DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

1A16
Revision No. 23
Ag Cat Corp.
G-164
G-164A
G-164B
G-164B with 73" wing gap
G-164B-15T
G-164B-34T
G-164B-20T
G-164C
G-164D
G-164D with 73" wing gap
January 24, 1996

TYPE CERTIFICATE DATA SHEET NO. 1A16

This data sheet which is a part of type certificate No. 1A16 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: Ag Cat Corp.
Hangar 167
Malden Industrial Park
Malder, MO 63863

I - Model G-164, 1 POLB or 1 PCLB (Restricted Agricultural Category) approved January 20, 1959.

Engine	Continental W-670-6N	(R-670-4)	479 lb.	(+53.5)
	Continental W-670-16	(R-670-11)	486 lb.	(+53.5)
	Continental W-670-6A	(R-670-5)	470 lb.	(+53.5)
	Continental W-670-240	(Gulf Coast)	516 lb.	(+53.5)
	(See G-164 NOTE 3 for operating restrictions)			
	Jacobs R-755-A2M1		503 lb.	(+52.5)
	(See G-164 NOTE 6 for optional Jacobs engine installations)			
	Pratt & Whitney R-985-AN-1, -AN-3, -25, -27, -39, -39A, -AN-14B; Wasp Jr. T1B2, T1B3			
	(One 4 1/2 and one 9th order crankcase damper)			
Fuel	80/87 Minimum octane aviation gasoline		(R-985 series)	
	80 Minimum octane aviation gasoline		(W-670 Series, R-755 Series)	
Engine Limits:	For all operations:			
	(W-670-6A, -6N or -16 engines)		2075 r.p.m.	(220 hp.)
	(W-670-240 engine)		2075 r.p.m.	(225 hp.) with item 1 propeller
	(W-670-240 engine)		2200 r.p.m.	(240 hp.) with item 3 propeller
	(R-985 series engines)		2300 r.p.m.	(450 hp.) with item 4 propeller
	(R-755-A2M1)		2200 r.p.m.	(330 hp.) with item 3 propeller
	Manifold Pressure: (R-985-AN-14B):		36.5 in. Hg (sea level)	
			35.5 in. Hg (3500 ft.)	
	Manifold Pressure: (R-985-AN-1, -AN-3, -25, -27, -39, -39A, T1B2, T1B3		37.5 in Hg (sea level)	
			37.0 in. Hg (1500 ft.)	
	Manifold Pressure: (W-670 series):		28.0 in. Hg (sea level)	
			26.5 in. Hg (1500 ft.)	
	Manifold Pressure (R-755):		28.0 in. Hg (sea Level)	
			26.5 in Hg (1500 ft.)	
	Straight line variation between points			

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This revision incorporates the new type certificate holder and adds Model G-164B-20T.

Propeller and Propeller Limits

1. McCauley ground adjustable propeller (with Continental W-670 series and Gulf Coast W-670-240 engines only)

(a) Model 41D5926 with hub AAF 41D5926 and blades SS-135-6 — 79 lb. (+38.5)

(b) Model D-1093 with hub D-1093 and blades SS-135-6M *(See G-164 Note 2(a)(4) for operating restriction)* — 82 lb. (+38.5)

Diameter: SS-135-6 blades: Max. 102 in. Min. 100 in.
SS-135-6M blades: Max. 102-5/8 in. Min. 100 in.

Pitch Settings at 42 in. sta.	Static r.p.m. at Maximum Permissible Throttle Setting (No additional tolerance permitted)
W-670-6A, -6N, -16 Engines	
9.0°	Not over 2055, not under 1905
9.5°	Not over 1965, not under 1815
10.0°	Not over 1905, not under 1755
10.5°	Not over 1855, not under 1705
11.0°	Not over 1815, not under 1665
W-670-240 Engine	
9.7°	Not over 1975, not under 1825

When installed on the above engines, the propeller must be indexed in the zero degree position (blades in line with crank throw) and the tachometer shall be placarded: "Avoid continuous operation between 1500 and 1650 RPM." A yellow arc marking must be included on the face of the tachometer between 1500 and 1650 RPM.

Note: Blade angle adjustment must be within + or -1/2° allowable tolerance to result in 2075 r.p.m. in climb at 75 m.p.h. CAS.

2. Hartzell constant speed propeller (with Jacobs R-755-A2M1 engine only)

(a) Model HC-B3Z with hub Model HC-B3Z20-1 and blades Model 10160-8 — 115 lb. (+34.5)

Diameter 93 in. only
Pitch Settings
at 30 in. Sta.
Low 12.5°
High 28.3°

(b) Governor - Hartzell G-1 — 4.5 lb. (+72)

3. Gulfstream ground adjustable (with Continental W-670 series, Gulf Coast W-670-240 and Jacobs R-755-A2M1 engines only).

(a) Model J-5404, SR-5404, SR-5404R/MA-96K-0 — 86 lb.
Continental W-670 series engines (+37.5)
Jacobs R-755-A2M1 engine (+35.7)

Diameter: 96 in. only (Continental W-670 series engines)
Max. 96 in., Min. 94 in. (Jacobs R-755-A2M1 engine)

Pitch Settings at 36 in. Sta.	Static r.p.m. at Maximum Permissible Throttle Setting (No additional tolerance permitted)
W-670-6A, -6N, -16 Engines 14.1°	Not over 2060, not under 1960
W-670-240 Engine 14.5°	Not over 2095, not under 1945
R-755-A2M1 Engine 15.0°	Not over 2090, not under 1990

When installed on the above engines, the propeller must be indexed in the zero degree position, (blades in line with crank throw).

Note: Blade angle adjustment must be within + or - 1/2 degree allowable tolerance to result in never exceeding the maximum rated r.p.m. at rated power in a full throttle climb at 75 m.p.h. CAS.

Model G-164 (cont'd) 4.

Hamilton Standard: 2D30/6101A-12-13-14 with P&W R-985 Series engines
Diameter: 108 in. max., 106 in. min. (No further reduction permitted)
2D30 Hub, Pacific Propeller AG-100-2 blades, diameter 106 in. (2% cutoff permitted)
Pitch Setting: 11.75° low, 14° high (2 pos.):
10.0° low, 16.5° high at 42 in. Sta. (constant speed)
Governor: 1A2-5, 1A2G-5, or 4A2-1
Static r.p.m. at maximum permissible throttle setting:
Not over 2070, not under 1970 (2 position)

Airspeed Limits (CAS)

V_{NE} (Never Exceed)	131 m.p.h.	(114 knots)
V_A (Maneuvering)	104 m.p.h.	(90 knots)

C.G. Range

(+122.0) to (+124.0) at 3750 lb.
(+122.0) to (+125.3) at 2460 lb.
Straight line variation between points

Empty Weight C.G. Range

None

Datum

+99.1 in. ahead of firewall bulkhead.

Leveling Means

Longitudinal: Leveling lugs welded on tubular fuselage frame 27 in. below upper longeron and forward lug at station 100, left hand side.

Maximum Weight

Configuration	Engine	Prop Pitch	Weight
With Item 1 or 2 installed			
Sprayer	W-670-6A, -6N or -16	9.5°	3700 lb.
Sprayer	W-670-6A, -6N or -16	9°, 10°, 10.5°, 11°	3550 lb.
Duster	W-670-6A, - 6N or -16	9.5°	3600 lb.
Duster	W-670-6A, -6N or -16	9°, 10°, 10.5°, 11°	3450 lb.
Sprayer or Duster	W-670-240	9.7°	3750 lb.
Sprayer or Duster	R-755-A2M1	-	3750 lb.

Configuration	Engine	Prop Pitch	Weight
With Item 3 installed			
Sprayer	W-670-6A, -6N or -16	14.1°	3600 lb.
Sprayer or Duster	W-670-240	14.5°	3750 lb.
Sprayer or Duster	R-755-A2M1	15.0°	3750 lb.
Configuration	Engine	Prop Pitch	Weight
With Item 4 installed			
Sprayer or Duster	R-985 series	16.5° high, 10° low	3750 lb.

No. of Seats

1 (+180)

Maximum Hopper Capacity

1200 lb. (+122) S/N 1 through 300
2000 lb. (+122) S/N 301 and up

Fuel Capacity

46.3 gal. or 33 gal. (+112.5) (One tank in upper wing center section *(See G-164 Note 7))*

Oil Capacity

7 gal.	(+94)	(6.5 gal. usable)	(R-985 series)
5 gal.	(+94)	(4.5 gal. usable)	(W-670 series, R-755 series)

Serial No. Eligible

S/N 1 through 400

Certification Basis

CAR 8.10 (a)(1) effective October 11, 1950, and CAM 8, Appendix B as amended March 19, 1957, except CAR 3.241 utilized for Ground Loads. Restricted Type Certificate No. 1A16 issued January 20, 1959. Date of application for Type Certificate June 21, 1957.

Model G-164 (cont'd)

Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see certification basis and CAM 8, Appendix B, subparagraph .51) must be installed in aircraft for certification. In addition, the following items of equipment are required:

(a) For aircraft with no electrical system:
Pre-stall warning indicator, Safe Flight Instrument Corporation Kit No. 164-R, 6 volt. (Dry batteries powering this unit must be dated and replaced every six months.)

(b) For aircraft incorporating an electrical system:
Pre-stall warning indicator, (Safe Flight Instrument Corporation 12V or 24V P/N C-35407 or P/N 164-3) Installation per Drawing No. A1011.

(c) Winter front installation per Gulfstream Drawing A1605. For all aircraft with Continental W-670 series Gulf Coast W-670-240 engines if operated when the OAT is below 35^{o}F.

(d) Nose Ballast installation per Gulfstream Drawing A1073A on aircraft equipped with Continental W-670 series engines or Gulf Coast W-670-240 engines. Required only when aircraft C.G. would otherwise be outside the specific aft limits.

(e) Tail Ballast installation per Gulfstream Drawing A1072B. Required only when aircraft C.G. would otherwise be outside the specified forward limit. Maximum permissible weight. (Use actual weight).

(f) Cylinder head Temperature Gage and Manifold Pressure Gage required on aircraft equipped with R985 series powerplant.

Agricultural Dispersal Equipment

The following Agricultural Dispersal Equipment may be installed:

(a) Sprayer dispensing installation per Gulfstream Drawings A1011, S/N 1 and up, A1921, S/N 1 and up, A1960, S/N 1 through 300, A1480, S/N 301 through 400.

(b) Dust dispensing installation per Gulfstream Drawing
(1) A1970C Sheet 3 applicable S/N 1 through 100
(2) A1970D Sheet 4 applicable S/N 101 through 300
(3) A1970F Sheet 5 applicable S/N 301 through 400
(R-755 series and R985 series)

II - Model G-164A 1 PCLB (Restricted Agricultural Category) approved March 4, 1966.

Engines (See G-164A NOTE 1)

Pratt and Whitney R-985-AN-1, -AN-3, -25, -27, -39, -39A -AN-14B, Wasp Jr. T1B2, T1B3
(One 4 1/2 and one 9th order crankshaft damper)

Pratt and Whitney R-1340-AN-1, S1H1, S3H1 (eligible S/N 526 and up only) (One 4 1/2 and one 9th order crankshaft damper)

Fuel

80/87 minimum octane aviation gasoline

Engine Limits

R-985
2300 r.p.m. (450 hp.) all operations

Manifold Pressure: (R-985-AN-14B)	36.5 in. Hg (sea level) 35.5 in. Hg (3500 ft.)
Manifold Pressure: (All others)	37.5 in. Hg (sea level) 37.0 in. Hg (1500 ft.)

Straight line variation between points.

