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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

	<u>2P</u>	<u>O-C</u>	<u>L</u>	<u>M</u>
(1) Number of seats (passenger and crew) _____	2			
(2) Cockpit/cabin design O = open C = closed O-C = convertible _____		O		
(3) Basic kind of aircraft L = landplane S = seaplane L-S = convertible Am = amphibian Fb = flying boat Ag = Autogiro H = helicopter _____			L	
(4) Wing design M = monoplane B = biplane _____				M

Engine Codes (Type) are as follows:

Example: 4LIA (sometimes 4LAI)

	<u>4</u>	<u>LI</u>	<u>A</u>
(1) Number of cylinders			
(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)			

A37CE
Revision 13
CESSNA
208
208B
March 21, 2008

I. Model 208, Caravan (cont'd)

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

	P&W PT6A-114A				
	Shaft Horsepower	NG Gas Generator Speed (% rpm)	Indicator Torque (ft.-lbs.)	Prop Shaft Speed (rpm)	Maximum Permissible Interturbine Temp. (°C)
Takeoff static & max. continuous	675 ⁽¹⁾	101.6	1865	1900	805
Maximum climb	675 ⁽¹⁾	101.6	1865/1970 ⁽²⁾	1900	765
Maximum cruise	675 ⁽¹⁾	101.6	1865/1970 ⁽²⁾	1900	740
Idle	-	52 min.	-	-	685
Starting (2 sec.)	-	-	-	-	1090
Max. reverse (1 min.)	675 ⁽¹⁾	101.6	1865	1825	805
Transient (2 sec.)	-	102.6	2200	2090	850

(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]:

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
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	V _{MO} (Max Operating)	175 KIAS
Amphibian	V _A (Maneuvering) at 7600 lbs.	141 KIAS
S/N 20800014 and Up	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, flight, and landing	
S/N 2080001 through 20800060	(+171.91) to (+182.68) at 7300 lbs.	
	(+162.41) to (+182.68) at 4200 lbs.	
	Straight line variation between points given	
C.G. Range	Takeoff and flight	
S/N 20800061 and Up	(+174.06) to (+184.35) at 8000 lbs.	
	(+162.41) to (+184.35) at 4200 lbs.	
	Straight line variation between points given	
	Landing	
	(+173.44) to (+184.35) at 7800 lbs.	
	(+162.41) to (+184.35) at 4200 lbs.	
	Straight line variation between points given	
C.G. Range	Takeoff and flight	
Amphibian	(+172.83) to (+182.68) at 7600 lbs.	
S/N 20800014 and Up	(+165.47) to (+182.68) at 5200 lbs.	
	Straight line variation between points given	
	Landing	
	(+171.91) to (+182.68) at 7300 lbs.	
	(+165.47) to (+182.68) at 5200 lbs.	
	Straight line variation between points given	
Empty Wt. C.G. Range	None	
Maximum Weight	7300 lb. takeoff, flight, and landing	
S/N 2080001 through 20800060	7335 lb. ramp	
Maximum Weight	8000 lb. takeoff and flight	
S/N 20800061 and Up	7800 lb. landing	
	8035 lb. ramp	
Maximum Weight	7600 lb. takeoff and flight	
Amphibian	7300 lb. landing	
S/N 20800014 and Up	7635 lb. ramp	
No. of Seats	1 through 2 (at +133.5 to +146.5) Pilot Seat Locations.	
	3 through 11 refer to current Pilot's Operating Handbook and FAA Approved Airplane Flight Manual for passenger seating arrangements.	
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 $0^{\circ} \pm 1^{\circ}$ Up, $10^{\circ} + 1^{\circ}$ - 2° Down, $20^{\circ} \pm 2^{\circ}$ Down, $30^{\circ} + 1^{\circ}$ - 2° Down LH & RH Flap Extension to be symmetric within $1/2^{\circ}$ at all positions Main surfaces Ailerons Up $25^{\circ} + 4^{\circ}$ - 0° Down $16^{\circ} + 1^{\circ}$ - 0° Spoiler Up $40^{\circ} \pm 5^{\circ}$ Down $0^{\circ} + 0^{\circ}$ - 5° Elevator Up $25^{\circ} \pm 2^{\circ}$ Down $20^{\circ} \pm 2^{\circ}$ Rudder (Landplane) Right $25^{\circ} \pm 2^{\circ}$ Left $25^{\circ} \pm 2^{\circ}$ (Amphibian) Right $23^{\circ} + 2^{\circ}$, - 0° Left $23^{\circ} + 2^{\circ}$, - 0° (Measured perpendicular to hinge line) Tabs (main surfaces in neutral) Aileron (RH) Up $15^{\circ} \pm 2^{\circ}$ Down $15^{\circ} \pm 2^{\circ}$ Elevator Up $15^{\circ} \pm 2^{\circ}$ Down $15^{\circ} \pm 2^{\circ}$ Tabs servo actions Aileron (RH) (tab adjusted to neutral) 50% of aileron travel $\pm 1^{\circ}$ Up and Down Aileron (LH) 50% of aileron travel $\pm 1^{\circ}$ 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 208B0178 and 208B0180 through 208B0229, 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	Aviation turbine fuel Jet A, Jet A-1, Jet B, JP-1, JP-4, JP-5 or JP-8. For required use of anti-icing additives and emergency use of aviation gasoline, refer to the Pilot's Operating Handbook and FAA Approved Airplane Flight Manual.				
Engine Limits	P&W PT6A-114 or PT6A-114A when operated to PT6A-114 operating limits				
	Shaft Horsepower	NG Gas Generator Speed (% rpm)	Indicator Torque (ft.-lbs.)	Prop Shaft Speed (rpm)	Maximum Permissible Interturbine Temp. (°C)
Takeoff static & max. continuous	600 ⁽¹⁾	101.6	1658	1900	805
Maximum climb	600 ⁽¹⁾	101.6	1658/1970 ⁽²⁾	1900	765
Maximum cruise	600 ⁽¹⁾	101.6	1658/1970 ⁽²⁾	1900	740
Idle	-	52 min.	-	-	685
Starting (2 sec.)	-	-	-	-	1090
Max. reverse (1 min.)	600 ⁽¹⁾	101.6	1658	1825	805
Transient (2 sec.)	-	102.6	2200	2090	850

II. - Model 208B, Caravan (cont'd)**Engine Limits (cont'd)****PT6A-114A (675 hp)**

	Shaft Horsepower	NG Gas Generator Speed (% rpm)	Indicator Torque (ft.-lbs.)	Prop Shaft Speed (rpm)	Maximum Permissible Interturbine Temp. (°C)
Takeoff static & max. continuous	675 ⁽¹⁾	101.6	1865	1900	805
Maximum climb	675 ⁽¹⁾	101.6	1865/1970 ⁽²⁾	1900	765
Maximum cruise	675 ⁽¹⁾	101.6	1865/1970 ⁽²⁾	1900	740
Idle	-	52 min.	-	-	685
Starting (2 sec.)	-	-	-	-	1090
Max. reverse (1 min.)	675 ⁽¹⁾	101.6	1865	1825	805
Transient (2 sec.)	-	102.6	2200	2090	850

(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.

Note: All aircraft equipped with TKS anti-ice system must use this prop.

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

- (1) FAR Part 23 of the Federal Aviation Regulations effective February 1, 1965, as amended by Amendments 23-1 through 23-28.
- (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

- (a) Models 208 and 208B when equipped with P&W PT6A-114 engine and McCauley propeller; and
 - (b) Model 208B when equipped with P&W PT6A-114A engine and either McCauley or Hartzell propeller; and
 - (c) Model 208 when equipped with P&W PT6A-114A engine and McCauley propeller:
- (1) FAR Part 23 of the Federal Aviation Regulations effective February 1, 1965, as amended by Amendments 23-1 through 23-28.
 - (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 PT6A-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).

Data Pertinent to All Models (cont'd)

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 23.773(a)(1), (a)(2), 23.1525, and, 23.1549.
- 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.

Application for type certificate dated June 2, 1982. Type Certificate No. A37CE issued October 23, 1984, obtained by the manufacturer under delegation option provisions of Part 21 of the Federal Aviation Regulations.

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:

MODEL	SERIAL EFFECTIVITY/MODIFICATION	UNUSABLE FUEL	
		lbs. @	c. g.
208	20800001 through 20800130 <i>NOT</i> modified with SK208-52	20.1 @	+185.7
208	20800001 through 20800130 modified with SK208-52	24.1 @	+186.4
208	20800131 and On	24.1 @	+186.4
208B	208B0001 through 208B0089 <i>NOT</i> modified with SK208-52	20.1 @	+205.7
208B	208B0001 through 208B0089 modified with SK208-52	24.1 @	+206.4
208B	208B0090 and On	24.1 @	+206.4

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:

MODEL	CESSNA PART NUMBER
208 [600 SHP]	D1307-27-13PH
208 [675 SHP]	D1352-13PH
208 [675 SHP]	208PHBUS-00
208B [600 SHP]	D1309-21-13PH
208B [675 SHP]	D1329-16-13PH
208B [675 SHP]	208BPHBUS-00

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 E4EA	TCDS NUMBER E4EA
	REVISION: 24* DATE: June 21, 2007 PRATT & WHITNEY CANADA MODELS: PT6A-6 PT6A-25 PT6A-40 PT6A-61 PT6A-6A PT6A-25A PT6A-41 PT6A-61A PT6A-6B PT6A-25C PT6A-41AG PT6A-65B PT6A-6/C20 PT6A-27 PT6A-42 PT6A-65R PT6A-11 PT6A-28 PT6A-42A PT6A-65AR PT6A-11AG PT6A-29 PT6A-45 PT6A-65AG PT6A-15AG PT6A-34 PT6A-45A PT6A-110 PT6A-20 PT6A-34B PT6A-45B PT6A-112 PT6A-20A PT6A-34AG PT6A-45R PT6A-114 PT6A-20B PT6A-35 PT6A-50 PT6A-114A PT6A-21 PT6A-36 PT6A-60 PT6A-116 PT6A-38 PT6A-60A PT6A-121 PT6A-60AG PT6A-135 PT6A-135A PT6A-52 PT6B-9 PT6B-35F PT6D-114A

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)

PT6A-6, -6A, -6B, -6/C20, -11, -11AG, -15AG, -20, -20A -20B, -21, -25, -25A, -25C, -27, -28, -29, -34, -34B, -34AG, -35, -36, -110, -112, -114, -114A, -116, -121, -135, -135A, PT6D-114A

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)

PT6A-38, -40, -41, -41AG, -42, -42A, -45, -45A, -45B, -45R, -50, -60, -60A, -60AG, -61, -61A, -52

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

★

PAGE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22				
REV.	24	22	22	22	22	22	21	23	23	22	22	22	23	24	23	23	23	23	23	23	22	23				

LEGEND: "- " INDICATES "SAME AS PRECEDING MODEL"

"-" NOT APPLICABLE

NOTE: , SIGNIFICANT CHANGES ARE BLACK-LINED IN THE LEFT MARGIN.

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

I. MODELS	PT6A-6	PT6A-6A	PT6A-6B	PT6A-11, -11AG	PT6A-20, -20A, -20B, -6/C20
REDUCTION GEAR RATIO	.0668:1	--	--	--	--
RATINGS					
Maximum continuous at sea level					
Equivalent shaft hp.	525	--	--	528	579
Shaft hp.	500	--	--	500	550
Jet thrust, lb.	62	--	--	70(75,-11AG)	72
Output rpm	2,200	--	--	--	--
Gas generator rpm	38,100	--	--	--	--
Takeoff (5 min.) at sea level					
Equivalent shaft hp.	578	--	--	528	579
Shaft hp.	550	--	--	500	550
Jet thrust, lb.	70	--	--	--(75, 11AG)	72
Output rpm	2,200	--	--	--	--
Gas generator rpm	38,100	--	--	--	--
Maximum reverse					
Shaft hp.	---	500	--	475	500
Output rpm (max)	---	2,100	--	--	--
Output Shaft	Flanged 4.250" B.C., 8 holes .594 ± .005" diameter (See P&WC Installation Drawing)	--	--	--	--
FUEL (See NOTE 8)	Fuels conforming to P&WC Spec. CPW204 and CPW46. For PT6-AG engines CPW381 also.	--	--	--	--
OIL	See NOTE 9	--	--	--	--
OIL TANK CAPACITY, gal.	2.3	--	--	--	--
USABLE OIL TANK CAPACITY, gal.	1.5	--	--	--	--
USABLE OIL WHEN INVERTED, gal.	---	---	---	---	---
PRINCIPAL DIMENSIONS, in.					
Length	61.89	--	--	--	--
Nominal diameter	18.29	--	--	--	--
Maximum radius (excluding exhaust ports)	10.85	--	--	11.50	-10.85
WEIGHT (DRY) (includes basic engine, fuel and ignition systems but ex- cludes propeller governor (-6 and -20models only) and ignition power source)	280	284	--	339 340(-11AG)	286(20, 6/C20) 289(20A, 20B)

I. MODELS (cont.)	PT6A-6	PT6A-6A	PT6A-6B	PT6A-11, -11AG	PT6A-20, -20A, - 20B, -6/C20
CENTER OF GRAVITY (dry weight) (in.)					
Forward of mount plane	4.20	4.40	--	3.18	4.14(20, 6/C20 4.58(20A, 20B)
Aft of forward mount plane	---	---	---	---	---
Below engine centerline	0.34	--	--	0.26	0.45(20, 6/C20 20A, 20B)
Right of engine centerline	0.32	--	--	0.36	0.07(20, 6/C20 0.08(20A, 20B)
	PT6A-21,-25, -25A	PT6A-25C	PT6A-15AG, -27, -28	PT6A-29	PT6A-34,-34AG, -34B, -36
REDUCTION GEAR RATIO	.0668:1	.0663:1	--	--	--
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&WC Installation Drawing)	--	--	--	--
FUEL (See NOTE 8)	Fuels con- forming to P&WC Spec. CPW204 & CPW46. For PT6-AG engines CPW381 also.	--	--	--	--
OIL	See NOTE 9	--	--	--	--

I. MODELS (Cont.)	PT6A-21, -25, -25A	PT6A-25C	PT6A-15AG, -27, -28	PT6A-29	PT6A-34, -34AG, -34B, -36
OIL TANK CAPACITY, gal	2.8(-25, -25A)	--	2.3	--	--
USABLE OIL TANK CAPACITY, gal.	1.5	--	--	--	--
USABLE OIL WHEN INVERTED, gal.	.25(-25, -25A)	--	---	---	---
PRINCIPAL DIMENSIONS, in. Length	61.89((62.91, -25, -25A)	62.91	61.89	--	--
Nominal diameter	18.29(23.00, -25, -25A)	23.00	18.29	--	--
Maximum radius (excluding exhaust ports)	10.85(16.00, -25, -25A)	16.00	11.50	--	--
WEIGHT (DRY) (includes basic engine, fuel and ignition systems but excludes propeller governor (-6, -20, and PT6D-114A models only) and ignition power source)	337 (-21) 362 (-25) 352 (-25A)	355	337	--	340 (353 -34B)
CENTER OF GRAVITY (dry weight) (in.)					
Forward of mount plane	3.04(-21) 3.00(-25, -25A)	3.00	3.04	--	--(3.38 -34B)
Aft of forward mount plane	---	---	---	---	---
Below engine centerline	0.32(-21) 0.47(-25, -25A)	0.47	0.32	--	--(0.37 -34B)
Right of engine centerline	0.20(-21) 0.29(-25, -25A)	0.29	0.20	--	--(0.38 -34B)
	PT6A-110	PT6A-112	PT6A-114	PT6A-114A	PT6A-116
REDUCTION GEAR RATIO RATINGS	.0576:1	--	--	--	--
Maximum continuous at sea level					
Equivalent shaft hp	502	528	632	725	736
Shaft hp	475	500	600	675	700
Jet thrust, lb.	68	70	79	124	89
Output rpm	1,900	--	--	--	--
Gas generator rpm	38,100	--	--	--	--
Takeoff (5 min.) at sea level					
Equivalent shaft hp	502	528	632	725	736
Shaft hp.	475	500	600	675	700
Jet thrust, lb.	68	70	79	124	89
Output rpm	1,900	--	--	--	--
Gas generator rpm	38,100	--	--	--	--

I. MODELS (cont.)	PT6A-110	PT6A-112	PT6A-114	PT6A-114A	PT6A-116
Maximum reverse					
Shaft hp.	455	475	600	675	672
Output rpm (max)	1,825	--	--	--	--
Output Shaft	Flanged 4.250" B.C., 8 holes .594± .005: diameter (See PWC Installation Drawing	--	--	--	--
FUEL (See NOTE 8)	Fuels con- forming to P&WC Spec. CPW204 & CPW46.	--	--	--	--
OIL	See NOTE 9	--	--	--	--
OIL TANK CAPACITY, gal.	2.3	--	--	--	--
USABLE OIL TANK CAPACITY, gal.	1.5	--	--	--	--
PRINCIPAL DIMENSIONS, in.					
Length, in.	61.89	--	61.89		--
Nominal diameter	18.29	--	18.29		18.06
Maximum radius (excluding exhaust ports)	11.50	--	11.73		11.50
WEIGHT (DRY) (includes basic engine, fuel and ignition systems but ex- cludes propeller governor (-6, -20, and PT6D-114A models only) and ignition power source)	343	--	359	360	348
CENTER OF GRAVITY (dry weight) (in.)					
Forward of mount plane	3.80	--	3.88	--	3.87
Aft of forward mount plane	---	---	---	--	---
Below engine centerline	0.26	--	--	--	0.25
Right of engine centerline	0.34	--	0.38	--	0.35
	PT6A-121	PT6A-135,- 135A	PT6D-114A	PT6A-35	
REDUCTION GEAR RATIO	.0576:1	--	.1875	.0663:1	
RATINGS					
Maximum continuous at sea level					
Equivalent shaft hp.	647	787	729	787	
Shaft hp.	615	750	680	750	
Jet thrust, lb.	80	93	124	93	
Output rpm	1,900	--	6,188	2,190	
Gas generator rpm	38,100	--	38,100	--	
Takeoff (5 min.) at sea level					
Equivalent shaft hp.	647	787	729	787	
Shaft hp.	615	750	680	750	
Jet thrust, lb.	80	93	124	93	
Output rpm	1,900	--	6,188	2,190	
Gas generator rpm	38,100	--	--	--	

I. MODELS (cont.)	PT6A-121	PT6A-135, -135A	PT6D-114A	PT6A-35	
Maximum reverse					
Shaft hp.	591	720	680	720	
Output rpm (max)	1,825	--	5,940	2,100	
Output Shaft	Flanged 4.250" B.C., 8 holes .594 ± .005" diameter (See PWC Installation Drawing	--	--	--	
FUEL (See NOTE 8)	Fuels con- forming to P&WC Spec. CPW204 & CPW46.	--	--	--	
OIL	See NOTE 9	--	--	--	
OIL TANK CAPACITY, gal.	2.3	--	--	--	
USABLE OIL TANK CAPACITY, gal.	1.5	--	--	--	
PRINCIPAL DIMENSIONS, in.					
Length	61.89	--	52.8	61.89	
Nominal diameter	18.29	--	18.29	--	
Maximum radius (excluding exhaust ports)	11.50	--	11.73	--	
WEIGHT (DRY) (includes basic engine, fuel and ignition systems but excludes propeller governor (-6, -20 and PT6D-114A models only) and ignition power source)	343	347	297	334	
CENTER OF GRAVITY (dry weight) (in.)					
Forward of mount plane	3.8	3.87	0.19	3.87	
Aft of forward mount plane	---	---	---	---	
Below engine centerline	0.26	0.25	0.31	0.25	
Right of engine centerline	0.34	0.35	0.25	0.35	

REDUCTION GEAR RATIO RATINGS

Maximum continuous at sea level

	PT6A-38	PT6A-40	PT6A-41, -41AG, -42 -42A	PT6A-45	PT6A-45A, -45B
	.0663:1	--	--	.0568:1	--
Equivalent shaft hp.	801	749	903	1,070	--
Shaft hp.	750	700	850	1,020	--
Jet thrust, lb.	127	122	134	127	--
Output rpm	2,000	--	--	1,700	--
Gas generator rpm	38,100	39,000	38,100	38,100	39,000
Takeoff (5 min.) at sea level					
Equivalent shaft hp.	801	749	903	1,174	1,229
Shaft hp.	750	700	850	1,120	1,173
Jet thrust, lb.	127	122	134	136	--
					140(-45B)
Output rpm	2,000	--	--	1,700	--
Gas generator rpm	38,100	39,000	38,100	38,100	39,000

II. MODELS	PT6A-38	PT6A-40	PT6A-41, -41AG -42, -42A	PT6A-45	PT6A-45A, - 45B
Maximum reverse Shaft hp.	700	--	800	900	--
Output rpm (max)	1,900	--	--	1,650	--
Output Shaft	Flanged 4.250" B.C., 8 holes .594 ± .005" diameter (See PWC Installation Drawing)	--	--	--	--
FUELS (See NOTE 8)	Fuels con- forming to PWC Spec. CPW204 & CPW46. For PT6-AG engines CPW381 also.	--	--	--	--
OIL	See NOTE 9	--	--	--	--
OIL TANK CAPACITY, gal.	2.5	--	--	--	--
USABLE OIL TANK CAPACITY, gal.	1.5	--	--	--	--
PRINCIPAL DIMENSIONS, in.					
Length	66.47	--	--	72.62	--
Nominal diameter	18.29	--	--	--	--
Maximum radius (excluding exhaust ports)	12.84	--	--	--	--
WEIGHT (DRY) (includes basic engine, fuel and ignition systems but ex- cludes propeller governor (-6, -20 and PT6D-114A models only) and ignition power source)	405	419	--	445	--
CENTER OF GRAVITY (dry weight)(in.)					
Forward of mount plane	2.49	--	--	5.38	5.38
Aft of forward mount plane	---	---	---	---	---
Below engine centerline	0.32	--	--	0.12	0.12
Right of engine centerline	0.19	--	--	0.27	0.27

II. MODELS**REDUCTION GEAR RATIO RATINGS**

Maximum continuous at sea level

Equivalent shaft hp.

Shaft hp.

Jet thrust, lb.

Output rpm

Gas generator rpm

Takeoff (5 min.) at sea level

Equivalent shaft hp.

Shaft hp.

Jet thrust, lb.

Output rpm

Gas generator rpm

PT6A-45R	PT6A-50	PT6A-60, -60A	PT6A-61, -61A	PT6A-60AG	PT6A-52
.0568:1	.0438:1	.0568:1	.0663:1		.0663:1
1,070	1,022	1,113	902	1,081	898
1,020	973	1,050	850	1,020	850
127	124	157	132	154	120
1,700	1,210	1,700	2,000	1,700	2000
39,000	38,100	39,000	--	--	--
1,254	1,174	1,113	902	1,113	898
1,197	1,120	1,050	850	1,050	850
141	136	157	132	157	120
1,700	1,210	1,700	2,000	1,700	2000
39,000	38,500	39,000	--	--	--

Maximum reverse

Shaft hp.

Output rpm (max)

Output Shaft

FUEL (See NOTE 8)

OIL

OIL TANK CAPACITY, gal.

USABLE OIL TANK CAPACITY, gal.

PRINCIPAL DIMENSIONS, in.

Length

Nominal diameter

Maximum radius

(excluding exhaust ports)

WEIGHT (DRY)

(includes basic engine, fuel and ignition systems but excludes propeller governor (-6, -20, and PT6D-114A models only) and ignition power source)

900	1,120	900	800	900	800
1,650	1,210	1,650	1,900	1,650	1900
Flanged 4.250" B.C., 8 holes .594 ± .005" diameter (See PWC Installation Drawing)	Flanged 5.125" B.C., 8 holes .594 ± .005" diameter (See PWC Installation Drawing)	Flanged 4.250" B.C., 8 holes .594 ± .005" diameter (See PWC Installation Drawing)	--	--	Flanged 4.250" B.C., 8 holes .594 ± .005" diameter (See PWC Installation Drawing)
Fuels conforming to P&WC Spec. CPW204 & CPW 46. For PT6-AG engines CPW381 also.	--	--	--	--	See PWC SB 13044 for approved fuel types.
See NOTE 9	--	--	--	--	--
2.5	3.0	2.5	--	--	--
1.5	1.0	1.5	--	--	--
72.62	79.89	72.09	66.76	72.09	66.76
18.29	--	18.29	--	--	--
12.84	15.44	12.84	--	--	--
459	622	487	443	489	449

II. MODELS (continued)CENTER OF GRAVITY
(dry weight) (in.)

Forward of mount plane

Aft of forward mount plane

Below engine centerline

Right of engine centerline

PT6A-45R	PT6A-50	PT6A-60, -60A	PT6A-61, -61A	PT6A-60AG	PT6A-52
5.38	---	5.22	2.630	5.22	2.51
---	See NOTE 17	---	---	---	---
0.12	See NOTE 17	.300	--	--	.260
0.27	See NOTE 17	.28	.29	.28	.330

III. MODELS	PT6A-65B	PT6A-65R	PT6A-65AR	PT6A-65AG	
REDUCTION GEAR RATIO	.0568:1	--	--	--	
RATINGS					
Maximum continuous at sea level					
Equivalent shaft hp.	1,249	--	1,298	--	
Shaft hp.	1,173	--	1,220	--	
Jet thrust, lb.	189	--	194	--	
Output rpm	1,700	--	--	--	
Gas generator rpm	39,000	--	--	--	
Takeoff (5 min.) at sea level					
Equivalent shaft hp.	1,249	1,459	1,509	1,381	
Shaft hp.	1,173	1,376	1,424	1,300	
Jet thrust, lb.	189	209	214	202	
Output rpm	1,700	--	--	--	
Gas generator rpm	39,000	--	--	--	
Alternative takeoff (5 min. at sea level)					
Equivalent shaft hp.	---	1,308	--	---	
Shaft hp.	---	1,230	--	---	
Jet thrust, lb.	---	195	--	---	
Output rpm	---	1,700	--	---	
Gas generator rpm	---	39,000	--	---	
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 con- forming to P&WC 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)**WEIGHT (DRY)**

(includes basic engine, fuel and ignition systems but excludes propeller governor (-6,-20, and PT6D-114A models only) and ignition power source)

CENTER OF GRAVITY

(dry weight) (in.)

Forward of mount plane

Aft of forward mount plane

Below engine centerline

Right of engine centerline

PT6A-65B	PT6A-65R	PT6A-65AR	PT6A-65ag	
495	496	501	--	
3.75	--	--	--	
---	---	---	---	
.29	--	--	--	
.17	--	--	--	

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

IV. MODELS (continued)CENTER OF GRAVITY
(dry weight) (in.)

Forward of mount plane

Aft of forward mount plane

Below engine centerline

Right of engine centerline

PT6B-9	PT6B-35F			
---	---			
22.08	23.56 RH/23.3 LH*			
0.13	.52 RH/.63 LH			
0.52	.16 RH/.15 LH			

CERTIFICATION BASISApplicable 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)

<u>MODEL</u>	<u>S/N</u>	<u>DATE OF APPLICATION</u>	<u>DATE TYPE CERTIFICATE NO. E4EA ISSUED/REVISED</u>
PT6A-6	All	June 4, 1962	December 31, 1963
PT6A-6A	All	April 6, 1965	May 28, 1965
PT6A-6B	All	November 30, 1967	December 20, 1967
PT6B-9	All	June 4, 1962	May 28, 1965
PT6A-11	All	August 19, 1977	September 16, 1977
PT6A-11AG	All	January 10, 1979	May 17, 1979
PT6A-15AG	All	January 9, 1978	January 27, 1978
PT6A-20	All	April 9, 1965	October 29, 1965
PT6A-20A	All except 024103-024160	February 19, 1973	March 9, 1973
PT6A-20B	All	August 20, 1973	October 2, 1973
PT6A-6/C20	All	February 19, 1973	March 9, 1973
PT6A-21	All	December 2, 1974	December 10, 1974
PT6A-25	All except 058013-058018	May 5, 1976	May 6, 1976
	058025-058040		
	058042-058047		
	058049-058055		
	058059-058064		
	058068-058073		
	058077-058084		
	058089-058204		
PT6A-25A	All	December 13, 1976	December 28, 1976
PT6A-25C	All	March 5, 1990	June 8, 1990
PT6A-27	All except 044878-040879	November 15, 1966	December 20, 1967
	040883-040884		
	040894-040895		
	040899-040921		
	040929-040934		
	040937-040943		
	040946-040949		
	040982-040988		
	040993-040999		
	041006-041007		
	041015-041021		
	041027-041032		
	041036		
	041041-041044		
	041050-041053		
	041060-041063		
	041067-041098		
	041105-041110		
	041113-041146		
	041152-041156		
	041162-041175		
	041180-041194		
	041199-041201		

PT6A-28	All except 050676-050925 050928-050934	January 27, 1969	March 11, 1969
PT6A-29	All	October 6, 1967	October 28, 1968
PT6A-34	All except 056071-056075 056080-056081 056086-056090 056098-056107	April 29, 1971	November 11, 1971
PT6A-34B	054011, 054012 only prior to 054007	July 20, 1976	August 4, 1976
PT6A-34AG	All	February 3, 1977	February 14, 1977
PT6A-35	All	October 24, 2001	May 29, 2002
PT6B-35F	All	August 10, 1979	March 26, 1982
PT6A-36	All	December 13, 1973	December 13, 1973
PT6A-38	079156, 079157 only prior to 079153	May 12, 1975	May 30, 1975
PT6A-40	All	April 19, 1983	July 13, 1983
PT6A-41	All	August 30, 1973	October 2, 1973
PT6A-41AG	All	December 21, 1978	May 17, 1979
PT6A-42	All	July 11, 1979	October 12, 1979
PT6A-42A	All	September 21, 1998	December 4, 1998
PT6A-45	All	May 12, 1975	May 30, 1975
PT6A-45A	All	March 25, 1976	April 22, 1976
PT6A-45B	All	March 2, 1979	March 29, 1979
PT6A-45R	All	June 25, 1980	August 1, 1980
PT6A-50	All	September 21, 1976	October 22, 1976
PT6A-60	All	April 20, 1982	March 15, 1983
PT6A-60A	All	April 19, 1983	November 7, 1983
PT6A-60AG	All	October 1, 1996	October 10, 1996
PT6A-61	All	April 20, 1982	March 15, 1983
PT6A-61A	All	January 6, 1984	May 1, 1985
PT6A-65B	All	April 20, 1982	September 17, 1982
PT6A-65R	All	April 20, 1982	September 17, 1982
PT6A-65AR	All	January 6, 1984	May 1, 1985
PT6A-65AG	All	July 23, 1987	August 19, 1987
PT6A-110	All	August 8, 1980	February 15, 1981
PT6A-112	All	October 12, 1978	October 30, 1978
PT6A-114	All	December 21, 1982	May 21, 1984
PT6A-114A	All	October 4, 1989	March 19, 1990
PT6A-116	All	October 4, 1984	May 1, 1985
PT6A-121	All	April 12, 1982	August 3, 1982
PT6A-135	All	September 9, 1977	September 12, 1977
PT6A-135A	All	February 3, 1982	April 29, 1982
PT6D-114A	All	October 30, 1996	September 22, 1997
PT6A-52	All	May 26, 2006	May 31, 2007

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:

	PT6A-20, -20A, -20B, -6/C20 PT6A-6, -6A, -6B, PT6A-28, -29	PT6B-9	PT6A-11, -11AG
	Measured Rated Turbine Temperature as Indicated by the Average of 24 Gas Temp. Thermocouples	Measured Rated Inter-Turbine Temperature as Indicated by the Average of 8 or 10 Gas Temp. Thermocouples	--
Takeoff	1821°F (994°C) 1382°F (750°C) (PT6A-20, -20A, -20B, -6/C20)	1382°F (750°C)	1292°F (700°C)
Maximum Continuous	1745°F (952°C) 1382°F (750°C) (PT6A-20, -20A, -20B, -6/C20)	1382°F (750°C) 1319°F (715°C) (PT6B)	1292°F (700°C)
Starting Transient (2 sec.)	1900°F (1038°C) 1994°F (1090°C) (PT6A-20, -20A, -20B, -6/C20)	1994°F (1090°C)	--

	PT6A-21	PT6A-25, -25A	PT6A-15AG, -27, -112, -121
	Measured Rated Inter-Turbine Temperature as Indicated by the Average of 8 or 10 Gas Temp. Thermocouples	--	--
Takeoff	1283°F (695°C)	1283°F (695°C)	1336°F (725°C)
Maximum Continuous	1283°F (695°C)	1283°F (695°C)	1336°F (725°C)
Starting Transient (2 sec.)	1994°F (1090°C)	--	1994°F (1090°C)

	PT6A-34, -34B, -34AG, -25C	PT6A-35, -36, -114, -114A, -116, -135, -135A, -PT6B-35F, PT6D-114A	PT6A-110
	Measured Rated Inter-Turbine Temperature as Indicated by the Average 8 or 10 Gas Temp. Thermocouples	Measured Rated Inter-Turbine Temperature as Indicated by the Average of 8 Gas Temp. Thermocouples	--
Takeoff	1454°F (790°C)	1481°F (805°C)	1265°F (685°C)
Maximum Continuous	1454°F (790°C)	1481°F (805°C)	1265°F (685°C)
Starting Transient (2 sec.)	1994°F (1090°C)	--	--

	PT6A-38	PT6A-41, -41AG	PT6A-45	PT6A-42, -42A, -45A, -45B, -50, -40
	Measured Rated Inter-Turbine Temperature as Indicated by the Average of 8 Gas Temp. Thermocouples	--	-- (8 or 10)	--
Takeoff	1301°F (705°C)	1382°F (750°C)	1400°F (760°C)	1472°F (800°C)
Maximum Continuous	1301°F (705°C)	1382°F (750°C)	1400°F (760°C)	1472°F (800°C)
Starting Transient (5 sec.)	1832°F (1000°C)	--	--	--
Alternate Takeoff	---	---	---	---

NOTE 1.(continued)

	PT6A-45R	PT6A-60	PT6A-61	PT6A-60A, -61A, -60AG, -52
	Measured Rated Inter-Turbine Temperature as Indicated by the Average of 8 Gas Temp. Thermocouples	Measured Rated Inter-Turbine Temperature as Indicated by the Average of 8 or 10 Gas Temp. Thermocouples	--	--
Takeoff	1553°F (845°C)	1472°F (800°C)	--	1508°F(820°C)
Maximum Continuous	1494°F (812°C)	1472°F (800°C)	--	1508°F (820°C) 1472°F(775°C)(-60AG)
Starting Transient (5 sec.)	1832°F (1000°C)	--	--	--
Alternate Takeoff	1472°F (800°C)	---	---	---

	PT6A-65B	PT6A-65R	PT6A-65AR	PT6A-65AG
	Measured Rated Inter-Turbine Temperature as Indicated by the Average of 8 or 10 Gas Temp. Thermocouples	--	--	--
Takeoff	1508°F(820°C)	1553°F(845°C)	1571°F (855°C)	1508°F (820°C)
Maximum Continuous	1490°F (810°C)	1539°F (835°C)	1544°F (840°C)	1508°F (820°C)
Starting Transient	1832°F (1000°C)	--	--	--
Alternate Takeoff	---	1490°F (810°C)	1508°F (820°C)	---

All except:PT6A-40,-41,-42,-42A,-45,-45A,-45B,-45R,-60, -60A,-60AG,-61,-61A,-65AG,-65AR,-65B, and -65R models, Oil Temperature Continuous minus 40°F (-40°C) to 210°F (99°C) except for MIL-L-7808 (where approved; See NOTE 9) for which the maximum allowable temperature is 185°F (85°C). Limited periods of 10 minutes of 220°F (104°C) are allowable, except on A-25, A-25A, A-25C, A-11 and A-11AG (5 minute maximum), and A-50 (15 minutes maximum).

PT6A-40,-41,-42,-42A, and -61A, Oil Temperature Continuous minus 40°F(-40°C) to 220°F(104°C). Maximum ground operation 230°F(110°C).

PT6A-45,-45A,-45B,-45R,-52, -60,-60A,-60AG, -61, -65AG,-65AR,-65B,-65R, Oil Temperature Continuous minus 40°F(-40°C) to 230°F(110°C).

Fuel temperature maximum fuel pump inlet of 135°F (57°C). Fuel temperature minimum fuel pump inlet of -65°F (-54°C) or 12 centistokes.

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:

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

Below 27000 rpm gas generator speed:

40 p.s.i.g. (min)

PT6A-34, -34B, -34AG, -35, -135, -135A, -36, -114, -114A, -116,

PT6B-35F, PT6D-114A

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

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

Below 27000 rpm gas generator speed:

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:

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)

Below 27000 rpm gas generator speed:

60 p.s.i.g. (min)

PT6A-45, -45A, -45B, -45R, -52, -60, -61, -65B, -65R, -60A, -

60AG, -61A, -65AR, -65AG

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

90-135 p.s.i.g.

Below 27000 rpm gas generator speed:

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.

	Maximum Continuous	Takeoff		Maximum Continuous	Takeoff
PT6A-6, -6A, -6B	64°F	70°F	PT6A-45R	92°F	73, 52(1)°F
PT6A-20, -20A, -20B, -6/C20	70	70	PT6A-50	90	59, 93(2)
PT6A-11, -PT6A-11AG	108 90	108 90	PT6A-60, -60A	77	77
PT6A-21	91	91	PT6A-60AG	63	79
PT6A-25, -25A	93	93	PT6A-61, -61A	115	115
PT6A-25C	87	87			
PT6A-15AG, -27	71	71	PT6A-65B	101	101
PT6A-28	70	70	PT6A-65R	101	82, 76(1)
PT6A-29	73	73	PT6A-65AR	101	82, 84(1)
PT6A-34, -34B, -34AG	86	86	PT6A-65AG	101	71
PT6A-35, -135A	93	93			
PT6A-36	97	97	PT6A-110	101	101
PT6A-38	102	102	PT6A-112	133	133
PT6A-40	135	135	PT6A-114	136	136
PT6A-41, -41AG, -42, -42A	106(86, -42A)	106	PT6A-114A	115	115

	Maximum Continuous	Takeoff		Maximum Continuous	Takeoff
PT6A-45	79	59	PT6A-116	105	105
PT6A-45A	79	46	PT6A-121	91	91
PT6A-45B	84	52	PT6A-135	85	85
			PT6B-9	72	77
			PT6B-35F	110	110
			PT6D-114A	104	104
			PT6A-52	142	142

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.

Driven by Gas Generator Turbine	Rotating Facing Drive Pad	Speed Ratio (to Turbine)	Maximum Torque		Maximum Overhang (in. - lbs.)
			Continuous	Static	
Tachometer, Accessory Gearbox	CC	0.112	7	100	10
Starter and/or Generator	C	0.293	170	1600 250 (38, 40, 41, 42, 42A, 45, 45A, 45B, 45R, 52, 60, 60A, 60AG, 61, 61A, 65B, 65R, 65AR, 65AG, 114, 114A, B- 35F, D-114A)	150
Vacuum Pump	CC	0.103	60	800	25
Hydraulic Pump	CC	0.203	150	800	25
Aircraft Accessory Drive	C	0.321	135	800	25

Driven by Power Turbine	Rotating Facing Drive Pad	Speed Ratio (to Turbine)	Maximum Torque		Maximum Overhang (in. - lbs.)
			Continuous	Static	

Tachometer (Tachometer and overspeed governor for PT6A-6,-6A,-6B and-20 only)	C	0.1264(PT6A-15AG, -25C,-27,-28,-29,-34,- 34B,-34AG,-35,-36,- 38,-40,-41,-41AG,- 42,-42A,-52,-61,- 61A) 0.1263 (B-35F); 0.1273(PT6A-6,-6A,- 6B,-11,-11AG,-20,- 20A,-20B,-6/C20,-21,- 25,-25A,-110,-112 114, 114A, -116, 121,- 135,-135A); 0.1405 (45, 45A, 45B, 45R, 60, 60A, 60AG, 65B, 65R, 65AR, 65AG)	7	100	10
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NOTE 4. (Cont'd)

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

* 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.

<p>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.</p> <p>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.</p> <p>C = Clockwise CC = Counterclockwise</p>
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Accessory Drive Provisions: (PT6A-50 only)

Driven by Gas Generator Turbine	Rotating Facing Drive Pad	Speed Ratio (to Turbine)	Maximum Torque		Maximum Overhang (in. - lbs.)
			Continuous	Static	
Tachometer Accessory Gearbox	CC	0.112	7	100	10
Starter and/or Generator	C	0.293	170	1600	230
Hydraulic Pump*	CC	0.204	150	800	30
Driven by Power Turbine					
Tachometer	CC	0.1400	7	100	10
Alternator	C	0.529	120	1600	105
Prop. Governor	CC	0.1400	100	1700	40
Prop. Overspeed Governor	CC	0.1400	50	850	25

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:

<u>Model</u>	<u>Continuous lb. Ft.</u>	<u>Transient Acceleration lb. Ft.</u>
PT6A-11, 11AG	1194	1500
PT6A-6, 6A, 6B, 20, 20A, 20B, 6/C20, 21 25, 25A	1315	1500
PT6A-15AG, 27	1628	2100
PT6A-28	1786	2100
PT6A-29, 34, 34B, 34AG, 35, 36, 25C	1970	2100
PT6A-38	1970	2750
PT6A-40	2230	2750
PT6A-41, 41AG, 42, 42A	2230	2750
PT6A-45, 45A, 45B	3625	5100
PT6A-45R	3625	5100
PT6A-50	4860	5900
PT6A-135, 135A	2080	2400
PT6B-9	464	---
PT6A-112	1480	1900
PT6A-110	1313	1700
PT6A-60, 60A, 60AG	3625	5100
PT6A-61, 61A	2230	2750
PT6A-65B	3625	5100
PT6A-65R	4250 (3800 Alternative Takeoff)	5100
PT6A-114, 114A	1980	2400
PT6A-121	1710	2200
PT6B-35F	570	658
PT6A-65AR	4400(3800 Alternative Takeoff)	5100
PT6A-116	1940	2400
PT6A-65AG	3800	5100
PT6D-114A	610	740
PT6A-52	2230	2750

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, -25, -25A, -25C, -27, -28, -29, -34, -34B, -34AG, -36, 2190 rpm (99.6%) for the PT6A-35, 2000 rpm (90.7%) for the PT6A-38, -40, -41, -41AG, -42, -42A, -52, -61, 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:

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

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:

Model	Characteristics
PT6A-6	Basic model
PT6A-6A	Incorporates provisions for reversing propeller.
PT6A-6B	Incorporates provisions for reversing propeller, PT6A-20 mechanism.
PT6B-9	Single stage reduction gearing. (Output shaft speed 6,230 r.p.m.)
PT6A-20	Maximum continuous rating equal to takeoff. Provisions for reversing.
PT6A-20A	Similar to PT6A-20 except for exhaust port configuration and optional propeller reversing system.
PT6A-20B	Similar to PT6A-20 except for optional propeller reversing system.
PT6A-11	Similar to PT6A-21 except derated.

**NOTE 13.
(Cont.)**

<u>Model</u>	<u>Characteristics</u>
PT6A-11AG	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.
PT6A-15AG	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.
PT6A-6/C20	Similar to PT6A-20 except this configuration previously PT6A-6 converted to PT6A-20 by service bulletin.
PT6A-21	Similar to PT6A-27 except derated.
PT6A-25	Similar to PT6A-27 except for modifications required for inverted flight optional torque controller, and aluminum alloy castings.
PT6A-25A	Similar to PT6A-25 except for magnesium alloy major castings in place of aluminum alloy.
PT6A-25C	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.
PT6A-27	Features higher ratings, revised engine parts and integrated propeller reversing control.
PT6A-28	Similar to PT6A-27 except for higher inter-turbine temperature limit.
PT6A-29	Features higher ratings, revised first stage reduction gearing.
PT6A-34	Similar to PT6A-27 except incorporates a compressor turbine similar to PT6T-3 for higher ratings.
PT6A-34B	Similar to PT6A-34, except for aluminum alloy major castings in place of magnesium alloy.
PT6A-34AG	Similar to PT6A-34, intended for agricultural aviation. Permissible rotor component lives, overhaul, inspection intervals and fuel requirements are listed in P&WACL Engine Service Bulletin Nos. 1302, 1303, and 1344 respectively.
PT6A-35	Similar to PT6A-135 but incorporating the reduction gearbox of the PT6A-34.
PT6A-36	Similar to PT6A-34 except for increased turbine inlet temperature limits.
PT6A-38	Similar to PT6A-41 except derated.
PT6A-40	Similar to PT6A-42 except for increased flat rating and manual fuel control override.
PT6A-41	Features an enlarged compressor and two stage power turbine for higher ratings.
PT6A-41AG	Similar to PT6A-41, intended for agricultural aviation.
PT6A-42	Similar to PT6A-41 except for increased cruise rating and increased inter-turbine temperature limits with improved compressor and reduced loss exhaust ducts.
PT6A-42A	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.
PT6A-45	Similar to PT6A-41 except for increased ratio reduction gearbox and higher ratings.
PT6A-45A	Similar to PT6A-45 except for increased takeoff rating and increased inter-turbine temperature limits.
PT6A-45B	Similar to PT6A-45A except for increased augmentation fluid flow for takeoff rating to a higher air inlet temperature.
PT6A-45R	Similar to PT6A-45B except for provision for automatic power increase from alternate takeoff power to takeoff power.
PT6A-50	Similar to PT6A-45A except for new reduction gearbox.
PT6A-112	Similar to PT6A-27 except incorporates PT6A-41 fuel system concepts and PT6A-135 reduction gearbox.
PT6A-114	Similar to PT6A-135 with a single port exhaust and PT6A-41 fuel system concepts and PT6A-135 reduction gearbox.
PT6A-114A	Throttle push version of -114 incorporating the -135A compressor, and a new strengthened propeller shaft.
PT6A-135	Similar to PT6A-36 except for new reduction gearbox and higher cruise rating.
PT6A-135A	Similar to PT6A-135 except for increased thermodynamic capability compressor.
PT6A-110	Similar to PT6A-11 except for incorporation of PT6A-135 reduction gearbox.
PT6A-65B	Similar to PT6A-45 except for additional axial compressor stage and increased diameter gas producer turbine wheel.
PT6A-65R	Identical to PT6A-65B except for reserve takeoff rating.

**NOTE 13.
(Cont'd)**

<u>Model</u>	<u>Characteristics</u>
PT6A-65AR	Up rated maximum continuous power PT6A-65R.
PT6A-65AG	Similar to PT6A-65, intended for Agricultural Aviation. Ratings similar to the 65AR without automatic reserve power.
PT6A-60	Up rated PT6A-42, featuring new first stage compressor gas producer turbine from PT6A-65 and gearbox from PT6A-45.
PT6A-60A	Up rated altitude performance PT6A-60.
PT6A-60AG	Similar to PT6A-60A, but with derated max continuous power, and intended for agricultural aviation.
PT6A-61	Similar to PT6A-60 except for PT6A-42 gearbox.
PT6A-61A	Updated altitude performance PT6A-61.
PT6A-116	Similar to PT6A-135 except for reduced takeoff and maximum continuous power and torque limit with PT6A-121 externals.
PT6A-121	Similar to PT6A-21 except for a PT6A-135 reduction gearbox and a PT6A-112 power turbine.
PT6B-35F	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.
PT6D-114A	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.
PT6A-52	Similar to the PT6A-61 with the PT6A-60A thermal rating.

- NOTE 14.** Certain engine parts are life limited. These limits are listed in P&WC 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 PWC 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 PWC 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 PWC 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.

----END----

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 9/19" bolts

Hub material

Alloy steel

Blade material

See below

Number of blades

Three

Hubs eligible

HC-B3MN-3

Blades Eligible (See Note 2)	Maximum Continuous		Takeoff		Diameter Limits (See Note 2)	Approx. Max. Weight Complete (For reference only) (See Notes 3 & 7)	Blade Construction
	HP	RPM	HP	RPM			
M10083	600	2200	600	2200	100"	134 lb.	Aramid Composite

Certification basis

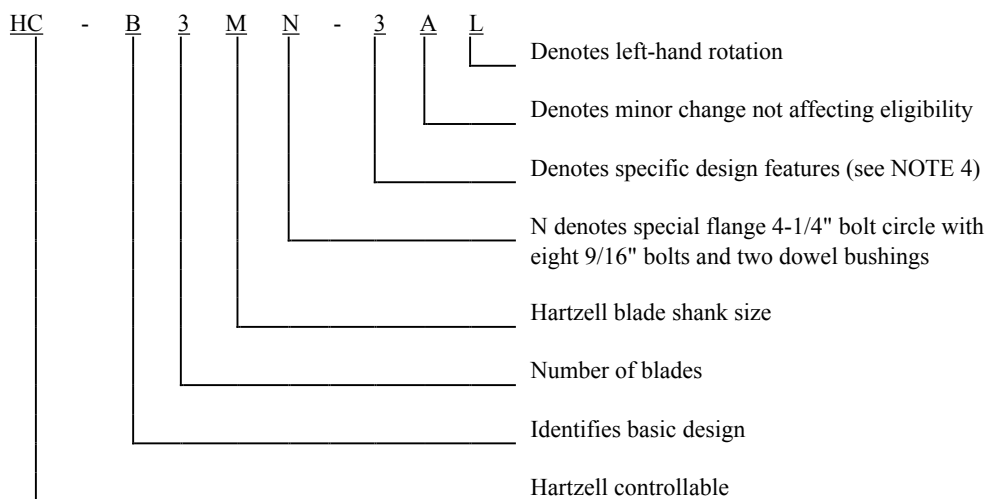
FAR Part 35 effective October 14, 1980, with amendments 1 through 5.
Type Certificate No. P9NE issued August 29, 1984.
Date of application for Type Certificate February 13, 1984

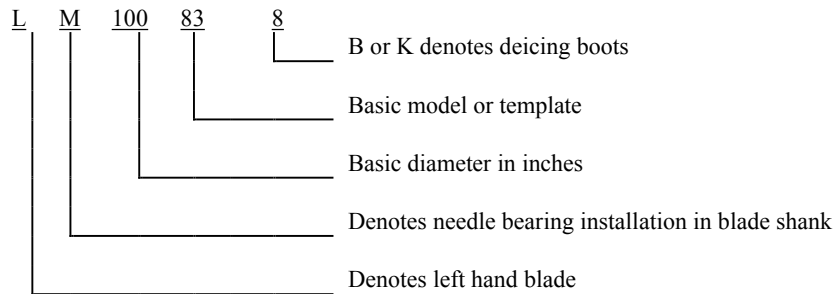
Production basis

Production Certificate No. 10

NOTE 1.

Hub Model Designation



NOTE 2. Blade Model Designation

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....

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

P60GL Revision 3 McCAULEY 3GFR34C(7--) May 30, 2006

TYPE CERTIFICATE DATA SHEET NO. P60GL

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.

Type Certificate Holder	McCauley Accessory Division Cessna Aircraft Company 7751 East Pawnee Wichita, KS 67207
Type Engine Shaft	Constant speed, full feathering and reversing; hydraulic (see Note 4). 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

Blades Eligible (See NOTE 2)	Maximum <u>Continuous</u> HP RPM	<u>Take-Off</u> HP RPM	Diameter Limits (See NOTE 2)	Approx. Max. Wt. Complete (Max. Dia.)
<u>Hub Model 3GFR34C701</u>				
93K[X]-0 to 93K[X]-5	565 2200	565 2200	93" - 88" (-0 to -5)	120.0 Lbs.
<u>Hub Model 3GFR34C702</u>				
100L[X]-0 to 100L[X]-5	850 2000	850 2000	100" - 95" (-0 to -5)	122.0 Lbs.
<u>Hub Model 3GFR34C703</u>				
106G[X]-0 to 106G[X]-6	900 2000	900 2000	106" - 100" (-0 to -6)	117.0 Lbs.
<u>Hub Model 3GFR34C704</u>				
93K[X]-0 to 93K[X]-5	850 2200	850 2200	93" - 88" (-0 to -5)	117.0 Lbs.

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Certification Basis

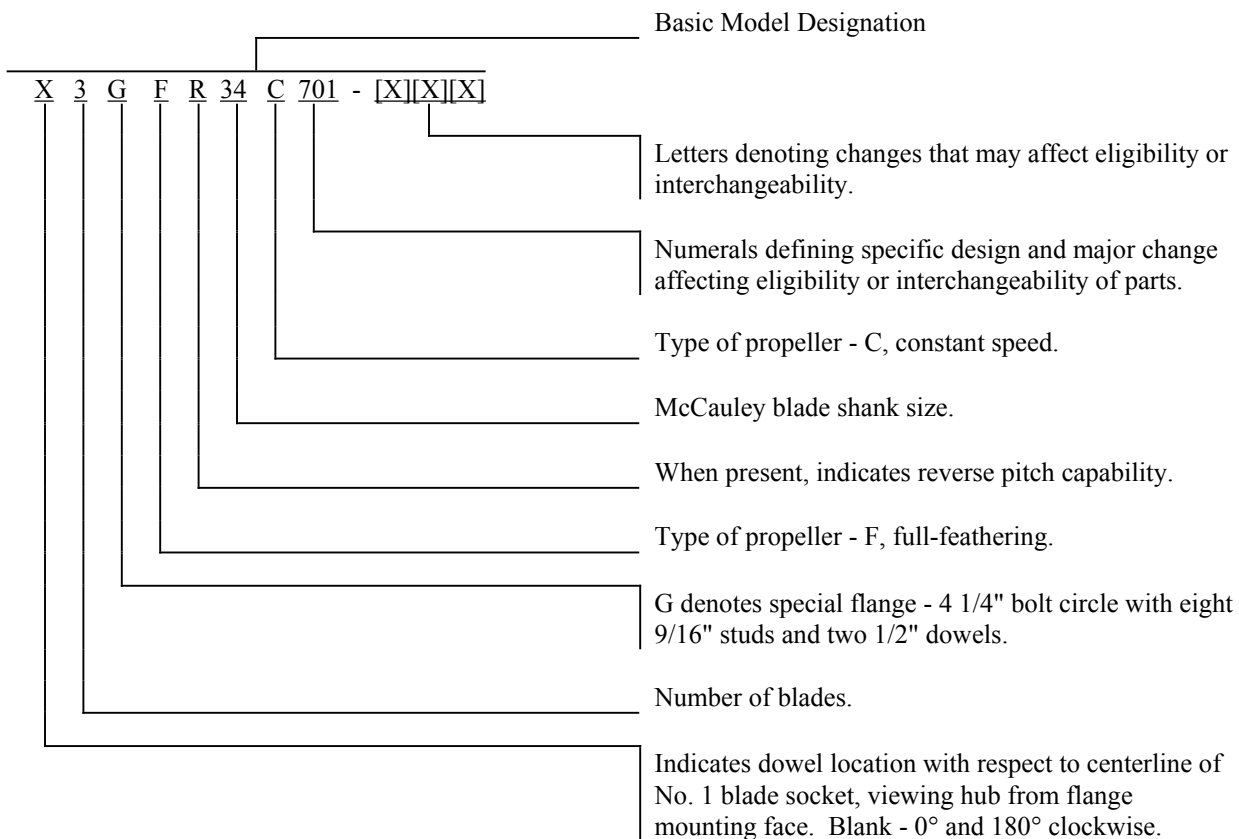
Type Certificate No. P60GL issued January 30, 1981, under Delegation Option Authorization Provisions of Part 21, Subpart J, of the Federal Aviation Regulations.

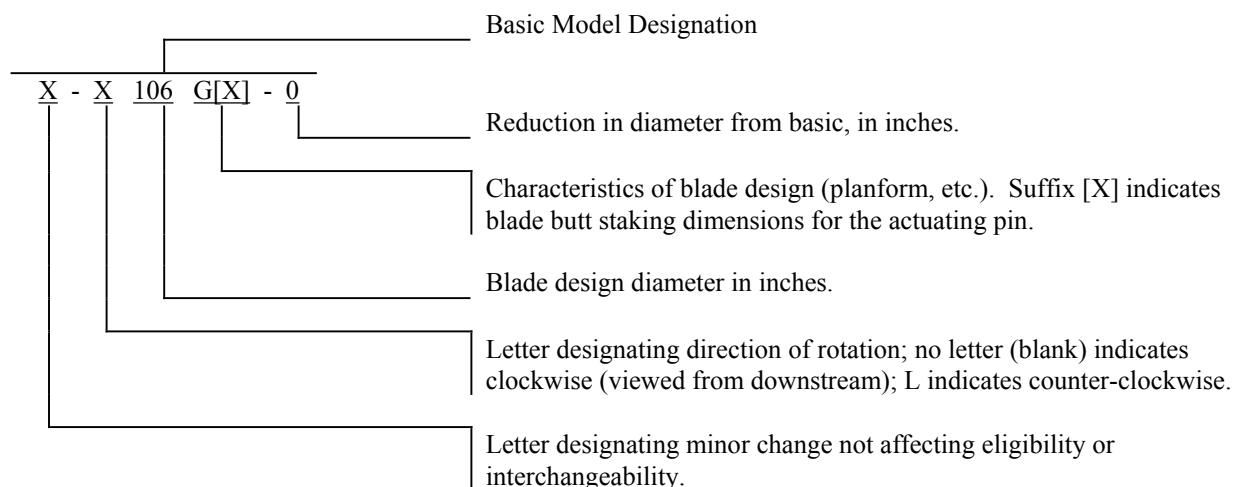
Date of Application for Type Certificate: November 11, 1980.

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.

NOTE 2. Blade Model Designation.

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

E-252
Revision 29

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

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

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Reformatted 6/94.

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 sumn canacitv. at.	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:

	<u>C90 Series</u>	<u>0-200 Series</u>	
Cylinder head	525° F.	525° F.	
Cylinder barrel	275° F.	290° F.	
Oil inlet	225° F.	225° F.	(Straight mineral)
		240° F.	(Detergent meeting MHS-24, See NOTE 6)

NOTE 2. Carburetor fuel inlet pressure limits:

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

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.

	<u>C90 Series</u>	<u>0-200 Series</u>
Oil pressure limits:	30 to 40 p.s.i.g.	30 to 60 p.s.i.g. Minimum idling with hot oil 10 p.s.i.g.

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

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

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 porvisions 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

AC	HSR83IR, SR83IR, HSR83P, SR83P, A88, HS88, HSR88, S88, S88D, HSR88, SR88, SR88D, HSR93, SR93
Auto Lite	18A1, BR4, BR4S, BR4SB, SH15, H15, SH15R, SH20A, SH150, SH200A
BG	RB485S, 706, 706R, 706S, 706SR, 919SR5, RB955S
Champion	C26, C26S, C27, C27S, RC27S, REM38P, REM38W, RHM38P, RHM38W, REM40E, RHM40E, ED41N, D41N, EM41E, EM41N, HM41E, M41E, M41N, EM42E, M42E
Red Seal	SA190, SE190, SJ190, SE230, SJ230

0-200-A, -B, -C

AC	HSR83IR, SR83IR, HSR83P, SR83P, A88, HS88, HSR88, S88, S88D, SR88, SR88D, HSR93, SR93
Auto Lite	18A1, SH15, H15, SH15R, SH20A, SH150, SH200A, PH26
BG	RB485S, 706, 706S, 919SR5, RB955S
Champion	C27, C27S, RC27S, REM38P, REM38W, RHM38P, RHM38W, REM40E, RHM40E, ED41N, D41N, EM41E, EM41N, HM41E, M41E, M41N, EM42E, M42E
Red Seal	SA190, SE190, SJ190 SE230, SJ230

....END....

