DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

A12SO
Revision 23
COMMANDER
112
112TC
112B
112TCA
114
114A
114B
114TC
October 3, 2013

TYPE CERTIFICATE DATA SHEET A12SO

This data sheet, which is part of Type Certificate No. A12SO, 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:	Commander Aircraft Corporation 2 Dorset Road Colonia, NJ 07067
Type Certificate Holder Record:	CPAC, Inc. transferred to Commander Aircraft Corporation on October 3, 2013; Commander Aircraft Company transferred to CPAC, Inc. on September 12, 2005; Gulfstream Aerospace Corporation transferred to Commander Aircraft Company on December 27, 1988; Gulfstream American Corporation transferred to Gulfstream Aerospace Corporation on February 3, 1981; Rockwell International, Commander Aircraft Division transferred to Gulfstream American Corporation

I. Model 112, 4 PCLM (Normal and Utility Category), Approved June 1, 1972

Engine	Lycoming I0-360-C1D6
Fuel	100/130 minimum grade aviation gasoline
Engine Limits	For all operations, 2700 rpm (200 hp)
Propeller and Propeller Limits	Hartzell Constant Speed, Model HC-E2YR-1BF or HC-E2YR-1B Blade, Model F766A or 7666A Pitch: High 28° - 30°, Low 13° ± 0.2° at Blade Station 30 inches Diameter: Not over 76", not under 74" Governor: Edo-Aire 34-828-014 or Edo-Aire 34-828-014-2 Spinner: Hartzell C-3533 or C-3533P or Aero Commander 46390-3 Limitations: Do not exceed 24" Hg. manifold pressure below 2400 rpm

I. Model 112 (cont'd)

Airspeed Limits	Never exceed	180 Kts (207 mph) CAS
	Decrease speed 1 Kt per 1000 ft. above 10,000 ft.	
	Max. structural cruising 2550 lbs.	148 Kts (170 mph) CAS
	Decrease speed 1 Kt per 1000 ft. above 10,000 ft.	
	Max. structural cruising 2650 lbs.	143 Kts (165 mph) CAS
	Decrease speed 1 Kt per 1000 ft. above 10,000 ft.	
	Maneuvering (Normal 2550 lbs)	111 Kts (128 mph) CAS
	Maneuvering (Normal 2650 lbs)	113 Kts (130 mph) CAS
	Maneuvering (Utility)	118 Kts (136 mph) CAS
	Flaps extended up to 20°	130 Kts (150 mph) CAS
	20° to 35°	109 Kts (125 mph) CAS
	Max. gear extended	130 Kts (150 mph) CAS
	Max. gear operating	130 Kts (150 mph) CAS
	Max. cowl flaps open	130 Kts (150 mph) CAS
	Max. side window open	130 Kts (150 mph) CAS

C.G. Range

Normal Category

Forward: 103.5" aft of datum (18.8% MAC) at 2650 lbs.
101.4" aft of datum (15.0% MAC) at 2550 lbs.
97.0" aft of datum (7% MAC) at 2100 lbs.
97.0" aft of datum (7% MAC) at 1600 lbs.

Aft: 110.5" aft of datum (31.5% MAC) at 2650 lbs.
110.5" aft of datum (31.5% MAC) at 1600 lbs.

Utility Category

Forward: 100.8" aft of datum (13.9% MAC) at 2488 lbs.
97.0" aft of datum (7% MAC) at 2100 lbs.
97.0" aft of datum (7% MAC) at 1600 lbs.

Aft: 106.5" aft of datum (24.25% MAC) at 2488 lbs.
106.5" aft of datum (24.25% MAC) at 1600 lbs.

Straight line variations between points.

Empty Weight C.G. Range: None

Datum: 62.5" forward of firewall (front face)

Leveling Means: Bottom of fuselage, outer surface, from F.S. 62.5 to F.S. 97.6

Maximum Weight: 2550 lbs. takeoff; 2550 landing (S/N 3 thru 125).
See Note 4 – Normal Category

No. of Seats: 2 Occupants at (+ 99.0); 2 Occupants at (+ 136.0) Normal Category Only

Maximum Baggage: 200 lbs. (at + 164.0) Normal Category
0 lbs. Utility Category

Fuel Capacity: 64 gal. usable (2 wing tanks) at +108.6.
(See Note 1 for unusable fuel)(S/N 3 thru 125)
68 gal. usable (2 wing tanks) at +108.6.
(See Note 1 for unusable fuel)(S/N 126 thru 155)
48 gal. usable (2 wing tanks) at +108.6.
(See Note 1 for unusable fuel)(S/N 156 and up – Std.)
68 gal. usable (2 wing tanks) at +108.6.
(See Note 1 for unusable fuel)(S/N 156 and up – optional.)

Oil Capacity: 8 qts. At +46.5 (6 qts. Usable) (See Note 1 for undrainable oil).

