

DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

A7PC  
Revision 5  
Nomad TC Pty Ltd  
N22B  
N24A  
N22S  
  
May 28, 2010

TYPE CERTIFICATE DATA SHEET NO.A7PC

This data sheet which is part of type certificate No. A7PC 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	Nomad TC Pty Ltd C/O GippsAero Pty Ltd Latrobe Regional Airport Airfield Road Traralgon Victoria 3844 Australia
Type Certificate Holder Record	Government Aircraft Factories transferred TC A7PC to AeroSpace Technologies of Australia Pty Ltd on December 7, 1987
Ltd	AeroSpace Technologies of Australia Pty Ltd transferred TC A7PC to Nomad TC Pty Ltd C/O GippsAero Pty Ltd on May 28, 2010

I - Model N22B (Normal Category), Approved May 20, 1977

Engines	2 Detroit Diesel Allison Division of General Motors Model 250-B17B or 250-B17C or 250-B17E. (See NOTE 9 regarding intermixing of engines)
Fuel	MIL-T-5624 Grade JP-4 or JP-5, ASTM-1655 JET A, JET A-1 or JET B; JP-1 fuel conforming to ASTM:D-1655 JET A or JET A-1; Diesel fuel No. 1 conforming to ASTM:D-1655 JET A or JET A-1.
Oil	MIL-L-23699 or MIL-L-7808G Allison 250-B17 Series Operation and Maintenance Manual, Publication 11W2, lists approved brand oils.

Engine Limits (B17B, B17C,& B17E)*	**	Gas Generator	*** Power Turbine	Turbine Outlet
	SHP	Speed N <sub>1</sub> %	Speed N <sub>2</sub> %	Temp°C
Takeoff (5 minute)				
- 250-B17B	400	105	105	810 (see Note 10)
- 250-B17C	420	105	105	810
- 250-B17E	420	105	105	810
Maximum continuous				
- 250-B17B	385	105	105	810
- 250-B17C	385	105	105	810
- 250-B17E	385	105	105	810

\*See NOTE 7; \*\*See NOTE 8; \*\*\*Normal operations are limited to 100% N<sub>2</sub>.

	100% $N_1$ = 50,970 r.p.m. 100% $N_2$ = 33,290 r.p.m. @ 2,030 propeller r.p.m.
Propellers	2 Hartzell: Type HC-A3VF-7 or HC-A3VF-7B Blade type V10133 D-11 or V10133 N-11
Propeller limits	Diameter: 90.63 inches nominal 88 inches minimum  Pitch setting at 30-inch station:  Flight Idle 6 deg. (nominal) Ground Idle 0 deg. (nominal) Reverse -13.5 deg. $\pm$ .5 deg Feather 85 deg. $\pm$ 1 deg
Airspeed limits (CAS)	Vmo (Max. operating) 169 knots Va (Maneuvering) 131 knots Vfe (Max. flap extended) 0-20° extension 120 knots 20-38° extension 100 knots Vlo (Landing gear operating) 120 knots Vle (Landing gear extended) 120 knots Vmc (Minimum control) 66.5 knots
C.G. range	187.5 inches to 199.6 inches aft of datum at 8,000 lbs. or less. 188.6 inches to 199.6 inches aft of datum at 8,500 lbs. Straight line variation between 8,000 lbs. and 8,500 lbs. Moment change due to retracting landing gear -4,700 in-lbs.
Datum	Datum located 171.86 inches forward of wing leading edge.
Levelling:	Longitudinal - along cabin seat rails.
Maximum weights	Ramp 8,550 lbs. Takeoff 8,500 lbs. Landing 8,500 lbs.
Maximum zero fuel wt.	8,250 lbs. (all weights above 8,250 lbs. must be in fuel weight).
No. of seats	15 maximum Crew at 115.0 inches aft of datum. See loading instructions for passenger loading. Passenger permitted in right-hand crew seat when crew door/propeller interlock system (Mod N132) incorporated.
Maximum baggage	400 lbs. at 50.7 inches aft of datum. 200 lbs. at 353.7 inches aft of datum (with Option G-44 installed).
Fuel capacity	274 U.S. gal. total in two interconnected tanks per side. 268 U.S. gal. usable at 197.5 inches aft. of datum. With optional self-sealing tanks (GAF Option G28A): 268 U.S. gal. total in two interconnected tanks per side. 263 U.S. gal. usable at 197.5 inches aft of datum.
Oil capacity	1.8 U.S. gal. drainable per engine at 141.0 inches aft of datum. (See NOTE 1)
Maximum operating altitude	25,000 ft. (except as limited by oxygen system requirements). 12,500 ft. (when autopilot engaged).