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

2A13
Revision 48
Piper Aircraft, Inc

PA-28-140	PA-28-151
PA-28-150	PA-28-161
PA-28-160	PA-28-181
PA-28-180	PA-28R-201
PA-28-235	PA-28R-201T
PA-28S-160	PA-28-236
PA-28S-180	PA-28RT-201
PA-28R-180	PA-28RT-201T
PA-28R-200	PA-28-201T

August 7, 2006

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.

Type Certificate Holder Piper Aircraft, Inc.
2926 Piper Drive
Vero Beach, Florida 32960

Type Certificate Holder Record	The New Piper Aircraft, Inc transferred TC 2A13 to Piper Aircraft, Inc on August 7, 2006.
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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.

<u>Airspeed Limits</u>	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

[illegible]

<u>Center of Gravity Range</u>	(+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.			
<u>Empty Weight C. G. Range</u>	None			
<u>Maximum Weight</u>	2200 lb.			
<u>No. of Seats</u>	4 (2 at +85.5, 2 at +118.1)			
<u>Maximum Baggage</u>	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.			
<u>Fuel Capacity</u>	50 gallons at (+95) (2 wing tanks) See NOTE 1 for data on system fuel.			
<u>Oil Capacity</u>	8 quarts at (+32.5), 6 quarts usable See NOTE 1 for data on system oil.			
<u>Control Surface Movements</u>	Wing flaps	($\pm 2^\circ$)	Up 0°	Down 40°
	Ailerons	($\pm 2^\circ$)	Up 30°	Down 15°
	Rudder	($\pm 2^\circ$)	Left 27°	Right 27°
	Stabilator	($\pm 2^\circ$)	Up 18°	Down 2°
	Stabilator Tab	($\pm 1^\circ$)	Up 3°	Down 12°
<u>Nose Wheel Travel</u>	($\pm 1^\circ$) Left 30° Right 30° (Effective on S/N 28-1 through 28-3377, and 28-1760A) ($\pm 1^\circ$) Left 22° Right 22° (Effective S/N 28-3378 through 28-4377)			
<u>Manufacturer's Serial Nos.</u>	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.

<u>Engine</u>	Lycoming O-320-A2B or O-320-E2A with carburetor setting 10-3678-32			
<u>Fuel</u>	80/87 minimum grade aviation gasoline			
<u>Engine Limits</u>	For all operations, 2700 r.p.m. (150 hp)			
<u>Propeller and Propeller Limits</u>	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".			
<u>Propeller Spinner</u>	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.			
<u>Airspeed Limits</u>	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

<u>Center of Gravity Range</u>	(+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.																														
<u>Empty Wt. C. G. Range</u>	None																														
<u>Maximum Weight</u>	2150 lb.																														
<u>No. of Seats</u>	4 (2 at +85.5, 2 at +118.1)																														
<u>Maximum Baggage</u>	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.																														
<u>Fuel Capacity</u>	50 gallons at (+95) (2 wing tanks) See NOTE 1 for data on system fuel.																														
<u>Oil Capacity</u>	8 quarts at (+32.5) (6 quarts usable) See NOTE 1 for data on system oil.																														
<u>Control Surface Movements</u>	<table><tr><td>Wing flaps</td><td>(± 2°)</td><td>Up</td><td>0°</td><td>Down</td><td>40°</td></tr><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>(± 1°)</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></table>	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°
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Stabilator	(± 1°)	Up	18°	Down	2°																										
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<u>Nose Wheel Travel</u>	<table><tr><td>(± 2°)</td><td>Left</td><td>30°</td><td>Right</td><td>30°</td></tr></table> (Effective on S/N 28-03; 28-1 through 28-3377; and 28-1760A) <table><tr><td>(± 2°)</td><td>Left</td><td>22°</td><td>Right</td><td>22°</td></tr></table> (Effective on S/N 28-3378 through 28-4377)	(± 2°)	Left	30°	Right	30°	(± 2°)	Left	22°	Right	22°																				
(± 2°)	Left	30°	Right	30°																											
(± 2°)	Left	22°	Right	22°																											
<u>Manufacturer's Serial Nos.</u>	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.

<u>Engine</u>	Lycoming O-360-A3A or O-360-A4A with carburetor setting 10-3878 or 10-4164-1
<u>Fuel</u>	91/96 minimum grade aviation gasoline
<u>Engine Limits</u>	S/N 28-671 through 28-1760, and 28-1760A (except S/N 28-1571 and S/N 28-1573) (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)
<u>Propeller and Propeller Limits</u>	Sensenich M76EMM or 76EM8 on S/N 28-671 through 28-1760, and 28-1760A (except S/N 28-1571 and S/N 28-1573). Sensenich M76EMMS 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)

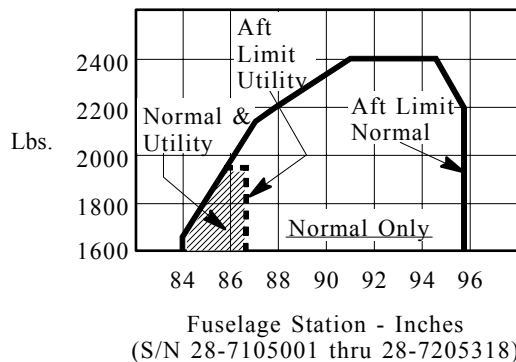
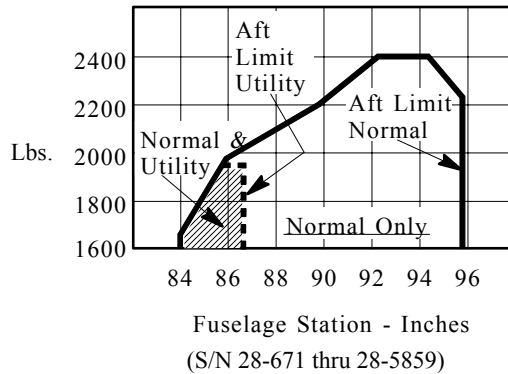
(+84.0)	to	(+95.9)	at	1650 lb. or less
(+85.9)	to	(+95.9)	at	1975 lb.
(+89.2)	to	(+95.9)	at	2200 lb.
(+92.1)	to	(+94.5)	at	2400 lb.

Normal Category

(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

<u>Maximum Weight</u>	Normal Category: 2400 lb. Utility Category: 1950 lb.																																																							
<u>No. of Seats</u>	Normal Category: 4 (2 at +85.5, 2 at +118.1) Utility Category: 2 (2 at +85.5)																																																							
<u>Maximum Baggage</u>	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.																																																							
<u>Fuel Capacity</u>	50 gallons at (+95) (2 wing tanks) See NOTE 1 for data on system fuel.																																																							
<u>Oil Capacity</u>	8 quarts at (+32.5) (6 quarts usable) See NOTE 1 for data on system oil.																																																							
<u>Control Surface Movements</u>	<table><tr><td>Wing flaps</td><td>(± 2°)</td><td>Up</td><td>0°</td><td>Down</td><td>40°</td></tr><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>(± 1°)</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></table>	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°																									
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Stabilator	(± 1°)	Up	18°	Down	2°																																																			
Stabilator Tab	(± 1°)	Up	3°	Down	12°																																																			
<u>Nose Wheel Travel</u>	<table><tr><td>(± 2°)</td><td>Left</td><td>30°</td><td>Right</td><td>30°</td></tr><tr><td colspan="5">(Effective on S/N 28-671 through 28-3377)</td></tr><tr><td>(± 2°)</td><td>Left</td><td>22°</td><td>Right</td><td>22°</td></tr><tr><td colspan="5">(Effective on S/N 28-3378 through 28-5859, and 28-7105001 through 28-7205318)</td></tr></table>	(± 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)																																							
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<u>Manufacturer's Serial Nos.</u>	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: <table><tr><td>28-4704</td><td>28-4745</td><td>28-4754</td><td>28-4763</td><td>28-4776</td></tr><tr><td>28-4791</td><td>28-4795</td><td>28-4826</td><td>28-4834</td><td>28-4859</td></tr><tr><td>28-4875</td><td>28-4879</td><td>28-4891</td><td>28-4907</td><td>28-4919</td></tr><tr><td>28-4922</td><td>28-4935</td><td>28-4945</td><td>28-4946</td><td>28-4947</td></tr><tr><td>28-4955</td><td>28-4959</td><td>28-4961</td><td>27-4964</td><td>28-4967</td></tr><tr><td>28-4968</td><td>28-4971</td><td>28-4975</td><td>28-4977</td><td>28-4985</td></tr><tr><td>28-4995</td><td>28-4999</td><td>28-5004</td><td>28-5007</td><td>28-5015</td></tr><tr><td>28-5017</td><td>28-5018</td><td>28-5019</td><td>28-5020</td><td>28-5023</td></tr><tr><td>28-5026</td><td>28-5027</td><td>28-5028</td><td>28-5031</td><td>28-5039</td></tr><tr><td>28-5041</td><td>28-5046</td><td>28-5051</td><td>28-5053</td><td>28-5057</td></tr><tr><td>28-5060</td><td>28-5061</td><td>28-5062</td><td>28-5063</td><td>28-5064</td></tr></table> 28-5066 through 28-5859, and 28-7105001 through 28-7205318 under the delegation option provisions of FAR 21. See NOTE 17 and 20.	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
28-4704	28-4745	28-4754	28-4763	28-4776																																																				
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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																																																				

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.

<u>Engine</u>	Lycoming O-320-D2A with carburetor setting 10-3678-32 (See NOTE 18)
<u>Fuel</u>	100/130 minimum grade aviation gasoline
<u>Engine Limits</u>	For all operations, 2700 r.p.m. (160 hp)
<u>Propeller and Propeller Limits</u>	<p>McCauley 1A175-GM</p> <p>Static r.p.m. at maximum permissible throttle setting not over 2360 r.p.m., not under 2260 r.p.m.</p> <p>No additional tolerance permitted.</p> <p>Diameter: Not over 79", not under 78".</p>

<u>Propeller Spinner</u>	Piper P/N 14422-00 spinner required.					
<u>Airspeed Limits</u>	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		
<u>Center of Gravity</u>	(+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.					
<u>Empty Weight C. G. Range</u>	None					
<u>Maximum Weight</u>	2140 lb.					
<u>No. of Seats</u>	4 (2 at +85.5, 2 at +118.1)					
<u>Maximum Baggage</u>	125 lb. at (+142.8)					
<u>Fuel Capacity</u>	50 gallons at (+95) (2 wing tanks) See NOTE 1 for data on system fuel.					
<u>Oil Capacity</u>	8 quarts at (+32.5) (6 quarts usable) See NOTE 1 for data on system oil.					
<u>Control Surface Movements</u>	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°
<u>Manufacturer's Serial Nos.</u>	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.

<u>Engine</u>	Lycoming O-360-A3A or O-360-A4A with carburetor setting 10-4164-1 See NOTE 19.					
<u>Fuel</u>	100/130 minimum grade aviation gasoline					
<u>Engine Limits</u>	S/N 28-671 through 28-1760, and 28-1760A (except S/N 28-1571 and S/N 28-1573): 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)					
<u>Propeller and Propeller Limits</u>	McCauley 1A200-FA8248 on S/N 28-671 to 28-1760, and 28-1760A.					
	McCauley 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".					

<u>Propeller Spinner</u>	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.				
<u>Airspeed Limits</u>	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	
<u>Center of Gravity</u>	(+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.				
<u>Empty Weight C. G. Range</u>	None				
<u>Maximum Weight</u>	2222 lb.				
<u>No. of Seats</u>	4 (2 at +85.5, 2 at +118.1)				
<u>Maximum Baggage</u>	125 lb. at (+142.8)				
<u>Fuel Capacity</u>	50 gallons at (+95) (2 wing tanks) See NOTE 1 for data on system fuel.				
<u>Oil Capacity</u>	8 quarts at (+32.5) (6 quarts usable) See NOTE 1 for data on system oil.				
<u>Control Surface Movements</u>	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°
<u>Manufacturer's Serial Nos.</u>	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.				

VI - Model PA-28-235 (Cherokee Pathfinder), 4 PCLM (Normal Category), Approved July 15, 1963, for S/N 28-10001 through 28-11378, and 28-7110001 through 28-7210023.

<u>Engine</u>	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.)			
<u>Fuel</u>	80/87 minimum grade aviation gasoline			
<u>Engine Limits</u>	For all operations, 2575 r.p.m. (235 hp)			
<u>Propeller and Propeller Limits</u>	<p>McCauley 1P235PFA80</p> <p>Static r.p.m. at maximum permissible throttle setting not over 2300 r.p.m., not under 2125 r.p.m.</p> <p>No additional tolerance permitted.</p> <p>Diameter: Not over 80", not under 78.5".</p> <p>or</p> <p>Hartzell HC-C2YK-1/8468A-4 or HC-C2YK-1()F/8468A-4</p> <p>Pitch: High $27^{\circ} \pm 2^{\circ}$, Low $13.5^{\circ} \pm .2^{\circ}$ at 30" station.</p> <p>Diameter: Not over 80", not under 80".</p> <p>Governor assembly: Hartzell F-4-3 () or F-4-13</p> <p>See NOTE 21.</p> <p>or</p> <p><u>Approved for Use with O-540-B4B5 Engine Only:</u></p> <p>Sensenich M80BMM or 80BM8</p> <p>Pitch from 69" to 71".</p> <p>Static r.p.m. at maximum permissible throttle setting not over 2300 r.p.m., not under 2150 r.p.m.</p> <p>No additional tolerances permitted.</p> <p>Diameter: Not over 80", not under 78.5".</p>			
<u>Propeller Spinner</u>	<p>Piper P/N 65209-00 or P/N 63760-03 with fixed pitch propeller. Spinner required.</p> <p>Piper P/N 65435-0 or 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 452V with constant speed propeller.</p> <p>See NOTE 14.</p>			
<u>Airspeed Limits</u>	Never exceed	197 mph	(171 knots)	CAS
	Maximum structural cruising	156 mph	(136 knots)	CAS
	Maneuvering	138 mph	(120 knots)	CAS
	Flaps Extended	115 mph	(100 knots)	CAS
<u>Center of Gravity Range</u>	<p>S/N 28-10001 through 28-11378 (See NOTE 16):</p> <p>(+81.5) to (+93.5) at 2100 lb. or less</p> <p>(+91.5) to (+93.5) at 2900 lb.</p> <p>S/N 28-7110001 through 28-7210023:</p> <p>(+85.1) to (+93.5) at 2100 lb. or less</p> <p>(+86.0) to (+93.5) at 2600 lb.</p> <p>(+91.5) to (+93.5) at 2900 lb.</p> <p>Straight line variation between points given.</p>			
<u>Empty Weight C. G. Range</u>	None			
<u>Maximum Weight</u>	2900 lb.			
<u>No. of Seats</u>	4 (2 at +85.5, 2 at +118.1)			
<u>Maximum Baggage</u>	200 lb. at (+142.8)			

<u>Fuel Capacity</u>	84 gallons at (+95) (50 gallons in 2 wing tanks, 34 gallons in 2 tip tanks). See NOTE 1 for data on system fuel.			
<u>Oil Capacity</u>	12 quarts at (+34.1)(9 ¼ quarts usable) See NOTE 1 for data on system oil.			
<u>Control Surface Movements</u>	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°
<u>Nose Wheel Travel</u>	(±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)			
<u>Manufacturer's Serial Nos.</u>	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.			

VII - Model PA-28-140 (Cherokee Cruiser), 2 PCLM (Utility or Normal Category); 1950 lb. Maximum Weight, Approved February 14, 1964; 2150 lb. Maximum Weight, Approved June 17, 1965; for S/N 28-20001 through 28-26946, and 28-7125001 through 28-7725290.

<u>Engine</u>	Lycoming O-320-E2A with carburetor setting 10-3678-32 or O-320-E3D with carburetor setting 10-5009		
<u>Fuel</u>	80/87 minimum grade aviation gasoline		
<u>Engine Limits</u>	For all operations 2700 r.p.m. (150 hp)		
<u>Propeller and Propeller Limits</u>	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".		
<u>Propeller Spinner</u>	Piper P/N 14422-00. See NOTE 11.		
<u>Airspeed Limits</u>	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

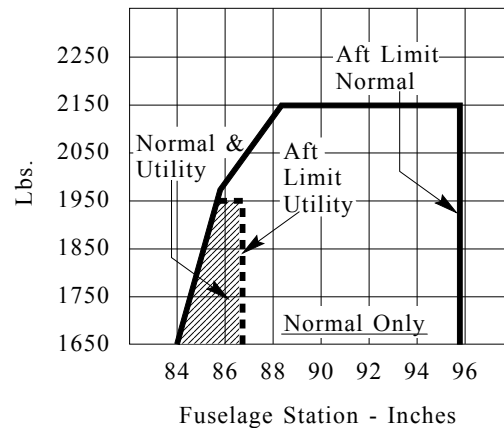
Center of Gravity RangeUtility Category

(+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

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 28-20001 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)

Manufacturer's Serial Nos. 28-20001 through 28-26946; and 28-7125001 through 28-7725290. The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers 28-24677, 28-24682, 28-24697, 28-24698, 28-24700, 28-24703, 28-24704, 28-24705, 28-24706, 28-24709, 28-24710, 28-24712, 28-24713, 28-24714, 28-24715 through 28-26946, and 28-7125001 through 28-7725290 under the delegation option provisions of FAR 21. See NOTE 17 and 20.

VIII - Model PA-28-140 (Cherokee Cruiser), 4 PCLM (Normal Category), 2 PCLM (Utility Category), Approved June 17, 1965, for S/N 28-20001 through 28-26946, and 28-7125001 through 28-7725290.

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

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

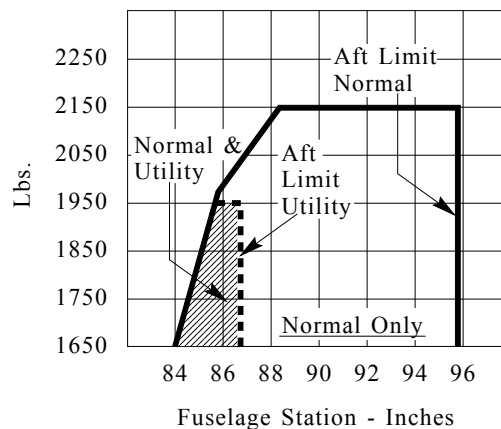
Utility Category

(+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.



<u>Empty Weight C. G. Range</u>	None																														
<u>Maximum Weight</u>	Normal Category: 2150 lb. Utility Category: 1950 lb.																														
<u>No. of Seats</u>	Normal Category: 4 (2 at +85.5, 2 at +117) Utility Category: 2 (2 at +85.5)																														
<u>Maximum Baggage</u>	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).																														
<u>Fuel Capacity</u>	50 gallons at (+95) (2 wing tanks) See NOTE 1 for data on system fuel.																														
<u>Oil Capacity</u>	8 quarts at (+32.5) (6 quarts usable) See NOTE 1 for data on system oil.																														
<u>Control Surface Movements</u>	<table><tr><td>Wing flaps</td><td>(±2°)</td><td>Up</td><td>0°</td><td>Down</td><td>40°</td></tr><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>(±1°)</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></table>	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°
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°																										
<u>Nose Wheel Travel</u>	<table><tr><td>(±2°)</td><td>Left</td><td>30°</td><td>Right</td><td>30°</td></tr></table> <p>(Effective on S/N 28-20940 through 28-21845; 28-21931 through 28-21934; and 28-7425001 through 28-7725290)</p> <table><tr><td>(±2°)</td><td>Left</td><td>22°</td><td>Right</td><td>22°</td></tr></table> <p>(Effective on S/N 28-21846 through 28-21930; 28-21935 through 28-26946; and 28-7125001 through 28-7325674)</p>	(±2°)	Left	30°	Right	30°	(±2°)	Left	22°	Right	22°																				
(±2°)	Left	30°	Right	30°																											
(±2°)	Left	22°	Right	22°																											
<u>Manufacturer's Serial Nos.</u>	28-20001 through 28-26946, and 28-7125001 through 28-7725290. The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers 28-24677, 28-24682, 28-24697, 28-24698, 28-24700, 28-24703, 28-24704, 28-24705, 28-24706, 28-24709, 28-24710, 28-24712, 28-24713, 28-24714, 28-24715 through 28-26946, and 28-7125001 through 28-7725290 under the delegation option provisions of FAR 21. See NOTE 17 and 20.																														

IX - Model PA-28R-180 (Arrow), 4 PCLM (Normal Category), Approved June 8, 1967, for S/N 28R-30002 through 28R-31270, and 28R-7130001 through 28R-7130013.

<u>Engine</u>	Lycoming IO-360-B1E
<u>Injector</u>	Bendix type RSA-5ADI Parts List No. 2524297
<u>Fuel</u>	100/130 minimum grade aviation gasoline
<u>Engine limits</u>	For all operations, 2700 r.p.m. (180 hp)
<u>Propeller and Propeller Limits</u>	Hartzell constant speed Model HC-C2YK-()/7666A-0 or HC-C2YK-1()/F7666A Pitch: High $29.0^\circ \pm 1^\circ$, Low $13.0^\circ \pm .2^\circ$ 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.

<u>Propeller Spinner</u>	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.			
<u>Airspeed Limits</u>	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
<u>Center of Gravity Range</u>	(+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.)			
<u>Empty Weight C. G. Range</u>	None			
<u>Maximum Weight</u>	2500 lb.			
<u>No. of Seats</u>	4 (2 at +85.5, 2 at +118.1)			
<u>Maximum Baggage</u>	200 lb. at (+142.8)			
<u>Fuel Capacity</u>	50 gallons at (+95) (2 wing tanks) See NOTE 1 for data on system fuel.			
<u>Oil Capacity</u>	8 quarts at (+29.5) (6 quarts usable) See NOTE 1 for data on system oil.			
<u>Control Surface Movements</u>	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°
<u>Nose Wheel Travel</u>	(±2°)	Left 30°	Right 30°	
<u>Manufacturer's Serial Nos.</u>	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.			

X - Model PA-28R-200 (Arrow), 4 PCLM (Normal Category), Approved January 16, 1969, S/N 28R-35001 through 28R-35820 and 28R-7135001 through 28R-7135229.

<u>Engine</u>	Lycoming IO-360-C1C				
<u>Injector</u>	Bendix Type RSA-5AD1, Parts List Number 2524450				
<u>Fuel</u>	100/130 minimum grade aviation gasoline				
<u>Engine Limits</u>	For all operations, 2700 r.p.m. (200 hp)				
<u>Propeller and Propeller Limits</u>	Hartzell constant speed Model HC-C2YK-1 ()/7666A-2 or HC-C2YK-1 ()/F7666A 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.				
<u>Propeller Spinner</u>	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.				
<u>Airspeed Limits</u>	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	
<u>Center of Gravity Range</u>	(+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.)				
<u>Empty Weight C. G. Range</u>	None				
<u>Maximum Weight</u>	2600 lb.				
<u>No. of Seats</u>	4 (2 at +85.5, 2 at +118.1)				
<u>Maximum Cargo</u>	200 lb. (at +142.8)				
<u>Fuel Capacity</u>	50 gallons at (+95) (2 wing tanks) See NOTE 1 for data on system fuel.				
<u>Oil Capacity</u>	8 quarts at (+29.5) (6 quarts usable) See NOTE 1 for data on system oil.				
<u>Control Surface Movements</u>	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°
<u>Nose Wheel Travel</u>	(±2°)	Left	30°	Right	30°
<u>Manufacturer's Serial Numbers</u>	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.				

XI - Model PA-28R-200 (Arrow II), 4 PCLM (Normal Category), Approved December 2, 1971, for S/N 28R-7235001 through 28R-7635545.

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.

<u>Engine</u>	Lycoming IO-360-C1C (See NOTE 22) Lycoming IO-360-C1C6 (See NOTE 23)			
<u>Injector</u>	Bendix Type RSA-5AD1, Part List Number 2524450			
<u>Fuel</u>	100/130 minimum grade aviation gasoline			
<u>Engine Limits</u>	For all operations, 2700 r.p.m. (200 hp)			
<u>Propeller and Propeller Limits</u>	<p>Hartzell Constant Speed Model HC-C2YK-1 () or HC-C2YK-1 () F Blade Model 7666A-2 or F7666A-2 (See NOTE 22) Pitch: High $29.0^{\circ} \pm 2^{\circ}$, Low $14.0^{\circ} \pm .2^{\circ}$ 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 $27.5^{\circ} \pm .5^{\circ}$; Low $12.5^{\circ} \pm .2^{\circ}$ 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.</p>			
<u>Propeller Spinner</u>	<p>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.</p>			
<u>Airspeed Limits</u>	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
<u>Center of Gravity Range</u>	(+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.		
<u>Empty Weight C. G. Range</u>	None			
<u>Maximum Weight</u>	2650 lb.			
<u>No. of Seats</u>	4 (2 at +80.5, 2 at +118.1)			
<u>Maximum Cargo</u>	200 lb. (at +142.8)			
<u>Fuel Capacity</u>	50 gallons at (+95) (2 wing tanks) See NOTE 1 for data on system fuel.			
<u>Oil Capacity</u>	8 quarts at (+24.5) (6 quarts usable) See NOTE 1 for data on system oil.			

<u>Control Surface Movements</u>	Wing flaps	($\pm 2^\circ$)	Up	0°	Down	40°
	Ailerons	($\pm 2^\circ$)	Up	30°	Down	15°
	Rudder	($\pm 2^\circ$)	Left	27°	Right	27°
	Stabilator	($\pm 1^\circ$)	Up	16°	Down	2°
	Stabilator Tab	($\pm 1^\circ$)	Up	3°	Down	12°

<u>Nose Wheel Travel</u>	($\pm 2^\circ$)	Left	30°	Right	30°
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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)

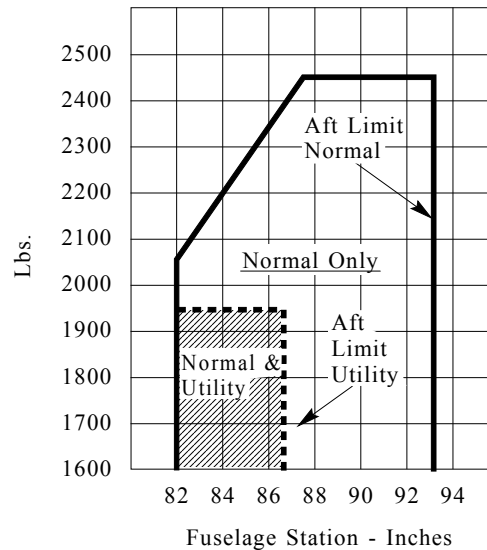
Propeller and Propeller Limits Sensenich or 76EM8S5 or M76EMMS
Static r.p.m. at maximum permissible throttle setting not over 2425 r.p.m.,
not under 2325 r.p.m.
No additional tolerance permitted.
Diameter: Not over or under 76".

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

<u>Airspeed Limits</u>	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
(+82.0) to (+93.0) at 2050 lb. or less
(+87.4) to (+93.0) at 2450 lb.

Utility Category
(+82.0) to (+86.5) at 1950 lb. or less
Straight line variation between points given.



Empty Weight C. G. Range

None

Maximum Weight

Normal Category: 2450 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

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	($\pm 2^\circ$)	Up	0°	Down	40°
Ailerons	($\pm 2^\circ$)	Up	30°	Down	15°
Rudder	($\pm 2^\circ$)	Left	27°	Right	27°
Stabilator	($\pm 1^\circ$)	Up	14°	Down	2°
Stabilator Tab	($\pm 1^\circ$)	Up	3°	Down	12°

Nose Wheel Travel

($\pm 2^\circ$) Left 22° Right 22°
(S/N 28-E13, 28-7305001 through 28-7305601)
($\pm 2^\circ$) Left 30° Right 30°
(S/N 28-7405001 through 28-7505260)

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.

XIII - Model PA-28-235 (Cherokee Pathfinder), 4 PCLM (Normal Category), Approved June 9, 1972, for S/N 28E-11, and 28-7310001 through 28-7710089.

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

<u>Engine Limits</u>	For all operations, 2575 r.p.m. (235 hp)					
<u>Propeller and Propeller Limits</u>	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.					
<u>Propeller Spinner</u>	P/N 99374 Spinner Installation. Spinner required.					
<u>Airspeed Limits</u>	Never exceed	197 mph	(171 knots)	CAS		
	Maximum structural cruising	156 mph	(135 knots)	CAS		
	Maneuvering	138 mph	(119 knots)	CAS		
	Flaps Extended	115 mph	(99 knots)	CAS		
<u>Center of Gravity Range</u>	(+79.0) to (+91.5) at 1900 lb. or less (+82.0) to (+91.5) at 2500 lb. (+88.0) to (+91.5) at 3000 lb. Straight line variation between points given.					
<u>Empty Weight C. G. Range</u>	None					
<u>Maximum Weight</u>	3000 lb.					
<u>No. of Seats</u>	4 (2 at +80.5, 2 at +118.1)					
<u>Maximum Baggage</u>	200 lb. at (+142.8)					
<u>Fuel Capacity</u>	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.					
<u>Oil Capacity</u>	12 quarts at(+29.1) (9¼ quarts usable) See NOTE 1 for data on system oil.					
<u>Control Surface Movements</u>	Wing flaps	(±2°)	Up	0°	Down	40°
	Ailerons	(±2°)	Up	30°	Down	15°
	Rudder	(±2°)	Left	27°	Right	27°
	Stabilator	(±2°)	Up	16°	Down	2°
	Stabilator Tab	(±1°)	Up	3°	Down	12°
<u>Nose Wheel Travel</u>	(±2°)	Left	22°	Right	22°	
	(S/N 28-E11, 28-7310001 through 28-7310176)					
	(±2°)	Left	30°	Right	30°	
	(S/N 28-7410001 through 28-7710089)					
<u>Manufacturer's Serial Numbers</u>	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.**

<u>Engine</u>	Lycoming O-320-E3D with carburetor setting 10-5009, or 10-5009N, or 10-5135
<u>Fuel</u>	80/87 minimum grade aviation gasoline
<u>Engine Limits</u>	For all operations, 2700 r.p.m. (150 hp)

<u>Propeller and Propeller Limits</u>	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".				
<u>Propeller Spinner</u>	Piper P/N 35323. See NOTE 11.				
<u>Airspeed Limits</u>	Never exceed	176 mph	(153 knots)	CAS	
	Maximum structural cruising	140 mph	(122 knots)	CAS	
	Maneuvering	111 mph	(108 knots)	CAS	
	Flaps Extended (S/N 28-7415001 through 28-7515449)	125 mph	(109 knots)	CAS	
	Flaps Extended (S/N 28-7615001 through 28-7715314)	115 mph	(100 knots)	CAS	
<u>Center of Gravity Range</u>	<u>Normal Category</u> (+83.0) to (+93.0) at 1950 lb. or less (+87.0) to (+93.0) at 2325 lb. <u>Utility Category</u> (+83.0) to (+86.5) at 1950 lb. or less Straight line variation between points given.				
<u>Empty Weight C. G. Range</u>	None				
<u>Maximum Weight</u>	Normal Category: 2325 lb. Utility Category: 1950 lb.				
<u>No. of Seats</u>	Normal Category: 4 (2 at +80.5, 2 at +118.1) Utility Category: 2 (2 at +80.5)				
<u>Maximum Baggage</u>	Eligible Normal Category only: 200 lb. at (+142.8)				
<u>Fuel Capacity</u>	50 gallons at (+95) (2 wing tanks) See NOTE 1 for data on system fuel.				
<u>Oil Capacity</u>	8 quarts at (+27.5) (6 quarts usable) See NOTE 1 for data on system oil.				
<u>Control Surface Movements</u>	Wing Flaps	(±2°)	Up 0°	Down 40°	
	Ailerons	(±2°)	Up 23°	Down 17°	
	(S/N 28-7415001 through 28-7515449)				
	Ailerons	(±2°)	Up 25°	Down 12.5°	
	(S/N 28-7615001 through 28-7715314)				
	Rudder	(±2°)	Left 27°	Right 27°	
	Stabilator	(±1°)	Up 14°	Down 2°	
	Stabilator Tab	(±1°)	Up 3°	Down 12°	
<u>Nose Wheel Travel</u>		(±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.

<u>Engine</u>	Lycoming O-360-A4M with carburetor settings 10-3878 or 10-5193 or Lycoming O-360-A4A with carburetor setting 10-5193.										
<u>Fuel</u>	100/130 minimum grade aviation gasoline										
<u>Engine Limits</u>	<p>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)</p>										
<u>Propeller and Propeller Limits</u>	<p>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".</p>										
<u>Propeller Spinner</u>	<p>Piper P/N 65805-00. See NOTE 11.</p>										
<u>Airspeed Limits</u>	<table> <tr> <td>Never exceed</td><td>171 mph</td><td>(148 knots)</td><td>CAS</td></tr> <tr> <td>Maximum structural cruising</td><td>140 mph</td><td>(121 knots)</td><td>CAS</td></tr> </table> <p>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</p>			Never exceed	171 mph	(148 knots)	CAS	Maximum structural cruising	140 mph	(121 knots)	CAS
Never exceed	171 mph	(148 knots)	CAS								
Maximum structural cruising	140 mph	(121 knots)	CAS								
<u>Center of Gravity Range</u>	<p><u>Normal Category</u> (+82.0) to (+93.0) at 2050 lb. or less (+88.6) to (+93.0) at 2550 lb.</p> <p><u>Utility Category</u> (+82.0) to (+93.0) at 2050 lb. or less (+83.0) to (+93.0) at 2130 lb. Straight line variation between points given.</p>										
<u>Empty Weight C. G. Range</u>	None										
<u>Maximum Weight</u>	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.																														
<u>No. of Seats</u>	Normal Category: 4 (2 at +80.5, 2 at +118.1) Utility Category: 2 (2 at +80.5)																														
<u>Maximum Baggage</u>	200 lb. at (+142.8)																														
<u>Fuel Capacity</u>	50 gallons at (+95) (2 wing tanks) See NOTE 1 for data on system fuel.																														
<u>Oil Capacity</u>	8 quarts at (+27.5) (6 quarts usable) See NOTE 1 for data on system oil.																														
<u>Control Surface Movements</u>	<table><tr><td>Wing flaps</td><td>(±2°)</td><td>Up</td><td>0°</td><td>Down</td><td>40°</td></tr><tr><td>Ailerons</td><td>(±2°)</td><td>Up</td><td>25°</td><td>Down</td><td>12.5°</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>(±1°)</td><td>Up</td><td>14°</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></table>	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°
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°																										
<u>Nose Wheel Travel</u>	(±2°) Left 30° Right 30°																														
<u>Manufacturer's Serial Numbers</u>	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.

<u>Engine</u>	Lycoming O-360-A4M with carburetor settings 10-6102 or 10-5193 for aircraft prior to S/N 2843501			
<u>Fuel</u>	100 or 100LL aviation grade fuel			
<u>Engine Limits</u>	For all operations, 2700 r.p.m. (180 hp)			
<u>Propeller and Propeller Limits</u>	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".			
<u>Propeller Spinner</u>	Piper P/N 83349-12			
<u>Airspeed Limits</u>	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 RangeNormal 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".

<u>Propeller and Propeller Limits</u>	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".					
<u>Propeller Spinner</u>	Piper P/N 35323 or P/N 36850. See NOTE 11.					
<u>Airspeed Limits</u>	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			
<u>Center of Gravity Range</u>	<u>Normal Category</u> (+83.0) to (+93.0) at 1950 lb. or less (+87.0) to (+93.0) at 2325 lb. See NOTE 27. <u>Utility Category</u> (+83.0) to (+93.0) at 1950 lb. or less (+83.8) to (+93.0) at 2020 lb. Straight line variation between points given.					
<u>Empty Weight C.G. Range</u>	None					
<u>Maximum Weight</u>	Normal Category: 2325 lb. Utility Category: 2020 lb. Ramp: 2332 lb. (Cadet only) See NOTE 27.					
<u>No. of Seats</u>	Normal Category: 4 (2 at +80.5, 2 at +118.1) Utility Category: 2 (+2 at +80.5)					
<u>Maximum Baggage</u>	Eligible Normal Category only: 200 lb. at(+142.8) 50 lb. (Cadet only)					
<u>Fuel Capacity</u>	50 gallons at (+95) (2 wing tanks) See NOTE 1 for data on system fuel.					
<u>Oil Capacity</u>	8 quarts at (+27.5) (6 quarts usable) See NOTE 1 for data system oil.					
<u>Control Surface Movements</u>	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°
<u>Nose Wheel Travel</u>	(±1°)	Left	30°	Right	30°	
<u>Manufacturer's Serial Numbers</u>	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.

<u>Engine</u>	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.		
<u>Fuel</u>	100 octane minimum grade aviation gasoline		
<u>Engine Limits</u>	For all operations, 2700 r.p.m. (160 hp)		
<u>Propeller and Propeller Limits</u>	<p>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".</p>		
<u>Propeller Spinner</u>	Piper P/N 36850. See NOTE 11.		
<u>Airspeed Limits</u>	Never exceed Maximum structural cruising Maneuvering at 2440 lb. gross weight Maneuvering at 1531 lb. gross weight Flaps Extended	160 KIAS 126 KIAS 111 KIAS 88 KIAS 103 KIAS	See NOTE 26.
<u>Center of Gravity Range</u>	<p><u>Normal Category</u> (+83.0) to (+93.0) at 1950 lb. or less (+88.3) to (+93.0) at 2440 lb. See NOTE 26.</p> <p><u>Utility Category</u> (+83.0) to (+93.0) at 1950 lb. or less (+83.8) to (+93.0) at 2020 lb. Straight line variation between points given</p>		
<u>Empty Weight C.G. Range</u>	None		
<u>Maximum Weight</u>	<p>Normal Category: Ramp - 2447 lb. Takeoff - 2440 lb. See NOTE 26.</p> <p>Utility Category: Ramp - 2027 lb. Takeoff - 2020 lb.</p>		
<u>No. of Seats</u>	<p>Normal Category: 4 (2 at +80.5, 2 at +118.1) Utility Category: 2 (2 at +80.5)</p>		
<u>Maximum Baggage</u>	Eligible Normal Category only: 200 lb. at (+142.8)		
<u>Fuel Capacity</u>	50 gallons at (+95) (2 wing tanks) See NOTE 1 for data on system fuel.		

<u>Oil Capacity</u>	8 quarts at (+27.5) (6 quarts usable) See NOTE 1 for data on system oil.					
<u>Control Surface Movements</u>	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°
<u>Nose Wheel Travel</u>		(±1°)	Left	30°	Right	30°
<u>Manufacturer's Serial Nos.</u>	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.

<u>Engine</u>	Lycoming O-320-D3G with carburetor setting 10-5135, 10-5009 or 10-5217				
<u>Fuel</u>	100 or 100LL aviation grade gasoline				
<u>Engine Limits</u>	For all operations, 2700 r.p.m. (160 hp)				
<u>Propeller and Propeller Limits</u>	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".				
<u>Propeller Spinner</u>	Piper P/N 36850. See NOTE 11.				
<u>Airspeed Limits</u>	Never exceed	160 KIAS	See NOTE 26.		
	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			
<u>Center of Gravity Range</u>	<u>Normal Category</u> (+83.0) to (+93.0) at 1950 lb. or less (+88.3) to (+93.0) at 2440 lb. See NOTE 26. <u>Utility Category</u> (+83.0) to (+93.0) at 1950 lb. or less (+83.8) to (+93.0) at 2020 lb. Straight line variation between points given				
<u>Empty Weight C.G. Range</u>	None				
<u>Maximum Weight</u>	Normal Category: Ramp - 2447 lb. Takeoff - 2440 lb. See NOTE 26. Utility Category: Ramp - 2027 lb. Takeoff - 2020 lb.				

<u>No. of Seats</u>	Normal Category: 4 (2 at +80.5, 2 at +118.1) Utility Category: 2 (2 at +80.5)				
<u>Maximum Baggage</u>	Eligible Normal Category only: 200 lb. at (+142.8)				
<u>Fuel Capacity</u>	50 gallons at (+95) (2 wing tanks) See NOTE 1 for data on system fuel.				
<u>Oil Capacity</u>	8 quarts at (+27.5) (6 quarts usable) See NOTE 1 for data on system oil.				
<u>Control Surface Movements</u>	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°
<u>Nose Wheel Travel</u>	(±1°)	Left	30°	Right	30°
			(S/N 2816110 through 2816119)		
	(±1°)	Left	20°	Right	20°
			(S/N 2842001 & up)		
<u>Manufacturer's Serial Nos.</u>	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-7737002 through 28R-7837317; 2837001 through 2837061; and 2844001 and up.

<u>Engine</u>	Lycoming IO-360-C1C6				
<u>Injector</u>	Bendix Type RSA-5AD1, Part List Number 2524450 Precision Airmotive (PAC) formerly Bendix: Part List Number PAM 2524450-9				
<u>Fuel</u>	100 or 100LL aviation grade gasoline				
<u>Engine Limits</u>	For all operations, 2700 r.p.m. (200 hp)				
<u>Propeller and Propeller Limits</u>	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 ()				
<u>Propeller Spinner</u>	For McCauley propeller: Piper P/N 35828-2 For Hartzell propeller: Piper P/N 99374 See NOTE 11.				
<u>Airspeed Limits</u>	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			

<u>Center of Gravity Range</u>	(+82.0) to (+91.5) at 2375 lb. or less (+88.9) to (+91.5) at 2750 lb. Straight line variation between points given. Moment due to retraction of gear (+819 in-lb.)				
<u>Empty Weight C.G. Range</u>	None				
<u>Maximum Weight</u>	2750 lb.				
<u>No. of Seats</u>	4 (2 at +80.5, 2 at +118.1)				
<u>Maximum Baggage</u>	200 lb. at (+142.8)				
<u>Fuel Capacity</u>	77 gallons at (+95) (2 wing tanks) See NOTE 1 for data on system fuel.				
<u>Oil Capacity</u>	8 quarts at (+24.5) (6 quarts usable) See NOTE 1 for data on system oil.				
<u>Control Surface Movements</u>	Wing flaps	Up	0° ($\pm 1^\circ$)	Down	10°, 25°, 40° ($\pm 2^\circ$)
	Ailerons ($\pm 2^\circ$)	Up	25°	Down	12.5°
	Rudder ($\pm 1^\circ$)	Left	28°	Right	28°
	Stabilator ($\pm 1^\circ$)	Up	16°	Down	2°
	Stabilator Tab ($\pm 1^\circ$)	Up	3°	Down	12°
<u>Nose Wheel Travel</u>	($\pm 2^\circ$)	Left	30°	Right	30°
<u>Manufacturer's Serial Numbers</u>	28R-7737002 through 28-7837317; 2837001 through 2837061; and 2844001 and up. 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.				

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.

<u>Engine</u>	Continental TSIO-360-F or TSIO-360-FB
<u>Fuel</u>	100/130 minimum grade aviation gasoline
<u>Engine Limits</u>	For all operations, 2575 r.p.m. at 41" Hg. manifold pressure (200 hp)
<u>Propeller and Propeller Limits</u>	1 Hartzell Hub Model BHC-C2YF-1BF, Blade Model F8459A-8R Pitch Setting at 30" Station: High: $29^\circ \pm 1.0^\circ$, Low: $14.4^\circ \pm 0.2^\circ$. 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.
<u>Propeller Spinner</u>	Hartzell P/N C3568 Spinner Assembly. See NOTE 11.

<u>Airspeed Limits</u>	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
<u>Center of Gravity Range</u>	(+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.)	
<u>Empty Weight C. G. Range</u>	None	
<u>Maximum Weight</u>	Ramp: 2912 lb.	
	Takeoff: 2900 lb.	
<u>No. of Seats</u>	4 (2 at +80.5, 2 at +118.1)	
<u>Maximum Baggage</u>	200 lb. at (+142.8)	
<u>Fuel Capacity</u>	77 gallons at (+95) (2 wing tanks)	
	See NOTE 1 for data on system fuel.	
<u>Oil Capacity</u>	8 quarts at (+13.5) (5 quarts usable)	
	See NOTE 1 for data on system oil.	
<u>Maximum Operating Altitude</u>	20,000 feet	
<u>Control Surface Movements</u>	Wing flaps	($\pm 2^\circ$) Up 0° Down 40°
	Ailerons	($\pm 2^\circ$) Up 25° Down 12.5°
	Rudder	($\pm 1^\circ$) Left 28° Right 28°
	Stabilator	($\pm 1^\circ$) Up 16° Down 2°
	Stabilator Tab	($\pm 1^\circ$) Up 3° Down 12°
<u>Nose Wheel Travel</u>	($\pm 2^\circ$) Left 30° Right 30°	
<u>Manufacturer's Serial Numbers</u>	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.

<u>Engine</u>	Lycoming O-540-J3A5D with carburetor setting 10-5054
<u>Fuel</u>	100/130 minimum grade aviation gasoline
<u>Engine Limits</u>	For all operations, 2400 r.p.m. (235 hp)
<u>Propeller and Propeller Limits</u>	Hartzell HC-F2YR-1()F/F 8468A-4R
	Pitch: High $32^\circ \pm 2^\circ$, Low $16.25^\circ \pm 1/4^\circ$.
	Diameter: Not over 80", not under 78".
	Governor Assembly: Hartzell F-4-21()

<u>Propeller Spinner</u>	Hartzell P/N C3568 Spinner Assembly. See NOTE 11.				
<u>Airspeed Limits</u>	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	
<u>Center of Gravity Range</u>	(+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.				
<u>Empty Weight C. G. Range</u>	None				
<u>Maximum Weight</u>	3000 lb.				
<u>Number of Seats</u>	4 (2 at +80.5, 2 at +118.1)				
<u>Maximum Baggage</u>	200 lb. at (+142.8)				
<u>Fuel Capacity</u>	77 gallons at (+95) (2 wing tanks) See NOTE 1 for data on system fuel.				
<u>Oil Capacity</u>	12 quarts at (+29.1) (9 1/2 quarts usable) See NOTE 1 for data on system oil.				
<u>Control Surface Movements</u>	Wing flaps	($\pm 2^\circ$)	Up	0°	Down 40°
	Ailerons	($\pm 2^\circ$)	Up	25°	Down 12.5°
	Rudder	($\pm 1^\circ$)	Left	28°	Right 28°
	Stabilator	($\pm 1^\circ$)	Up	16°	Down 2°
	Stabilator Tab	($\pm 1^\circ$)	Up	3°	Down 12°
<u>Nose Wheel Travel</u>		($\pm 1^\circ$)	Left	30°	Right 30°
<u>Manufacturer's Serial Numbers</u>	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.

<u>Engine</u>	Lycoming IO-360-C1C6
<u>Injector</u>	Bendix Type RSA-5AD1, Part List Number 2524450
<u>Fuel</u>	100/130 minimum grade aviation gasoline
<u>Engine Limits</u>	For all operations, 2700 r.p.m. (200 hp)
<u>Propeller and Propeller Limits</u>	McCauley Constant Speed Hub Model B2D34C213, Blade Model 90 DHA-16 Pitch: High $27.5^\circ \pm .5^\circ$, Low $12.5^\circ \pm .2^\circ$ 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.

<u>Propeller and Propeller Limits</u>	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: Hartzell Model F-2-7()					
<u>Propeller Spinner</u>	For the McCauley propeller:		Piper P/N 35828-2			
	For the Hartzell propeller:		Piper P/N 99374			
	See NOTE 11.					
<u>Airspeed Limits</u>	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			
<u>Center of Gravity Range</u>	(+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.)					
<u>Empty Weight C. G. Range</u>	None					
<u>Maximum Weight</u>	2750 lb.					
<u>No. of Seats</u>	4 (2 at +80.5, 2 at +118.1)					
<u>Maximum Baggage</u>	200 lb. at (+142.8)					
<u>Fuel Capacity</u>	77 gallons at (+95) (2 wing tanks) See NOTE 1 for data on system fuel.					
<u>Oil Capacity</u>	8 quarts at (+24.5) 6 quarts usable See NOTE 1 for data on system oil.					
<u>Control Surface Movements</u>	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°)
<u>Nose Wheel Travel</u>		(±2°)	Left	30°	Right	30°
<u>Manufacturer's Serial Numbers</u>	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.					

XX - B. Model PA-28RT-201 (Arrow IV), 4 PCLM (Normal Category), Approved November 13, 1978, for S/N 28R-8018001 through 28R-8218026.

<u>Engine</u>	Lycoming IO-360-C1C6
<u>Injector</u>	Bendix Type RSA-5AD1, Part List Number 2524450
<u>Fuel</u>	100/130 minimum grade aviation gasoline

<u>Engine Limits</u>	For 5-minute takeoff, 2700 r.p.m. (200 hp) For maximum continuous operation, 2650 r.p.m. (196 hp)					
<u>Propeller and Propeller Limits</u>	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.					
<u>Propeller Spinner</u>	Piper P/N 35828-2. See NOTE 11.					
<u>Airspeed Limits</u>	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
<u>Center of Gravity Range</u>	(+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.)					
<u>Empty Weight C. G. Range</u>	None					
<u>Maximum Weight</u>	2750 lb.					
<u>Number of Seats</u>	4 (2 at +80.5, 2 at +118.1)					
<u>Maximum Baggage</u>	200 lb. at (+142.8)					
<u>Fuel Capacity</u>	77 gallons at (+95) (2 wing tanks) See NOTE 1 for data on system fuel.					
<u>Oil Capacity</u>	8 quarts at (+24.5) (6 quarts usable) See NOTE 1 for data on system oil.					
<u>Control Surface Movements</u>	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°)
<u>Nose Wheel Travel</u>		(±2°)	Left	30°	Right	30°
<u>Manufacturer's Serial Numbers</u>	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.

<u>Engine</u>	Continental TSIO-360-FB
<u>Fuel</u>	100/130 minimum grade aviation gasoline

<u>Engine Limits</u>	For all operations, 2575 r.p.m., 41" Hg. manifold pressure (200 hp)					
<u>Propeller and Propeller Limits</u>	1 Hartzell Hub Model BHC-C2YF-1()F, Blade Model F8459A-8R Pitch: High 29° ± 1.0°, Low 14.4° ± .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° ± .2°. Diameter: Not over 76", not under 72". Governor: Hartzell E-5, Woodward G210681 or G210776					
<u>Propeller Spinner</u>	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.					
<u>Airspeed Limits</u>	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					
<u>Center of Gravity Range</u>	(+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.)					
<u>Empty Weight C. G. Range</u>	None					
<u>Maximum Weight</u>	Ramp: 2912 lb. Takeoff: 2900 lb.					
<u>No. of Seats</u>	4 (2 at +80.5, 2 at +118.1)					
<u>Maximum Baggage</u>	200 lb. at (+142.8)					
<u>Fuel Capacity</u>	77 gallons at (+95)(2 wing tanks) See NOTE 1 for data on system fuel.					
<u>Oil Capacity</u>	8 quarts at (+13.5) (5 quarts usable) See NOTE 1 for data on system oil.					
<u>Maximum Operation Altitude</u>	20,000 feet					
<u>Control Surface Movements</u>	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°)
<u>Nose Wheel Travel</u>		(±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.

XXII - Model PA-28-201T (Turbo Dakota), 4 PCLM (Normal Category), Approved December 14, 1978, for S/N 28-7921001 through 28-7921095.

<u>Engine</u>	Continental TSIO-360-FB					
<u>Fuel</u>	100/130 minimum grade aviation gasoline					
<u>Engine Limits</u>	For all operations, 2575 r.p.m., 41" Hg. manifold pressure (200 hp)					
<u>Propeller and Propeller Limits</u>	1 Hartzell Hub Model BHC-C2YF-1()F, Blade Model F8459A-8R Pitch: High $29^{\circ} \pm 1.0^{\circ}$, Low $14.4^{\circ} \pm .2^{\circ}$ 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.					
<u>Propeller Spinner</u>	Hartzell P/N C3568 Spinner Assembly. See NOTE 11.					
<u>Airspeed Limits</u>	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				
<u>Center of Gravity Range</u>	(+86.0) to (+90.0) at 2900 lb. (+78.0) to (+90.0) at 2240 lb. or less Straight line variation between points given.					
<u>Empty Weight C. G. Range</u>	None					
<u>Maximum Weight</u>	2900 lb.					
<u>No. of Seats</u>	4 (2 at +80.5, 2 at +118.1)					
<u>Maximum Baggage</u>	200 lb. at (+142.8)					
<u>Fuel Capacity</u>	77 gallons at (+95) (2 wing tanks) See NOTE 1 for data on system fuel.					
<u>Oil Capacity</u>	8 quarts at (+13.5) (5 quarts usable) See NOTE 1 for data on system oil.					
<u>Maximum Operation Altitude</u>	20,000 feet					
<u>Control Surface Movements</u>	Wing flaps	($\pm 2^{\circ}$)	Up	0 $^{\circ}$	Down	40 $^{\circ}$
	Ailerons	($\pm 2^{\circ}$)	Up	25 $^{\circ}$	Down	12.5 $^{\circ}$
	Rudder	($\pm 2^{\circ}$)	Left	27 $^{\circ}$	Right	27 $^{\circ}$
	Stabilator	($\pm 1^{\circ}$)	Up	16 $^{\circ}$	Down	2 $^{\circ}$
	Stabilator Tab	($\pm 1^{\circ}$)	Up	3 $^{\circ}$	Down	12 $^{\circ}$
<u>Nose Wheel Travel</u>		($\pm 1^{\circ}$)	Left	30 $^{\circ}$	Right	30 $^{\circ}$

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-28-150, PA-28-160, PA-28-180, PA-28-235, PA-28S-160, PA-28S-180, PA-28R-180, and PA-28R-200: 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 23.955 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.

For aircraft equipped with Piper factory installed optional Avidyne Entegra system and Mid-Continent Model 4300-411 Electric Attitude Indicator (See Piper Report VB-1892, Appendix E), the additional certification basis for installation specific items only is: 14 CFR Part 23 regulations FAR 23.301, 23.337, 23.341, 23.473, 23.561(b)(3), 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, 23.955, 23.1191, 23.1337 as amended by Amdt. 23-51; FAR 23.1301, 23.1327, 23.1335 as amended by Amdt. 23-20; FAR 23.867, 23.1303, 23.1307, 23.1309, 23.1311, 23.1321, 23.1323, 23.1329, 23.1351, 23.1353, 23.1359, 23.1361, 23.1365, as amended by Amdt. 23-49; FAR 23.1305 as amended by Amdt. 23-52; FAR 23.1322, 23.1331, 23.1357, 23.1431 as amended by Amdt. 23-43; FAR 23.1325, 23.1543, 23.1545, 23.1555, 23.1563, 23.1581, 23.1583, 23.1585 as amended by Amdt. 23-50; FAR 23.771 as amended by Amdt. 23-14; FAR 23.1501, 23.1541 as amended by Amdt. 23-21; FAR 23.1523 as amended by Amdt. 23-34; FAR 23.1529 as amended by Amdt. 23-26; Special Condition for HIRF (Docket # CE207), date July 30, 2004.

PA-28-181: CAR 3 effective May 15, 1956, including Amendments 3-2 and 3-4; paragraphs 3.304 and 3.705 of Amendment 3-7 effective May 3, 1962; FAR 23.207, 23.221, 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; and FAR 23.1327 and 23.1547 as amended by Amendment 23-20 effective September 1, 1977. FAR 36, Appendix G, Amendment 36-16 for the PA-28-181 (Archer III), S/N 2890206 through 2890231, and 2843001 and up.

For aircraft equipped with Piper factory installed optional Avidyne Entegra system and Mid-Continent Model 4300-411 Electric Attitude Indicator (See Piper Report VB-1892, Appendix E), the additional certification basis for installation specific items only is: 14 CFR Part 23 regulations FAR 23.301, 23.337, 23.341, 23.473, 23.561(b)(3), 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, 23.955, 23.1191, 23.1337 as amended by Amdt. 23-51; FAR 23.1301, 23.1327, 23.1335 as amended by Amdt. 23-20; FAR 23.867, 23.1303, 23.1307, 23.1309, 23.1311, 23.1321, 23.1323, 23.1329, 23.1351, 23.1353, 23.1359, 23.1361, 23.1365, as amended by Amdt. 23-49; FAR 23.1305 as amended by Amdt. 23-52; FAR 23.1322, 23.1331, 23.1357, 23.1431 as amended by Amdt. 23-43; FAR 23.1325, 23.1543, 23.1545, 23.1555, 23.1563, 23.1581, 23.1583, 23.1585 as amended by Amdt. 23-50; FAR 23.771 as amended by Amdt. 23-14; FAR 23.1501, 23.1541 as amended by Amdt. 23-21; FAR 23.1523 as amended by Amdt. 23-34; FAR 23.1529 as amended by Amdt. 23-26; Special Condition for HIRF (Docket # CE207), date July 30, 2004.

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).

For aircraft equipped with Piper factory installed optional Avidyne Entegra system and Mid-Continent Model 4300-411 Electric Attitude Indicator (See Piper Report VB-1892, Appendix E), the additional certification basis for installation specific items only is: 14 CFR Part 23 regulations FAR 23.301, 23.337, 23.341, 23.473, 23.561(b)(3), 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, 23.955, 23.1191, 23.1337 as amended by Amdt. 23-51; FAR 23.1301, 23.1327, 23.1335 as amended by Amdt. 23-20; FAR 23.867, 23.1303, 23.1307, 23.1309, 23.1311, 23.1321, 23.1323, 23.1329, 23.1351, 23.1353, 23.1359, 23.1361, 23.1365, as amended by Amdt. 23-49; FAR 23.1305 as amended by Amdt. 23-52; FAR 23.1322, 23.1331, 23.1357, 23.1431 as amended by Amdt. 23-43; FAR 23.1325, 23.1543, 23.1545, 23.1555, 23.1563, 23.1581, 23.1583, 23.1585 as amended by Amdt. 23-50; FAR 23.771 as amended by Amdt. 23-14; FAR 23.1501, 23.1541 as amended by Amdt. 23-21; FAR 23.1523 as amended by Amdt. 23-34; FAR 23.1529 as amended by Amdt. 23-26; Special Condition for HIRF (Docket # CE207), date July 30, 2004.

PA-28R-201T: CAR 3 effective May 15, 1956, through Amendment 3-2 including 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, 23.901, 23.909, 23.955, 23.959, 23.1041, 23.1043, 23.1047, 23.1143, and 23.1527 as amended by Amendment 23-7 effective September 14, 1969; FAR 23.1441 as amended by Amendment 23-9 effective June 17, 1970; FAR 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 23.1327 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-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; FAR23.221, 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 23.965 of FAR 23 effective February 1, 1965; 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.