Model G-164A (cont'd)

Engine Limits (cont'd)	R-1340 2250 r.p.m. (600 hp.) Takeoff (5 minutes) 2200 r.p.m. (550 hp.) Max Continuous Manifold Pressure: (R-1340-AN-1, S3H1) 600 hp. 2250 r.p.m. 36.0 in. Hg (Sea Level) 550 hp. 2200 r.p.m. 34.0 in. Hg (Sea Level) to 32.5 in. Hg (5000 ft.) Manifold Pressure: (R-1340-S1H1) 600 hp. 2250 r.p.m. 36.5 in. Hg (Sea Level) 550 hp. 2200 r.p.m. 35.0 in. Hg (Sea Level) to 33.0 in. Hg (8000 ft.) Straight line variation between points
Propeller and Propeller Limits	R-985: Hamilton Standard 2D30 hub, 6101A-12, -13, -14 blades Diameter: 108 in. max., 106 in. min: (No further reduction permitted) Pitch Setting: 11.75^{o} low, 14^{o} high (2 pos.) At 42 in. station: 10^{o} low, 16.5^{o} high (constant speed) Governor: 1A2G-5, 1A2-5 or 4A2-1 Hamilton Standard 2D30 hub, Pacific Propeller AG-100-2 blades Diameter 106 in. (2% cutoff permitted) Pitch Setting: 11.75^{o} low, 14^{o} high (2 pos.) At 42 in. station: 10^{o} low, 16.5^{o} high (2 pos.) Governor: 1A2G-5, 1A2-5 or 4A2-1 Static r.p.m. at maximum permissible throttle setting: not over 2070, not under 1970 (2 position) R-1340: Hamilton Standard 12D40 hub, 6101A-12 blades Diameter: 108 in. (2% cutoff permitted) Pitch Setting: 11^{o} low, 20^{o} high Governor: 1M12 Hamilton Standard 12D40 hub, Pacific Propeller AG-100-2 blades Diameter: 106 in. (2% cutoff permitted) Pitch Setting: 11^{o} low, 20^{o} high Governor: 1M12 or EDO-AIRE 34-828-021
Airspeed Limits (CAS)	V_{ne} (Never exceed) 147 m.p.h. (128 knots) V_{a} (Maneuvering) 117 m.p.h. (102 knots)
C.G. Range R-985	Aircraft S/N 1571, 1583, 1616 up (401 through 1570, 1572 through 1582 and 1584 through 1615 retroactive) (+122.0) to (+125.4) at 4500 lb.
C.G. Range R-1340	Aircraft S/N 526 and Up (+122.0) to (+124.0) at 4500 lb. (+120.3) to (+125.3) at 3525 lb.
Empty Weight C.G. Range R-985	Aircraft S/N 401 and Up None
Empty Weight C.G. Range R-1340	Aircraft S/N 526 and Up None
Datum	+99.1 in. ahead of firewall bulkhead.

Model G-164A (cont'd)

Leveling Means	Longitudinal: Level lugs welded on tubular fuselage frame 27 in. below upper longeron and forward lug at station 100, left hand side.
No. of Seats	1 (+180)
Maximum Hopper Capacity	2000 lb. (+126.2)
Fuel Capacity	46.3 gal. (+112.5) (One Tank in wing center section) (See G-164A NOTE 3)
Oil Capacity	7 gal. (+94.0) (6.5 gal. usable) (See G-164A NOTE 6) 8.7 gal. (+94.0) (8.2 gal. usable) (See G-164A NOTE 6)
Serial No. Eligible	S/N 401 and Up
Certification Basis	CAR 8.10 (a)(1) effective October 11, 1950, and CAM 8, Appendix B, as amended March 19, 1957. Amended Restricted Type Certificate No. 1A16 issued March 1966. Date of Application for Type Certificate Amendment November 12, 1964.
Equipment	The basic required equipment as prescribed in the applicable airworthiness regulations (see certification basis and CAM 8, Appendix B, subparagraph .51) must be installed in aircraft for certification. In addition, the following items of equipment are required: (a) For aircraft with no electrical system: Pre-stall warning indicator, Safe Flight Instrument Corp. Kit No. 164-R, 6 volt. (Dry batteries powering this unit must be dated and replaced every six months) (b) For aircraft incorporating an electrical system: Pre-stall warning indicator, Safe Flight Instrument Corp. 12V or 24V P/N C-35407 or P/N 164-3. Installation per A1011, Sheet 2 (c) Cylinder head temperature gage and manifold pressure gage required on aircraft equipped with R-985 and R1340 series powerplants. (d) Tail ballast per Gulfstream Drawing A1074 required on all R-1340 series engine installations only when aircraft C.G. would otherwise be outside the specified forward limit.
Agricultural Dispersal Equipment	The following Agricultural Dispersal Equipment may be installed: (a) Sprayer Dispensing Installation per Gulfstream Drawings (1) A1480 (Leading Edge Booms), through S/N 750 (2) A2930 (Leading Edge Booms), S/N 751 through 1725 (3) A2901 (Trailing Edge Booms), S/N 751 through 1726 and up (4) A5740 (Trailing Edge Booms), S/N 1726 and up (b) Dust dispensing installation per Gulfstream Drawing (1) A1970F Sheet 5, Dust System Installation (2) A1398, Spreader Installation (R-985 and R-1340 Only) (Alternate) (3) A1490, Spreader Installation (R-985 and R-1340 Only)

III - Model G-164B 1 PCLB (Restricted Agricultural Category) approved November 18, 1975.
Model G-164B (with 73" wing gap) - 1 PCLB (Restricted Agricultural Category) approved November 18, 1982
Model G-164B-15T and G-164B-34T 1 PCLB (Restricted Agricultural Category) approved December 23, 1985
Model G-164B-20T, 1 PCLB (Restricted Agricultural Category) approved April 1991

Engine

Pratt and Whitney R-985-AN-1, AN-3, -25, -27, -39, -39A, -AN-14B; T1B2, T1B3
(One 4 1/2 and one 9th order crankshaft damper)

Continental/Page R-975-46/A2

Pratt & Whitney R-1340-AN-1, S1H1, S3H1
(One 4 1/2 and one 9th order crankshaft damper)
Pratt & Whitney of Canada Ltd. PT6A-15AG - G-164B-15T only.
Pratt & Whitney of Canada Ltd. PT6A-34AG - G-164B-34T only.
Pratt & Whitney of Canada LTD. PT6A-20B - G-164B-20T only.

Fuel

R-985 & R-1340
80/87 minimum octane aviation gasoline
R-975
100 minimum octane aviation gasoline

PT6A-15AG & PT6A-34AG, and PT6A-20B
Jet A/Jet A-1/Jet B
Automotive Diesel Fuel permitted for agricultural operations when free air temperature is above
+5^{O}C (+41^{O}F) for grade DF-2
-4^{O}C (+25^{O}F) for grade DF-1

Engine Limits

R-985 2300 r.p.m. (450 hp.) all operations

Manifold Pressure (R-985-AN-14B)	36.5 in. Hg (sea level)
	35.5 in. Hg (3500 ft.)
Manifold Pressure (all others)	37.5 in. Hg (sea level)
	37.0 in. Hg (1500 ft.)

Straight line variation between points.

R-975-46/PA2	2300 r.p.m. (525 hp.)	Takeoff (5 minutes)
	2300 r.p.m. (500 hp.)	Max. Continuous

Manifold Pressure:
525 hp. 42.1 in. Hg (Sea Level)
500 hp. 40.7 in. Hg (Sea Level)

R-1340 2250 r.p.m. (600 hp.) Takeoff (5 minutes)
2200 r.p.m. (550 hp.) Max. Continuous

Manifold Pressure: (R-1340-AN-1, S3H1)
600 hp. 2250 r.p.m. 36.0 in. Hg (Sea Level)
550 hp. 2200 r.p.m. 34.0 in. Hg (Sea Level) to 32.5 in. Hg (5000 ft.)
Straight line variation between points

Manifold Pressure: Wasp S1H1
600 hp. 2250 r.p.m. 36.5 in. Hg (Sea Level)
550 hp. 2200 r.p.m. 35.0 in. Hg (Sea Level) to 33.0 in. Hg (8000 ft.)
Straight line variation between points

Model G-164B (cont'd)

PT6A-15AG

Operating Conditions	OPERATING LIMITS						
POWER SETTING	SHP	TORQUE PSI	MAXIMUM ITT °C	Ng RPM %	Np RMP %	OIL PRESSURE PSIG	OIL TEMP °C
TAKEOFF (5 MINUTES)	680	53.3	725	38100 101.5	2200 100	80-100	10-99
MAXIMUM CONTINUOUS	600	47	695	-- --	2200 100	80-100	10-99
MAX. CLIMB/ MAX CRUISE	600	47	695	-- --	-- --	80-100	0-99
IDLE GROUND IDLE FLIGHT	-- --	-- --	660 660	19000 52 25500 68	-- -- --	40 (MIN) 40 (MIN)	-40-99 -40-99
STARTING	--	--	1090	-- --	-- --	--	-40 (MIN)
ACCELERATION	--	68.8	825	38500 102.6	2420 110	--	0-99
MAX. REVERSE	600	49.2	725	38100 101.5	2100 95.5	80-100	0-99

PT6A-34AG

Operating Conditions	OPERATING LIMITS						
POWER SETTING	SHP	TORQUE PSI	MAXIMUM ITT °C	Ng RPM %	Np RMP %	OIL PRESSURE PSIG	OIL TEMP °C
TAKEOFF (5 MINUTES)	750	58.7	790	38100 101.5	2200 100	85-105	10-99
MAXIMUM CONTINUOUS	600	47	740	-- --	2200 100	85-105	10-99
MAX. CLIMB/ MAX CRUISE	600	47	740	-- --	-- --	85-105	0-99
IDLE GROUND IDLE FLIGHT	-- --	-- --	685 685	19000 52 25500 68	-- -- --	40 (MIN) 40 (MIN)	-40-99 -40-99
STARTING	--	--	1090	-- --	-- --	--	-40 (MIN)
ACCELERATION	--	68.4	850	38500 102.6	2420 110	--	0-99
MAX. REVERSE	600	49.2	780	38100 101.5	2100 95.5	85-105	0-99

PT6A-20B

Operating Conditions	OPERATING LIMITS						
POWER SETTING	SHP	TORQUE PSI	MAXIMUM ITT	Ng RPM %	Np RMP %	Oil Press PSIG	Oil Temp °C
Take-off* Max. Cont.**	550	42.5	750	38100 101.5	2200 100	65-85	10-99
Max. Climb	538 ISA	42.5	725	-- --	2200 100	65-85	0-99
Max. Cruise	495 ISA	42.5	705	-- --	2200 100	65-85	0-99
Idle - Grnd Idle - Flight	-- --	-- --	685 685	19000 52 25500 68	-- -- --	40 (MIN) 40 (MIN)	-40-99 -40-99
Starting	--	--	1090	-- --	-- --	--	-40 (MIN)
Acceleration	--	48.5	850	38500 102.6	2420 110	--	0-99
Max Reverse	500	40.5	750	38100 101.5	2100 95.5	65-85	0-99

*Takeoff -5 mintes

**Maximum Continuous - enroute emergency

Model G-154B (cont'd)

Propeller and Propeller Limits

R-985:
Hamilton Standard 2D30 hub, 6101A-12, -13, -14 blades
Diameter: 108 in. max., 106 in. min: (No further reduction permitted)

Pitch Setting: 11.75° low, 14° high (2 pos.)
At 42 in. station: 10° low, 16.5° high (constant speed)
Governor: 1A2G-5, 1A2-5 or 4A2-1

Hamilton Standard 2D30 Hub, Pacific Propeller AG-100-2 blades
Diameter: 106 in. (2% cutoff permitted)
Pitch Setting: 11.75° low, 14° high (2 pos.)
At 42 in. station: 10° low, 16.5° high (constant speed)
Governor: 1A2G-5, 1A2-5 or 4A2-1
Static r.p.m. at maximum permissible throttle setting:
not over 2070, not under 1970 (2 position)

Hamilton Standard 2D30 hub, Pacific Propeller AG-100-48 blades
Diameter: 104 in. max., 102 in. min.
Pitch Settings at 42 in. station 9.5° low, 16.5° high (Constant Speed)

R-975-46/PA2:
Hamilton Standard 2D30 Hub, Pacific Propeller AG-100-48 blades
Diameter: 104 in. max., 102 in. min.
Pitch Settings at 42 in. station 9.5° low, 16.5° high (Constant Speed)

Avoid continuous operation 1300-1450 r.p.m.
Governor: 1A4-R-975 (Pacific Propeller)

R-1340:
Hamilton Standard 12D40 hub, 6101A-12 blades
Diameter: 108 in. (2% cutoff permitted)
Pitch Setting: 11° low, 20° high
Governor: 1M12

Hamilton Standard 2D40 Hub, Pacific Propeller AG-100-48 blades
Diameter: 104 in. max., 102 in. min.
Pitch Settings at 42 in. station 10.5° low, 20 high (Constant Speed)
Governor: 1M12