Control surface movements	Wing flaps	Maximum	38°		
	Aileron (flap retracted)	Up	20°	Down	20°
	Spoiler (flaps 38°)	Up	28°	Down	3°
	Horizontal Stabilizer (at trailing edge)	Up	18°	Down	8°
	Horizontal Stabilizer Tab (trim wheel at zero position)	Up	27°	Down	12°
	Horizontal Stabilizer Trim (stabilizer at neutral position)	Up	17°	Down	6°
	Rudder	Right	23°	Left	23°
	Rudder tab (trim wheel at neutral position)	Right	21°	Left	21°
	Rudder trim (rudder at zero position)	Right	15°	Left	15°

Detail rigging information contained in GAF Maintenance Manual Pub 12.20 Sec 27.

Serial Nos. eligible N22B-5 and subsequent. Military versions, designated by serial numbers with suffix "M", are not eligible for civil certification. The Government of Australia, Department of Transport Certificate of Airworthiness for Export endorsed as noted under "Import Requirements" must be submitted for each individual aircraft for which application for U.S. airworthiness certification is made. (See NOTE 4)

Equipment The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for airworthiness certification. Government Aircraft Factories List of Basic Equipment N22-6007B identifies all required and optional equipment approved by the Australian Department of Transport. Copy of document is available from FAA, Northwest Mountain Region, Los Angeles Aircraft Certification Office.

In addition, the following items of equipment are required:

1. Department of Transport Approved Airplane Flight Manuals, GAF Pub. No. 12-28C or GAF Pub. No. 12-28F (see NOTE 5). Section 3.35.3 of DOT Approved AFM pertains to flame-out and engine inflight restarting procedures. Section 4, Figure 4.11 of DOT Approved AFM pertains to maximum takeoff weight versus altitude/temperature.
2. Indestructible identification plate Part No. GAF N-00-234 (FAR 45.11).
3. Safe Flight Instr. Corp. pre-stall warning detectors P/N 165-5 or GAF pre-stall warning detector P/N N-81-723 and Safe Flight Instr. Corp. dual warning unit P/N 284.
4. Engine oil shutoff valves, GAF P/N N-50-432 (Ref. GAF Option G240 and modification N376).
5. Auxiliary fuel boost pump circuit duplication (Ref. GAF Option G247).
6. Fail-safe fuel filler neck assemblies, GAF P/N N-57-318. (Ref GAF Option G250).
7. Airspeed indicator with dial markings in accordance with GAF Drawing No. N-03-410 or N-80-442 (Ref. GAF Option G251B).
8. Engine fire detection/warning system installed per GAF dwgs. No. N-60-11. System incorporates 150D/01-200 fire detector switches, N-81-405 warning indicators and 6/N-81-303 warning test switch.
9. Fuel strainers per GAF Dwgs No. N-57-210 (Purolator 7510770 type).
10. Crew door/propeller interlock system, GAF Dwg. No. N-81-643 (Ref. GAF Mod. N132). Installation required if passenger to be carried in R.H. crew seat.

11. Propeller autofeather system, GAF Installation Dwg. No. N-50-387 (Ref. GAF Option G214).
12. Alternate cabin vented static source system, GAF Installation Dwg. N-80-474 (Ref. GAF Option G284) (For IFR operations).
13. Extended circuit breaker panel for cabin mounted circuit breakers for the fire detection system, GAF Dwg. N-81-646 (Ref. Modification N218) or GAF Dwg. N-81-600 (Ref. GAF Option G267).

The type design approval also includes the installation of equipment as defined by the manufacturer's designated option identification numbers. The installation of equipment on a particular aircraft will be shown on the option plate (P/N SD320) located on the forward face of frame 67.95 in the nose baggage locker of each aircraft which is certified to conform to the type design approval and to be in a condition for safe operation as per "Import Requirements."

The following additional equipment required for compliance with FAR 135, Appendix A, Additional Airworthiness Standards for 10 or More Passenger Airplane:

1. Department of Transport Approved Airplane Flight Manual, GAF pub No. 12.28F and AFM Supplement No. R271, Air Taxi and Commercial Operations to FAR Part 135.
2. Oil low pressure warning system, GAF Installation Dwg. N-81-548 (Ref. GAF Option G213).
3. Extra master caution panel, GAF P/N N-80-319 (Ref. GAF Option G135).
4. Cabin door-open warning system, GAF Installation Dwg N-81-391 (Ref. GAF Option G38) or GAF Installation Dwg N-81-12 (Ref. GAF Modification N9).
5. Crew door lock indication and inadvertent opening prevention system, GAF DWG. N-10-537/8 Sheet 5 (Ref. GAF Modification N240)
6. Self-illuminating exit signs, GAF Dwg. N-84-90 (Ref. GAF Option G67A).
7. Additional cabin markings and placards.

GAF DWG. N-00-286 (Ref. Option G257)  
 GAF DWG. N-00-289 (Ref. Option G301)  
 GAF DWG. N-00-291 (Ref. Option G301)  
 GAF DWG. N-00-244 (Ref. GAF Modification N240)  
 GAF P/N N-18-579 (Ref. Modification N238) when cockpit/cabin divider (Option G79) is incorporated.

