

With P/N 50453 Spreader InstalledV_{NE} - Never Exceed 155 mph (135 knots) IAS or CASWith P/N 50520 Tip Vanes InstalledV_{NE} - Never Exceed 166 mph (144 knots) IAS or CAS

Airspeed limits are unchanged with Cowl Speed Ring installed P/N 50784 per Drawing 50783

Maximum Operating Altitude	15,500 ft.		
C.G. Range	Inches aft of datum	(+22.1) to (+26.0) at all weights	
Empty Weight C.G. Range	None		
Maximum Weight	4000 lbs.		
No. of Seats	1 (+68.0)		
Hopper Capacity	2000 lbs. (+15.0)		
Baggage Shelf	25 lbs. (+91.25)		
Fuel Capacity	72.5 gal. total Right Wing Tank 27½ gal. with unusable 2½ gal. (+36.0) Left Wing Tank (combined with center tank) 45 gal. with unusable 5 gal. (+36.0)		
Oil Capacity	6.7 gal. plus 1 gal. in system (-22.2)		
Control Surface	Rudder	Left 20° ± 1°	Right 20° ± 1°
	Elevator	Up 27° ± 1°	Down 15° ± 1°
	Aileron	Up 26° ± 1½°	Down 13½° ± 1½°
Serial Nos. Eligible	1501 and subsequent		

II - Model 620TP (Restricted Category) Approved October 17, 1980

(See ALL MODEL Section) (See NOTES Section)

Engine	Pratt & Whitney PT6A-11AG			
Fuel	Jet A and Jet B fuel. Refer to P&WC Service Bulletin No. 12144. With certain limitations, automotive diesel fuels are approved for use.			
Engine Limits	<u>Engine</u>	<u>HP</u>	<u>N_P RPM</u>	<u>N_G RPM</u>
	Takeoff (5 min. SL)	500	2200 (100%)	38,100 (101.5%)
	Maximum Cont., SL	350	2000 (91%)	38,100
	Maximum Reverse	475	2112 (96%)	38,100
	Maximum torque (steady) = 1194 lb. ft. (38.6 psig) (5 min. SL)			
	Maximum torque (accel.) = 1800 lb. ft. (58.3 psig) (5 sec.)			
	Maximum Permissible Temperature	Inter-Turb. Temp.		
	Takeoff	1292°F (700°C)		
	Maximum Continuous	1292°F (700°C)		
	Starting Transient	1994°F (1090°C)		

	Oil Temperature	
	Normal range	50°F to 210°F (10°C to 99°C)
	Maximum	210°F (99°C)
	Oil Pressure	
	Normal range (27,000 RPM N_G or above)	80-100 psig
	Minimum	40 psig
	Maximum	100 psig
	Fuel Pressure	
	Engine inlet pressure is measured at the inlet to the engine high pressure gear pump. (This point is also the outlet of the Weatherly installed low pressure pump mounted on the engine).	
	Minimum	15 psig
	Maximum	35 psig
Propeller & Propeller Limits	Hartzell reversing propeller with Woodward overspeed governor	
	Model	HC-B3T
	Hub No.	HC-B3TN-3
	Blade No.	T10282-6
	Diameter	Maximum 96 inches
		Minimum 92 inches
	Pitch settings at 30 inch radius	
	Low pitch $16^\circ \pm 0.5^\circ$	
	Propeller spinner, Hartzell P/N 3434-6	
	Overspeed governor, Woodward P/N A210507	
Airspeed Limits	<u>Without Spreader or Tip Vanes</u>	
	V_{NE} - Never Exceed	176 mph (153 knots) IAS or CAS
	V_{NO} - Normal Operating	140 mph (122 knots) IAS or CAS
	V_A - Maneuvering	129 mph (112 knots) IAS or CAS
	<u>With P/N 50453 Spreader Installed</u>	
	V_{NE} - Never Exceed	155 mph (135 knots) IAS or CAS
	<u>With P/N 50520 Tip Vanes Installed</u>	
	V_{NE} - Never Exceed	166 mph (144 knots) IAS or CAS
C.G. Range	Inches	3500 lbs. gross weight (+24.8) to (+22.1) with straight line variation to 4000 lbs. gross weight (+23.6) to (+22.1)
Empty Weight C.G. Range	None	
Maximum Weight	4000 lbs.	
No. of Seats	1 (+68.0)	
Hopper Capacity	2000 lbs. (+15.0)	
Baggage Shelf	15 lbs. (+91.25)	
Fuel Capacity	96 gal. total	
	Right Main Tank with Right Outer Wing Tank, 42 gal., unusable 6 gal. (+36.0)	
	Left Main Tank (combined with center tank) with Left Outer Wing Tank, 54 gal., unusable 6 gal. (+36.0)	