PA-28RT-201T: 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, 23.901, 23.909, 23.955, 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, 23.427(c), and 23.967(e)(2) as amended by Amendment 23-14 effective December 20, 1973; FAR 23.1093 and 23.1305 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.

PA-28-201T: 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 23.965 of FAR 23 effective February 1, 1965; FAR23.207, 23.221, 23.901, 23.909, 23.955, 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 and 23.203 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 23.1143 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 36-10 effective July 31, 1978. Compliance with FAR23.1441 as amended by Amendment 23-9 effective June 17, 1970, will be established with optional oxygen equipment.

Equivalent Safety Finding: CAR 3.757 for Models PA-28-161, PA-28R-201, PA-28R-201T, PA-28-236, PA-28RT-201, PA-28RT-201T, and PA-28-201T only.

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:

<u>MODEL</u>	<u>AFM/POH</u>	<u>REPORT NO.</u>	<u>APPROVED</u>	<u>SERIAL EFFECTIVITY</u>
PA-28-140	AFM	VB-160	2/14/64	28-20001 through 28-26946, and 28-7125001
	AFM	VB-339	7/21/71	through 28-7125641
	AFM	VB-557	5/14/73	28-7225001 through 28-7325674
	POH	VB-770	6/16/76	28-7425001 through 28-7625275
				28-7725001 through 28-7725290
PA-28-150	AFM	VB-166	6/2/61	28-1 through 28-4377
PA-28-151	AFM	VB-573	7/25/73	28-7415001 through 28-7615435
	POH	VB-780	6/18/80	28-7715001 through 28-7715314
PA-28-160	AFM	VB-168	10/25/60	28-1 through 28-4377, and 28-1760A
PA-28S-160	AFM	VB-177	2/25/63	28-1 through 28-1760, and 28-1760A
PA-28-161	POH	VB-880	12/16/76	28-7716001 through 28-8216300
	POH	VB-1180	7/1/82	28-8316001 through 28-8616057, and 2816001 through 2816119
	POH	VB-1610	7/12/95	2842001 and up
	POH Supp.	VB-1546	6/30/92	28-8316001 through 28-8616057, and 2816001 through 2816119 (See NOTE 28)
	POH	VB-1360	9/9/88	2841001 through 2841365
	POH Supp.	VB-1545	5/29/92	2841001 through 2841365 (See NOTE 28)
	POH	VB-1565	7/1/94	2816110 through 2816119
PA-28-180	AFM	VB-163	8/3/62	28-671 through 28-5600
	AFM	VB-210	4/22/69	28-5601 through 28-5859, and 28-7105001 through 28-7205091
	AFM	VB-355	9/1/71	28-7205092 through 28-7205318
	AFM	VB-437	5/22/72	28-7305001 through 28-7305601 and 28-E13
	AFM	VB-558	5/14/73	28-7405001 through 28-7505260
PA-28S-180	AFM	VB-179	5/10/63	28-671 through 28-5859, and 28-7105001 through 28-7105234
PA-28-181	POH	VB-760	8/15/75	28-7690001 through 28-7690467
	POH	VB-790	6/18/76	28-7790001 through 28-7990589
	POH	VB-1120	7/2/79	28-8090001 through 28-8690056, 28-8690061, 28-8690062, and 2890001 through 2890205
		VB-1611	7/12/95	2843001 and up
	POH	VB-1563	8/19/94	2890206 through 2890231
PA-28R-180	AFM	VB-173	6/8/67	28R-30001 through 28R-31270, and 28R-7130001 through 28R-7130013
PA-28R-200	AFM	VB-175	1/9/69	28R-35001 through 28R-35820, and 28R-7135001 through 28R-7135229
	AFM	VB-343	10/14/71	28R-7235001 through 28R-7335446
	AFM	VB-560	5/14/73	28R-7435001 through 28R-7635545
PA-28R-201	POH	VB-870	12/21/76	28R-7737001 through 28R-7837317
	POH	VB-1365	9/15/88	2837001 through 2837061
	POH	VB-1612	7/12/95	2844001 and up

(Continued)

<u>MODEL</u>	<u>AFM/POH</u>	<u>REPORT NO.</u>	<u>APPROVED</u>	<u>SERIAL EFFECTIVITY</u>
PA-28R-201T	POH	VB-800	12/20/76	28R-7703001 through 28R-7803374
	POH	VB-1370	11/9/89	2803001 through 2803012
PA-28-235	AFM	VB-170	7/15/63	28-10001 through 28-11378, and 28-7110001 through 28-7210023
	AFM Supp.	VB-357	8/25/71	28-10001 through 28-11378, and 28-7110001 through 28-7110023
	AFM	VB-442	6/9/72	28-7310001 through 28-7310176 and 28-E11
	AFM	VB-559	5/14/73	28-7410001 through 28-7610202
	POH	VB-810	1/21/77	28-7710001 through 28-7710089
PA-28-236	AFM	FT-124, App E. OR	6/1/78	28-7911001 through 28-8611008, and 2811001 through 2811050
	POH	VB-910	6/1/78	28-7911001 through 28-8611008, and 2811001 through 2811050
PA-28-236	POH	VB-1613	7/12/95	2845001 and up
PA-28RT-201	AFM	FT-121, App C. OR	11/7/78	28R-7918001 through 28R-8218026
PA-28RT-201	POH	VB-930	11/30/78	28R-7918001 through 28R-7918267
	POH	VB-1130	9/14/79	28R-8018001 through 28R-8218026
PA-28RT-201T	AFM	FT-130, App E. OR	11/7/78	28R-7931001 through 28R-8631005, and 2831001 through 2831013
	POH	VB-940	11/30/78	28R-7931001 through 28R-8631005, and 2831001 through 2831013
PA-28-201T	AFM	FT-126, App E. OR	12/14/78	28-7921001 through 28-7921095
		VB-920	1/25/79	28-7921001 through 28-7921095

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 QuantityApplicable Models and Serial Numbers

Fuel 12.0 lb. at (+103.0)	PA-28R-180, PA-28R-200: all Serial Nos. PA-28-180: S/N 28-E13, and 28-7305001 through 28-7505260
Fuel 12.0 lb. at (+103.0)	PA-28-235: S/N 28-E11, and S/N 28-7310001 through 28-7710089
Fuel 12.0 lb. at (+103.0)	PA-28-151: S/N 28-7415001 through 28-7715314
Fuel 2.2 lb. at (+103.0)	PA-28-140, PA-28-150, PA-28-160: all Serial Nos.
Fuel 2.2 lb. at (+103.0)	PA-28-180: S/N 28-03, S/N 28-671 through 28-5859, and 28-7105001 through 28-7205318
Oil 1.8 lb. at (+27.5)	PA-28-140, PA-28-150, PA-28-160, PA-28-180: S/N 28-03, 28-1 through 28-1760, and 28-1760A
Oil 1.8 lb. at (+27.5)	PA-28-151: S/N 28-7415001 through 28-7715314

Unusable Fuel and Oil Quantity**Applicable Models and Serial Numbers**

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) Oil 2.4 lb. at (+41.0)	PA-28-235: S/N 28-10001 through 28-11378, and 28-7110001 through 28-7210023
Oil 2.4 lb. at (+36.0)	PA-28-235: S/N 28-E11, and 28-7310001 through 28-7710089
Oil 3.9 lb. at (+30.6)	PA-28R-200: S/N 28R-7235001 through 28R-7635545
Oil 1.8 lb. at (+35.5) Fuel 12.0 lb. at (+103.0)	PA-28-181: S/N 28-7690001 through 28-8690056, 28-8690061, 28-8690062, and 2890001 through 2890231, and 2843001 and up
Fuel 30.0 lb. at (+103.0) Oil 3.9 lb. at (+30.6)	PA-28R-201: S/N 28R-7737001 through 28R-7837317, 2837001 through 2837061, and 2844001 and up
Fuel 30.0 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) Oil 1.8 lb. at (+27.5)	PA-28-161: S/N 28-7716001 through 28-8616057, and 2816001 through 2816119 and 2842001 and up
Fuel 30.0 lb. at (+103.0) Oil 5.2 lb. at (+36.0)	PA-28-236: S/N 28-7911001 through 28-8611008, 2811001 through 2811050, and 2845001 and up
Fuel 30.0 lb. at (+103.0) Oil 3.9 lb. at (+30.6)	PA-28RT-201: S/N 28R-7918001 through 28R-8218026
Fuel 30.0 lb. at (+103.0) Oil 6.0 lb. at (+19.1)	PA-28RT-201T: S/N 28R-7931001 through 28R-8631005, 2831001 through 2831013
Fuel 30.0 lb. at (+103.0) Oil 6.0 lb. at (+19.1)	PA-28-201T: S/N 28-7921001 through 28-7921095

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.

- NOTE 3 The Models PA-28-160 and PA-28-180, S/N 28-508 to 28-1760, and 28-1760A may be converted to the seaplane configuration, PA-28S-160 and PA-28S-180, in accordance with Piper Drawing No. 62008.
- 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.
- NOTE 5 The Models PA-28-150, PA-28-160, PA-28-180; S/N 28-03, 28-1 through 28-5859, and 28-7105001 through 28-7205318 and PA-28-235; S/N 28-10001 through 28-11378, and 28-7110001 through 28-7210023, may be operated with the door removed in accordance with the FAA approved Airplane Flight Manual Supplement, Piper Report VB-182, dated September 3, 1963.
- 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 2803012, may be operated with the spinner dome removed. The PA-28-161, S/N 28-7716001 through 28-8216300 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-201T; 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:
- (a) For S/N 28-671 through 28-3072 by the installation of P/N 65280-00 tube - Landing Gear Strut Piston in accordance with Piper Service Letter 567 and in accordance with FAA approved Airplane Flight Manual Supplement No. 2, dated September 14, 1970, for Model PA-28-180 (Piper Report VB-261).
 - (b) For S/N 28-3073 through 28-5859 in accordance with FAA approved Airplane Flight Manual Supplement No. 2, dated September 14, 1970, for Model PA-28-180 (Piper Report VB-261).
- NOTE 16 The Model PA-28-235, S/N 28-10001 through 28-11378, may be operated to the expanded C.G. envelope in accordance with FAA approved Airplane Flight Manual Supplement No. 1, dated September 14, 1970, for Model PA-28-235 (Piper Report VB-274).
- NOTE 17 The following serial numbered aircraft are not eligible for import certification to the U.S.: 28-5035, 28-5047, 28-5178, 28-5262, 28-5397, 28-5435, 28-11077, 28-11101, 28-11140, 28-11180, 28-11200, 28-11212, 28-11227, 28-11254, 28-11255, 28-24660, 28-24701, 28R-30861, 28R-30952, 28R-30972, 28R-31043, and 28R-31091. These aircraft have identification plates stamped "Ensenblado en Colombia."
- 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:
 28-24660, 28-24701, 28-7225490, 28-7225491, 28-7225492, 28-7225493, 28-7225494, 28-7225495, 28-7225496, 28-7225497, 28-7225498, 28-7225499, 28-7325238, 28-7325371, 28-7325372, 28-7325373, 28-7325374, 28-7325375, 28-7325376, 28-7325377, 28-7325378, 28-7325379, 28-7325508, 28-7325516, 28-7325525, 28-7325526, 28-7325555, 28-7325556, 28-7325557, 28-7325558, 28-7325580, 28-7325581, 28-7325599, 28-7325600, 28-7425217, 28-7425222, 28-7425224, 28-7425271, 28-7425272, 28-7425273, 28-7425274, 28-7425275, 28-7425276, 28-7425277, 28-7425278, 28-7425279, 28-7425304, 28-7425305, 28-7425306, 28-7425307, 28-7425344, 28-7425383, 28-7425384, 28-7525142, 28-7525144, 28-7525177, 28-7525180, 28-7525181, 28-7525182, 28-7525197, 28-7525201, 28-7525215, 28-7525216, 28-7525217, 28-7525218, 28-7525230, 28-7525238, 28-7525243, 28-7525244, 28-7525246, 28-7525247, 28-7625060, 28-7625061, 28-7625130, 28-7625144, 28-7625272, 28-7625273, 28-7625274, 28-7625275, 28-7725053, and 28-7725188.
- PA-28-161:
 28-7816330, 28-7916235, 28-8016266, 28-8116157, 28-8116158, 28-8316031, 28-8316032, 28-8616006, 28-8616007, 2816006, 2816020, 2816021, and 2816022.
- PA-28-180:
 28-5047, 28-5178, 28-5262, 28-5397, 28-5435, 28-7305315, 28-7305316, 28-7305499, 28-7405136, 28-7405137, 28-7405138, 28-7405139, 28-7405158, 28-7405160, 28-7405161, 28-7405167, 28-7405184, 28-7405185, 28-7405186, 28-7405187, 28-7405223, 28-7505138, 28-7505148, 28-7505159, 28-7505168, 28-7505169, 28-7505179, 28-7505189, and 28-7505260.

NOTE 20
(cont.)PA-28-181:

28-7690362, 28-7790343, 28-7790344, 28-7790388, 28-7790533, 28-7790571, 28-7790605, 28-7890060, 28-7890185, 28-7890290, 28-7890351, 28-7890352, 28-7890406, 28-7890407, 28-7890463, 28-7890464, 28-7890465, 28-7890466, 28-7890480, 28-7890481, 28-7890507, 28-7890508, 28-7890509, 28-7890510, 28-7890534, 28-7890550, 28-7890551, 28-7990158, 28-7990251, 28-8090203, 28-8090243, 28-8090274, 28-8090349, 28-8190032, 28-8190098, 28-8190099, 28-8190174, 28-8190175, 28-8190200, 28-8190201, 28-8190261, 28-8190262, 28-8190317, 28-8190318, 28-8290020, 28-8290021, 28-8290022, 28-8290122, 28-8290123, 28-8290124, 28-8290125, 28-8290146, 28-8290147, 28-8290148, 28-8290149, 28-8390031, 28-8390032, 28-8390057, 28-8390058, 28-8390059, 28-8390060, 28-8690061, 28-8690062, 2890035, and 2890036.

PA-28-201T:

28-7921085

PA-28-235:

28-11077, 28-11101, 28-11140, 28-11180, 28-11200, 28-11212, 28-11227, 28-11254, 28-11255, 28-11370, 28-11371, 28-11372, 28-11373, 28-7310074, 28-7310152, 28-7310153, 28-7310172, 28-7410074, 28-7410078, 28-7410089, 28-7410090, 28-7510072, 28-7510073, 28-7610087, 28-7610168, 28-7710033, 28-7710068, and 28-7710089.

PA-28-236:

28-7911027, 28-7911028, 28-7911029, 28-7911030, 28-7911136, 28-7911219, 28-7911220, 28-7911221, 28-7911252, 28-8011020, 28-8011021, 28-8011062, 28-8011092, 28-8011093, 28-8011094, 28-8011107, 28-8111030, 28-8111038, 28-8111058, 28-8111068, 28-8111069, 28-8111070, 28-8111095, 28-8411021, 28-8411022, 28-8411023, 28-8411024, 28-8411026, 28-8411027, 28-8411028, and 28-8411029.

PA-28R-180:

28R-31091

PA-28R-200:

28R-7335201, 28R-7335202, 28R-7335326, 28R-7335328, 28R-7335377, 28R-7335387, 28R-7335395, 28R-7335397, 28-7435214, 28-7435229, 28-7435252, 28-7435253, 28R-7535146, 28R-7535149, 28R-7535167, 28R-7535168, 28R-7535214, 28R-7535217, and 28R-7635377.

PA-28R-201:

28R-7737119, 28R-7837076, 28R-7837148, 28R-7837149, 28R-7837188, 28R-7837189, 28R-7837225, 28R-7837226, 28R-7837248, 28R-7837249, 28R-7837273, 28R-7837274, 28R-7837294, 28R-7837316, and 28R-7837317.

PA-28R-201T:

28R-7703069, 28R-7703132, 28R-7703184, 28R-7703185, 28R-7703285, 28R-7703382, 28R-7803064, 28R-7803156, 28R-7803207, 28R-7803208, 28R-7803251, 28R-7803291, 28R-7803292, 28R-7803293, 28R-7803294, 28R-7803295, 28R-7803299, 28R-7803300, 28R-7803317, 28R-7803318, 28R-7803319, 28R-7803320, 28R-7803344, 28R-7803360, 28R-7803361, 28R-7803370, 28R-7803371, 28R-7803372, and 28R-7803373.

PA-28RT-201:

28R-8118029, 28R-8118054, 28R-8118078, 28R-8218015, and 28R-8218016.

PA-28RT-201T:

28R-7931122, 28R-7931205, 28R-7931206, 28R-7931262, 28R-7931296, 28R-7931297, 28R-8031062, 28R-8131029, 28R-8131083, and 28R-8131183.

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

AR28-7325238, AR28-7325371, AR28-7325372, AR28-7325373, AR28-7325374, AR28-7325375, AR28-7325376, AR28-7325377, AR28-7325378, AR28-7325379, AR28-7305315, AR28-7305316, AR28-7335201, AR28-7335202, AR28-7325508, AR28-7325516, AR28-7325525, AR28-7325526, AR28-7310152, AR28-7310153, AR28-7325555, AR28-7325556, AR28-7325557, AR28-7325558, AR28-7305480, AR28-7305499, AR28-7335326, AR28-7335328, AR28-7325580, AR28-7325581, AR28-7325599, AR28-7325600, AR28-7335395, and AR28-7335397.

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/7666A-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...

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

	3A19
	Revision 45
	CESSNA
150	150J
150A	150K
150B	A150K
150C	150L
150D	A150L
150E	150M
150F	A150M
150G	152
150H	A152
	June 1, 2007

TYPE CERTIFICATE DATA SHEET NO. 3A19

“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

I - 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	24 lb. (-32)	
	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	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 1A101/DCM	21 lb. (-32)	
	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)

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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		24 lb. (-32)
		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		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 1A101/DCM		21 lb. (-32)
		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		

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) (150F)	Right 16°	Left 16°	
		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	24 lb. (-32)
		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	

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		<u>Landplane</u>	
		(+32.9) to (+37.5) at 1600 lb.	
		(+31.5) to (+37.5) at 1280 lb. or less	
		<u>Seaplane</u>	
		(+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		<u>Landplane</u>	
		26 gal. (22.5 gal. usable, two 13 gal. tanks in wings at +42.0)	
		<u>Seaplane</u>	
		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	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

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/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	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	Wing flaps		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 A150K: A1500001 through A1500226			

V - Model 150L, 2 PCLM (Utility 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 (1971, 1972, 1973 models) 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	27.7 lb. (-34.5)
	2. McCauley 1A101/HCM (1972, 1973 and 1974 models) 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	27.7 lb. (-34.5)
	3. McCauley 1A101/PCM (1974 model) 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	27.0 lb. (-34.5)
Propeller and propeller limits (cont'd)	4. McCauley 1A102/OCM (1971 through 1974 models) 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	27.0 lb. (-34.5)
*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	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 system fuel	
Oil capacity	6 qt. (-13.5; unusable 2 qt.) See NOTE 1 for data on undrainable oil	

V - Model 150L (cont'd)

Control surface movements	Wing flaps		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	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 (1971, 1972, 1973 models) 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	27.7 lb. (-34.5)
	2.	McCauley 1A101/HCM (1971, 1972, 1973 models) 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	27.7 lb. (-34.5)
	3.	McCauley 1A102/OCM (1974 model) 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	27.0 lb. (-34.5)
*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	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)		

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	Wing flaps		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	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) (See Note 4 on use of IAS)	15077006 through 15079405			
	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	Wing flaps	Down	0° -40° ±2°
	Ailerons	Up 20° +2°, -0°	Down 14° +2°, -0°
	Elevator	Up 25° ±1°, -0°	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	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	27.0 lb. (-34.5)	
*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	Wing flaps		Down	0° -40° ±2°
	Ailerons	Up	Down	14° +2°, -0°
	Elevator	Up	Down	15° ±1°
	Elevator tab	Up	Down	20° ±1°
	Rudder	Right	Left	23° +0°, -2°
	(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	<u>S/N 15279406 through 15285594</u> Lycoming O-235-L2C <u>S/N 15285595 and on aircraft reworked per SK152-15 or SK152-16</u> Lycoming O-235-N2C		
*Fuel	100LL/100 min. grade aviation gasoline		
*Engine limits	<u>S/N 15279406 through 15285594</u> For all operations, 2550 r.p.m. (110 hp.) <u>S/N 15285595 and on</u> 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	23.2 lb. (-36.5)	
*Airspeed Limits (IAS) (See NOTE 4 on Use of IAS)	Never exceed Maximum structural cruising Maneuvering Flaps extended	149 knots 111 knots 104 knots 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	Down	0° -30° ±2°
	Ailerons	Up 20° ± 2°	Down 15° ± 1°
	(aileron 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 18285594 (1982 Model) 15285595 through 15285833 (1983 Model) 15285834 through 15285939 (1984 Model) 15285940 through 15286033 (1985 Model)		

X - Model A152, Aerobat, 2 PCLM (Acrobatic Category), Approved March 16, 1977

Engine	<u>S/N A1500433, A1520735, 681 through A521014</u> Lycoming O-235-L2C		
	<u>S/N A1521015 and on aircraft reworked per SK152-15 or SK152-16</u> Lycoming O-235-N2C		
*Fuel	100LL/100 min. grade aviation gasoline		
*Engine limits	<u>S/N A1500433, A1520735, 681 through A1521014</u> For all operations, 2550 r.p.m. (110 hp.)		
	<u>S/N A1521015 and on</u> For all operations 2550 r.p.m. (108 hp.)		
Propeller and propeller limits	1. (a) McCauley 1A103/TCM	23.2 lb. (-36.5)	
	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 1350 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><tr><td>Wing flaps</td><td></td><td>Down</td><td>0° -30° ±2°</td></tr><tr><td>Ailerons</td><td>Up 20° ± 1°</td><td>Down</td><td>15° ± 1°</td></tr><tr><td colspan="4">(aileron travel measured from 1° ±.5° droop)</td></tr><tr><td>Elevator</td><td>Up 25° ±1°</td><td>Down</td><td>18° ±1°</td></tr><tr><td>Elevator tab</td><td>Up 10° ±1°</td><td>Down</td><td>20° ±1°</td></tr><tr><td>Rudder</td><td>Right 23° +0°, -2°</td><td>Left</td><td>23° +0°, -2°</td></tr><tr><td colspan="4">(measured perpendicularly to hinge line)</td></tr></table>	Wing flaps		Down	0° -30° ±2°	Ailerons	Up 20° ± 1°	Down	15° ± 1°	(aileron 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)			
Wing flaps		Down	0° -30° ±2°																										
Ailerons	Up 20° ± 1°	Down	15° ± 1°																										
(aileron 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	A1500433, A1520735 through A1520808 (1978 Model) 681, A1520809 through A1520878 (1979 Model) A1520879 through A1520943 (1980 Model) A1520944 through A1520983 (1981 Model) A1520984 through A1521014 (1982 Model) A1521015 through A1521025 (1983 Model) A1521026 through A1521027 (1984 Model) A1521028 through A1521049 (1985 Model)																												
<u>Data Pertinent to All Models</u>																													
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. <table><tr><td><u>Equivalent Safety Items</u></td><td>S/N 15077006 through 15079405 S/N 15279406 and on S/N A1500610 through A1500734 S/N 681, A1500433, A1520735 and on</td></tr><tr><td>Airspeed Indicator</td><td>CAR 3.757 (See NOTE 4) (S/N 15279406 through 15285939 and 681, A1500433, A1520735 through A1521027)</td></tr><tr><td>Operating Limitations</td><td>CAR 3.778(a)</td></tr></table>	<u>Equivalent Safety Items</u>	S/N 15077006 through 15079405 S/N 15279406 and on S/N A1500610 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)																						
<u>Equivalent Safety Items</u>	S/N 15077006 through 15079405 S/N 15279406 and on S/N A1500610 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:

<u>Maneuver</u>	<u>Entry Speed</u>
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 maneuvering speed 106 m.p.h. (92 knots)"

- (b) Model 150D, 150E, 150F, 150G, 150H, 150J, 150K
"Acrobatic maneuvers are limited to the following:

<u>Maneuver</u>	<u>Entry Speed</u>
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
 (cont'd) 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:
 (cont'd) (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:

<u>Maneuver</u>	<u>Entry Speed</u>	<u>Maneuver</u>	<u>Entry Speed</u>
Chandelle	120 m.p.h. (104 knots)	Lazy eights	120 m.p.h. (104 knots)
Steep turns	110 m.p.h. (96 knots)	Spins	Slow deceleration
Barrel rolls	130 m.p.h. (113 knots)	Aileron rolls	130 m.p.h. (113 knots)
Snap rolls	90 m.p.h. (78 knots)	Immelmanns	145 m.p.h. (126 knots)
Loops	130 m.p.h. (113 knots)	Cuban eights	145 m.p.h. (126 knots)
Vertical reversements	90 m.p.h. (78 knots)	Stalls (except whip stalls)	Slow deceleration"

(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.

<u>Maximums</u>			
Maneuvering speed			109 m.p.h. CAS (95 knots)
Gross weight			1600 lb.
Flight load factor		Flaps Up	+4-4, -1.76
		Flaps Down	+3.5
<u>Maneuver</u>	<u>Max. Entry Speed</u>	<u>Maneuver</u>	<u>Max. Entry Speed</u>
Chandelles	109 m.p.h. (95 knots)	Spins	Slow deceleration
Lazy eights	109 m.p.h. (95 knots)	Stalls (except whip stalls)	Slow deceleration
Steep turns	109 m.p.h. (95 knots)		

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)
 (cont'd) "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.

<u>Maximums</u>		
Maneuvering speed		118 m.p.h. (CAS (103 knots)
Gross weight		1600 lb.
Flight load factor	Flaps up	+6.0, -3.0
	Flaps Down	+3.5
Aerobatic maneuvers with flaps extended are prohibited.		
Inverted flight is prohibited.		
Child's seat and/or baggage compartment must not be occupied during aerobatics.		

<u>Maneuver</u>	<u>Max. Entry Speed</u>	<u>Maneuver</u>	<u>Max. Entry Speed</u>
Chandelle	120 m.p.h. (104 knots)	Lazy eights	120 m.p.h. (104 knots)
Steep turns	110 m.p.h. (96 knots)	Spins	Slow deceleration
Barrell rolls	130 m.p.h. (113 knots)	Aileron rolls	130 m.p.h. (113 knots)
Snap rolls	90 m.p.h. (78 knots)	Immelmanns	145 m.p.h. (126 knots)
Loops	130 m.p.h. (113 knots)	Cuban eights	145 m.p.h. (126 knots)
Vertical		Stalls (except	
reversements	90 m.p.h. (78 knots)	whip stalls)	Slow deceleration

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.

<u>Maximums</u>		
Maneuvering speed		97 knots
Gross weight		1600 lb.
Flight load factor	Flaps up	+4.4, -1.76
	Flaps Down	+3.5

NO ACROBATIC MANEUVERS APPROVED EXCEPT THOSE LISTED BELOW

<u>Maneuver</u>	<u>Max. Entry Speed</u>	<u>Maneuver</u>	<u>Max. Entry Speed</u>
Chandelles	95 knots	Spins	Slow deceleration
Lazy eights	95 knots	Stalls (except	
		whip stalls)	Slow deceleration
Steep turns	95 knots		

Abrupt use of 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)

- (7) 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)

<u>Maximums</u>		
Maneuvering speed (IAS)		105 knots
Gross weight		1600 lb.
Flight load factor -	Flaps up	+6.0, -3.0
	Flaps Down	+3.5

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

<u>Maneuver</u>	<u>Recm. Entry Speed</u>	<u>Maneuver</u>	<u>Recm. Entry Speed</u>
Chandelles	105 knots	Lazy eights	105 knots
Steep turns	100 knots	Spins	Slow deceleration
Barrel rolls	115 knots	Aileron rolls	115 knots
Snap rolls	80 knots	Immelmanns	130 knots
Loops	115 knots	Cuban eights	130 knots
Vertical reversements	80 knots	Stalls (except whip stalls)	Slow deceleration

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.

<u>Maximums</u>		
Maneuvering speed (IAS)		104 knots
Gross weight		1670 lbs.
Flight load factor	Flaps up	+4.4, -1.76
	Flaps Down	+3.5

NO ACROBATIC MANEUVERS APPROVED EXCEPT THOSE LISTED BELOW

<u>Maneuver</u>	<u>Recm. Entry Speed</u>	<u>Maneuver</u>	<u>Recm. Entry Speed</u>
Chandelles	95 knots	Spins	Slow deceleration
Lazy eights	95 knots	Stalls (except whip stalls)	Slow deceleration
Steep turns	95 knots		

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.

<u>Maximums</u>		
Maneuvering speed (IAS)		108 knots
Gross weight		1670 lb.
Flight load factor	Flaps Up	+6.0, -3.0
	Flaps Down	+3.5

Data Pertinent to All Models (cont'd)

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

<u>Maneuver</u>	<u>Recm. Entry Speed</u>	<u>Maneuver</u>	<u>Recm. Entry Speed</u>
Chandelles	105 knots	Lazy eights	105 knots
Steep turns	100 knots	Spins	Slow deceleration
Barrel rolls	115 knots	Aileron rolls	115 knots
Snap rolls	80 knots	Immelmanns	130 knots
Loops	115 knots	Cuban eights	130 knots
Vertical reversements	80 knots	Stalls (except whip stalls)	Slow deceleration

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."

Data Pertinent to All Models (cont'd)

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."
 (2) Model A150M (1976 and 1977 Model) (1978 Model A152)
 "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:

150M,	Cessna P/N D1055-13	(S/N 15077006 through 15078505)
A150M,	Cessna P/N D1056-13	(S/N A1500610 through A1500684)
150M,	Cessna P/N D1080-13	(S/N 1507506 through 15079405)
A150M,	Cessna P/N D1081-13	(S/N A1500685 through A1500734)
152,	Cessna P/N D1107-13	(S/N 15279406 through 15282031)
A152,	Cessna P/N D1108-13	(S/N A1500433 through A1520735 through A1520808)
152,	Cessna P/N D1136-13PH	(S/N 15282032 through 15283591)
A152,	Cessna P/N D1137-13PH	(S/N 681, A1520809 through A1520878)
152,	Cessna P/N D1170-13PH	(S/N 15283592 through 15284541)
A152,	Cessna P/N D1171-13PH	(S/N A1520879 through A1520943)
152,	Cessna P/N D1190-13PH	(S/N 15284542 through 15285161)
A152,	Cessna P/N D1191-13PH	(S/N A1520944 through A1520983)
152,	Cessna P/N D1210-13PH	(S/N 15285162 through 15285594)
A152,	Cessna P/N D1211-13PH	(S/N A1520984 through A1521014)
152,	Cessna P/N D1229-13PH	(S/N 15285595 through 15285833)
A152,	Cessna P/N D1230-13PH	(S/N A1521015 through A1521025)
152,	Cessna P/N D1249-13PH	(S/N 15285834 through 15285939)
A152,	Cessna P/N D1250-13PH	(S/N A1521026 through A1521027)

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:

<p>“WARNING: Use of alcohol-based fuels can cause serious performance degradation and fuel system component damage, and is therefore prohibited on Cessna airplanes.”</p>
--

...END...

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

E-295 Revision 14 Lycoming Engines
O-540-A1A, -A1A5, -A1B5, -A1C5, -A1D, -A1D5, -A2B, -A3D5, -A4A5, -A4B5, -A4C5, -A4D5, O-540-B1A5, -B1B5, -B1D5, -B2A5, -B2B5, -B2C5, -B4A5, -B4B5, O-540-D1A5, O-540-E4A5, -E4B5, -E4C5, O-540-F1A5, -F1B5, O-540-G1A5, -G2A5, O-540-H1A5, -H2A5, -H1A5D, -H2A5D, -H1B5D, -H2B5D, O-540-J1A5D, -J2A5D, -J1B5D, -J2B5D, -J3A5D, -J1C5D, -J2C5D, -J1D5D, -J2D5D, -J3C5D, -L3C5D
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

Model	Lycoming O-540	-A1A, -A1A5, -A1B5, -A1C5, -A1D, -A1D5, -A2B, -A3D5, -A4A5, -A4B5, -A4C5, -A4D5, -D1A5	-B1A5, -B1B5, -B1D5, -B2A5, -B2B5, -B2C5, -B4A5, -B4B5	-E4A5, -E4B5, -E4C5, -G1A5, -G2A5, -H1A5, -H2A5, -H1A5D, -H2A5D, -H1B5D, -H2B5D	-F1A5, -F1B5
Type 6H0A	Direct Drive	--	--	--	--
Rating					
Maximum continuous, hp., r.p.m. in. Hg., at:					
Critical pressure altitude (ft.)	—	—	—	—	235-2800-25.0-4000
Sea level pressure altitude	250-2575-F.T.-S.L.	235-2575-F.T.-S.L.	260-2700-F.T.-S.L.	235-2800-26.0-S.L.	
Takeoff (5 min.), hp., r.p.m., in. Hg., at:					
Critical pressure altitude (ft.)	—	—	—	—	260-2800-27.5-800
Sea level pressure altitude	250-2575-F.T.-S.L.	235-2575-F.T.-S.L.	260-2700-F.T.-S.L.	260-2800-28.0-S.L.	
Fuel (Minimum grade aviation gasoline)	See NOTE 8	--	--	--	--

"- -" indicates "same as preceding model"

"—" indicates "does not apply"

Page No.	01	02	03	04	05	06	07	08
Rev. No.	14	11	11	11	11	11	11	11

Model	Lycoming O-540	-A1A, -A1A5, -A1B5, - A1C5, -A1D, -A1D5, - A2B, -A3D5, -A4A5, - A4B5, -A4C5, -A4D5, - D1A5	-B1A5, -B1B5, -B1D5, -B2A5, -B2B5, -B2C5, -B4A5, -B4B5	-E4A5, -E4B5, -E4G5, -G1A5, -G2A5, -H1A5, -H2A5, -H1A5D, -H2A5D, -H1B5D, -H2B5D	-F1A5, -F1B5
Lubricating oil (lubricants which conform to the specifications as listed or to subsequent revision thereto.)	No. 301-F		--	--	--
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.	17.9		--	--	--
Off propeller shaft C.L., in.	1.21 below 0.15 left	--	--	--	--
Propeller shaft-AS-127	Type 2 flange modified	--	--	--	--
Carburetion	Marvel-Schebler MA-4-5	--	--	--	--
Ignition, dual	See NOTE 8	--	--	--	--
Timing, °BTC	25	--	--	--	--
Spark plugs	See NOTE 7	--	--	--	--
Oil sump capacity, qt.	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	4	--	--	--	--
NOTES - As applicable	1 through 8, 10, 11	--	--	--	1 through 11
Model	Lycoming O-540	-J1A5D, -J2A5D, -J1B5D, -J2B5D, -J3A5D	-J1C5D, -J2C5D, -J3C5D, -J1D5D, -J2D5D	-L3C5D (See NOTE 12)	
Type 6H0A	Direct Drive		--	--	
Rating					
Maximum continuous, hp., r.p.m, in. Hg., at:					
Critical pressure altitude (ft.)	—	—	—	—	
Sea level pressure altitude	235-2400-F.T.-S.L.	235-2400-F.T.-S.L.	235-2400-F.T.-S.L.	235-2400-F.T.-S.L.	
Takeoff (5 min.), hp., r.p.m., in. Hg., at:					
Critical pressure altitude (ft.)	—	--	--	--	
Sea level pressure altitude	235-2400-F.T.-S.L.	235-2400-F.T.-S.L.	235-2400-F.T.-S.L.	235-2400-F.T.-S.L.	
Fuel (Minimum grade aviation gasoline)	See NOTE 8	--	--	--	
Lubricating oil (lubricants which conform to the specifications as listed or to subsequent revision thereto.)	No. 301-F	--	--	--	

"- -" 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 0.19 left	0.69 below 0.19 left	0.59 below 0.34 left
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:

<u>Regulations and Amendments</u>	<u>Model</u>	<u>Date of Application</u>	Date Type Certificate No. E-295_ <u>Issued/Revised</u>
CAR 13 Effective June 15, 1956	O-540-A1A	July 2, 1957	October 31, 1957
As Amended By 13-1 & 13-2	O-540-A1A5	June 3, 1958	June 18, 1958
	O-540-A2P	July 24, 1958	July 24, 1958
	O-540-D1A5	October 21, 1958	August 12, 1959
	O-540-A1B5	January 21, 1959	February 10, 1959
	O-540-A1C5	March 16, 1959	April 2, 1959
	O-540-F1A5, -F1B5	April 3, 1959	August 12, 1959
	O-540-A1D, -A1D5	January 21, 1960	March 17, 1960
13-3	O-540-A3D5	May 17, 1960	June 22, 1960
	O-540-B1A5, -B2A5	November 30, 1960	May 3, 1961
	O-540-B1B5	April 17, 1961	May 3, 1961
	O-540-B2B5	December 8, 1961	December 26, 1961
13-4	O-540-A4A5, -A4B5, - A4C5, -A4D5, -B4A5, -B4B5	October 3, 1963	October 9, 1963
	O-540-E4A5, -E4B5	April 1, 1964	May 4, 1964
	O-540-E4C5	March 3, 1966	March 23, 1966
	O-540-B1D5, -B2C5	November 23, 1966	December 2, 1966
	O-540-G2A5	March 31, 1967	April 4, 1967
	O-540-G1A5	October 6, 1967	October 9, 1967
	O-540-H1A5, -H2A5	January 16, 1970	January 22, 1970
	O-540-H1B5D, H2B5D	July 30, 1971	August 4, 1971
	O-540-H1A5D, -H2A5D	July 27, 1971	October 21, 1971

Certification basis:
(cont'd)

Date Type Certificate
No. E-295_
Issued/Revised

Regulations and Amendments

Model

Date of Application

13-4

-J1B5D, -J2B5D

August 25, 1976

October 4, 1976

O-540-J1C5D,
-J2C5D

-J1D5D, -J2D5D

February 4, 1977

February 15, 1977

O-540-J3C5D

November 23, 1977

November 30, 1977

O-540-J3A5D

July 21, 1977

June 19, 1978

O-540-L3C5D

Production basis: Production Certificate No. 3

NOTE 1. Maximum permissible temperatures are as follows:

Cylinder Head
(well type)

Cylinder
Base

Oil
Inlet

500°F

325°F

245°F

NOTE 2. Pressure limits - p.s.i.

Minimum

Maximum

0.5

30.0 (O-540-L3C5D: See NOTE No. 13)

Fuel

0.5

8.0

Oil (Normal operation)

55.0

95.0

(Idle)

25.0

—

(Starting and warm-up)

—

115.0

NOTE 3. The following accessory provisions are incorporated:

	-A1A,							
	-A1A5,							
	-A1B5,							
	-A1C5,							
	-A1D,							
	-A1D5,							
	-A4A5,							
	-A4B5,			-B1A5				
	-A4C5,			-B1B5				
	-A4D5,		-A2B	-B1D5,				
	-E4A5,		-B2A5	-B4A5				
	-E4B5		-B2B5	-B4B5,			-H1A5	-F1A5
Accessory	-E4C5	A3D5	-B2C5	-G1A5	-D1A5	-G2A5	-H2A5	-F1B5
Starter	*	*	*	*	*	*	*	—
Starter	—	—	—	—	—	—	—	*
Generator	*	*	*	*	*	*	—	*
Generator	**	**	**	**	**	**	—	—
Alternator	**	**	**	**	—	**	*	—
Alternator	**	**	**	**	**	**	**	**
Vacuum Pump	*	*	*	*	*	*	*	*
Hydraulic Pump	*	*	*	*	*	*	*	*
Hydraulic Pump	—	—	—	—	—	—	—	—
Tachometer	*	*	*	*	*	*	*	*
Propeller Governor	*	*	—	*	*	—	*	—
Propeller Governor	—	—	—	—	—	—	—	—
Fuel Pump	**	**	**	**	**	**	**	**
Fuel Pump (plunger)	**	*	**	**	**	**	**	**

Accessory	-L3C5D	-H1A5D -H2A5D -H1B5D -H2B5D	-J2D5D -J2C5D	-J1A5D -J2A5D -J3A5D -J1B5D -J2B5D -J3C5D -J1D5D -J1C5D	All Models				
					Rotation	Speed	Maximum	Max.	
					Facing Drive Pad	Ratio to Crankshaft	Torque (in. -lb.) Cont. Static	Overhang Moment (in. -lb.)	
Starter	*	*	*	*	CC	16.556:1	— 450	150	
Starter	—	—	—	—	CC	13.556:1	— 450	150	
Generator	—	—	—	—	C	1.010:1	60 120	175	
Generator	—	—	—	—	C	2.500:1	60 120	175	
Alternator	*	*	*	*	C	3.250:1	60 120	175	
Alternator	**	**	**	—	C	3.630:1	60 120	175	
Vacuum Pump	*	*	*	*	CC	1.300:1	70 450	25	
Hydraulic Pump	—	—	—	—	C	1.385:1	100 800	40	
Hydraulic Pump	*	*	*	*	C	1.300:1	100 800	40	
Tachometer	*	*	*	*	C	1.500:1	7 50	5	
Propeller Governor	—	—	—	—	C	0.895:1	125 1200	25	
Propeller Governor	*	*	—	*	C	0.947:1	125 1200	25	
Fuel Pump	—	**	—	—	CC	1.000:1	25 —	25	
Fuel Pump (plunger)	*	**	**	**	—	0.500:1	— —	10	

"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:

O-540-Models	Wt. dry, lb.	Characteristics
-A1A	374	Basic model, direct drive, six cylinder, horizontally opposed, air cooled engine with one each S6LN-20 and -21 Magnetos and two 6th order dampers.
-A1A5	374	Same as -A1A except has one fifth and one sixth order dampers.
-A1B5	375	Same as -A1A5 except has propeller governor pad with short studs to accommodate AN type governor.
-A1C5	375	Same as -A1A5 except has two S6LN-21 impulse coupling magnetos.
-A1D	375	Similar to -A1B5 except has one each S6LN-200 and S6LN-204 magnetos and two sixth order crankshaft torsional dampers.
-A1D5	375	Similar to -A1D except has one fifth and one sixth order crankshaft torsional dampers.
-A2B	374	Same as -A1B5 except for crankshaft damper arrangement and propeller flange has propeller locating bushings displaced 60° clockwise, viewed facing propeller.
-A3D5	373	Similar to -A1D5 except has provisions for Goodrich propeller deicing equipment.
-A4A5	374	Similar to -A1A5 except has heavier fifth and sixth order crankshaft counterweights.
-A4B5	375	Similar to -A1B5 except has heavier fifth and sixth order crankshaft counterweights.
-A4C5	375	Similar to -A1C5 except has heavier fifth and sixth order crankshaft counterweights.
-A4D5	375	Similar to -A1D5 except has heavier fifth and sixth order crankshaft counterweights.
-B1A5	366	Same as -A1D5 except has lower compression ratio and performance.
-B1B5	366	Field conversion of -A1A5, -A1B5, or -A1C5 to lower compression ratio.
-B1D5	367	Same as -B1A5 except for incorporation of Bendix 1200 series magnetos.
-B2A5	366	Similar to -B1A5 except does not have provisions for controllable pitch propeller.
-B2B5	366	Same as -B2A5 except has S6LN-20 and S6LN-21 magnetos.

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 -J1A5D 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:

<u>O-540-Models</u>	<u>Fuel - Aviation Gasoline</u>	<u>Compression Ratio</u>	<u>Ignition, Dual Bendix Models</u>
-A1A	100 or 100 LL	8.50:1	S6LN-20, S6LN-21
-A1A5	100 or 100 LL	8.50:1	S6LN-20, S6LN-21
-A1B5	100 or 100 LL	8.50:1	S6LN-21, S6LN-21
-A1C5	100 or 100 LL	8.50:1	S6LN-21, S6LN-21
-A1D	100 or 100 LL	8.50:1	S6LN-204, S6LN-200
-A1D5	100 or 100 LL	8.50:1	S6LN-204, S6LN-200
-A2B	100 or 100 LL	8.50:1	S6LN-20, S6LN-21
-A3D5	100 or 100 LL	8.50:1	S6LN-204, S6LN-200
-A4A5	100 or 100 LL	8.50:1	S6LN-20, S6LN-21
-A4B5	100 or 100 LL	8.50:1	S6LN-21, S6LN-21
-A4C5	100 or 100 LL	8.50:1	26LN-21, S6LN-21
-A4D5	100 or 100 LL	8.50:1	26LN-204, S6LN-200
-B1A5	100 or 100 LL	7.20:1	S6LN-204, S6LN-200
-B1B5	100 or 100 LL	7.20:1	S6LN-20, S6LN-21
-B1D5	100 or 100 LL	7.20:1	S6LN-1209, S6LN-1208
-B2A5	100 or 100 LL	7.20:1	S6LN-204, S6LN-200
-B2B5	100 or 100 LL	7.20:1	S6LN-20, S6LN-21
-B2C5	100 or 100 LL	7.20:1	S6LN-1209, S6LN-1227
-B4A5	100 or 100 LL	7.20:1	S6LN-204, S6LN-200
-B4B5	100 or 100 LL	7.20:1	S6LN-20, S6LN-21
-D1A5	100 or 100 LL	8.50:1	S6LN-20, S6LN-21
-E4A5	100 or 100 LL	8.50:1	S6LN-204, S6LN-200
-E4B5	100 or 100 LL	8.50:1	S6LN-204, S6LN-200
-E4C5	100 or 100 LL	8.50:1	S6LN-204, S6LN-200
-F1A5	100 or 100 LL	8.50:1	S6LN-20, S6LN-21
-F1B5	100 or 100 LL	8.50:1	S6LN-204, S6LN-200
-G1A5	100 or 100 LL	8.50:1	S6LN-1227, S6LN-1209
-G2A5	100 or 100 LL	8.50:1	S6LN-1227, S6LN-1209
-H1A5	100 or 100 LL	8.50:1	S6LN-20, S6LN-21
-H2A5	100 or 100 LL	8.50:1	S6LN-20, S6LN-21
-H1A5D	100 or 100 LL	8.50:1	D6LN-3031
-H2A5D	100 or 100 LL	8.50:1	D6LN-3031
-H1B5D	100 or 100 LL	8.50:1	D6LN-3230
-H2B5D	100 or 100 LL	8.50:1	D6LN-3230
-J1A5D	100 or 100 LL	8.50:1	D6LN-3031
-J2A5D	100 or 100 LL	8.50:1	D6LN-3031
-J1B5D	100 or 100 LL	8.50:1	D6LN-3230
-J2B5D	100 or 100 LL	8.50:1	D6LN-3230
-J1C5D	100 or 100 LL	8.50:1	D6LN-3031
-J2C5D	100 or 100 LL	8.50:1	D6LN-3031
-J1D5D	100 or 100 LL	8.50:1	D6LN-3230
-J2D5D	100 or 100 LL	8.50:1	D6LN-3230
-J3C5D	100 or 100 LL	8.50:1	D6LN-3031
-J3A5D	100 or 100 LL	8.50:1	D6LN-3031

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, -E4B5, -E4A5, 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.....

	A7CE
	Revision 45
	CESSNA
401	411A
401A	414
401B	414A
402	421
402A	421A
402B	421B
402C	421C
411	425
	July 12, 2002

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.

I - Model 411 (Normal Category), Approved August 17, 1964
Model 411A (Normal Category), Approved January 26, 1967

Fuel	Grade 100 or 100LL aviation gasoline
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<u>Altitude (ft.)</u>	<u>Max. Allowable Mp. (in. Hg.)</u>
16,000	34.5
18,000	31.2
20,000	29.0
22,000	26.4
24,000	24.3
26,000	22.2
28,000	20.2
30,000	18.5

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

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Propeller and Propeller Limits	or 2. <u>Models 411 and 411A</u> 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 (CAS)	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	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	10°, +1°, -0°	Down 26°, +1°, -0°
	Rudder	Right	17°, +1°, -0°	Left 22°, +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.

<u>Altitude (ft.)</u>	<u>Max. Allowable Mp. (in. Hg.)</u>
16,000	34.5
18,000	31.8
20,000	29.5
22,000	27.3
24,000	25.1
26,000	23.0
28,000	22.0
30,000	19.0

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) <u>Model 401</u> : Hydraulic Governor Woodward B210444, C210439, B210446 or A210529F	
	<u>Model 401A and 401B</u> : Hydraulic Governor Woodward B210444, C210439, B210446, or A210529F; McCauley DCF290D1/T3, DCF290D2/T3, DCF290D7/T3, DCFU290D1/T3, DCFU290D2/T3, DCFU290D7/T3, DCFU290D13/T3, DCFS290D1/T3, DCFS290D2/T3, DCFS290D7/T3, DCFUS290D1/T3, DCFUS290D2/T3, DCFUS290D7/T3, DCFUS290D13/T3.	
	(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 (CAS)	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.

<u>Altitude (ft.)</u>	<u>Max. Allowable Mp. (in. Hg.)</u>
16,000	34.5
18,000	31.8
20,000	29.5
22,000	27.3
24,000	25.1
26,000	23.0
28,000	22.0
30,000	19.0

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°

feathering 81.2°, ±0.3°

- (b) Model 402, 402A and 402B, S/N 402B0001 thru 402B1200

Hydraulic governor, Woodward B210444, C210439, B210446F or
 A210529H; McCauley DCF290D1/T3, DCF290D2/T3, DCFS290D1/T3,
 DCFS290D2/T3, DCFU290D1/T3, DCFU290D2/T3, DCFUS290D1/T3,
 DCFUS290D2/T3, DCF290D7/T3, DCFS290D7/T3, DCFU290D7/T3,
 DCFU290D13/T3, DCFUS290D7/T3, or DCFUS290D13/T3.

Model 402B, S/N 402B1201 through 402B1300

Hydraulic governor, Woodward B210444, C210439; McCauley
 DCF290D1/T3, DCF290D2/T3, DCFU290D1/T3, DCFU290D2/T3,
 DCFS290D4/T3, DCFUS290D4/T3, DCFS290D5/T3, DCFUS290D5/T3,
 DCF290D7/T3, DCFU290D7/T3, DCFS290D7/T3, DCFUS290D7/T3,
 DCFU290D13/T3, or DCFUS290D13/T3.

Model 402B, S/N 402B1301 and up

Hydraulic governor, Woodward B210444, C210439; McCauley
 DCF290D1/T3, DCF290D2/T3, DCFU290D1/T3, DCFU290D2/T3,
 DCFS290D4/T3, DCFUS290D4/T3, DCFS290D6/T3, DCFUS290D6/T3,
 DCF290D7/T3, DCFU290D7/T3, DCFS290D7/T3, DCFUS290D7/T3,
 DCFS290D8/T3, DCFUS290D8/T3, DCFU290D13/T3, DCFUS290D12/T3,
 or DCFUS290D13/T3.

- (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 (CAS)	<u>Model 402, S/N 402-0001 and up</u>	
	<u>Model 402A, S/N 402A0001 and up</u>	
	<u>Model 402B, S/N 402B0001 through 402B0500</u>	
	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.) (CAS)	<u>Model 402B, S/N 402B0501 through 402B1000</u>	
	Maneuvering	180 m.p.h. (156 knots)
	Flaps extended 15°	160 m.p.h. (139 knots)
	Flaps extended 45°	95 m.p.h. (83 knots)
	Minimum control	
	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)	<u>Model 402B, S/N 402B1001 and up</u>	
	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	<u>Models 402, 402A, 402B, S/N 402B0001 through 402B1300</u>	
	Landing 6200 lb., takeoff 6300 lb.	
	<u>Model 402B, S/N 402B1301 and up</u>	
No. of Seats	Landing 6200 lb., ramp 6335 lb., takeoff 6300 lb.	
	<u>Model 402</u>	
	9 (2 at +137.0, 2 at +166.0, 2 at +193.0, 2 at +220.0, 1 at +247.0)	
	<u>Model 402A and 402B, S/N 402B0001 through 402B0300</u>	
	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)

	<u>Model 402B, S/N 402B0301 and up</u>		
	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	<u>Models 402, 402A and 402B, S/N 402B0001 through 402B0300</u>		
	350 lb. (+71.0), 240 lb. (+186.0), 170 lb. (+247.0)		
	<u>Model 402B, S/N 402B0301 and up</u>		
	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 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 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.		
	<u>Model 421</u>		<u>Model 421A</u>
	Max. Allowable		Max. Allowable
	Altitude (ft.)	Mp. (in. Hg.)	Altitude (ft.)
	16,000	39.5	16,000
	18,000	32.5	18,000
	20,000	32.5	20,000
	22,000	30.0	22,500
	24,000	27.0	24,000
	26,000	24.5	26,000
	28,000	22.0	28,000
	30,000	20.0	30,000
			23.0

IV - Model 421, Model 421A (cont'd)

Propeller and Propeller Limits	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°, $\pm 0.2^\circ$ feathering 84.5°, $\pm 0.3^\circ$ (b) Hydraulic Governor Woodward 210594, 210595, 210596, or 210597. (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.	
Airspeed Limits (CAS)	Maneuvering 184 m.p.h. (160 knots) Maximum structural cruising 230 m.p.h. (200 knots) Never exceed 272 m.p.h. (236 knots) Landing gear operating 165 m.p.h. (143 knots) Landing gear extended 165 m.p.h. (143 knots) Flaps extended 15° 180 m.p.h. (156 knots) Flaps extended 45° 165 m.p.h. (143 knots) Minimum control 106.5 m.p.h. (93 knots)	
C.G. Range (Landing Gear Extended)	<div> <div> <u>Model 421</u> (+151.9) to (+155.5) at 6800 lb. (+155.7) at 6400 lb. or less (+144.3) at 5200 lb. or less </div> <div> <u>Model 421A</u> (+152.1) to (+155.5) at 6840 lb. (+155.7) at 6500 lb. or less (+144.3) at 5200 lb. or less </div> </div> <p>Straight line variation between points given Landing gear retracted moment change: +889 in.-lb.</p>	
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	<u>Model 421</u> Landing 6500 lb., takeoff 6800 lb. (See NOTE 4 for takeoff 6840 lb.) <u>Model 421A</u> Landing 6500 lb., takeoff 6840 lb.	
No. of Seats	<u>Model 421</u> 6 (2 at +137.0, 2 at +175.5, 2 at +215.5) <u>Model 421A</u> 6 or 7 (2 at +137.0, 2 at +175.5, 2 at +215.5, 1 at +246.5) (See manufacturer's equipment list for optional seating arrangement)	
Maximum Baggage	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 data on undrainable oil	

IV - Model 421, Model 421A (cont'd)

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	25°, +1°, -0°	Left 25°, +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	10°, +1°, -0°	Down 26°, +1°, -0°
	Rudder	Right	11°, +1°, -0°	Left 16°, +1°, -0°
(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

<u>Altitude (ft.)</u>	<u>Max. Allowable Mp. (in. Hg.)</u>
20,000	36.0
22,000	33.6
24,000	31.2
26,000	28.8
28,000	26.4
30,000	24.0

S/N 414-0801 and up

<u>Altitude (ft.)</u>	<u>Max. Allowable Mp. (in. Hg.)</u>
20,000	38.0
22,000	35.2
24,000	32.3
26,000	29.8
28,000	27.4
30,000	25.0

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

Propeller and Propeller Limits	(b) <u>Model 414 S/N 414-0001 thru 414-0800</u> Hydraulic governor, Woodward B210444, C210439, B210446F, or A210529H McCauley DCF290D1/T3, DFC290D2/T3, DCF290D7/T3, DCFU290D1/T3, DCFS290D1/T3, DCFUS290D1/T3, DCFS290D2/T3, DCFU290D2/T3, DCFU290D7/T3, DCFU290D13/T3, DCFS290D7/T3, DCFUS290D2/T3, DCFUS290D7/T3 or DCFUS290D13/T3 <u>Model 414 S/N 414-0801 and up</u> McCauley DCFS290D4/T3, DCFUS290D4/T3, DCFS290D5/T3, DCFUS290D5/T3, DCFS290D7/T3, or DCFUS290D7/T3, DCFS290D8/T3, DCFUS290D8/T3, DCFUS290D12/T3, or DCFUS290D13/T3	
	(c) Propeller spinner and bulkhead assembly, McCauley D-3534/D-3537, D-3534/D-3796, or D-5212/D-5214.	
Airspeed Limits (CAS)	<u>S/N 414-0001 through 414-0450</u>	
	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)
	<u>S/N 414-0451 through 414-0800</u>	
	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.)
(IAS)	<u>S/N 414-0801 and up</u>	
	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	<u>S/N 414-0001 through 414-0350</u> 6 or 7 (2 at +137.0, 2 at +175.5, 2 at +215.5, 1 at +246.5) <u>S/N 414-0351 and up</u> 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	<u>S/N 414-0001 through 414-0350</u> 350 lb. (+71.0), 240 lb. (+186.0), 340 lb. (+246.5) <u>S/N 414-0351 and up</u> 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	<table> <tr> <td colspan="2">Wing flaps</td><td>Down</td><td>45°, +1°, -0°</td></tr> <tr> <td colspan="4">Main surfaces</td></tr> <tr> <td>Aileron</td><td>Up</td><td>20°, +1°, -0°</td><td>Down 20°, +1°, -0°</td></tr> <tr> <td>Elevator</td><td>Up</td><td>25°, +1°, -0°</td><td>Down 15°, +1°, -0°</td></tr> <tr> <td>Rudder</td><td>Right</td><td>32°, +1°, -0°</td><td>Left 32°, +1°, -0°</td></tr> <tr> <td colspan="4">(Read degrees normal to rudder hinge line)</td></tr> <tr> <td colspan="4">Tab (main surface in neutral)</td></tr> <tr> <td>Aileron</td><td>Up</td><td>20°, +1°, -0°</td><td>Down 20°, +1°, -0°</td></tr> <tr> <td>Elevator</td><td>Up</td><td>5°, +1°, -0°</td><td>Down 30°, +1°, -0°</td></tr> <tr> <td>Rudder</td><td>Right</td><td>11°, +1°, -0°</td><td>Left 16°, +1°, -0°</td></tr> <tr> <td colspan="4">(Read degrees normal to rudder hinge line)</td></tr> </table>			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)			
Wing flaps		Down	45°, +1°, -0°																																												
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Elevator	Up	25°, +1°, -0°	Down 15°, +1°, -0°																																												
Rudder	Right	32°, +1°, -0°	Left 32°, +1°, -0°																																												
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Aileron	Up	20°, +1°, -0°	Down 20°, +1°, -0°																																												
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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.:

<u>Altitude (ft.)</u>	<u>Max. Allowable Mp. (in. Hg.)</u>
18,000	39.5
20,000	37.5
22,000	35.5
24,000	33.5
25,000	32.5
26,000	31.3
28,000	28.5
30,000	25.5

VI - Model 421B (cont'd)

Propeller and

Propeller Limits

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

(CAS)

Model 421B: S/N 421B0001 through 421B0500

Maneuvering 175 m.p.h. (152 knots)

Maximum structural cruising 230 m.p.h. (200 knots)

Never exceed 274 m.p.h. (238 knots)

Landing gear operating 165 m.p.h. (143 knots)

Landing gear extended 165 m.p.h. (143 knots)

Flaps extended 15° (S/N 421B0001 through 421B0200) 180 m.p.h. (156 knots)

Flaps extended 15° (S/N 421B0201 through 421B0500) 200 m.p.h. (174 knots)

Flaps extended 45° 165 m.p.h. (143 knots)

Minimum control 100 m.p.h. (87 knots)

Model 421B: S/N 421B0501 and up

Maneuvering 152 KCAS (175 m.p.h.)