8. When cockpit/cabin divider (Option G79) is installed, the sliding door lock catch P/N N-18-417 must be removed (Ref. GAF Modification N283).
9. Approved radio and navigation equipment must be installed in accordance with FAR Part 135.157.

The following radio and navigation equipment were installed at the time of original certification. Alternative equipment may be used as approved by the FAA or the Department of Transport (now CAA).

King KMA20 Audio (Ref. GAF Option G50B including Modification N16 and N97).  
 King KX175B Nav-Comm. (Ref. GAF G51 including Modification N113)  
 King KX175B Second Nav-Comm. (Ref. GAF Option G73 including Modification N113).  
 King KT76 ATC Transponder (Ref. GAF Option G75).  
 Collins MCS107 Slaved Compass (Ref. GAF Option G62).

10. Additional cabin fire extinguishers must be installed per FAR 135.161.  
 The cabin fire extinguisher located under the pilot's seat is provided by the manufacturer and must be installed at all times.

II - Model N24A (Normal Category), Approved November 16, 1978

Model N24A is similar to N22B. N24A incorporates a lengthened fuselage and an increase in gross weight.

Engines 2 Detroit Diesel Allison Division of General Motors Model 250-B17B or 250-B17C or 250-B17E. (See NOTE 9 regarding intermixing of engines.)

Fuel MIL-L-5624 Grade JP-4 or JP-5, ASTM:1655 Jet A, JET A-1 or JET B; JP-1 Fuel conforming to ASTM:D-1655 Jet A or Jet A-1; Diesel fuel No. 1 conforming to ASTM:D-1655 Jet A or Jet A-1.

Oil MIL-L-23699 or MIL-L-7808G

Engine Limits (B17B, B17C,& B17E)*	**	***		
	SHP	Gas Generator Speed N <sub>1</sub> %	Power Turbine Speed N <sub>2</sub> %	Turbine Outlet Temp°C
Takeoff (5 minute)				
- 250-B17B	400	105	105	810 (see Note 10)
- 250-B17C	420	105	105	810
- 250-B17E	420	105	105	810
Maximum continuous				
- 250-B17B	385	105	105	810
- 250-B17C	385	105	105	810
- 250-B17E	385	105	105	810

\*See NOTE 7; \*\*See NOTE 8; \*\*\*Normal operations are limited to 100% N<sub>2</sub>.

100% N<sub>1</sub> = 50,970 r.p.m.

100% N<sub>2</sub> = 33,290 r.p.m. @ 2,030 propeller r.p.m.

Propellers 2 Hartzell Hub Type HC-A3VF-7 or HC-A3VF-7B  
Blade type V10133 D-11 or V10133 N-11

Propeller Limits Diameter: 90.63 inches maximum  
88 inches maximum

Pitch setting at 30 in. station:

Flight Idle 6 deg. (nominal)  
Ground Idle 0 deg. (nominal)  
Reverse -13.5 deg. ± .5 deg  
Feather 85 deg. ± 1 deg

Airspeed limits (CAS) V<sub>mo</sub> (Max. operating) 162 knots  
V<sub>a</sub> (Maneuvering) 134 knots  
V<sub>fe</sub> (Max. flap extended)  
0-10° extension 120 knots  
10-38° extension 106 knots  
V<sub>lo</sub> (Landing gear operating) 120 knots  
V<sub>le</sub> (Landing gear extended) 120 knots  
V<sub>mc</sub> (Minimum control) 66 knots

C.G. range 215.5 inches to 227.6 inches aft of datum at 7,500 lbs. or less.  
217.5 inches to 227.6 inches aft of datum at 9,400 lbs.  
Straight line variation between 7,500 lbs. and 9,400 lbs.  
Moment change due to retracting landing gear -4,700 in-lbs.

Datum	Datum located 199.86 inches forward of wing leading edge.			
Leveling means	Longitudinal - along cabin seat rails. Lateral - across cabin seat rails.			
Maximum weights	Ramp	9,450 lbs.		
	Takeoff	9,400 lbs.		
	Landing	9,200 lbs.		
Maximum zero fuel wt.	9,150 lbs. (all weights above 9,150 lbs. must be in fuel weight).			
No. of seats	18 maximum Crew at 118.5 inches aft of datum. Crew at 116.5 inches aft of datum when crew seats relocated to forward mounting alternative (Option R238). See loading instructions for passenger loading. Passenger can be carried in right-hand crew seat only when crew door/propeller interlock system (Modification N132) fitted.			
Maximum baggage	320 lbs. at 37.7 inches aft of datum. 200 lbs. at 398.7 inches aft of datum (with Option G-44 installed).			
Fuel capacity	274 U.S. gal. total in two interconnected tanks per side. 268 U.S. gal. usable in two interconnected tanks per side when optional self-sealing tanks fitted (Option G28A). 268 U.S. gal. usable at 225.5 inches aft of datum. 263 U.S. gal. usable at 225.5 inches aft of datum when optional self-sealing tanks fitted (Option G28A).			
Oil capacity	1.8 U.S. gal. drainable per engine at 169.0 inches aft of datum. (See NOTE 1)			
Maximum operating altitude	25,000 ft. (except as limited by oxygen system requirements). 12,500 ft. (when autopilot engaged).			
Control surface movements	Wing flaps	Maximum	38°	
	Aileron (flap retracted)	Up	20°	Down 20°
	Spoiler (flaps 38°)	Up	28°	Down 3°
	Horizontal Stabilizer (at trailing edge)	Up	16°	Down 10°
	Horizontal Stabilizer Tab (trim wheel at zero position)	Up	28.5°	Down 12°
	Horizontal Stabilizer Trim (stabilizer at neutral position)	Up	18°	Down 6.5°
	Rudder	Right	21°	Left 21°
	Rudder tab (trim wheel at neutral position)	Right	12°	Left 12°
	Rudder trim (rudder at zero position)	Right	15°	Left 19°
	Detail rigging information contained in GAF Maintenance Manual Pub 12.50.			
Serial Nos. eligible	N24A-42 and subsequent. Military versions, designated by serial numbers with suffix "M", are not eligible for civil certification. The Government of Australia, Department of Transport Certificate of Airworthiness for Export endorsed as noted under "Import Requirements" must be submitted for each individual aircraft for which application for U.S. airworthiness certification is made. (See NOTE 4)			

