 3600 lb.

**No. of Seats**
- 6 (2 at +85.5, 2 at +119.1, 2 at +157.6)

**Maximum Baggage**
- 200 lb. (100 lb. at +42.0, 100 lb. at +178.7)

**Fuel Capacity**
- 107 gallons at +94.0 (2 wing tanks) (102 gallons usable)
- See NOTE 1 for data on fuel system
Oil Capacity
12 qt. at +16.6 (9-1/4 qt. usable)
See NOTE 1 for data on oil system

Control Surface Movements

<table>
<thead>
<tr>
<th>Surface</th>
<th>Up</th>
<th>Down</th>
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<tbody>
<tr>
<td>Wing Flaps</td>
<td>0° (±1°)</td>
<td>40° (±2°)</td>
</tr>
<tr>
<td>Ailerons</td>
<td>28° (±1°)</td>
<td>22° (±1°)</td>
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<tr>
<td>Rudder</td>
<td>28° (±1°)</td>
<td>28° (±1°)</td>
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<tr>
<td>Stabilator</td>
<td>14.5° (±0.5°)</td>
<td>5.5° (±0.5°)</td>
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<tr>
<td>Stabilator Tab</td>
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Nose Wheel Travel

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<th>Right</th>
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<tbody>
<tr>
<td></td>
<td>24° (±2°)</td>
<td>24° (±2°)</td>
</tr>
</tbody>
</table>

Manufacturer's Serial Nos.
3255001 and up. The manufacturer is authorized to issue airworthiness certificates for serial numbers 3255001 and up under the delegation option provisions of FAR 21.

Data Pertinent to All Models

Datum
78.4" forward of wing leading edge

Leveling Means
Two screws left side fuselage below window

Certification Basis
Date of application for Type Certificate, February 20, 1964.
Delegation Option Authorization per FAR 21, Subpart J, granted July 17, 1968.


PA-32R-300: CAR 3, effective May 15, 1956, through Amendment 3-8, effective December 18, 1962. In addition, FAR 23.221 and 23.959 as amended by Amendment 23-7, effective September 14, 1969; FAR 23.967(e)(2) as amended by Amendment 23-14, effective December 20, 1973; and FAR 23.1327 and 23.1547 as amended by Amendment 23-20, effective September 1, 1977.


PA-32R-301T, S/N 32R-8029001 through 32R-8629008, and 3229001 through 3229003: CAR 3, effective May 15, 1956, through Amendment 3-8, effective December 18, 1962. In addition, FAR 23.965 of FAR 23 effective February 1, 1965; FAR 23.207, 23.221, 23.901, 23.909, 23.959, 23.1041, 23.1043, 23.1047, 23.1091, and 23.1527 as amended by Amendment 23-7, effective September 14, 1969; FAR 23.201, 23.203, and
23.967(e)(2) as amended by Amendment 23-14, effective December 20, 1973; FAR 23.1305 as amended by Amendment 23-15, effective October 31, 1974; FAR 23.1093 and 23.1557(c)(1) as amended by Amendment 23-18, effective May 2, 1977; FAR 23.1327 and 23.1547 as amended by Amendment 23-20, effective September 1, 1977; FAR 23.1581(b)(2) as amended by Amendment 23-21, effective March 1, 1978; and FAR 36 through Amendment 36-9, effective January 15, 1979. Equivalent Safety Finding for CAR 3.757 and 3.777. Compliance with FAR 23.1441 as amended by Amendment 23-9, effective June 17, 1970, will be shown with optional supplemental oxygen.

**PA-32-301:** CAR 3, effective May 15, 1956, through Amendment 3-8, effective December 18, 1962. In addition, FAR 23.965 of FAR 23, effective February 1, 1965; FAR 23.207, 23.221, 23.959, and 23.1091 as amended by Amendment 23-7, effective September 14, 1969; FAR 23.201, 23.203, and 23.967(e)(2) as amended by Amendment 23-14, effective December 20, 1973; FAR 23.1305 as amended by Amendment 23-15, effective October 31, 1974; FAR 23.1093 and 23.1557(c)(1) as amended by Amendment 23-18, effective May 2, 1977; FAR 23.1327 and 23.1547 as amended by Amendment 23-20, effective September 1, 1977; FAR 23.1581(b)(2) as amended by Amendment 23-21, effective March 1, 1978; FAR 23.1545 as amended by Amendment 23-23, effective December 1, 1978; and FAR 36 through Amendment 36-9, effective January 15, 1979.