Maximum structural cruising 200 KCAS (230 m.p.h.)

Never exceed 238 KCAS (274 m.p.h.)

Landing gear operating 145 KCAS (167 m.p.h.)

Landing gear extended 145 KCAS (167 m.p.h.)

Flaps extended 15° 175 KCAS (202 m.p.h.)

Flaps extended 45° 145 KCAS (167 m.p.h.)

Minimum control (S/N 421B0501 through 421B0800) 87 KCAS (100 m.p.h.)

Minimum control (S/N 421B0801 and up) 82 KCAS (94 m.p.h.)

C.G. Range (Landing

Gear Extended)

S/N 421B0001 through 421B02006, 7, or 8 Place10 Place

(+151.8) to (+156.4) at 7250 lb. (+151.8) to (+157.7) at 7250 lb.

(+156.7) at 6850 lb. or less (+158.0) at 6850 lb. or less

(+147.1) at 6100 lb. or less (+147.1) at 6100 lb. or less

S/N 421B0201 and up

(+152.6) to (+156.5) at 7450 lb. (+152.6) to (+157.8) at 7450 lb.

(+156.7) at 7050 lb. or less (+158.0) at 7050 lb. or less

(+147.1) at 6100 lb. or less (+147.1) at 6100 lb. or less

Straight line variation between points given

Landing gear retracted moment change: +889 in.-lb.

VI - Model 421B (cont'd)

Model 421B (cont'd)	None																																																																									
Empty Wt. C.G. Range																																																																										
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	<u>S/N 421B0001 through 421B0300</u> 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) <u>S/N 421B0301 and up</u> 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	<u>S/N 421B0001 through 421B0300</u> 250 lb. (+32.0), 350 lb. (+71.0), 400 lb. (+186.0), 340 lb. (+246.5) <u>S/N 421B0301 and up</u> 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	<table><tr><td>Wing flaps</td><td></td><td></td><td>Down</td><td>45°, +1°, -0°</td></tr><tr><td>Main surfaces</td><td></td><td></td><td></td><td></td></tr><tr><td>Aileron</td><td>Up</td><td>20°, +1°, -0°</td><td>Down</td><td>20°, +1°, -0°</td></tr><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>25°, +1°, -0°</td><td>Left</td><td>25°, +1°, -0°</td></tr><tr><td></td><td></td><td></td><td></td><td>(S/N 421B0001 through 421B0800)</td></tr><tr><td></td><td>Right</td><td>32°, +1°, -0°</td><td>Left</td><td>32°, +1°, -0°</td></tr><tr><td></td><td></td><td></td><td></td><td>(S/N 421B0801 and up)</td></tr><tr><td></td><td></td><td></td><td></td><td>(Read degrees normal to rudder hinge line)</td></tr><tr><td>Tab (main surface in neutral)</td><td></td><td></td><td></td><td></td></tr><tr><td>Aileron</td><td>Up</td><td>20°, +1°, -0°</td><td>Down</td><td>20°, +1°, -0°</td></tr><tr><td>Elevator</td><td>Up</td><td>12°, +1°, -0°</td><td>Down</td><td>20°, +1°, -0°</td></tr><tr><td>Rudder</td><td>Right</td><td>11°, +1°, -0°</td><td>Left</td><td>16°, +1°, -0°</td></tr><tr><td></td><td></td><td></td><td></td><td>(Read degrees normal to rudder hinge line)</td></tr></table>				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	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)
Wing flaps			Down	45°, +1°, -0°																																																																						
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Rudder	Right	25°, +1°, -0°	Left	25°, +1°, -0°																																																																						
				(S/N 421B0001 through 421B0800)																																																																						
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				(Read degrees normal to rudder hinge line)																																																																						
Serial Nos. Eligible	421B0001 through 421B0970																																																																									

VII - Model 421C, Golden Eagle, (Normal Category), Approved October 28, 1975

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.:

<u>Altitude (ft.)</u>	<u>Max. Allowable Mp. (in. Hg.)</u>
20,000	39.0
22,000	36.5
24,000	34.0
25,000	32.5
26,000	31.0
28,000	28.0
30,000	25.0

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.
 (no further reduction permitted)
 Pitch settings at 30 in. station:
 low 16.6°, $\pm 0.2^\circ$, feathering 84.6°, $\pm 0.3^\circ$
- (b) S/N 421C0001 through 421C0800
 Hydraulic Governor McCauley DCF290D2/T6, DCFU290D2/T6,
 DCFS290D2/T6, DCFUS290D2/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
(IAS)

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><tr><td>Wing flaps</td><td></td><td></td><td>Down</td><td>45°, +1°, -0°</td></tr><tr><td>Main surfaces</td><td></td><td></td><td></td><td></td></tr><tr><td>Aileron</td><td>Up</td><td>20°, +1°, -0°</td><td>Down</td><td>20°, +1°, -0°</td></tr><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><tr><td colspan="5">(Read degrees normal to rudder hinge line)</td></tr><tr><td>Tab (main surface in neutral)</td><td></td><td></td><td></td><td></td></tr><tr><td>Aileron</td><td>Up</td><td>20°, +1°, -0°</td><td>Down</td><td>20°, +1°, -0°</td></tr><tr><td>Elevator</td><td>Up</td><td>12°, +1°, -0°</td><td>Down</td><td>20°, +1°, -0°</td></tr><tr><td>Rudder</td><td>Right</td><td>11°, +1°, -0°</td><td>Left</td><td>16°, +1°, -0°</td></tr><tr><td colspan="5">(Read degrees normal to rudder hinge line)</td></tr></table>				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	12°, +1°, -0°	Down	20°, +1°, -0°	Rudder	Right	11°, +1°, -0°	Left	16°, +1°, -0°	(Read degrees normal to rudder hinge line)				
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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

Model 174A, 174B, 174C, 174D, 174E, 174F, 174G, 174H, 174I, 174J, 174K, 174L, 174M, 174N, 174O, 174P, 174Q, 174R, 174S, 174T, 174U, 174V, 174W, 174X, 174Y, 174Z, 174AA, 174AB, 174AC, 174AD, 174AE, 174AF, 174AG, 174AH, 174AI, 174AJ, 174AK, 174AL, 174AM, 174AN, 174AO, 174AP, 174AQ, 174AR, 174AS, 174AT, 174AU, 174AV, 174AW, 174AX, 174AY, 174AZ, 174BA, 174BB, 174BC, 174BD, 174BE, 174BF, 174BG, 174BH, 174BI, 174BJ, 174BK, 174BL, 174BM, 174BN, 174BO, 174BP, 174BQ, 174BR, 174BS, 174BT, 174BU, 174BV, 174BW, 174BX, 174BY, 174BZ, 174CA, 174CB, 174CC, 174CD, 174CE, 174CF, 174CG, 174CH, 174CI, 174CJ, 174CK, 174CL, 174CM, 174CN, 174CO, 174CP, 174CQ, 174CR, 174CS, 174CT, 174CU, 174CV, 174CW, 174CX, 174CY, 174CZ, 174DA, 174DB, 174DC, 174DD, 174DE, 174DF, 174DG, 174DH, 174DI, 174DJ, 174DK, 174DL, 174DM, 174DN, 174DO, 174DP, 174DQ, 174DR, 174DS, 174DT, 174DU, 174DV, 174DW, 174DX, 174DY, 174DZ, 174EA, 174EB, 174EC, 174ED, 174EE, 174EF, 174EG, 174EH, 174EI, 174EJ, 174EK, 174EL, 174EM, 174EN, 174EO, 174EP, 174EQ, 174ER, 174ES, 174ET, 174EU, 174EV, 174EW, 174EX, 174EY, 174EZ, 174FA, 174FB, 174FC, 174FD, 174FE, 174FF, 174FG, 174FH, 174FI, 174FJ, 174FK, 174FL, 174FM, 174FN, 174FO, 174FP, 174FQ, 174FR, 174FS, 174FT, 174FU, 174FV, 174FW, 174FX, 174FY, 174FZ, 174GA, 174GB, 174GC, 174GD, 174GE, 174GF, 174GG, 174GH, 174GI, 174GJ, 174GK, 174GL, 174GM, 174GN, 174GO, 174GP, 174GQ, 174GR, 174GS, 174GT, 174GU, 174GV, 174GW, 174GX, 174GY, 174GZ, 174HA, 174HB, 174HC, 174HD, 174HE, 174HF, 174HG, 174HH, 174HI, 174HJ, 174HK, 174HL, 174HM, 174HN, 174HO, 174HP, 174HQ, 174HR, 174HS, 174HT, 174HU, 174HV, 174HW, 174HX, 174HY, 174HZ, 174IA, 174IB, 174IC, 174ID, 174IE, 174IF, 174IG, 174IH, 174II, 174IJ, 174IK, 174IL, 174IM, 174IN, 174IO, 174IP, 174IQ, 174IR, 174IS, 174IT, 174IU, 174IV, 174IW, 174IX, 174IY, 174IZ, 174JA, 174JB, 174JC, 174JD, 174JE, 174JF, 174JG, 174JH, 174JI, 174JJ, 174JK, 174JL, 174JM, 174JN, 174JO, 174JP, 174JQ, 174JR, 174JS, 174JT, 174JU, 174JV, 174JW, 174JX, 174JY, 174JZ, 174KA, 174KB, 174KC, 174KD, 174KE, 174KF, 174KG, 174KH, 174KI, 174KJ, 174KK, 174KL, 174KM, 174KN, 174KO, 174KP, 174KQ, 174KR, 174KS, 174KT, 174KU, 174KV, 174KW, 174KX, 174KY, 174KZ, 174LA, 174LB, 174LC, 174LD, 174LE, 174LF, 174LG, 174LH, 174LI, 174LJ, 174LK, 174LL, 174LM, 174LN, 174LO, 174LP, 174LQ, 174LR, 174LS, 174LT, 174LU, 174LV, 174LW, 174LX, 174LY, 174LZ, 174MA, 174MB, 174MC, 174MD, 174ME, 174MF, 174MG, 174MH, 174MI, 174MJ, 174MK, 174ML, 174MN, 174MO, 174MP, 174MQ, 174MR, 174MS, 174MT, 174MU, 174MV, 174MW, 174MX, 174MY, 174MZ, 174NA, 174NB, 174NC, 174ND, 174NE, 174NF, 174NG, 174NH, 174NI, 174NJ, 174NK, 174NL, 174NM, 174NN, 174NO, 174NP, 174NQ, 174NR, 174NS, 174NT, 174NU, 174NV, 174NW, 174NX, 174NY, 174NZ, 174OA, 174OB, 174OC, 174OD, 174OE, 174OF, 174OG, 174OH, 174OI, 174OJ, 174OK, 174OL, 174OM, 174ON, 174OO, 174OP, 174OQ, 174OR, 174OS, 174OT, 174OU, 174OV, 174OW, 174OX, 174OY, 174OZ, 174PA, 174PB, 174PC, 174PD, 174PE, 174PF, 174PG, 174PH, 174PI, 174PJ, 174PK, 174PL, 174PM, 174PN, 174PO, 174PP, 174PQ, 174PR, 174PS, 174PT, 174PU, 174PV, 174PW, 174PX, 174PY, 174PZ, 174QA, 174QB, 174QC, 174QD, 174QE, 174QF, 174QG, 174QH, 174QI, 174QJ, 174QK, 174QL, 174QM, 174QN, 174QO, 174QP, 174QQ, 174QR, 174QS, 174QT, 174QU, 174QV, 174QW, 174QX, 174QY, 174QZ, 174RA, 174RB, 174RC, 174RD, 174RE, 174RF, 174RG, 174RH, 174RI, 174RJ, 174RK, 174RL, 174RM, 174RN, 174RO, 174RP, 174RQ, 174RR, 174RS, 174RT, 174RU, 174RV, 174RW, 174RX, 174RY, 174RZ, 174SA, 174SB, 174SC, 174SD, 174SE, 174SF, 174SG, 174SH, 174SI, 174SJ, 174SK, 174SL, 174SM, 174SN, 174SO, 174SP, 174SQ, 174SR, 174SS, 174ST, 174SU, 174SV, 174SW, 174SX, 174SY, 174SZ, 174TA, 174TB, 174TC, 174TD, 174TE, 174TF, 174TG, 174TH, 174TI, 174TJ, 174TK, 174TL, 174TM, 174TN, 174TO, 174TP, 174TQ, 174TR, 174TS, 174TT, 174TU, 174TV, 174TW, 174TX, 174TY, 174TZ, 174UA, 174UB, 174UC, 174UD, 174UE, 174UF, 174UG, 174UH, 174UI, 174UJ, 174UK, 174UL, 174UM, 174UN, 174UO, 174UP, 174UQ, 174UR, 174US, 174UT, 174UU, 174UV, 174UW, 174UX, 174UY, 174UZ, 174VA, 174VB, 174VC, 174VD, 174VE, 174VF, 174VG, 174VH, 174VI, 174VJ, 174VK, 174VL, 174VM, 174VN, 174VO, 174VP, 174VQ, 174VR, 174VS, 174VT, 174VU, 174VV, 174VW, 174VX, 174VY, 174VZ, 174WA, 174WB, 174WC, 174WD, 174WE, 174WF, 174WG, 174WH, 174WI, 174WJ, 174WK, 174WL, 174WM, 174WN, 174WO, 174WP, 174WQ, 174WR, 174WS, 174WT, 174WU, 174WV, 174WW, 174WX, 174WY, 174WZ, 174XA, 174XB, 174XC, 174XD, 174XE, 174XF, 174XG, 174XH, 174XI, 174XJ, 174XK, 174XL, 174XM, 174XN, 174XO, 174XP, 174XQ, 174XR, 174XS, 174XT, 174XU, 174XV, 174XW, 174XX, 174XY, 174XZ, 174YA, 174YB, 174YC, 174YD, 174YE, 174YF, 174YG, 174YH, 174YI, 174YJ, 174YK, 174YL, 174YM, 174YN, 174YO, 174YP, 174YQ, 174YR, 174YS, 174YT, 174YU, 174YV, 174YW, 174YX, 174YY, 174YZ, 174ZA, 174ZB, 174ZC, 174ZD, 174ZE, 174ZF, 174ZG, 174ZH, 174ZI, 174ZJ, 174ZK, 174ZL, 174ZM, 174ZN, 174ZO, 174ZP, 174ZQ, 174ZR, 174ZS, 174ZT, 174ZU, 174ZV, 174ZW, 174ZX, 174ZY, 174ZZ

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.:

<u>Altitude (ft.)</u>	<u>Max. Allowable Mp. (in. Hg.)</u>
20,000	38.0
22,000	35.2
24,000	32.3
26,000	29.8
28,000	27.4
30,000	25.0

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°, $\pm 0.2^\circ$, feathering 81.2°, $\pm 0.3^\circ$

or (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°, $\pm 0.2^\circ$
feathered 81.2°, $\pm 0.3^\circ$

VIII - Model 414A (cont'd)Propeller and
Propeller Limits

- (c) S/N 414A0001 through 414A0801
Hydraulic governor McCauley DCF290D2/T3, DCFU290D2/T3, DCFS290D4/T3, DCFUS290D4/T3, DCFS290D6/T3, DCFUS290D6/T3, DCF290D7/T3, DCFU290D7/T3, DCFU290D13/T3, DCFS290D7/T3, DCFUS290D7/T3, DCFUS290D13/T3, DCFS290D8/T3, DCFUS290D8/T3 or DCFUS290D12/T13

S/N 414AC0801 and up

Hydraulic governor McCauley DCF290D2/T3, DCFU290D2/T3, DCF290D7/T3, DCFU290D7/T3 or DCFU290D13/T3, DCFS290D9/T3, DCFUS290D9/T3

- (d) Propeller spinner and bulkhead assembly, McCauley D-3534/D-3796, or McCauley D-5212/D-5214

Airspeed Limits
(IAS)

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

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	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

414A0001 through 414A1212

IX - Model 402C, Businessliner/Utiliner, (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.

<u>Altitude (ft.)</u>	<u>Max. Allowable Mp. (in. Hg.)</u>
S.L. to	
12,000	39.0
14,000	37.2
16,000	37.2
18,000	32.0
20,000	29.5
22,000	27.0
24,000	25.0
26,000	23.0
28,000	21.0
30,000	19.0

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, DCFU290D13/T3, DCFS290D7/T3, DCFUS290D7/T3, DCFUS290D13/T3, DCFUS290D8/T3, or DCFUS290D12/T3

S/N 689, and 402C0601 and up

Hydraulic governor, Woodward B210444, C210439; McCauley DCF290D7/T3, DCFU290D7/T3 or DCFU290D13/T3, DCFS290D9/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 (IAS)	Maneuvering	150 KIAS (173 m.p.h.)
	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	<u>S/N 402C0001 through 402C0200</u> 213.4 gal. (2 wing tanks, 106.7 gal. ea., 102 gal. usable at +161.0) See NOTE 1 for data on unusable fuel <u>S/N 689, and 402C0201 and up</u> 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	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	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 Aviation turbine fuel Jet A, Jet A-1, or Jet B, JP-4, JP-5 or JP-8. For required use of anti-icing additives and emergency use of aviation gasoline, refer to the Pilot's Operating Handbook and FAA Approved Airplane Flight Manual.

Engine Limits	Operating Limits				
	Shaft Horsepower Power	Ng Gas Generator Speed (% rpm)	Indicated Torque (ft.-lbs.)	Prop. Shaft Speed (rpm)	Maximum Permissible Interturbine Temp. (°C.)
Takeoff static & max. continuous	450*	101.6	1244	1900	725
Starting (2 sec.)	--	--	--	--	1090
Maximum reverse	430	101.6	1244	1815	725

***Flat Rated:**

The engines may produce more power than that for which the airplane has been certificated.
Under these conditions, the placarded torque, 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)	V _{MO} (Max Operating)	230 knots 265 m.p.h.
	Sea level to 21,800 ft.	
	M _{MO} Above 21,800 ft.	.52 mach
	V _A (Maneuvering) at 8200 lbs.	154 knots 177 m.p.h.
	V _A (Maneuvering) at 8600 lbs.	157 knots 181 m.p.h.
	V _{FE} (Flaps extended)	
	45° (Landing)	145 knots 169 m.p.h.
	15° (Takeoff & Approach)	175 knots 201 m.p.h.
	V _{MCA} (Min. control speed) Air at 8200 lbs.	90 knots 104 m.p.h.
	V _{MCA} (Min. control speed) Air at 8600 lbs.	92 knots 106 m.p.h.
	V _{LE} (Landing gear extended)	175 knots 201 m.p.h.

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

<u>S/N 425-0001 through 425-0176</u> (See NOTE 7)		<u>S/N 425-0177</u> <u>and up</u>
Takeoff	8200 lbs.	8600 lbs.
Landing	8000 lbs.	8000 lbs.
Zero fuel	6740 lbs.	7000 lbs.
Ramp	8275 lbs.	8675 lbs.

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		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

Models 401, 401A, 401B, 402, 402A, 402B, 411, 411A, 414, 421, 421A:

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:

Subpart B and paragraphs 3.356, 3.357, 3.358, 3.359, 3.411, 3.429, 3.433, 3.434, 3.435, 3.436, 3.437, 3.445, 3.581, 3.582, 3.583, 3.584, 3.585, 3.587, 3.628, 3.666, 3.672, 3.673, 3.674, 3.675, 3.700(c), 3.728, 3.767(a) and 3.767(b). Include the following portions of FAR 23 dated February 1, 1965, as amended by 23-1 through 23-14; Subpart B and paragraphs 23.729, 23.901, 23.909, 23.951, 23.954, 23.955, 23.959, 23.973, 23.1041, 23.1043, 23.1047, 23.1143, 23.1305, 23.1387(e), 23.1435 and 23.1557(c); as amended by 23-1 through 23-21, paragraph 23.1385(c); as amended by 23-1 through 23-23, paragraph 23.1327. Add paragraph 23.1559(b) for Model 414A only. Findings of Equivalent Level of Safety were made for CAR 3.637, 3.757, and 3.778(a).

Model 402C:

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: Subpart B and paragraphs 3.356, 3.357, 3.358, 3.359, 3.411, 3.429, 3.433, 3.434, 3.435, 3.436, 3.437, 3.445, 3.581, 3.582, 3.583, 3.584, 3.585, 3.587, 3.628, 3.666, 3.672, 3.673, 3.674, 3.675, 3.700(c), 3.728, 3.767(a) and 3.767(b). Include the following portions of FAR 23 dated February 1, 1965, as amended by 23-1 through 23-14: Subpart B and paragraphs 23.729, 23.901, 23.909, 23.951, 23.954, 23.955, 23.959, 23.973, 23.1041, 23.1043, 23.1047, 23.1143, 23.1305, 23.1387(e), 23.1435, 23.1557(c), and 23.1559(b); as amended by 23-1 through 23-21, paragraph 23.1385(c); as amended by 23-1 through 23-23, paragraph 23.1327. Part 36 of the Federal Aviation Regulations dated December 1, 1969, as amended by 36-1 through 36-7. Findings of Equivalent Level of Safety were made for CAR 3.637, 3.757, and 3.778(a).

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, 3.651, 3.652, 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)
 or Angle of Attack Indicator System, Cessna Dwg. 0800302, Model 402B, 402C, 414, 414A, 421B, 421C.

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:

- (a) Fuel. 12 lb. (tip) at (+152.0) (401, 401A, 401B, 402, 402A, 402B, 411, 411A, 414, 421, 421A, 421B)
 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, 402A, 402B, 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:

	<u>Part Number</u>	<u>Hours</u>	<u>Model</u>
Windshield	5111604-1 & -2	13,200	414, 414A, 421A, 421B, 421C, 425
Windshield, heated	9910013-1	13,200	421, 421A (S/N 421A0001 through 421A0117)
Windshield, heated	9910071-1	13,200	414, 421A, 421B S/N 414-0001 through 414-0600, 421A0118 through 421B0800)
Windshield, heated	9910214-1 & -2	13,200	414, 414A, 421B, 421C (S/N 414-0601 and up, 421B0801 through 421C0800)
Windshield, heated	9910460-1 & -200	13,200	421C (S/N 421C0801 and up), 425
Upper cabin door latch pins	5111545-3	8,000	421 (S/N 421-0001 through 421-0079)
Upper cabin door latch pins	5111545-6	8,000	421 (S/N 421-0080 and up), 421A
Wing	5922125 not modified by SK425-48	10,200	425 (S/N -0002 thru -0176 except airplanes incorporating SK425-17)
Wing	5922125 not modified by SK425-48	9,300	425 (S/N -0177 and On and airplanes -0002 thru -0176 incorporating SK425-17)
Wing	5922125 modified by SK425-48	30,000	425
Wing carry-thru	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.....

	3A13
	Revision 66
	CESSNA
182	182K
182A	182L
182B	182M
182C	182N
182D	182P
182E	182Q
182F	182R
182G	R182
182H	T182
182J	TR182
182S	T182T
182T	
	November 3, 2006

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.

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

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	<ol style="list-style-type: none"> 1. Hartzell constant speed <ol style="list-style-type: none"> (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 <ol style="list-style-type: none"> (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

[illegible]

I - Model 182 (Cont'd)Propeller and
Propeller Limits (cont'd)

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 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
(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

(+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	
			1st notch	10°
	Landing		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	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	<ol style="list-style-type: none"> 1. Hartzell constant speed <ol style="list-style-type: none"> (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 <ol style="list-style-type: none"> (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 <ol style="list-style-type: none"> (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 <ol style="list-style-type: none"> (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) <ol style="list-style-type: none"> (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	Wing flaps	Takeoff	Retracted	0°	
			1st notch	10°	
			2nd notch	20°	
		Landing	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 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	<ol style="list-style-type: none"> Hartzell constant speed <ol style="list-style-type: none"> 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° Cessna spinner 0752006 Woodward governor 210065, 210105, 210155, or 210340 McCauley constant speed <ol style="list-style-type: none"> 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° Cessna spinner 0752004 Woodward governor 210065, 210105, 210155, 210345, 210452, or McCauley C290D2/T1 or C290D3/T1 Hartzell constant speed <ol style="list-style-type: none"> 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° Cessna spinner 0752619 Woodward governor 210105AF, 210340, or 210451 McCauley constant speed <ol style="list-style-type: none"> 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° Cessna spinner 0752004 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 (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				
Control Surface Movements	Wing flaps	Takeoff	Retracted	0°	
			1st notch	10°	
			2nd notch	20°	
			3rd notch	30°	
		Landing		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 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, 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)

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

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 Movements	Wing flaps Elevator tab Ailerons Elevator (relative to stabilizer) Rudder	Up 25° ±2° Up 20° ±2° Up 26° ±1° Right 24° ±1° Down 40° +1°, -2° Down 15° ±1° Down 15° ±2° Down 17° ±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 182J, 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)

Propeller and Propeller Limits	<ol style="list-style-type: none"> 1. McCauley constant speed <ol style="list-style-type: none"> (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) <ol style="list-style-type: none"> (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 (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	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 and
Propeller Limits

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. 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 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
(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

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 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	<ol style="list-style-type: none"> 1. McCauley constant speed <ol style="list-style-type: none"> (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 <ol style="list-style-type: none"> (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 <ol style="list-style-type: none"> (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 (CAS)	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)

Control Surface Movements	Wing flaps		Down	40° +1°, -2°
	Elevator tab	Up	Down	15° ±1°
	Ailerons	Up	Down	15° ±2°
	Elevator(rel. to stabilizer)	Up	Down	17° ±1°
	Rudder (parallel to 0.00 W.L.)	Right	Left	24° ±1°
	(Perpendicular to hinge line)	Right	Left	27° 13' ±1°
Serial Nos. Eligible	Model 182N: 18260056 through 18260445 (1970 Model) 18260446 through 18260825 (1971 Model)			

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	<div><div>1. McCauley constant speed</div><div><div>(a) Hub 2A34C201/90DA-8 blades</div><div>Diameter: not over 82 in., not under 80 in.</div><div>Pitch settings at 30 in. sta.: low 13°, high 24.5°</div></div><div><div>(b) Cessna spinner 0752637</div><div>(c) Woodward governor 210065, 210105, 210155, 210345, or A210452, or Garwin 34-828-01-2A, or McCauley C290D2/T1 or C290D3/T1</div></div></div> <div><div>2. McCauley constant speed</div><div><div>(a) Hub 2A34C66/90AT-8 blades</div><div>Diameter: not over 82 in., not under 80 in.</div><div>Pitch settings at 36 in. sta.: low 10.5°, high 22°</div></div><div><div>(b) Cessna spinner 0752637</div><div>(c) Woodward governor 210065, 210105, 210155, 210345, or 210452, or Garwin 34-828-01, or McCauley C290D2/T1 or C290D3/T1</div></div></div> <div><div>3. McCauley constant speed</div><div><div>(a) Hub 2A34C203/90DCA-8 blades</div><div>Diameter: not over 82 in., not under 80.5 in.</div><div>Pitch settings at 30 in. sta.: low 12.5°, high 25°</div></div><div><div>(b) Cessna spinner 0752637</div><div>(c) Woodward governor 210065, 210105, 210155, 210345, or 210452, or Garwin 34-828-01, or McCauley C290D2/T1 or C290D3/T1</div></div></div>										
*Airspeed Limits (CAS)	<div>(S/N 675, 18260826 through 18264295)</div> <table><tr><td>Maneuvering</td><td>126 m.p.h. (109 knots)</td></tr><tr><td>Maximum structural cruising</td><td>160 m.p.h. (139 knots)</td></tr><tr><td>Never exceed</td><td>198 m.p.h. (172 knots)</td></tr><tr><td>Flaps extended</td><td>110 m.p.h. (96 knots)</td></tr></table>			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)
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 (IAS) (See NOTE 5 on use of IAS)	<div>(S/N 18264296 through 18265175)</div> <table><tr><td>Maneuvering</td><td>110 knots</td></tr><tr><td>Maximum structural cruising</td><td>141 knots</td></tr><tr><td>Never exceed</td><td>176 knots</td></tr><tr><td>Flaps extended</td><td>95 knots</td></tr></table>			Maneuvering	110 knots	Maximum structural cruising	141 knots	Never exceed	176 knots	Flaps extended	95 knots
Maneuvering	110 knots										
Maximum structural cruising	141 knots										
Never exceed	176 knots										
Flaps extended	95 knots										
C.G. Range	<div>(+39.5) to (+48.5) at 2950 lb. (+33.0) to (+48.5) at 2250 lb. or less Straight line variation between points given</div>										

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 Movements	Wing flaps		Down 40° +1°, -2°	
	Elevator tab	Up 25° ±2°	Down 15° ±1°	
	Ailerons	Up 20° ±2°	Down 15° ±2°	
	Elevator (rel. to stabilizer)	Up 26° ±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°	
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 <table> <tr> <td>(a)</td><td>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°</td></tr> <tr> <td>(b)</td><td>Cessna spinner 0752637</td></tr> <tr> <td>(c)</td><td>McCauley governor C290D3/T14</td></tr> </table>	(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
(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)

*Airspeed Limits (IAS) (See NOTE 5 on use of IAS)	Maneuvering	111 knots
	Maximum structural cruising	143 knots
	Never exceed	179 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	
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	200 lb. (120 lb. at +82.0 to +108.0) (80 lb. at +108.0 to +136.0)	
Fuel Capacity	Standard Range Tanks:	
	61 gal. (56 gal. usable); two 30.5 gal. tanks in wings at +48 (S/N 18263479, 18265176 through 18266590)	
	Long Range Tanks:	
	80 gal. (75 gal. usable); two 40.0 gal. tanks in wings at +48 (S/N 18263479, 18265176 through 18266590)	
	92 gal. (88 gal. usable); two 46.0 gal. integral tanks in wings at +46.5 (S/N 18266591 through 18267715)	
	See NOTE 1 for data on unusable fuel	
Oil Capacity	12 qt. (-15.0) (6 qt. usable)	
	See NOTE 1 for data on undrainable oil	
Control Surface Movements	Wing flaps	Down 40° +1°, -2°
	Elevator tab	Up 25° ±2° Down 15° ±1°
	Ailerons	Up 20° ±2° Down 15° ±2°
	Elevator (rel. to stabilizer)	Up 26° ±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°
Serial Nos. Eligible	Model 182Q:	18265176 through 18265965 (1977 Model)
		18263479, 18265966 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**

Engine Lycoming O-540-J3C5D, rated at 235 hp.

*Fuel 100LL/100 aviation grade gasoline

*Engine Limits Full throttle for all operations, 2400 r.p.m.

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

(IAS)

(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) <u>S/N R18200002 through R18200583</u>		
	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) <u>S/N R18200001, R18200584 through R18202041</u>		
	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) <u>S/N R18200001 through R18201628 except R18200975 & R18201315</u>		
	Wing flaps		Down 40° +1°, -2°
	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) <u>S/N R18200975, R18201629 through R18201798</u>		
	Wing flaps		Down 40° +1°, -2°
	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) <u>S/N R18201315, R18201799 through R18202041</u>		
	Wing flaps		Down 38° +0°, -1°
	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	
		except R18201315	(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
- McCauley 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) McCauley 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
(IAS)
(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 (cont'd)

Oil Capacity	<u>Model 182R</u> 12 qt. (-15.0) (6 qt. usable) (through S/N 18268055) 12 qt. (-14.1) (6 qt. usable) (S/N 18268056 and on) See NOTE 1 for data on oil	<u>Model T182</u> 9 qt. (-14.8) (6 qt. usable) See NOTE 1 for data on oil
Control Surface Movements	(a) <u>S/N 18267716 through 18268055</u> Wing flaps Elevator tab Up 24° ±2° Ailerons Up 20° ±2° Elevator (rel. to stabilizer) Up 28° ±1° Rudder (parallel to 0.00 W.L.) Right 24° +0°, -1° (Perpendicular to hinge line) Right 27° 13' +0°, -1° Down 40° +1°, -2° Down 15° ±1° Down 15° ±2° Down 21° ±1° Left 24° +1°, -0° Left 27° 13' +0°, -1°	
	(b) <u>S/N 18268056 through 18268586</u> Wing flaps Elevator tab Up 24° ±2° Ailerons Up 20° ±2° Elevator (rel. to stabilizer) Up 28° ±1° Rudder (parallel to 0.00 W.L.) Right 24° +0°, -1° (Perpendicular to hinge line) Right 27° 13' +0°, -1° Down 38° +0°, -1° Down 15° ±1° Down 15° ±2° Down 21° ±1° Left 24° +0°, -1° Left 27° 13' +0°, -1°	
Serial Nos. Eligible	Model 182R/T182: 18267302, Model 182R/T182: 18268056 Model 182R/T182: 18268294 Model 182R/T182: 18268369 Model 182R/T182: 18268435 Model 182R: 18268542	18267716 through 18268055 through 18268293 through 18268368 through 18268434 through 18268541 through 18268586 (1981 Model) (1982 Model) (1983 Model) (1984 Model) (1985 Model) (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	<u>182 Series</u> 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.

Application for Type Certificate dated July 11, 1955.

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

1. Stall warning indicator, Cessna Dwg. S1672-5.

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.

Serial Numbers 613 and 33000 through 34999
 631 and 51001 through 53007
 18253008 through 18264295 except 18263479

The certificated empty weight and corresponding center of gravity location must include unusable fuel of 30 lb. (+46) on Models 182, 182E, 182F, 182G, 182H, 182J, 182K, 182L, 182M, 182N and 182P through 18264295 and 60 lb. (+46) on Models 182A, 182B, 182C and 182D and undrainable oil of 0 lb.

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°
Landing	3rd Notch	30°
	4th Notch	40°

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."

C. Applicable to Models 182E, 182F, 182G, 182H, 182J, 182K, 182L, 182M

- (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."
 (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:
 "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

	<u>Maximums</u>	
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:**

	<u>Maximums</u>	
Maneuvering speed		131 m.p.h. CAS (114 knots)
Gross weight		Takeoff 2950 lb. Landing 2800 lb.
Flight load factor		Flaps up +3.8, -1.52 Flaps down +3.5

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.

	<u>Maximums</u>	
Maneuvering speed		126 m.p.h. CAS (109 knots)
Gross weight		2950 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 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:**

	<u>Maximums</u>
Maneuvering speed (IAS)	110 knots
Gross weight	2950 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 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."
On the fuel selector valve plate: (S/N 182622251 through 18265175)
Standard range tanks: "Off. Left tank level flight only 29 gal. Both on for landing and takeoff all flight attitudes, 56 gal. Right tank level flight only 29 gal."
Long range tanks: "Off. Left tank level flight only 37 gal. Both on for landing and takeoff all flight attitudes, 75 gal. Right tank level flight only 37 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."

On the baggage door: (S/N 675, 18263476 through 18265175)
"Forward of baggage door latch, 120 lb. maximum baggage and/or auxiliary passenger.
Aft of baggage door latch, 80 lb. maximum baggage including 25 lb. maximum in baggage wall hat shelf. 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°)"

On flap control indicator (S/N 18264296 through 18265175)
"(a) 0° to 10° - (Blue color code and 140 KTS callout; also, mechanical detent at 10°)
(b) 10° 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 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.

Maximums

Maneuvering speed (IAS)	111 knots
Gross weight	2950 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 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."

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.

	<u>Maximums</u>
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 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)

(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

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."
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."

(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° - 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:
"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"

Data Pertinent to Model Items I through XII, continued**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:

Model	Engine and Cylinder Head Number				
	O-470-R	O-470-S	O-470-U	O-540-J	O-540-L
182N (1970 and 1971 Model)	3	3	N/A	N/A	N/A
182P (1972 and 1973 Model)	2	3	N/A	N/A	N/A
182P (1974 Model)	1	3	N/A	N/A	N/A
182P (1975 and 1976 Model)	N/A	3	N/A	N/A	N/A
182Q (1977 through 1980 Model)	N/A	N/A	3	N/A	N/A
182R (1981 Model through 18268160)	N/A	N/A	5	N/A	N/A
182R (18268161 through 18268586)	N/A	N/A	3	N/A	N/A
T182 (1981 Model through 1985 Model)	N/A	N/A	N/A	N/A	1
R182 (1978 and 1979 Model)	N/A	N/A	N/A	5	N/A
R182 (1980 Model through 1986 Model)	N/A	N/A	N/A	4	N/A
TR182 (1979 Model)	N/A	N/A	N/A	N/A	3
TR182 (1980 Model through 1986 Model)	N/A	N/A	N/A	N/A	5

NOTE 4.

The installation of the O-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 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

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) (1) McCauley Constant Speed (a) Propeller: B2D34C235/90DKB-8 (2 blades) Diameter: not over 82 in., not under 80.5 in. Pitch settings at 30 in. sta.: Low 17.0°, High 31.8° (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 14.9°, High 31.7° (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)	<u>Normal Category</u>		
	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	Down	38° +0°, -1°
	Elevator tab	Up 24° ± 2°	Down 15° ± 1°
	Ailerons	Up 20° ± 2°	Down 15° ± 2°
	Elevator	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)2, 23.562(c)1, 23.562(c)2, 23.562(c)3, and 23.562(c)4 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.

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 |
| (3) (2) | Throttle Control | FAR § 23.1143(g); Refer to FAA letter dated 12/19/00 |
| (5) (3) | Mixture Control | FAR § 23.1147(b); Refer to FAA letter dated 12/19/00 |
| (7) (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:

14 CFR 23.303; 23.307; 23.601; 23.1163(a)(1)(2); 23.1367 and 23.1381 as amended by Amendment 23-N/C. 14 CFR 23.1589 as amended by Amendment 23-13. 14 CFR 23.771(a) as amended by Amendment 23-14. 14 CFR 23.607 and (Electrical System) 23.1309(a)(1)(2), (c) as amended by Amendment 23-17. 14 CFR 23.1301; 23.1327 and 23.1547(e) as amended by Amendment 23-20. 14 CFR 23.1501 and 23.1541(a)(1), (a)(2), (b)(1), (b)(2) as amended by Amendment 23-21. 14 CFR 23.603 and 23.605 as amended by Amendment 23-23. 14 CFR 23.1529 as amended by Amendment 23-26. 14 CFR 23.561(e); 23.1523; 23.1581(a)(2); 23.1583(a)(1), (a)(2), (b)(h) and 23.1585(a)(b)(d) as amended by Amendment 23-34. 14 CFR 23.301 as amended by Amendment 23-42. 14 CFR 23.1322; 23.1331 and 23.1357(a)(b)(c)(d) as amended by Amendment 23-43. 14 CFR 23.305; 23.773(a)(1), (a)(2); 23.1525 and 23.1549 as amended by Amendment 23-45. 14 CFR 23.1303(a)(b)(c)(f); 23.1309(a)(1)(i), (a)(1)(ii), (a)(2), (b)(1), (b)(2)(i), (b)(2)(ii), (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); 23.1323(a), (b)(1), (b)(2), (c); 23.1329(g)(h); 23.1351(a)(1), (a)(2)(i), (b)(1)(iii), (b)(2)(3), (c)(4), (d)(1); 23.1353(a)(b)(c)(d)(e); 23.1359(c); 23.1361; 23.1365(a)(b)(d)(e)(f) and 23.1431(a)(b)(d)(e) as amended by Amendment 23-49. 14 CFR 23.1325(a), (b)(1), (b)(2)(i), (b)(3), (c)(d)(e); 23.1543(b)(c); 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. 14 CFR 23.777(a)(b); 23.955(a)(2); 23.1337(a)(1), (a)(2), (b)(1), (c) as amended by Amendment 23-51. 14 CFR 23.1305(a)(1), (a)(2), (a)(3), (b)(2), (b)(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.

Additions for the Garmin GFC-700 Automatic Flight Control System (AFCS) Only:

14 CFR 23.1335 as amended by Amendment 23-20, 14 CFR 23.1309 (a)(3), (a)(4), (f)(2); 23.1329 (a)(c)(d)(e)(f); 23.1351 (a)(2)(ii); 23.1431 (c) as amended by Amendment 23-49.

Special Conditions as follows:

No. 23-146-SC, "Special Conditions: Cessna Aircraft Company; Cessna Model 182T/T182T Airplane; Installation of Electronic Flight Instrument System and the Protection of the System From High Intensity Radiated Fields (HIRF).

Production Basis (Model 182S)

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)

Production Certificate No. 4 issued March 8, 2001. Applies to airplane serial numbers 18280945 and on. Cessna is authorized to issue airworthiness certificates under the delegation provisions of Delegation Option Authorization No. DOA-100129-CE 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. 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.

Engine	Lycoming TIO-540-AK1A. Rated 235 Horsepower		
Fuel	100/100LL minimum grade aviation gasoline		
Engine Limits	For all operations, 2,400 RPM		
Propeller	McCauley Constant Speed (a) McCauley Model B3D36C442/80VSB-1 Diameter: not over 79 inches; not under 77.5 inches Pitch settings at 30 in. sta.: Low 15.1°, High 35.4° (b) McCauley Spinner: D-7261-2 (d) (c) McCauley Governor: DC290D1/T8		
Propeller limits	Static RPM at full throttle: Not over 2400; Not Under 2300		
Airspeed Limits	Maneuvering	110 Knots IAS	(110 Knots CAS)
	Max Structural Cruising	140 Knots IAS	(137 Knots CAS)
	Never Exceed	175 Knots IAS	(170 Knots CAS)
	Flaps Extended	100 Knots IAS	(100 Knots CAS)
C.G. Range	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	<u>Normal Category</u> 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.)	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 (Qts.)	9.0 quarts at 14.8 inches forward of datum 5.0 quarts usable			
Control surface movements	Wing flaps		Down	38° +0°, -1°
	Elevator tab	Up	24° ± 2°	Down 15° ± 1°
	Ailerons	Up	20° ± 2°	Down 15° ± 2°
	Elevator	Up	28° ± 1°	Down 21° ± 1°
	(Relative to stabilizer)			
	Rudder:	Right: 24° +0°, -1° (Parallel to 0.00 W.L.)	Left: 24° +0°, -1°	
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; 23.689; 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)2, 23.562(c)1, 23.562(c)2, 23.562(c)3, and 23.562(c)4 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 36-22.

Equivalent Level of Safety Items:

(1) Throttle Control	FAR § 23.1143(g); Refer to FAA letter dated 12/19/00
(3) (2) Mixture Control	FAR § 23.1147(b); Refer to FAA letter dated 12/19/00
(5) (3) 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:

14 CFR 23.303; 23.307; 23.601; 23.1163(a)(1)(2); 23.1367 and 23.1381 as amended by Amendment 23-N/C. 14 CFR 23.1589 as amended by Amendment 23-13. 14 CFR 23.771(a) as amended by Amendment 23-14. 14 CFR 23.607 and (Electrical System) 23.1309(a)(1)(2), (c) as amended by Amendment 23-17. 14 CFR 23.1301; 23.1327 and 23.1547(e) as amended by Amendment 23-20. 14 CFR 23.1501 and 23.1541(a)(1), (a)(2), (b)(1), (b)(2) as amended by Amendment 23-21. 14 CFR 23.603 and 23.605 as amended by Amendment 23-23. 14 CFR 23.1529 as amended by Amendment 23-26. 14 CFR 23.561(e); 23.1523; 23.1581(a)(2); 23.1583(a)(1), (a)(2), (b)(h) and 23.1585(a)(b)(d) as amended by Amendment 23-34. 14 CFR 23.301 as amended by Amendment 23-42. 14 CFR 23.1322; 23.1331 and 23.1357(a)(b)(c)(d) as amended by Amendment 23-43. 14 CFR 23.305; 23.773(a)(1), (a)(2); 23.1525 and 23.1549 as amended by Amendment 23-45. 14 CFR 23.1303(a)(b)(c)(f); 23.1309(a)(1)(i), (a)(1)(ii), (a)(2), (b)(1), (b)(2)(i), (b)(2)(ii), (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); 23.1323(a), (b)(1), (b)(2), (c); 23.1329(g)(h); 23.1351(a)(1), (a)(2)(i), (b)(1)(iii), (b)(2)(3), (c)(4), (d)(1); 23.1353(a)(b)(c)(d)(e); 23.1359(c); 23.1361; 23.1365(a)(b)(d)(e)(f) and 23.1431(a)(b)(d)(e) as amended by Amendment 23-49. 14 CFR 23.1325(a), (b)(1), (b)(2)(i), (b)(3), (c)(d)(e); 23.1543(b)(c); 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. 14 CFR 23.777(a)(b); 23.955(a)(2); 23.1337(a)(1), (a)(2), (b)(1), (c) as amended by Amendment 23-51. 14 CFR 23.1305(a)(1), (a)(2), (a)(3), (b)(2), (b)(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.

Additions for the Garmin GFC-700 Automatic Flight Control System (AFCS) Only:

14 CFR 23.1335 as amended by Amendment 23-20, 14 CFR 23.1309 (a)(3), (a)(4), (f)(2); 23.1329 (a)(c)(d)(e)(f); 23.1351 (a)(2)(ii); 23.1431 (c) as amended by Amendment 23-49.

Special Conditions as follows:

No. 23-146-SC, "Special Conditions: Cessna Aircraft Company; Cessna Model 182T/T182T Airplane; Installation of Electronic Flight Instrument System and the Protection of the System From High Intensity Radiated Fields (HIRF).

Production Basis (Model T182T)

Production Certificate No. 4 issued March 8, 2001. Applies to airplane serial numbers T18208001 and on. Cessna is authorized to issue airworthiness certificates under the delegation provisions of Delegation Option Authorization No. DOA-100129-CE 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. 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.....

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

A7SO
Revision 17
Piper Aircraft, Inc
PA-34-200
PA-34-200T
PA-34-220T

August 7, 2006

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.

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Propeller and Propeller Limits (continued)

Right Engine

1 Hartzell, Hub Model HC-C2YK-2 () LE, Blade Model JC7666A-0;
 1 Hartzell, Hub Model HC-C2YK-2 () LEU, Blade Model JC7666A-0;
 1 Hartzell, Hub Model HC-C2YK-2 () LEF, Blade Model FJC7666A-0;
 1 Hartzell, Hub Model HC-C2YK-2 () LEFU, Blade Model FJC7666A-0;
 1 Hartzell, Hub Model HC-C2YK-2CLG (F), Blade Model (F) JC7666A
 (This model includes the Hartzell damper); or
 1 Hartzell, Hub Model HC-C2YK-2CLGU (F), Blade Model (F) JC7666A
 (This model includes the Hartzell damper).

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

V_{NE} (Never exceed)	217 m.p.h.	(188 knots)
V_{NO} (Maximum structural cruise)	190 m.p.h.	(165 knots)
V_A (Maneuvering, 4200 lb.)	146 m.p.h.	(127 knots)
V_A (Maneuvering, 4000 lb.)	146 m.p.h.	(127 knots)
V_A (Maneuvering, 2743 lb.)	133 m.p.h.	(115 knots)
V_{FE} (Flaps extended)	125 m.p.h.	(109 knots)
V_{LO} (Landing gear operating)		
Extension	150 m.p.h.	(130 knots)
Retract	125 m.p.h.	(109 knots)
V_{LE} (Landing gear extended)	150 m.p.h.	(130 knots)
V_{MC} (Minimum control speed)	80 m.p.h.	(69 knots)

C.G. Range (Gear Extended)

S/N 34-E4, 34-7250001 through 34-7250214 (See NOTE 3):
 (+86.4) to (+94.6) at 4000 lb.
 (+82.0) to (+94.6) at 3400 lb.
 (+80.7) to (+94.6) at 2780 lb.

S/N 34-7250215 through 34-7450220:

(+87.9) to (+94.6) at 4200 lb.

(+82.0) to (+94.6) at 3400 lb.

(+80.7) to (+94.6) at 2780 lb.

Straight line variation between points given.

Moment change due to gear retracting landing gear (-32 in.-lb.)

Empty Weight C.G. Range

None

Maximum Weight

S/N 34-E4, 34-7250001 through 34-7250214:

4000 lb.- Takeoff

4000 lb. - Landing

See NOTE 3.

<u>Maximum Weight</u>	S/N 34-7250215 through 34-7450220: 4200 lb. - Takeoff 4000 lb. - Landing					
<u>No. of Seats</u>	7 (2 at +85.5, 3 at +118.1, 2 at +155.7)					
<u>Maximum Baggage</u>	200 lb. (100 lb. at +22.5, 100 lb. at +178.7)					
<u>Fuel Capacity</u>	98 gallons (2 wing tanks) at (+93.6) (93 gallons usable) See NOTE 1 for data on system fuel.					
<u>Oil Capacity</u>	8 qts. per engine (6 qts. per engine usable) See NOTE 1 for data on system oil.					
<u>Control Surface Movements</u>	Ailerons	($\pm 2^\circ$)	Up	30°	Down	15°
	Stabilator		Up	12.5° (+0, -1°)	Down	7.5° ($\pm 1^\circ$)
	Rudder	($\pm 1^\circ$)	Left	35°	Right	35°
	Stabilator Trim Tab (Stabilator neutral)	($\pm 1^\circ$)	Down	10.5°	Up	6.5°
	Wing Flaps	($\pm 2^\circ$)	Up	0°	Down	40°
	Rudder Trim Tab (Rudder neutral)	($\pm 1^\circ$)	Left	17°	Right	22°
	Nose Wheel Travel	S/N 34-E4, 34-7250001 through 34-7350353: ($\pm 1^\circ$)	Left	21°	Right	21°
	Nose Wheel Travel	S/N 34-7450001 through 34-7450220: ($\pm 1^\circ$)	Left	27°	Right	27°
<u>Manufacturer's Serial Number</u>	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.

<u>Engines</u>	1 Teledyne Continental TSIO-360-E or TSIO-360-EB (left engine), 1 Teledyne Continental LTSIO-360-E or LTSIO-360-EB (right engine).
<u>Fuel</u>	100/130 minimum grade aviation gasoline
<u>Engine Limits</u>	For all operations, 2575 r.p.m. and 40" Hg. Manifold pressure, 200 hp @ S.L. and 215 hp @ 12,000 ft.
<u>Propeller and Propeller Limits</u>	<p><u>Left engine</u> 1 Hartzell, Hub Model BHC-C2YF-2 ()F (See NOTE 10) or BHC-C2YF-2 ()UF; Blade Model FC8459-8R or FC8459B-8R.</p> <p><u>Right engine</u> 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.</p> <p>Pitch setting at 30" station: Hub Serial Numbers prior to AN3943: High $79.3^\circ \pm 2.0^\circ$, Low $14.4^\circ \pm 0.2^\circ$ or High 80.0° to 81.5°, Low $14.4^\circ \pm 0.2^\circ$. Hub Serial Numbers AN3943 and subsequent: High 80.0° to 81.5°, Low $14.4^\circ \pm 0.2^\circ$.</p>

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} (Never exceed)	224 m.p.h.	(195 knots)
V _{NO} (Maximum structural cruise)	190 m.p.h.	(165 knots)
V _A (Maneuvering)	140 m.p.h.	(122 knots)
V _{FE} (Flaps extended)	125 m.p.h.	(109 knots)
V _{LO} (Landing gear operating)		
Extension	150 m.p.h.	(130 knots)
Retract	125 m.p.h.	(109 knots)
V _{LE} (Landing gear extended)	150 m.p.h.	(130 knots)
V _{MC} (Minimum control speed)	80 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

<u>Maximum Weight</u>	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.					
<u>No. of Seats</u>	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 <u>Club Seats</u>					
<u>Maximum Baggage</u>	200 lb. (100 lb. at +22.5, 100 lb. at +178)					
<u>Fuel Capacity</u>	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.					
<u>Oil Capacity</u>	8 qts. per engine (5 qts. per engine usable) See NOTE 1 for data on system oil.					
<u>Maximum Operating Altitude</u>	25,000 feet					
<u>Control Surface Movements</u>	Ailerons	($\pm 2^\circ$)	Up	35°	Down	20°
	Stabilator		Up	12.5° (+0°, -1°)	Down	7.5° ($\pm 1^\circ$)
	Rudder	($\pm 1^\circ$)	Left	35°	Right	35°
	Stabilator Trim Tab	($\pm 1^\circ$)	Down	10.5°	Up	6.5°
	(Stabilator neutral)					
	Wing Flaps	($\pm 2^\circ$)	Up	0°	Down	40°
	Rudder Trim Tab	($\pm 1^\circ$)	Left	25°	Right	25°
	(Rudder neutral)					
	Nose Wheel Travel	($\pm 1^\circ$)	Left	27°	Right	27°
<u>Manufacturer's Serial Number</u>	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.

<u>Engines</u>	1 Teledyne Continental TSIO-360-KB (left engine), 1 Teledyne Continental LTSIO-360-KB (right engine).
<u>Fuel</u>	100/100LL minimum grade aviation gasoline
<u>Engine Limits</u>	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)
<u>Propeller and Propeller Limits</u>	<u>Left Engine</u> 1 Hartzell, Hub Model BHC-C2YF-2 () UF, Blade Model FC8459-8R. <u>Right Engine</u> 1 Hartzell, Hub Model BHC-C2YF-2 () L () UF, Blade Model FJC8459-8R.

Propeller and Propeller Limits
(cont'd)

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)

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 _{LO} (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

<u>Maximum Weight</u>	4773 lb. - Ramp 4750 lb. - Takeoff 4513 lb. - Landing 4470 lb. - Zero Fuel See NOTE 12 and 13 for optional weights.					
<u>No. of Seats</u>	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 <u>Club Seats</u>					
<u>Maximum Baggage</u>	200 lb. (100 lb. at +22.5, 100 lb. at +178.7)					
<u>Fuel Capacity</u>	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.					
<u>Oil Capacity</u>	8 qts. per engine (5 qts. per engine usable) See NOTE 1 for data on system oil.					
<u>Maximum Operating Altitude</u>	25,000 feet					
<u>Control Surface Movements</u>	Ailerons	(±2°)	Up	35°	Down	20°
	Stabilator		Up	12.5° (+0°, -1°)	Down	7.5° (±1°)
	Rudder	(±1°)	Left	35°	Right	35°
	Stabilator Trim Tab	(±1°)	Down	10.5°	Up	6.5°
	(Stabilator neutral)					
	Wing Flaps	(±2°)	Up	0°	Down	40°
	Rudder Trim Tab	(±1°)	Left	25°	Right	25°
	(Rudder neutral)					
	Nose Wheel Travel	(±1°)	Left	27°	Right	27°
<u>Manufacturer's Serial Number</u>	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.

<u>Engines</u>	1 Teledyne Continental TSIO-360-KB (left engine), 1 Teledyne Continental LTSIO-360-KB (right engine).					
<u>Fuel</u>	100/100LL minimum grade aviation gasoline					
<u>Engine Limits</u>	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)					
<u>Propeller and Propeller Limits</u>	<u>Left Engine</u> 1 Hartzell, Hub Model BHC-C2YF-2 () UF, Blade Model FC8459-8R. <u>Right Engine</u> 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 _{LO} (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

<u>Control Surface Movements</u>	Ailerons	($\pm 2^\circ$)	Up	35°	Down	20°
	Stabilator		Up	12.5° (+0°, -1°)	Down	7.5° ($\pm 1^\circ$)
	Rudder	($\pm 1^\circ$)	Left	35°	Right	35°
	Stabilator Trim Tab	($\pm 1^\circ$)	Down	10.5°	Up	6.5°
	(Stabilator neutral)					
	Wing Flaps	($\pm 2^\circ$)	Up	0°	Down	40°
	Rudder Trim Tab	($\pm 1^\circ$)	Left	25°	Right	25°
	(Rudder neutral)					
	Nose Wheel Travel	($\pm 1^\circ$)	Left	27°	Right	27°

Manufacturer's Serial Number 3448038 through 3448079, and 3447001 through 3447029.

IIIC. - 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° \pm 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
(continued)

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 $82.1^\circ \pm 0.5^\circ$, Low $12.6^\circ \pm 0.2^\circ$ 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

<u>Control Surface Movements</u>	Ailerons	($\pm 2^\circ$)	Up	35°	Down	20°
	Stabilator		Up	12.5° (+0°, -1°)	Down	7.5° ($\pm 1^\circ$)
	Rudder	($\pm 1^\circ$)	Left	35°	Right	35°
	Stabilator Trim	($\pm 1^\circ$)	Down	10.5°	Up	6.5°
	Tab (Stabilator neutral)					
	Wing Flaps		Up	0° ($\pm 1^\circ$)	Down	40° ($\pm 2^\circ$)
	Rudder Trim					
	Tab	($\pm 1^\circ$)	Left	26°	Right	26°
	(Rudder neutral)					
	Nose Wheel Travel (Maximum)		Left	27°	Right	27°

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):

FAR 23 as amended by Amendment 23-6 effective August 1, 1967; FAR 23.901, 23.909, 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 23.959 as amended by Amendment 23-18 effective May 2, 1977; FAR 23.175(a), 23.201, 23.203, 23.1557(c)(1) and 23.1581 as amended by Amendment 23-21 effective March 1, 1978; FAR 23.1545(a) as amended by Amendment 23-23 effective December 1, 1978; FAR 23.1529 as amended by Amendment 23-26 effective October 14, 1980; FAR 23.1322 as amended by Amendment 23-43 effective May 10, 1993; FAR 23.207 as amended by Amendment 23-45 effective September 7, 1993; Removal of FAR 23.205 per Amendment 23-50 effective March 11, 1996; FAR 23.1305(b)(4)(ii) as amended by Amendment 23-52 effective July 25, 1996; and FAR 36, Appendix G through Amendment 36-16 effective December 18, 1988.

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.