Equipment The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for airworthiness certification. Government Aircraft Factories List of Basic Equipment N24A-6007 lists all required and optional equipment approved by the Australian Department of Transport. Copy of document is available from FAA, Northwest Mountain Region, Aircraft Certification Field Office.

In addition, the following items of equipment are required:

1. Department of Transport Approved Airplane Flight Manuals, GAF Pub. No. 12-58F. Section 3.35.3 of DOT Approved AFM pertains to flame-out and engine inflight restarting procedures. Section 4, Figure 4.11 of DOT Approved AFM pertains to maximum takeoff weight versus altitude/temperature.
2. Indestructible identification plate Part No. GAF N-00-234 (FAR 45.11).
3. Safe Flight Instrument Corporation pre-stall warning detectors P/N 165-5 or GAF pre-stall warning detector P/N N-81-723 and Safe Flight Instr. Corp. dual warning unit P/N 284.
4. Engine oil shutoff valves, GAF P/N N-50-432 (Ref. GAF Option G240-24 and Modification N376).
5. Auxiliary fuel boost pump circuit duplication (Ref. GAF Option G247).
6. Fail-safe fuel filler neck assemblies, GAF P/N N-57-318. (Ref GAF Option G250).
7. Airspeed indicator P/N 4/N-80-442 (Ref. GAF Option G251D).
8. Engine fire detection/warning system installed per GAF Dwgs. No. N-81-2009 System incorporates 150D/01-200 fire detector switches, N-81-405 warning indicators and 6/N-81-303 warning test switch.
9. Fuel strainers per GAF Dwgs No. N-57-2000 (Purolator 7510770 type).
10. Crew door/propeller interlock system, GAF Dwg. No. N-81-2006 (Ref. GAF Mod. N132). Installation required if passenger to be carried in R.H. crew seat.
11. Propeller autofeather system, GAF Installation Dwg. No. N-50- 387 (Ref. GAF Option G214).
12. Alternate cabin vented static source system, GAF Installation Dwg. N-80-474 (Ref. GAF Option G284). (For IFR operations).
13. Extended circuit breaker panel for cabin mounted circuit breakers for the fire detection system, GAF Dwg. N-81-646 (Ref. GAF Modification N218) or GAF Dwg. N-81-600 (Ref. GAF Option G267).
14. Engine Intake Cowl (Ref GAF Modification N374).
15. Horizontal stabilizer mass balanced trim tabs (Ref GAF Modification N439).

The type design approval also includes the installation of equipment as defined by the manufacturer's designated option identification numbers. The installation of equipment on a particular aircraft will be shown on the option\plate (P/N SD320) located on the forward face of frame 67.95 in the nose baggage locker of each aircraft which is certified to conform to the type design approval and to be in a condition for safe operation as per "Import Requirements."

The following additional equipment required for compliance with FAR 135, Appendix A, Additional Airworthiness Standards for 10 or More Passenger Airplane:

1. Department of Transport Approved Airplane Flight Manual, GAF Pub No. 12.58F and AFM Supplement No. R272, Air Taxi and Commercial Operations to FAR Part 135.
2. Oil low pressure warning system, GAF Installation Dwg. N-81-548 (Ref. GAF Option G213).

3. Extra master caution panel, GAF P/N N-80-319 (Ref. GAF Option G135).
4. Cabin door-open warning system, GAF Installation Dwg N-81-12 (Ref. GAF Modification N9/24).
5. Self-illuminating exit signs, GAF Dwg. N-84-90 (Ref. GAF Option G67A).
6. Additional cabin markings and placards.  
 GAF DWG. N-00-286 (Ref. Option G257)  
 GAF DWG. N-00-289 (Ref. Option G301)  
 GAF DWG. N-00-291 (Ref. Option G301)
7. Approved radio and navigational equipment must be installed in accordance with FAR Part 135.157.