**PA-32-301T:** CAR 3, effective May 15, 1956, through Amendment 3-8, effective December 18, 1962. In addition, FAR 23.965 of FAR 23, effective February 1, 1965; FAR 23.207, 23.221, 23.901, 23.959, 23.1041, 23.1043, 23.1047, 23.1091, 23.1143, and 23.1527 as amended by Amendment 23-7, effective September 14, 1969; FAR 23.201 and 23.967(e)(2) as amended by Amendment 23-14, effective December 20, 1973; FAR 23.1305 as amended by Amendment 23-15, effective October 31, 1974; FAR 23.1093 and 23.1557(c)(1) as amended by Amendment 23-18, effective May 2, 1977; FAR 23.1327 and 23.1547 as amended by Amendment 23-20, effective September 1, 1977; FAR 23.1581(b)(2) as amended by Amendment 23-21, effective March 1, 1978; FAR 23.1545 as amended by Amendment 23-23, effective December 1, 1978; and FAR 36 through Amendment 36-9, effective January 15, 1979. Compliance with FAR 23.1441 as amended by Amendment 23-9, effective June 17, 1970, will be shown with optional supplemental oxygen.

**PA-32R-301T, S/N 3257001 and up:** CAR 3, effective May 15, 1956, through Amendment 3-8, effective December 18, 1962. In addition, FAR 23.965 of FAR 23, effective February 1, 1965; FAR 23.207, 23.221, 23.901, 23.959, 23.1041, 23.1043, 23.1047, 23.1091, 23.1143, and 23.1527 as amended by Amendment 23-7, effective September 14, 1969; FAR 23.201, 23.203, and 23.967(e)(2) as amended by Amendment 23-14, effective December 20, 1973; FAR 23.1305 as amended by Amendment 23-15, effective October 31, 1974; FAR 23.1093 as amended by Amendment 23-18, effective May 2, 1977; FAR 23.1327 and 23.1547 as amended by Amendment 23-20, effective September 1, 1977; FAR 23.1581(b)(2) as amended by Amendment 23-21, effective March 1, 1978; FAR 23.1545 as amended by Amendment 23-23, effective December 1, 1978; and FAR 36 through Amendment 36-9, effective January 15, 1979. Compliance with FAR 23.1441 as amended by Amendment 23-9, effective June 17, 1970, will be shown with optional supplemental oxygen.

**PA-32R-301T, S/N 3257001 and up:** CAR 3, effective May 15, 1956, through Amendment 3-8, effective December 18, 1962. In addition, FAR 23.965 of FAR 23, effective February 1, 1965; FAR 23.207, 23.221, 23.901, 23.959, 23.1091, 23.1093, 23.1041, 23.1043, 23.1047, 23.1091, and 23.1527 as amended by Amendment 23-7, effective September 14, 1969; FAR 23.201, 23.203, and 23.967(e)(2) as amended by Amendment 23-14, effective December 20, 1973; FAR 23.1305 as amended by Amendment 23-15, effective October 31, 1974; FAR 23.1093 and 23.1557(c)(1) as amended by Amendment 23-18, effective May 2, 1977; FAR 23.1327 and 23.1547 as amended by Amendment 23-20, effective September 1, 1977; FAR 23.1581(b)(2) as amended by Amendment 23-21, effective March 1, 1978; FAR 23.1545 as amended by Amendment 23-23, effective December 1, 1978; and FAR 36 through Amendment 36-9, effective January 15, 1979. Compliance with FAR 23.1441 as amended by Amendment 23-9, effective June 17, 1970, will be shown with optional supplemental oxygen.

For aircraft S/N 3257339 and up equipped with Piper factory installed optional Avidyne Entegra system and Mid-Continent Model 4300-411 Electric Attitude Indicator, the additional certification basis for installation specific items only (see Report VB-1885) is: 14 CFR Part 23 regulations FAR 23.301, 23.337, 23.341, 23.561, 23.607, 23.611, as amended by Amdt. 23-48; FAR 23.303, 23.307, 23.601, 23.609, 23.1367, 23.1381 issued on 02/01/65; FAR 23.305, 23.613, 23.773, 23.1525, 23.1549 as amended by Amdt. 23-45; FAR 23.603, 23.605 as amended by Amdt. 23-23; FAR 23.777, 23.1191, 23.1337 as amended by Amdt. 23-51; FAR 23.1301, 23.1327, 23.1335 as amended by Amdt. 23-20; FAR 23.853, 23.867, 23.1303, 23.1307, 23.1309, 23.1311, 23.1321, 23.1323,

For aircraft equipped with Piper factory installed S-Tec system 55X autopilot installations, the additional certification basis for installation specific items only is: 14 CFR Part 23 regulations FAR 23.609, 23.627 issued on 02/01/65; FAR 23.611, 23.619, 23.625 as amended by Amdt. 23-7 Eff. 09/14/69; FAR 23.603 as amended by Amdt. 23-23, Eff. 12/01/78; FAR 23.1309 as amended by 23-41


Production basis
Production Certificate No. 206. The manufacturer is authorized to issue airworthiness certificates under the delegation option provisions of FAR 21.