I. Model 112 (cont'd)

Control Surface Movements	Wing Flaps	Up 0° ± ½°	Down 40° ± 2°
		(Serial Numbers 1 thru 81) (See Note 5)	
		Up 0° ± 1°	Down 35° ± 2°
		(Serial Numbers 82 & up)	
	Aileron	Up 20° ± 27°	Down 7° ± 11°
		(Max. up must be within 4° left to right)	
	Rudder	Left 22° ± 2°	Right 28°* ± 2°
	Elevator	Up 30° ± 2°	Down 13° ± 2°
	Elevator	Up 15° ± 2°	Down 26° ± 1°
	*Front vertical stabilizer centerline		
Nose Wheel Movement	Steering ± 15°		
	Castoring ± 30°		
Serial Numbers Eligible	1, 3 thru 489, and 13000		

II. Model 114, 4 PCLM, (Normal Category), Approved March 8, 1976, (Utility Category) Approved March 31, 1977

Engine	Lycoming I0-540-T4A5D or I0-540-T4B5D (S/N 1400 thru 14149)		
	Lycoming I0-540-T4B5D (S/N 14150 & Subs)		
Fuel	100/130 minimum grade aviation gasoline		
Propeller and Propeller Limits	Hartzell Constant Speed, Model HC-C2YR-1BF/F8467-7R		
	Blade: Model F8467-7R		
	Pitch: High 30° - 32°, Low 14.2° ± 0.1° at Blade Station 30"		
	Diameter: Not over 77", no reduction allowed.		
	Governor: Edo-Aire 34-828-014-7		
	Spinner: 46390-3		
	Limitations: None		
Airspeed Limits	Never exceed	SL – 12,500 ft.	186 Kts (214 mph) CAS
		16,000 ft.	175 Kts (201 mph) CAS
		20,000 ft.	161 Kts (185 mph) CAS
		24,000 ft.	147 Kts (169 mph) CAS
	Max. structural cruising	SL – 12,500 ft.	148 Kts (170 mph) CAS
		16,000 ft.	139 Kts (160 mph) CAS
		20,000 ft.	128 Kts (147 mph) CAS
		24,000 ft.	117 Kts (135 mph) CAS
	Maneuvering (Normal)	3140 lbs.	118 Kts (135 mph) CAS
		2658 lbs.	109 Kts (125 mph) CAS
		2023 lbs.	95 Kts (109 mph) CAS
		Straight line variation between points.	
	Maneuvering (Utility)	2800 lbs.	120 Kts (138 mph) CAS
		2250 lbs.	107 Kts (124 mph) CAS
		2023 lbs.	102 Kts (117 mph) CAS
		Straight line variation between points.	

II. Model 114 (cont'd)

Airspeed Limits (cont'd)	Flaps extended	Up to 20°	150 Kts (173 mph) CAS*
		20° to 25°	120 Kts (138 mph) CAS
		25° to 35°	109 Kts (125 mph) CAS
	Max. gear extended		186 Kts (214 mph) CAS*
	Max. gear operating		130 Kts (150 mph) CAS
	Max. cowl flaps open (S/N 14000 thru 14149)		130 Kts (150 mph) CAS
	Max. side window open		130 Kts (150 mph) CAS
	* Do not Exceed V_{ne} Schedule		

C.G. Range

Normal Category

Forward:
106.91" aft of datum (25.0% MAC) at 3140 lbs.
101.11" aft of datum (14.5% MAC) at 2658 lbs.
99.75" aft of datum (12.0% MAC) at 2250 lbs.
99.75" aft of datum (12.0% MAC) at 2023 lbs.

Aft:
110.50" aft of datum (31.5% MAC) at 3140 lbs.
110.50" aft of datum (31.5% MAC) at 2503 lbs.
Straight line variation between points.

Utility Category

Forward:
102.82" aft of datum (17.57% MAC) at 2800 lbs.
101.11" aft of datum (14.5% MAC) at 2658 lbs.
99.75" aft of datum (12.0% MAC) at 2250 lbs.
99.75" aft of datum (12.0% MAC) at 2023 lbs.

Aft:
107.46" aft of datum (26.0% MAC) at 2800 lbs.
107.46" aft of datum (26.0% MAC) at 2266 lbs.
Straight line variations between points.

Empty Weight C.G. Range: None

Datum: 62.5" forward of firewall (front face)

Leveling Means: Bottom of fuselage, outer surface, from F.S. 62.5 to F.S. 97.6

Maximum Weight (Normal): 3140 lbs.

Maximum Weight (Utility): 2800 lbs.

Maximum Zero Fuel Weight

Normal Category

2852 lbs. Station 106.74
(24.69% MAC) to Sta. 110.50 (31.5% MAC)
2250 lbs. Sta. 99.75 (12.0% MAC) varying
Linearly to 2852 lbs. Sta. 106.74 (24.69% MAC)

Utility Category

2500 lbs. Station 102.66
(17.27% MAC) to Sta. 107.46 (26.0% MAC)
2250 lbs. Sta. 99.75 (12.0% MAC) varying
Linearly to 2500 lbs. Sta. 102.66 (17.27% MAC)

Minimum Weight (Normal & Utility)

2023 lbs. at Sta. 99.75 (12.00% MAC) to
2028 lbs. at Sta. 101.24 (14.70% MAC) to
2266 lbs. at Sta. 107.46 (26.00% MAC) to
2503 lbs. at Sta. 110.50 (31.50% MAC) – Normal Category Only.
Straight line variation between points.