The following particular radio and navigation equipment were installed at the time of original certification. Alternative equipment may be used as approved by the FAA or the Department of Transport (now CAA).

King KMA20 Audio (Ref. GAF Option G50B)  
 King KX175B Nav-Comm. (Ref. GAF Option G51-24)  
 King KX175B Second Nav-Comm. (Ref. GAF Option G73-24)  
 King K176 ATC Transponder (Ref. GAF Option G75-24)  
 King KCS55A Pictorial Nav. (Ref. GAF Option G231)

8. Additional cabin fire extinguishers must be installed per FAR 135.161.

The cabin fire extinguishers located under the pilot's seat are provided by the manufacturer and must be installed at all times.

III. Model N22S (Normal Category), approved March 31, 1989

Model N22S similar to N22B. N22S incorporates an increase in gross weight, Model 250-B17E engine, chin mounted radome, retractable FLIR, reduction in rudder travel and reduction in number of seats to five maximum.

Engines 2 Allison Gas Turbine Division of General Motors Model 250-B17E.

Fuel MIL-T-5624 Grade JP-4 or JP-5; ASTM:D-1655 Jet A, Jet A-1 or Jet B;  
 JP-1 Fuel conforming to ASTM:D-1655 Jet A or Jet A-1, Diesel fuel No 1 conforming to ASTM:D-1655 Jet A or Jet A-1.

Allison 250-B17 Series Operation and Maintenance Manual, Publication 11W2, lists detailed information.

Oil MIL-L-23699 or MIL-L-7808G.

Allison 250-B17 Series Operation and Maintenance Manual, Publication 11W2, lists approved brand oils.

Engine Limits	**		***	
	SHP	Gas	Power	Turbine
		Generator	Turbine	Outlet
		Speed N <sub>1</sub> %	Speed N <sub>2</sub> %	Temp°C

Takeoff	420	105	105	810
Maximum continuous	420	105	105	810

\*See NOTE 7; \*\*See NOTE 8; \*\*\*Normal operations are limited to 100% N<sub>2</sub>.

105% N<sub>1</sub> = 53,519 r.p.m.  
 102% N<sub>2</sub> = 33,956 r.p.m. @ 2,071 propeller r.p.m.

Propellers	2 Hartzell	Hub Type HC-A3VF-7 or HC-A3VF-7B Blade type V10133 D-11 or V10133 N-11
Propeller Limits	Diameter:	90.63 inches maximum 88 inches maximum
	Pitch setting at 30 in. station:	
	Flight Idle	6 deg. (nominal)
	Ground Idle	0 deg. (nominal)
	Reverse	-13/5 deg. ± .5 deg
	Feather	85 deg. ± 1 deg
Airspeed limits (CAS)	V <sub>mo</sub> (Max. operating)	162 knots
	V <sub>a</sub> (Maneuvering)	136 knots
	V <sub>fe</sub> (Max. flap extended)	
	0-10° extension	120 knots
	10-38° extension	106 knots
	V <sub>lo</sub> (Landing gear operating)	120 knots
	V <sub>le</sub> (Landing gear extended)	120 knots
	V <sub>mc</sub> (Minimum control)	74 knots
C.G. range	187.5 inches to 197.11 inches aft of datum at 8,000 lbs. or less. 188.6 inches to 197.11 inches aft of datum at 8,500 lbs. 193.6 inches to 197.11 inches aft of datum at 9,100 lbs. Straight line variation between 8,000 lbs. and 8,500 lbs. and between 8,500 lbs. and 9,100 lbs. Moment change due to retracting landing gear -4,700 in-lbs.	
Datum	Datum located 171.86 inches forward of wing leading edge.	
Leveling means	Longitudinal - along cabin seat rails. Lateral - across cabin seat rails.	
Maximum weights	Ramp	9,150 lbs.
	Takeoff	9,100 lbs.
	Landing	8,500 lbs.
Maximum zero fuel wt.	8,250 lbs. (all weights above 8,250 lbs. must be in fuel weight).	
No. of seats	5 maximum Flight Crew at 112.0 to 115.0 inches aft of datum. Sensor operator at 209.0 inches aft of datum. Observer 1 at 271.0 inches aft of datum. Observer 2/Instructor at 305.0 inches aft of datum.	
Fuel capacity	274 U.S. gal. total in two interconnected tanks per side. 268 U.S. gal. usable at 197.5 inches aft of datum. 89 U.S. gal. total in two wing auxiliary tanks, one per side. 88 U.S. gal. usable at 197.5 inches aft of datum.	

Oil capacity 1.8 U.S. gal. drainable per engine at 141.0 inches aft of datum.

Maximum operating altitude 25,000 ft. (except as limited by oxygen system requirements).  
12,500 ft. (when autopilot engaged).  
20,000 ft. with fuel in auxiliary tanks (except as limited by oxygen system requirements).