Hamilton Standard 2D40 Hub, Pacific Propeller AG-100-48 blades
Diameter: 104 in. max., 102 in. min.
Pitch Settings at 42 in. station 10.5° low, 20 high (Constant Speed)
Governor: 1M12

Hamilton Standard 22D40 Hub, Pacific Propeller AG-100-48 blades 549B & up
Diameter: 104 in. (2% cutoff permitted)
Pitch Settings 11.° low, 20° high
Governor: 4G10-21

PT6A-15AG, PT6A-34AG, and PT6A-20B
Hartzell HC-B3TN-3D hub, T10282 + 4 blades
Diameter: 106 in. max., 100 in. min.
Pitch Setting: at 30 in. station low 18°, reverse 8°, feather 90°

Airspeed Limits (CAS)	V_{ne} (Never exceed)	147 m.p.h. (128 knots)	Through S/N 548B
	V_a (Maneuvering)	117 m.p.h. (102 knots)	
	<u>S/N 549B and Up</u>		
	V_{ne} (Never exceed)	145 m.p.h. I.A.S. (126 knots)	
	Va (Maneuvering)	116 m.p.h. I.A.S. (101 knots)	

Model G-164B (cont'd)	G-164B-15T, G-164B-34T, and G-164B-20T V_{ne} (Never exceed) 157 m.p.h. I.A.S. (136 knots) Va (Maneuvering) 125 m.p.h. I.A.S. (109 knots)
C.G. Range	G-164B (through S/N 708B) R-985 (+122.0) to (+125.0) at 4500 lb. R-975-46/PA2 (+122.0) to (+124.8) at 4500 lb. R-1340 (+122.0) to (+124.0) at 4500 lb. G-164B with 73" Wing Gap (S/N 709B and Up) R-1340 (+122.0) to (+125.5) at 5200 lb. (S/N 709B and up) R-985 (+122.0) to (+126.0) at 5200 lb. (S/N 752B and up) PT6A-15AG & (+122.0) to (+125.5) at 5200 lb. PT6A-34AG (+122.0) to (+125.5) at 5200 lb. PT6A-20B (+122.0) to (+125.5) at 5200 lb.
Empty Weight C.G. Range	G-164B (through S/N 708B) and G-164B with 73" Wing Gap (S/N 709B and Up) None
Datum	+99.1 in. ahead of firewall bulkhead.
Leveling Means	Longitudinal: Leveling lugs welded on tubular fuselage frame 27 in. below upper longeron and forward lug at station 100, left hand side.
No. of Seats	1 (+180)
Maximum Hopper Capacity	2000 lb. (+126.2)
Fuel Capacity	46.3 gal. (+112.5) (One tank in wing center section) *(See G-164B NOTE 3)* 80 gal. (+112.5) (S/N 660B through 708B) 80 gal. (+112.6) (S/N 709B and up with 73" in. wing gap) (see G-164B Note 6).
Oil Capacity	8.7 gal. (+94.0) (8.2 gal. usable) 2.8 gal. (+72.0) (PT6A-15AG & PT6A-34AG), and PT6A-20B
Serial No. Eligible	Model G-164B 1B and up Model G-164B-15T, -34T, & -20T 709B & up
Certification Basis	G-164B and G-164B with 73" wing gap: CAR 8.10(a)(1) effective October 11, 1950, and CAM 8, Appendix B, as amended March 19, 1957. Amended Restricted Type Certificate No. 1A16 issued November 18, 1975. Date of application for Type Certificate Amendment March 11, 1975. G-164B-15T and G-164B-34T CAR 8.10(a)(1) effective October 11, 1950 and CAM 8, Appendix B, as amended March 19, 1957, and applicable FAR paragraphs. Amended Restricted Type Certificate No. 1A16 issued December 23, 1985. Date of application for Type Certificate Amendment, January 23, 1983. G-164B-20T CAR 8.10(a)(1) effective October 11, 1950 and CAM 8, Appendix B, as amended March 19, 1957, and applicable FAR paragraphs. Amended Restricted Type Certificate No. 1A16 issued April 23, 1991. Date of application for Type Certificate Amendment, March, 1991.

Model G-164B (cont'd)

Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see certification basis and CAM 8, Appendix B, subparagraph .51) and applicable FAR 23 paragraphs for the models G-164B-15T, G-164B-34T, and G-164B-20T must be installed in aircraft for certification. In addition, the following items of equipment are required:

(a) For aircraft with no electrical system:
Pre-Stall warning indicator, Safe Flight Instrument Corporation
Kit No. 164-R, 6 volt. (Dry batteries powering this unit must be dated and replaced every six months).

(b) For aircraft incorporating an electrical system:
Pre-stall warning indicator, (Safe Flight Instrument Corporation 12v or 24v P/N C-35407) or P/N 164-3 Installation per drawing A3011.

(c) Cylinder head temperature gage and manifold pressure gage.
(R975, R985, R1340 only).

(d) Fixed Ballast Inst. STA 46.5 (G-164B-15T & G-164B-34T) or sta 45.8 (G-164B-20T) per drawing A7534.

Agricultural Dispersal Equipment

The following Agricultural Equipment may be installed: Equipment

(a) Sprayer dispensing installation per Gulfstream Drawing:
(1) A2901 (Trailing Edge Booms) through A/C 334B.
(2) A3740 (Trailing Edge Booms) 335B through 659B
(3) A3740 (Trailing Edge Booms) 660B and up. (R-1340 Eng.)
(4) A3723 (Trailing Edge Booms) 752B and up. (R-985 Eng.)

(b) Dust Dispensing Installation per Gulfstream Drawing:
A1970A Sheet 6, Dust System Installation (S/N 1B through 659B).
(1) A1398 Spreader Installation.
(2) A1490 Spreader Installation.
A3709 Dust Spreader Installation (660B and up). (R-1340 and PT6A Engine).
A7740 Dust Spreader and Emergency Dump Installation -
(R-985 Eng.) S/N 752B and up.

IV - Model G-164C 1 PCLB (Restricted Agricultural Category) approved November 23, 1977

Engine

Pratt and Whitney R-1340-AN-1, S1H1, S3H1
(One 4 1/2 and one 9th order crankshaft damper)

Fuel

80/87 minimum octane aviation gasoline

Engine Limits

R-1340
2250 r.p.m. (600 hp.) Take off (5 minutes)
2200 r.p.m. (550 hp.) Max. Continuous

Manifold Pressure: (R-1340-AN-1, S3H1)
600 hp. 2250 r.p.m. 36.0 in. Hg (Sea Level)
550 hp. 2200 r.p.m. 34.0 in. Hg (Sea Level) to 32.5 in. Hg (5000 ft.)

Manifold Pressure: (R-1340-S1H1)
600 hp. 2250 r.p.m. 36.5 in. Hg (Sea Level)
550 hp. 2200 r.p.m. 35.0 in. Hg (Sea Level) to 33.0 in. Hg (8000 ft.)

Straight line variation between points

Propeller and Propeller Limits

R-1340:
Hamilton Standard 12D40 hub, 6101A-12 blades
Diameter: 108 in. (2% cutoff permitted)
Pitch Setting: 11^{o} low, 20^{o} high
Governor: 1M12

Model G-164C (cont'd)

Propeller and Propeller Limits (cont'd)	Hamilton Standard 12D40 hub, Pacific Propeller AG-100-2 blades Diameter: 106 in. (2% cutoff permitted) Pitch Setting: 11^{o} low, 20^{o} high Governor: 1M12 or EDO-AIRE 34-828-021
Airspeed Limits (CAS)	Through S/N 42C V_{ne} (Never exceed) 147 m.p.h. (128 knots) V_a (Maneuvering) 117 m.p.h. (102 knots) Aircraft S/N 43C and Up V_{ne} (Never exceed) 139 m.p.h. I.A.S. (121 knots) V_a (Maneuvering) 112 m.p.h. I.A.S. (97 knots)
C.G. Range	(+121.0) to (+125.2) at 6300 lb. (+121.0) to (+125.2) at 4400 lb.
Empty Weight C.G. Range	None
Datum	+81.1 in. ahead of firewall bulkhead.
Leveling Means	Longitudinal: Level lugs welded on tubular fuselage frame 27 in. below upper longeron and forward lug at station 82.0, left hand side.
No. of Seats	1 (+206)
Maximum Hopper Capacity	4000 lb. (See Weight and Balance Data)
Fuel Capacity	80 gal. (+112.5)
Oil Capacity	8.7 gal. (+94.0) (8.2 gal. usable)
Serial No. Eligible	S/N 1C and up
Certification Basis	CAR 8.10 (a)(1) effective October 11, 1950, and CAM 8, Appendix B, as amended March 19, 1957. Amended Restricted Type Certificate No. 1A16 issued November 23, 1977. Date of Application for Type Certificate Amendment July 21, 1976.
Equipment	The basic required equipment as prescribed in the applicable airworthiness regulations (see certification basis and CAM 8, Appendix B, subparagraph .51) must be installed in aircraft for certification. In addition, the following equipment is required: (a) For aircraft with no electrical system: Pre-stall warning indicator, Safe Flight Instrument Corp. Kit No. 164-R, 6 volt. (Dry batteries powering this unit must be dated and replaced every six months) (b) For aircraft incorporating an electrical system: Pre-stall warning indicator, Safe Flight Instrument Corp. 12V or 24V P/N C-35407 or P/N 164-3) installation per drawing A3011
Agricultural Dispersal Equipment	The following Agricultural Dispersal Equipment may be installed: (a) Sprayer Dispensing Installation per Gulfstream Drawings A5740. (b) Dust dispensing installation per Gulfstream Drawing A5760.

V - Model G-164D 1 P CLB (Restricted Agricultural Category) Approved March 26, 1979.
Model G-164D (with 73" wing gap) - 1 P CLB (Restricted Agricultural Category) Approved June 15, 1981.

Engine: Pratt and Whitney of Canada Ltd. PT6A-15AG
Pratt & Whitney of Canada Ltd. PT6A-34AG

Fuel: Jet A/Jet A-1/Jet B
Automotive Diesel Fuel permitted for agricultural operations when free air temperature is above
+5°C (+41°F) for grade DF-2
-4°C (+25°F) for grade DF-1

ENGINE LIMITS PT6A-15AG

Operating Conditions	OPERATING LIMITS							
POWER SETTING	SHP	TORQUE PSI	MAXIMUM ITT °C	Ng RPM	Ng %	Np RMP	Np %	OIL PRESSURE PSIG	OIL TEMP °C
TAKEOFF (5 MINUTES)	680	53.3	725	38100	101.5	2200	100	80-100	10-99
MAXIMUM CONTINUOUS	600	47	695	--	--	2200	100	80-100	10-99
MAX. CLIMB/ MAX CRUISE	600	47	695	--	--	--	--	80-100	0-99
IDLE GROUND			660	19000	52			40 (MIN)	-40-99
IDLE FLIGHT	--	--	660	27400	73	--	--	40 (MIN)	-40-99
STARTING	--	--	1090	--	--	--	--	--	-40 (MIN)
ACCELERATION	--	68.8	825	38500	102.6	2420	110	--	0-99
MAX. REVERSE	600	49.2	725	38100	101.5	2100	95.5	80-100	0-99

ENGINE LIMITS PT6A-34AG

Operating Conditions	OPERATING LIMITS								
POWER SETTING	SHP	TORQUE PSI	MAXIMUM ITT °C	Ng RPM	Ng %	Np RMP	Np %	OIL PRESSURE PSIG	OIL TEMP °C
TAKEOFF (5 MINUTES)	750	58.7	790	38100	101.5	2200	100	85-105	10-99
MAXIMUM CONTINUOUS	600	47	740	--	--	2200	100	85-105	10-99
MAX. CLIMB/ MAX CRUISE	600	47	740	--	--	2200	100	85-105	0-99
IDLE GROUND	--	--	685	19000	52			40 (MIN)	-40-99
IDLE FLIGHT	--	--	685	27400	73	--	--	40 (MIN)	-40-99
STARTING	--	--	1090	--	--	--	--	--	-40 (MIN)
ACCELERATION	--	68.4	850	38500	102.6	2420	110	--	0-99
MAX. REVERSE	600	49.2	780	38100	101.5	2100	95.5	85-105	0-99

Propeller and Propeller Limits: Hartzell HC-B3TN-3D hub, T10282 + 4 blades
Diameter: Max. 106 in.
Min. 100 in.
Pitch Setting: Low 18°
Reverse 8°
Feather 90°
at 30 in. Station

Airspeed Limits: V_{ne} (Never exceed) 164 m.p.h. I.A.S. (142 knots)
V_A (Maneuvering) 131 m.p.h. I.A.S. (114 knots)

Model 164D (cont'd)

C.G. Range

G-164D
(+120.5) to (+123.6) at 6300 lb.
(+120.5) to (+125.0) at 4000 lb.
Straight line variation between points

G-164D (with 73" GAP)
(+120.8) to (+122.8) at 6300 lb.
(+120.8) to (+123.6) at 4000 lb
Straight line variation between points

Empty weight C.G. Range: None.