Oil Capacity	2.3 gal. plus .75 gal. in system (-24.0)			
Maximum Operating Altitude	15,000 ft.			
Control Surface	Rudder	Left	$20^{\circ} \pm 1^{\circ}$	Right $20^{\circ} \pm 1^{\circ}$
	Elevator	Up	$27^{\circ} \pm 1^{\circ}$	Down $15^{\circ} \pm 1^{\circ}$
	Aileron	Up	$26^{\circ} \pm 1\frac{1}{2}^{\circ}$	Down $13\frac{1}{2}^{\circ} \pm 1\frac{1}{2}^{\circ}$
Serial Nos. Eligible	1502 and subsequent, Model 620TP airplanes have the letters TP following the numerical serial number.			

III - Model 620A (Restricted Category) Approved March 25, 1987

(See ALL MODEL Section) (See NOTES Section)

Engine	Pratt & Whitney R985-AN-1, AN-3, or AN-14B				
Fuel	80/87 Minimum Grade Aviation Gasoline. Alternate fuel is 100LL.				
Engine Limits	<u>Engine Model AN-1 & AN-3</u>	<u>HP</u>	<u>RPM</u>	<u>In. Hg.</u>	<u>Press Alt.</u>
	Takeoff (1 min.) at SL	450	2300	37.5	SL
	Maximum Continuous at SL	350	2100	33.0	SL
	Maximum Continuous	350	2100	32.0	3000 ft.
	(Rated Pressure Alt.)	350	2100	31.0	6000 ft.
	Straight line variation of manifold pressure between points listed.				
	<u>Engine Model AN-14B</u>	<u>HP</u>	<u>RPM</u>	<u>In. Hg.</u>	<u>Press Alt.</u>
	Takeoff (1 min.) at SL	450	2300	36.5	SL
	Maximum Continuous at SL	350	2100	31.5	SL
	Maximum Continuous	350	2100	30.5	3000 ft.
	(Rated Pressure Alt.)	350	2100	29.5	6000 ft.
		350	2100	29.0	7800 ft.
	Straight line variation of manifold pressure between points listed.				
Propeller & Propeller Limits	Hartzell HC-B3R30-4B Hub with R10152-5½ Blades				
	Diameter: Not over 95½ ins.; Not under 95½ ins.				
	Pitch settings at 30" station: (Constant Speed) - 16° Low, 28° High				
	Static RPM at maximum throttle setting not over 2300 RPM; not under 2200 RPM.				
Airspeed Limits	<u>Without Spreader</u>				
	V _{NE} - Never Exceed	176 mph (153 knots) IAS or CAS			
	V _{NO} - Normal Operating	140 mph (122 knots) IAS or CAS			
	V _A - Maneuvering	129 mph (112 knots) IAS or CAS			
	<u>With P/N 50453 Spreader Installed</u>				
V _{NE} - Never Exceed	155 mph (135 knots) IAS or CAS				
	Airspeed limits are unchanged with Cowl Speed Ring installed P/N 50784 per Drawing 50783				
Maximum Operating Altitude	15,500 ft.				
C.G. Range	Inches aft of datum	(±22.1) to (±26.75) at all weights			
Empty Weight C.G. Range	None				
Maximum Weight	4000 lbs.				

No. of Seats	1 (+68.0)			
Hopper Capacity	2000 lbs. (+15.0)			
Baggage Shelf	25 lbs. (+91.25)			
Fuel Capacity	72.5 gal. total Right Wing Tank 27½ gal. with unusable 2½ gal. (+36.0) Left Wing Tank (combined with center tank) 45 gal. with unusable 5 gal. (+36.0)			
Oil Capacity	6.7 gal. plus 1 gal. in system (-22.2)			
Control Surface	Rudder	Left	20° ± 1°	Right 20° ± 1°
	Elevator	Up	27° ± 1°	Down 15° ± 1°
	Aileron	Up	29° ± 1½°	Down 11½° ± 1°
Serial Nos. Eligible	1520 and subsequent			

IV - Model 620B (Restricted Category) Approved July 17, 1992

(See ALL MODEL Section) (See NOTES Section)