II. Model 114 (cont'd)

No. of Seats	2 Occupants at (+ 99.0) 2 Occupants at (+ 136.0) Normal Category Only		
Maximum Baggage	200 lbs. (at + 164.0)		
Fuel Capacity	68 gal. usable (2 wing tanks) at 108.6 (See Note 1 for unusable fuel).		
Oil Capacity	8 qts. At +43.0 (6 qts. usable) (See Note 1 for data on unusable oil).		
Control Surface Movements	Wing Flaps	Up 0° ± 1°	Down 35° + 0° - 2°
	Aileron	Up 20° to 27°	Down 7° to 11°
		(Max up must be within 4° left to right)	
	Rudder	Left 22° ± 2°	Right 28°* ± 2°
	Elevator	Up 30° ± 2°	Down 13° + 2° -1°
	Elevator	Up 15° ± 2°	Down 26° ± 1°
	*Front vertical stabilizer centerline		
Nose Wheel Movement	Steering ± 15° Castoring ± 30°		
Serial Nos. Eligible	14000 thru 14459 (See Note 7)		

III. Model 112TC, 4 PCLM (Normal Category), Approved April 27, 1976

Engine	Lycoming TO-360-C1A6D		
Fuel	100/130 minimum grade aviation gasoline		
Engine Limits	For all operations, 2575 rpm, 42" Hg. (210 hp) to 8,000 ft., 40" Hg. 8,001 ft. to 16,000 ft., 38" Hg. 16,001 ft. to 20,000 ft.		
Propeller and Propeller Limits	Hartzell Constant Speed, Model HC-E2YR-1BF/F8467-7R Blade: Model F8467-7R Pitch: High 29° - 32°, Low 15.0° ± 0.1° at Blade Station 30" Diameter: Not over 77", not under 76.5" Governor: Edo-Aire 34-828-014-5 Spinner: 46390-3 Limitations: Continuous operation between 2250 and 2450 rpm with manifold pressure below 20" Hg. is prohibited. Continuous operation below 2350 rpm at manifold pressure above 34" Hg. is prohibited.		
Maximum Authorized Altitude	20,000 ft.		
Airspeed Limits	Never exceed		180 Kts (207 mph) CAS
	Max. structural cruising		143 Kts (165 mph) CAS
	*Maneuvering		110 Kts (127 mph) CAS @ 2850 lbs. 92 Kts (106 mph) CAS @ 1998 lbs.
	Flaps extended	Up to 20°	150 Kts (173 mph) CAS
		20° to 25°	120 Kts (138 mph) CAS
		25° to 35°	109 Kts (125 mph) CAS
	Max. gear extended		180 Kts (207 mph) CAS
	Max. gear operating		130 Kts (150 mph) CAS
	Max. cowl flap open		130 Kts (150 mph) CAS
	Max. side window open		130 Kts (150 mph) CAS
	* Assume straight line variation between points.		

III. Model 112TC (cont'd)

C.G. Range	Forward:	105.05" aft of datum (24.84% MAC) at 2850 lbs. 102.20" aft of datum (20.07% MAC) at 2608 lbs. 101.00" aft of datum (18.07% MAC) at 2200 lbs. 101.00" aft of datum (18.07% MAC) at 2005 lbs.
	Aft:	109.20" aft of datum (31.77% MAC) at 2850 lbs. 109.20" aft of datum (31.77% MAC) at 2229 lbs. Straight line variation between points.
Empty Weight C.G. Range	None	
Datum	62.5" forward of Firewall (front face)	
Leveling Means	Bottom of fuselage, outer surface, from F.S. 62.5 to F.S. 97.6	
Maximum Weight	2850 lbs.	
Max. Zero Fuel Weight	2720 lbs. Sta. 106.20 (26.76% MAC) to Sta. 109.20 (31.77% MAC) 2200 lbs. Sta. 101.00 (18.07% MAC) varying Linearly to 2331 lbs. Sta. 101.38 (18.70% MAC) Varying linearly to 2720 lbs. Sta. 106.20 (26.76% MAC)	
Minimum Weight	2005 lbs. at Sta. 101.0" (18.07% MAC) to 1998 lbs. at Sta. 102.42" (20.44% MAC) to 2035 lbs. at Sta. 106.0" (26.42% MAC) to 2229 lbs. at Sta. 109.2" (31.77% MAC) Straight line variation between points.	
No. of Seats	2 Occupants at (+ 99.0) 2 Occupants at (+ 136.0)	
Maximum Baggage	200 lbs. at (+ 164.0)	
Fuel Capacity	48 gal. usable (2 wing tanks) at 108.6 (Std.) 68 gal. usable (2 wing tanks) at 108.6 (Opt.) (See Note 1 for unusable fuel).	
Oil Capacity	8 qts. at +45.5 (6 qts. usable) (See Note 1 for undrainable oil).	
Control Surface Movements	Wing Flaps	Up 0° ± 1° / Down 35° ± 2°
	Aileron	Up 20° to 27° / Down 7° to 11° (Max up must be within 4° left to right)
	Rudder	Left 22° ± 2° / Right 28°* ± 2°
	Elevator	Up 30° ± 2° / Down 13° + 2° -1°
	Elevator	Up 15° ± 2° / Down 26° ± 1°
	*Front vertical stabilizer centerline	
Nose Wheel Movement	Steering ± 15° Castoring ± 30°	
Serial Nos. Eligible	13001 thru 13108	

IV. Model 112B, 4 PCLM (Normal Category), Approved October 5, 1976, (Utility Category), Approved March 31, 1977

Engine	Lycoming IO-360-C1D6
Fuel	100/130 minimum grade aviation gasoline

IV. Model 112B (cont'd)

Engine Limits	For all operations, 2700 rpm (200 hp)
Propeller and Propeller Limits	Hartzell Constant Speed, Model HC-E2YR-1BF/F8467-7R or HC-E2YK-1BF/F8467-7R Blade: Model F8467-7R Pitch: High 29° - 32°, Low 11.6° ± 0.1° at Blade Station 30" Diameter: Not over 77", not under 76.5" Governor: Edo-Aire 34-828-014-2 Spinner: Hartzell C-3533 or C-3533P or Aero Commander 46390-3 Limitations: Do not exceed 24" Hg. manifold pressure below 2350 rpm