For aircraft equipped with Piper factory installed Avidyne Entegra Systems, the additional certification basis for installation specific items only is: FAR 23.395(a)(b)(c), 23.683(a)(1)(2)(3)(b)(1) and 23.867(b)(1)(2) as amended by Amendment 23-7 effective September 14, 1969; FAR 23.771(a) as amended by Amendment 23-14 effective December 20, 1973; FAR 23.1301 and 23.1327 as amended by Amendment 23-20 effective September 1, 1977; FAR 23.1501 and 23.1541(a)(1)(2)(b)(1)(2) as amended by Amendment 23-21 effective March 1, 1978; FAR 23.603 and 23.605(a) as amended by Amendment 23-23 effective October 10, 1978; FAR 23.1523 as amended by Amendment 23-34 effective February 17, 1987; FAR 23.1322, 23.1331 and 23.1357(a)(2)(b)(c)(d) as amended by Amendment 23-43 effective May 10, 1993; FAR 23.305, 23.397(a)(b), 23.613, 23.773(a)(1)(2), 23.1525 and 23.1549(a)(b)(c)(d) as amended by Amendment 23-45 effective September 7, 1993; FAR 23.301, 23.337(a)(1)(b)(1), 23.341(a), 23.473, 23.561(b)(3)(e), 23.607 and 23.611 as amended by Amendment 23-48 effective March 11, 1996; FAR 23.1303(a)(b)(f), 23.1309(a)(1)(3)(b)(c)(1)(2)(i)(iii)(3)(d)(e), 23.1311(a)(2)(3)(4)(5)(6)(7)(b)(c), 23.1321(a)(b)(c)(d)(e), 23.1323(a)(c), 23.1329(d)(e)(f)(g)(h), 23.1351(a)(1)(2)(i)(b)(1)(i)(2)(3)(d), 23.1353(d)(h), 23.1359(c), 23.1361(a)(b)(1)(2)(3), 23.1365(a)(b)(d)(e)(f) and 23.1431(a)(b)(d)(e) as amended by Amendment 23-49 effective March 11, 1996; FAR 23.1325(a)(b)(1)(2)(ii), 23.1543(b)(c), 23.1545(a)(b)(1)(2)(3)(4)(5)(6)(c), 23.1555(a)(b)(c)(d), 23.1563(a)(b), 23.1581(a)(b)(2)(3)(f), 23.1583(m) and 23.1585(j) as amended by Amendment 23-50 effective March 11, 1996; FAR 23.777(a)(b), 23.955(a)(3) and 23.1337 as amended by Amendment 23-51 effective March 11, 1996; 23.1305(a)(b) as amended by Amendment 23-52 effective July 25, 1996; and Special Condition for HIRF (Docket No. CE235, Special Condition 23-175-SC), date December 1, 2005 . Eligible Serial Numbers 3449311 and 3449323 and up.

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.

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 items of equipment are required:

<u>MODEL</u>	<u>AFM/POH</u>	<u>REPORT NO.</u>	<u>APPROVED</u>	<u>SERIAL EFFECTIVITY</u>
PA-34-200 (Seneca)	AFM	VB-353	7/2/71	34-E4, 34-7250001 through 34-7250214
	AFM	VB-423	5/20/72	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
	AFM	VB-563	5/14/73	34-7450001 through 34-7450220
	AFM Supp.	VB-588	7/20/73	34-7250001 through 34-7450039 when propeller with dampers are installed
	AFM Supp.	VB-601	11/9/73	34-7250001 through 34-745017 when ice protection system is installed
PA-34-200T (Seneca II)	AFM	VB-628	7/18/74	34-7570001 through 34-7670371
	POH	VB-850	8/23/76	34-7770001 through 34-8170092
	POH	VB-1140	6/30/80	34-7770001 through 34-8170092 when Piper Kit 764-048V is installed
	AFM	VB-1245	3/9/84	34-7570001 through 34-7670371 when Piper Kit 765-110 is installed

<u>MODEL</u>	<u>AFM/POH</u>	<u>REPORT NO.</u>	<u>APPROVED</u>	<u>SERIAL EFFECTIVITY</u>
PA-34-220T (Seneca III)	POH	VB-1110	1/8/81	34-8133001 through 34-8633031, and 3433001 through 3433172
	POH	VB-1150	2/20/81	34-8133001 through 34-8633031, and 3433001 through 3433172 when Piper Kit 764-099V is installed
	POH	VB-1257	10/20/89	3448001 through 3448037
	POH	VB-1259	11/20/89	3448001 through 3448037 when Piper Kit 766-203 is installed
PA-34-220T (Seneca IV)	POH	VB-1556	11/5/93	3448038 through 3448079
	POH	VB-1558	12/6/93	3448038 through 3448079 when Piper Kit 766-283 is installed
	POH	VB-1615	7/12/95	3447001 through 3447029
	POH	VB-1620	7/12/95	3447001 through 3447029 when Piper Kit 766-608 is installed
PA-34-220T (Seneca V)	POH	VB-1638	12/6/96	3449001 and up
	POH	VB-1649	1/23/97	3449001 and up when Piper Kit 766-632 is installed
	POH	VB-1930	10/25/05	3449311 and 3449323 and up when Avidyne Entegra System is installed.

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 bulkhead 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, 34-7350300, and 34-7450187.

PA-34-200T:

34-7570074, 34-7570136, 34-7570193, 34-7570292, 34-7670045, 34-7670071, 34-7670072, 34-7670168, 34-7670261, 34-7670312, 34-7770037, 34-7770137, 34-7770206, 34-7770288, 34-7770316, 34-7770357, 34-7770367, 34-7770368, 34-7770406, 34-7870069, 34-7870098, 34-7870133, 34-7870157, 34-7870171, 34-7870172, 34-7870173, 34-7870174, 34-7870212, 34-7870213, 34-7870214, 34-7870215, 34-7870216, 34-7870217, 34-7870252, 34-7870257, 34-7870258, 34-7870313, 34-7870314, 34-7870367, 34-7870368, 34-7870369, 34-7870410, 34-7870411, 34-7870443, 34-7870444, 34-7870445, 34-7870446, 34-7870473, 34-7870474, 34-7970021, 34-7970051, 34-7970052, 34-7970087, 34-7970088, 34-7970131, 34-7970132, 34-7970133, 34-7970205, 34-7970206, 34-7970207, 34-7970374, 34-7970375, 34-7970376, 34-7970472, 34-7970473, 34-7970474, 34-7970475, 34-7970512, 34-7970513, 34-7970514, 34-8070045, 34-8070096, 34-8070097, 34-8070098, 34-8070099, 34-8070132, 34-8070202, 34-8070203, 34-8070204, 34-8070205, 34-8070276, 34-8070277, 34-8070278, 34-8070279, 34-8070280, 34-8070298, 34-8070299, 34-8070300, 34-8070301, 34-8170012, 34-8170013, 34-8170014, and 34-8170015.

PA-34-220T:

34-8133039, 34-8133083, 34-8133125, 34-8133126, 34-8133127, 34-8133128, 34-8133129, 34-8133169, 34-8133208, 34-8133209, 34-8133210, 34-8133211, 34-8133212, 34-8133240, 34-8133241, 34-8133242, 34-8133243, 34-8133244, 34-8133261, 34-8133262, 34-8133263, 34-8133264, 34-8233129, 34-8233130, 34-8233131, 34-8233132, 34-8233158, 34-8233159, 34-8233160, 34-8233161, 34-8233196, 34-8233197, 34-8233198, 34-8233199, 34-8333014, 34-8333015, 34-8333016, 34-8333017, 34-8333034, 34-8333035, 34-8333036, 34-8333037, 34-8333081, 34-8333082, 34-8333083, 34-8333084, 34-8333121, 34-8333122, 34-8333123, 34-8333124, 34-8433010, 34-8433011, 34-8433012, 34-8433013, 34-8433042, 34-8433043, 34-8433044, 34-8433045, 34-8433084, 34-8433088, 34-8533014, 34-8533015, 34-8533016, 34-8533017, 34-8633018, 3433013, 3433014, 3433015, 3433026 through 3433036, 3433039, 3433040, 3433045 through 3433088, 3433092 through 3433101, 3433103 through 3433110, 3433116 through 3433119, 3433124 through 3433127, 3433134, 3433135, 3433141 through 3433150, and 3433162 through 3433167.

- 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---

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

A11EA
Revision 10

Tiger Aircraft LLC
(American General)

AA-1
AA-1A
AA-1B
AA-1C

May 12, 2000

TYPE CERTIFICATE DATA SHEET NO. A11EA

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.

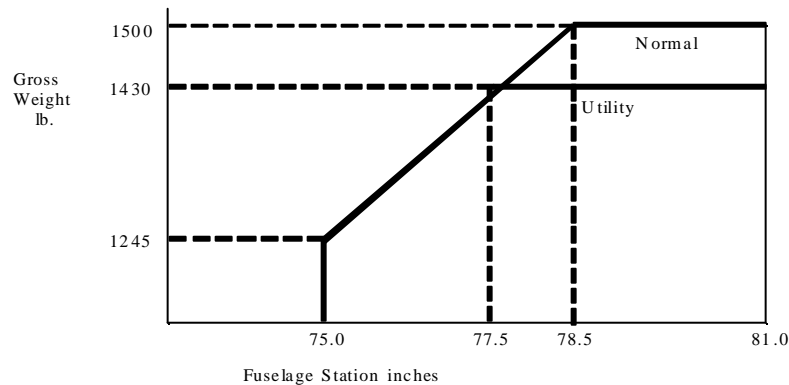
Type Certificate Holder Tiger Aircraft LLC
226 Pilot Way
Martinsburg, West Virginia 25401

I. - Model AA-1, Yankee, 2 PCLM, Utility Category, Approved August 29, 1967, Normal Category Approved July 16, 1968.

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	<ol style="list-style-type: none">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)

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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	$25^{\circ} \pm 2^{\circ}$	up	$15^{\circ} \pm 2^{\circ}$ down
	Rudder		$25^{\circ} \pm 2^{\circ}$	left $25^{\circ} \pm 2^{\circ}$ right
	Ailerons	$25^{\circ} \pm 2^{\circ}$	up	$20^{\circ} \pm 2^{\circ}$ down
	Flaps			$30^{\circ} \pm 2^{\circ}$ down
	Elevator tab trim	$21.5^{\circ} \pm 2^{\circ}$	up	$11^{\circ} \pm 2^{\circ}$ down
Serial numbers eligible	AA1-0001 and up (Normal and Utility Category)			

II - Model AA-1A, Trainer, 2 PCLM, Utility Category, Approved January 14, 1971, Normal Category Approved January 14, 1971.

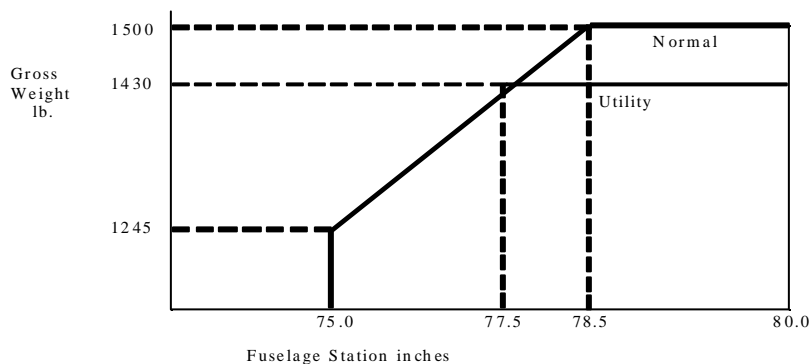
Engine	Lycoming O-235-C2C (Carburetor Setting 10-4953 or 10-3103-1)
Fuel	80/87 minimum grade aviation gasoline
Engine limits	For all operations 2600 r.p.m. (108 h.p.)
Propeller and propeller limits	<ol style="list-style-type: none"> 1. McCauley Model 1A105/SCM-7157 fixed pitch propeller. Static r.p.m. 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 _a	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.

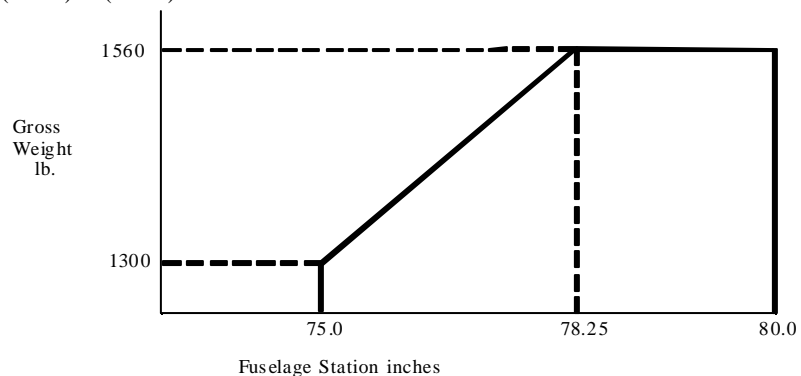


Empty weight C.G. range	None		
Maximum weight	1430 lb. (Utility Category) 1500 lb. (Normal Category)		
Number of seats	2 at (+92.5) (For optional child's seat refer to Equipment List.)		
Maximum baggage	100 lb. at (+120)		
Fuel capacity	24 gal. (2 wing tanks) at (+84.5) (See Note 1 for unusable fuel)		
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	<ol style="list-style-type: none"> 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 V_{no} Maximum structural cruising V_a Maneuvering V_{fe} Flaps extended Canopy half open	195 m.p.h. (169 knots) 144 m.p.h. (125 knots) 135 m.p.h. (117 knots) 115 m.p.h. (100 knots) 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.

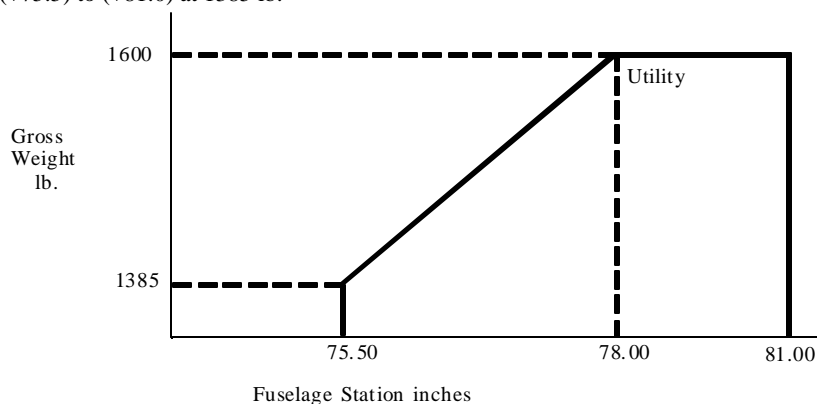


Empty weight C.G. range	None
Maximum weight	1560 lb.
Number of seats	2 at (+92.5) (For optional child's seat refer to Equipment List.)
Maximum baggage	100 lb. at (+120)
Fuel capacity	24 gal. (2 wing tanks) at (+84.5) (See Note 1 for unusable fuel)

Oil capacity	6 qt. at (+39) (2 qt. minimum)			
Control surface movements	Elevator	$25^{\circ} \pm 2^{\circ}$	up	$15^{\circ} \pm 2^{\circ}$ down
	Rudder		$25^{\circ} \pm 2^{\circ}$	left $25^{\circ} \pm 2^{\circ}$ right
	Ailerons	$25^{\circ} \pm 2^{\circ}$	up	$20^{\circ} \pm 2^{\circ}$ down
	Flaps			$30^{\circ} \pm 2^{\circ}$ down
	Elevator tab trim	$14.5^{\circ} \pm 2^{\circ}$	up	$18^{\circ} \pm 2^{\circ}$ 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	$12^{\circ} \pm 1^{\circ}$ up	$28^{\circ} \pm 2^{\circ}$ down
	Rudder	$25^{\circ} \pm 2^{\circ}$	left $25^{\circ} \pm 2^{\circ}$ right
	Ailerons	$25^{\circ} \pm 2^{\circ}$ up	$20^{\circ} \pm 2^{\circ}$ down
	Flaps		$30^{\circ} \pm 2^{\circ}$ down
	Elevator tab trim	$15^{\circ} \pm 4^{\circ}$ up	$15^{\circ} \pm 2^{\circ}$ 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. Type Certificate No. A11EA issued August 29, 1967. Data of Application for Type Certificate October 22, 1965.
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."

<u>NORMAL CATEGORY</u>	<u>AA-1</u>	<u>AA-1A</u>
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 ACROBATIC MANEUVERS INCLUDING SPINS APPROVED (AA-1 and AA-1A)

<u>UTILITY CATEGORY</u>	<u>AA-1</u>	<u>AA-1A</u>
Maximum Design Weight	1430 lb.	1430 lb.
Design Maneuvering Speed, V_a	130 mph CAS	127 mph CAS
Flight Load Factors:		
Flaps Up	+4.4, -1.76	+4.4, -1.76
Flaps Down	+2.0	+3.5

ACROBATIC MANEUVERS ARE LIMITED TO THE FOLLOWING:

<u>MANEUVER</u>	<u>ENTRY SPEED (MPH, CAS)</u>	
	<u>AA-1</u>	<u>AA-1A</u>
Chandelles	132	127
Lazy Eights	132	127
Steep Turns	132	127
Stalls (Except Whip Stalls)	Slow Deceleration	Slow Deceleration

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."

	<u>AA-1B</u>	<u>AA-1C</u>
Maximum Design Weight	1560 Lb.	1600 Lb.
Design Maneuvering Speed, V_a	135 Mph Cas	117 Knots Cas
Flight Load Factors:		
Flaps Up	+4.4, -1.76	+4.4, -1.76
Flaps Down	+3.5	+3.5

ACROBATIC MANEUVERS ARE LIMITED TO THE FOLLOWING:

<u>MANEUVER</u>	<u>ENTRY SPEED (MPH, CAS)</u>	<u>ENTRY SPEED (KNOTS, CAS)</u>
	<u>AA-1B</u>	<u>AA-1C</u>
Chandelles	135	117
Lazy Eights	135	117
Steep Turns	135	117
Stalls (Except Whip Stalls)	Slow Deceleration	Slow Deceleration
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....

1A6
Revision 34
Piper Aircraft, Inc

PA-22
PA-22-108
PA-22-135
PA-22S-135
PA-22-150
PA-22S-150
PA-22-160
PA-22S-160

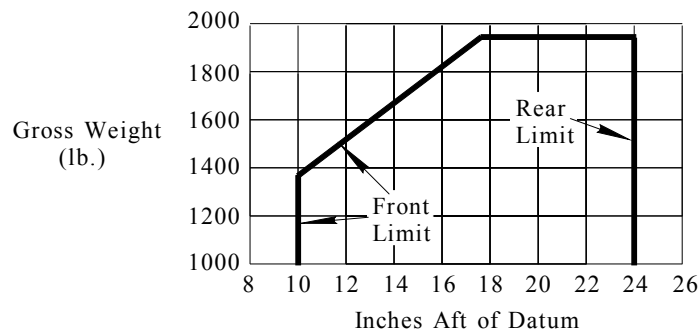
August 7, 2006

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<u>Number Seats</u>	4	(2 at +19.5 and 2 at +49)	
<u>Maximum Baggage</u>	50 lb.	(+67)	
<u>Fuel Capacity</u>	36 gallons	(2 Wing tanks at +24)	
<u>Oil Capacity</u>	2 gallons	(-29)	
<u>Control Surface Movements</u>	Stabilizer	1° Up	6½° Down
	Elevator	24° Up	12° Down
	Aileron	15° Up	15° Down
	Rudder	16° Right	16° Left
	Flap	40° Down	
<u>Serial Numbers Eligible</u>	22-1 and up.		
<u>Required Equipment</u>	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

<u>Engine</u>	Lycoming O-290-D2		
<u>Fuel</u>	80/87 minimum grade aviation gasoline		
<u>Engine Limits</u>	For all operations, 2600 rpm (135 hp)		
<u>Airspeed Limits</u>	V_{ne} (never exceed)	158 mph	(137 knots)
<u>(CAS)</u>	V_{no} (maximum structural cruising)	126 mph	(110 knots)
	V_p (maneuvering)	106 mph	(92 knots)
	V_{fe} (flaps extended)	80 mph	(70 knots)
<u>C. G. Range</u>	(+17.5) to (+24.0) at 1950 lb. (+10.0) to (+24.0) at 1380 lb. or less Straight line variation between points given.		



<u>Empty Weight C. G. Range</u>	None
<u>Maximum Weight</u>	1950 lb.
<u>Number of Seats</u>	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)

<u>Control Surface Movements</u>	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

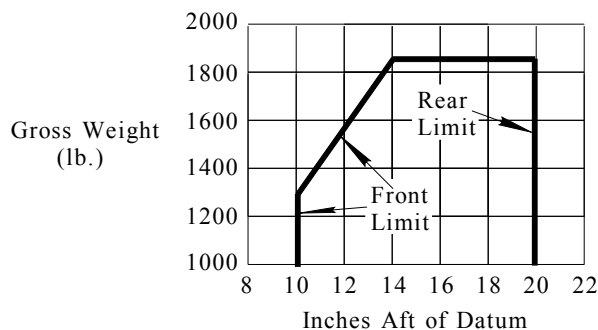
Engine Lycoming O-290-D2

Fuel 80/87 minimum grade aviation gasoline

Engine Limits For all operations, 2600 r.p.m. (135 hp)

<u>Airspeed Limits</u>	V_{ne} (never exceed)	140 mph	(122 knots)
<u>CAS</u>	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.



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)

<u>Control Surface Movements</u>	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).

IV - Model PA-22-150, 4 PCLM (Normal Category), Approved September 3, 1954.

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

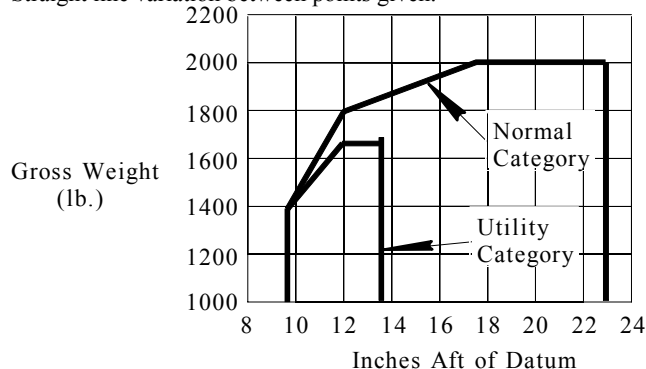
Engine Limits For all operations, 2700 r.p.m. (150 hp)

<u>Airspeed Limits</u>	V _{ne} (never exceed)	170 mph	(148 knots)
<u>CAS</u>	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.

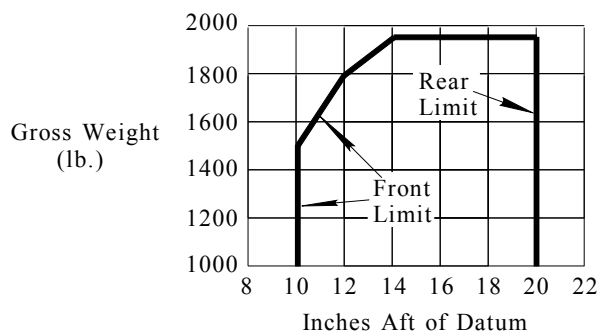
Number of Seats 4 (2 at +21 and 2 at +49)
Rear seats not to be used when operating in the Utility Category.

Maximum Baggage 100 lb. (+67) (No baggage allowed when operating in the Utility Category)

<u>Fuel Capacity</u>	36 gallons	(2 wing tanks at +24) See Item 104 for reserve tank.
<u>Oil Capacity</u>	2 gallons	(-29)
<u>Control Surface Movements</u>	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

<u>Engine</u>	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)		
<u>Fuel</u>	80/87 minimum grade aviation gasoline		
<u>Engine Limits</u>	For all operations, 2700 r.p.m. (150 hp)		
<u>Airspeed Limits</u>	V _{ne} (never exceed)	158 mph	(137 knots)
<u>CAS</u>	V _{no} (maximum structural cruising)	126 mph	(109 knots)
	V _p (maneuvering)	111 mph	(96 knots)
	V _{fe} (flaps extended)	80 mph	(70 knots)
<u>C. G. Range</u>	(+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.		



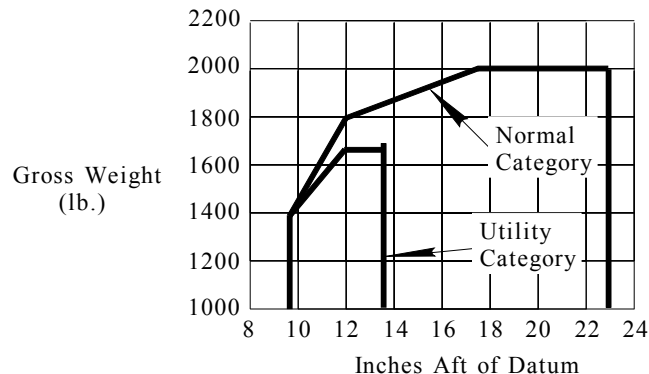
<u>Empty Weight C. G. Range</u>	None
<u>Maximum Weight</u>	1950 lb.
<u>Number Seats</u>	4 (2 at +21 and 2 at +49)
<u>Maximum Baggage</u>	100 lb. (+67)
<u>Fuel Capacity</u>	36 gallons (2 wing tanks at +24). See Item 104 for reserve tank.

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).

Model PA-22-160, 2 PCLM (Utility Category), Approved August 27, 1957 (See NOTE 3)

<u>Airspeed Limits</u>	V_{ne} (never exceed)	170 mph	(148 knots)
<u>(CAS)</u>	V_{no} (maximum structural cruising)	135 mph	(117 knots)
	V_p (maneuvering)	112 mph	(97 knots)
	V_{fe} (flaps extended)	95 mph	(82 knots)

<u>C. G. Range</u>	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.							

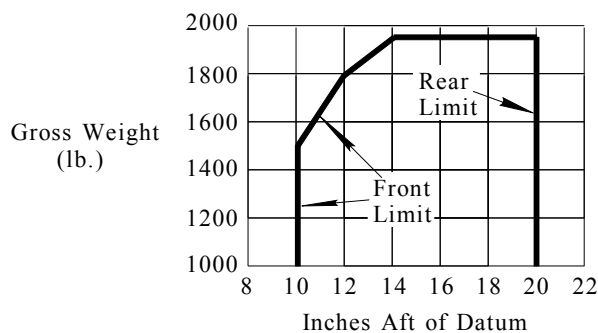


Maximum Baggage 100 lb. (+67) No baggage allowed when operating in the Utility Category.

<u>Fuel Capacity</u>	36 gallons	(2 wing tanks at +24). See Item 104 for reserve tank.
<u>Oil Capacity</u>	2 gallons	(-29)
<u>Control Surface Movements</u>	Stabilizer	1° Up 6½° Down
	Elevator	24° Up 12° Down
	Aileron	15° Up 15° Down
	Rudder	16° Right 16° Left
	Flap	40° Down
<u>Serial Numbers Eligible</u>	22-2378, 22-2425 and up (Normal Category). See NOTE 3 for Utility Category.	
<u>Required Equipment</u>	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

<u>Engine</u>	Lycoming O-320-B2A (Carburetor setting #10-3678-11, #10-3678-12) or O-320-B2B (Carburetor setting #10-3678-32).		
<u>Fuel</u>	91/96 minimum grade aviation gasoline		
<u>Engine Limits</u>	For all operations, 2700 r.p.m. (160 hp)		
<u>Airspeed Limits</u>	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)
<u>C. G. Range</u>	(+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.		

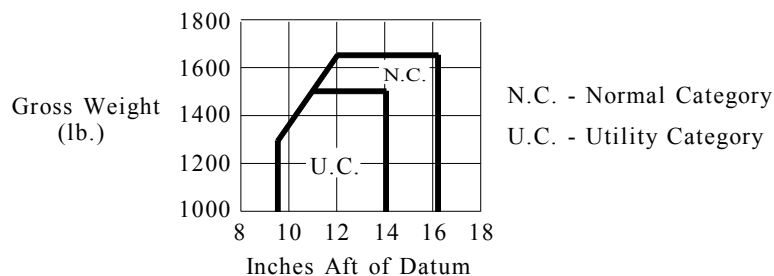


<u>Empty Weight C. G. Range</u>	None
<u>Maximum Weight</u>	1950 lb.
<u>Number of Seats</u>	4 (2 at +21 and 2 at +49)
<u>Maximum Baggage</u>	100 lb. (+67)
<u>Fuel Capacity</u>	36 gallons (2 wing tanks at +24). See Item 104 for reserve tank.

<u>Oil Capacity</u>	2 gallons	(-29)	
<u>Control Surface Movements</u>	Stabilizer	1° Up	6½° Down
	Elevator	24° Up	12° Down
	Aileron	15° Up	15° Down
	Rudder	16° Right	16° Left
	Flap	40° Down	
<u>Serial Numbers Eligible</u>	22-2378, 22-2425 and up.		
<u>Required Equipment</u>	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

<u>Engine</u>	Lycoming O-235-C1 or O-235-C1B (Carburetor setting #10-3103-1)		
<u>Fuel</u>	80/87 minimum grade aviation gasoline		
<u>Engine Limits</u>	For all operations, 2600 r.p.m. (108 hp)		
<u>Airspeed Limits (CAS)</u>	V _{ne} (never exceed)	138 mph	(120 knots)
	V _{no} (maximum structural cruising)	110 mph	(96 knots)
	V _p (maneuvering)	104 mph	(90 knots)
<u>C. G. Range</u>	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.		



<u>Empty Weight C. G. Range</u>	None			
<u>Maximum Weight</u>	Normal Category: 1650 lb. Utility Category: 1500 lb.			
<u>Number of Seats</u>	2 at (+21)			
<u>Maximum Baggage</u>	100 lb. (+45) (Normal category only)			
<u>Fuel Capacity</u>	18 gallons (+24) (See Item 108 for auxiliary tank)			
<u>Oil Capacity</u>	1.5 gallons (-29)			
<u>Control Surface</u>	Stabilizer	1° Up	6½° Down	
<u>Movements</u>	Elevator	24° Up	12° Down	
	Aileron	15° Up	15° Down	
	Rudder	16° Right	16° Left	
<u>Serial Numbers Eligible</u>	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: +11 lb. (-50)
Static r.p.m.: Not over 2400, not under 2200.
Diameter: Not over 74 inches, not under 70.5 inches
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. +34 lb. (-50)
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
5. Propeller (with Lycoming O-320-A2A or O-320-A2B engine) - Fixed pitch metal
Sensenich M74DM +30 lb. (-50)
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
6. Propeller (with Lycoming O-320-A1A or O-320-A1B engine) - constant speed
controllable +54 lb. (-50)
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 407 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.
7. Propeller (with Lycoming O-320-B2A or O-320-B2B engine) - fixed pitch metal
Sensenich M74DM +34 lb. (-50)
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.
8. Propeller (with Lycoming O-235-C1 or O-235-C1B engine) - fixed pitch metal
Sensenich M76AM-2 +25 lb. (-50)
Static r.p.m.: Not over 2450, not under 2200
Diameter: Not over 74 inches, not under 72.5 inches

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 +5 lb. (-18.5)
No. 62831 (weight includes 1 quart oil)
103. Oil Cooler Harrison No. AP13SJ03-01 or AP12CU03-01 installed in accordance +6 lb. (-46)
with Piper Dwg. 13724 or 14368
104. Reserve 8 gallons fuel tank with electric transfer fuel pump installed in accordance +12 lb. (+46)
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.
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). | +4 lb. | (-25) |
| | (c) Airborne Mechanisms Model 113A5 installed in accordance with Piper Dwg. 15163 or 15208. (PA-22-108 only). | +4 lb. | (-25) |
| 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 | | |
| | Brake Assembly No. C-2000H | | |
| 202. | Two main 4-ply rating tires, 6.00-6, Type III, with regular tubes | +17 lb. | (+31.5) |
| 205. | One nose wheel, 6.00-6, Type III | +5 lb. | (-36) |
| | (a) Cleveland Aircraft Products Wheel Assembly No. C-38500H (less brake-drum) | | |
| | (b) Cleveland Aircraft Products Wheel Assembly No. 38501 | | |
| 206. | One nose wheel 4-ply rating, tire, 6.00-6, Type III, with regular tube | +9 lb. | (-36) |
| *207. | Nose wheel centering kit installed according to Javelin Aircraft Company (Wichita, Kansas) Dwg. 723 and Installation Instructions dated April 15, 1953. | +2. lb. | (-29) |
| 208. | Skis: | | Use Actual Weight Change |
| | * (a) Federal A-2000A main skis and NA-1200A nose ski, per Federal Dwg. 11R951, Change E. | | |
| | * (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." | | |
| 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) Doyn Fiberglass wheel fairings installed in accordance with Doyn Dwg. No. 1300 and Doyn Process Specification for Fiberglass Part No. PS-100 | Nose Fairing
Main Fairing | +5.5 lb. (-36)
+15.0 lb. (+31.5) |
| or | (b) Piper wheel fairings installed in accordance with Piper Dwg. 15054 and 15058 | Nose Fairing
Main Fairing | +5.5 lb. (-36)
+15.0 lb. (+31.5) |
| or | (c) Piper wheel fairings installed in accordance with Piper Dwg. 15083 | Nose Fairing
Main Fairing | +5.5 lb. (-36)
+15.0 lb. (+31.5) |
| 211. | Two Main Wheel-Brake Assemblies, 6.00-6, Type III | | |
| | (a) Cleveland Aircraft Products, Model 20-6 (Model PA-22-108 only) | + 14.5 lb. | (+31.5) |
| | Wheel Assembly No. 40-28 | | |
| | Brake Assembly No. 30-18 | | |

Electrical Equipment

- | | | | |
|------|---|---------|-------|
| 301. | Battery - Reading S24-12V | +25 lb. | (+21) |
| 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). | +4 lb. | (+5) |
| 303. | Battery - Reading R33-12V
Serial Nos. 22-267, 22-340, 22-349, 22-350, 22-351, 22-354 through 22-7999. | +28 lb. | (+21) |

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.
- * (d) Supplement to Airplane Flight Manual dated January 17, 1952.
(Required with Item 402(a) without altitude controller.)
- * (e) Revised Supplement to Airplane Flight Manual dated January 19, 1953.
(Required with Item 402(a) without altitude controller.)
- * (f) Revised Supplement to Airplane Flight Manual dated November 18, 1953.
(Required with Item 402(b) with approach coupler.)
- (g) FAA-DOA approved Airplane Flight Manual dated May 14, 1954, for Model PA-22S-135 seaplanes equipped with Edo Model 89-2000 floats.
- (h) FAA-DOA approved Airplane Flight Manual dated September 3, 1954, for Model PA-22-150.
- (i) FAA-DOA approved Airplane Flight Manual dated September 3, 1954, for Model PA-22S-150 seaplanes equipped with Edo Model 89-2000 floats.
- (j) FAA-DOA approved Supplement No. 1 to Airplane Flight Manual dated September 3, 1954, (Required with Item 104 Auxiliary Fuel System) for Model PA-22-150.
- (k) FAA-DOA approved Supplement No. 1 to Airplane Flight Manual dated October 23, 1952, (Required with Item 104 Auxiliary Fuel System) for Model PA-22-135, Serial No. 22-534 and up.
- * (l) Supplement to Airplane Flight Manual dated November 17, 1954.
(Required with Item 404).
- * (m) Supplement to Airplane Flight Manual dated April 20, 1955. (Required with Item 405).
- (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).
- (p) FAA-DOA approved Supplement No. 1 to Airplane Flight Manual dated October 23, 1952, (Required with Item 104 Auxiliary Fuel System) for Model PA-22S-135.
- (q) FAA-DOA approved Supplement No. 1 to Airplane Flight Manual dated September 3, 1954, (Required with Item 104 Auxiliary Fuel System) for Model PA-22S-150.
- (r) FAA-DOA approved Supplement No. 3 to Airplane Flight Manual dated September 3, 1954, for Model PA-22-150 (Required with Item 407.).
- (s) FAA-DOA approved Airplane Flight Manual dated August 27, 1957, for airplanes equipped with Lycoming O-320-B2A or O-320-B2B engines.
- (t) FAA-DOA approved Supplement No. 1 to Airplane Flight Manual dated August 27, 1957, for Model PA-22-160 (Required with Item 407).
- (u) FAA-DOA approved Supplement No. 2 to Airplane Flight Manual dated August 27, 1957, for Model PA-22-160 (Required with Item 104 Auxiliary Fuel System).
- (v) FAA-DOA approved Airplane Flight Manual dated October 25, 1957, for Model PA-22S-160 seaplanes equipped with Edo Model 89-2000 floats.

- (w) FAA-DOA approved Supplement No. 1 to Airplane Flight Manual dated October 25, 1957, for Model PA-22S-160 (Required with Item 104 Auxiliary Fuel System).
 - (x) FAA-DOA approved Supplement No. 3 to Airplane Flight Manual dated August 27, 1957 (Model PA-22-160); or FAA-DOA approved Supplement No. 4 to Airplane Flight Manual dated September 3, 1954 (Model PA-22-150) (Required with Item 408 Piper AutoControl, Mitchell Model AKO-64, Automatic Pilot) for Models PA-22-150 and PA-22-160, Serial No. 22-6328, 22-6344, 22-6352 and up.
 - (y) FAA-DOA approved Airplane Flight Manual dated October 21, 1960, revised November 22, 1960, for Model PA-22-108.
 - (z) FAA-DOA approved Supplement No. 1 to Airplane Flight Manual dated October 21, 1960, (Required with Item 409 Piper AutoControl, Mitchell Model AKO-64, Automatic Pilot) for Model PA-22-108, Serial No. 22-8000 and up.
 - (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 ampere 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. +51 lb. (+63)
 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. +7 lb. (+74)
 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 no 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. +18 lb. (+94)
- *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. +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.
- *406. Deleted - November 26, 1957. Now covered by Supplemental Type Certificate No. SA1-108
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) +5 lb. (-10)
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) +5 lb. (-10)

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 put 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)

V_{ne}	(never exceed)	128 mph	(111 knots)
V_{no}	(max. structural cruising)	100 mph	(87 knots)
V_p	(maneuvering)	100 mph	(87 knots)
V_{fe}	(flaps extended)	80 mph	(70 knots)
- (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.

.....END.....

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

E-273
Revision 36
CONTINENTAL
O-470-A, -B, -E, -G, -H, -J, -K, -L, -M, -N, -P, -R, -S, -T, -U O-470-B-CI, -G-CI, K-CI, L-CI, M-CI (NOTE 6) IO-470-A, -C
September 29, 1995

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

Model	O-470-A	O-470-E	O-470-J	O-470-K, -L, -R, -S	O-470-B, -M, -N
Type	6HOA	---	---	---	---
Rating, ICAO or ARDC standard atmosphere					
Max. continuous hp, rpm, at sea level pressure altitude	225-2600	225-2600	225-2550	230-2600	240-2600
Takeoff hp, 5 min., rpm, full throttle at sea level pressure altitude	225-2600	225-2600	225-2550	230-2600	240-2600
Fuel, (aviation gasoline, minimum grade)	80/87	---	---	---	91/96
Lubricating oil, ambient air temperature: Above 40° F.	See NOTE 9	---	---	---	---
Below 40° F.	Oil Grade SAE 50	---	---	---	---
	Oil Grade SAE 30	---	---	---	---
Bore and stroke, in.	5.00 x 4.00	---	---	---	---
Displacement, cu. in.	471	---	---	---	---
Compression ratio	7:1	---	---	---	---
Weight (dry), lb.	378	390	378	404 (-K, -L) 401 (-R, -S)	410
C.G. location (basic engine)					
Fwd. of rear face, engine					
Accessory case, in.	12.8	---	---	12.0	11.3
Below crankshaft center line, in.	0.1	---	---	0.3	0.5
Beside crankshaft center line, toward 1-3-5 side, in.	===	===	===	===	0.2

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Model	O-470-A	O-470-E	O-470-J	O-470-K, -L, -R, -S	O-470-B, -M, -N
Propeller Shaft	Special integral flange 4 7/8 in. o.d. with six ½ in. bolt holes in 4 in. diameter circle	---	---	---	---
Carburetion or Fuel Injection	Marvel-Schebler MA-4-5 (TCM #535207 or 538872)	Bendix-Stromberg PSD-5C (TCM #536911)	Marvel-Schebler MA-4-5 (TCM #535207 or 538872)	Marvel-Schebler M-4-5 (TCM #539883) (-L, -K) 641139 (-S, -R)	Bendix-Stromberg PSD-5C (TCM #535503)
Ignition, dual magnetos	NOTE 13	---	---	---	---
Timing, ° BTC	26	---	20	22	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	---	---	---	---
NOTES	1, 2, 3, 4, 9, 10, 11	1, 2, 3, 4, 5, 9, 10, 11	1, 2, 3, 4, 5, 9, 10, 11	1, 2, 3, 4, 5, 6, 9, 10, 11	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11

Model	O-470-H	O-470-G, -P	IO-470-A	IO-470-C	O-470-T, -U
Type	6HOA	---	---	---	---
Rating, ICAO or ARDC standard atmosphere					
Max. continuous hp, rpm, at sea level pressure altitude	240-2600	240-2600	240-2600	250-2600	230-2400
Takeoff hp, 5 min., rpm, full throttle at sea level pressure altitude	240-2600	240-2600	240-2600	250-2600	230-2400
Fuel, (aviation gasoline, minimum grade)	91/96	---	---	---	100, 100LL or B95/130 CIS
Lubricating oil, ambient air temperature: Above 40° F.	See NOTE 9	---	---	---	---
Below 40° F.	Oil Grade SAE 50	---	---	---	---
	Oil Grade SAE 30	---	---	---	---
Bore and stroke, in.	5.00 x 4.00	---	---	---	---
Displacement, cu. in.	471	---	---	---	---
Compression ratio	8:1	---	---	---	8.6:1
Weight (dry), lb.	495	432	410	432	410 (-T)
C.G. location (basic engine)					412 (-U)
Fwd. of rear face, engine	14.2	12.0	11.3	12.0	11.76 (U-T)
Accessory case, in.					12.07 (-U)
Below crankshaft center line, in.	1.0	1.2	0.5	1.2	.88 (-T)
Beside crankshaft center line, toward 1-3-5 side, in.	0.2	0.5	0.2	0.5	.31(-U)
					.35 (-T),
					.11 (-U)
Propeller Shaft	SAE 20 Spline Extension	Special integral flange 4 7/8 in. o.d. with six ½ in. bolt holes in 4 in. diameter circle	---	---	---

Model	O-470-H	O-470-G, -P	IO-470-A	IO-470-C	O-470-T, -U
Carburetion or Fuel Injection	Berndix-Stromberg PSD-5C (TCM#535503)	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	1, 2, 3, 5, 6, 9, 10, 11	1, 2, 3, 5, 9, 10, 11	1, 2, 3, 5, 9, 10, 11	1, 2, 3, 4, 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.

O-470-G, -K, -L, -P, -R, -S, -R, -T, -U; IO-470-C

460° F.

Cylinder barrel

290° F.

Oil inlet

225° F.,

240° F. (-S, -T, -U)"

NOTE 2.

Fuel inlet and oil pressure limits:

Model		Minimum		Maximum
-A, -J, -K, -L		0.5 p.s.i.		6.0 p.s.i.
-B, -E, -G, -H, -M, -N		9.0 p.s.i.		15.0 p.s.i.
IO-470-A, O-470-B-CI, -M-CI	minus	0.75 p.s.i.	plus	1.50 p.s.i.
-G-CI	minus	2.25 p.s.i.	plus	10.0 p.s.i.
-K-CI, -L-CI	minus	1.0 p.s.i.	plus	12.0 p.s.i.
IO-470-C	minus	2.0 p.s.i.	plus	10.0 p.s.i.
O-470-R, -S		15.5 in.	gasoline	6.0 p.s.i.
O-470-T, -U		14.0 in.	gasoline	6.0 p.s.i.
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:

Original Accessory	**Direction of Rotation	Speed Ratio to Crankshaft	Max. Torque Continuous	(in.-lb.) Static	Maximum Overhang Moment (in.-lb.)
Governor	C	1.0:1	29	825	50
****Tachometer	CC	.5:1			25
Optional (2)					
Left & Right Hand	C	1.5:1	***100	800	40
Generator (Belt driven)	CC	2:1	100	800	100
Alternator (Gear driven)	CCW	3:1	150	800	150
*Fuel pump	C	1.0:1	25	680	60
Oil cooler	==	==	==	==	65
Starter:	CC	32:1	200	400	60

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.

NOTE 4. Crankshaft damper configuration: O-470-A, S/N 41000 and up, and -E, -J, -R, -S, and -T engines are equipped with one 5th and one 6th order damper.
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
AC HSR83IR, SR83IR, HSR83P, SR83P, HSR87, SR87, A88, S88, HSR88, HS88, SR88, S88D, SR88D
Auto Lite SH2M, SH15, SH15R, SH20, SH20A, SH200A, SH150
BG RB485S, 706S, RB919SR, 919SR5, RB955S
Champion RC26S, C27S, REM38P, RHM38P, RED39N, RHD39N, REM39N, RHM39N, REM40E, RHM40E, D41N, ED41N, EM41N, EM42E
Red Seal SE190, SE230, SJ190, SJ230
Models O-470-B, -G, -H, -M, -N, -P; IO-470-A
AC SR83IR, HSR83IR, HSR83P, SR83P, S86R, SR86, HSR86, SR87, HSR87
Auto Lite SH20A, SH200A, SH26, SH260, PH26, PH260
BG RB485S, RB955S
Champion RC26S, REM38E, REM38P, RHM38E, RHM38P, RED39N, REM39N, RHD39N, RHM39N, REM40E, RHM40E
Red Seal SE230, SJ230, SE270, SJ270
Model IO-470-C
AC SR83IR, HSR83IR, HSR83P, SR83P, SR86, HSR86, S86R, HSR87, SR87
Auto Lite SH26, SH260, PH26, PH260
Champion R25S, RC26CS, RED37N, REM37N, RHD37N, REM38E, REM38P, RHM38E, RHM39P, RED39N, RHD39N, RHM39N, REM40E, RHM40E, RHM37N, REM39N
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
Champion RHA32N, RHB32N, RHB32E, RHB33E, RHB36P, RHB37E, REA37N, REB37N, RHA37N, RHB37N, RHB38E, R115
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:

Two TCM/Bendix S6RN-25	None
One Ea. TCM/Bendix S6RN-201 & S6RN-205	-2 lb.
Two Bendix Scintilla 1225	-1 lb.
Two TCM S6RSC-25	None
One Ea. TCM S6RSC-201(L) & S6RSC-205(R)	None
Two Slick Electro 662	None
Two Slick Electro 680	None
Two Slick Electro 6210	-5 lb.
Two Slick model 6310	-5 lb.

.....END.....

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

P57GL
REVISION 10
McCAULEY
3AF32C(5--)
3AF34C(5--)
3AF36C(5--)
3AF37C(5--)
B3DF36C(5--)
December 7, 2004

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.

Type Certificate Holder	McCauley Accessory Division 7751 East Pawnee Wichita, KS 67207
Type	Constant speed; hydraulic (see Notes 3 and 4)
Engine Shaft	Special flange 4.00 inch B.C.
Hub Material	Aluminum Alloy
Blade Material	Aluminum Alloy
No. of Blades	Three
Hub Models	3AF34C502, 3AF34C503, 3AF32C504, 3AF32C505, 3AF32C506, 3AF32C507, 3AF32C508, 3AF32C509, 3AF37C510 3AF32C511, 3AF32C512, 3AF36C514, 3AF32C515, 3AF37C516, 3AF32C521, 3AF32C522, 3AF32C523, 3AF32C524, 3AF36C525, B3DF36C526, B3DF36C527, and 3AF32C528.

Blades (See Note 2)	Maximum Continuous		Take-Off		Diameter Limits (See Note 2)	Approx. Max. Wt. Complete (For Ref. Only)
	HP	RPM	HP	RPM		
<u>Hub Model 3AF34C502</u>						
80H[X]-0 to 80H[X]-8	215	2575	215	2575	80" - 72" (-0 to -8)	76.0 Lbs.
<u>Hub Model 3AF34C503</u>						
L80H[X]-0 to L80H[X]-8	215	2575	215	2575	80" - 72" (-0 to -8)	76.0 Lbs.
<u>Hub Models 3AF32C504, 3AF32C505, 3AF32C511, 3AF32C512, and 3AF32C528</u>						
82NE[X]-2 to 82NE[X]-8	325	2700	325	2700	80" - 74" (-2 to -8)	70.0 Lbs. 75.8 Lbs.* 73.0 Lbs.**

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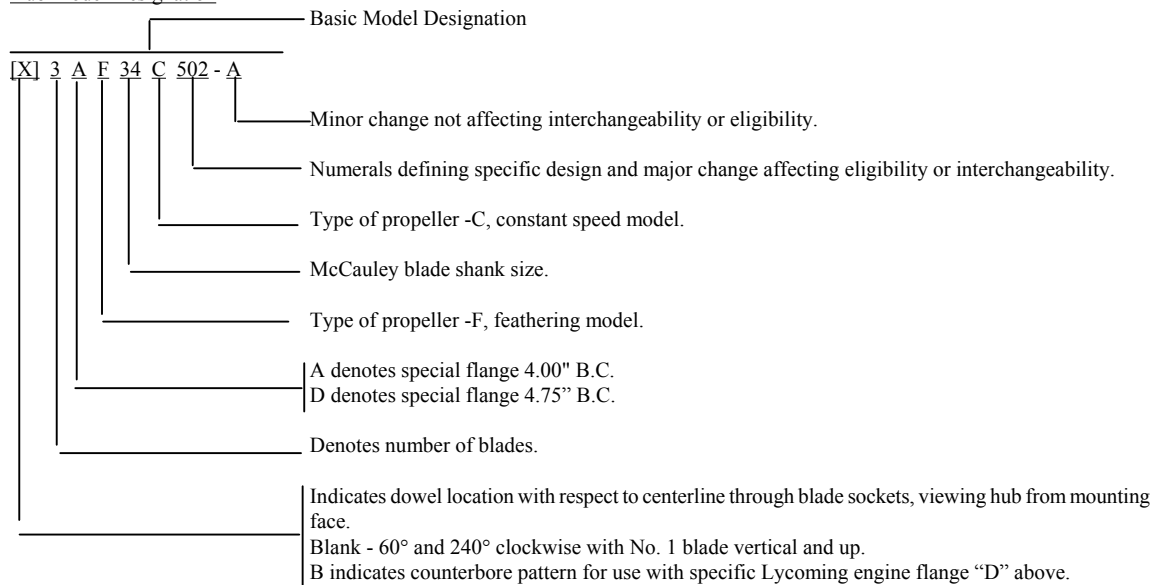
Blades (See Note 2)	Maximum Continuous HP RPM	Take-Off HP RPM	Diameter Limits (See Note 2)	Approx. Max. Wt. Complete (For Ref. Only)
<u>Hub Model 3AF32C506</u>				
82NE[X]-2 to 82NE[X]-10	250 2400	250 2400	80" - 72" (-2 to -10)	71.5 Lbs.
<u>Hub Model 3AF32C507</u>				
L82NE[X]-2 to L82NE[X]-10	250 2400	250 2400	80" - 72" (-2 to -10)	71.5 Lbs.
<u>Hub Model 3AF32C508</u>				
82NF[X]-2 to 82NF[X]-8	220 2800	220 2800	80" - 74" (-2 to -8)	69.5 Lbs.
<u>Hub Model 3AF32C509</u>				
L82NF[X]-2 to L82NF[X]-8	220 2800	220 2800	80" - 74" (-2 to -8)	69.5 Lbs.
<u>Hub Model 3AF37C510</u>				
90LF[X]-0 to 90LF[X]-10	375 2400	375 2400	90" - 80" (-0 to -10)	86.9 Lbs.
<u>Hub Model 3AF36C514 and 3AF36C525</u>				
80VMF[X]-0 to 80VMF[X]-6	350 2700	350 2700	80" - 74" (-0 to -6)	70.0 Lbs. 75.8 Lbs***.
<u>Hub Model 3AF32C515</u>				
82NL[X]-2 to 82NL[X]-8	350 2700	350 2700	80" - 74" (-2 to -8)	74.0 Lbs.
<u>Hub Model 3AF37C516</u>				
90LF[X]-0 to 90LF[X]-6	375 2275	375 2275	90" - 84" (-0 to -6)	86.9 Lbs.
<u>Hub Model 3AF32C521</u>				
82NL[X]-4 to 82NL[X]-10	350 2700	350 2700	78" - 72" (-4 to -10)	80.5 Lbs.
<u>Hub Model 3AF32C522</u>				
82NJ[X]-2 to 82NJ[X]-8	220 2800	220 2800	80" - 74" (-2 to -8)	69.5 Lbs.
<u>Hub Model 3AF32C523</u>				
L82NJ[X]-2 to L82NJ[X]-8	220 2800	220 2800	80" - 74" (-2 to -8)	69.5 Lbs.
<u>Hub Model 3AF32C524</u>				
90UM[X]-0 to 90UM[X]-8	375 2275	375 2275	90" - 74" (-0 to -16)	118.5 Lbs.

Blades (See Note 2)	Maximum Continuous HP RPM	Take-Off HP RPM	Diameter Limits (See Note 2)	Approx. Max. Wt. Complete (For Ref. Only)
<u>Hub Model B3DF36C526</u>				
80HJ[X]-0 to 80HJ[X]-8	350 2575	350 2575	80" - 72" (-0 to -8)	96.0 Lbs.
<u>Hub Model B3DF36C527</u>				
L80HJ[X]-0 to L80HJ[X]-8	350 2575	350 2575	80" - 72" (-0 to -8)	96.0 Lbs.
<u>*Higher Weight applies to -C511 model only. **Higher Weight applies to -C528 model only. ***Higher Weight applies to -C514 model only.</u>				

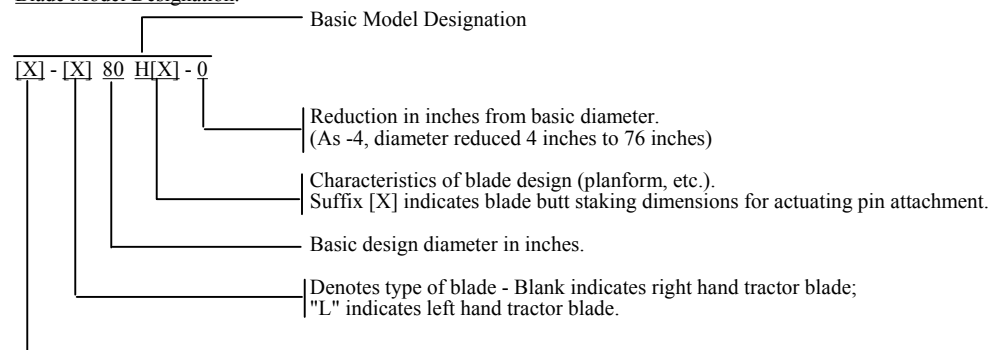
Certification Basis Type Certificate No. P57GL issued July 17, 1978, under Delegation Option Authorization Provisions of 14 CFR Part 21, Subpart J.
Date of application for Type Certificate, July 12, 1978.
Models 3AF34C502, 3AF34C503, 3AF32C504, 3AF32C505, 3AF32C508, 3AF32C509:
14 CFR Part 35 including Amendments 35-1 through 35-4 (May 2, 1977) thereto.
Models 3AF32C506, 3AF32C507, 3AF32C511, 3AF32C512, 3AF36C514:
14 CFR Part 35 including Amendments 35-1 through 35-5 (October 14, 1980) thereto.
Models 3AF37C510, 3AF32C515, 3AF37C516, 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. Hub Model Designation



NOTE 2. Blade Model Designation



Minor change not affecting interchangeability or eligibility.

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][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.
- (11) Model B3DF36C526/80HJ[X] per McCauley assembly drawing E-7527.
- (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...

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

P-920
Revision 29
Hartzell
HC-C2Y, BHC-C2Y,
CHC-C2Y, DHC-C2Y
January 24, 2007

TYPE CERTIFICATE DATA SHEET NO. P-920

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.