Equipment
The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification.

In addition, the following documents are required:

<table>
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<tr>
<th>MODEL</th>
<th>AFM/POH</th>
<th>REPORT NO.</th>
<th>APPROVED</th>
<th>S/N EFFECTIVITY</th>
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<tr>
<td>PA-32-260</td>
<td>AFM</td>
<td>VB-152</td>
<td>3- 4-65</td>
<td>32-1 through 32-1110</td>
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<td>AFM</td>
<td>VB-156</td>
<td>12-17-68</td>
<td>32-1111 through 32-1297, and</td>
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<td>32-7100001 through 32-7200045</td>
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PA-32-300
AFM VB-154 5-27-66  32-40000 through 32-40565
AFM VB-158 12-17-68  32-40566 through 32-40974, and
AFM VB-393 1-20-72  32-7240056 through 32-7340191
AFM Supp. VB-357 8-25-71  32-7440001 through 32-7640130
POH VB-830 8-19-76  32-7740001 through 32-7840202
POH VB-830, Rev. 4 9-21-78  32-7940001 through 32-7940290

PA-32R-300
POH VB-750 8-1-75  32R-7680001 through 32R-7680525
POH VB-840 8-20-76  32R-7780001 through 32R-7880066

PA-32S-300
AFM VB-184 2-14-67  32S-40001 through 32S-40565
AFM VB-186 12-17-68  32S-40566 through 32S-40974, and
AFM VB-393 1-20-72  32S-7140001 through 32S-7240137
AFM Supp. VB-357 8-25-71  32S-7440001 through 32S-7640137

NOTE 1  Current weight and balance report, including list of equipment included in certificated empty weight, and
loading instructions when necessary, must be provided for each aircraft at the time of original certification.
The certificated empty weight and corresponding center of gravity locations must include undrainable system
oil (not included in oil capacity) and unusable fuel as noted below:
Models PA-32-260 and PA-32-300 (S/N 32-40000 through 32-40974, and 32-7140001 through 32-7840202):

Fuel  2.3 lb. at +103.0


Fuel  24.0 lb. at +103.0

Models PA-32R-301, PA-32R-301T, PA-32-301, and PA-32-301T:

Fuel  30.0 lb. at +95.2

Model PA-32-260:

Oil  2.4 lb. at +23.0

Models PA-32-300, PA-32R-300, PA-32RT-300T, PA-32R-301, PA-32R-301T, PA-32-301 and PA-32-301T:

Oil  3.0 lb. at +23.0

NOTE 2  All placards required in the Approved Airplane Flight Manual or "Pilot's Operating Handbook and Approved Airplane Flight Manual" and Approved A.F.M. Supplements, plus the following placards, must be displayed in full view of the pilot, in the appropriate location.

(a) "THIS AIRPLANE MUST BE OPERATED AS A NORMAL CATEGORY AIRPLANE IN COMPLIANCE WITH THE OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS, MARKINGS, AND MANUALS. NO ACROBATIC MANEUVERS, INCLUDING SPINS, APPROVED."

(b) "THIS AIRCRAFT APPROVED FOR VFR, IFR, DAY AND NIGHT NON-ICING FLIGHT WHEN EQUIPPED IN ACCORDANCE WITH FAR 91 OR FAR 135."

NOTE 3  The Models PA-32-260, PA-32-300, and PA-32S-300, 6 PCLM, may be converted to the 7 place (7 PCLM) configuration by the installation of Piper Kit No. 69072-3. All weight in excess of 3112 lb. must be fuel weight only. This restriction does not apply to PA-32-300 aircraft, S/N 32-7940001 through 32-7940290.

NOTE 4  When the Model PA-32S-300 is operated in a landplane configuration, use the PA-32-300 C.G. envelope with the corresponding airplane serial number (last five digits).