Datum: +81.1 in. ahead of firewall bulkhead.

Leveling Means: Longitudinal: Leveling lugs welded on tubular fuselage frame 27 in. below upper longeron and forward lug at station 82.0, left hand side.

No. of Seats: 1 (+206)

Maximum Hopper Capacity: 4000 lb. (See Weight and Balance Data)

Fuel Capacity: 80 gal. (+112.5)
With 73" Wing Gap
80 gal. (+112.7)

Oil Capacity: 2.8 gal. (+36.0)

Serial No. Eligible: S/N 1D and up

Certification Basis: CAR 8.10(a)(1) effective October 11, 1950, and CAM 8, Appendix B, as amended March 19, 1957 and applicable FAR 23 paragraphs. Amended Restricted Type Certificate No. 1A16 issued March 26, 1979. Date of application for Type Certificate Amendment May 23, 1977. Reissued to Schweizer Aircraft Corporation May 12, 1981.

Equipment: The basic required equipment as prescribed in the applicable airworthiness regulations (see certification basis and CAM 8, Appendix B, subparagraph .51 and applicable FAR 23 paragraphs) must be installed in aircraft for certification. In addition, the following items of equipment are required:

(a) Pre-stall warning indicator, (Safe Flight Instrument Corporation 24v P/N C-35407 or P/N 164-3) Installation per drawing A3011.

(b) Fixed ballast installed at fuselage Sta 60.4 per drawing A5173 (Model G-164D with 73" wing gap)

DATA PERTINENT TO ALL MODELS

Control Surface Movements (See G-164D Note 3)

G-164A, G-164B (through 708B), G-164C

Ailerons	27^{o} ($+3.5^{o}$ -2^{o}) Up	$13\ 1/2^{o}$	(+ or -2^{o}) Down
Elevator	25^{o} (+ or -2^{o}) Up	15^{o}	(+ or -2^{o}) Down
Rudder	33^{o} (+ or -2^{o}) Left	27^{o}	(+ or -2^{o}) Right
(Respect to Fin)			
Elevator Trim Tab	18^{o} ($+3^{o}$ -2^{o}) Up	13^{o}	(+ or - 2^{o}) Down

G-164B, (S/N 709B and up)

Ailerons	27^{o} ($+3.5^{o}$ -2^{o}) Up	$13\ 1/2^{o}$	(+ or -2^{o}) Down
Elevator	25^{o} (+ or -2^{o}) Up	15^{o}	(+ or -2^{o}) Down
Rudder	30^{o} (+ or -2^{o}) Left	30^{o}	(+ or -2^{o}) Right
(Respect to Fin)			
Elevator Trim Tab	18^{o} ($+3^{o}$ -2^{o}) Up	13^{o}	(+ or - 2^{o}) Down

G-164B-15T, -34T, -20T

Ailerons	27^{o} ($+3.5^{o}$ -2^{o}) Up	$13\ 1/2^{o}$	(+ or -2^{o}) Down
Elevator	25^{o} (+ or -2^{o}) Up	15^{o}	(+ or -2^{o}) Down
Rudder	18^{o} (+0 or -1^{o}) Left	30^{o}	(+ or -2^{o}) Right
(Respect to Fin)			
Elevator Trim Tab	18^{o} ($+3^{o}$ -2^{o}) Up	13^{o}	(+ or - 2^{o}) Down

G-164D

Ailerons	27^{o} ($+3.5^{o}$ -2^{o}) Up	$13\ 1/2^{o}$	(+ or -2^{o}) Down
Elevator	25^{o} (+ or -2^{o}) Up	15^{o}	(+ or -2^{o}) Down
Rudder	14^{o} (+0 or -1^{o}) Left	27^{o}	(+ or -2^{o}) Right
(Respect to Fin)			
Elevator Trim Tab	18^{o} ($+3^{o}$ -2^{o}) Up	13^{o}	(+ or - 2^{o}) Down

Production Basis: Production Basis - Production Certificate No. 101

Notice: ***Aircraft with the letter "E" prefix on the serial no., ie. E1B, were manufactured under license in Ethiopia. These aircraft are not eligible for certification in the United States.***

Notice: Prior to Revision 15, dated August 21, 1978, there was a single set of NOTES for all models. From Revision 15 and up each model has a separate set of NOTES.

Pilots Operating Handbook Required:
G-164B - S/N 549B and subsequent.
G-164B-15T, G-164B-34T, and G-164B-20T
G-164C - S/N 43C and subsequent.
G-164D - S/N 1D and subsequent.

NOTES PERTINENT TO MODEL G-164

NOTE 1

Current weight and balance report including lists 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 locations must include unusable residual fluids of:

R985:

System Oil	14.5 lb.	(+90.0)
Unusable Fuel	1.8 lb.	(+123.0)

All other engines:

System Oil	6.5 lb.	(+80.0)
Unusable Fuel	1.8 lb.	(+123.0)

NOTE 2 for G-164

The following placards must be displayed:

(a) In front of and in clear view of the pilot:

(1) "THIS AIRCRAFT CERTIFICATED UNDER CAR 8 AS A SPECIAL PURPOSE AGRICULTURAL AIRCRAFT AND MUST BE OPERATED IN COMPLIANCE WITH OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS AND MARKINGS. THIS AIRCRAFT APPROVED FOR DAY VFR FLIGHT ONLY."

(2) "NO ACROBATIC OR INVERTED MANEUVERS, INCLUDING SPINS, APPROVED."

(3) "WINTER FRONT MUST BE INSTALLED IF OAT IS BELOW 35^{o}F. AND REMOVED IF OAT EXCEEDS 60^{o}F." (Continental W-670 and Gulf Coast W-670-240 engines only). "WHEN WINTER FRONT IS INSTALLED AIRCRAFT MUST BE OPERATED IN ACCORDANCE WITH COLD WEATHER OPERATING INSTRUCTIONS FURNISHED AS PART OF THE WINTER FRONT INSTALLATION."

(4) When McCauley propeller Models 41D5926 and D1093 are installed the following placard must be displayed:
"AVOID CONTINUOUS OPERATION BETWEEN 1500 AND 1650 RPM."

(5) When Continental W-670-240 engine is installed the following placard must be displayed:
"THIS AIRCRAFT SHALL NOT BE OPERATED OVER CONGESTED AREAS AND IS NOT ELIGIBLE FOR A WAIVER TO CONDUCT SUCH OPERATIONS."

(6) "FLIGHT LOAD FACTORS:

MAX. POSITIVE LOAD FACTOR	+4.2G
MAX. NEGATIVE LOAD FACTOR	-1.0G

(7) With Item 1 or 2 propeller installed:
"WEIGHT AND C.G. RANGE:

Maximum Weight
(a) W-670-240 engine, 9.7^{o} blade angle: 3,750 lb. for sprayer or duster
(b) Jacobs R-755 engine, 3,750 lb. for sprayer or duster
(c) All other engines: (except R-985)

Configuration	Prop Pitch	Weight
Sprayer	9 1/2^{o}	3700 lb.
Sprayer	9^{o}, 10^{o}, 10.5^{o} or 11^{o}	3350 lb.
Duster	9 1/4^{o}	2600 lb.
Duster	9^{o}, 10^{o}, 10.5^{o} or 11^{o}	3450 lb.

C. G. Range
(+122.0) to (+124.0) at 3750 lb.
(+122.0) to (+125.3) at 2460 lb.
Straight line variation between points.

(8) With Item 3 propeller (Ref. NOTE 6) installed:

(9) With Item 4 propeller installed:
"Maximum Weight and C.G. Range
(+122.0) to (+124.0) at 3750 lb.
(+122.0) to +125.3) at 2460 lb."
Straight line variation between points.

(10) When Jasco 12 volt alternator is installed the following placard must be displayed:
"THE ALTERNATOR IN THIS ELECTRICAL SYSTEM ONLY TESTED TO 45 AMPS MAXIMUM."

Note 2 for G-164

(11) When Jasco 24 volt alternator is installed the following placard must be displayed:
"THE ALTERNATOR IN THIS ELECTRICAL SYSTEM ONLY TESTED TO 35 AMPS MAXIMUM."

(12) "SULPHUR DUSTING IS PROHIBITED UNLESS SPECIAL FIRE PREVENTION MEASURES HAVE BEEN INCORPORATED IN THE AIRCRAFT."

(13) Adjacent to fuel control valve:

(1) Aircraft S/N 1 through 400 with R-985 series powerplant
"32.7 gal. usable capacity - 80/87 Minimum Octane"
(Standard Tank)
"46.0 gal. usable capacity - 80/87 Minimum Octane"
(Optional Tank)

(2) Aircraft S/N 1 through 400 with all other powerplants
"32.7 gal. usable capacity - 80 Minimum Octane"
(Standard Tank)
"46.0 gal. usable capacity - 80 Minimum Octane"
(Optional Tank)

(a) On hopper compartment near filler opening:
"MAXIMUM HOPPER CAPACITY 1200 LB." (S/N 1 through 300)
"MAXIMUM HOPPER CAPACITY 2000 LB" (S/N 301 and Up)

(b) Adjacent to hopper emergency dump cable:
"EMERGENCY DUMP CABLE - PULL TO DUMP LOAD"

(c) Printed on safe-flight battery shield:
"DRY BATTERIES POWERING THIS UNIT MUST BE DATED AND REPLACED EVERY SIX MONTHS"

NOTE 3 When the W-670-240 engine is installed, this airplane shall not be operated over congested areas and is not eligible for waiver to conduct special purpose operations over densely populated areas, and in congested airlanes, or in the vicinity of busy airports conducting passenger transport operations.

NOTE 4 Approved in Patrolling and/or Surveying configuration without normally exposed portions of the dust and spray equipment, but with the hopper remaining installed, at the same gross weights, center of gravity range and powerplant limitations as presently applied to the Agricultural Configuration aircraft.

NOTE 5 When the aircraft is operating with approved 7AA Flight Manual dated April 17, 1959, revised July 29, 1960, March 7, 1961, and September 6, 1961, placards in NOTE 2, Nos. (a)(6) and (a)(7) need not be displayed and placard Nos. (a)(1) and (a)(4) must be modified as follows:

(a) (1) "THIS AIRCRAFT CERTIFICATED UNDER CAR 8 AS A SPECIAL PURPOSE AGRICULTURAL AIRCRAFT AND MUST BE OPERATED IN ACCORDANCE WITH OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS, MARKINGS, AND FAA APPROVED MANUAL."

(a) (4) "WINTER FRONT MUST BE INSTALLED IF OAT IS BELOW 35^{O}F AND REMOVED IF OAT EXCEEDS 60^{O}F."
(Continental W-670 series engines only)

NOTE 6 (a) Jacobs R-755-A2M, R-755-A2M1, R-755-B2M, L-4M or L-4MB engine eligible for installation with short mount Gulfstream Drawing A1681, carburetor air filter box and funnel Gulfstream Drawing A1667 and Gulfstream (Sensenich) Model J5404/MA96K propeller in accordance with "LIST OF GULFSTREAM G-164 DRAWINGS. APPLICABLE TO JACOBS R-755 (SHORT MOUNT) P.P. KITS"
Revised 12-2-63.

NOTE 6 for G-164

(b) Static r.p.m. at Maximum Permissible Throttle Setting :
(No additional tolerance permitted). Jacobs L-4M or L-4MB Not over 2010, not under 2010.
Jacobs R-755-B2M
Not over 2080, not under 2050

Jacobs R-755-A2M and -A2M1
Not over 2090, not under 1990

(c) Jacobs L-4MB engines must be modified for dual magneto ignition.