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)

Blades (see Note 2)	Maximum		Takeoff		Diameter Limits (see Note 2)	Approx. Max. Wt. Complete (For Reference Only) (see Notes 3 and 7)	Blade Construction (See Note 10)
	Continuous HP	RPM	HP	RPM			
Non-Counterweighted Blades - Hub models: all -1 and -2							
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” (+½ 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
	or 250	or 2700	or 250	or 2700			
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
	or 250	or 2700	or 250	or 2700			
7694-0 to 7694-10	210	2800	210	2800	76” to 66” (-0 to -10)	49.5 lb.	Aluminum Alloy
7694-4 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” (-0 to -8)	50.5 lb.	Aluminum Alloy

Blades (see Note 2)	Maximum Continuous		Takeoff		Diameter Limits (See Note 10)	Approx. Max. Wt. Complete (For Reference Only) (see Notes 3 and 7)	Blade Construction (See Note 10)
	HP	RPM	HP	RPM			
8068-0 to 8068-8	285	2700	285	2700	80" to 72" (-0 to -8)	50.0 lb.	Aluminum Alloy
8459-0 to 8459-18	260	2800	260	2800	84" to 66" (-0 to -18)	48.0 lb.	Aluminum Alloy
8465-0 to 8465-14	315	2575	315	2575	84" to 70" (-0 to -14)	50.0 lb.	Aluminum Alloy
8467-0 to 8467-12	285	2700	285	2700	84" to 72" (-0 to -12)	52.0 lb.	Aluminum Alloy
8468-0 to 8468-12	285	2700	285	2700	84" to 72" (-0 to -12)	50.0 lb.	Aluminum Alloy
8470-0 to 8470-8	260	2700	260	2700	84" to 76" (-0 to -8)	49.0 lb.	Aluminum Alloy
8475+2 to 8475-4	310	2700	310	2700	86" to 80" (+2 to -4)	52.0 lb.	Aluminum Alloy
8475-4 to 8475-6	350	2700	350	2700	80" to 78" (-4 to -6)	51.0 lb.	Aluminum Alloy
8475-6 to 8475-14	310	2700	310 or 300	2700 or 2850	78" to 70" (-6 to -14)	50.0 lb.	Aluminum Alloy
8477-0 to 8477-4	310 or 260	2575 or 2700	310 or 260	2575 or 2700	84" to 80" (-0 to -4)	54.0 lb.	Aluminum Alloy
8477-4 to 8477-6	350	2700	350	2700	80" to 78" (-4 to -6)	53.0 lb.	Aluminum Alloy
8477-6 to 8477-14	310	2700	310 or 300	2700 or 2850	78" to 70" (-6 to -14)	52.0 lb.	Aluminum Alloy
9587-0 to 9587-2	320	2200	320	2200	95" to 93" (-0 to -2)	49.5 lb.	Aluminum Alloy
9587-2 to 9587-20	320 or 300	2200 or 2400	320 or 300	2200 or 2400	93" to 75" (-2 to -20)	50.0 lb.	Aluminum Alloy
<u>Non-Counterweighted Blades - Hub model HC-C2YR-1</u>							
N7605-0 to N7605-10	215	2700	215	2700	76" to 66" (-0 to -10)	43.0 lb.	Composite
<u>Counterweighted Blades - Hub models: all -2 and -4</u>							
C7068-0 to C7068-10	300	2700	300	2700	70" to 60" (-0 to -10)	57.0 lb.	Aluminum Alloy
C7495-0 to C7495-6	250	2700	250	2700	74" to 68" (-0 to -6)	54.0 lb.	Aluminum Alloy
C7496-0 to C7496-6	250	2700	250	2700	74" to 68" (-0 to -6)	54.0 lb.	Aluminum Alloy
C7663-0 to C7663-8	210	2800	210	2800	76" to 68" (-0 to -8)	50.0 lb.	Aluminum Alloy

Blades (see Note 2)	Maximum Continuous		Takeoff		Diameter Limits (See Note 10)	Approx. Max. Wt. Complete (For Reference Only) (see Notes 3 and 7)	Blade Construction (See Note 10)
	HP	RPM	HP	RPM			
C7666-0 to C7666-8	180 or 250	2850 2700	180 or 250	2850 2700	76" to 68" (-0 to -8)	55.0 lb.	Aluminum Alloy
C7681-0 to C7681-8	250	2700	250	2700	76" to 68" (-0 to -8)	55.0 lb.	Aluminum Alloy
C7692-0 to C7692-8	180 or 250	2900 2700	180 or 250	2900 2700	76" to 68" (-0 to -8)	50.0 lb.	Aluminum Alloy
C8052-0 to C8052-8	310	2600	310	2600	80" to 72" (-0 to -8)	54.4 lb.	Aluminum Alloy
C8459-0 to C8459-12	260	2800	260	2800	84" to 72" (-0 to -12)	52.0 lb.	Aluminum Alloy
C8465-0 to C8465-14	315	2575	315	2575	84" to 70" (-0 to -14)	54.0 lb.	Aluminum Alloy
C8465-6 to C8465-14	260	2700	260	2700	78" to 70" (-6 to -14)	53.0 lb.	Aluminum Alloy
C8467-0 to C8467-12	285	2700	285	2700	84" to 72" (-0 to -12)	56.0 lb.	Aluminum Alloy
C8468-0 to C8468-12	260	2700	260	2700	84" to 72" (-0 to -12)	54.0 lb.	Aluminum Alloy
C8470-0 to C8470-8	260	2700	260	2700	84" to 76" (-0 to -8)	53.0 lb.	Aluminum Alloy
C8475+2 to C8475-4	310	2700	310	2700	86" to 80" (+2 to -4)	56.0 lb.	Aluminum Alloy
C8475-4 to C8475-6	350	2700	350	2700	80" to 78" (-4 to -6)	55.0 lb.	Aluminum Alloy
C8475-6 to C8475-14	310	2700	310 or 300	2700 2850	78" to 70" (-6 to -14)	54.0 lb.	Aluminum Alloy
C8477-0 to C8477-4	310 or 260	2575 2700	310 or 260	2575 2700	84" to 80" (-0 to -4)	58.0 lb.	Aluminum Alloy
C8477-4 to C8477-6	350	2700	350	2700	80" to 78" (-4 to -6)	57.0 lb.	Aluminum Alloy
C8477-6 to C8477-14	310	2700	310 or 300	2700 2850	78" to 70" (-6 to -14)	56.0 lb.	Aluminum Alloy
C9587-0 to C9587-2	320	2200	320	2200	95" to 93" (-0 to -2)	54.0 lb.	Aluminum Alloy
C9587-2 to C9587-20	320 or 300	2200 2400	320 or 300	2200 2400	93" to 75" (-2 to -20)	54.0 lb.	Aluminum Alloy

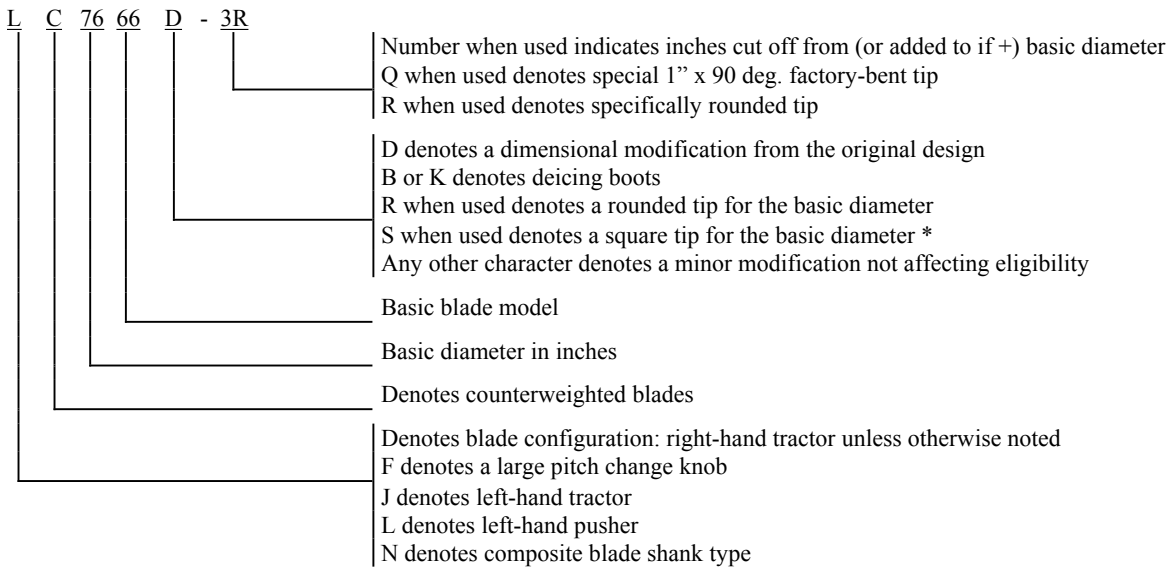
* Weights apply to -1 constant speed hub with "F" flange. Add 1.2 lb. for "L", "K" and "R" flanges, 3.0 lb. for feathering -2 hubs, 5.5 lb. for feathering -2R hubs, and 4.0 lb. for -4 model.

Certification Basis:	<p>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.</p> <p>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)</p> <p>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)</p> <p>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)</p> <p>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)</p>
Production Basis:	Production Certificate no. 10

Note 1: Hub Model Designation (See Notes 2, 4, 5 and 6)

<u>B</u>	<u>HC</u>	<u>-C</u>	<u>2</u>	<u>Y</u>	<u>F</u>	<u>-1</u>	<u>RAF</u>	<p>B denotes modified pitch change system C denotes spinner arrangement F denotes modified pitch change knob G denotes Hartzell damper system H denotes spinner mounting kit L when used denotes left hand rotation N indicates compatibility with N shank blades P when used denotes a hub unit with a "B" suffix serial number R when used denotes a large piston area U denotes feather assist spring assembly kit installed within cylinder Any other character denotes a minor change not affecting eligibility</p> <p>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</p> <p>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</p> <p>Hartzell blade shank size</p> <p>Number of blades</p> <p>Identifies basic design - C denotes no integral shaft extension</p> <p>Hartzell Controllable</p> <p>Indicates dowel location with respect to centerline through blade sockets when viewing hub from flange mounting face</p> <p>Blank: 90 & 270 deg. clockwise B: 30 & 210 deg. clockwise C: 150 & 330 deg. clockwise D: 60 & 240 deg. clockwise</p>
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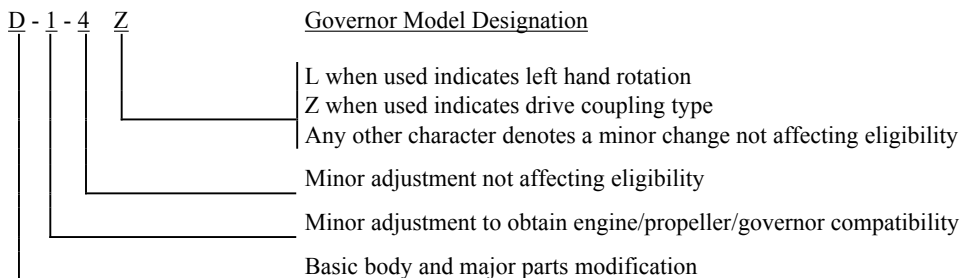
Note 2: Blade Model Designation (See Note 6)



* 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.

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.



(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.

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 5EXXXX-X, 7EXXXX-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.

Hub Model	Blade Model	Engine Model	Max. Dia. (inches)	Min. Dia. (inches)	Placards
HC-C2YR	F7068(-)	LYC IO-360-B1A, -B1B, -B1C, -B1D, -B1E, -B1F, -E1A, -F1A, LYC O-360-A1A, -A1AD, -A1C, -A1D, -A1F, -A1G, -A1H, -A1LD	68	67	Stabilized operation is prohibited above 25 inches manifold pressure between 2300-2350 RPM and below 15 inches manifold pressure above 2600 RPM
HC-C2YR	F7068	LYC O-360-A1F6, -A1F6D, -A1G6, -A1G6D, -A1H6, -F1A6, -G1A6 LYC IO-360-A1B6, -A1B6D, -A1D6, -A1D6D, -B1F6, -C1C6, -C1D6, -C1E6, -C1E6D	68	66	none
HC-C2YR-1BFP	F7497	LYC O-360-A1A, -A1C, -A1D, -A1F, -A1G, -A1H, -A1P	74	72	none
HC-C2YR-1BFP	F7497	LYC IO-360-A1A, -A1B, -A1C, -A1D, -C1A, -C1B, -C1C, -C1F, -D1A	74	72	Continuous operation is prohibited above 24 inches manifold pressure between 2350 and 2550 RPM
HC-C2YR-1BFP	F7497	LYC IO-360-A1B6, -A1B6D, -A1D6, -A1D6D, -C1C6, -C1D6, -C1E6, -C1E6D	74	72	none
BHC-C2YF	7663	TCM O-300-A, -B, -C, -D, -E	72	70	none
HC-C2YF	7663	TCM IO-346-B	76	76	none
BHC-C2YF	7663	TCM IO-360-A, -B, -C, -D, -E	76	72	none
BHC-C2YF	F7663()	TCM IO-360-H, -HB	76	72	none
HC-C2YL	7663	LYC O-290-D2A	72	70	none
HC-C2YL	7663	LYC O-320-A3A, -A3B, -A3C, -B3A, -B3B, -B3C, -C3A, -C3B, -C3C, -D1A, -D1B, -D1D, -D1F, -E1A, -E1B, -E1C, -E1F, -E1J	72	70	none
HC-C2YL	7663	LYC IO-320-A1A, -B1A, -B1B, -B1C, -B1D, -B1E, -C1A, -C1B, -D1A, -D1B, -D1C, -E1A, -E1B, -F1A	72	70	none
HC-C2YK HC-C2YR	7666 F7666	LYC O-360-A1A, -A1AD, -A1C, -A1D, -A1F, -A1G, -A1LD, -B1A, -B1B, -C1A, -C1C, -C1F, -C1G, -D1A	76	72	Avoid continuous operation between 2000 and 2250 RPM

<u>Hub Model</u>	<u>Blade Model</u>	<u>Engine Model</u>	<u>Max. Dia. (inches)</u>	<u>Min. Dia. (inches)</u>	<u>Placards</u>
HC-C2YK HC-C2YR	7666 F7666A	LYC O-360-C1E, -C1F	76	72	Avoid continuous operation between 2000 and 2350 RPM
HC-C2YK HC-C2YR	F7666A-2Q	LYC O-360-A1A, -A1C, -A1D, -A1F, -A1G, -B1A, -B1B, -C1A, -C1C, -C1F, -D1A	74	74	Avoid continuous operation between 2000 and 2250 RPM
HC-C2YK	7666	LYC IO-360-A1A, -A1B, -A1C, -C1A, -C1B, -C1C, -D1A	74	72	Avoid continuous operation between 2000 and 2350 RPM
HC-C2YK	7666	LYC IO-360-B1A, -B1C	74	72	Avoid continuous operation between 2000 and 2250 RPM
HC-C2YK HC-C2YR	F7666()-3Q	LYC IO-360-A3B6D	73	73	none
HC-C2YK HC-C2YR	F7666 F7666A	LYC O-360-E1A6D	74	72	none
HC-C2YK HC-C2YR	F7666A-2	LYC O-360-A1F6D	74	73	none
HC-C2YR	F7666A-()R	LYC TO-360-E1A6D	74	72	none
()HC-C2YK ()HC-C2YR	()7666()-4Q	LYC IO-360-B1A, -B1B, -B1D, -B1E, -B1F, -E1A, -F1A	72	72	Avoid continuous operation between 2000 and 2250 RPM
HC-C2YK HC-C2YR	F7666A-4Q	LYC O-360-A1A, -A1C, -A1D, -A1F, -A1G, -B1A, -B1B, -C1A, -C1C, -D1A	72	72	Avoid continuous operation between 2000 and 2250 RPM
HC-C2YK	F7666A-4Q	LYC IO-360-A1B6	72	72	none
HC-C2YK HC-C2YR	7666-4Q	LYC IO-360-A1A, -A1B, -A1C, -C1A, -C1B, -C1C, -D1A	72	72	Avoid continuous operation between 2000 and 2350 RPM
HC-C2YK	7666	LYC IO-360-B1A, -B1B, -B1C, -B1D, -B1E, -B1F, -E1A, -F1A	74	72	Avoid continuous operation between 2000 and 2250 RPM
HC-C2YK	7666	LYC IO-360-B1A, -B1B, -B1C, -B1D, -B1E, -B1F, -E1A, -F1A	76	74 1/2	Avoid continuous operation between 2000 and 2250 RPM
HC-C2YK HC-C2YR	7666	LYC IO-360-A1B6, -A1D6, -C1C6, -C1E6	76	76	None when used with Hartzell C-1576 damper
HC-C2YK HC-C2YR	7666	LYC IO-360-A1B6, -A1D6, -C1C6, -C1E6	76	76	Avoid continuous operation between 2000 and 2400 RPM
HC-C2YK HC-C2YR	7666	LYC O-360-F1A6	74	72	none
HC-C2YK HC-C2YR	()7666	LYC IO-360-A1B6D	74	72	none
HC-C2YK HC-C2YR	7666A F7666A	LYC IO-360-C1C	74	72 1/2	Avoid continuous operation between 2000 and 2350 RPM

<u>Hub Model</u>	<u>Blade Model</u>	<u>Engine Model</u>	<u>Max. Dia. (inches)</u>	<u>Min. Dia. (inches)</u>	<u>Placards</u>
HC-C2YK HC-C2YR	F7666A	LYC TIO-360-C1A6D LYC TO-360-C1A6D	76	75	Do not operate above 36 inches manifold pressure at engine speeds below 2400 RPM
HC-C2YK HC-C2YR	F7666	LYC IO-360-A1B6, -A1D6, -C1C6, -C1E6	74	72	none
BHC-C2YF	8052	TCM TSIO-520-BE	80	78	none
HC-C2YR-1BFP	F8068	LYC IO-540-D4A5, -D4B5, -D4C5, -T4A5D, -T4B5, -T4B5D, -T4C5D, O-540-E4A5, -E5B5, -E4C5	80	78	none
BHC-C2YF	F8459	TCM TSIO-360-E, -EB, -KB	76	75	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.
BHC-C2YF	F8459-()R	TCM TSIO-360-F, -FB, -G	76	75	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.
BHC-C2YF	F8459()-()R	TCM IO-360-ES	76	75	Avoid continuous ground operation between 1700 and 2100 RPM in cross and tail winds of over 10 knots.
HC-C2YF	8459	Franklin 6A-350-C1, -C2	80	76	none
HC-C2YL	8459	LYC O-320-A3A, -A3B, -A3C, -B3A, -B3B, -B3C, -C3A, -C3B, -C3C, -D1A, -D1B, -E1A, -E1B, -E1C, -E1F	66	66	none
HC-C2YL	8459	LYC IO-320-A1A, -B1A, -B1B, -B1C, -B1D, -B1E, -C1A, -C1B, -D1A, -D1B, -E1A, -E1B, -F1A	66	66	none
BHC-C2YF CHC-C2YF DHC-C2YF	8465	TCM IO-470-L, -LO	78	76	none
HC-C2YK HC-C2YR	8467	LYC IO-540-D4A5	77	75	Avoid continuous operation between 2500 and 2600 RPM above 25 inches manifold pressure.

<u>Hub Model</u>	<u>Blade Model</u>	<u>Engine Model</u>	<u>Max. Dia. (inches)</u>	<u>Min. Dia. (inches)</u>	<u>Placards</u>
HC-C2YK HC-C2YR	F8467-8R	LYC IO-540-E4A5	76	76	Avoid continuous operation between 2500 and 2600 RPM above 25 inches manifold pressure.
HC-C2YK HC-C2YR	F8467	LYC IO-540-R1A5 with RayJay turbocharger (up to 29 inches manifold pressure absolute)	77	75	none
HC-C2YK HC-C2YR	8467-()R	LYC O-540-B4A5, -B4B5, -E4A5, -E4B5, -E4C5	77	75	Avoid continuous operation between 2500 and 2600 RPM above 25 inches manifold pressure.
HC-C2YK HC-C2YR	8467-()R	LYC IO-540-T4A5D	77	75	none
HC-C2YF BHC-C2YF	8468	TCM O-470-R	84	80	none
HC-C2YF	8468	TCM IO-470-D, -E, -F, -G, -H, -M, -N, -R, -S	84	84	Avoid continuous operation between 2100 and 2225 RPM.
HC-C2YF	8468	TCM IO-470-D, -E, -F, -G, -H, -M, -N, -R, -S	82	80	none
HC-C2YF	8468	TCM IO-470-D, -E, -F, -G, -H, -M, -N, -R, -S	78	78	Do not exceed 23 inches manifold pressure below 2300 RPM.
BHC-C2YF	8468R	TCM IO-520-BA	84	84	none
BHC-C2YF	F8468R F8468AR	TCM IO-520-BB	84	84	none
HC-C2YL	8468 F8468 F8468R F8468AR	LYC O-320-A3A, -A3B, -A3C, -B3A, -B3B, -B3C, -C3A, -C3B, -C3C, -D1A, -D1B, -E1A, -E1B, -E1C, -E1F	80	74	none
HC-C2YL	8468-6Q	LYC O-320-A3A, -A3B, -A3C, -B3A, -B3B, -B3C, -C3A, -C3C, -D1A, -D1B, -E1A, -E1B, -E1C, -E1F	78	78	none
HC-C2YK	8468-10R	LYC TIO-360-A1A, -A1B	74	74	Avoid continuous operation between 1975 and 2200 RPM.
HC-C2YK HC-C2YR	8468	LYC O-540-B4A5, -B4B5	84	77	none
HC-C2YR	F8468AR	LYC O-540-B4B5, -J1A5D, -J3A5, LYC IO-540-W1A5, -W1A5D	81	77	none

<u>Hub Model</u>	<u>Blade Model</u>	<u>Engine Model</u>	<u>Max. Dia. (inches)</u>	<u>Min. Dia. (inches)</u>	<u>Placards</u>
HC-C2YF	8475	TCM IO-520-A, -J, TCM TSIO-520-A, -C, -G, -H	80	77	none
HC-C2YF	8475	TCM IO-520-D, -E, -F, -K, -L	78	77	none
BHC-C2YF	8475	TCM IO-520-B, -C, -CB, TCM TSIO-520-B, -D	80	77	none
BHC-C2YF	8475	TCM TSIO-520-E	78	77	none
HC-C2YK HC-C2YR	8475R	LYC IO-540-K1B5, -K1C5, -L1A5, -M1A5	84	84	none
HC-C2YK HC-C2YR	8475R	LYC IO-540-K1A5, -K1D5, -K1G5	84	78	none
HC-C2YK HC-C2YR	8475D	LYC IO-540-K1A5, -K1G5, -K1A5D, -K1G5D	83	78	none
HC-C2YK HC-C2YR	8475	LYC IO-540-K1A5, -K1B5, -K1C5, -L1A5, -M1A5	83	78	none
HC-C2YK HC-C2YR	8475	LYC TIO-540-A1A	80	80	none
HC-C2YK HC-C2YR	8475+2	LYC IO-540-K1A5, -K1B5, -K1C5, -K1D5, -L1A5, -M1A5	86	86	Do not exceed 24 inches manifold pressure between 2300 and 2475 RPM.
HC-C2YR	F8477()	LYC O-360-A1F6, -A1F6D, -A1G6, -A1G6D, -A1H6, -F1A6, -G1A6 LYC IO-360-A1B6, -A1B6D, -A1D6, -A1D6D, -B1F6, -C1C6, -C1D6, -C1E6, -C1E6D	84	78	none
HC-C2YR	F8477	LYC IO-360-A1A, -A1B, -A1C, -A1D, -B1A, -B1B, -B1D, -B1E, -B1F, -C1A, -C1B, -C1C, -C1F, -D1A LYC O-360-A1A, -A1C, -A1D, -A1F, -A1G, -A1H, -A1P, -C1A, -C1C, -C1E, -C1F, -C1G	80	78	Propeller must be equipped with Hartzell model C-1576 damper assembly.
HC-C2YK HC-C2YR	F8477-6Q	LYC IO-540-D4A5, -D4B5, -D4C5	78	78	none
HC-C2YK HC-C2YR	8477	LYC O-540-A4A5, -A4B5, -A4C5, -A4D5, -E4A5, -E4B5, -E4C5	84	76	none
HC-C2YK HC-C2YR	8477-8R	LYC O-540-A4A5, -A4B5, -A4C5, -A4D5, -E4A5, -E4B5, -E4C5	76	76	none
HC-C2YK HC-C2YR	8477	LYC O-540-G1A5	84	83	none
HC-C2YK HC-C2YR	8477	LYC IO-540-C4B5, -C4C5, -D4A5, -D4B5	84	76	none
HC-C2YK HC-C2YR	F8477D-()R	LYC O-540-A4A5, -A4B5, -A4C5, -A4D5, -E4A5 LYC IO-540-C4B5, -D4A5	84	76	none

<u>Hub Model</u>	<u>Blade Model</u>	<u>Engine Model</u>	<u>Max. Dia. (inches)</u>	<u>Min. Dia. (inches)</u>	<u>Placards</u>
HC-C2YK HC-C2YR	8477	LYC IO-540-V4A5, -V4A5D, -T4A5D, T4B5D, -T4C5D	84	76	none
HC-C2YK HC-C2YR	8477	LYC IO-540-K1A5, -K1B5, -K1C5, -K1D5, -L1A5, -M1A5	80	80	Do not exceed 23 inches manifold pressure below 2200 RPM.
HC-C2YK HC-C2YR	F8477A	LYC IO-540-K1D5	80	78	Do not exceed 23 inches manifold pressure below 2200 RPM.
HC-C2YR	F8477-4	LYC TIO-540-AB1AD	80	78	none
HC-C2YF	9587A	TCM 6-285-B, -C	95	93	Avoid continuous operation on the ground between 1900 and 2300 engine RPM in winds above 15 MPH.

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**

2A4	
Revision 46	
Twin Commander	
560-F	681
680	690
680E	685
680F	690A
720	690B
680FL	690C
680FL(P)	690D
680T	695
680V	695A
680W	695B
April 3, 2000	

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

**I - 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)

	<u>HP.</u>	<u>R.P.M.</u>	<u>M.P.</u>	<u>ALT.</u>
Takeoff	340	3400	48.0	S.L.
Takeoff	340	3400	44.5	8000
Maximum continuous	320	3200	45.0	S.L.
Maximum continuous	320	3200	43.0	8000

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

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Rev. No.	46	45	45	45	45	45	45	45	45	45	45	45	45
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Rev.No.	45	45	45	45	45	45	45	45	45	45	45	45	45
Page No.	27	28	29	30	31	32	33	34					
Rev.No.	45	46	45	45	45	45	45	46					

I - Model 680 (cont'd)

Airport 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.	(230K) True Ind.
	Flaps extended - full	130 m.p.h.	(113K) True Ind.
	Landing gear extended	180 m.p.h.	(156K) True Ind.
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 0	Down 10° ± 2 0
	Elevator tab	Up 20° ± 2 0	Down 20° ± 2 0
	Rudder	Right 20° ± 2 0	Left 20° ± 2 0
	Rudder tab	Right 26° ± 2 0	Left 26° ± 2 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	(Straight line manifold pressure variation with altitudes shown)			
	<u>HP.</u>	<u>R.P.M.</u>	<u>M.P.</u>	<u>ALT.</u>
Takeoff	340	3400	48.0	S.L.
Takeoff	340	3400	44.5	8000
Maximum continuous 320	3200	45.0	S.L.	
Maximum continuous 320	3200	43.0	8000	
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 <u>NOTE:</u> 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	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.			
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	Elevator	Up	$30^{\circ} \pm 1$ 0	Down	$10^{\circ} \pm 2$ 0
	Elevator Tab	Up	$2 \frac{1}{2}^{\circ} \pm 2$ 1/2	Down	$20^{\circ} \pm 2$ 0
	Rudder	Right	$20^{\circ} \pm 2$ 0	Left	$20^{\circ} \pm 2$ 0
	Rudder tab	Right	$26^{\circ} \pm 2$ 0	Left	$26^{\circ} \pm 2$ 0
	Aileron	Up	$23^{\circ} \pm 2$	Down	$15^{\circ} \pm 2$
	Flap outboard			Down	$40^{\circ} \pm 2$
	Flap inboard			Down	$40^{\circ} \pm 2$

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 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)				
		<u>HP</u>	<u>R.P.M.</u>	<u>M.P.</u>	<u>ALT.</u>
	Takeoff	340	3400	48.0	S.L.
	Takeoff	340	3400	44.5	8000
	Maximum continuous	320 3200	45.0	S.L.	
	Maximum continuous	320 3200	43.0	8000	

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 0	Down 10° ± 2 0
	Elevator tab	Up	2 1/2° ± 2 1/2	Down 20° ± 2 0
	Rudder	Right	20° ± 2 0	Left 20° ± 2 0
	Rudder tab	Right	26° ± 2 0	Left 26° ± 2 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)				
			<u>HP</u>	<u>R.P.M</u>	<u>M.P.</u> <u>ALT.</u>
	Takeoff (2 min.limit)	380	3400	47.0	S.L.
	Takeoff (2 min. limit)	380	3400	43.5	12,000
	Maximum continuous	360	3200	45.0	S.L.
	Maximum continuous	360	3200	40.5	11,500
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 18°, Feather 86° Diameter: (For 9349) 93.5 in. (For 9349-6.5) 87.0 in., no cutoff permitted <u>NOTE:</u> 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.				

IV - MODEL 680-F (cont'd)

- 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	Maneuvering	157 m.p.h.	(137K) 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	136 m.p.h.	(118K) True Ind.
	Landing gear extended	180 m.p.h.	(156K) True Ind.
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	Elevator	Up 30° + 1 0	Down 10° + 2 0
	Elevator tab	Up 2 1/2° + 2 0	Down 20° + 2 0
	Rudder	Right 20° + 2 0	Left 20° + 2 0
	Rudder tab	Right 26° + 2 0	Left 26° + 2 0
	Aileron	Up 23° ± 2	Down 15° ± 2
	Flap outboard		Down 40° ± 2
	Flap inboard		Down 40° ± 2
	*Elevator tab 680-F-971 and up	Down	26° ± 2 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 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		<u>HP.</u>	<u>R.P.M.</u>
	Takeoff (2 min.)	350	3400
	Minimum continuous	325	3000
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		
	<u>NOTE:</u> 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). <u>NOTE:</u> 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°		
Airspeed Limits	Diameter: 87.0 in., no cutoff permitted		
	<u>NOTE:</u> 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). <u>NOTE:</u> 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.		
	Maneuvering	155 m.p.h.	(135K) True Ind.
	Max. Struc. cruising	230 m.p.h.	(200K) True Ind.
	Never exceed	288 m.p.h.	(250K) True Ind.
C.G. Range	Flaps extended - half	150 m.p.h.	(130K) True Ind.
	Flaps extended - full	136 m.p.h.	(118K) True Ind.
	Landing gear extended	180 m.p.h.	(156K) True Ind.
	Effect of retracting landing gear +10,073 in.-lb.		
	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 0	Down 10° ± 2 0
	Elevator tab	Up	2 1/2° ± 2 1/2	Down 26° ± 2 0
	Rudder	Right	20° ± 2 0	Left 20° ± 2 0
	Rudder tab	Right	26° ± 2 0	Left 26° ± 2 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 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

(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)			
		<u>HP</u>	<u>R.P.M.</u>	<u>M.P.</u> <u>ALT.</u>
	Takeoff (2 min. limit)	380	3400	47.0 S.L.
	Takeoff (2 min. limit)	380	3400	43.5 12,000
	Maximum continuous	360	3200	45.0 S.L.
	Maximum continuous	360	3200	40.5 11,500
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 <u>NOTE:</u> 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.			

VI - Model 680-FL (cont'd)

- 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 (Gear extended)	<u>Weight</u>	<u>Fwd.</u>		<u>Aft.</u>	
	<u>lb.</u>	<u>Sta.(in)</u>	<u>% MAC</u>	<u>Sta.(in)</u>	<u>% MAC</u>
	Up to 7000	203.0	10	218.4	32
	8000	206.5	15	218.4	32
	8500	208.3	17.5	218.4	32
	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	30° ± 1	Down	10° ± 2
		0		0
Elevator tab	Up	2 1/2° ± 2	Down	26° ± 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
				40° ± 2
				40° ± 2

VI - Model 680-FL (cont'd)

Serial Nos. eligible

(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)			
		<u>HP.</u>	<u>R.P.M.</u>	<u>M.P.</u>
				<u>ALT.</u>
	Takeoff (2 min. limit)	380	3400	47.0
	Takeoff (2 min. limit)	380	3400	43.5
	Maximum continuous	360	3200	45.0
	Maximum continuous	360	3200	40.5
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 <u>NOTE:</u> 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). <u>NOTE:</u> 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)	<u>Weight</u>	<u>Fwd.</u>	<u>Aft.</u>	
	<u>lb.</u>	<u>Sta.(in)</u> % MAC	<u>Sta.(in)</u>	% MAC
	Up to 7000	203.0 10	218.4	32
	8500	208.3 17.5	218.4	32
	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	Elevator	Up	$30^{\circ} \pm 1$ 0	Down $10^{\circ} \pm 2$ 0
	Elevator tab	Up	$6 \frac{1}{2}^{\circ} \pm 1$	Down $24^{\circ} \pm 1$
	Rudder	Right	$20^{\circ} \pm 2$ 0	Left $20^{\circ} \pm 2$ 0
	Rudder tab	Right	$26^{\circ} \pm 2$ 0	Left $26^{\circ} \pm 2$ 0
	Aileron	Up	$23^{\circ} \pm 2$	Down $15^{\circ} \pm 2$
	Flap outboard			Down $40^{\circ} \pm 2$
	Flap inboard			Down $40^{\circ} \pm 2$
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)		
Fuel	Aviation turbine fuels ASTM designation D1655-63T, Types Jet A, Jet B, and Jet A-1; and MIL-J-5624G(1), Grades JP-4 & JP-5 and MIL-F-5516-1, JP-1 (See Aerocom Serv. Ltr. 170)		
Oil	BRACO 880F (MIL-L-7808D) and Sinclair Turbo S Oil 15 (MIL-L-7808D&E) (See Aerocom Service Letter 170)		
Engine limits		<u>HP.</u>	<u>R.P.M.</u>
	Takeoff	575	100%
	Maximum continuous	500	100%
Propeller and Propeller Limits		<u>EGT</u>	
		576°C	
		550°C	
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 $9.0^{\circ} \pm 0.2^{\circ}$, Feather $86.5^{\circ} \pm 0.5^{\circ}$, Reverse $-9.5^{\circ} \pm 1.5^{\circ}$ 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	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: 217.78 (30.19%)	8950 lbs. (Gear down		
	216.94 (29.02%)	5300 lbs. (Gear down)		
	Fwd: 208.14 (16.83%)	8950 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 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	Elevator	Up	30° ± 1 0	Down 10° ± 2 0
	Elevator tab	Up	6 1/2° ± 1	Down 24° ± 1
	Rudder	Right	20° ± 2 0	Left 20° ± 2 0
	Rudder tab	Right	26° ± 2 0	Left 26° ± 2 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: Issue Airworthiness Certificates for airplane serial numbers 680-T-1473, 680-T-1519, 680-T-1532, 680-T-1536, and 680-T-1550-11 and up; and approve design and production changes on airplane serial numbers 680-T-1473 through 1720. (See NOTES 15 and 22).			

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	Aviation turbine fuels ASTM designation D1655-63T, Types Jet A, Jet B, and Jet A-1; and MIL-J-5624G(1), Grades JP-4 & JP-5 and MIL-F-5616-1, JP-1. (See Aerocom Serv. Ltr. 170)		
Oil	BRACO 880F (MIL-L-7808D) and Sinclair Turbo S Oil 15 (MIL-L-7808D&E) (See Aerocom Service Letter 170)		
Engine Limits		<u>HP.</u>	<u>R.P.M.</u>
	Takeoff	575	100%
	Maximum continuous	500	100%
			<u>EGT</u>
			576°C
			550°C
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 0	Down 10° + 2 0
	Elevator tab	Up	6 1/2° ± 1	Down 24° ± 1
	Rudder	Right	20° + 2 0	Left 20° + 2 0
	Rudder tab	Right	26° + 2 0	Left 26° + 2 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: 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)		
Fuel	Aviation turbine fuels ASTM designation D1655-63T, Types A, Jet B, and Jet A-1; and MIL-J-5624G(1), Grades JP-4 & JP-5; and MIL-F-5616-1, JP-1, (See Aerocom Serv. Ltr. 170)		
Oil	BRACO 880F (MIL-L-7808D) and Sinclair Turbo S Oil 15 (MIL-L-7808D&E) (See Aerocom Service Letter 170)		
Engine limits		<u>HP.</u>	<u>R.P.M.</u>
	Takeoff	575	100%
	Maximum continuous	500	100%
			<u>EGT</u>
			576°C
			550°C
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 $9.0^{\circ} \pm 0.2^{\circ}$, Feather $86.5^{\circ} \pm 0.5^{\circ}$, Reverse $-9.5^{\circ} \pm 1.5^{\circ}$.		
	Diameter: 90 in., no cutoff permitted.		
	<u>NOTE:</u> 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 $30^{\circ} \pm 1$ 0	Down $10^{\circ} \pm 2$ 0
	Elevator tab	Up $6 \frac{1}{2}^{\circ} \pm 1$	Down $24^{\circ} \pm 1$
	Rudder	Right $20^{\circ} \pm 2$ 0	Left $20^{\circ} \pm 2$ 0
	Rudder tab	Right $26^{\circ} \pm 2$ 0	Left $26^{\circ} \pm 2$ 0
	Aileron	Up $23^{\circ} \pm 2$	Down $15^{\circ} \pm 2$
	Flap outboard		Down $40^{\circ} \pm 2$
	Flap inboard		Down $40^{\circ} \pm 2$
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 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	Aviation turbine fuels ASTM designation D1655-64T, Types Jet A, Jet B, and Jet A-1; and MIL J-5624G(1), Grades JP-4 & JP-5. (See Aerocom Service Letter 170)		
Oil	BRACO 880F (MIL-L-7808D) and Sinclair Turbo S Oil 15 (MIL-L-7808D&E) (See Aerocom Service Letter 170)		
Engine limits		<u>HP.</u>	<u>R.P.M.</u>
	Takeoff	575	100%
	Maximum continuous	500	100%
			<u>EGT</u>
			576°C
			550°C

XI - MODEL 681 (cont'd)Propeller and Propeller
limits

2 Hamilton Standard 3-bladed feathering and reversing propellers
Rockwell Assembly No. 640050.

- a. 33LF-325 Hubs with 1033 A-0 Blades
Pitch settings at 30 in. Station: Flt. Idle $9.0^\circ \pm 0.2^\circ$
Feather $86.5^\circ \pm 0.5^\circ$, Reverse $-9.5^\circ \pm 1.5^\circ$
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	149 m.p.h. (129K) 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 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

Elevator	Up	$30^\circ \pm 1$ 0	Down	$10^\circ \pm 2$ 0
Elevator tab	Up	$6\frac{1}{2}^\circ \pm 1$	Down	$24^\circ \pm 1$
Rudder	Right	$20^\circ \pm 2$ 0	Left	$20^\circ \pm 2$ 0
Rudder tab	Right	$26^\circ \pm 2$ 0	Left	$26^\circ \pm 2$ 0
Aileron	Up	$23^\circ \pm 2$	Down	$15^\circ \pm 2$
Flap outboard			Down	$40^\circ \pm 2$
Flap inboard			Down	$40^\circ \pm 2$

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	Aviation turbine fuels ASTM designation D1655-68, Types Jet A, Jet B, and Jet A-1; and MIL-T-5624G(1), Grades JP-4 & JP-5. (See Rockwell Service Letter 170H)		
Oil	MIL-L-23699A and MIL-L-7808G. (See Rockwell Service Letter 170H)		
Engine limits	<u>HP.</u>	<u>R.P.M.</u>	<u>I.T.T.</u>
	Takeoff	717.5	101%
	Maximum continuous	717.5	101%
			923°C
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 <u>OR</u> HC-B3TN-5DL or HC-B3TN-5NL hubs with LT10282A+4 or LT10282AB+4 blades. Pitch settings at 30 in. Station: Low $13.5^{\circ} \pm 0.2^{\circ}$, Feather $90.0^{\circ} \pm 0.5^{\circ}$, Reverse $-8.0^{\circ} \pm 0.5^{\circ}$, Start Locks $+2.5^{\circ} \pm 0.2^{\circ}$ Diameter: 106 in, 1/2 in. reduction per blade allowed. <u>NOTE:</u> Use AiResearch oil transfer tube No. 866533-3. See NOTE 16. b. 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 = $219.84 - (11653/\text{Weight})$	
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	Elevator	Up	30° + 1 0	Down 10° + 2 0
	Elevator tab	Up	1/2° ± 1	Down 4° ± 1
	Rudder	Right	0° ± 2 0	Left 0° ± 2 0
	Rudder tab	Right	26° ± 2 0	Left 26° ± 2 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 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		<u>HP</u>	<u>R.P.M.</u>	<u>M.A.P.</u>
	Takeoff	435	3400	44.5 In.Hg
	Maximum continuous	435	3400	44.5 In.Hg
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	Rear:	216.88 (28.0%) 9,000 lbs. (Gear down)		
		216.18 (27.1%) 5, 850 lbs. (Gear down)			
Variation between points: inches = 218.15 - (11653/Weight)					
Fwd:		208.67 (17.0%) 9,000 lbs. (Gear down)			
		203.45 (10.0%) 7,500 lbs. (Gear down)			
		203.45 (10.0%) 5,850 lbs. (Gear down)			
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	Elevator	Up	30° ± 1 0	Down	10° ± 2 0
	Elevator tab	Up	6 1/2° ± 1	Down	24° ± 1
	Rudder	Right	20° ± 2 0	Left	20° ± 2 0
	Rudder tab	Right	26° ± 2 0	Left	26° ± 2 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 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	Aviation turbine fuels ASTM designation D1655-68, Types Jet A, Jet B, and Jet A-1; and MIL-T-5624G(1), Grades JP-4 & JP-5. (See Rockwell Service Letter 170H) (See Mfg. Data Part V Approved F/M for List of Approved Fuels)		
Oil	MIL-L-23699A and MIL-L-7808G. (See Mfg. Data Part V Approved F/M for List of Approved Lubricants)		
Engine limits		<u>HP.</u>	<u>R.P.M.</u>
	Takeoff	717.5	101%
	Maximum continuous	717.5	101%
			<u>I.T.T.</u>
			923°C
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		
	<u>OR</u> HC-B3TN-5DL or HC-B3TN-5NL hubs with LT10282A+4 or LT10282AB+4 blades.		
	Pitch settings at 30 in. Station: Low $13.5^{\circ} \pm 0.2^{\circ}$		
	Feather $90.0^{\circ} \pm 0.5^{\circ}$, Reverse $-8.0^{\circ} \pm 0.5^{\circ}$		
	Start Locks $+2.5^{\circ} \pm 0.2^{\circ}$		
	Diameter: 106 in, 1/2 in. reduction per blade allowed.		
	<u>NOTE:</u> 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 = $219.84 - (11653/\text{Weight})$		
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	$30^{\circ} \pm 1$ 0	Down	$10^{\circ} \pm 2$ 0
	Elevator tab	Up	$6\ 1/2^{\circ} \pm 1$	Down	$24^{\circ} \pm 1$
	Rudder	Right	$20^{\circ} \pm 2$ 0	Left	$20^{\circ} \pm 2$ 0
	Rudder tab	Right	$26^{\circ} \pm 2$ 0	Left	$26^{\circ} \pm 2$ 0
	Aileron	Up	$23^{\circ} \pm 2$	Down	$15^{\circ} \pm 2$
	Flaps			Down	$40^{\circ} \pm 2$
	Aileron tab	Up	$17^{\circ} \pm 2.5^{\circ}$	Down	$17^{\circ} \pm 2.5^{\circ}$
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	Aviation turbine fuels ASTM designation D1655-68, Types Jet A, Jet B, and Jet A-1; and MIL-T-5624G(1), Grades JP-4 & JP-5. (See Rockwell Services Letter 170H) (See Mfg. Data Part V Approved F/M for List of Approved Fuels).			
Oil	MIL-L-23699A and MIL-L-7808G (See Mfg. Data Part V Approved F/M for List of Approved Lubricants).			
Engine limits		<u>HP.</u>	<u>R.P.M.</u>	<u>I.T.T.</u>
	Takeoff	717.5	101%	923°C
	Maximum continuous	717.5	101%	923°C
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 <u>OR</u> HC-B3TN-5DL or HC-B3TN-5NL hubs with LT10282A+4 or LT10282AB+4 blades. Pitch settings at 30 in. Station: Low $13.5^{\circ} \pm 0.2^{\circ}$ Feather $90.0^{\circ} \pm 0.5^{\circ}$, Reverse $-8.0^{\circ} \pm 0.5^{\circ}$ Start Locks $+2.5^{\circ} \pm 0.2^{\circ}$ Diameter: 106 in, 1/2 in. reduction per blade allowed. <u>NOTE:</u> 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)			

XV - MODEL 690B (cont'd)

Airspeed Limits	Maneuvering	171 m.p.h. (149K) 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		
	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.		
Datum	217.85 inches aft of datum (29.33% MAC) at 6,267 lbs.		
	Variation between points.		
	Inches aft of datum = $219.84 - (12444/\text{Weight})$		
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	Elevator	Up $30^\circ \pm 1$ 0	Down $10^\circ \pm 2$ 0
	Elevator tab	Up $6\ 1/2^\circ \pm 1$	Down $24^\circ \pm 1$
	Rudder	Right $20^\circ \pm 2$ 0	Left $20^\circ \pm 2$ 0
	Rudder tab	Right $26^\circ \pm 2$ 0	Left $26^\circ \pm 2$ 0
	Aileron	Up $23^\circ \pm 2$	Down $15^\circ \pm 2$
	Flaps		Down $40^\circ \pm 2$
	Aileron tab	Up $17^\circ \pm 2.5^\circ$	Down $17^\circ \pm 2.5^\circ$
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	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, MIL-L-7808G Type I (See Mfg. Data Part VIII Approved POH for List of Approved Lubricants).		
Engine limits		<u>HP.</u>	<u>R.P.M.</u>
	Takeoff	717.5	101%
	Maximum continuous	717.5	101%
			<u>I.T.T.</u>
			923°C
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. Dowty-Rotol Propeller Blade Assembly P/N 660706330-XX Pitch settings at .7 radius station: Feather $83\ 10' \pm 20''$, Reverse $-13.75^\circ \pm 1.0^\circ$ Start Locks $-1.25^\circ \pm 1.0^\circ$, Flight Idle $6.0^\circ \pm 0.5^\circ$ Diameter: 106 in., 1/2 in. reduction per blade allowed. <u>NOTE:</u> Use AiResearch oil transfer tube No. 897458-2. <u>NOTE:</u> All engine ground running for maintenance 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 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 = $219.93 - (13029/\text{Weight})$	
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 0	Down 10° ± 2 0
	Elevator tab	Up	3° ± 1	Down 24° ± 1
	Rudder	Right	20° ± 2 0	Left 20° ± 2 0
	Rudder tab	Right	20° ± 2 0	Left 20° ± 2 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 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	Aviation turbine fuel ASTM designation D1655-68, Types Jet A and Jet A-1, and Jet B; MIL-T-5624G-1, Grades JP-4 and JP-5; MIL-T-83133, Grade JP-8, MIL-F-46005A(MR)-1, Types I and II.		
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		<u>HP</u>	<u>R.P.M.</u>
	Takeoff	733	101%
	Maximum continuous	733	101%
Propeller and Propeller Limits		<u>E.G.T.</u>	
		650°C	
		650°C	
	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. <u>NOTE:</u> Use AiResearch oil transfer tube Part No. 897458-2. <u>NOTE:</u> 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
 c. Governor: 2 AiResearch P/N 897410-2B or 897410-4.

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.
 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 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 0	Down	10° ± 2 0
Elevator tab	Up	3° ± 1	Down	24° ± 1
Rudder	Right	20° ± 2 0	Left	20° ± 2 0
Rudder tab	Right	20° ± 2 0	Left	20° ± 2 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 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		<u>Torque</u>	<u>RPM</u>	<u>EGT</u>
	Takeoff and			
	Maximum continuous	102.5%(820)	101.0%	650°C
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 $83\ 10' \pm 20'$, Reverse $-13.75^\circ \pm 1.0^\circ$, Start Locks $-1.25^\circ \pm 1.0^\circ$, Flight Idle $6.0^\circ \pm 0.5^\circ$. Diameter: 106 in., 1/2in. reduction per blade allowed. <u>NOTE:</u> Use AiResearch oil transfer tube Part No. 897458-2. <u>NOTE:</u> 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 c. Governor: 2 AiResearch P/N 897410-2B or 897410-4.			
Airspeed Limits	Maneuvering	162 m.p.h. (141K) CAS		
	Maximum Operating	290 m.p.h. (252K) CAS .60 MACH		
	Flaps extended - half	207 m.p.h. (180K) CAS (S/N 96000-96055) 230 m.p.h. (200K) CAS (S/N 96056-96999)		
	Flaps extended- full	161 m.p.h. (140K) CAS (S/N 96000-96055) 184 m.p.h. (160K) CAS (S/N 96056-96999)		
	Landing gear extended	230 m.p.h. (200K) CAS		
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 = $219.93 - (13029/\text{Weight})$			
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 0	Down	10° ± 2 0
	Elevator tab	Up	3° ± 1	Down	24° ± 1
	Rudder	Right	20° ± 2 0	Left	20° ± 2 0
	Rudder tab	Right	20° ± 2 0	Left	20° ± 2 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 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	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 or MIL-L-7808G type I (See Mfg. Data Part VIII Approved POH for List of Approved Lubricants).			
Engine limits		<u>HP</u>	<u>R.P.M.</u>	<u>ITT</u>
	Takeoff and	748	101.0%	923°
	Maximum continuous			
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:			

XIX - MODEL 690D (cont'd)Propeller and Propeller Limits
(cont'd)Feather $83^{\circ} 10' \pm 20'$, Reverse $-13.75^{\circ} \pm 1.0^{\circ}$ Start Locks $-1.25^{\circ} \pm 1.0^{\circ}$, Flight Idle $6.0^{\circ} \pm 0.5^{\circ}$.

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

c. Governor: 2 AiResearch P/N 897410-2B or -4.

Airspeed Limits

Maneuvering	160 m.p.h. (139K) CAS
Maximum Operating	290 m.p.h. (252K) CAS .60 MACH
Flaps extended - half	207 m.p.h. (180K) CAS (S/N 15000-15024)
	230 m.p.h. (200K) CAS (S/N 15025-15999)
Flaps extended - full	161 m.p.h. (140K) CAS (S/N 15000-15024)
	184 m.p.h. (160K) CAS (S/N 15025-15999)
landing gear extended	230 m.p.h. (200K) CAS

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 = $219.93 - (13029/\text{Weight})$

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)

Control Surface movements	Elevator	Up	$30^{\circ} + 1$ 0	Down	$10^{\circ} + 2$ 0
	Elevator tab	Up	$3^{\circ} \pm 1$	Down	$24^{\circ} \pm 1$
	Rudder	Right	$20^{\circ} + 2$ 0	Left	$20^{\circ} + 2$ 0
	Rudder tab	Right	$20^{\circ} + 2$ 0	Left	$20^{\circ} + 2$ 0
	Aileron	Up	$23^{\circ} \pm 2$	Down	$15^{\circ} \pm 2$
	Flaps			Down	$40^{\circ} \pm 2$
	Aileron tab	Up	$17^{\circ} \pm 2.5^{\circ}$	Down	$17^{\circ} \pm 2.5^{\circ}$

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	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; British D.ENG.R.D. 2486 Issue 2; British D.ENG.R.D. 2494 Issue 4; and NATO Equivalents.			
Oil	MIL-L-23699B type II (See Mfg. Data Part VIII Approved POH for List of approved lubricants.)			
Engine Limits		<u>Torque (HP)</u>	<u>RPM</u>	<u>EGT</u>
	Takeoff and Maximum Continuous	102.5% (820)	101.0%	650°C
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 $83^{\circ} 10' \pm 20'$, Reverse $-13.75^{\circ} \pm 1.0^{\circ}$			
	Start Locks $-1.25^{\circ} \pm 1.0^{\circ}$, Flight Idle $6.0^{\circ} \pm 0.5^{\circ}$			
	Diameter: 106 In., 1/2 in. reduction per blade allowed.			
	<u>NOTE:</u> Use Garrett oil transfer tube Part No. 897458-2.			
	<u>NOTE:</u> 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			
Airspeed Limits	c. Governor: 2 Garrett P/N 897410-4			
	Maneuvering	182 m.p.h. (158K) CAS		
	Maximum Operating	290 m.p.h. (252K) CAS .60 MACH		
	Flaps extended - half	230 m.p.h. (200K) CAS		
	Flaps extended - full	184 m.p.h. (160K) CAS		
	Landing gear extended	230 m.p.h. (200K) CAS		

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 = $219.87 - (13402/\text{weight})$

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

Elevator	Up	$30^\circ \pm 1$	Down	$10^\circ \pm 2$
		0		0
Elevator tab	Up	$3^\circ \pm 1$	Down	$24^\circ \pm 1$
Rudder	Right	$20^\circ \pm 2$	Left	$20^\circ \pm 2$
		0		0
Rudder tab	Right	$20^\circ \pm 2$	Left	$20^\circ \pm 2$
		0		0
Aileron	Up	$23^\circ \pm 2$	Down	$15^\circ \pm 2$
Flaps			Down	$40^\circ \pm 2$
Aileron tab	Up	$17^\circ \pm 2.5^\circ$	Down	$17^\circ \pm 2.5^\circ$

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 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.
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):	CAR 3 effective May 15, 1956, including 3.197, 3.395, 3.396 of Amdt. 3-2 dated Aug. 12, 1957, and Amdt. 3-3 dated May 17, 1958, and 3-4 dated October 6, 1958.
Model 680T:	CAR 3 effective May 15, 1956, including 3.197, 3.395, 3.396 of Amdt. 3-2 dated August 12, 1957, and Amdts. 3-3 dated May 17, 1958, 3-4 dated Oct. 6, 1958, Amdt. 3-6 dated Sept. 13, 1961, plus Special Conditions dated April 1, 1965.
Models 680V, 680W, 681:	CAR 3 effective May 15, 1956, including 3.197, 3.270, 3.395, 3.396 of Amdt. 3-2 dated August 12, 1957, and Amdts. 3-3 dated May 17, 1958, 3-4 dated Oct. 6, 1958, Amdt. 3-6 dated Sept. 13, 1961, plus Special Conditions dated April 1, 1965.
Models 690, 690A, 690B	CAR 3 dated May 15, 1956, including Pars. 3.197, 3.270, 3.395, and 3.396 of Amdt. 3-2 dated Aug. 12, 1957, and Amdt. 3-3 dated May 17, 1958, 3-4 dated Oct. 6, 1958, 3-6 dated Sept. 13, 1961, Par. 23.473, 23.479, 23.481, and 23.483 of FAR 23, Amdt. 23-7 dated Sept. 14, 1969, plus Special Conditions dated April 1, 1965, and August 12, 1970; Docket #10506
Model 685:	CAR 3 dated May 15, 1956, including Pars. 3.197, 3.270, 3.395, and 3.396 of Amdt. 3-2 dated August 12, 1957, and Amdt. 3-3 dated May 17, 1958, 3-4 dated Oct. 6, 1958, 3-6 dated Sept. 13, 1961.
Models 690C, 695	CAR 3 dated May 15, 1956, including Pars. 3.197, 3.270, 3.395, and 3.396 of Amdt. 3-2 dated August 12, 1957, and Amdt. 3-3 dated May 17, 1958, 3-4 dated Oct. 6, 1958, 3-6 dated Sept. 13, 1961, Pars. 23.473, 23.479, 23.481, and 23.483 of FAR 23, Amdt. 23-7 dated Sept. 14, 1969, plus Special Conditions dated April 1, 1965, and Aug. 12, 1970; Docket #10506, and FAR 36 dated Dec. 1, 1969, through Amdt. 36-6 dated Jan. 24, 1977.
Model 695A, 690D	CAR 3 dated May 15, 1956, including Pars. 3.197, 3.270, 3.395, and 3.396 of Amdt. 3-2 dated August 12, 1957, and Amdt. 3-3 dated May 17, 1958, 3-4 dated Oct. 6, 1958, 3-6 dated Sept. 13, 1961, Pars. 23.253, 23.335(b)(4), 23.473, 23.479, 23.481, 23.483, 23.571(a), 23.572(a)(1), and 23.1505(c) of FAR 23, Amdt. 23-7 dated Sept. 14, 1969, FAR 23.1303(e)(2) of Amdt. 23-17 dated Feb. 1, 1977, plus special Conditions dated April 1, 1965, and August 12, 1970, Docket No. 10506, and FAR 36 dated December 1, 1969, through Amdt. 36-6 dated Jan. 24, 1977.
Model 695B	CAR 3 dated May 15, 1956, including Pars. 3.395 and 3.396 of Amdt. 3-2 dated August 12, 1957, and Amdt. 3-3 dated May 17, 1958, 3-4 dated Oct. 6, 1958, 3-6 dated Sept. 13, 1961, except for Subpart C, plus Pars. 23.253, 23.1303(e)(2), and 23.1505(c), and Subpart C of FAR 23 as amended thru Change 17 dated Sept. 13, 1982, plus Special Conditions dated April 1, 1965, and Aug. 12, 1970, Docket No. 10506 and FAR 36 dated December 1, 1969, through Amdt. 36-6 dated January 24, 1977.

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 560F, 680F, 680F(P), 680FL, 680FLP, 680T, 680W, 681, 690, 685, 690A (through S/N 11268 except 11249) - Gulfstream Dwg. 850016 and 850195.
Models 690A (11249, 11269 through 11349), 690B - Gulfstream Dwg. 850016 and 8000644
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
Models 680T, 680V, 680W, 681 - Gulfstream Dwg. 850295
Models 690, 690A, 690B, 690C, 690D, 695, 695A, and 695B - Gulfstream Dwg. 850478.
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:

Model	680	680-E	720	680-F & 680-F Press	680-FL & 680-FL(P)
Fuel	15.5 lb.(+187)	15.5 lb.(+187)	15.5 lb.(+187)	15.5 lb.(+187)	15.5 lb.(+231)
Oil	15.0 lb.(+191)	15.0 lb.(+191)	15.0 lb.(+191)	17.4 lb.(+150)	17.4 lb.(+194)

Model	560-F	680W, 681 680T, 680V	690, 690A 690B	685
Fuel	15.5 lb.(+187)	13 lb. (+231)	31 lb.(+231)	27 lb.(+231)
Oil	17.4 lb.(+191)	6.5 lb.(+188)	4 lb.(+188)	0 lb.(+188)

Model	690C, 690D		695		695A, 695B
	Standard	Std + Optional	(SN 95000- 95040)	(95041-95999)	
Fuel	33.5 lb.(+230)	53.6 lb.(+230)	33.6 lb.(+230)	53.6 lb.(+230)	53.6 lb.(+230)
Oil	4.0 lb.(+188)	4.0 lb.(+188)	4.0 lb.(+188)	4.0 lb.(+188)	4.0 lb.(+188)

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) Unusable 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 $14.0^{\circ} \pm .5^{\circ}$, Start Locks $-8.7^{\circ} \pm .5^{\circ}$; Low $6.0^{\circ} \pm .5^{\circ}$, and Feather $77.9^{\circ} \pm .5^{\circ}$.
- 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 22: Delegation Option Authorization No. SW-2 expired July 17, 1986.
- 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,
-A1E6, -A1F3-A1F6, -A1G6
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

Model	Lycoming	GSO-480-A1A6, -A1C6, -A2A6, -B1A6, -B1B6, -B1C6, -B1E6, -B1F6, -B1G6, -B1J6, -B2C6, -B2D6, -B2G6, -B2H6, -B1B3	IGSO-480-A1A6, -A1B6, -A1C6, -A1D6, -A1E6, -A1F6, -A1G6, -A1F3
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
Sea level pressure alt. (ft.)		340-3400-48.0-S.L.	340-3400-48.0-S.L.
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.

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Certification basis:

<u>Regulations & Amendments</u>	<u>Model</u>	<u>Date of Application</u>	<u>Date of Type Certificate No. 284 Issued/Revised</u>
CAR 13 Effective March 5, 1952			
As Amended by 13-1 and 13-2	GSO-480-A1A6	December 13, 1954	June 30, 1955
CAR 13 Effective June 15, 1956	0-480-1	November 27, 1956	December 5, 1956
	GSO-480-B1A6	April 26, 1957	May 9, 1957
	GSO-480-B1B6	April 26, 1957	May 9, 1957
	GSO-480-B1C6	April 26, 1957	May 9, 1957
	GSO-480-A1C6	June 18, 1957	June 27, 1957
As Amended by 13-1	IGSO-480-A1A6	January 10, 1958	May 14, 1958
	GSO-480-B2D6	February 21, 1958	March 6, 1958
CAR 13 Effective June 15, 1956			
As Amended by 13-1, 13-2, 13-3	GSO-480-A2A6	April 13, 1960	May 3, 1960
	IGSO-480-A1B6	June 11, 1960	August 25, 1960
	GSO-480-B1E6	May 26, 1961	June 19, 1961
	GSO-480-B1F6	May 26, 1961	June 19, 1961
	GSO-480-B1G6	May 26, 1961	June 19, 1961
	GSO-480-B2H6	May 26, 1961	June 19, 1961
	GSO-480-B2C6	June 1, 1961	June 19, 1961
	GSO-480-B2G6	June 1, 1961	June 19, 1961
	O-480-3	June 26, 1961	June 14, 1961
	IGSO-480-A1C6	September 13, 1961	October 17, 1961
	IGSO-480-A1D6	May 2, 1962	May 6, 1963
And 13-4	IGSO-480-A1F6	July 6, 1962	August 16, 1962
	IGSO-480-A1E6	August 27, 1964	October 23, 1964
	IGSO-480-A1G6	August 16, 1966	August 26, 1966
	IGSO-480-B1J6	January 5, 1967	January 21, 1967
	GSO-480-B1B3	June 21, 1971	July 7, 1971
	IGSO-480-A1F3	January 28, 1980	February 21, 1980

Production basis: Production Certificate No. 3

NOTE 1. Maximum permissible temperatures:

Cylinder Head

Well type
500°F

Cylinder Base*
350°F

Oil Inlet

225°F - GSO-480-A1A6, -A2A6, -A1C6
245°F - All others

*This parameter dispensed with where pistons are internally cooled by oil jets.