Engine	Pratt & Whitney R985-AN-1, AN-3, or AN-14B				
Fuel	80/87 Minimum Grade Aviation Gasoline. Alternate fuel is 100LL.				
Engine Limits	<u>Engine Model AN-1 & AN-3</u>	<u>HP</u>	<u>RPM</u>	<u>In. Hg.</u>	<u>Press Alt.</u>
	Takeoff (1 min.) at SL	450	2300	37.5	SL
	Maximum Continuous at SL	350	2100	33.0	SL
	Maximum Continuous (Rated Pressure Alt.)	350	2100	32.0 31.0	3000 ft. 6000 ft.
	Straight line variation of manifold pressure between points listed.				
	<u>Engine Model AN-14B</u>	<u>HP</u>	<u>RPM</u>	<u>In. Hg.</u>	<u>Press Alt.</u>
	Takeoff (1 min.) at SL	450	2300	36.5	SL
	Maximum Continuous at SL	350	2100	31.5	SL
	Maximum Continuous (Rated Pressure Alt.)	350	2100	30.5 29.5	3000 ft. 6000 ft.
		350	2100	29.0	7800 ft.
	Straight line variation of manifold pressure between points listed.				
Propeller & Propeller Limits	Hartzell HC-B3R30-4B Hub with R10152-5½ R Blades Diameter: Not over 95½ ins.; Not under 95½ ins. Pitch settings at 30" station: (Constant Speed) - 16° Low, 28° High Static RPM at maximum throttle setting not over 2300 RPM; not under 2200 RPM.				
Airspeed Limits	<u>Without Spreader</u>				
	V _{NE} - Never Exceed	176 mph (153 knots) IAS or CAS			
	V _{NO} - Normal Operating	140 mph (122 knots) IAS or CAS			
	V _A - Maneuvering	129 mph (112 knots) IAS or CAS			
	<u>With P/N 50453 Spreader Installed</u>				
	V _{NE} - Never Exceed	155 mph (135 knots) IAS or CAS			
	Airspeed limits are unchanged with Cowl Speed Ring installed P/N 50784 per Drawing 50783				
Maximum Operating Altitude	15,000 ft.				

C.G. Range	Inches aft of datum	(+22.1) to (+27.5) at all weights	
Empty Weight C.G. Range	None		
Maximum Weight	4000 lbs.		
No. of Seats	1 (+70.0)		
Hopper Capacity	2000 lbs. (+15.0)		
Baggage Shelf	25 lbs. (+93.25)		
Fuel Capacity	97.5 gal. total Right Wing Tank 40 gal. with unusable 2½ gal. (+36.0) Left Wing Tank (combined with center tank) 57.5 gal. with unusable 5 gal. (+36.0)		
Oil Capacity	6.7 gal. plus 1 gal. in system (-22.2)		
Control Surface	Rudder	Left 20° ± 1°	Right 20° ± 1°
	Elevator	Up 27° ± 1°	Down 15° ± 1°
	Aileron	Up 29° ± 1½°	Down 11½° ± 1°
Serial Nos. Eligible	1550 and subsequent		

V- Model 620B-TG (Restricted Category) Approved March 12, 1997

(See ALL MODEL Section) (See NOTES Section)

Engine	Allied Signal TPE331-1-151A (See NOTE 7)
Fuel	Jet A , Jet A-1, Jet B, Jet P-4, and Jet P-5 fuel. Refer to Allied Signal Service Bulletin No. EMS 53111, EMS 53112, EMS 53113, and EMS 53116. (See NOTE 8).

Engine Limits	<u>Engine</u>	<u>HP</u>	<u>Np RPM</u>
	Takeoff (SL)	500*	2000 (100%)
	Maximum Cont., SL	500*	2000 (100%)
	Maximum Reverse	475	1910 (96.5 %)
	* Maximum steady torque (SL) = 1313 lb. ft (47.0 psig)		
	Ground Idle	64-66% (speed lever low)	
	Flight Idle	94.5-96.5% (speed lever high)	
	Maximum Permissible Temperature	Exhaust Gas Temp	
	Takeoff	1047°F (564°C)	
	Maximum Continuous	1047°F (564°C)	
	Starting Transient (1 sec.)	1472°F (800°C)	
	Oil Temperature		
	Type I Oil Normal Range	40°F (-40°C) to 200°F (93°C)	
	Type II Oil Normal Range	40°F (-40°C) to 260°F (127°C)	
	Oil conforming to Allied Signal EMS 53110 (Type I and Type II)		
	Oil Pressure		
	Normal @ 100% speed (green)	70-120 psig	
	Normal Caution (amber)	50-70 psig	
	Minimum @ 65% speed ground idle	50 psig	
	Maximum	120 psig	

Fuel Pressure

Engine fuel pump inlet pressure is 5 psig plus true vapor pressure of fuel. Engine inlet pressure is measured at the inlet to the engine high pressure gear pump. (This point is also the outlet of the Weatherly installed low pressure pump mounted on the engine). See NOTE 9.