(d) Left exhaust in accordance with Gulfstream ECO's S164-1455,S164-1456 and S164-1457 all dated 4-13-64 is eligible as optional equipment.

(e) Alternate right hand and/or left hand carburetor heat muffs per Gulfstream Drawing A1691 and ECO's S164-1526 dated 1-18-65.

NOTE 7

Optional 46.3 gallon fuel tank eligible for installation per Gulfstream Drawing A1775.

NOTES PERTINENT TO MODEL G-164A

NOTE 1

Current weight and balance report including lists 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 locations must include unusable residual fluids of:

R985 and R-1340 series:

System Oil	14.5 lb.	(+90.0)
Unusable Fuel	1.8 lb.	(+123.0)

All other engines:

System Oil	6.5 lb.	(+80.0)
Unusable Fuel	1.8 lb.	(+123.0)

NOTE 2

The following placards must be displayed:

(a) In front of and in clear view of the pilot:

(1) Aircraft S/N 401 through 1570, 1572 through 1582 and 1584 through 1615:
"THIS AIRCRAFT CERTIFICATED UNDER CAR 8 AS A SPECIAL PURPOSE AGRICULTURAL AIRCRAFT AND MUST BE OPERATED IN COMPLIANCE WITH OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS AND MARKINGS. THIS AIRCRAFT APPROVED FOR DAY VFR FLIGHT ONLY."

(2) Aircraft S/N 401 through 1570, 1572 through 1582 and 1584 through 1615:
MAXIMUM AIRSPEEDS S/N 401 and up with R-985 powerplant only
and S/N 526 and up with R-985 or R-1340 powerplant only.

NEVER EXCEED	147 MPH CAS (128 Knots)
ABRUPT MANEUVERS	117 MPH CAS (102 Knots)

MAXIMUM AIRSPEEDS S/N 401 and up with R-985 powerplant only
and S/N 526 and up with R-985 or R-1340 powerplant only.

NEVER EXCEED	131 MPH CAS (114 Knots)
ABRUPT MANEUVERS	104 MPH CAS (90 Knots)

(3) Aircraft S/N 401 through 1570, 1572 through 1582 and 1584 through 1615:
"NO ACROBATIC OR INVERTED MANEUVERS, INCLUDING SPINS, APPROVED."

NOTE 2 for G-164A

(4) Aircraft S/N 401 through 1570, 1572 through 1582 and 1584 through 1615:
"FLIGHT LOAD FACTORS:
MAX. POSITIVE LOAD FACTOR +4.2G
MAX. NEGATIVE LOAD FACTOR -1.0G"

(5) When Jasco 12 volt alternator is installed, the following placard must be displayed:
"THE ALTERNATOR IN THIS ELECTRICAL SYSTEM ONLY TESTED TO 45 AMPS MAXIMUM."

(6) When Jasco 24 volt alternator is installed, the following placard must be displayed:
"THE ALTERNATOR IN THIS ELECTRICAL SYSTEM ONLY TESTED TO 35 AMPS MAXIMUM."

(7) Aircraft S/N 526 through 1175:
Adjacent to wobble pump handle when R-1340 series engines are installed.
"EMERGENCY HAND WOBBLE FUEL PUMP MAINTAIN 3 TO 6 PSI FUEL PRESSURE."

(8) Aircraft S/N 1571, 1583, and 1616 up (R-985 Only):

"THIS AIRCRAFT CERTIFICATED UNDER PART 8 AS A SPECIAL PURPOSE AGRICULTURAL AIRCRAFT AND MUST BE OPERATED IN COMPLIANCE WITH OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS AND MARKINGS."

THIS AIRCRAFT APPROVED FOR DAY VFR FLIGHT ONLY.

FLIGHT LOAD FACTORS:
MAX POSITIVE LOAD FACTOR +4.2G
MAX. NEGATIVE LOAD FACTOR -1.0G

MAXIMUM AIRSPEEDS:
NEVER EXCEED 147 MPH CAS (128 Knots)
ABRUPT MANEUVERS 117 MPH CAS (102 Knots)

NO ACROBATIC OR INVERTED MANEUVERS, INCLUDING SPINS, APPROVED.

ALTITUDE LOSS IN STALL RECOVERY 200 FT.

WITH HAMILTON STANDARD 2D30 PROPELLER HUB AND PACIFIC PROPELLER AG-100-2 BLADES INSTALLED ON R-985 ENGINE.

MAXIMUM WEIGHT AND C.G. RANGE (INCHES FROM DATUM)
(+122.0) TO (+125.4) AT 4500 LBS.
(+122.0) TO (+125.4) AT 2970 LBS.
Straight line variation between points.

SULPHUR DUSTING IS PROHIBITED UNLESS SPECIAL FIRE PREVENTION MEASURES HAVE BEEN INCORPORATED IN THE AIRCRAFT"
(P/N A2815-1)

(9) Aircraft S/N 1571, 1583 and 1616 up (R-1340 only):
"THIS AIRCRAFT CERTIFICATED UNDER CAR 8 AS A SPECIAL PURPOSE AGRICULTURAL AIRCRAFT AND MUST BE OPERATED IN COMPLIANCE WITH OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS AND MARKINGS.

THIS AIRCRAFT APPROVED FOR DAY VFR FLIGHT ONLY.

"FLIGHT LOAD FACTORS:
MAX. POSITIVE LOAD FACTOR +4.2G
MAX. NEGATIVE LOAD FACTOR -1.0G"

NOTE 2 for G-164A

MAXIMUM AIRSPEEDS:

NEVER EXCEED	147 MPH CAS (128 Knots)
ABRUPT MANEUVERS	117 MPH CAS (102 Knots)

NO ACROBATIC OR INVERTED MANEUVERS, INCLUDING SPINS, APPROVED.

WITH HAMILTON STANDARD 12D40 PROPELLER HUB AND PACIFIC PROPELLER AG-100-2 BLADES INSTALLED ON R-1340 ENGINE.

MAXIMUM WEIGHT AND C.G. RANGE (INCHES FROM DATUM)
(+122.0) TO (+124.0) AT 4500 LBS.
(+120.3) TO (+125.3) AT 3300 LBS. THROUGH 3525 LBS.
Straight line variation between points.

SULPHUR DUSTING IS PROHIBITED UNLESS SPECIAL FIRE PREVENTION MEASURES HAVE BEEN INCORPORATED IN THE AIRCRAFT"
(P/N A2815-2)

(b) Adjacent to fuel control valve:
Aircraft S/N 401 and up with R-985 series powerplant and S/N 526 and up with R-1340 series powerplant.

"46.0 gal. usable capacity -	80/87 minimum octane (Standard Tank)
64.0 gal. usable capacity -	80/87 minimum octane (Standard Tank plus two Optional wing tanks)"
80.0 gal. usable capacity -	80/87 minimum octane (Standard Tank plus two Optional wing tanks)"

(c) On hopper compartment near filler opening:
"MAXIMUM HOPPER CAPACITY 2000 LB."

(d) Adjacent to hopper emergency dump cable:
"EMERGENCY DUMP CABLE - PULL TO DUMP LOAD"

(e) Printed on safe-flight battery shield:
"DRY BATTERIES POWERING THIS UNIT MUST BE DATED AND REPLACED EVERY SIX MONTHS"

(f) On tail ballast used with R-1340 powerplant installation:
"Ballast - 54 lb. - Do Not Remove"
(Aircraft S/N 526 through 1683)
"Ballast - 51 lb. - Do Not Remove"
(Aircraft S/N 1684 and Up)

(g) Near entrance door:
"RESTRICTED AGRICULTURAL AIRCRAFT"

(h) On control stick lock A/C S/N 1686, 1695 and up
"CONTROL LOCK/PARKING BRAKE WITH FLIGHT CONTROLS LOCKED, DEPRESS PEDALS FOR PARKING BRAKE, PARKING BRAKES OFF WHEN CONTROL LOCK STOWED"

(i) Adjacent to oil heat control A/C S/N 1726 and up:
"OIL HEAT - SHALL BE OFF FOR TAKEOFF"

(j) When JASCO 24 volt alternator is installed the following placard must be displayed:
"THE ALTERNATOR IN THIS ELECTRICAL SYSTEM ONLY TESTED TO 35 AMPS MAXIMUM"

NOTE 2 for G-164A

(k) Stenciled on the inside of the baggage compartment door S/N 1571, 1583 and 1616 and up: "BAGGAGE COMPARTMENT 25 LBS. - SECURED LIMIT"

(l) Located above the windshield: "WARNING - 3 POINT READING OF FUEL GAUGE NOT ACCURATE. READ IN LEVEL FLIGHT ONLY"

(m) Located above the right hand window: "DO NOT OPEN RH WINDOW IN FLIGHT"

(n) Located on the battery box cover (When 24V electrical system is installed) S/N 1701 and up: "TWIN 12V BATTERIES IN SERIES - OUTPUT 24 VOLTS"

(o) Above the strobe light switch (When optional strobe lights are installed): WARNING: TURN OFF STROBE LIGHTS WHEN TAXIING IN VICINITY OF OTHER AIRCRAFT OR DURING FIGHT THROUGH CLOUDS, FOG OR HAZE"

(p) Located in the step hole on the left side of the fuselage below the cockpit. (When optional auxiliary power receptacle is installed): "24 VOLT STARTER POWER (NEG. GRD)"

(q) Located on the right side of the cockpit. (When optional spray system is installed): "FAN BRAKE - PULL TO LOCK."

(r) Located on the spray/spreader control handle adjustable limit stop rod. (When optional spray system is installed): "SPRAY PUMP INTAKE VALVE - PULL TO CLOSE"

(s) Located on the fan brake lever mounting bracket. (When optional spray system is installed): "SPRAY PUMP INTAKE VALVE - PULL TO OPEN"

NOTE 3 Optional 18 gal. wing tanks eligible on S/N 401 and up when installed per Gulfstream Wing Modification Drawing A2003 and fuel Tank Installation Drawing A1730.

NOTE 4 All R-985 Series Engine Installations S/N 401 through 458 made per Gulfstream Short Mount Drawing A1692. S/N 401 through 458 eligible for Long Mount Installation.

NOTE 5 Gulfstream Exhaust System G88-42005-75 eligible for all R-1340 installations per Gulfstream Installation Drawing A1550.

NOTE 6 Optional 8.7 gallon oil tank with integral hopper is eligible for installation on Model G-164A using R-985 or R-1340 engines installed on long engine mounts per Gulfstream Drawing A1360. (Note eligible for installation with R-985 engine in short engine mount).

NOTE 7 All engines listed for the model G-164 are eligible for installation on Model G-164A. The model G-164 limits, placards, weights and other data apply (See G-164 data and NOTES).

NOTES PERTINENT TO MODEL G-164B

NOTE 1 Current weight and balance report including lists 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 locations must include unusable residual fluids and fixed ballast:

R-975, R985 and R-1340 series:

System Oil	14.5 lb.	(+90.0)
Unusable Fuel	1.8 lb.	(+123.0)

NOTE 1 for G-164B

PT6A-15AG, PT6A-34AG, and PT6A-20B

Unusuable Fuel	10.0 lb (+116.8)
Fixed Ballast:	
PT6A-15AG, -34AG, & -20B	xxx lb (+92.8)
PT6A-15AG & -34AG	xxx lb (+46.5)
PT6A-20B	xxx lb (+45.8)
(use actual weight stamped on wts)	

NOTE 2 The following placards must be displayed:

(a) In front of and in clear view of the pilot:

(1) R-985 Engine through S/N 548B

"THIS AIRCRAFT CERTIFICATED UNDER PART 8 AS A SPECIAL PURPOSE AGRICULTURAL AIRCRAFT AND MUST BE OPERATED IN COMPLIANCE WITH OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS AND MARKINGS.

THIS AIRCRAFT APPROVED FOR DAY VFR FLIGHT ONLY."

FLIGHT LOAD FACTORS:

MAX. POSITIVE LOAD FACTOR	+4.2G
MAX. NEGATIVE LOAD FACTOR	-1.0G"

MAXIMUM AIRSPEEDS:

NEVER EXCEED	147 MPH CAS (128 Knots)
ABRUPT MANEUVERS	117 MPH CAS (102 Knots)

NO ACROBATIC OR INVERTED MANEUVERS, INCLUDING SPINS, APPROVED.