NOTE 2. Fuel Pressure Limits:

Minimum
9 p.s.i.

Maximum

15 p.s.i. (17 p.s.i. min., 65 p.s.i. max. for
IGSO-480-A1E6, -A1D6, -A1G6)

Oil Pressure Limits:

(Normal Operations) 55 p.s.i.
(Idling) 25 p.s.i. (35 p.s.i. for IGSO-480-A1A6, -A1B6, -A1C6, -A1F6, -A1F3)

85 p.s.i.

NOTE 3. The following accessory provisions are made:

<u>Accessory</u>	Rotation Facing <u>Drive Pad</u>	Speed Ratio to <u>Crankshaft</u>	Maximum Torque (in. -lb.)		Maximum Overhang Moment (in. -lb.)
			<u>Continuous</u>	<u>Static</u>	
Starter	C	1.000:1	#	12000	300
Generator	C	2.600:1	500	2200	400
Fuel Pump	CC	.803:1	25	450	25
Vacuum Pump	C	1.219:1	200	800	25
Hydraulic Pump	C	1.083:1	400	1650	175
Tachometer	CC	.500:1	7	50	#
Propeller Governor	C	.801:1	125	1200	25
"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:

<u>Models</u>	<u>Characteristics</u>
GSO-480-A1A6	Basic model. Geared drive, six cylinder, horizontally opposed, supercharged, dry sump, aircooled engine with side mounted accessory drives and accessories.
GSO-480-A1C6	Similar to GSO-480-A1A6 except has provisions for a supercharger bearing thermocouple.
GSO-480-A2A6	Similar to GSO-480-A1A6 except has flange type propeller shaft with 2-way oil for reversible propeller.
GSO-480-B1A6	Similar to GSO-480-A1C6 except incorporates crankcase oil jets for increased piston cooling, provisions for supercharger inlet and an updraft carburetor.
GSO-480-B1B6	Similar to GSO-480-B1A6 except has a horizontal elbow and carburetor under the engine.
GSO-480-B1B3	Same as GSO-480-B1B6 except that the torsional damper system has been modified. (SEE NOTE 4)
GSO-480-B1C6	Similar to GSO-480-B1A6 except has a horizontal carburetor mounted directly on a straight-through air inlet supercharger housing.
GSO-480-B1E6	Similar to GSO-480-B1A6 excepting magnetos.
GSO-480-B1F6	Similar to GSO-480-B1B6 excepting magnetos.
GSO-480-B1G6	Similar to GSO-480-B1C6 excepting magnetos.
GSO-480-B1J6	Same as GSO-480-B1A6 except incorporates 1200 series Bendix magnetos.
GSO-480-B2C6	Similar to GSO-480-B1C6 except has flanged propeller shaft and provision for reversible propeller.
GSO-480-B2D6	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.
GSO-480-B2G6	Similar to GSO-480-B2C6 excepting magnetos.
GSO-480-B2H6	Similar to GS-470-B2D6 excepting magnetos.
IGSO-480-A1A6	Basic fuel injection model.
IGSO-480-A1B6	Similar to IGSO-480-A1A6 except has retard breaker magnetos.
IGSO-480-A1C6	Similar to IGSO-480-A1A6 except has horizontal air inlet housing and throttle.
IGSO-480-A1D6	Similar to GSO-480-B1A6, except for incorporation of service kit which included Bendix RS10-FB1 fuel injector and supercharger air inlet housing assembly, P/N 74323.
IGSO-480-A1E6	Similar to IGSO-480-A1D6 except for different configuration of supercharger air inlet housing and incorporation of retard breaker magnetos.
IGSO-480-A1F3	Similar to IGSO-480-A1F6 except that it has two 6th and four heavy 3rd order dynamic counterweights.
IGSO-480-A1F6	Similar to IGSO-480-A1C6 except has retard breaker magnetos in place of impulse type magnetos.
IGSO-480-A1G6	Same as IGSO-A1E6 with 1200 series magnetos but without the Bendix modulator unit.

NOTE 8. For all models - weights, carburetion, ignition, C.G. location and propeller shaft SAE designations.

C.G. Location, Dry							
Models	Weight (dry) lb.	Carburetion	Ignition, dual	From front face of thrust nut, in.	Off propeller shaft C.L. in.		Propeller shaft, SAE No.
					lateral	vertical	
GSO-480-A1A6	498	Bendix PS-7BD	Bendix S6LN-20, S6RN-21	21.74	0.22 left	0.59 above	20 spline
-A1C6	498	Bendix PS-7BD	Bendix S6LN-20, S6RN-21	21.74	0.22 left	0.59 above	20 spline
-A2A6	498	Bendix PS-7BD	Bendix S6LN-20, S6RN-21	21.74	0.22 left	0.59 above	flange, ARP 502
-B1A6	513	Bendix PS-7BD	Bendix S6LN-20, S6RN-21	22.32	0.18 left	0.22 above	20 spline
-B1B6	515	Bendix PSH-7BD	Bendix S6LN-20, S6RN-21	22.18	0.18 left	0.01 below	20 spline
*O-480-1							
-B1B3	517	Bendix PSH-7BD	Bendix S6LN-20, S6RN-21	22.18	0.18 left	0.01 below	20 spline
GSO-480-B1C6	512	Bendix PSH-7BD	Bendix S6LN-20, S6RN-21	22.54	0.16 left	0.59 above	20 spline
-B1E6	513	Bendix PS-7BD	Bendix S6LN-204, S6RN-200 or S6LN- 604, S6RN-600	22.32	0.18 left	0.22 above	20 spline
-B1F6	515	Bendix PSH-7BD	Bendix S6LN-204, S6RN-200 or S6LN- 604, S6RN-600	22.18	0.18 left	0.01 below	20 spline
-B1G6	512	Bendix PSH-7BD	Bendix S6LN-204, S6RN-200 or S6LN- 604, S6RN-600	22.54	0.16 left	0.59 above	20 spline
-B1J6	515	Bendix PS-7BD	Bendix S6LN-1209, S6RN-1227	22.29	0.18 left	0.22 above	20 spline
-B2C6	512	Bendix PSH-7BD	Bendix S6LN-20, S6RN-21	22.54	0.16 left	0.59 above	flange, ARP 502
GSO-480-B2D6	513	Bendix PSD-7BD	Bendix S6LN-20, S6RN-21	22.39	0.25 left	0.71 above	flange, ARP 502
-B2G6	512	Bendix PSH-7BD	Bendix S6LN-20, S6RN-21, S6LN- 204, S6RN-200, S6LN-604, S6RN- 600	22.54	0.16 left	0.59 above	flange, ARP 502
-B2H6	513	Bendix PSD-7BD	Bendix S6LN-204, S6RN-200, S6LN- 604, S6RN-600	22.39	0.25 left	0.71 above	flange, ARP 502
IGSO-480-A1A6	512	Fuel Injector Simmonds Type 570	Bendix S6LN-20, S6RN-21	22.00	0.34 left	0.71 above	20 spline
*O-480-3							
IGSO-480-A1B6	512	Simmonds Type 570	Bendix S6LN-204, S6RN-200, S6LN- 604, S6RN-600	22.00	0.34 left	0.71 above	20 spline
-A1C6	513	Simmonds Type 570	Bendix S6LN-20, S6RN-21	22.00	0.34 left	0.71 above	20 spline
-A1D6	514	Bendix RS10-FB1	Bendix S6LN-20, S6RN-21	22.29	0.21 left	0.35 above	20 spline
-A1E6	514	Bendix RS10-FB1	Bendix S6LN-204, S6RN-200	22.29	0.21 left	0.35 above	20 spline
-A1F6	513	Simmonds Type 570	Bendix S6LN-204, S6RN-200, S6LN- 604, S6RN-600	22.00	0.34 left	0.71 above	20 spline
-A1G6	515	Bendix RS10-FB1	Bendix S6LN-1209, S6RN-1208	22.29	0.21 left	0.35 above	20 spline
-A1F3	517	Simmonds Type 570	Bendix S6LN-204 S6RN-200	22.00	0.34 left	0.71 above	20 spline

* See NOTE No. 6.

NOTE 9. Spark Plugs: See latest revision of Lycoming Service Instruction No. 1042 for approved equipment.

.....END.....

A9CE
Revision 27
CESSNA
188 A188A
188A A188B
188B T188C
A188
March 31, 2003

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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) <i>See Note 1 for data on unusable fuel.</i>		
Oil Capacity	12 qt. (-17.0; includes 9 lb. unusable) <i>See Note 1 for data on undrainable oil.</i>		
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. (<i>See Note 3.</i>)	
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	<ol style="list-style-type: none"> 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)
	<i>(See Additional Limitation for Restricted Category.)</i>	
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) <i>See Note 1 for data on unusable fuel.</i>	

III. Model 188A, AGwagon "A" & "B" (cont'd)

Oil capacity	12 qt. (-17.0; includes 9 lb. unusable) <i>See Note 1 for data on undrainable oil.</i>		
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	(+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	<i>See Note 3.</i>
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)
	<ol style="list-style-type: none"> 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°
 (b) 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)																								
	<i>(See Additional Limitation for Restricted Category.)</i>																									
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 gal. usable) <i>See Note 1 for data on unusable fuel.</i>																									
Oil capacity	12 qt. (-17.0; includes 9 lbs. unusable) <i>See Note 1 for data on undrainable oil.</i>																									
Control surface movements	<table><tr><td>Wing flaps</td><td></td><td>Down</td><td>20° ± 1°</td></tr><tr><td>Ailerons (from neutral)</td><td>Up</td><td>18° ± 1°</td><td>Down</td><td>10° ± 1°</td></tr><tr><td>Elevators</td><td>Up</td><td>26° ± 1°</td><td>Down</td><td>21° ± 1°</td></tr><tr><td>Elevator tab</td><td>Up</td><td>12° ± 1°</td><td>Down</td><td>27° ± 1°</td></tr><tr><td>Rudder</td><td>Right</td><td>24° + 0°, -1°</td><td>Left</td><td>24° + 0°, -1°</td></tr></table> (Neutral aileron is rigged with trailing edge 3° ± 30' below trailing edge of wing.)		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°
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°																						

Additional Limitations for Restricted Category

*Airspeed Limits (CAS)	Maximum operating speed in agricultural operations 120 mph (104 knots)
C.G. Range	(+39.0) to (+47.5) at 2300 lbs. or less (+39.4) to (+47.5) at 2500 lbs. (+42.4) to (+45.5) at 4000 lbs. Straight line variation between points given.
*Maximum weight	<i>See Note 3.</i>
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) <i>(See Note 6.)</i>
*Fuel	80/87 minimum grade aviation gasoline

V. Model 188B, AGpickup (cont'd).

*Engine limits	For all operations, 2600 rpm (230 hp)										
Propeller and propeller limits	<ol style="list-style-type: none"> 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: 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°, high 22° (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°, high 24.5° (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°, high 24.5° (b) Governor: Woodward A210452, Edo-Aire 34-828-01, McCauley C290D2/T1 or C290D3/T1 										
*Airspeed Limits (CAS)	<table> <tr> <td>Never exceed</td><td>181 mph (157 knots)</td></tr> <tr> <td>Maximum structural cruising</td><td>144 mph (125 knots)</td></tr> <tr> <td>Maneuvering</td><td>116 mph (101 knots)</td></tr> <tr> <td>Flaps extended (5°)</td><td>120 mph (104 knots)</td></tr> <tr> <td>(10° - 20°)</td><td>110 mph (96 knots)</td></tr> </table>	Never exceed	181 mph (157 knots)	Maximum structural cruising	144 mph (125 knots)	Maneuvering	116 mph (101 knots)	Flaps extended (5°)	120 mph (104 knots)	(10° - 20°)	110 mph (96 knots)
Never exceed	181 mph (157 knots)										
Maximum structural cruising	144 mph (125 knots)										
Maneuvering	116 mph (101 knots)										
Flaps extended (5°)	120 mph (104 knots)										
(10° - 20°)	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) <i>See Note 1 for data on unusable fuel.</i>										
Oil capacity	12 qt. (-17.0; includes 9 lb. unusable) <i>See Note 1 for data on undrainable oil.</i>										

V. Model 188B, AGpickup (cont'd).

Control surface movements	Wing flaps		Down	$20^{\circ} \pm 1^{\circ}$	
	Ailerons (from neutral)	Up	$18^{\circ} \pm 1^{\circ}$	Down	$10^{\circ} \pm 1^{\circ}$
	Elevators	Up	$26^{\circ} \pm 1^{\circ}$	Down	$21^{\circ} \pm 1^{\circ}$
	Elevator tab	Up	$12^{\circ} \pm 1^{\circ}$	Down	$27^{\circ} \pm 1^{\circ}$
	Rudder	Right	$24^{\circ} + 0^{\circ}, -1^{\circ}$	Left	$24^{\circ} + 0^{\circ}, -1^{\circ}$
	(Neutral aileron is rigged with trailing edge $3^{\circ} \pm 30'$ 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	<ol style="list-style-type: none"> S/N 678T, 18800833 through 18803721 <ol style="list-style-type: none"> 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° Governor: Edo-Aire 34-828-01-1, McCauley C290D2/T9 or C290D3/T9, or Woodward A210462 S/N 678T, 18800833 through 18803721 <ol style="list-style-type: none"> 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° Governor: Edo-Aire 34-828-01-1, McCauley C290D2/T9 or C290D3/T9, or Woodward A210462 S/N 678T, 18802002 through 18803721 and those aircraft reworked per SE75-4 <ol style="list-style-type: none"> 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° 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)**

(S/N 18800833 through 18802348)

Never exceed	181 mph	(157 knots)
Maximum structural cruising	144 mph	(125 knots)
Maneuvering	116 mph	(101 knots)
Flaps extended (5°)	120 mph	(104 knots)
(10° - 20°)	110 mph	(96 knots)

(IAS)

(See Note 7 on use of IAS)

(S/N 678T, 18802349 through 18803721)

Never exceed	182 mph	(158 knots)
Maximum structural cruising	146 mph	(126 knots)
Maneuvering	118 mph	(103 knots)
Flaps extended (5°)	121 mph	(105 knots)
(10° - 20°)	109 mph	(95 knots)

(IAS)

(See Note 7 on use of IAS)

(S/N 18803722 and on)

Never exceed	179 mph	(156 knots)
Maximum structural cruising	144 mph	(125 knots)
Maneuvering	118 mph	(102 knots)
Flaps extended (5°)	122 mph	(106 knots)
(10° - 20°)	112 mph	(97 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 (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. unusable) (S/N 18803857T and on)

See Note 1 for data on undrainable oil.

VI. Model A188B (cont'd)

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)	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)	
	Straight line variation between points given.	
*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) (See Note 7 on use of IAS.)	Maximum operational speed in agricultural operations	130 mph (113 knots)
	Flaps extended (5°)	121 mph (105 knots)
	(10° - 20°)	109 mph (95 knots)
C.G. Range (Normal Category)	(+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.)	
	Straight line variation between points given	
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		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.)			
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	<p>Part 21 of the Federal Aviation Regulations dated February 1, 1965, for Restricted Category.</p> <p>Part 23 of the Federal Aviation Regulations dated February 1, 1965, for Normal Category.</p> <p>In addition, (S/N 18803297 and on) FAR 23.1559 effective March 1, 1978, for Normal Category.</p> <p>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.</p> <p>Application for Type Certificate dated April 7, 1965.</p> <p>Type Certificate NO. A9CE issued February 14, 1966, obtained by the manufacturer under delegation option procedures.</p>		
	<u>Equivalent Safety Items</u>	S/N 678T, 18802349 and on 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:	<p>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:</p> <p>(1) Stall Warning Indicator, Cessna Dwg. 1670056.</p> <p>(2) Model 188B and A188B eligible for normal category certification when Cessna spring 1660206-3 replaces 1660206-2.</p>		

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°
 1st Notch 5°
 and 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
- | | <u>2850 rpm</u> | <u>2700 rpm</u> |
|----------|-----------------|-----------------|
| S.L. | 24 | 23 |
| 4000 ft. | 22 | 21 |
| 8000 ft. | 20 | 19" |
- 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

	<u>2700 rpm</u>	<u>2850 rpm</u>
S.L.	23 gph	24 gph
4,000 ft.	21 gph	22 gph
8,000 ft.	19 gph	20 gph"

A188B (S/N 18803297 and on)

"Min. Fuel Flows at Full Throttle

<u>RPM</u>	<u>S.L.</u>	<u>4000</u>	<u>8000</u>	<u>12,000</u>
2700	23 GPH	21 GPH	19 GPH	17 GPH
2850	24 GPH	22 GPH	20 GPH	18 GPH"

T188C (S/N T18802839T, T18803307T, T18803308T, T18803325T and on)

"Maximum Allowable Manifold Pressure

<u>Press Alt.</u>	<u>MP. in. Hg.</u>
S.L.	39.5
2500	38.8
5000	38.1
7500	37.3"

- (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:

188 Series	3800 lb.
A188 Series (Serials 188-0001 and on)	4000 lb.
(Serials 18800967T through 18801374T)	4000 lb.
(Serials 678T, 18801375T and on)	4200 lb.
T188C Series (Serials T18802839T, T18803307T, T18803308T, T18803325T and on)	4400 lb.

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....

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 (CAS)	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	Normal	(+40.8) to (+46.4) at 2200 lbs. (+36.4) to (+46.4) at 1733 lbs.	
	Utility category	(+38.4) to (+40.3) at 1950 lbs. (+36.4) to (+40.3) at 1733 lbs. or less	
	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)		
	<i>See Note 1 for weight of unusable fuel and oil.</i>		
Oil capacity	2 gal. (-20), includes 1 gal. unusable		
Control Surface Movements	Wing flaps	Takeoff	Retracted 0° 1st notch 10° 2nd notch 20° 3rd notch 30° 4th notch 40°
		Landing	
	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)

Propeller and Propeller Limits	<div>1. Propeller</div> <div>(a) McCauley 1C172/EM 7652, 53, or 55</div> <div>Static rpm at maximum permissible throttle setting:</div> <div>Not over 2350, not under 2230</div> <div>No additional tolerance permitted</div> <div>Diameter: not over 76 in., not under 74.5 in.</div> <div>(b) Spinner, Dwg. 0550216, 0550221 or 0550228</div> <div>2. Propeller (seaplane only)</div> <div>(a) McCauley 1A175/SFC 8040</div> <div>Static rpm at maximum permissible throttle setting:</div> <div>Not over 2480, not under 2380</div> <div>No additional tolerance permitted</div> <div>Diameter: not over 80 in., not under 78.4 in.</div> <div>(b) Spinner, Dwg. 0550216 or 0550221</div> <div>3. Propeller</div> <div>(a) Sensenich 74DC-0-56</div> <div>Static rpm at maximum permissible throttle setting:</div> <div>Not over 2420, not under 2300</div> <div>No additional tolerance permitted</div> <div>Diameter: not over 74 in., not under 72.5 in.</div>	
*Airspeed Limits (CAS)	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	<div>Landplane (Model 172A):</div> <div>Normal category</div> <div>(+40.8) to (+46.4) at 2200 lbs.</div> <div>(+36.4) to (+46.4) at 1733 lbs. or less</div> <div>Utility category</div> <div>(+38.4) to (+40.3) at 1950 lbs.</div> <div>(+36.4) to (+40.3) at 1733 lbs. or less</div> <div>Straight line variation between points given.</div> <div>Landplane (Model 172B):</div> <div>Normal category</div> <div>(+40.4) to (+46.4) at 2200 lbs.</div> <div>(+36.4) to (+46.4) at 1850 lbs. or less</div> <div>Utility category</div> <div>(+37.4) to (+40.3) at 1950 lbs.</div> <div>(+36.4) to (+40.3) at 1850 lbs. or less</div> <div>Seaplane (Models 172A and 172B):</div> <div>Normal category</div> <div>(+39.8) to (+45.5) at 2220 lbs.</div> <div>(+36.4) to (+45.5) at 1825 lbs. or less</div> <div>Straight line variation between points given.</div>	
Empty Weight C.G. Range	None	
*Maximum Weight	<div>Landplane:</div> <div>Normal category</div> <div>2200 lb.</div> <div>Utility category</div> <div>1950 lb.</div> <div>Seaplane:</div> <div>Normal category</div> <div>2220 lb.</div>	
Number of Seats	4 (2 at +36, 2 at +70) (For child's optional jump seat, refer to Equipment List.)	
Maximum Baggage	120 lb. (+95)	
Fuel Capacity	42 gal. total, 37 gal. usable (172A); 39 gal. usable (172B) (two 21 gal. tanks in wings at +48) <i>See Note 1 for weight of unusable fuel and oil.</i>	
Oil Capacity	2 gal. (-20), 1 gal. usable	

II. Model 172A, Model 172B (cont'd)

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	15°
	Elevator tab	Up	28°	Down	13°
	Elevator	Up	28°	Down	26°
	Rudder (landplane)	Right	16°	Left	16°
	(seaplane)	Right	19°	Left	15°
	(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.		
*Airspeed Limits (CAS)	(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.		
	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	Landplane			
	Normal category	2250 lbs.		
	Utility category	1950 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) <i>See Note 1 for weight of unusable fuel and oil.</i>			
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°
	Ailerons	Up	4th notch	40°
			Down	15°
			Down	13°
			Down	26°
		Right	Left	16°
			Left	15°
			(Measured parallel to W.L.)	
	Serial Numbers Eligible			
	17248735 through 17249544			

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 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			
	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 (CAS)	Maneuvering	122 mph (106 knots)		
	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. (+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			
	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) <i>See Note 1 for weight of unusable fuel and oil.</i>			
Oil Capacity	2 gal. (-20), 1 gal. usable			
Control Surface Movements	Wing flaps	Takeoff	Retracted	0°
			1st notch	10°
		Landing		0° 40°
	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°	Left	16°
	(seaplane)	Right 19°	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 172L, 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	<div><div><div>1. Propeller</div><div><div>(a) McCauley 1C172/MTM 7653</div><div>Static rpm at maximum permissible throttle setting:</div><div>Not over 2360, not under 2260</div><div>No additional tolerance permitted (see Note 3)</div><div>Diameter: not over 76 in., not under 74 in.</div></div><div>(b) Spinner, Dwg. 0550320</div></div><div><div>2. Propeller (seaplane only)</div><div><div>(a) McCauley 1A175/ATM 8042</div><div>Static rpm at maximum permissible throttle setting:</div><div>Not over 2480, not under 2380</div><div>No additional tolerance permitted (see Note 3)</div><div>Diameter: not over 80 in., not under 78.4 in.</div></div><div>(b) Spinner, Dwg. 0550320</div></div><div><div>3. Propeller</div><div><div>(a) McCauley 1C160/CTM 7553</div><div>Static rpm at maximum permissible throttle setting:</div><div>Not over 2370, not under 2270</div><div>No additional tolerance permitted (see Note 3)</div><div>Diameter: not over 75 in., not under 74 in.</div></div><div>(b) Spinner, Dwg. 0550320</div></div><div><div>4. Propeller (seaplane only)</div><div><div>(a) McCauley 1A175/ETM 8042</div><div>Static rpm at maximum permissible throttle setting:</div><div>Not over 2480, not under 2380</div><div>No additional tolerance permitted (see Note 3)</div><div>Diameter: not over 80 in., not under 78.4 in.</div></div><div>(b) Spinner, Dwg. 0550321</div></div><div><div>5. Propeller</div><div><div>(a) McCauley 1C160/DTM 7553</div><div>Static rpm at maximum permissible throttle setting:</div><div>Not over 2370, not under 2270</div><div>No additional tolerance permitted (see Note 3)</div><div>Diameter: not over 75 in., not under 74 in.</div></div><div>(b) Spinner, Dwg. 0550320</div></div></div>	
*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	<div><div>Landplane</div><div><div>Normal category</div><div>(+38.5) to (+47.3) at 2300 lbs.</div><div>(+35.0) to (+47.3) at 1950 lbs. or less</div></div><div>Utility category</div><div>(+35.5) to (+40.5) at 2000 lbs.</div><div>(+35.0) to (+40.5) at 1950 lbs. or less</div></div> <div><div>Seaplane (Edo 89-2000 or 89A2000 floats)</div><div><div>Normal category</div><div>(+39.8) to (+45.5) at 2220 lbs.</div><div>(+36.4) to (+45.5) at 1825 lbs. or less</div></div></div> <div>Straight line variation between points given.</div>	

V. Model 172L, 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) <i>See Note 1 for weight of unusable fuel and oil.</i>			
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 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° (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)	<ol style="list-style-type: none"> 3. Propeller <ol style="list-style-type: none"> (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 <ol style="list-style-type: none"> (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) <ol style="list-style-type: none"> (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 <ol style="list-style-type: none"> (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)	<table> <tr> <td>Maneuvering</td><td>122 mph (106 knots)</td></tr> <tr> <td>Maximum structural cruising</td><td>140 mph (122 knots)</td></tr> <tr> <td>Never exceed</td><td>174 mph (151 knots)</td></tr> <tr> <td>Flaps extended</td><td>100 mph (87 knots)</td></tr> </table>	Maneuvering	122 mph (106 knots)	Maximum structural cruising	140 mph (122 knots)	Never exceed	174 mph (151 knots)	Flaps extended	100 mph (87 knots)
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	<p>Landplane</p> <table> <tr> <td>Normal category</td><td>(+38.5) to (+47.3) at 2300 lbs. (+35.0) to (+47.3) at 1950 lbs. or less</td></tr> <tr> <td>Utility category</td><td>(+35.5) to (+40.5) at 2000 lbs. (+35.0) to (+40.5) at 1950 lbs. or less</td></tr> </table> <p>Straight line variation between points given.</p> <p>Seaplane (Edo 89-2000 or 89A2000 floats)</p> <table> <tr> <td>Normal category</td><td>(+39.8) to (+45.5) at 2220 lbs. (+36.4) to (+45.5) at 1825 lbs. or less</td></tr> </table> <p>Straight line variation between points given.</p>	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	Normal category	(+39.8) to (+45.5) at 2220 lbs. (+36.4) to (+45.5) at 1825 lbs. or less		
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								
Normal category	(+39.8) to (+45.5) at 2220 lbs. (+36.4) to (+45.5) at 1825 lbs. or less								
Empty Weight C.G. Range	None								
*Maximum Weight	<p>Landplane:</p> <table> <tr> <td>Normal category</td><td>2300 lbs.</td></tr> <tr> <td>Utility category</td><td>2000 lbs.</td></tr> </table> <p>Seaplane:</p> <table> <tr> <td>Normal category</td><td>2220 lbs.</td></tr> </table>	Normal category	2300 lbs.	Utility category	2000 lbs.	Normal category	2220 lbs.		
Normal category	2300 lbs.								
Utility category	2000 lbs.								
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) <i>See Note 1 for weight of unusable fuel.</i>								

VI. Model 172L (cont'd)

Oil Capacity	2 gal. (-14.0), 1-1/2 gal. usable <i>See Note 1 for data on undrainable oil.</i>		
Control Surface Movements	Wing flaps		Takeoff 0° - 10°
			Landing 0° - 40° ±2°
	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°
Serial Numbers Eligible		(seaplane) Right 19° ±1°	Left 15° ±1°
	(Measured parallel to W.L.)		
	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	<div><div>1. Propeller</div><div><div>(a) McCauley 1C160/CTM 7553</div><div>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.</div></div><div><div>(b) Spinner: Dwg. 0550320</div></div></div> <div><div>2. Propeller</div><div><div>(a) McCauley 1C160/DTM 7553</div><div>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.</div></div><div><div>(b) Spinner, Dwg. 0550320</div></div></div> <div><div>3. Propeller (seaplane only)</div><div><div>(a) McCauley 1A175/ATM 8042</div><div>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.</div></div><div><div>(b) Spinner, Dwg. 0550320</div></div></div> <div><div>4. Propeller (seaplane only)</div><div><div>(a) McCauley 1A175/ETM 8042</div><div>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.</div></div><div><div>(b) Spinner, Dwg. 0550320</div></div></div>
*Airspeed Limits (CAS)	17256493, 17260759 through 17265684 <div><div>Maneuvering</div><div>112 mph (97 knots)</div><div>Maximum structural cruising</div><div>145 mph (126 knots)</div><div>Never exceed</div><div>182 mph (158 knots)</div><div>Flaps extended</div><div>100 mph (87 knots)</div></div>

VII. Model 172M (cont'd)

*Airspeed Limits (CAS) (See Note 4 on use of CAS)	17265685 through 17267584 Maneuvering Maximum structural cruising Never exceed Flaps extended	97 knots 128 knots 160 knots 85 knots
C.G. Range	Landplane: Normal category Utility category	(+38.5) to (+47.3) at 2300 lbs. (+35.0) to (+47.3) at 1950 lbs. or less (+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, 38 gal. usable (two 21 gal. tanks in wings at +48) <i>See Note 1 for data on unusable fuel.</i>	
Oil Capacity	2 gal. (-14.0), 1-1/2 gal. usable <i>See Note 1 for data on undrainable oil.</i>	
Control Surface Movements	Wing flaps Landing Ailerons Elevator tab Elevator (Neutral position is with bottom of balance area flush with bottom of stabilizer.) Rudder (landplane) (seaplane) (Measured parallel to W.L.)	Takeoff 0° - 10° (landplane) (seaplane) 0° - 40° +0°, -2° (landplane) 0° - 30° ±2° (seaplane) Up 20° ±1° Down 15° ±1° Up 28° +1°, -0° Down 13° +1°, -0° Up 28° +1°, -0° Down 23° +1°, -0° Right 16° ±1° Left 16° ±1° (landplane) Right 19° ±1° Left 15° ±1° (seaplane)
Serial Numbers Eligible	17256493, 17260759 through 17261898 (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 (CAS) (See Note 4 on use of CAS)	1977 Model through 1979 Model:	
	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) <i>See Note 1 for data on unusable fuel.</i>	
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)	
		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)
	(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	<div>1. Propeller</div> <div>(a) McCauley 1C160/DTM 7557</div> <div>Static rpm at maximum permissible throttle setting:</div> <div>Not over 2420, not under 2300</div> <div>No additional tolerance permitted</div> <div>Diameter: not over 75 in., not under 74 in.</div> <div>(b) Spinner: Dwg. 0550320</div> <div>2. Propeller (floatplane only)</div> <div>(a) McCauley 1A175/ETM 8043</div> <div>Static rpm at maximum permissible throttle setting:</div> <div>Not over 2570, not under 2470</div> <div>No additional tolerance permitted</div> <div>Diameter: not over 80 in., not under 78.5 in.</div> <div>(b) Spinner: Dwg. 0550320</div>		
*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.	(+35.0) to (+47.3) at 1950 lbs. or less
	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) <i>See Note 1 for data on unusable fuel.</i>		
Oil Capacity	2 gal. (-13.1), 3.5 gal. usable		
Control Surface Movements	Wing flaps		Takeoff 0° - 10°
			Landing 0° - 30° +0°, -2°
	Ailerons	Up 20° ±1°	Down 15° ±1°
	Elevator tab	Up 28° +1°, -0°	Down 13° +1°, -0° (floatplane)
		Up 22° +1°, -0°	Down 19° +1°, -0° (landplane)
	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	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	
*Airspeed Limits	Diameter: not over 76 in., not under 74.5 in.	
	(b) Spinner: Dwg. 0509077	
	Maneuvering	105 knots
	Maximum structural cruising	127 knots
	Never exceed	158 knots
C.G. Range	Flaps extended	85 knots
	Normal category (+41.0) to (+47.3) at 2550 lbs.	
	(+35.0) to (+47.3) at 1950 lbs. or less	
Empty Weight C.G. Range	Straight line variation between points given.	
*Maximum Weight	None	
	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) <i>See Note 1 for data on unusable fuel.</i>		
Oil Capacity	9 qt. at -15.5, 2 qt. unusable		
Control Surface Movements	Wing flaps	Takeoff	0° - 10°
		Landing	0° - 30° +0°, -2°
	Ailerons	Up	20° ±1°
		Down	15° ±1°
	Elevator tab	Up	22° +1°, -0°
		Down	19° +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	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	<u>Models 172 through 172P</u> 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 17276260 and on, FAR 23.1545(a), Amendment 23-23 dated December 1, 1978.	
	<u>Equivalent Safety Items</u>	17261445, 17261578, 17265685
	Airspeed Indicator	CAR 3.757 (see Note 4 on use of CAS) (17261445, 17261578, 17265685 through 17276259)
	Operating Limitations	CAR 3.778(a)
		<u>Model 172Q</u> 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.
	Application for Type Certificate dated July 11, 1955. Type Certificate No. 3A12 issued November 4, 1955, obtained by the manufacturer under Delegation Option Procedures.	
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.
2. Model 172H and on: Stall warning indicator, Dwg. 0523112.

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 (17267584) 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.

<u>Maneuver</u>	<u>Entry speed</u>
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"

DATA PERTINENT TO ALL MODELS 172 THROUGH 172Q (cont'd)

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.

	<u>MAXIMUMS</u>			
	<u>Normal Category</u>		<u>Utility Category</u>	
Maneuvering speed (CAS)	122 mph (106 knots)		122 mph (106 knots)	
Gross weight	2300 lbs.		2000 lbs.	
Flight load factor				
Flaps up	+3.8	-1.52	+4.4	-1.76
Flaps down	+3.5		+3.5	

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.

<u>Maneuver</u>	<u>Entry speed</u>
Chandelles	122 mph (106 knots)
Lazy eights	122 mph (106 knots)
Steep turns	122 mph (106 knots)
Spins	Slow deceleration
Stalls (except whip stalls)	Slow deceleration"

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:

	<u>MAXIMUMS</u>			
	<u>Normal Category</u>		<u>Utility Category</u>	
Maneuvering speed (CAS)	122 mph (106 knots)		122 mph (106 knots)	
Gross weight	2300 lbs.		2000 lbs.	
Flight load factor				
Flaps up	+3.8	-1.52	+4.4	-1.76
Flaps down	+3.5		+3.5	

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.

<u>Maneuver</u>	<u>Max. Entry speed</u>
Chandelles	122 mph (106 knots)
Lazy eights	122 mph (106 knots)
Steep turns	122 mph (106 knots)
Spins	Slow deceleration
Stalls (except whip stalls)	Slow deceleration"

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 172 THROUGH 172Q (cont'd)

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.

	<u>MAXIMUMS</u>			
	<u>Normal Category</u>		<u>Utility Category</u>	
Maneuvering speed (CAS)	112 mph (97 knots)		112 mph (97 knots)	
Gross weight	2300 lbs.		2000 lbs.	
Flight load factor				
Flaps up	+3.8	-1.52	+4.4	-1.76
Flaps down	+3.0		+3.0	
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.

<u>Maneuver</u>	<u>Recommended Entry speed</u>	<u>Maneuver</u>	<u>Recommended Entry Speed</u>
Chandelles	120 mph (104 knots)	Spins	Slow deceleration
Lazy eights	120 mph (104 knots)	Stalls (except	Slow deceleration
Steep turns	112 mph (97 knots)	whip stalls)	

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.

<u>MAXIMUMS</u>			
Maneuvering speed	110 mph (96 knots) (CAS)		
Gross weight	2220 lbs.		
Flight load factor	Flaps up	+3.8, -1.52	
	Flaps down	+3.0	

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.

	<u>MAXIMUMS</u>			
	<u>Normal Category</u>		<u>Utility Category</u>	
Maneuvering speed (CAS)	97 knots		97 knots	
Gross weight	2300 lbs.		2000 lbs.	
Flight load factor				
Flaps up	+3.8	-1.52	+4.4	-1.76
Flaps down	+3.0		+3.0	

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:

<u>Maneuver</u>	<u>Recommended</u>	<u>Maneuver</u>	<u>Recommended</u>
	<u>Entry speed</u>		<u>Entry Speed</u>
Chandelles	105 knots	Spins	Slow deceleration
Lazy eights	105 knots	Stalls (except	Slow deceleration
Steep turns	95 knots)	whip stalls)	

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)

Model 172M and 172N (Floatplane) (17265685 through 17271034)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.

<u>MAXIMUMS</u>			
Maneuvering speed (CAS)	96 knots		
Gross weight	2220 lbs.		
Flight load factor	Flaps up	+3.8, -1.52	
	Flaps down	+3.0	

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)

- 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"		

(3) Model 172C, 172D, 172E, 172F, 172G, and 172H

"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 attitudes) (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.

Flaps: Takeoff - 10° . . . Water rudder: Pull to retract . . .

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 172I, 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 US. gal."

(5) Model 172N (17261578, 17269310 through 17271034, excluding 17270050)

"FUEL

100LL/100 min. grade aviation gasoline
Cap. 21.5 US. 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 17271035 through 17272884)

172N, Cessna P/N D1172-13PH (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

Engine	Lycoming IO-360-L2A, Rated 160 Horsepower		
	<u>When Modified by Cessna Modification Kit MK172-72-01 (See NOTE 4)</u>		
	Lycoming IO-360-L2A, Rated 180 Horsepower		
Fuel	100/100LL minimum grade aviation gasoline		
Engine Limits	For all operations, 2,400 RPM		
	<u>When Modified by Cessna Modification Kit MK172-72-01 (See NOTE 4)</u>		
	For all operations, 2,700 RPM		
Propeller	(a) McCauley Model IC235/LFA7570		
	(b) Spinner: Drawing No. 0550236		
	<u>When Modified by Cessna Modification Kit MK172-72-01 (See NOTE 4)</u>		
	(a) McCauley Model 1A170E/JHA7660		
	(b) Spinner: Drawing No. 0550236		
Propeller Limits	Static RPM at full throttle: Not over 2,165; Not Under 2,065		
	No Additional Tolerance Permitted		
	Diameter: Not over 75 inches; not under 74 inches		
	<u>When Modified by Cessna Modification Kit MK172-72-01 (See NOTE 4)</u>		
	Static RPM at full throttle: Not over 2,400; Not Under 2,300		
	No Additional Tolerance Permitted		
	Diameter: Not over 76 inches; not under 75 inches		
Airspeed Limits	Maneuvering	99 Knots IAS	(97 Knots CAS)
	Max Structural Cruising	129 Knots IAS	(126 Knots CAS)
	Never Exceed	163 Knots IAS	(160 Knots CAS)
	Flaps Extended	85 Knots IAS	(84 Knots CAS)
	<u>When Modified by Cessna Modification Kit MK172-72-01 (See NOTE 4)</u>		
	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	(84 Knots CAS)

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

Wing flaps	Takeoff	0° - 10°	
	Landing	0° - 30° + 0°/-2°	
Ailerons	Up	20° ± 1°	Down 15° ± 1°
Elevator tab	Up	22° + 1°/-0°	Down 19° + 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 (Measured parallel to W.L.): Right 16° 10' ± 1° Left 16° 10' ± 1°
Rudder (Measured perpendicular to Hinge: Right 17° 44' ± 1° Left 17° 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 23.951 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)2, 23.562(c)1, 23.562(c)2, 23.562(c)3, and 23.562(c)4 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:

14 CFR 23.303; 23.307; 23.601; 23.1163(a); 23.1367 and 23.1381 as amended by Amendment 23- N/C. 14 CFR 23.1589 as amended by Amendment 23-13. 14 CFR 23.771(a) as amended by Amendment 23-14. 14 CFR 23.607 and (Electrical System) 23.1309(a)(1)(2), (c) as amended by Amendment 23-17. 14 CFR 23.1301; 23.1327 and 23.1547(e) as amended by Amendment 23-20. 14 CFR 23.1501 and 23.1541(a)(1), (a)(2), (b)(1), (b)(2) as amended by Amendment 23-21. 14 CFR 23.603 and 23.605 as amended by Amendment 23-23. 14 CFR 23.1529 as amended by Amendment 23-26. 14 CFR 23.561(e); 23.1523; 23.1581(a)(2); and 23.1583(a), (c), (d), (f) as amended by Amendment 23-34. 14 CFR 23.301 as amended by Amendment 23-42. 14 CFR 23.1322; 23.1331 and 23.1357(a)(b)(c)(d) as amended by Amendment 23-43. 14 CFR 23.305; 23.773(a)(1), (a)(2); 23.1525 and 23.1549 as amended by Amendment 23-45. 14 CFR 23.1303(a)(b)(c)(f); 23.1309(a)(1)(i), (a)(1)(ii), (a)(2), (b)(1), (b)(2)(i), (b)(2)(ii), (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); 23.1323(a), (b)(1), (b)(2), (c); 23.1329 (g)(h); 23.1351(a)(1), (a)(2)(i), (b)(1)(iii), (b)(2)(3), (c)(4), (d)(1); 23.1353(a)(b)(c)(d)(e); 23.1359(c); 23.1361; 23.1365(a)(b)(d)(e)(f) and 23.1431(a)(b)(d)(e) as amended by Amendment 23-49. 14 CFR 23.1325(a), (b)(1), (b)(2)(i), (b)(3), (c)(d)(e); 23.1543(b)(c); 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. 14 CFR 23.777(a)(b); 23.955(a)(2); 23.1337(a)(1), (a)(2), (b)(1), (c) as amended by Amendment 23-51. 14 CFR 23.1305(a)(1), (a)(2), (a)(3), (b)(2), (b)(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.

XI - Model 172R (cont'd)

Certification Basis (cont'd)

Additions for the Garmin GFC-700 Automatic Flight Control System (AFCS) only:

14 CFR 23.1335 as amended by Amendment 23-20, 14 CFR 23.1329 (a)(c)(d)(e)(f) as amended by Amendment 23-49.

Equivalent Safety Items

- | | | |
|-----|-----------------------------------|--|
| (1) | Induction System Icing Protection | FAR § 23.1093; Refer to FAA letter dated 5/3/96 |
| (2) | Throttle Control | FAR § 23.1143(g); Refer to FAA letter dated 3/22/96 |
| (3) | Mixture Control | FAR § 23.1147(b); Refer to FAA letter dated 3/22/96 |
| (4) | Anti-Collision Light System | 14 CFR § 23.1401(d); Refer to ACE-07-09, FAA letter dated 10/12/07 |
| (5) | Aviation White Color Reqmt | 14 CFR § 23.1397(c); Refer to ACE-07-10, FAA letter dated 11/29/07 |

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:

No. 23-159-SC, "Special Conditions: Cessna Aircraft Company; Cessna Model 172R Airplane; Installation of Electronic Flight Instrument System and the Protection of the System From High Intensity Radiated Fields (HIRF)."

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 (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.

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:

17280159	17280242	17280251	17280253	17280257
17280262	17280281	17280292	17280301	17280305
17280426	17280488	17280606	17280607	17280608
17280609	17280610	17280613	17280614	17280616
17280621	17280622	17280623	17280624	17280631
17280632	17280633	17280634	17280638	17280639
17280640	17280646	17280647	17280648	17280652
17280653	17280659	17280660	17280661	17280662
17280664	17280667	17280668	17280669	17280670
17280672	17280673	17280674	17280675	17280701
17280707				

XII - Model 172S, Skyhawk SP, 4 PCLM (Normal Category), 2 PCLM (Utility Category), Approved May 1, 1998

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		
	(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		

XII - Model 172S (cont'd)

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	<u>Normal Category</u>				
	Maximum Ramp	2,558 pounds			
	Maximum Takeoff and Landing	2,550 pounds			
	<u>Utility Category</u>				
	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 82.0 to 108.0 inches aft of datum				
	50 pounds at 108.0 to 142.0 inches aft of datum (Max. 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.				
Oil Capacity (Gal.)	8.0 quarts at 13.1 inches forward of datum 3.0 quarts usable				
Control Surface Movements	Wing flaps	Takeoff	0° - 10°		
		Landing	0° - 30° + 0°/-2°		
	Ailerons	Up	20° ± 1°	Down 15° ± 1°	
	Elevator tab	Up	22° + 1°/-0°	Down 19° + 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 (Measured parallel to W.L.): Right 16° 10' ± 1° Left 16° 10' ± 1°				
	Rudder (Measured perpendicular to Hinge: Right 17° 44' ± 1° Left 17° 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 23.951 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)2, 23.562(c)1, 23.562(c)2, 23.562(c)3, and 23.562(c)4 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.					

XII - Model 172S (cont'd)

Certification Basis (cont'd)

Additions for the Garmin G1000 Integrated Cockpit System (ICS) Only: Additions for the Garmin G1000 Integrated Cockpit System (ICS) Only:

14 CFR 23.303; 23.307; 23.601; 23.1163(a); 23.1367 and 23.1381 as amended by Amendment 23- N/C. 14 CFR 23.1589 as amended by Amendment 23-13. 14 CFR 23.771(a) as amended by Amendment 23-14. 14 CFR 23.607 and (Electrical System) 23.1309(a)(1)(2), (c) as amended by Amendment 23-17. 14 CFR 23.1301; 23.1327 and 23.1547(e) as amended by Amendment 23-20. 14 CFR 23.1501 and 23.1541(a)(1), (a)(2), (b)(1), (b)(2) as amended by Amendment 23-21. 14 CFR 23.603 and 23.605 as amended by Amendment 23-23. 14 CFR 23.1529 as amended by Amendment 23-26. 14 CFR 23.561(e); 23.1523; 23.1581(a)(2); and 23.1583(a), (c), (d), (f) as amended by Amendment 23-34. 14 CFR 23.301 as amended by Amendment 23-42. 14 CFR 23.1322; 23.1331 and 23.1357(a)(b)(c)(d) as amended by Amendment 23-43. 14 CFR 23.305; 23.773(a)(1), (a)(2); 23.1525 and 23.1549 as amended by Amendment 23-45. 14 CFR 23.1303(a)(b)(c)(f); 23.1309(a)(1)(i), (a)(1)(ii), (a)(2), (b)(1), (b)(2)(i), (b)(2)(ii), (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); 23.1323(a), (b)(1), (b)(2), (c); 23.1329 (g)(h); 23.1351(a)(1), (a)(2)(i), (b)(1)(iii), (b)(2)(3), (c)(4), (d)(1); 23.1353(a)(b)(c)(d)(e); 23.1359(c); 23.1361; 23.1365(a)(b)(d)(e)(f) and 23.1431(a)(b)(d)(e) as amended by Amendment 23-49. 14 CFR 23.1325(a), (b)(1), (b)(2)(i), (b)(3), (c)(d)(e); 23.1543(b)(c); 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. 14 CFR 23.777(a)(b); 23.955(a)(2); 23.1337(a)(1), (a)(2), (b)(1), (c) as amended by Amendment 23-51. 14 CFR 23.1305(a)(1), (a)(2), (a)(3), (b)(2), (b)(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.

Additions for the Garmin GFC-700 Automatic Flight Control System (AFCS) only:

14 CFR 23.1335 as amended by Amendment 23-20, 14 CFR 23.1329 (a)(c)(d)(e)(f) as amended by Amendment 23-49.

Equivalent Safety Items

(1)	Induction System Icing Protection	FAR § 23.1093; Refer to FAA letter dated 5/1/98
(2)	Throttle Control	FAR § 23.1143(g); Refer to FAA letter dated 5/1/98
(3)	Mixture Control	FAR § 23.1147(b); Refer to FAA letter dated 5/1/98
(4)	Anti-Collision Light System	14 CFR § 23.1401(d); Refer to ACE-07-09, FAA letter dated 10/12/07
(5)	Aviation White Color Reqmt	14 CFR § 23.1397(c); Refer to ACE-07-10, FAA letter dated 11/29/07

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:

No. 23-159-SC, "Special Conditions: Cessna Aircraft Company; Cessna Model 172S Airplane; Installation of Electronic Flight Instrument System and the Protection of the System From High Intensity Radiated Fields (HIRF)."

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 172SPHUS00 (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 (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

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**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

A16CE CESSNA Revision 21 207 T207 207A T207A March 31, 2003
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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 Propeller Limits	Landplane 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.)

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Propeller and
Propeller Limits

- Landplane
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
(CAS)

S/N 20700001 through 20700314	
Never exceed	210 m.p.h. (182 knots)
Maximum structural cruising	170 m.p.h. (148 knots)
Maneuvering (3800 lb. landplane)	148 m.p.h. (129 knots)
Flaps extended 0° - 10°	160 m.p.h. (139 knots)
10° - 30°	110 m.p.h. (96 knots)

(IAS)

(See NOTE 5 on Use of IAS)

S/N 20700315 and up	
Never exceed	186 knots
Maximum structural cruising	151 knots
Maneuvering (3800 lb. landplane)	132 knots
Flaps extended 0° - 10°	140 knots
10° - 30°	100 knots

*C.G. Range

Landplane
(+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

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	Wing flaps		30° +1° -2°
	Ailerons	Up 21° ±2°	Down 14° 30' ±2°
	Elevator	Up 21° ±1°	Down 19° ±1°
	Elevator tab	Up 25° +1° -0°	Down 5° +1° -0°
	Rudder (measured perpendicular to hinge line)	Right 27° 13' ±1°	Left 27° 13' ±1°
	(measured parallel to O.O.W.L.)	Right 24° ±1°	Left 24° ±1°
Serial Nos. Eligible	20700001 through 20700148	1969 Model	
	20700149 through 20700190	1970 Model	
	20700191 through 20700205	1971 Model	
	20700206 through 20700215	1972 Model	
	20700216 through 20700227	1973 Model	
	20700228 through 20700267	1974 Model	
	20700268 through 20700314	1975 Model	
	20700315 through 20700362	1976 Model	

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	<ol style="list-style-type: none"> (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 (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	<ol style="list-style-type: none"> (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)

S/N 20700363 through 20700482

Never exceed	(207A)	186 knots
	(T207A)	182 knots
Maximum structural cruising	(207A)	151 knots
	(T207A)	148 knots
Maneuvering		130 knots
Flaps extended	0° - 10°	140 knots
	10° - 30°	100 knots

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

Wing flaps				30° +1° -2°
Ailerons	Up	21° ±2°	Down	14° 30' ±2°
Elevator	Up	21° ±1°	Down	19° ±1°
Elevator tab	Up	25° +1° -0°	Down	5° +1° -0°
Rudder (measured perpendicular to hinge line)	Right	27° 13' ±1°	Left	27° 13' ±1°
(measured parallel to O.O.W.L.)	Right	24° ±1°	Left	24° ±1°

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	<p>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.</p> <p>Application for Type Certificate dated May 15, 1968.</p> <p>Type Certificate No. A16CE issued December 31, 1968, obtained by the manufacturer under delegation option procedures.</p> <p><u>Equivalent Safety Items</u> S/N 20700315 and on</p> <p>Airspeed Indicator FAR 23.1545 (See NOTE 5 on use of IAS)</p> <p>Airspeed Limitations FAR 23.1583(a)(1)</p>
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:	<p>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:</p> <p>1. Stall Warning Indicator, Cessna Dwg. S1672-5</p>

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 20700314

"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

Maneuvering speed (IAS)	132 knots
Gross weight	3800 lb.
Flight load factor	Flaps Up +3.8 -1.52
	Flaps Down +2.4

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: (S/N 20700001 through 20700221)

(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."

(Optional long range tanks)

"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."

(S/N 20700222 through 20700225)

(Standard range tanks) "Off - Left tank 29.0 gal. Right tank 29.0 gal.

Take off and land on fuller tank."

(Optional long range tanks)

"Off - Left tank 38.5 gal. Right tank 38.5 gal.

Take off and land on fuller tank."

(S/N 20700226 and up)

(Standard range tanks) "Off - Left tank 27.0 gal. Right tank 27.0 gal.

Take off and land on fuller tank."

(Optional long range tanks)

"Off - Left tank 36.5 gal. Right tank 36.5 gal.

Take off and land on fuller tank."

- (4) On fuel tank filler cap: (S/N 20700001 through 20700203)

(Standard range tanks) "Tank capacity 32.5 U.S. Gal., 100/130."

(Optional long range tanks)

"Tank capacity 42 U.S. Gal., 100/130."

Forward of fuel tank filler cap: (S/N 20700204 through 20700225)

(Standard range tanks) "Service this airplane with 100/130 min. aviation grade gasoline - capacity 32.5 gal."

(Optional long range tanks)

"Service this airplane with 100/130 min. aviation grade gasoline - capacity 42.0 gal."

Forward of fuel tank filler cap: (S/N 20700226 and on)

(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."

- (5) Above selector valve: (S/N 20700001 through 20700227)

"When switching from dry tank turn pump on 'HI' momentarily."

(S/N 20700228 and up)

"When switching from dry tank turn auxiliary fuel pump 'on' momentarily."

- (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

	2850 rpm	2700 rpm
Sea level	24 gph	23 gph
4,000 ft.	22 gph	21 gph
8,000 ft.	20 gph	19 gph

T207

Maximum Power Settings and Fuel Flow

Takeoff (5 min. only)	2700 rpm
35 In. Mp.	30 gph
Max. continuous power	2600 rpm

<u>Alt.</u>	<u>Ft.</u>	<u>Man. Press</u>	<u>Fuel Flow</u>
		<u>In. Hg.</u>	<u>G.P.H.</u>
S.L. to 17,000		35	28
18,000		34	27
20,000		32	25
22,000		30	23
24,000		28	21
26,000		26	19
28,000		24	18
30,000		22	17
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

Maneuvering speed (IAS)	130 knots
Gross weight	3800 lb.
Flight load factor	Flaps Up +3.8 -1.52
	Flaps Down +2.4

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

	<u>2700 r.p.m.</u>	<u>2850 r.p.m.</u>
S.L.	23 g.p.h.	24 g.p.h.
4000 ft.	21 g.p.h.	22 g.p.h.
8000 ft.	19 g.p.h.	20 g.p.h.
12000 ft.	17 g.p.h.	18 g.p.h."

S/N 20700483 through 20700729

"Min. fuel flows at full throttle

<u>R.P.M.</u>	<u>S.L.</u>	<u>4000</u>	<u>8000</u>	<u>12000</u>
2700	23 g.p.h.	21 g.p.h.	19 g.p.h.	17 g.p.h.
2850	24 g.p.h.	22 g.p.h.	20 g.p.h.	18 g.p.h."

- (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.

<u>Alt.</u>	<u>Ft.</u>	<u>Man. Press</u>	<u>Fuel Flow</u>
		<u>In. Hg.</u>	<u>G.P.H.</u>
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
normal climb 2500 r.p.m. 30.0 in. mp., 22 g.p.h."			

S/N 20700483 through 20700729

"MINIMUM FUEL FLOWS

<u>TAKEOFF</u>		<u>Maximum Continuous Power: 2600 RPM</u>							
<u>2700 RPM</u>	<u>ALT - FT/1000</u>	<u>SL-17</u>	<u>18</u>	<u>20</u>	<u>22</u>	<u>24</u>	<u>26</u>	<u>28</u>	<u>30</u>
<u>36.5 In. Hp.</u>	<u>MP. In. Hg.</u>	35	34	32	30	28	26	24	22
<u>31 GPH</u>	<u>Fuel flow - GPH</u>	27	26	24	22	20	18	17	16"

- (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:

<u>MODEL</u>	<u>CYLINDER HEAD NUMBER</u>
207	3
T207	1
207A (1977 & 1978 Models)	3
207A (1979 Model and on)	6
T207A	6

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
T207A (1977)	Cessna P/N D1093-13
207A (1978)	Cessna P/N D1120-13
T207A (1978)	Cessna P/N D1121-13
207A (1979)	Cessna P/N D1149-13PH
T207A (1979)	Cessna P/N D1150-13PH
207A (1980)	Cessna P/N D1184-13PH
T207A (1980)	Cessna P/N D1185-13PH
207A (1981)	Cessna P/N D1205-13PH
T207A (1981)	Cessna P/N D1206-13PH
207A (1982)	Cessna P/N D1224-13PH
T207A (1982)	Cessna P/N D1225-13PH
207A (1983)	Cessna P/N D1242-13PH
T207A (1983)	Cessna P/N D1243-13PH
207A (1984)	Cessna P/N D1263-13PH
T207A (1984)	Cessna P/N D1264-13PH

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**

3A21
Revision 46
CESSNA

210	210K
210A	T210K
210B	210L
210C	T210L
210D	210M
210E	T210M
210F	210N
T210F	P210N
210G	T210N
T210G	210R
210H	P210R
T210H	T210R
210J	210-5 (205)
T210J	210-5A (205A)

March 31, 2003|

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.hp.)

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°
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or 2. (b) Cessna spinner 0752006
(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

[illegible]

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 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	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	<table> <tr> <td>Wing flaps</td><td>Up 0°</td><td>Down 38° +2°, -1°</td></tr> <tr> <td>Ailerons</td><td>Up 20° ±2°</td><td>Down 14° ±2°</td></tr> <tr> <td>Elevator</td><td>Up 26°30' ±1°</td><td>Down 22° ±1°</td></tr> <tr> <td>Elevator tab</td><td>Up 25° +1°, -0°</td><td>Down 15° +1°, -0°</td></tr> <tr> <td>Rudder</td><td>Right 24° ±1°</td><td>Left 24° ±1°</td></tr> </table> (measured parallel to 0.0 W.L.)		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 25° +1°, -0°	Down 15° +1°, -0°	Rudder	Right 24° ±1°	Left 24° ±1°
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 25° +1°, -0°	Down 15° +1°, -0°															
Rudder	Right 24° ±1°	Left 24° ±1°															
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.hp.)
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 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

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°, -0°	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.hp.)
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	<table><tr><td>Wing flaps</td><td>Up 0°</td><td>Down 40° +1°, -2°</td></tr><tr><td>Ailerons</td><td>Up 20° ±2°</td><td>Down 14° ±2°</td></tr><tr><td>Elevator</td><td>Up 26°30' ±1°</td><td>Down 18° ±1°</td></tr><tr><td>Elevator tab</td><td>Up 20° +1°, -0°</td><td>Down 20° +1°, -0°</td></tr><tr><td>Rudder</td><td>Right 24° ±1°</td><td>Left 24° ±1°</td></tr></table> (measured parallel to 0.0 W.L.)	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°
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°														
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.hp.)
Propeller and Propeller Limits	<ol style="list-style-type: none"> (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 <ol style="list-style-type: none"> (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 <ol style="list-style-type: none"> Woodward hydraulic governor 210270, 210280, 210340, 210345, 210451, 210452

IV - Model 210-5 (205), Model 210-5A (205A) (cont'd)

*Airspeed Limits (CAS)	Never exceed	210 m.p.h.	(182 knots)
	Maximum structural cruising	170 m.p.h.	(148 knots)
	Maneuvering	138 m.p.h.	(120 knots)
	Flaps extended	110 m.p.h.	(96 knots)
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.		
Empty Wt. C.G. Range	None		
*Maximum Weight	3300 lb.		
No. of Seats	6 (2 at +36, 2 at +69, 2 at +100)		
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.		
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 210-5 (205)	: 641, 205-0001 through 205-0480 (1963 Model)	
	Model 210-5A (205A)	: 205-0481 through 205-0577 (1964 Model)	

V - Model 210D, 4 PCLM (Normal Category), Approved July 19, 1963

Engine	Continental IO-520-A		
*Fuel	100/130 minimum grade aviation gasoline		
*Engine Limits	For all operations, 2700 r.p.m. (285 b.hp.)		
Propeller and propeller limits	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° (b) Cessna spinner 0752004 (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.)		

