



# Type Certificate

Number: 73-1, Issue 4

Certificate Holder: Nomad TC Pty Ltd

Address: C/O GippsAero Pty Ltd  
Latrobe Regional Airport  
Airfield Road Traralgon  
Victoria 3844  
Australia

Pursuant to regulation 21.013A and regulation 202.050(1) of the Civil Aviation Safety Regulations 1998 this Type Certificate is issued in respect of the aeroplane type known as GAF models N2, N22, N22B, N22C, N22S, N24 and N24A manufactured in accordance with data contained in GAF Certification Reports Numbers N2-6001, N22-6000 Issue 2, N22-6001, N22-6002B, N22S-6009, N24-6001 and N24A-60002.

This certificate is valid until suspended or cancelled by the Civil Aviation Safety Authority. The basis of certification is as prescribed in Type Certificate Data Sheet No. 73-1 issued by this Authority.



Mike Higgins  
Delegate of the Authority  
27 MAY 2010

*safe skies for all*

TCDS No.: 73-1

Revision No.: 17

Aircraft: N2  
N22  
N22B (Normal Category)  
N22B (Transport Category)  
N24  
N24A (Normal Category)  
N24A (Transport Category)  
N22S (Normal Category)  
N22C (Normal Category)  
N22C (Transport Category)

Date: 27 MAY 2010

## TYPE CERTIFICATE DATA SHEET

This data sheet is part of Type Certificate Number 73-1 and lists the conditions and limitations the aircraft meets the airworthiness requirements of the Civil Aviation Safety Authority.

**Certificate Holder:** Nomad TC Pty Ltd  
C/O GippsAero Pty Ltd  
Latrobe regional Airport  
Airfield Road Traralgon  
Victoria 3844  
Australia

### Model N2 (Normal Category), Approved : 11 August 1971

Engine 2 Detroit Diesel Allison Division of General Motors Model 250-B17

Fuel ASTM-D-1655 Jet A or Jet A-1, MIL-T-5624 Grade JP-5  
See Note 4 for emergency fuel.

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

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

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

Engine Limits	SHP	Gas Generator N <sub>1</sub> %	Power Turbine Speed N <sub>2</sub> %	Turbine Outlet Temp °C
Take-off (5min)	400	102.0	100	793
Max Continuous	385	101.0	100	777
	100%N <sub>1</sub>	-	50970 rpm	
	100%N <sub>2</sub>	-	33290 rpm – 2030 propeller rpm	

Propellers 2 Hartzell Type HC-A3VF-7/V10133D-11.

Propeller Diameter: 90 (2286 mm) inches nominal  
88 (2235 mm) inches minimum

Pitch Setting at 30 (762 mm) inches station:

Flight Idle-	6 deg
Ground Idle-	0 deg
Reverse -	-13.5 deg ± 0.5 deg
Feather -	85 deg ± 1 deg