ALTITUDE LOSS IN STALL RECOVERY 200 FT.

WITH HAMILTON STANDARD 2D30 PROPELLER HUB AND AG-100-2 BLADES INSTALLED ON R-985 ENGINE.

MAXIMUM WEIGHT AND C.G. RANGE (INCHES FROM DATUM)
(+122.0) TO (+125.0) AT 4500 lb.
(+122.0) TO (+125.0) AT 3130 lb.
Straight line variation between points.

SULPHUR DUSTING IS PROHIBITED UNLESS SPECIAL FIRE PREVENTION MEASURES HAVE BEEN INCORPORATED IN THE AIRCRAFT"
(P/N A3615-1)

(2) R-975-46/PA2 Engine through S/N 548B

"THIS AIRCRAFT CERTIFICATED UNDER PART 8 AS A SPECIAL PURPOSE AGRICULTURAL AIRCRAFT AND MUST BE OPERATED IN COMPLIANCE WITH OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS AND MARKINGS."

THIS AIRCRAFT SHALL NOT BE OPERATED OVER CONGESTED AREAS AND IS NOT ELIGIBLE FOR A WAIVER TO CONDUCT SUCH OPERATIONS. THIS AIRCRAFT APPROVED FOR DAY VFR FLIGHT ONLY.

FLIGHT LOAD FACTORS:

MAX POSITIVE LOAD FACTOR	+4.2G
MAX. NEGATIVE LOAD FACTOR	-1.0G

MAXIMUM AIRSPEEDS:

NEVER EXCEED	147 MPH CAS (128 Knots)
ABRUPT MANEUVERS	117 MPH CAS (102 Knots)

NO ACROBATIC OR INVERTED MANEUVERS, INCLUDING SPINS, APPROVED.

NOTE 2 for G-164B

ALTITUDE LOSS IN STALL RECOVERY 200 FT.

WITH HAMILTON STANDARD 2D30 PROPELLER HUB AND PACIFIC PROPELLER AG-100-2 BLADES INSTALLED ON R-975 ENGINE, AVOID CONTINUOUS OPERATION BETWEEN 1300 AND 1450 RPM.

MAXIMUM WEIGHT AND C.G. RANGE (INCHES FROM DATUM)
(+122.0) TO (+124.8) AT 4500 LBS.
(+122.0) TO (+124.8) AT 3170 LBS.
Straight line variation between points.

SULPHUR DUSTING IS PROHIBITED UNLESS SPECIAL FIRE PREVENTION MEASURES HAVE BEEN INCORPORATED IN THE AIRCRAFT"
(P/N A3616-1)

(3) R-1340 Engine through S/N 548B
"THIS AIRCRAFT CERTIFICATED UNDER CAR 8 AS A SPECIAL PURPOSE AGRICULTURAL AIRCRAFT AND MUST BE OPERATED IN COMPLIANCE WITH OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS AND MARKINGS.

THIS AIRCRAFT APPROVED FOR DAY VFR FLIGHT ONLY.

"FLIGHT LOAD FACTORS:
MAX. POSITIVE LOAD FACTOR +4.2G
MAX. NEGATIVE LOAD FACTOR -1.0G"

MAXIMUM AIRSPEEDS:
NEVER EXCEED 147 MPH CAS (128 Knots)
ABRUPT MANEUVERS 117 MPH CAS (102 Knots)

NO ACROBATIC OR INVERTED MANEUVERS, INCLUDING SPINS, APPROVED.

ALTITUDE LOSS IN STALL RECOVERY 200 FT.

WITH HAMILTON STANDARD 12D40 PROPELLER HUB AND PACIFIC PROPELLER AG-100-2 BLADES INSTALLED ON R-1340 ENGINE.

MAXIMUM WEIGHT AND C.G. RANGE (INCHES FROM DATUM)
(+122.0) TO (+124.0) AT 4500 LBS.
(+122.0) TO (+124.0) AT 3300 LBS.
Straight line variation between points.

SULPHUR DUSTING IS PROHIBITED UNLESS SPECIAL FIRE PREVENTION MEASURES HAVE BEEN INCORPORATED IN THE AIRCRAFT"

(P/N A3818-1)

(4) R-985 Engine S/N 549B and Up
"THIS AIRCRAFT CERTIFICATED UNDER CAR 8 AS A SPECIAL PURPOSE AGRICULTURAL AIRCRAFT AND MUST BE OPERATED IN COMPLIANCE WITH OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS, MARKINGS AND PILOT'S OPERATING HANDBOOK.

THIS AIRCRAFT APPROVED FOR DAY VFR FLIGHT ONLY.

"FLIGHT LOAD FACTORS:
MAX. POSITIVE LOAD FACTOR +4.2G
MAX. NEGATIVE LOAD FACTOR -1.0G

MAXIMUM AIRSPEEDS:
NEVER EXCEED 145 MPH CAS (126 Knots)
ABRUPT MANEUVERS 116 MPH CAS (101 Knots)

NOTE 2 for G-164B

NO ACROBATIC OR INVERTED MANEUVERS, INCLUDING SPINS, APPROVED.
WITH HAMILTON STANDARD 2D30 PROPELLER HUB AND 6101A-12 BLADES OR PACIFIC PROPELLER AG-100-2/OR -45 BLADES INSTALLED ON R-985 ENGINE.

MAXIMUM WEIGHT AND C.G. RANGE (INCHES FROM DATUM)
(+122.0) TO (+125.0) AT 4500 LBS.
(+122.0) TO (+125.0) AT 3170 LBS.
Straight line variation between points.

SULPHUR DUSTING IS PROHIBITED UNLESS SPECIAL FIRE PREVENTION MEASURES HAVE BEEN INCORPORATED IN THE AIRCRAFT"
(P/N A3615-3)

(5) R-975 Engine S/N 549B and Up
"THIS AIRCRAFT CERTIFICATED UNDER CAR 8 AS A SPECIAL PURPOSE AGRICULTURAL AIRCRAFT AND MUST BE OPERATED IN COMPLIANCE WITH OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS, MARKINGS AND PILOT'S OPERATING HANDBOOK.

THIS AIRCRAFT SHALL NOT BE OPERATED OVER CONGESTED AREAS.

THIS AIRCRAFT APPROVED FOR DAY VFR FLIGHT ONLY.

FLIGHT LOAD FACTORS:
MAX. POSITIVE LOAD FACTOR +4.2G
MAX. NEGATIVE LOAD FACTOR -1.0G"

MAXIMUM AIRSPEEDS:
NEVER EXCEED 145 MPH CAS (126 Knots)
ABRUPT MANEUVERS 116 MPH CAS (101 Knots)

NO ACROBATIC OR INVERTED MANEUVERS, INCLUDING SPINS, APPROVED.

ALTITUDE LOSS IN STALL RECOVERY 200 FT.

WITH HAMILTON STANDARD 2D30 PROPELLER HUB AND AG-100-4S BLADES INSTALLED ON R-975 ENGINE. AVOID CONTINUOUS OPERATION BETWEEN 1300 AND 1450 RPM.

MAXIMUM WEIGHT AND C.G. RANGE (INCHES FROM DATUM)
(+122.0) TO (+124.8) AT 4500 LBS.
(+122.0) TO (+124.8) AT 3170 LBS.
Straight line variation between points.

SULPHUR DUSTING IS PROHIBITED UNLESS SPECIAL FIRE PREVENTION MEASURES HAVE BEEN INCORPORATED IN THE AIRCRAFT"
(P/N A3615-3)

(6) R-1340 Engine S/N 549B through 694B
"THIS AIRCRAFT CERTIFICATED UNDER CAR 8 AS A SPECIAL PURPOSE AGRICULTURAL AIRCRAFT AND MUST BE OPERATED IN COMPLIANCE WITH OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS, MARKINGS AND PILOT'S OPERATING HANDBOOK.

THIS AIRCRAFT APPROVED FOR DAY VFR FLIGHT ONLY.

"FLIGHT LOAD FACTORS:
MAX. POSITIVE LOAD FACTOR +4.2G
MAX. NEGATIVE LOAD FACTOR -1.0G"

NOTE 2 for G-164B

MAXIMUM AIRSPEEDS:

NEVER EXCEED	145 MPH CAS (126 Knots)
ABRUPT MANEUVERS	116 MPH CAS (101 Knots)

NO ACROBATIC OR INVERTED MANEUVERS, INCLUDING SPINS, APPROVED.

ALTITUDE LOSS IN STALL RECOVERY 200 FT.

WITH HAMILTON STANDARD 2D30 PROPELLER HUB AND 610A-12 BLADES OR PACIFIC PROPELLER AG-100-2/ OR4S BLADES OR HAMILTON STANDARD 22D40 PROPELLER HUB AND PACIFIC PROPELLER AG-200-4S BLADES INSTALLED ON R-1340 ENGINE.

MAXIMUM WEIGHT AND C.G. RANGE (INCHES FROM DATUM)
(+122.0) TO (+125.4) AT 4500 LBS.
(+122.0) TO (+125.4) AT 3625 LBS.
Straight line variation between points.

SULPHUR DUSTING IS PROHIBITED UNLESS SPECIAL FIRE PREVENTION MEASURES HAVE BEEN INCORPORATED IN THE AIRCRAFT"
(P/N A3618-3)

(7) R-1340 Engine S/N 695 through 708B

"THIS AIRCRAFT CERTIFICATED UNDER CAR 8 AS A SPECIAL PURPOSE AGRICULTURAL AIRCRAFT AND MUST BE OPERATED IN COMPLIANCE WITH OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS, MARKINGS AND PILOT'S OPERATING HANDBOOK.

THIS AIRCRAFT APPROVED FOR DAY VFR FLIGHT ONLY.

FLIGHT LOAD FACTORS:

MAX. POSITIVE LOAD FACTOR	+4.2G
MAX. NEGATIVE LOAD FACTOR	-1.0G"

MAXIMUM AIRSPEEDS:

NEVER EXCEED	145 MPH CAS (126 Knots)
ABRUPT MANEUVERS	116 MPH CAS (101 Knots)

NO ACROBATIC OR INVERTED MANEUVERS, INCLUDING SPINS, APPROVED.

ALTITUDE LOSS IN STALL RECOVERY 200 FT.

WITH HAMILTON STANDARD 2D30 PROPELLER HUB AND 610A-12 BLADES OR PACIFIC PROPELLER AG-100-2/ OR4S BLADES OR HAMILTON STANDARD 22D40 PROPELLER HUB AND PACIFIC PROPELLER AG-200-4S BLADES INSTALLED ON R-1340 ENGINE.

MAXIMUM WEIGHT AND C.G. RANGE (INCHES FROM DATUM)
(+122.0) TO (+124.0) AT 4500 LBS.
(+122.0) TO (+124.0) AT 3300 LBS.
Straight line variation between points.

SULPHUR DUSTING IS PROHIBITED UNLESS SPECIAL FIRE PREVENTION MEASURES HAVE BEEN INCORPORATED IN THE AIRCRAFT"
(P/N A3618-5)

(8) R-1340 Engine S/N 709B and Up

"THIS AIRCRAFT CERTIFICATED UNDER PART 8 AS A SPECIAL PURPOSE AGRICULTURAL AIRCRAFT AND MUST BE OPERATED IN COMPLIANCE WITH OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS, MARKINGS AND PILOT'S OPERATING HANDBOOK.

NOTE 2 for G-164B

R-1340 Engine S/N 709B and Up (cont'd)
THIS AIRCRAFT APPROVED FOR DAY VFR FLIGHT ONLY.
FLIGHT LOAD FACTORS:
MAX. POSITIVE LOAD FACTOR +4.2G
MAX. NEGATIVE LOAD FACTOR -1.0G

MAXIMUM AIRSPEEDS:
NEVER EXCEED 145 MPH CAS (126 Knots)
ABRUPT MANEUVERS 116 MPH CAS (101 Knots)

NO ACROBATIC OR INVERTED MANEUVERS, INCLUDING SPINS, APPROVED.

ALTITUDE LOSS IN STALL RECOVERY 200 FT.