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.																									
Control surface movements	<table><tr><td>Wing flaps</td><td>Up</td><td>0°</td><td>Down</td><td>40° +1°, -2°</td></tr><tr><td>Ailerons</td><td>Up</td><td>21° ±2°</td><td>Down</td><td>14°30' ±2°</td></tr><tr><td>Elevator</td><td>Up</td><td>26°30' ±1°</td><td>Down</td><td>18° ±1°</td></tr><tr><td>Elevator tab</td><td>Up</td><td>20° +1°, -0°</td><td>Down</td><td>10° +1°, -0°</td></tr><tr><td>Rudder</td><td>Right</td><td>24° ±1°</td><td>Left</td><td>24° ±1°</td></tr></table> <p>(measured parallel to 0.0. W.L.)</p>	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°
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°																						
Serial Nos. eligible	Model 210D: 21058221 through 21058510 (1964 Model)																									

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	<div>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°</div> <div>(b) Cessna spinner 1250411</div> <div>(c) Woodward hydraulic governor D210452</div> <div>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°</div> <div>(b) Cessna spinner 1250415</div> <div>(c) Woodward hydraulic governor D210452</div>		
*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)	<div>(+39.2) to (+46.6) at 3100 lb.</div> <div>(+33.0) to (+46.6) at 2250 lb. or less</div> <div>Straight line variation between points given.</div> <div>Moment change due to retracting landing gear (+2456 in.-lb.)</div>		
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 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 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.hp.)
Propeller and propeller limits	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> <ol style="list-style-type: none"> McCaughey E2A34C70/90AT-8 Diameter: not over 82 in., not under 80 in. Pitch settings at 36 in. sta.: low 11.8°, high 32.0° Cessna spinner 1250415 Woodward hydraulic governor G210452 McCaughey hydraulic governor C290D2/T2 or C290D4/T2 <ol style="list-style-type: none"> McCaughey D3A32C88/82NC-2 Diameter: not over 80 in., not under 78 in. Pitch settings at 30 in. sta.: low 14.0°, high 33.0° Cessna spinner 1250419-2 Woodward hydraulic governor G210452 McCaughey 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)	Never exceed	225 mph.	(196 knots)
	Maximum structural cruising	90 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 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	<ol style="list-style-type: none"> 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 | <ol style="list-style-type: none"> 1. Model 210K/210L (S/N 21059200 through 21060539) <ol style="list-style-type: none"> (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° <ol style="list-style-type: none"> (b) Cessna spinner 1250419-2 (c) Woodward hydraulic governor 210462 (d) McCauley hydraulic governor C290D2/T4 or C290D4/T4 |
|-----------------------------------|--|

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 | <ol style="list-style-type: none"> 1. Model T210K/T210L (S/N 21059200 through 21060539) <ol style="list-style-type: none"> (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° <ol style="list-style-type: none"> (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)
(See NOTE 4 on use of 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 |

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	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)			
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		
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)		
Serial Nos. Eligible	Models 210M/T210M:	21061574 through 21062273 (1977 Model) 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
*Engine Limits	Model P210N (S/N P21000001 through P21000760) 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.)

XV - 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)
(See NOTE 4 on use of 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)
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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) (See NOTE 4 on Use of 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)

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)				

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

Engine	Continental TSIO-520-R		
Fuel	100LL/100 minimum grade aviation gasoline		
*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	Right	24° ±1°	Left 24° ±1°
	(measured parallel to 0.0 W.L.)			
	Rudder	Right	27° 13' ±1	Left 17° 13' ±1°
	(measured perpendicular to hinge line)			
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

Model 210R

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) (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) 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 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	<p>Models 210/210A: Part 3 of the Civil Air Regulations effective May 15, 1956, with no amendments.</p> <p>Models 210B, 210C, 210D, 210E, 210F, T210F, 210G, T210G, 210H, T210H, 210J, T210J, 210K, T210K, 210L, T210L, 210M, T210M, 210N, T210N, 210R, 210-5(205), 210-5A(205A): Part 3 of the Civil Air Regulations effective May 15, 1956, and Paragraph 3.112 as amended October 1, 1959. FAR 36 dated December 1, 1969, plus Amendments 36-1 through 36-4 for Models 210M/T210M/210N/210R; Amendments 36-1 through 36-9 for the T210N. In addition, FAR 23.1559 effective March 1, 1978, for the Models 210N/T210N/210R.</p> <p>Models P210N, P210R: Part 3 of the Civil Air Regulations dated May 15, 1956, Paragraph 3.112 as amended October 1, 1959, and 23.365, 23.571, 23.775, 23.841, 23.843, 23.901, 23.909, 23.1041, 23.1043, 23.1143, 23.1305, 23.1325, 23.1441 and 23.1527 of FAR 23 effective February 1, 1965, as amended to February 14, 1975. FAR 36 dated December 1, 1969, plus Amendments 36-1 through 36-6 for P210N; Amendments 36-1 through 36-12 for P210R. Also FAR 23.1559 effective March 1, 1978, for P21000151 and up. Also for P210R, FAR 23.1323 effective September 1, 1977, and FAR 23.1545 effective December 1, 1978.</p> <p>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.</p> <p>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).</p>			

Certification basis (cont'd)	<p>Application for type certificate dated August 13, 1956.</p> <p>Type Certificate No. 3A21 issued April 20, 1959, obtained by the manufacturer under delegation option procedures.</p> <p><u>Equivalent Safety Items</u> (S/N 21061040 through 21064897 (T210 only), and S/N P21000001 through P21000835)</p> <p>Airspeed Indicator CAR 3.757 (See NOTE 4 for effectivity)</p> <p>Operating Limitations CAR 3.778(a) (210 S/N 21061040 through 21065009) (T210 S/N 21061040 through 21064897) (P210 S/N P21000001 through P21000834)</p> <p>Airspeed Indicating System CAR 3.663 (210N, S/N 21062955 through 21064897) (210R, S/N 21064898 through 21065009)</p>																
Production Basis	<p>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.</p>																
Equipment	<p>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:</p> <ol style="list-style-type: none"> 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.	<p>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 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, 210M, 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.</p>																
NOTE 2.	<p>The following placards must be displayed in locations as indicated:</p> <p>A. <u>Applicable to Models 210/210A</u></p> <ol style="list-style-type: none"> (1) In full view of the pilot: <ol style="list-style-type: none"> (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. <table border="0"> <tr> <td><u>Before takeoff</u></td><td><u>Before landing</u></td></tr> <tr> <td>1. Set tabs</td><td>1. Gear down</td></tr> <tr> <td>2. Flaps 0°-20°</td><td>2. Flaps down</td></tr> <tr> <td>3. Check induction air-cold</td><td>3. Check induction air-cold</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> <tr> <td>6. Check cowl flaps open</td><td>6. Check cowl flaps closed</td></tr> <tr> <td>7. Check fuel selector on fullest tank</td><td>7. Check fuel selector on fullest tank"</td></tr> </table>	<u>Before takeoff</u>	<u>Before landing</u>	1. Set tabs	1. Gear down	2. Flaps 0°-20°	2. Flaps down	3. Check induction air-cold	3. Check induction air-cold	4. Mixture rich	4. Mixture rich	5. Propeller full in	5. Propeller full in	6. Check cowl flaps open	6. Check cowl flaps closed	7. Check fuel selector on fullest tank	7. Check fuel selector on fullest tank"
<u>Before takeoff</u>	<u>Before landing</u>																
1. Set tabs	1. Gear down																
2. Flaps 0°-20°	2. Flaps down																
3. Check induction air-cold	3. Check induction air-cold																
4. Mixture rich	4. Mixture rich																
5. Propeller full in	5. Propeller full in																
6. Check cowl flaps open	6. Check cowl flaps closed																
7. Check fuel selector on fullest tank	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 - 160mph - 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
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.
- | | |
|--|---|
| <u>Before Takeoff</u>
1. Set tabs
2. Fuel selector full tank
3. Cowl flaps open
4. Mixture rich
5. Propeller full in
6. Flaps 0°-20° | <u>Before Landing</u>
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 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)

*Altitude in Feet <u>Sea Level to:</u>	Manifold <u>Pressure in. Hg.</u>	Fuel Flow <u>Gal/Hr</u>
19,000	32.5	28
20,000	31.5	26
22,000	29.5	24
24,000	27.5	22
26,000	25.5	20
28,000	23.5	19
30,000	21.5	18

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."

F. Applicable to Models 210G, T210G, 210H, T210H, 210J, T210J

(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 Sea Level to:	Manifold Pressure in. Hg.	Fuel Flow Gal/Hr
19,000	32.5	28
20,000	31.5	26
22,000	29.5	24
24,000	27.5	22
26,000	25.5	20
28,000	23.5	19
30,000	21.5	18

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.

Checklist Placard

Before Takeoff	Before Landing
1. Adjust trim controls	1. Fuel selector full tank
2. Fuel selector full tank	2. Gear down
3. Cowl flaps open	3. Cowl flaps closed
4. Mixture rich	4. Mixture rich
5. Propeller full in	5. Propeller full in
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

	<u>2700 r.p.m.</u>	<u>2850 r.p.m.</u>
Sea Level	23 gal/hr	24 gal/hr
4000 ft.	21 gal/hr	22 gal/hr
8000 ft.	19 gal/hr	20 gal/hr"

(9) Near the engine power instruments: (Model T210K)

*Altitude in Feet Sea Level to:	Manifold Pressure in. Hg.	Fuel Flow Gal/Hr
19,000	32.5	28
20,000	31.5	26
22,000	29.5	24
24,000	27.5	22
26,000	25.5	20
28,000	23.5	19
30,000	21.5	18

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

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)

Checklist Placard (Model 210K/T210K)(S/N 21059352 through 21059502)

"Checklist PlacardBefore 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)

ChecklistBefore 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
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.
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
- | | | |
|----------|-------------|-------------|
| | 2700 r.p.m. | 2850 r.p.m. |
| S.L. | 138 lbs/hr | 144 lbs/hr |
| 400 ft. | 126 lbs/hr | 132 lbs/hr |
| 8000 ft. | 114 lbs/hr | 120 lbs/hr" |
- (13) Near the engine power instruments
(Models T210K/T210L)
- "Max. allowable manifold press. & climb fuel flow
- | | | | | | | | |
|------------------|-------|------|------|------|------|------|------|
| Alt.-ft/1000 | SL-19 | 20 | 22 | 24 | 26 | 28 | 30 |
| M.P.-In. Hg. | 32.5 | 31.5 | 29.5 | 27.5 | 25.5 | 23.5 | 21.5 |
| Fuel flow-lbs/hr | 168 | 156 | 144 | 132 | 120 | 114 | 108 |
- 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.

<u>MAXIMUMS</u>	
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.

<u>MAXIMUMS</u>	
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 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.

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)

"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 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

	<u>2700 r.p.m.</u>	<u>2850 r.p.m.</u>
S.L.	138 lbs/hr	144 lbs/hr
400 ft.	126 lbs/hr	132 lbs/hr
8000 ft.	114 lbs/hr	120 lbs/hr"

"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

	<u>2700 r.p.m.</u>	<u>2850 r.p.m.</u>
S.L.	138 lbs/hr	144 lbs/hr
4000 ft.	126 lbs/hr	132 lbs/hr
8000 ft.	114 lbs/hr	120 lbs/hr
12000 ft.	102 lbs/hr	108 lbs/hr"

- (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.

Alt.-ft/1000	SL-17	18	20	22	24	26	28	30
M.P.-In. Hg.	35	34	32	30	28	26	24	22
Fuel flow-lbs/hr	162	156	144	132	120	108	102	96"

"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., 120 lbs/hr

Max. continuous power: 2600 r.p.m.

Alt.-ft/1000	SL-17	18	20	22	24	26	28	30
M.P.-In. Hg.	35	34	32	30	28	26	24	22
Fuel flow-lbs/hr	162	156	144	132	120	108	102	96"

"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.

Alt.-ft/1000	SL-17	18	20	22	24	26	28	30
M.P.-In. Hg.	35	34	32	30	28	26	24	22
Fuel flow-lbs/hr	162	156	144	132	129	108	102	96"

"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 10°)"
- 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 Pilot's Operating Handbook and FAA Approved Airplane Flight Manual.

No acrobatic 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

TAKEOFF		MAX. CONTINUOUS POWER: 2600 RPM						
2700 R.P.M.	ALT-FT/1000	SL-17	18	19	20	21	22	23
36.5 In.M.P	M.P. IN. HG.	35.5	34.5	33.5	32.5	31.5	30.5	29.5
180 LBS/HR	Fuel Flow - lbs/hr	162	156	150	144	138	132	126"

(10) On flap indicator:

P210N (S/N P21000001 through P21000385)

a. "0° - 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. "0° - 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 OPERATION LEANER THAN SHOWN IN THE TABLE IS PROHIBITED."

EXHAUST GAS TEMPERATURE (°F RICH OF PEAK)

POWER	2500 R.P.M.	2400 R.P.M.	2300 R.P.M.	2200 R.P.M.
76 to 80%	100%	75%	75%	50%
71 to 75%	75°	75°	50°	50°
66 to 70%	75°	50°	50°	25°
61 to 65%	50°	50°	25°	25°
56 to 60%	50°	25°	25°	Peak EGT
51 to 55%	25°	25°	Peak EGT	Peak EGT
46 to 50%	25°	Peak EGT	Peak EGT	Peak EGT
45% or less	Peak EGT	Peak EGT	Peak EGT	Peak EGT

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:

	<u>Model</u>	<u>Cylinder Head Number</u>
210, 210A	(1960-61 Model)	3
210B, 210C, 210D	(1962-63-64 Model)	1
210E, 210F, 210G, 210H, 210J	(1965-66-67-68-69 Model)	2
210F, T210G, T210H, T210J	(1966-67-68-69 Model)	5
210K	(1970-71 Model)	3
T210K	(1970-71 Model)	5
210L	(1972-73-74-75-76 Model)	3
T210L	(1972-73 Model)	5
T210L	(1974-75-76 Model)	1
210M	(1977 Model)	3
210M	(1978 Model)	1
T210M	(1977-78 Model)	1
P210N	(1978-81 Model)	5
210N	(1979-81 Model)	1
T210N	(1979 Model)	1
T210N	(1980-81 Model)(Non-Air Cond)	5 or 1
T210N	(1980-81 Model)(With Air Cond)	1
P210N	(1982-83 Model)	4
210N, 210R	(1982 Model and up)(Non Air Cond)	4
210N, 210R	(1982 Model and up)(With AirCond)	1
T210N	(1982 Model and up)	3
P210R, T210R	(1985 Model and up)	1

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 P21000761 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:

<u>Component Name</u>	<u>Retirement Hours</u>
Windshield, rear cabin top windows	13,000 hours
Side windows, and ice detector light lens	

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

		A3SO
		Revision 31
		Piper Aircraft, Inc
PA-32-260	PA-32R-301 (SP)	
PA-32-300	PA-32R-301 (HP)	
PA-32S-300	PA-32R-301T	
PA-32R-300	PA-32-301	
PA-32RT-300	PA-32-301T	
PA-32RT-300T		
PA-32-301FT		
PA-32-301XTC		June 7, 2007

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 The New Piper Aircraft, Inc transferred TC A3SO to Piper Aircraft, Inc on August 7, 2006.

I. - Model PA-32-260 (Cherokee Six 260), 6 PCLM (Normal Category), Approved March 4, 1965; 7 PCLM (Normal Category), Approved November 15, 1966.

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() and Blade Model 8477-2, or
Hartzell constant speed Model HC-C2YK-1()F and Blade Model F8477-2
Pitch: High $32^{\circ} \pm 2^{\circ}$, Low $12.0^{\circ} \pm .2^{\circ}$ 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)

Page No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Rev No.	31	25	27	25	27	25	27	27	24	27	27	24	29	27	25	27	27	24	27

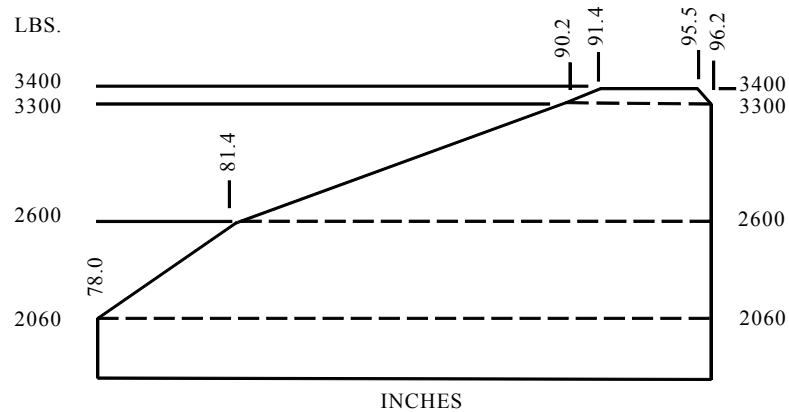
Page No.	20	21	22	23	24	25	26	27	28	29	30	31
Rev No.	29	29	27	29	29	31	31	31	31	31	31	31

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
Maneuvering	149 m.p.h. (130 knots) CAS
Flaps extended	125 m.p.h. (109 knots) CAS

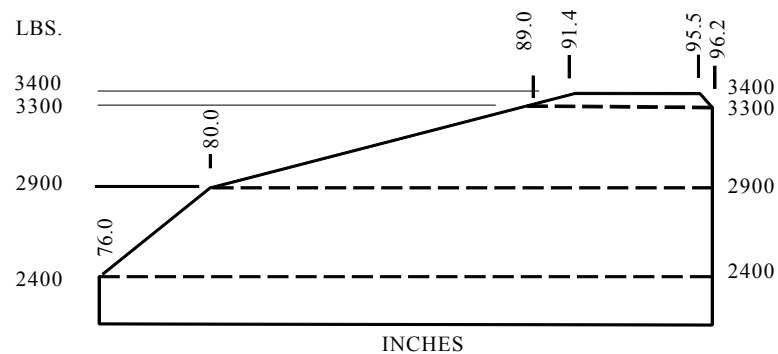
C.G. Range (gear extended)

(+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 32-1 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.



(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)

<u>No. of Seats</u>	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				
<u>Maximum Baggage</u>	200 lb. (100 lb. at +42.0, 100 lb. at +178.7)				
<u>Fuel Capacity</u>	84 gallons at +95.0 (4 wing tanks) See NOTE 1 for data on system fuel				
<u>Oil Capacity</u>	12 qt. at +16.6 (9-1/4 qt. usable) See NOTE 1 for data on system oil				
<u>Control Surface Movements</u>	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 32-1 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°)			
<u>Manufacturer's Serial Nos.</u>	32-03, 32-04, 32-1 through 32-1297, and 32-7100001 through 32-7800008. The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers 32-1034 through 32-1297, and 32-7100001 through 32-7800008 under the delegation option provisions of FAR 21.				

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.

<u>Engine</u>	Lycoming IO-540-K1A5, Bendix injector type RSA-10ED1 Lycoming IO-540-K1G5 (See NOTE 12) Flow Setting No. 2524273
<u>Fuel</u>	100/130 minimum grade aviation gasoline
<u>Engine Limits</u>	For all operations, 2700 r.p.m. (300 hp)
<u>Propeller and Propeller Limits</u>	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)

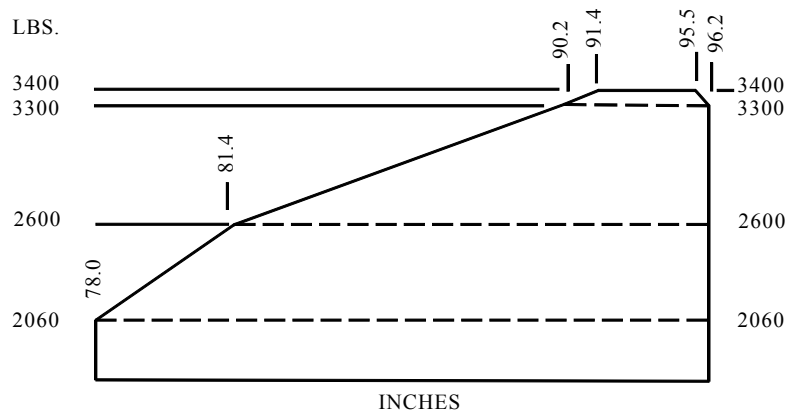
Hartzell constant speed Model HC-C2YK-1(), Blade Model 8475R-0, or
Hartzell constant speed Model HC-C2YK-1()F, Blade Model F8475R-0
Pitch: High $29^{\circ} \pm 1^{\circ}$, Low $12.4^{\circ} \pm .2^{\circ}$ at 30 in. station
Diameter: Not over 84 in., not under 82.3 in.
Governor Assembly: Hartzell F-4-4() 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

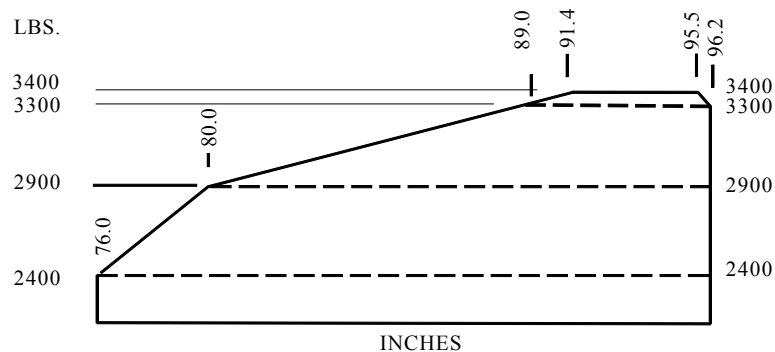
C.G. Range (gear extended)

(+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 NoneMaximum 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

<u>Control Surface Movements</u>	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 gasolineEngine 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 $34^{\circ} \pm 1^{\circ}$, Low $13.5^{\circ} \pm .2^{\circ}$ 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 $29^{\circ} \pm 1^{\circ}$, Low $12.4^{\circ} \pm .2^{\circ}$ 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)

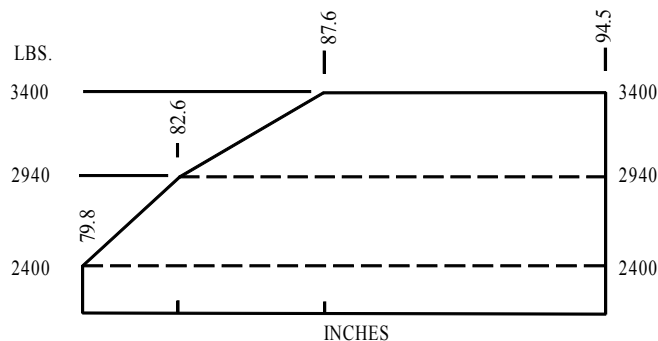
(+87.6) to (+94.5) at 3400 lb.

(+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)



(S/N 32S-40001 through 32S-40974, and 32S-7140001 through 32S-7240137)

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)

<u>Fuel Capacity</u>	84 gallons at +95.0 (4 wing tanks) See NOTE 1 for data on system fuel			
<u>Oil Capacity</u>	12 qt. at +16.6 (9-1/4 qt. usable) See NOTE 1 for data on system oil			
<u>Control Surface Movements</u>	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°)
<u>Manufacturer's Serial Nos.</u>	32S-15, 32S-40000 through 32S-40974, and 32S-7140001 through 32S-7240137. The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers 32S-40382, 32S-40385, 32S-40403, 32S-40465 through 32S-40469, 32S-40471 through 32S-40974, and 32S-7140001 through 32S-7240137 under the delegation option provisions of FAR 21 (See NOTE 7 and 9).			

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.

<u>Engine</u>	Lycoming IO-540-K1A5D Lycoming IO-540-K1G5D for S/N 32R-7680141 through 32R-7880068 (See NOTE 13) Flow Setting No. 2524273		
<u>Fuel</u>	100/130 minimum grade aviation gasoline		
<u>Engine Limits</u>	For all operations, 2700 r.p.m. (300 hp)		
<u>Propeller and Propeller Limits</u>	Hartzell constant speed Model HC-C2YK-1()F, Blade Model F8475D-4 Pitch: High $34^\circ \pm 1^\circ$, Low $13.5^\circ \pm .2^\circ$ 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)		
<u>Airspeed Limits</u>	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

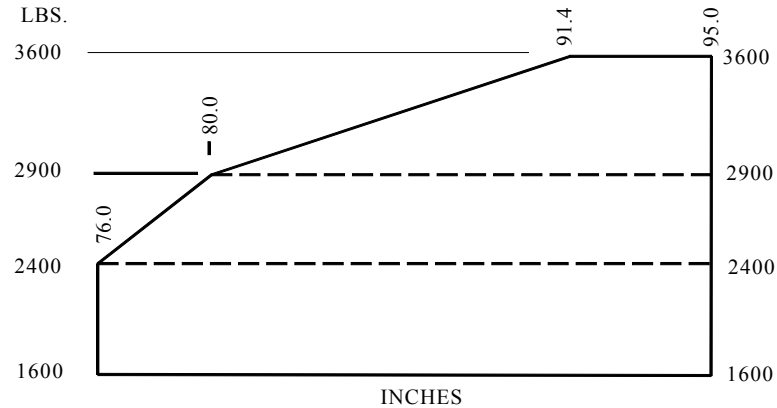
IV. - Model PA-32R-300 (cont'd)C.G. Range (gear extended)

(+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.

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

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°)

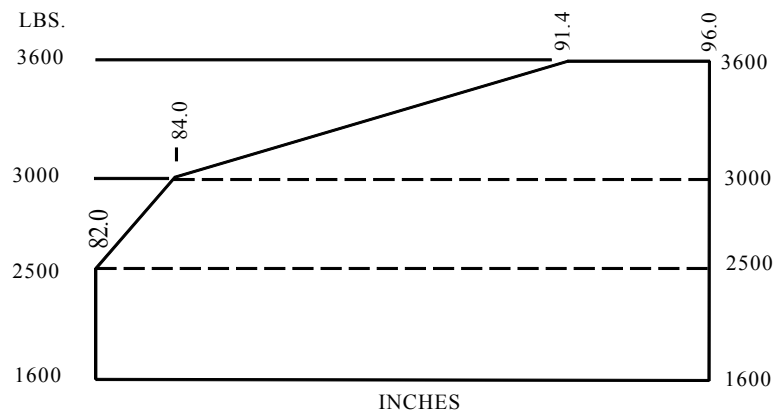
Manufacturer's Serial Nos.

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.

<u>Engine</u>	Lycoming IO-540-K1G5D Flow Setting No. 2524273
<u>Fuel</u>	100/130 minimum grade aviation gasoline
<u>Engine Limits</u>	For all operations, 2700 r.p.m. (300 hp)
<u>Propeller and Propeller Limits</u>	Hartzell constant speed Model HC-C2YK-1()F, Blade Model F8475D-4 Pitch: High $34^{\circ} \pm 1^{\circ}$, Low $13.5^{\circ} \pm .2^{\circ}$ 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)
<u>Airspeed Limits</u>	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
<u>C.G. Range (gear extended)</u>	(+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 Straight line variation between points given.



<u>Empty Weight C.G. Range</u>	None
<u>Maximum Weight</u>	3600 lb.
<u>No. of Seats</u>	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
<u>Maximum Baggage</u>	200 lb. (100 lb. at +42.0, 100 lb. at +178.7)

V. - Model PA-32RT-300 (cont'd)

<u>Fuel Capacity</u>	98 gallons at +93.6 (2 wing tanks) (94 gallons usable) See NOTE 1 for data on system fuel			
<u>Oil Capacity</u>	12 qt. at +16.6 (9-1/4 qt. usable) See NOTE 1 for data on system oil			
<u>Control Surface Movements</u>	Wing Flaps	Up	0° (±2°)	Down 30° (±2°)
	Ailerons	Up	30° (±2°)	Down 15° (±2°)
	Rudder	Left	36° (±2°)	Right 36° (±2°)
	Stabilator	Up	14.5° (±5°)	Down 10° (±1°)
	Stabilator Tab	Up	2.5° (±1°)	Down 10° (±5°)
<u>Manufacturer's Serial Nos.</u>	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.

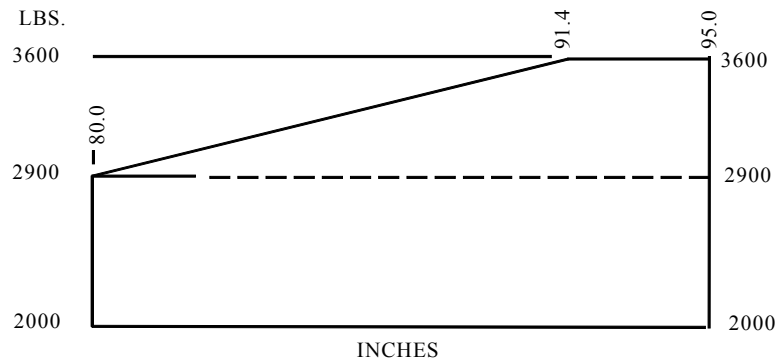
<u>Engine</u>	Lycoming TIO-540-S1AD Bendix Injector Type RSA-10ED1 Flow Setting No. 2524693 for S/N 32R-7787001, 32R-7887002 through 32R-7887041 Bendix Injector Type RSA-10ED2 Flow Setting No. 2524791 for S/N 32R-7787001, 32R-7887002 through 32R-7987126			
<u>Fuel</u>	100/130 minimum grade aviation gasoline			
<u>Engine Limits</u>	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)			
<u>Propeller and Propeller Limits</u>	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			
<u>Airspeed Limits</u>	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

Wing Flaps	Up	0° ($\pm 2^\circ$)	Down	40° ($\pm 2^\circ$)
Ailerons	Up	30° ($\pm 2^\circ$)	Down	15° ($\pm 2^\circ$)
Rudder	Left	36° ($\pm 2^\circ$)	Right	36° ($\pm 2^\circ$)
Stabilator	Up	14.5° ($\pm .5^\circ$)	Down	10° ($\pm 1^\circ$)
Stabilator Tab	Up	1.0° ($\pm 1^\circ$)	Down	10° ($\pm .5^\circ$)

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 $34^{\circ} \pm 1^{\circ}$, Low $13.5^{\circ} \pm .2^{\circ}$ 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 $32.0^{\circ} \pm 1^{\circ}$, Low $12.4^{\circ} \pm .2^{\circ}$ 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 PS50077-56 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.)

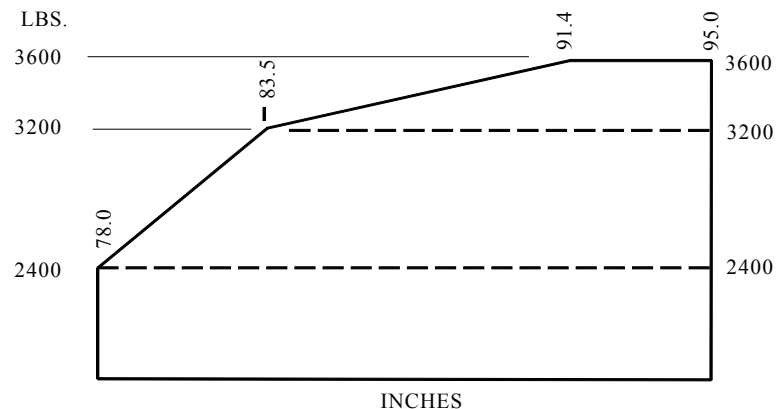
C.G. Range (gear extended)

(+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.

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)

<u>Maximum Baggage</u>	200 lb. (100 lb. at +42.0, 100 lb. at +178.7)			
<u>Fuel Capacity</u>	107 gallons at +94.0 (2 wing tanks) (102 gallons usable) See NOTE 1 for data on system fuel			
<u>Oil Capacity</u>	12 qt. at +16.6 (9-1/4 qt. usable) See NOTE 1 for data on system oil			
<u>Control Surface Movements</u>	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°)
<u>Manufacturer's Serial Nos.</u>	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.

<u>Engine</u>	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			
<u>Fuel</u>	100 or 100LL aviation grade fuel			
<u>Engine Limits</u>	Equipped with Hartzell 3 blade propeller HC-I3YR-1RF/F7663DR: For all operations, 2700 r.p.m. and full throttle (300 rated hp)			
<u>Propeller and Propeller Limits</u>	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.			
<u>Airspeed Limits</u> <u>(Indicated)</u>	For S/N 3213029, 3213042 through 3213103, and 3246001 through 3246017: 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)

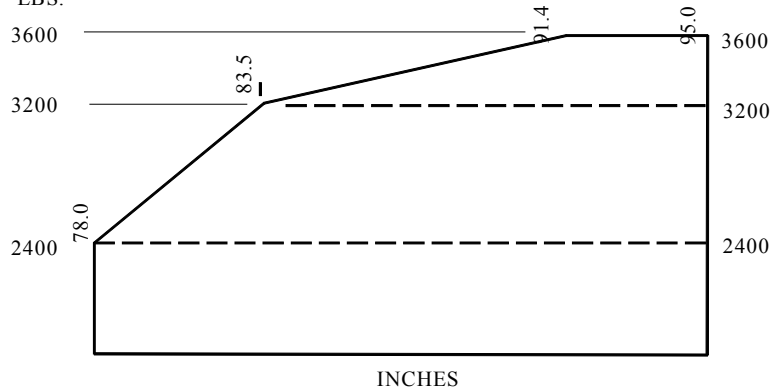
(+91.4) to (+95.0) at 3600 lb.

(+83.5) to (+95.0) at 3200 lb.

(+78.0) to (+95.0) at 2400 lb.

Straight line variation between points given.

LBS.

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 $34.0^{\circ} \pm 1^{\circ}$, Low $15.6^{\circ} \pm .2^{\circ}$ 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 $34.5^{\circ} \pm 1^{\circ}$, Low $13.2^{\circ} \pm .2^{\circ}$ 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

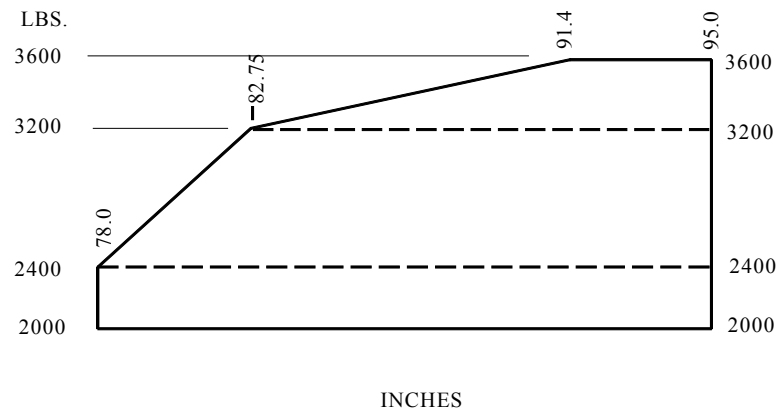
C.G. Range (gear extended)

(+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.

Empty Weight C.G. Range

None

Maximum Weight

Ramp: 3615 lb.

Takeoff: 3600 lb.

Landing: 3600 lb.

IX. - Model PA-32R-301T (cont'd)

<u>No. of Seats</u>	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			
<u>Maximum Baggage</u>	200 lb. (100 lb. at +42.0, 100 lb. at +178.7)			
<u>Fuel Capacity</u>	107 gallons at +94.0 (2 wing tanks) (102 gallons usable) See NOTE 1 for data on system fuel			
<u>Oil Capacity</u>	12 qt. at +16.6 (9-1/4 qt. usable) See NOTE 1 for data on system oil			
<u>Control Surface Movements</u>	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° (±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.

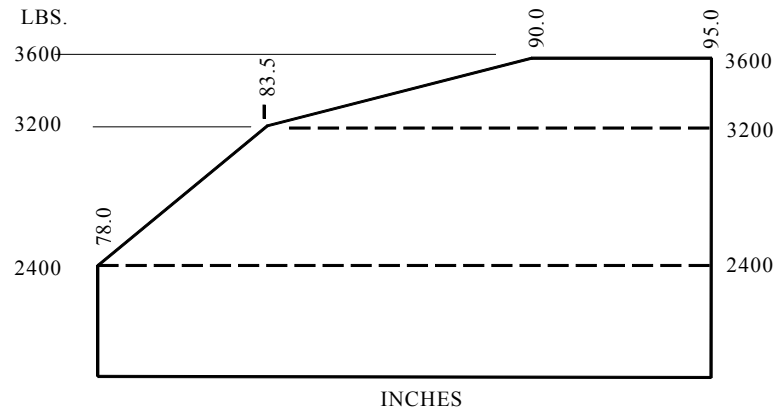
<u>Engine</u>	Lycoming IO-540-K1G5 Bendix Injector Type RSA-10ED1 Flow Setting No. 2524273
<u>Fuel</u>	100 or 100LL aviation grade fuel
<u>Engine Limits</u>	For airplanes equipped with standard Hartzell 2 blade propeller HC-C2Y(K,R)-1()F/F8475D-4: For 5 minute takeoff, 2700 r.p.m. and full throttle (300 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)
<u>Propeller and Propeller Limits</u>	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
(Indicated)

Never exceed	197 knots
Maximum structural cruise (with 3600 lb. gross weight)	154 knots
Maneuvering	134 knots
Flaps extended	112 knots

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: 3615 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.

32-8006002 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.

<u>Engine</u>	Lycoming TIO-540-S1AD Bendix Injector Type RSA-10ED2 Flow Setting No. 2524791	
<u>Fuel</u>	100 or 100LL aviation grade fuel	
<u>Engine Limits</u>	<p>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</p> <p>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</p>	
<u>Propeller and Propeller Limits</u>	<p>Hartzell constant speed Model HC-E2YR-1()F/F8477-4 (standard 2 blade): Pitch: High $34^{\circ} \pm 1^{\circ}$, Low $15.6^{\circ} \pm .2^{\circ}$ 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</p> <p>Hartzell constant speed Model HC-E3YR-1()F/F7673R-0 (optional 3 blade): Pitch: High $34.5^{\circ} \pm 1^{\circ}$, Low $13.2^{\circ} \pm .2^{\circ}$ 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</p>	
<u>Airspeed Limits</u> <u>(Indicated)</u>	Never exceed	197 knots (226 m.p.h.)
	Maximum structural cruise (with 3600 lb. gross weight)	154 knots (177 m.p.h.)
	Maneuvering	134 knots (154 m.p.h.)
	Maximum flaps extended	112 knots (129 m.p.h.)

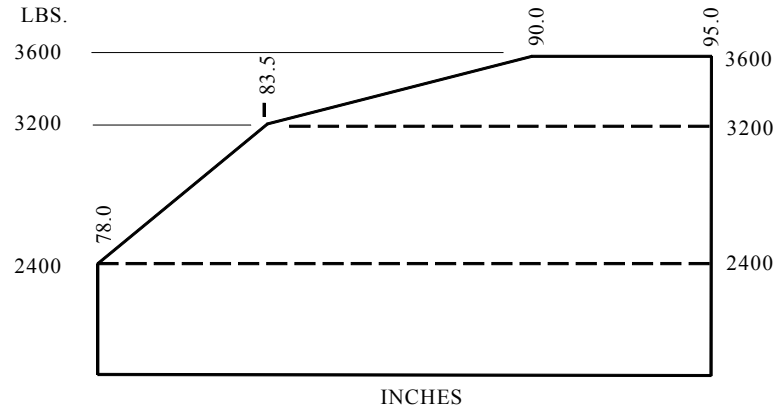
XI. - Model PA-32-301T (cont'd)C.G. Range (gear extended)

(+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.

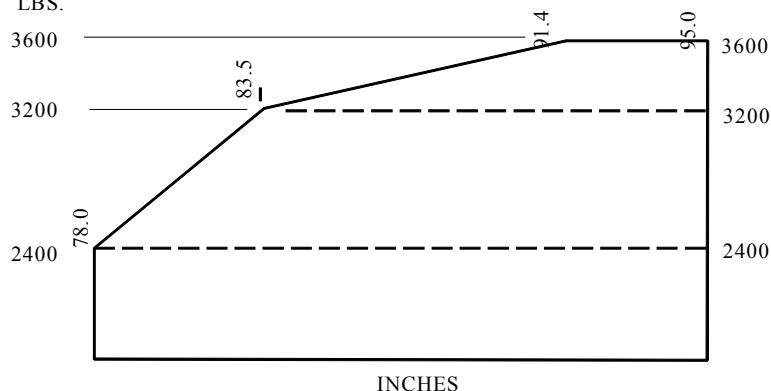
32-8024001 and 32-8424002. The manufacturer is authorized to issue airworthiness certificates for airplane serial numbers 32-8024001 through 32-8424002 the delegation option provisions of FAR 21 (See NOTE 7).

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.

<u>Engine</u>	Lycoming TIO-540-AH1A Precision Airmotive Injector, Type RSA-10ED1 Flow Setting No. 2576554-2
<u>Fuel</u>	100 or 100LL aviation grade fuel
<u>Engine Limits</u>	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.
<u>Propeller and Propeller Limits</u>	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 $34.0^{\circ} \pm 0.5^{\circ}$, Low $15.2^{\circ} \pm 0.2^{\circ}$ 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)
<u>Airspeed Limits</u> <u>(Indicated)</u>	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.
LBS.



<u>Empty Weight C.G. Range</u>	None
<u>Maximum Weight</u>	Ramp: 3615 lb. Takeoff: 3600 lb. Landing: 3600 lb.
<u>No. of Seats</u>	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)
<u>Maximum Baggage</u>	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

<u>Control Surface Movements</u>	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. 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.

XIII - Model PA-32-301FT (Piper 6X), 6 PCLM (Normal Category), Approved July 22, 2003.

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-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 serial number 3232001 and up:
(Indicated) 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.)

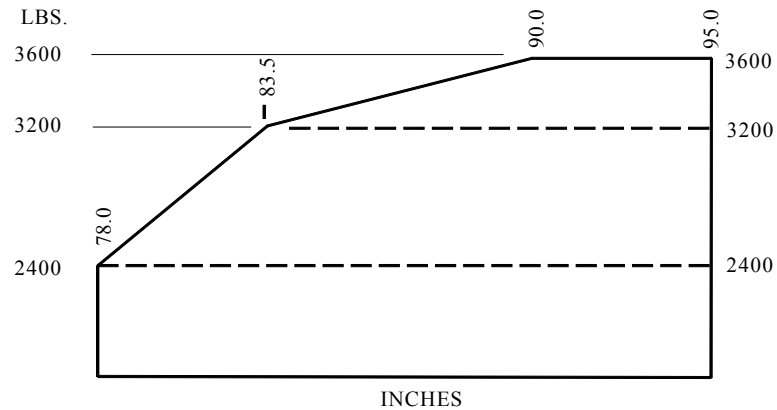
XIII. - Model PA-32-301FT (cont'd)C.G. Range

(+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)

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° ($\pm 1^\circ$)	Down	40° ($\pm 2^\circ$)
Ailerons	Up	28° ($\pm 1^\circ$)	Down	22° ($\pm 1^\circ$)
Rudder	Left	28° ($\pm 1^\circ$)	Right	28° ($\pm 1^\circ$)
Stabilator	Up	14.5° ($\pm 0.5^\circ$)	Down	5.5° ($\pm 0.5^\circ$)
Stabilator Tab	Up	5° ($\pm 1^\circ$)	Down	8° ($\pm 1^\circ$)
Nose Wheel Travel	Left	24° ($\pm 2^\circ$)	Right	24° ($\pm 2^\circ$)

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.

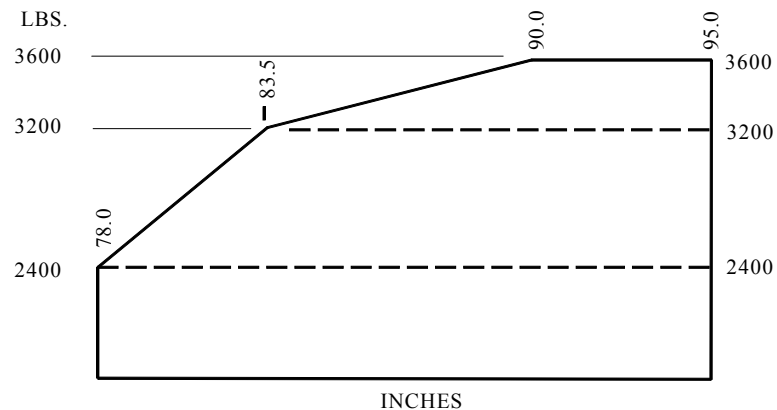
XIV. - Model PA-32-301XTC (Piper 6XT), 6 PCLM (Normal Category), Approved August 28, 2003.

Similar to Model PA-32R-301T, Saratoga IITC, except for fixed landing gear and other minor changes.

<u>Engine</u>	Lycoming TIO-540-AH1A Precision Airmotive Injector, Type RSA-10ED1 Flow Setting No. 2576554-2
<u>Fuel</u>	100 or 100LL aviation grade fuel
<u>Engine Limits</u>	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.
<u>Propeller and Propeller Limits</u>	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 $34.0^{\circ} \pm 0.5^{\circ}$, Low $15.2^{\circ} \pm 0.2^{\circ}$ 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)
<u>Airspeed Limits</u> <u>(Indicated)</u>	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.



<u>Empty Weight C.G. Range</u>	None
<u>Maximum Weight</u>	Ramp: 3615 lb. Takeoff: 3600 lb. Landing: 3600 lb.
<u>No. of Seats</u>	6 (2 at +85.5, 2 at +119.1, 2 at +157.6)
<u>Maximum Baggage</u>	200 lb. (100 lb. at +42.0, 100 lb. at +178.7)
<u>Fuel Capacity</u>	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

<u>Control Surface Movements</u>	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. 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 Type Certificate No. A3SO issued March 4, 1965.
Date of application for Type Certificate, February 20, 1964.
Delegation Option Authorization per FAR 21, Subpart J, granted July 17, 1968.

PA-32-260, PA-32S-300, and PA-32-300 (S/N 32-15 through 32-7840202): CAR 3, effective May 15, 1956, through Amendment 3-8, effective December 18, 1962.

PA-32-300, S/N 32-7940001 through 32-7940290: 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 23.1327 and 23.1547 as amended by Amendment 23-20, effective September 1, 1977; and FAR 23.1581(b)(2) as amended by Amendment 23-21, effective March 1, 1978. Equivalent Safety Finding for CAR 3.757.

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-32RT-300: CAR 3, effective May 15, 1956, through Amendment 3-8, effective December 18, 1962. In addition, FAR 23.221, 23.959, and 23.1091 as amended by Amendment 23-7, effective September 14, 1969; FAR 23.427 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 23.1327 and 23.1547 as amended by Amendment 23-20, effective September 1, 1977; and FAR Part 36, through Amendment 36-7, effective October 1, 1977. Equivalent Safety Finding for CAR 3.757.

PA-32RT-300T: CAR 3, effective May 15, 1956, through Amendment 3-8, effective December 18, 1962. In addition, FAR 23.221, 23.901, 23.909, 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 23.427 and 23.967(e)(2) as amended by Amendment 23-14, effective December 20, 1973; FAR 23.1093 and 23.1305 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; FAR 23.1581(b)(2) as amended by Amendment 23-21 effective March 1, 1978; and FAR Part 36 through Amendment 36-7, effective October 1, 1977. Equivalent Safety Finding for CAR 3.757, 3.84 and 3.86.

PA-32R-301, S/N 32R-8013001 through 32R-8613006, 3213001 through 3213028, and 3213030 through 3213041: CAR 3, effective May 15, 1956, through Amendment 3-8, effective December 18, 1962. In addition, 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 23.1093 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.

PA-32R-301, S/N 3213029, 3213042 through 3213103, and 3246001 through 3246087: CAR 3, effective May 15, 1956, through Amendment 3-8, effective December 18, 1962. In addition, 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 23.1093 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, Appendix G, through Amendment 36-16, effective December 22, 1988. Equivalent Safety Finding for CAR 3.757 and 3.777.

PA-32R-301, S/N 3246088 and up: CAR 3, effective May 15, 1956, through Amendment 3-8, effective December 18, 1962. In addition, 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 23.1093 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; FAR 23.1529 as amended by Amendment 23-26, effective October 14, 1980; FAR 23.1557(c)(1) as amended by Amendment 23-45, effective September 7, 1993; FAR 23.561(b)(3) as amended by Amendment 23-51, effective March 11, 1996; FAR 23.1305 as amended by Amendment 23-52, effective July 25, 1996; and FAR 36 through Amendment 36-16, effective December 22, 1988.

For aircraft S/N 3246218 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, 23.1329, 23.1351, 23.1353, 23.1359, 23.1361, 23.1365, 23.1431 as amended by Amdt. 23-49; FAR 23.1305 as amended by Amdt. 23-52; FAR 23.1322, 23.1331, 23.1357 as amended by Amdt. 23-43; FAR 23.1325, 23.1543, 23.1545, 23.1555, 23.1563, 23.1581, 23.1583, 23.1585 as amended by Amdt. 23-50; FAR 23.771 as amended by Amdt. 23-14; FAR 23.1501, 23.1541 as amended by Amdt. 23-21; FAR 23.1523 as amended by Amdt. 23-34; FAR 23.1529 as amended by Amdt. 23-26; Special Condition 23-147-SC for HIRF (Docket No. CE207), dated July 16, 2004.

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 23.1093 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, 23.909, 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 23.1093 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 as amended by Amendment 23-21, effective March 1, 1978; FAR 23.1545 as amended by Amendment 23-23, effective December 1, 1978; FAR 23.1529 as amended by Amendment 23-26, effective October 14, 1980; FAR 23.1557(c)(1) as amended by Amendment 23-45, effective September 7, 1993; FAR 23.1305 as amended by Amendment 23-52, effective July 25, 1996; and FAR 36 through Amendment 36-16, effective December 22, 1988. Compliance with FAR 23.1441 as amended by Amendment 23-9, effective June 17, 1970, has been 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,

23.1329, 23.1351, 23.1353, 23.1359, 23.1361, 23.1365, 23.1431 as amended by Amdt. 23-49; FAR 23.1305 as amended by Amdt. 23-52; FAR 23.1322, 23.1331, 23.1357 as amended by Amdt. 23-43; FAR 23.1325, 23.1543, 23.1545, 23.1555, 23.1563, 23.1581, 23.1583, 23.1585 as amended by Amdt. 23-50; FAR 23. 771 as amended by Amdt. 23-14; FAR 23.1501, 23.1541 as amended by Amdt. 23-21; FAR 23.1523 as amended by Amdt. 23-34; FAR 23.1529 as amended by Amdt. 23-26; Special Condition 23-147-SC for HIRF (Docket No. CE207), dated July 16, 2004.

For aircraft S/N 3257447, 3257455 and up equipped with Piper factory installed optional Garmin G1000 system, the additional certification basis for installation specific items only (see Report VB-1965) 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, 23.1547 as amended by Amdt. 23-20; FAR 23.853, 23.867, 23.1303, 23.1307, 23.1309, 23.1311, 23.1321, 23.1323, 23.1326, 23.1329, 23.1351, 23.1353, 23.1359, 23.1361, 23.1365, 23.1431 as amended by Amdt. 23-49; FAR 23.1305 as amended by Amdt. 23-52; FAR 23.1322, 23.1331, 23.1357 as amended by Amdt. 23-43; FAR 23.1325, 23.1543, 23.1545, 23.1553, 23.1555, 23.1563, 23.1581, 23.1583, 23.1585 as amended by Amdt. 23-50; FAR 23. 771 as amended by Amdt. 23-14; FAR 23.1501, 23.1541 as amended by Amdt. 23-21; FAR 23.1523 as amended by Amdt. 23-34; FAR 23.1529 as amended by Amdt. 23-26; Special Condition 23-204-SC for HIRF (Docket No. CE264), dated January 24, 2007.

PA-32-301FT, S/N 3232001 and up and PA-32-301 XTC, S/N 3255001 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, 23.909, 23.959, 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 23.1093 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 as amended by Amendment 23-21, effective March 1, 1978; FAR 23.1545 as amended by Amendment 23-23, effective December 1, 1978; FAR 23.1529 as amended by Amendment 23-26, effective October 14, 1980; FAR 23.853(a) and (c)(1) as amended by Amendment 23-34, effective January 15, 1987; FAR 23.1309 as amended by Amendment 23-41 for the communication and navigation LRUs only; FAR 23.1557(c)(1) as amended by Amendment 23-45, effective September 7, 1993; FAR 23.561(b)(3) as amended by Amendment 23-48, effective March 11, 1996; FAR 23.1041, 23.1043, and 23.1047 as amended by Amendment 23-51, effective March 11, 1996; FAR 23.1305 as amended by Amendment 23-52, effective July 25, 1996; and FAR 36 through the latest Amendment at the time of certification. Compliance with FAR 23.1441 as amended by Amendment 23-9, effective June 17, 1970, has been shown with supplemental oxygen for the PA-32-301XTC only.

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

Eff. 11/26/90; FAR 23.572(a)(1), 23.613(a)(b)(d) as amended by Amdt. 23-45, Eff. 09/07/93; FAR 23.561(b)(3)(e) as amended by Amdt. 23-48, Eff. 03/11/96; FAR 23.1329 as amended by Amdt. 23-49 Eff. 02/09/96.

For PA-32-301FT aircraft S/N 3232014 and up and PA-32-301XTC aircraft S/N 3255015 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, 23.1329, 23.1351, 23.1353, 23.1359, 23.1361, 23.1365, 23.1431 as amended by Amdt. 23-49; FAR 23.1305 as amended by Amdt. 23-52; FAR 23.1322, 23.1331, 23.1357 as amended by Amdt. 23-43; FAR 23.1325, 23.1543, 23.1545, 23.1555, 23.1563, 23.1581, 23.1583, 23.1585 as amended by Amdt. 23-50; FAR 23.771 as amended by Amdt. 23-14; FAR 23.1501, 23.1541 as amended by Amdt. 23-21; FAR 23.1523 as amended by Amdt. 23-34; FAR 23.1529 as amended by Amdt. 23-26; Special Condition 23-147-SC for HIRF (Docket No. CE207), dated July 16, 2004.

For PA-32-301FT aircraft S/N 3232068 and up equipped with Piper factory installed optional Garmin G1000 system, the additional certification basis for installation specific items only (see Report VB-1965) 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, 23.1547 as amended by Amdt. 23-20; FAR 23.853, 23.867, 23.1303, 23.1307, 23.1309, 23.1311, 23.1321, 23.1323, 23.1326, 23.1329, 23.1351, 23.1353, 23.1359, 23.1361, 23.1365, 23.1431 as amended by Amdt. 23-49; FAR 23.1305 as amended by Amdt. 23-52; FAR 23.1322, 23.1331, 23.1357 as amended by Amdt. 23-43; FAR 23.1325, 23.1543, 23.1545, 23.1553, 23.1555, 23.1563, 23.1581, 23.1583, 23.1585 as amended by Amdt. 23-50; FAR 23.771 as amended by Amdt. 23-14; FAR 23.1501, 23.1541 as amended by Amdt. 23-21; FAR 23.1523 as amended by Amdt. 23-34; FAR 23.1529 as amended by Amdt. 23-26; Special Condition 23-204-SC for HIRF (Docket No. CE264), dated January 24, 2007.

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:

<u>MODEL</u>	<u>AFM/POH</u>	<u>REPORT NO.</u>	<u>APPROVED</u>	<u>S/N EFFECTIVITY</u>
PA-32-260	AFM	VB-152	3- 4-65	32-1 through 32-1110
	AFM	VB-156	12-17-68	32-1111 through 32-1297, and
				32-7100001 through 32-7200045

	AFM Supp.	VB-357	8-25-71	32-1 through 32-1297, and 32-7100001 through 32-7100027
	AFM	VB-478	9- 1-72	32-7300001 through 32-7300065
	AFM	VB-561	5-14-73	32-7400001 through 32-7600024
	POH	VB-820	8-18-76	32-7700001 through 32-7800008
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 32-7140001 through 32-7240055
	AFM Supp.	VB-357	8-25-71	32-40000 through 32-40974, and 32-7140001 through 32-7240001
	AFM	VB-393	1-20-72	32-7240056 through 32-7340191
	AFM	VB-562	5-14-73	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 32S-7140001 through 32S-7240137
	AFM Supp.	VB-357	8-25-71	32S-40001 through 32S-40974, and 32S-7140001 through 32S-7240137
PA-32RT-300	POH/AFM	VB-890	12-13-77	32R-7885002 through 32-7985106
PA-32RT-300T	POH/AFM	VB-900	5-1-78	32R-7787001, and 32R-7887002 through 32R-7987126
PA-32R-301	POH/AFM	VB-1080	11-8-79	32R-8013001 through 32R-8613006, 3213001 through 3213028, and 3213030 through 3213041
	POH/AFM	VB-1551	5-31-93	3213029, and 3213042 through 3213103
	POH/AFM	VB-1614	7-12-95	3246001 through 3246017
	POH/AFM	VB-1600	11-30-95	3246018 through 3246087
	POH/AFM	VB-1669	6-30-97	3246088 and up
PA-32R-301T	POH/AFM	VB-1090	11-8-79	32R-8029001 through 32R-8629008, and 3229001 through 3229003
	POH/AFM	VB-1647	6-30-97	3257001 and up
PA-32-301	POH/AFM	VB-1060	1-9-80	32-8006002 through 32-8606023, and 3206001 through 3206019
PA-32-301T	POH/AFM	VB-1070	1-9-80	32-8024001 through 32-8424002
	POH/AFM	VB-1975	4-9-2007	3257447, 3257455 and up having the Garmin G1000 system installed
PA-32-301FT	POH/AFM	VB-1850	7-22-2003	3232001 and up
	POH/AFM	VB-1976	4-9-2007	3232068 and up having the Garmin G1000 system installed
PA-32-301XTC	POH/AFM	VB-1881	8-26-2003	3255001 and up

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

Models PA-32R-300, PA-32RT-300, PA-32RT-300T and PA-32-300 (S/N 32-7940001 through 32-7940290):

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, requires 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:
32-40491, 32-40503, 32-40518, 32-40532, 32-40533, 32-40544, 32-40545, 32-40965, 32-40966, 32-40968 through 32-40974, 32-7240120, 32-7240123, 32-7240126, 32-7240129, 32-7240132, 32-7340133, 32-7340155, 32-7340159, 32-7340160, 32-7340172, 32-7440144, 32-7540114, 32-7540136, 32-7640127, 32-7740100, 32-7840028, 32-7940141, and 32-7940240.
- PA-32R-300:
32R-7680409, 32R-7680410, 32R-7780520, 32R-7880057, 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:

32-8024031, 32-8024032, 32-8124011, 32-8124017, 32-8124018, 32-8124035, 32-8124036, 32-8224011, 32-8224013, 32-8224014, 32-8324006, 32-8324015, and 32-8324016.

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.:

AR32-7440144, AR32-7340133, AR32-7340155, AR32-7340159, AR32-7340160, AR32-7340172.

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-7787001, 32R-7887002 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