Airspeed Limits

Never exceed		180 Kts (207 mph) CAS
Max. structural cruising		143 Kts (165 mph) CAS
*Maneuvering (Normal)		109 Kts (125 mph) CAS @ 2800 lbs.
		92 Kts (106 mph) CAS @ 1998 lbs.
*Maneuvering (Utility)		115 Kts (133 mph) CAS @ 2700 lbs.
		99 Kts (114 mph) CAS @ 1998 lbs.
Flaps extended	Up to 20°	150 Kts (173 mph) CAS
	20° to 25°	120 Kts (138 mph) CAS
	25° to 35°	109 Kts (125 mph) CAS
Max. gear extended		180 Kts (207 mph) CAS
Max. gear operating		130 Kts (150 mph) CAS
Max. side window open		130 Kts (150 mph) CAS

* Assume straight line variation between points.

C.G. Range

Normal Category

Forward: 104.90" aft of datum (24.58% MAC) at 2800 lbs.
102.20" aft of datum (20.07% MAC) at 2608 lbs.
101.00" aft of datum (18.07% MAC) at 2200 lbs.
101.00" aft of datum (18.07% MAC) at 2005 lbs.

Aft: 109.20" aft of datum (31.77% MAC) at 2800 lbs.
109.20" aft of datum (31.77% MAC) at 2229 lbs.
Straight line variation between points.

Utility Category

Forward: 103.28" aft of datum (21.87% MAC) at 2700 lbs.
102.20" aft of datum (20.07% MAC) at 2608 lbs.
101.00" aft of datum (18.07% MAC) at 2200 lbs.
101.00" aft of datum (18.07% MAC) at 2005 lbs.

Aft: 106.0" aft of datum (26.42% MAC) at 2700 lbs.
106.0" aft of datum (26.42% MAC) at 2035 lbs.
Straight line variations between points.

Empty Weight C.G. Range	None
Datum	62.5" forward of Firewall (front face)
Leveling Means	Bottom of fuselage, outer surface, from F.S. 62.5 to F.S. 97.6
Maximum Weight	Normal - 2800 lbs. Utility – 2700 lbs.

Max. Zero Fuel Weight

Normal Category
2620 lbs. Sta. 107.00
(28.09% MAC) to Sta. 109.20 (31.77% MAC)
2200 lbs. Sta. 101.00 (18.07% MAC) varying
Linearly to 2620 lbs. Sta. 107.00 (28.09% MAC)

IV. Model 112B (cont'd)

Max. Zero Fuel Weight (cont'd)	Utility Category 2292 lbs. Sta. 102.33 (20.29% MAC) to Sta. 106.00 (26.42% MAC) 2200 lbs. Sta. 101.00 (18.07% MAC) varying Linearly to 2292 lbs. Sta. 102.33 (20.29% MAC)
Minimum Weight	2005 lbs. at Sta. 101.0" (18.07% MAC) to 1998 lbs. at Sta. 102.42" (20.44% MAC) to 2035 lbs. at Sta. 106.0" (26.42% MAC) to 2229 lbs. at Sta. 109.2" (31.77% MAC) – Normal Category Only Straight line variation between points.
No. of Seats	2 Occupants at (+ 99.0) 2 Occupants at (+ 136.0) – Normal Category Only
Maximum Baggage	200 lbs. at (+ 164.0)
Fuel Capacity	48 gal. usable (2 wing tanks) at 108.6 (Std.) 68 gal. usable (2 wing tanks) at 108.6 (Opt.) (See Note 1 for unusable fuel).
Oil Capacity	8 qts. At +46.5 (6 qts. usable) (See Note 1 for undrainable oil).

Control Surface Movements

Wing Flaps	Up 0° ± 1°	Down 35° ± 2°
Aileron	Up 20° to 27°	Down 7° to 11°
(Max up must be within 4° left to right)		
Rudder	Left 23° ± 1°	Right 28°* ± 2°
Elevator	Up 30° ± 2°	Down 13° + 2° -1°
Elevator	Up 15° ± 2°	Down 26° ± 1°

*Front vertical stabilizer centerline

Nose Wheel Movement	Steering ± 15° Castoring ± 30°
Serial Nos. Eligible	13000, 500 thru 544 (See Note 7)

V. Model 112TCA, 4 PCLM (Normal Category), Approved December 7, 1976, (Utility Category), Approved March 31, 1977

Engine	Lycoming TO-360-C1A6D
Fuel	100/130 minimum grade aviation gasoline
Engine Limits	For all operations, 2575 rpm, 42" Hg. (210 hp) to 8,000 ft., 40" Hg. 8,001 ft., 38" Hg. 16,001 ft. to 20,000 ft.
Propeller and Propeller Limits	Hartzell Constant Speed, Model HC-E2YR-1BF/F8467-7R Blade: Model F8467-7R Pitch: High 29° - 32°, Low 15.0° ± 0.1° at Blade Station 30" Diameter: Not over 77", not under 76.5" Governor: Edo-Aire 34-828-014-5 Spinner: 46390-3 Limitations: Continuous operation between 2250 and 2450 rpm with manifold pressure below 20" Hg. is prohibited. Continuous operation below 2350 rpm at manifold pressure above 34" Hg. is prohibited.
Max. Authorized Altitude	20,000