Airspeed Limits	Never exceed speed	196 knots CAS
	Max structural cruising speed	164 knots CAS
	Normal Operating Limit)	
	Manoeuvring speed	128 knots CAS
	Max flap extension speed	
	20 deg extension	116 knots CAS
	40 deg extension	96 knots CAS
	Landing Gear extension	96 knots CAS
CG Range	4709 mm (185.4 inches) to 5070 mm (199.6 inches) aft of datum at 3175 kg (7000 lb) or less;	
	4763 mm (187.5 inches) to 5070 mm (199.6 inches) aft of datum at 3629 kg (8000 lb);	
	Straight line variation between 3175 kg (7000 lb) and 3629 kg (8000 lb).	
	Datum located 4365 mm (171.86 ins) forward of wing leading edge.	
Levelling	Longitudinal	- along cabin seat rails.
	Lateral	- across cabin seat rails.
Maximum Weights	Take-off -	3629 kg (8000 lb)
	Landing -	3629 kg (8000 lb)
No of Seats	2 at 2921 mm (115 ins)	
	2 at 3962 mm (156 ins)	
	2 at 4699 mm (185 ins)	
	2 at 5436 mm (214 ins)	
	2 at 6223 mm (245 ins)	
	2 at 7290 mm (287 ins) aft of datum	
Maximum Baggage	181 kg (400 lb) at 1295 mm (51 ins) aft of datum.	
Fuel Capacity	1046 litres (230 Imp gal) total, in two interconnected tanks per side.	
	1032 litres (227 Imp gal) useable at 5017 mm (197.5 ins) aft of datum.	
Oil Capacity	6.8 litres (230 Imp pints) drainable oil per engine at 3581 mm (141.0 ins) aft of datum.	
Maximum Operating Altitude	15000 feet. (Except as limited by oxygen system requirements).	
Control Surface	Wing flaps	Maximum 40 deg
	Aileron (flaps retracted)	UP 20 deg DOWN 20 deg
	Spoiler (flaps 40 deg)	UP 20 deg DOWN 5 deg
	Horizontal Stabiliser (at trailing edge)	UP 18 deg DOWN 4 deg
	Rudder Right 25 deg Left 25 deg	
	Rudder Tab (trim wheel at neutral position)	Right 15 deg Left 15 deg
	Horizontal Stabiliser Tab (trim wheel at zero position)	UP 23 deg DOWN 10 deg
	Rudder Trim (rudder at zero position)	Right 15 deg Left 15 deg
	Horizontal Stabiliser Trim (Stabiliser at neutral position)	UP 18 deg DOWN 4 deg
Manufacturer's Serial Number	N2-02 only.	

**Model N22 (Normal Category), Approved : 29 April 1975**

Engines 2 Detroit Diesel Allison Division of General Motors Model 250-B17, 250-B17B, 250-B17C or 250-B17E.

Fuel ASTM-D-1655 Jet A or Jet A-1, MIL-T-5624 Grade JP-5  
See NOTE 4 for emergency fuel.

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

Oil MIL-L-23699, MIL-L-7808G

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

Engine Limits (B17, B17B, B17C and B17E)*	**		***	
	SHP	Gas Generator Speed N <sub>1</sub> %	Power Turbine Speed N <sub>2</sub> %	Turbine Outlet Temp °C
Take-off (5min)				
- B17	411	104	105	793
- B17B, C and E	420	105	105	810
Max Continuous				
- B17	385	104	105	777
- B17B and C	385	105	105	810
- B17E	420	105	105	810

See NOTE 5, \*\* See NOTE 6, \*\*\* Normal operations are limited to 100%N<sub>2</sub>.

100%N<sub>1</sub> - 50970 rpm  
100%N<sub>2</sub> - 33290 rpm – 2030 propeller rpm

Propellers 2 Hartzell Type HC-A3VF-7/V10133D-11 (See Note 7).

Propeller Limits Diameter: 90 (2286 mm) inches nominal  
88 (2235 mm) inches minimum

Pitch settings at 30 (762 mm) inch station:

Flight Idle	-	6 deg
Ground Idle	-	0 deg
Reverse	-	-13.5 deg ± 0.5 deg
Feather	-	85 deg ± 1 deg

Airspeed Limits	Max operating limit speed	169 knots CAS
	Max flap extension speed	
	0 – 20 deg extension	120 knots CAS
	20 – 38 deg extension	100 knots CAS
	Landing gear operating speed	120 knots CAS
	Landing gear extended speed	120 knots CAS

CG Range 4763 mm (187.5 inches) to 5070 mm (199.6 inches) aft of datum  
(landing gear extended) at 3629 kg (8000 lb) or less;  
4790 mm (188.6 inches) to 5070 mm (199.6 inches) aft of datum at 3856 kg (8500 lb);  
Straight line variation between 3629 kg (8000 lb) and 3856 kg (8500 lb).

Datum Datum located 4365 mm (171.86 ins) forward of wing leading edge.

Levelling Means	Longitudinal	-	Along cabin seat rails.
	Lateral	-	Across cabin seat rails.