WITH HAMILTON STANDARD 2D30 PROPELLER HUB AND 610A-12 BLADES OR PACIFIC PROPELLER AG-100-2/ OR4S BLADES OR HAMILTON STANDARD 22D40 PROPELLER HUB AND PACIFIC PROPELLER AG-200-4S BLADES INSTALLED ON R-1340 ENGINE.

MAXIMUM WEIGHT AND C.G. RANGE (INCHES FROM DATUM)
(+122.0) TO (+125.5) AT 5200 LBS.
(+122.0) TO (+125.5) AT 3625 LBS.
Straight line variation between points.

SULPHUR DUSTING IS PROHIBITED UNLESS SPECIAL FIRE PREVENTION MEASURES HAVE BEEN INCORPORATED IN THE AIRCRAFT"
(P/N A3618-9)

(9) R-985 Engine S/N 752B and Up
THIS AIRCRAFT CERTIFICATED UNDER PART 8 AS A SPECIAL PURPOSE AGRICULTURAL AIRCRAFT AND MUST BE OPERATED IN COMPLIANCE WITH OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS, MARKINGS AND PILOT'S OPERATING HANDBOOK.

THIS AIRCRAFT APPROVED FOR DAY VFR FLIGHT ONLY.

FLIGHT LOAD FACTORS:
MAX. POSITIVE LOAD FACTOR +4.2G
MAX. NEGATIVE LOAD FACTOR -1.0G

MAXIMUM AIRSPEEDS:
NEVER EXCEED 145 MPH CAS (126 Knots)
ABRUPT MANEUVERS 116 MPH CAS (101 Knots)

NO ACROBATIC OR INVERTED MANEUVERS, INCLUDING SPINS, APPROVED.

ALTITUDE LOSS IN STALL RECOVERY 200 FT.

WITH HAMILTON STANDARD 2D30 PROPELLER HUB AND 610A-12 BLADES OR PACIFIC PROPELLER AG-100-2/ OR 4S BLADES INSTALLED ON R-985 ENGINE.

MAXIMUM WEIGHT AND C.G. RANGE (INCHES FROM DATUM)
(+122.0) TO (+126.0) AT 5200 LBS.
(+122.0) TO (+126.0) AT 3100 LBS.
Straight line variation between points.

SULPHUR DUSTING IS PROHIBITED UNLESS SPECIAL FIRE PREVENTION MEASURES HAVE BEEN INCORPORATED IN THE AIRCRAFT"
(P/N A3615-5)

NOTE 2 for G-164B

(10) PT6A-15AG & PT6A-34AG, and PT6A-20B Engine

THIS AIRCRAFT CERTIFICATED UNDER PART 8 AS A SPECIAL PURPOSE AGRICULTURAL AIRCRAFT AND MUST BE OPERATED IN COMPLIANCE WITH OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS AND MARKINGS.

THIS AIRCRAFT APPROVED FOR DAY VFR FLIGHT ONLY.

FLIGHT LOAD FACTORS:

MAX. POSITIVE LOAD FACTOR	+4.2G
MAX. NEGATIVE LOAD FACTOR	-1.0G

MAXIMUM AIRSPEEDS:

NEVER EXCEED	157 MPH IAS
ABRUPT MANEUVERS	125 MPH IAS

MAXIMUM WEIGHT AND C.G. RANGE (INCHES FROM DATUM)
(+122.0) TO (+125.7) AT 3500 LBS
(+122.0) TO (+125.5) AT 5200 LBS.

ALTITUDE LOSS IN STALL RECOVERY	200 FT.
MAXIMUM OPERATING ALTITUDE	13,000 FT.

NO ACROBATIC OR INVERTED MANEUVERS, INCLUDING SPINS, APPROVED.

OPERATION IN VISIBLE MOISTURE CONDITIONS BELOW IAT OF 7^{O}C OR IN PROXIMITY OF THUNDERSTORMS PROHIBITED.

SULPHUR DUSTING IS PROHIBITED UNLESS SPECIAL FIRE PREVENTION MEASURES HAVE BEEN INCORPORATED IN THE AIRCRAFT"
(P/N A7618-3)

(b) When Jasco 12 volt alternator is installed, the following placard must be displayed:
"THE ALTERNATOR IN THIS ELECTRICAL SYSTEM ONLY TESTED TO 45 AMPS MAXIMUM"

(c) When Jasco 24 volt alternator is installed, the following placard must be displayed:
"THE ALTERNATOR IN THIS ELECTRICAL SYSTEM ONLY TEST TO 35 AMPS MAXIMUM"

(d) Adjacent to fuel control valve:

(1) R-985 and R-1340

"46.0 gal. usable capacity -	80/87 minimum octane (Standard Tank)
64.0 gal. usable capacity - one Optional wing tank)	80/87 minimum octane (Standard Tank plus
80.0 gal. usable capacity -	80/87 minimum octane (Standard Tank plus two Optional wing tanks)"
120.0 Gal usable fuel capacity (S/N 828B and up eligible	80/87 octane

(2) R-975-46/PA2

"46.0 gal. usable capacity -	100 minimum octane (Standard Tank)
64.0 gal. usable capacity -	100 minimum octane (Standard Tank plus one Optional wing tank)
80.0 gal. usable capacity -	100 minimum octane (Standard Tank plus two Optional wing tanks)"

(3) PT6A-15AG and -34AG, and PT6A-20B
80 gal. usable capacity - Jet A/Jet A-1/Jet B or Diesel grades DF1 or DF2.
120.0 Gal. usable fuel capacity - Jet A/JetA1/Jet B or Diesel Grades DF1 or DF2. (s/n 828B and up eligible)

NOTE 2 for G-164B

(e) On hopper compartment near filler opening:
"MAXIMUM HOPPER CAPACITY 2000 LB."

(f) Adjacent to hopper emergency dump cable: (through S/N 659B)
(S/N 752B and up with R-985 Eng.)
"EMERGENCY DUMP CABLE - PULL TO DUMP LOAD"

(g) Printed on safe-flight battery shield:
"DRY BATTERIES POWERING THIS UNIT MUST BE DATED AND REPLACED EVERY SIX MONTHS"

(h) On side of fuselage:
"RESTRICTED AGRICULTURAL AIRCRAFT"

(i) On control lock stick A/C S/N 138B, 142B, 177B through S/N 510B:
"CONTROL LOCK/PARKING BRAKE WITH FLIGHT CONTROLS LOCKED DEPRESS PEDALS FOR PARKING BRAKE. PARKING BRAKE OFF WHEN CONTROL LOCK STOWED"

(j) Adjacent to parking brake control S/N 511B and up.:
"PARKING BRAKE: TO BE OFF PRIOR TO LANDING
TO LOCK: PRESS PEDAL, PULL AND HOLD CONTROL
TO UNLOCK: PRESS PEDAL, OR RELEASE CONTROL"

(k) Adjacent to oil heat control A/C S/N 335B through S/N 659B
"OIL HEAT - SHALL BE OFF FOR TAKEOFF"

(l) Stenciled on the inside of the baggage compartment door:
"BAGGAGE COMPARTMENT 25 LBS. - SECURED LIMIT"

(m) Located above the right hand window:
"DO NOT OPEN RH WINDOW IN FLIGHT"

(n) Located on the battery box cover. (When optional 24V electrical system is installed):
"TWIN 12V BATTERIES IN SERIES - OUTPUT 24 VOLTS"

(o) Above the strobe light switch (When optional strobe lights are installed):
"WARNING - TURN OFF STROBE LIGHTS WHEN TAXIING IN VICINITY OF OTHER AIRCRAFT OR DURING FLIGHT THROUGH CLOUDS, FOG OR HAZE"

(p) Located above the windshield:
"WARNING - 3 POINT READING OF FUEL GAUGE NOT ACCURATE. READ IN LEVEL FLIGHT ONLY"

(q) Located in the step hole on the left side of the fuselage below the cockpit. (When optional auxiliary power receptacle is installed):
"24 VOLT STARTER POWER (NEG. GRD.)"

(r) Located on the right side of the cockpit (When optional spray system is installed):
"FAN BRAKE - PULL TO LOCK"

(s) Located on the spray/spreader control handle adjustable limit stop rod. (When optional spray system is installed):
"SPRAY PUMP INTAKE VALVE - PULL TO CLOSE"

(t) Located on the fan brake lever mounting bracket. (When optional spray system is installed):
"SPRAY PUMP INTAKE VALVE - PULL TO OPEN"

(u) Located on magneto switch bracket when locking tail wheel is installed):
"TAIL WHEEL MUST BE LOCKED FOR TAKEOFF AND LANDING"

NOTE 2 for G-164B

(v) Located on dust gate control stick (S/N 660B and up): (R-1340 ENG.)
"EMERGENCY DUMP-PUSH TO DUMP LOAD"

(w) On optional fixed tail ballast used with 73" wing gap:
"BALLAST _____LBS. -DO NOT REMOVE"
(Aircraft S/N 709B and Up)

(x) Located on left side panel adjacent to fuel valve control.
(PT6A-15AG, PT6A-34AG, and PT6A-20B)

CAUTION

AUTOMOTIVE DIESEL FUEL APPROVED FOR AGRICULTURAL OPERATIONS WITH THE FOLLOWING RESTRICTIONS:

AUTOMOTIVE DIESEL FUEL

PERMITTED WHEN FREE AIR TEMPERATURE IS ABOVE:
+5^{o}C FOR GRADE DF-2
-4^{o}C FOR GRADE DF-1

(y) Located on upper left hand side of instrument panel
(PT6A-15AG, PT6A -34AG, and PT6A-20B Engine)

WARNING

DO NOT USE REVERSE POWER IN FLIGHT, USE REVERSE POWER ONLY ON LANDING ROLL OR TAXI WHEN TAIL WHEEL IS HELD FIRMLY ON THE GROUND.

(z) Located on instrument panel adjacent to IAT Gauge
(PT6A-15AG, PT6A-34AG, and PT6A-20B Engine)

WARNING

PX-PY HEAT SHALL BE TURNED ON FOR FLIGHT AND GROUND OPERATIONS WHEN IAT IS BELOW 6^{o}C.

(aa) Stenciled to the right of the fuel fill cap on the top of the center section fuel tank and near the fuel control valve:
(PT6A-15AG, PT6A-34AG, and PT6A-20B Engine).
80 GAL. USABLE CAP. JETA/JET A-1/JET B OR DIESEL GRADES DF1 OR DF2.
With optional 120 gal. fuel capacity:
"120 GAL USABLE CAPACITY JET A/JET A1/JET B OR DIESEL GRADES DF-1 OR DF-2"

(ab) On fixed ballast at STA 46.5 used with PT6A-15AG & -34AG engine and at Sta. 45.8 with PT6A-20B Engine
(BALLAST WEIGHT "DO NOT REMOVE"
"WEIGHT_____LBS."

(ac) On fixed ballast at Sta 92.8 with PT6A-15AG, -34AG and -20B engine, "BALLAST WEIGHT - DO NOT REMOVE. WEIGHT LBS."

(ad) Stenciled to the right of the fuel fill cap on top of centersection fuel tank and near fuel control valve: (with optional 120 gal. fuel capacity, R-985 & R-1340, S/N 828B & up)
"120 GAL. USABLE CAP. 80/87 OCTANE"

(ae) Stenciled to the right of the fuel fill cap on top of centersection fuel tank and near fuel control valve:
"46.0 gal usable capacity - 80/87 octane (standard tank)
64.0 gal usable capacity - 80/87 octane (standard tank plus one optional wing tank)
80.0 gal usable capacity - 80/87 octane (standard tank plus two optional wing tanks)"

164B (cont'd)

NOTE 3 Optional 18 gal. wing tanks eligible on S/N 1B through 659B when installed per Gulfstream Wing Modification Drawing A2003 and Fuel Tank Installation Drawing A1730.

NOTE 4 Gulfstream Exhaust System C88-42005-75 eligible for all R-1340 installations per Gulfstream Installation Drawing A1550.

NOTE 5 73" Wing Gap eligible on S/N 1B through 708B with R1340 installations when reworked in accordance with Schweizer Retrofit Kits, Drawing Nos. A7175-1 or -3 (Wing) and 7175-5 (Vertical Tail)

NOTE 6 Optional 120 gal. fuel system eligible on R-985, R-1340, PT6A-15AG, PT6A-34AG, and PT6A-20B, S/N 828B & up.