V. Model 112TCA (cont'd)

Airspeed Limits	Never exceed		180 Kts (207 mph) CAS
	Max. structural cruising		143 Kts (165 mph) CAS
	*Maneuvering (Normal)		111 Kts (128 mph) CAS @ 2950 lbs.
			98 Kts (113 mph) CAS @ 2300 lbs.
			91 Kts (105 mph) CAS @ 1998 lbs.
	*Maneuvering (Utility)		117 Kts (135 mph) CAS @ 2800 lbs.
			115 Kts (133 mph) CAS @ 2708 lbs.
			99 Kts (114 mph) CAS @ 1998 lbs.
	Flaps extended	Up to 20°	150 Kts (173 mph) CAS
		20° to 25°	120 Kts (138 mph) CAS
		25° to 35°	109 Kts (125 mph) CAS
	Max. gear extended		180 Kts (207 mph) CAS
	Max. gear operating		130 Kts (150 mph) CAS
	Max. side window open		130 Kts (150 mph) CAS

* Assume straight line variation between points.

C.G. Range

Normal Category

Forward: 106.29" aft of datum (26.91% MAC) at 2962 lbs.
102.20" aft of datum (20.07% MAC) at 2608 lbs.
101.00" aft of datum (18.07% MAC) at 2200 lbs.
101.00" aft of datum (18.07% MAC) at 2005 lbs.

Aft: 109.20" aft of datum (31.77% MAC) at 2962 lbs.
109.20" aft of datum (31.77% MAC) at 2229 lbs.
Straight line variation between points.

Utility Category

Forward: 104.44" aft of datum (23.82% MAC) at 2800 lbs.
102.20" aft of datum (20.07% MAC) at 2608 lbs.
101.00" aft of datum (18.07% MAC) at 2200 lbs.
101.00" aft of datum (18.07% MAC) at 2005 lbs.

Aft: 107.0" aft of datum (28.09% MAC) at 2800 lbs.
107.0" aft of datum (28.09% MAC) at 2096 lbs.
Straight line variations between points.

Empty Weight C.G. Range: None

Datum: 62.5" forward of firewall (front face)

Leveling Means: Bottom of fuselage, outer surface, from F.S. 62.5 to F.S. 97.6

Maximum Weight

Normal
Maximum Ramp – 2962 lbs.
Maximum Takeoff – 2950 lbs.

Utility
Maximum Gross – 2800 lbs.

Max. Zero Fuel Weight

Normal Category
2720 lbs. Sta. 106.20
(26.76% MAC) to Sta. 109.20 (31.77% MAC)
2200 lbs. Sta. 101.00 (18.07% MAC) varying
Linearly to 2331 lbs. Sta. 101.38 (18.70% MAC)
Varying linearly to 2720 lbs. Sta. 106.20 (26.76% MAC)

Utility Category
2500 lbs. Sta. 103.48
(22.20% MAC) to Sta. 107.0 (28.09% MAC)
2200 lbs. Sta. 101.00 (18.07% MAC) varying
Linearly to 2331 lbs. Sta. 101.38 (18.70% MAC)
Varying linearly to 2500 lbs. Sta. 103.48 (22.20% MAC)

V. Model 112TCA (cont'd)

Minimum Weight (Normal and Utility)	2005 lbs. at Sta. 101.0" (18.07% MAC) to 1998 lbs. at Sta. 102.42" (20.44% MAC) to 2035 lbs. at Sta. 106.0" (26.42% MAC) to 2229 lbs. at Sta. 109.2" (31.77% MAC) – Normal Category Only Straight line variation between points.		
No. of Seats	2 Occupants at (+ 99.0) 2 Occupants at (+ 136.0) – Normal Category Only		
Maximum Baggage	200 lbs. at (+ 164.0)		
Fuel Capacity	48 gal. usable (2 wing tanks) at 108.6 (Std.) 68 gal. usable (2 wing tanks) at 108.6 (Opt.) (See Note 1 for unusable fuel).		
Oil Capacity	8 qts. at +45.5 (6 qts. usable) (See Note 1 for undrainable oil).		
Control Surface Movements	Wing Flaps	Up 0° ± 1°	Down 35° ± 2°
	Aileron	Up 20° to 27°	Down 7° to 11°
	(Max up must be within 4° left to right)		
	Rudder	Left 23° ± 1°	Right 28°* ± 2°
	Elevator	Up 30° ± 2°	Down 13° + 2° -1°
	Elevator	Up 15° ± 2°	Down 26° ± 1°
	*Front vertical stabilizer centerline		
Nose Wheel Movement	Steering ± 15° Castoring ± 30°		
Serial Nos. Eligible	13150 thru 13309 (See Note 7)		