Control surface movements	Wing flaps	Maximum	38°		
	Aileron (flap retracted)	Up	20°	Down	20°
	Spoiler (flaps 38°)	Up	28°	Down	3°
	Horizontal Stabilizer (at trailing edge)	Up	18°	Down	8°
	Horizontal Stabilizer Tab (trim wheel at zero position)	Up	27°	Down	12°
	Horizontal Stabilizer Trim (stabilizer at neutral position)	Up	17°	Down	6°
	Rudder	Right	18°	Left	18°
	Rudder tab (trim wheel at neutral position)	Right	6° 45	Left	6° 45 min
	Rudder trim (rudder at zero position)	Right	27°	Left	27°

Detail rigging information contained in GAF Maintenance Manual Pub 12.20, Sec 27.

Serial Nos. eligible N22B-5 and subsequent. Military versions, designated by serial numbers with suffix "M", are not eligible for civil certification. The Government of Australia, Department of Transport and Communication Certificate of Airworthiness for Export endorsed as noted under "Import Requirements" must be submitted for each individual aircraft for which application for U.S. airworthiness certification is made. (See NOTE 4)

Equipment The basic required equipment as prescribed in the applicable airworthiness regulations (see certification basis) must be installed in the aircraft for the airworthiness certification. Build standard is defined in document R1065 - Searchmaster USCS Basic Aircraft Build (Coordination Option) and includes the following mandatory items of equipment required for FAA certification.

Equipment Required for Compliance with FAR 23 Amendments 1-9

1. Department of Transport and Communications approved Airplane Flight Manual ASTA Publication No. 12.28 FS Section 3.19 contains flame-out and engine inflight starting procedures and section 5, Figure 5.7, pertains to maximum takeoff weight versus altitude/temperature.
2. Indestructible identification plate (ref ASTA DWG N-00-234).
3. Pre-stall warning detectors (Safe Flight Instrument Corp. P/N 165-5) and dual warning unit (Safe Flight Instrument Corp P/N 284) (Ref ASTA Dwgs N-81-383 and N-81-292).
4. Engine oil shutoff valves ASTA P/N 1/N-50-432 (Ref ASTA Option G240 and modification N376).
5. Auxiliary fuel boost pump circuit duplication (Ref ASTA Option G247).
6. Fail-safe fuel filler neck assemblies, Main tanks - ASTA P/N N-58-318 (Ref ASTA Option G250), Auxiliary tanks ASTA P/N N-57-411/412 (Ref ASTA modification N693).
7. Airspeed indicator with dial markings in accordance with ASTA Dwg NO-8-442 (Ref ASTA Option G251G).

8. Engine fire detection/warning system installed per ASTA Dwgs N-60-11, N-80-442 and N-81-857, System incorporates 150D/01-200 Fire Detector Switches (ref also ASTA Option R632 - Autofeather and Engine Fire Detector Control Panel).
9. Fuel strainers per ASTA Dwg No N-57-170 (purolator 7510770).
10. Propeller autofeather system, ASTA Installation Dwg N-50-387 (Ref ASTA Option G214).
11. Alternate cabin vented static source, ASTA Installation Dwg N-80-688 (ref ASTA Option R637).
12. Extended circuit breaker panel for cabin mounted circuit breakers for the Fire Detection System, ASTA Dwg N-81-646 (ref ASTA modification N218).
13. Engine Intake Cowl (ref. GAF Modification N374).  
Compliance with engine inlet anti-icing requirements of FAR 23.1093, Amendment 23-9 has been demonstrated for the Model N22S when (GAF) Modification N374 is fitted.

Equipment Required for Compliance with FAR 23.785 (g) and (h)

1. Cockpit Seats (Ref ASTA Dwgs N-00-120) are equipped with PACIFIC SCIENTIFIC inertia reel/shoulder harness/belt assemblies Part No. 0106957-01/1101020-2 to MIL-R-8236.
2. Sensor Operator's Seat is equipped with a PA Safety Equipment N206-A (ECO 1128) inertia reel/shoulder harness/belt assembly comprising American Safety fittings, buckle (H141-A), inertia reel (Part No. 7260111) and webbing to MIL-W-4088 type 24, (Ref ASTA Dwg N-00-930) approved to DOTC ANO 108.42.