Minimum (red line)	15 psig
Normal (amber arc)	15-20 psig
Normal (green arc)	20- 50 psig
Maximum (red line)	50 psig

Propeller & Propeller Limits

McCauley reversing propeller with Woodward overspeed governor

Model	3GFR34C602/100LA-2	
Hub No.	3GFR34C602	
Blade No.	100LA-2	
Diameter:	Maximum	98.0 inches
	Minimum	96.0 inches

Pitch setting at 30 inch radius

Low pitch $9.5^{\circ} \pm 0.5^{\circ}$

Propeller spinner, McCauley P/N E4858

Overspeed governor, Woodward P/N 895282-14

Propeller Speed

Normal	2000 rpm
Maximum (5 sec.)	2100 rpm
Maximum (5 min.)	2020 rpm

Airspeed Limits

V_{MO} - Maximum Operating without Spreader	176 mph (153 knots) IAS
V_{MO} - Maximum Operating with Spreader	155 mph (135 knots) IAS
V_{NO} - Normal Operating	140 mph (122 knots) IAS
V_A - Maneuvering	129 mph (112 knots) IAS
V_y - Best Rate Climb	90 mph (78 knots) IAS

C.G. Range

+19.5 to +26.5 inches aft of datum for all weights.

Empty Weight C.G. Range

3328 lb. at +19.1 in. (with optional Spreader P/N 72097 installed 3272 lb. at +17.4 in.)

Maximum Weight

4300 lb. (+24.73) See NOTE 11.

No. of Seats

1 (+73.0)

Hopper Capacity

2000 lb. (+15.0)

Baggage Shelf

25 lb. (+93.25)

Fuel Capacity

130 gal. total , 14 gal. unusable (+36.0).

The fuel tank system consists of 7 interconnected tanks (2 in the left wing, 2 in the right wing, and 3 in wing center section) .

Oil Capacity

1.56 gal. total (-54.0)

Maximum Operating Altitude

15,000 ft.

Control Surface

Rudder	Left	$20^{\circ} \pm 1^{\circ}$	Right	$20^{\circ} \pm 1^{\circ}$
Elevator	Up	$27^{\circ} \pm 1^{\circ}$	Down	$15^{\circ} \pm 1^{\circ}$
Aileron	Up	$29^{\circ} \pm 1\frac{1}{2}^{\circ}$	Down	$11\frac{1}{2}^{\circ} \pm 1\frac{1}{2}^{\circ}$