VI. Model 114A, 4 PCLM (Normal Category), Approved January 22, 1979

Engine	Lycoming IO-540-T4B5D		
Fuel	100/130 minimum grade aviation gasoline		
Engine Limits	For all operations, 2700 rpm, (260 hp)		
Propeller and Propeller Limits	McCauley Constant Speed, Model B3D34C405/90DFA-13 Blade: Model 90DFA-13 Pitch: High 33.0° ± .5°, Low 11.5° ± .2° at Blade Station 30" Diameter: Not over 77", reduction allowed to 76" Governor: Woodward 210903 Spinner: 46390-501 Limitations: None		
Airspeed Limits	Never exceed	SL – 12,500 ft.	186 Kts (214 mph) CAS
		16,000 ft.	175 Kts (201 mph) CAS
		20,000 ft.	161 Kts (185 mph) CAS
		24,000 ft.	147 Kts (169 mph) CAS
	Max. structural cruising	SL – 12,500 ft.	148 Kts (170 mph) CAS
		16,000 ft.	139 Kts (160 mph) CAS
		20,000 ft.	128 Kts (147 mph) CAS
		24,000 ft.	117 Kts (135 mph) CAS

VI. Model 114A (cont'd)

Airspeed Limits (cont'd)	*Maneuvering (Normal)	3250 lbs.	118 Kts (135 mph) CAS
		2658 lbs.	109 Kts (125 mph) CAS
		2023 lbs.	95 Kts (109 mph) CAS
		Straight line variation between points.	
	Flaps extended	Up to 20°	150 Kts (173 mph) CAS*
		20° to 25°	120 Kts (138 mph) CAS
		25° to 35°	109 Kts (125 mph) CAS
	Max. gear extended		186 Kts (214 mph) CAS*
	Max. gear operating		130 Kts (150 mph) CAS
	Max. side window open		130 Kts (150 mph) CAS
	* Do not Exceed V_{ne} Schedule		

C.G. Range	Forward:	106.97" aft of datum (25.1% MAC) at 3260 lbs. 101.11" aft of datum (14.5% MAC) at 2658 lbs. 99.75" aft of datum (12.0% MAC) at 2250 lbs. 99.75" aft of datum (12.0% MAC) at 2096 lbs.
	Aft:	110.50" aft of datum (31.5% MAC) at 3260 lbs. 110.50" aft of datum (31.5% MAC) at 2575 lbs. Straight line variation between points.

Empty Weight C.G. Range	None
Datum	62.5" forward of Firewall (front face)
Leveling Means	Bottom of fuselage, outer surface, from F.S. 62.5 to F.S. 97.6
Maximum Weight	Ramp – 3260 lbs. Takeoff – 3250 lbs. Landing – 3140 lbs.
Max. Zero Fuel Weight	3000 lbs. at Sta. 106.83 (24.9% MAC) to Sta. 110.50 (31.5% MAC) 2450 lbs. at Sta. 100.48 (13.3% MAC) varying linearly to 3000 lbs. at Sta. 106.83 (24.9% MAC)
Minimum Weight	2095 lbs. at Sta. 99.75" (12.00% MAC) to 2100 lbs. at Sta. 101.24" (14.70% MAC) to 2338 lbs. at Sta. 107.46" (26.00% MAC) to 2575 lbs. at Sta. 110.50" (31.52% MAC) Straight line variation between points.
No. of Seats	2 Occupants at (+ 99.0) 2 Occupants at (+ 136.0)
Maximum Baggage	200 lbs. at (+ 164.0)
Fuel Capacity	68 gal. usable (2 wing tanks) at 108.6 (See Note 1 for unusable fuel)
Oil Capacity	8 qts. at +43.0 (6 qts. usable) (See Note 1 for undrainable oil).

Control Surface Movements	Wing Flaps	Up 0° ± 1°	Down 35° + 0° - 2°
	Aileron	Up 20° - 27°	Down 7° - 11°
	(Max up must be within 4° left to right)		
	*Rudder	Left 22° ± 2°	Right 28° ± 2°
	Elevator	Up 30° ± 2°	Down 13° + 2° -1°
	Elevator	Up 15° ± 2°	Down 26° ± 1°
	*Front vertical stabilizer centerline		

VI. Model 114A (cont'd)

Nose Wheel Movement	Steering ± 15° Castoring ± 30°
Serial Nos. Eligible	14500 thru 14540

VII. Model 114B, 4 PCLM (Normal Category), Approved May 4, 1992

Engine	Lycoming IO-540-T4B5		
Fuel	100/130 minimum grade aviation gasoline		
Engine Limits	For all operations, 2700 rpm, (260 hp)		
Propeller and Propeller Limits	McCauley Constant Speed, Model B3D32C419/82NHA-5 Blade: Model 82NHA-5 Pitch: High 33.0° ± .5°, Low 12.6° ± .2° at Blade Station 30" Diameter: Not over 77", reduction allowed to 75.5" Governor: Woodward 210903 or McCauley D-20309-37 Spinner: 615220-501 Limitations: None		
Airspeed Limits	Never exceed	SL – 12,500 ft. 16,000 ft. 20,000 ft. 24,000 ft.	186 Kts (214 mph) CAS 175 Kts (201 mph) CAS 161 Kts (185 mph) CAS 147 Kts (169 mph) CAS
	Max. structural cruising	SL – 12,500 ft. 16,000 ft. 20,000 ft. 24,000 ft.	148 Kts (170 mph) CAS 139 Kts (160 mph) CAS 128 Kts (147 mph) CAS 117 Kts (135 mph) CAS
	*Maneuvering (Normal)	3250 lbs. 2658 lbs. 2023 lbs. Straight line variation between points.	118 Kts (135 mph) CAS 109 Kts (125 mph) CAS 95 Kts (109 mph) CAS
	Flaps extended	Up to 20° 20° to 25° 25° to 35°	150 Kts (173 mph) CAS* 120 Kts (138 mph) CAS 109 Kts (125 mph) CAS
	Max. gear extended		186 Kts (214 mph) CAS*
	Max. gear operating		130 Kts (150 mph) CAS
	Max. side window open		130 Kts (150 mph) CAS
	* Do not Exceed V_{ne} Schedule		
C.G. Range	Forward:	106.97" aft of datum (25.1% MAC) at 3260 lbs. 104.05" aft of datum (19.8% MAC) at 3194 lbs. 101.11" aft of datum (14.5% MAC) at 2658 lbs. 99.75" aft of datum (12.0% MAC) at 2250 lbs. 99.75" aft of datum (12.0% MAC) at 2096 lbs.	
	Aft:	110.50" aft of datum (31.5% MAC) at 3260 lbs. 110.50" aft of datum (31.5% MAC) at 2575 lbs. Straight line variation between points.	
Empty Weight C.G. Range	None		
Datum	62.5" forward of Firewall (front face)		
Leveling Means	Bottom of fuselage, outer surface, from F.S. 62.5 to F.S. 97.6		