Maximum Weights	Ramp	-	3878 kg (8550 lb)
	Take-off	-	3856 kg (8500 lb)
	Landing	-	3856 kg (8500 lb)
	Maximum Zero Fuel	-	3742 kg (8250 lb)
No of Seats	15 maximum.		
	16 maximum when Option G507 is fitted.		
	Crew at 2921 mm (115.0 ins) aft of datum.		
	See loading instructions for passenger loading.		
Maximum Baggage	181 kg (400 lb) at 1288 mm (50.7 ins) aft of datum.		
	91 kg (200 lb) at 8984 mm (353.7 ins) aft of datum. (With option G44 fitted).		
Fuel	1036 litres (228 Imp gal) total, in two interconnected tanks per side.		
Capacity	1018 litres (224 Imp gal) useable at 5016 mm (197.5 ins) aft of datum.		
	When optional self-sealing tanks fitted (Option G28 OR G28A).		
	1016 litres (224 Imp gal) total in two interconnected tanks per side.		
	997 litres (219 Imp gal) useable at 5016 mm (197.5 ins) aft of datum.		
Oil Capacity	6.8 litres (12.0 Imp pints) drainable oil per engine at 3581 mm (141.0 ins) aft of datum.		
Maximum Operating Altitude	25,000 feet. (Except as limited by oxygen system requirements).		
Control Surface Movements	Wing flaps		Maximum 38 deg
	Aileron (flaps retracted)		UP 20 deg DOWN 20 deg
	Spoiler (flaps 38 deg)		UP 28 deg DOWN 3 deg
	Horizontal Stabiliser (at trailing edge)		Up 18 deg DOWN 4 deg (Pre-modification N211)
	Horizontal Stabiliser (at trailing edge)		Up 18 deg DOWN 8 deg (Post-modification N211)
	Rudder		Right 23 deg Left 23 deg
	Rudder Tab		Right 21 deg Left 21 deg
	(trim wheel at zero position)		
	Horizontal Stabiliser Tab (trim wheel at zero)		Up 27 deg DOWN 6 deg (Pre-modification N211)
	Horizontal Stabiliser Tab (trim wheel at zero position)		Up 27 deg DOWN 12 deg (Post-modification N211)
	Rudder Trim		Right 15 deg Left 15 deg
	(rudder at zero position)		
	Horizontal Stabiliser Trim (stabiliser at neutral position)		UP 17 deg DOWN 6 deg
Manufacturer's Serial Numbers	N22-1, -2, -4.		

#### Model N22B (Normal Category), Approved : 13 August 1975

Engines	2 Detroit Diesel Allison Division of General Motors Model 250-B17, 250-B17B, 250-B17C or 250-B17E.
Fuel	ASTM-D-1655 Jet A or Jet A-1, MIL-T-5624 Grade JP-5 See NOTE 4 for emergency fuel.
	Allison 250-B17 Series Operation and Maintenance Manual, Publication 11W2, lists detailed information.
Oil	MIL-L-23699, MIL-L-7808G
	Allison 250-B17 Series Operation and Maintenance Manual, Publication 11W2, lists approved brand oils.

Engine Limits (B17, B17B, B17C and B17E)*	** SHP	Gas Generator Speed N <sub>1</sub> %	*** Power Turbine Speed N <sub>2</sub> %	Turbine Outlet Temp °C
Take-off (5min)	420	105	105	810
Max Continuous	385	105	105	810
- B17B and C	420	105	105	810
- B17E				

See NOTE 5, \*\* See NOTE 6, \*\*\* Normal operations are limited to 100%N<sub>2</sub>.

100%N <sub>1</sub>	-	50970 rpm
100%N <sub>2</sub>	-	33290 rpm – 2030 propeller rpm

Propellers	2 Hartzell Type HC-A3VF-7/V10133D-11 (See Note 7).	
Propeller Limits	Diameter	: 90 (2286 mm) inches nominal 88 (2235 mm) inches minimum
	Pitch settings at 30 inch (762 mm) station:	
	Flight Idle	- 6 deg
	Ground Idle	- 0 deg
	Reverse	- 13.5 deg ± 0.5 deg
	Feather	- 85 deg ± 1 deg