NOTE 5  The Model PA-32-260, S/N 32-1 through 32-1297, and 32-7100001 through 32-7700023, and Model PA-32-300, S/N 32-40001 through 32-40974, and 32-7140001 through 32-7740113, require two nose wheel centering springs (P/N 67168) installed, if the optional nose wheel fairing or the optional nose and main wheel fairings are removed or not installed.

The Model PA-32-260, S/N 32-7800001 through 32-7800008, and Model PA-32-300, S/N 32-7840001 through 32-7940290, require rudder centering spring (P/N 37929-2) installed, if the optional nose wheel fairing or the optional nose and main wheel fairings are removed or not installed.

The Model PA-32-260, S/N 32-7800001 through 32-7800008, and Model PA-32-300, S/N 32-7840001 through 32-7940290, require the removal of the nose gear strut fairing (P/N 37891) when the nose gear wheel fairing is removed or not installed.

NOTE 6  Models PA-32-260, PA-32-300, PA-32S-300, and PA-32R-301 (S/N 32R-8013001 through 32R-8613006, 3213001 through 3213028, and 3213030 through 3213041) may be operated with the spinner dome removed or with the spinner dome and rear bulkhead removed. Models PA-32R-300, PA-32RT-300 and PA-32-301 may be operated with spinner dome and front bulkhead removed.

NOTE 7  The following serial numbered aircraft are not eligible for import certification to the U.S.:

PA-32-300:

PA-32R-300:
32R-7680409, 32R-7680410, 32R-7780520, 32R-77808520, 32R-7880058, 32R-7880067, and 32R-7880068.

PA-32RT-300:
32R-7885027, 32R-7885099, 32R-7885100, 32R-7885176, 32R-7885177, 32R-7885213 through 32R-7885215, 32R-7885234 through 32R-7885237, 32R-7885259, 32R-7885260, 32R-7885285, and 32R-7985027.

PA-32RT-300T:
32R-7887036, 32R-7887081, 32R-7887222, 32R-7987050, 32R-7987085, and 32R-7987122.

PA-32R-301T:
32R-8029121, 32R-8129041, 32R-8229065, and 32R-8329017.

PA-32-301:
32-8006090, 32-8106043, and 3206005, 3206020 through 3206041, 3206045, 3206046, 3206048, 3206049, 3206056 through 3206059, 3206061 through 3206088.

PA-32-301T:

NOTE 8  The fixed pitch propeller may be used on S/N 32-1 through 32-1297, and 32-7100001 through 32-7200045.

NOTE 9  The following serial numbered aircraft are not eligible for import certification to the U.S.:


NOTE 10  Engines with serial numbers ending with "A" require the F-4-11( ) propeller governor assembly. Other engines require the F-4-4( ) propeller governor.

NOTE 11  In the following serial numbered aircraft the rear seat location is farther aft as shown and the center seats may be removed and replaced by CLUB SEATS INSTALLATION, which has a more aft C.G. location as shown:

PA-32-260 S/N 32-7700001 through 32-7800008
PA-32-300 S/N 32-7740001 through 32-7940290
PA-32R-300 S/N 32R-7680001 through 32R-7880068
PA-32RT-300 S/N 32R-7885002 through 32R-7985106
PA-32RT-300T S/N 32R-7778001, 32R-7876002 through 32R-7987126
PA-32R-301 S/N 32R-8013001 through 32R-8613006, 3213001 through 3213103, and 3246001 and up
PA-32R-301T S/N 32R-8029001 through 32R-8629008, and 3229001 through 3229003
PA-32-301 S/N 32-8006002 through 32-8606023, and 3206001 through 3206019
PA-32-301T S/N 32-8024001 through 32-8424002

NOTE 12  Lycoming engine Model IO-540-K1G5 with Hartzell propeller HC-C2YK-1(F), Blade Model 8475D-4, S/N 32-7640066 (only) and S/N 32-7640072 through 32-7940290.

NOTE 13  Lycoming engine Model IO-540-K1G5D with Hartzell propeller HC-C2YK-1(F), Blade Model 8475D-4, S/N 32R-7680141 through 32R-7880068.

NOTE 14  On Models PA-32-301, S/N 32-8006001 through 32-8606023 and 3206001 through 3206019, and PA-32-301T, S/N 32-8024001 through 32-8424002, the wheel fairings alone or the wheel fairings and landing gear strut fairings may be removed.

NOTE 15  On models PA-32-301FT, S/N 3232001 and up, and PA-32-301XTC, S/N 3255001 and up, the nose wheel centering springs must be installed when operating the aircraft with or without wheel pants.
END OF SECTION 4