NOTES PERTINENT TO MODEL G-164C

NOTE 1 Current weight and balance report including lists 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 locations must include unusable residual fluids of:

System Oil		14.5 lb.	(+72.0)
Unusable Fuel	1.8 lb.		(+123.0)

NOTE 2 The following placards must be displayed:

(a) In front of and in clear view of the pilot:

(1) Through S/N 42C
"THIS AIRCRAFT CERTIFICATED UNDER PART 8 AS A SPECIAL PURPOSE AGRICULTURAL AIRCRAFT AND MUST BE OPERATED IN COMPLIANCE WITH OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS AND MARKINGS."

THIS AIRCRAFT APPROVED FOR DAY VFR FLIGHT ONLY.

FLIGHT LOAD FACTORS:

MAX. POSITIVE LOAD FACTOR	+4.2G
MAX. NEGATIVE LOAD FACTOR	-1.0G

MAXIMUM AIRSPEEDS:

NEVER EXCEED	147 MPH CAS (128 KNOTS)
ABRUPT MANEUVERS	117 MPH CAS (102 KNOTS)

NO ACROBATIC OR INVERTED MANEUVERS, INCLUDING SPINS, APPROVED.

ALTITUDE LOSS IN STALL RECOVERY 200 FT.

WITH HAMILTON STANDARD 12D40 PROPELLER HUB AND AG-100-2 BLADES INSTALLED ON R-1340 ENGINE.

MAXIMUM WEIGHT AND C.G. RANGE (INCHES FROM DATUM)
(+121.0) TO (+123.5) AT 6300 LBS.
(+121.0) TO (+125.2) AT 4400 LBS.
Straight line variation between points.

SULPHER DUSTING IS PROHIBITED UNLESS SPECIAL FIRE PREVENTION MEASURES HAVE BEEN INCORPORATED IN THE AIRCRAFT"
(P/N A5618-1)

NOTE 2 for G-164C

(2) S/N 43C AND UP
"THIS AIRCRAFT CERTIFICATED UNDER PART 8 AS A SPECIAL PURPOSE AGRICULTURAL AIRCRAFT AND MUST BE OPERATED IN COMPLIANCE WITH OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS, MARKINGS, AND PILOT'S OPERATING HANDBOOK.

THIS AIRCRAFT APPROVED FOR DAY VFR FLIGHT ONLY.

FLIGHT LOAD FACTORS

MAX. POSITIVE LOAD FACTOR	+4.2G
MAX. NEGATIVE LOAD FACTOR	-1.0G

MAXIMUM AIRSPEEDS:

NEVER EXCEED	139 MPH IAS (121 KNOTS)
ABRUPT MANEUVERS	112 MPH IAS (97 KNOTS)

NO ACROBATIC OR INVERTED MANEUVERS, INCLUDING SPINS, APPROVED.

ALTITUDE LOSS IN STALL RECOVERY 200 FT.

WITH HAMILTON STANDARD 12D40 HUB AND 6101A-12 BLADES OR PACIFIC PROPELLER AG-100-2/4S BLADES INSTALLED ON R-1340 ENGINE.

MAXIMUM WEIGHT AND C.G. RANGE (INCHES FROM DATUM)
(+121.0) TO (+123.5) AT 6300 LBS.
(+121.0) TO (+125.2) AT 4400 LBS.
Straight line variation between points.

SULPHUR DUSTING IS PROHIBITED UNLESS SPECIAL FIRE PREVENTION MEASURES HAVE BEEN INCORPORATED IN THE AIRCRAFT"
(P/N A5618-3)

(b) When Jasco 24 volt alternator is installed, the following placard must be displayed:
"THE ALTERNATOR IN THIS ELECTRICAL SYSTEM ONLY TESTED TO 35 AMPS MAXIMUM"

(c) Adjacent to fuel control valve:
80.0 GAL. USABLE CAPACITY - 80/87 MINIMUM OCTANE

(d) On hopper compartment near filler opening:
"MAXIMUM HOPPER CAPACITY 4000 LB."

(e) Adjacent to hopper emergency dump cable:
"EMERGENCY DUMP CABLE - PULL TO DUMP LOAD"

(f) Printed on safe-flight battery shield:
"DRY BATTERIES POWERING THIS UNIT MUST BE DATED AND REPLACED EVERY SIX MONTHS"

(g) Near entrance door:
"RESTRICTED AGRICULTURAL AIRCRAFT"

(h) Adjacent to parking brake control (A/C 1C through 37C)

"PARKING BRAKE TO BE OFF PRIOR TO LANDING

TO LOCK:	PRESS PEDAL, PULL AND HOLD CONTROL
TO UNLOCK:	PRESS PEDAL, OR RELEASE CONTROL"

(I) Adjacent to oil heat control A/C 1C through 37C)
"OIL HEAT - SHALL BE OFF FOR TAKEOFF"

NOTE 2 for G-164C

(j) Stenciled on the inside of the baggage compartment door:
"BAGGAGE COMPARTMENT 25 LBS. - SECURED LIMIT"

(k) Located above the windshield:
"WARNING - 3 POINT READING OF FUEL GAUGE NOT ACCURATE. READ IN LEVEL FLIGHT ONLY"

(l) Located on the top of the hopper aft fairing:
"HYDRAULIC BRAKE RESERVOIR FILL TO MARK ON STICK"

(m) Located above the right hand window:
"DO NOT OPEN RH WINDOW IN FLIGHT"

(n) Located on the battery box cover. (When optional 24V electrical system is installed):
"TWIN 12V BATTERIES IN SERIES - OUTPUT 24 VOLTS"

(o) Above the strobe light switch (When optional strobe lights are installed):

"WARNING - TURN OFF STROBE LIGHTS WHEN TAXIING IN VICINITY OF OTHER AIRCRAFT OR DURING FLIGHT THROUGH CLOUDS, FOG OR HAZE"

(p) Located in the step hole on the left side of the fuselage below the cockpit. (When optional auxiliary power receptacle is installed):

"24 VOLT STARTER POWER (NEG. GRD.)"

(q) Located on the right side of the cockpit (When optional spray system is installed):
"FAN BRAKE - PULL TO LOCK"

(r) Located on the spray/spreader control handle adjustable limit stop rod. (When optional spray system is installed):
"SPRAY PUMP INTAKE VALVE - PULL TO CLOSE"

(s) Located on the fan brake lever mounting bracket. (When optional spray system is installed):
"SPRAY PUMP INTAKE VALVE - PULL TO OPEN"

NOTE 3 Gulfstream Exhaust System G88-42005-75 eligible for all R-1340 installations per Gulfstream Installation Drawing A5510.

NOTES PERTINENT TO MODEL G-164D AND G-164D (WITH 73" GAP)

NOTE 1 Current weight and balance report including lists 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 locations must include unusable residual fluids of:

Unusable Fuel	2.0 lb.	(+123.0)

NOTE 2 The following placards must be displayed:
(a) In front of and in clear view of the pilot:

"THIS AIRCRAFT CERTIFICATED UNDER PART 8 AS A SPECIAL PURPOSE AGRICULTURAL AIRCRAFT AND MUST BE OPERATED IN COMPLIANCE WITH OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS, MARKINGS, AND PILOTS OPERATING HANDBOOK."

THIS AIRCRAFT APPROVED FOR DAY VFR FLIGHT ONLY.

FLIGHT LOAD FACTORS:

MAX. POSITIVE LOAD FACTOR	+4.2G
MAX. NEGATIVE LOAD FACTOR	-1.0G

NOTE 2
for G-164D

MAXIMUM AIRSPEEDS:

NEVER EXCEED	164 MPH IAS
ABRUPT MANEUVERS	131 MPH IAS

G-164D
MAXIMUM WEIGHT AND C.G. RANGE (INCHES FROM DATUM)
(+121.0) TO (+123.5) AT 6300 LBS.
(+121.0) TO (+125.2) AT 4000 LBS.
Straight line variation between points.

G-164D (With 73" GAP)
MAXIMUM WEIGHT AND C.G. RANGE (INCHES FROM DATUM)
(+120.8) TO (+122.8) AT 6300 LBS.
(+120.6) TO (+123.6) AT 4000 LBS.
Straight line variation between points.

ALTITUDE LOSS IN STALL RECOVERY	200 FT.
MAXIMUM OPERATING ALTITUDE	13,000 FT

NO ACROBATIC OR INVERTED MANEUVERS, INCLUDING SPINS, APPROVED.

OPERATION IN VISIBLE MOISTURE CONDITIONS BELOW IAT OF 7^{O}C OR IN PROXIMITY OF THUNDERSTORMS PROHIBITED.

SULPHER DUSTING IS PROHIBITED UNLESS SPECIAL FIRE PREVENTION MEASURES HAVE BEEN INCORPORATED IN THE AIRCRAFT"

(b) On lower RH instrument panel:
"CAUTION - AUTOMOTIVE DIESEL FUEL APPROVED FOR AGRICULTURAL OPERATION WITH THE FOLLOWING RESTRICTIONS:
Automotive diesel fuel permitted when free air temperature is above

$+5^{O}$C FOR GRADE DF-2
-4^{O}C FOR GRADE DF-1

(c) Secured to the upper right hand side of the instrument panel:
"WARNING - DO NOT REVERSE POWER IN FLIGHT, USE REVERSE POWER ONLY ON LANDING ROLL OR TAXI WHEN TAILWHEEL IS HELD FIRMLY ON THE GROUND.

"WARNING - Px-Py HEAT SHALL BE TURNED ON FOR FLIGHT AND GROUND OPERATIONS WHEN IAT IS BELOW 6^{O}C"

(d) Secured to the lower left hand instrument panel:
"PARKING BRAKE to BE OFF PRIOR TO LANDING

TO LOCK:	PRESS PEDAL, PULL AND HOLD CONTROL
TO UNLOCK:	PRESS PEDAL, OR RELEASE CONTROL"

(e) Stenciled on the left hand side of the hopper:
MAXIMUM HOPPER CAPACITY - 4000 LBS."

(f) Stenciled to the right of the fuel fill cap on the top of the center section fuel tank and near the fuel control valve:
"80 GAL. USABLE CAP.
JET A/JET A-1/JET B OR
DIESEL GRADES DF1 OR DF2"

(h) Stenciled on the inside of the baggage compartment door:
"BAGGAGE COMPARTMENT 25 LBS. - SECURED LIMIT"

NOTE 2 for G-164D

(i) Adjacent to hopper emergency dump cable:
"EMERGENCY DUMP CABLE - PULL TO DUMP LOAD"

(j) Near entrance door:
"RESTRICTED AGRICULTURAL AIRCRAFT"

(k) Located on the battery box cover.
“TWIN 12V BATTERIES IN SERIES - OUTPUT 24 VOLTS"

(l) Above the strobe light switch (When optional strobe lights are installed):

"WARNING - TURN OFF STROBE LIGHTS WHEN TAXIING IN VICINITY OF OTHER AIRCRAFT OR DURING FLIGHT THROUGH CLOUDS, FOG OR HAZE"

(m) Located above the windshield.
"WARNING - 3 POINT READING OF FUEL GAGE NOT ACCURATE. READ IN LEVEL FLIGHT ONLY"

(n) Located on the top of the hopper aft fairing:
"HYD. BRAKE RESERVOIR
FILL TO MARK ON STICK"

(o) Located above the right hand window:
"DO NOT OPEN RH WINDOW IN FLIGHT"

(p) Located in the step hole on the left side of the fuselage below the cockpit. (When optional auxiliary power receptacle is installed):
"24 VOLT STARTER POWER (NEG. GRD.)"

(q) Located on the right side of the cockpit (When optional spray system is installed):
"FAN BRAKE - PULL TO LOCK"

(r) Located on the spray/spreader control handle adjustable limit stop rod. (When optional spray system is installed):
"SPRAY PUMP INTAKE VALVE - PULL TO CLOSE"

(s) Located on the fan brake lever mounting bracket. (When optional spray system is installed):
"SPRAY PUMP INTAKE VALVE - PULL TO OPEN"

(t) G-164D (With 73" Gap)
"BALLAST 68 LB. AT FUS. STA. 60.4
DO NOT REMOVE"

NOTE 3 Rudder motion (relative to neutral) - position must be 14^{o} + or -2^{o} left and 27^{o}+ or -2^{o} right. Neutral position is actually 3^{o} right - Rudder measured from aircraft center line.

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