Serial Nos. Eligible

1615, 1636, and 3000 and subsequent

Specifications Pertinent to all Models

Datum	Wing leading edge outboard of fillet (6 inches forward of the main gear axle).
Level Means	Leveling lugs on outboard side of right hand fuselage frame near pilot's seat.
Certification Basis	<p>FAR 21.25(a) effective February 1, 1965, with policies contained in CAM 8 Appendix B Airworthiness Requirements for the Special Purpose of:</p> <p>Agricultural Operations under FAR 21.25(b)(1). Note: In accordance with FAR 36.1(a)(2), compliance with the noise requirements was not shown. Therefore, aircraft certificated under this certificate are only eligible for agricultural operations excepted by FAR 36.1(a)(2) and defined under FAR 137.3.</p> <p>620TP Turboprop Installation: FAR 23, Amendments 23-1 to 23-21; Subpart B - Flight, Subpart E - Powerplant and 23.1305 Powerplant Instruments. (FAR's 23.221, 23.954, 23.967(a)(6), 23.973(d), 23.1093, 23.1305(q), 23.1305(s), and 23.1305(t) have been waived under the provisions of FAR 21.25)</p> <p>620B-TG Turboprop Installation: FAR 23, Amendments 23-1 to 23-46; Subpart B - Flight, Subpart E - Powerplant. (FAR's 23.1305(s) and 23.1305(t) have been waived under the provision of FAR 21.25)</p> <p>Noise Control Act of 1972</p> <p>Restricted Type Certificate issued October 24, 1979 Application for Type Certificate dated June 16, 1978</p>
Production basis	None. Prior to original certification of each model , an FAA representative must perform a detailed inspection for workmanship, materials and conformity with the approved technical data, and perform a check of the flight characteristics.
Export Eligibility	Aircraft will be eligible for issuance of an Export Certificate of Airworthiness subject to compliance with Federal Aviation Regulations Part 21, Subpart L, Sections 21.321 through 21.339. The applicable procedures are contained in Advisory Circular 21.2.
Equipment	<p>The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification.</p> <p>In addition, the following items of equipment are required:</p> <p>620: (a) FAA Approved Airplane Flight Manual dated October 24, 1979, and FAA approved revisions (b) Weatherly Equipment List A-620</p> <p>620TP: (a) FAA Approved Airplane Flight Manual dated October 15, 1980, and FAA approved revisions (b) Weatherly Equipment list A-620TP</p> <p>620A: (a) FAA Approved Airplane Flight Manual dated March 25, 1987, and FAA approved revisions (b) Weatherly Equipment List A-620A</p> <p>620B: (a) FAA Approved Airplane Flight Manual dated July 16, 1992, and FAA approved revisions (b) Weatherly Equipment List A-620B</p> <p>620B-TG: (a) FAA Approved Airplane Flight Manual dated March 20, 1997, and FAA approved revisions (b) Weatherly Equipment List A-620B-TG</p>

- 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 certification weight and corresponding center of gravity must include for Models 620, 620A, and 620B undrainable system oil of 2.3 lb. at (-22.2) and unusable fuel of 7.5 gals. at (+36.0).
- The certificated empty weight and corresponding center of gravity must include for Model 620TP undrainable system oil for 5.25 lb. at (-24.0) and unusable fuel of 12 gals. at (+36.0).
- The certificated empty weight and corresponding center of gravity must include for Model 620B-TG undrainable system oil for 11.7 lb. at (-54.0) and unusable fuel of 14 gals. at (+36.0).
- NOTE 2. In addition to the operating limitations in this data sheet, area, economic, passenger and other appropriate operating limitations in accordance with FAR 21.25 shall be shown on placard or listing accessible to the pilot.
- The following placard must be displayed in front of and in clear view of the pilot:
- "This airplane must be operated as a restricted category airplane in compliance with the operating limitations stated in the form of placards, markings, and manuals."
- For additional placards, see Weatherly Model 620, 620A, 620B, 620TP, and 620B-TG Airplane Flight Manuals.
- NOTE 3. 620 and 620A: Alternator 24 volt, Motorola Model AN24N900, Maximum current load is limited to a total load of 20.8 Amps.
620B : Alternator 24 volt, 50 Amps. Skytronics Model JASCO 7555T and/or 70 Amps Model JASCO 7655T with Voltage Controller J12M24SP is approved for this installation.
620B-TG: Starter Generator Lucas Aerospace Model 23048-023 with Voltage Regulator General Electric CSV1105-30 is approved for this installation. Maximum current load is limited to a total load of 250 Amps, 28.5 Volts.
- NOTE 4. 620TP and 620B-TG: Flight into known icing conditions is prohibited. Do not fly into areas of visible moisture when the temperature is below 40°F.
- NOTE 5. 620TP and 620B-TG: Approved for reverse thrust during ground operation only.
- NOTE 6. All fuel and oil capacities are in US gallons.
- NOTE 7. The AlliedSignal TPE331-1-151A engine is a derivative of the TPE331 -1 engine approved for this installation.
- NOTE 8. 620B-TG: When operating at ambient temperature of 0°C or below, the fuel must contain an icing inhibitor, the quantity not to exceed 0.15% by volume in compliance with MIL-I-27686D or E.
- NOTE 9. 620B-TG: A Fuel Pressure \ Flow Instrument (Electronic International Model FP-5) and a Flow Transducer (EG&G Model FT-8AEXSBLEA-2) may be used as an option to the standard Fuel Pressure Gage with the following placard installed:
- "Do not rely on the electronic fuel flow instrument to determine fuel quantity level in tanks."
- NOTE 10. Noise Certification: This airplane has not been shown to comply with the noise limits in FAR Part 36 and must be operated in accordance with the noise operation limitation required by FAR 91.815.
- NOTE 11. The 620B-TG model aircraft has been certificated up to a Maximum Gross Weight of 4300 lbs. Any increase in Gross Weight will require FAA evaluation and approval.

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