VII. Model 114B (cont'd)

Maximum Weight	Ramp – 3260 lbs. Takeoff – 3250 lbs. Landing – 3140 lbs.		
Max. Zero Fuel Weight	3000 lbs. at Sta. 106.83 (24.9% MAC) to Sta. 110.50 (31.5% MAC) 2450 lbs. at Sta. 100.48 (13.3% MAC) varying linearly to 3000 lbs. at Sta. 106.83 (24.9% MAC)		
Minimum Weight	2095 lbs. at Sta. 99.75" (12.00% MAC) to 2100 lbs. at Sta. 101.24" (14.70% MAC) to 2338 lbs. at Sta. 107.46" (26.00% MAC) to 2575 lbs. at Sta. 110.50" (31.52% MAC) Straight line variation between points.		
No. of Seats	2 Occupants at (+ 99.0) 2 Occupants at (+ 136.0)		
Maximum Baggage	200 lbs. at (+ 164.0)		
Fuel Capacity	68 gal. usable (2 wing tanks) at 108.6		(See Note 1 for unusable fuel)
Oil Capacity	8 qts. at +43.0 (6 qts. usable). (See Note 1 for undrainable oil).		
Control Surface Movements	Wing Flaps	Up 0° ± 1°	Down 35° + 0° - 2°
	Aileron	Up 20° - 27°	Down 7° - 11°
	(Max up must be within 4° left to right)		
	*Rudder	Left 22° ± 2°	Right 28° ± 2°
	Elevator	Up 30° ± 2°	Down 13° + 2° -1°
	Elevator tab	Up 15° ± 2°	Down 26° ± 1°
	*Front vertical stabilizer centerline		
Nose Wheel Movement	Steering ± 15° Castoring ± 30°		
Serial Nos. Eligible	14541 and Subsequent		

VIII. Model 114TC, 4 PCLM (Normal Category), Approved August 4, 1995

Engine	Lycoming TIO-540-AGIA
Fuel	100/100LL minimum grade aviation gasoline
Engine Limits	For all operations, 2575 rpm, (270 hp)
Propeller and Propeller Limits	McCauley Constant Speed, Model B3D32C419/G-82NHA-5 Blade: Model G-82NHA-5 Pitch: High 33.9° ± .5°, Low 14.8° ± .2° at Blade Station 30" Diameter: Not over 77", reduction allowed to 75.5" Governor: McCauley D-20309-40 Spinner: 615220-501 Limitations: None
Maximum Authorized Altitude	25,000 ft.

VIII. Model 114TC (cont'd)

Airspeed Limits	Never exceed	SL – 12,500 ft.	186 KCAS
		15,000 ft.	176 KCAS
		17,500 ft.	167 KCAS
		20,000 ft.	158 KCAS
		22,500 ft.	150 KCAS
		25,000 ft.	141 KCAS
	Max. structural cruising	SL – 12,500 ft.	162 KCAS
		15,000 ft.	153 KCAS
		17,500 ft.	145 KCAS
		20,000 ft.	138 KCAS
		22,500 ft.	130 KCAS
		25,000 ft.	122 KCAS
	Maneuvering	3305 lbs.	118 KCAS
		3000 lbs.	112 KCAS
		2491 lbs.	102 KCAS
	Flaps extended	Up to 20°	150 KCAS*
		20° to 25°	120 KCAS
		25° to 35°	109 KCAS
	Max. gear extended		186 KCAS*
	Max. gear operating		130 KCAS
	Max. side window open		130 KCAS

* Do not Exceed V_{ne} Schedule

C.G. Range	Forward:	100.5" aft of datum (13.4% MAC) at 2491 lbs. 101.1" aft of datum (14.5% MAC) at 2658 lbs. 103.0" aft of datum (17.8% MAC) at 3000 lbs. 103.7" aft of datum (19.2% MAC) at 3140 lbs. 104.6" aft of datum (20.8% MAC) at 3305 lbs.
	Aft:	110.50" aft of datum (31.5% MAC) at 3305 lbs. 110.50" aft of datum (31.5% MAC) at 2491 lbs. Straight line variation between points.
Empty Weight C.G. Range	None	
Datum	62.5" forward of firewall (front face)	
Leveling Means	Bottom of fuselage, outer surface, from F.S. 62.5 to F.S. 97.6	
Maximum Weight	Takeoff – 3305 lbs. Landing – 3140 lbs.	
Max. Zero Fuel Weight	3000 lbs.	
Minimum Weight	2491 lbs.	
No. of Seats	2 Occupants at (+ 99.0) 2 Occupants at (+ 136.0)	
Maximum Baggage	200 lbs. at (+ 164.0)	
Fuel Capacity	88 gal. usable (2 wing tanks) at 108.6 (See Note 1 for unusable fuel)	
Oil Capacity	10 qts. at +43.0 (5.5 qts. usable). (See Note 1 for undrainable oil).	