Equipment Required for Compliance with FAR 135 Appendix A

1. Department of Transport and Communications Approved Flight Manual, ASTA Pub 12.28FS contains FAR 135 performance data.
2. Oil low pressure warning system, ASTA Installation Dwg. No. N-81-548 (ref ASTA Option G213).
3. Combined Caution Panel, ASTA P/N N-80-731 (ref ASTA Option R631).
4. Cabin door-open warning system, ASTA Installation Dwg N-81-12 (ref ASTA Modification N9).
5. Crew door lock indication and inadvertent opening prevention system, ASTA Dwg N-10-537/8 sheet 5 (ref ASTA modification N240).
6. Self-illuminating exit signs, ASTA Dwg N-84-90 (ref ASTA Option G67A).
7. Additional cabin markings and placards.  
ASTA Dwgs. N-00-289, N-00-291 (ref ASTA Option G301)  
ASTA Dwgs N-00-244 (ref ASTA modification N240).
8. The following radio and navigation equipment is installed (ref FAR 135.159: Radio and navigation equipment extended overwater or IFR operations.)
  - a. Collins VHF-22B transceiver (ASTA Option R600)
  - b. Andrea A301-6 Audio/Intercom System (ASTA Option R617)
  - c. Collins VIR-32 Nav. 1 Receiver (ASTA Option R601)
  - d. Collins VIR-32 Nav. 2 Receiver (ASTA Option R630)
  - e. Collins 718U-5 HF system (ASTA Option R598)
9. Fire extinguishers - Graviner P/N HA1002 one mounted behind right crew seat (ref ASTA Dwg N-10-1513, Option R611) one mounted in cabin in front of jockey seat (ref ASTA DWG N-00-930).

## DATA COMMON TO ALL MODELS

### Certification basis

FAR 21.29 and FAR 23, effective February 1, 1965, including Amendment 23-1 to 23-9 inclusive and FAR Part 135 Appendix A, Additional Airworthiness Standards for 10 or More Passenger Airplanes, including Amendments 135-1 to 135-41 inclusive. N22B and N224A are eligible for operations under FAR Part 135 when the required additional equipment as listed under "Equipment" is installed. Compliance has also been shown with FAR 36 noise requirements and SFAR 27 fuel venting requirements. Satisfactory findings under the Noise Control Act of 1972 completed January 21, 1977. Negative Environmental Declaration prepared February 4, 1977. Certification basis established per AFS-100 letter to APC-200, dated April 12, 1976, and letter from Manager, Western Aircraft Certification Office to Government Aircraft Factories dated August 1, 1986.

Australian Department of Transport letter 138/23/30 dated December 10, 1970, to Government Aircraft Factories relates to performance requirements for turbopropeller installation.

Australian Department of Transport letter 138/23/61 dated January 17, 1975, to Government Aircraft Factories relates to certification of ramp weight.

Compliance with engine inlet anti-icing requirements of FAR 23.1093, Amendment 23-9 has been demonstrated for all models when (GAF) Modification N374 is fitted.

Compliance with ice protection requirements has been demonstrated in accordance with FAR 23.1419, Amendment 23-9, when deicing equipment is installed in accordance with Customer Option G286.

Date of Application for Type Certificate: October 14, 1975

Type Certificate No. A7PC issued May 20, 1977 for Model N22B.

Type Certificate No. A7PC amended November 16, 1978 to add Model N24A.

Type Certificate No. A7PC amended December 31, 1981 to add Model 250-B17C engine.

Type Certificate No. A7PC amended March 31, 1989 to add Model N22S, to change ownership of the Type Certificate, and include Model 250-B17E engine.

Compliance has been shown with FAR 36-16, dated November 22, 1988.

### Import requirements

To be considered eligible for operation in the United States, each aircraft manufactured under this type certification must be accompanied by a certificate of airworthiness for export or certifying statement endorsed by the exporting foreign civil airworthiness authority which states (in the English language): This aircraft conforms to its U.S. type design (type certification number A7PC) and is in a condition for safe operation.

The U.S. airworthiness certification basis for aircraft type certificated under FAR Section 21.29 and exported by the country of manufacture is FAR Sections 21.183(c) or 21.185(c).

The U.S. airworthiness certification basis for aircraft type certificated under FAR Section 21.29 exported from countries other than the country of manufacture (e.g., third party country) is FAR Sections 21.183(d) or 21.183(b).

The U.S. airworthiness certification basis for the issuance of an airworthiness certificate for aircraft type certificated under FAR Section 21.21 and manufactured in a foreign country under a licensing arrangement is FAR Sections 21.1839(d) or 21.183(b).

Notwithstanding that the FAR referenced in paragraphs (c) and (d) do not specifically address or require a foreign civil airworthiness authority certification, such certification is the only practical way for an applicant to show, and the Federal Aviation Administration (FAA) to find conformity to the FAA-approved type design and condition for safe operation.

Additional guidance is contained in FAA Advisory Circular 21-23, Airworthiness Certification of Civil Aircraft, Engines, Propellers, and Related Products Imported into the United States.

Service Information

Maintenance/Structural Repair Manual and all Service Bulletins issued by Government Aircraft Factories or Aerospace Technologies of Australia Pty Ltd, are approved by the Australian Department of Transport and Communications (now CAA) through the Manufacturers' Approval. Documents are available from Aerospace Technologies of Australia Pty Ltd., 226 Lorimer Street, Port Melbourne, Victoria, 3207, Australia.

NOTES

NOTE 1.

Current weight and balance report including list of equipment included in the certificated empty weight and loading instructions must be in each aircraft at the time of original certification and at all times thereafter.