VIII. Model 114TC (cont'd)

Control Surface Movements	Wing Flaps	Up 0° ± 1°	Down 35° + 0° - 2°
	Aileron	Up 20° - 27°	Down 7° - 11°
	(Max up must be within 4° left to right)		
	*Rudder	Left 22° ± 2°	Right 28° ± 2°
	Elevator	Up 30° ± 2°	Down 13° + 2° -1°
	Elevator	Up 15° ± 2°	Down 26° ± 1°
	*Front vertical stabilizer centerline		
Nose Wheel Movement	Steering ± 15°		
	Castoring ± 30°		
Serial Nos. Eligible	20001 and Subsequent		

SPECIFICATIONS PERTINENT TO ALL MODELS

Certification Basis

FAR 23, effective February 1, 1965, including Amendments 1 thru 7.
FAR 36, effective February 3, 1975, Models 112B, 112TC, 112TCA, 114, 114A, 114B, and 114TC

Production Basis

Production Certificate No. 506 (Model 112 S/N 1 thru 220)
Production Certificate No. 203 (Model 112 S/N 221, and Subs, Models 112B, 112TC, 112TCA, 114, and 114A).
Delegation option Manufacturer No. SW-2 was authorized to issue airworthiness certificates under Delegation Option provisions of Part 21 of the Federal Aviation Regulations through the Model 114A.
Production Certificate No. PC7SW (Model 114B and 114TC S/N 14541 and subsequent).

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. In addition, the following item is required:

Lift Detector, Safe Flight P/N 164-1, or 186-5 when installed in accordance with Drawing 48212.

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 oil (not included in the oil capacity) and unusable fuel as noted below:

Model 112 (S/N 3 thru 125)
Fuel (3 Gal. per tank) 36 lbs at (+112.2)
Oil 4 lbs at (+48.6)

Model 112 (S/N 126 thru 489)
Fuel (1 Gal. per tank) 12 lbs at (+112.2)
Oil 4 lbs at (+48.6)

Model 112B, 112TC, 112TCA, 114, 114A, & 114B
Fuel (1 Gal. per tank) 12 lbs at (+112.2)
Oil 4 lbs at (+48.6)

Model 114TC
Fuel (1 Gal. per tank) 12 lbs at (+112.2)
Oil 4.5 lbs at (+48.6)

SPECIFICATIONS PERTINENT TO ALL MODELS (cont'd)

Note 2. (1) The following placards must be displayed in front of and in clear view of the pilot.

Models 112, 112B, 112TCA and 114, "This airplane must be operated as a Normal or Utility Category airplane in compliance with operating limitations stated in the Airplane Flight Manual."

Model 112TC, 114A, 114B and 114TC "This airplane must be operated as a Normal Category airplane in compliance with operating limitations stated in Airplane Flight Manual." See Approved Airplane Flight Manual/Pilots Operating Handbook for additional placards. "All placards required in the Approved Airplane Flight Manual must be installed in the appropriate location."

Note 3. Service Life – all categories

Model 112, the service life of the wing and associated structure has been established as 6945 hours maximum.

Model 112B, the service life of the wing and associated structure has been established as 8878 hours maximum.

Model 112TC, the service life of the wing and associated structure has been established as 10908 hours maximum.

Model 112TCA, the service life of the wing and associated structure has been established as 7947 hours maximum.

Model 114, the service life of the wing and associated structure has been established as 19284 hours maximum.

Model 114A and 114B, the service life of the wing and associated structure has been established as 14812 hours maximum.

Model 114TC, the service life of the wing and associated structure has been established as 10349 hours maximum.

Note 4. Serial Numbers 3 thru 125 may be operated at a maximum takeoff weight of 2650 and a landing weight of 2550 when Rockwell International Service Letter SL-112-4 has been complied with.

Note 5. If Service Letter SL-112-4 has been complied with, wing flap travel is limited to down 35° ± 2°.

Note 6. CANCELLED

Note 7. The following Models and Serial Numbers may be operated as Utility Category Aircraft when modified per Rockwell Custom Kit CK-112-6 or CK-114-1.

Model 112 B S/N 500 thru 544
Model 112 TCA S/N 13150 thru 13175
Model 114 S/N 14000 thru 14254

SPECIFICATIONS PERTINENT TO ALL MODELS (cont'd)

Note 8. The following list of reports and drawings define the approved equipment for the applicable model.

Model	Report No.
112	EG80-246
112TC	EG80-247
112B	EG80-263
112TCA	EG80-264 (S/N 13001 thru 13299) EG80-299 (S/N 13000 thru 13999)
114	EG80-248
114A	EG80-297
114B	Drawing No. 845001 Avionics/Instrument/Equipment Installations Drawing No. 105001 Aircraft Complete
114TC	Drawing No. 845001 Avionics/Instrument/Equipment Installations Drawing No. 105001 Aircraft Complete

....END....