Loading instructions and the aircraft Empty Weight Balance Statement for each individual aircraft are included in the Australian DOT Approved Airplane Flight Manual or Australian DOTC Approved Airplane Flight Manual..

The "Empty Weight" shown in the aircraft Empty Weight Balance Statement includes unusable fuel and undrainable oil.

The "Basic Empty Weight" shown in the aircraft Empty Weight Balance Statement includes unusable fuel and undrained oil.

NOTE 2.

All placards listed in the Approved Airplane Flight Manual must be installed in the appropriate locations on the aircraft. AFM Figures 2.6, 2.7, and 2.5 specify placards for flight compartment, main cabin, and exterior respectively. Each individual aircraft must be identified with a placard which specifies approved types of operation; e.g., VFR or IFR, to which the airplane is limited by the equipment installed. Operations into known or forecast icing conditions is prohibited. Additional placards for optional equipment must be included as required by the Airplane Flight Manual Supplements supplied with the particular aircraft.

NOTE 3.

Information essential for the proper maintenance of the airplane is contained in:

"Aircraft Maintenance Manual"

GAF Publication 12.20 (Model N22B)  
12.50 (Model N24A)  
12.20 (Model N22S)

"Aircraft Wiring Manual"

GAF Publication 12.23 (Model N22B)  
12.53 (Model N24A)  
12.23 (Model N22S)

The following airplane structural components are fatigue critical and must be replaced at the times indicated:

Model N22B:

Wing strut lower/upper fittings (P/N 1/N-20-641/643)	14,000 hrs.
Stub wing/strut pick-up fittings (P/N 1/N-11-544/545)	18,400 hrs.
Flap inboard control tube assembly (P/N 1/N-45-1139/1140)	12,000 hrs.
Stub wing front spar (P/N 1/N-11-473)	25,000 hrs.

Model N24A:

Wing strut lower/upper fittings (P/N 1/N-20-641/643)	12,000 hrs.
Stub wing/strut pick-up fittings (P/N 1/N-11-544/545)	12,400 hrs.
Flap inboard control tube assembly (P/N 1/N-45-1139/1140)	12,000 hrs.
Stub wing front spar (P/N 1/N-11-473)	25,000 hrs.

Model N22S

Wing strut lower/upper fittings (P/N 1/N-20-641-643)	12,600 hrs.
Stub wing/strut pickup fittings (P/N 1/N-11-544/545)	14,100 hrs.
Flap inboard control tube assy (P/N 1/N-45-1139/1140)	12,000 hrs.
Stub wing front spar (P/N 1/N-11-473)	25,000 hrs.

These retirement lives may be extended subsequent to the completion of full-scale fatigue tests to failure by the manufacturer. Further information and approval for any life extension may be obtained from FAA, Northwest Mountain Region, Los Angeles Aircraft Certification Office, or as authorized by Australian DOT approved Service Bulletins issued by the manufacturer (see "Service Information").

The engine life limited components and their retirement or TBO hours are as listed in the FAA approved Allison 250-B17 series Operations and Maintenance Manual Pub 11W2 issued by the engine manufacturer.

- NOTE 4. Aircraft equipped to comply with the requirements of FAR 23 (see "Certification Basis") will be identified by the suffix F to the serial number.
- NOTE 5. Approved Airplane Flight Manual, GAF Pub. No. 12.28F supersedes GAF Pub. No. 12.28C fitted to earlier aircraft.
- NOTE 6. Loading limitations for Nomad N22B and N24A freighter (all cargo) configurations contained in GAF Drawings No. N-00-347 and No. N-00-348 respectively.
- NOTE 7. The engine limits listed are the N1, N2 and T.O.T. limits and rated SHP as shown in the engine type certificate data sheet NO. E10CE, Revision 12, for the Allison Models 250-B17B, 250-B17C, and 250-B17E engines.
- NOTE 8. For Models N22B and N24A the airframe manufacturer's installed limits and the performance charts in the particular airplane flight manual are based on the engine manufacturer's T.O.T. and torque meter limits for the Model 250-B17B engine of 810°C (takeoff and maximum continuous) and 1087 lb. ft. (take-off) and 996 lb. ft. (maximum continuous). These limits are equal to or less than the corresponding limits for the Model 250-B17C engine.
- For Model N22S the airframe manufacturer's installed limits and the performance charts in the airplane flight manual are based on the engine manufacturer's T.O.T. limit for the Model 250-B17E engine of 810°C (take-off and maximum continuous).
- NOTE 9. This model may intermix with the following engines in the combination and with appropriate limitations noted in the Australian Department of Transport Approved Flight Manuals.
- NOTE 10. The maximum allowable torque as measured by the torquemeter for below standards inlet air temperature and/or ram conditions is 1165 lb.-ft. for 10 seconds; 1087 lb.-ft. for takeoff and 996 lb.-ft. for maximum continuous.
- NOTE 11. The statement of compliance with FAA Airworthiness Directive is contained in Report No. N22S-6012F Nomal Model N22S Certification Compliance with FAA Airworthiness Directives.

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