Airspeed Limits	Max operating limit speed	169 knots CAS
	Manoeuvring speed	131 knots CAS
	Max flap extension speed	
	0 – 20 deg extension	120 knots CAS
	20 – 38 deg extension	100 knots CAS
	Landing gear operating speed	120 knots CAS
	Landing gear extended speed	120 knots CAS

CG Range (landing gear extended)	4763 mm (187.5 inches) to 5070 mm (199.6 inches) aft of datum at 3629 kg (8000 lb) or less; 4790 mm (188.6 inches) to 5070 mm (199.6 inches) aft of datum at 3856 kg (8500 lb); Straight line variation between 3629 kg (8000 lb) and 3856 kg (8500 lb).
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Datum	Datum located 4365 mm (171.86 ins) forward of wing leading edge.
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Levelling Means	Longitudinal	-	Along cabin seat rails.
	Lateral	-	Across cabin seat rails.

Maximum Weights	Ramp	-	3878 kg (8550 lb)
	Take-off	-	3856 kg (8500 lb)
	Landing	-	3856 kg (8500 lb)
	Maximum Zero Fuel	-	3742 kg (8250 lb)

No of Seats	15 maximum. 16 maximum when Option G507 is fitted. Crew at 2921 mm (115.0 ins) aft of datum. See loading instructions for passenger loading.
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Maximum Baggage	181 kg (400 lb) at 1288 mm (50.7 ins) aft of datum. 91 kg (200 lb) at 8984 mm (353.7 ins) aft of datum. (With option G44 fitted).
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Fuel Capacity	1036 litres (228 Imp gal) total, in two interconnected tanks per side. 1018 litres (224 Imp gal) useable at 5016 mm (197.5 ins) aft of datum.
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When optional self-sealing tanks fitted (Option G28 OR G28A).  
1016 litres (224. Imp gal) total in two interconnected tanks per side.  
997 litres (219 Imp gal) useable at 5016 mm (197.5 ins) aft of datum.

Fuel Capacity ( <i>continued</i> )	When optional Wing Auxiliary Tanks fitted (Option G99/G99M); 338 litres (74.4 Imp gal) total in two integral tanks, one per side. 334 litres (73.6 Imp gal) useable at 5016 mm (197.5 ins) aft of datum.	
Oil Capacity	6.8 litres (12.0 Imp pints) drainable oil per engine at 3581 mm (141.0 ins) aft of datum.	
Maximum Operating Altitude	25,000 feet. (Except as limited by oxygen system requirements). 20,000 feet when fuel contained in auxiliary wing tanks (when option G99/G99M fitted), except as limited by oxygen system requirements.	
Control Surface Movements	Wing flaps Aileron (flaps retracted) Spoiler (flaps 38 deg) Horizontal Stabiliser (at trailing edge) Horizontal Stabiliser (at trailing edge) Rudder Rudder Tab (trim wheel at zero position) Horizontal Stabiliser Tab (trim wheel at zero position) Horizontal Stabiliser Tab (trim wheel at zero position) Rudder Trim (rudder at zero position) Horizontal Stabiliser Trim (stabiliser at neutral position)	Maximum 38 deg UP 20 deg DOWN 20 deg UP 28 deg DOWN 3 deg Up 18 deg DOWN 4 deg (Pre-modification N211) Up 18 deg DOWN 8 deg (Post-modification N211) Right 23 deg Left 23 deg Right 21 deg Left 21 deg  Up 27 deg DOWN 6 deg (Pre-modification N211) Up 27 deg DOWN 12 deg (Post-modification N211) Right 15 deg Left 15 deg  UP 17 deg DOWN 6 deg
Manufacturer's Serial Numbers	N22B-5 onwards excluding serial numbers with Suffix "M".	

#### **Model N22B (Transport Category), Approved : 24 January 1978**

Type Data as For Item 3	Model N22B (Normal Category) except as varied by this item 4.
Certification Basis	(See also data "Common to all models".)  Air Navigation Orders Section 101.2 and 101.4 dated 1 July 1967 and effective 27 February 1970.  Department of Aviation letter 138/11/59 dated 28 November 1972 relating to take-off climb requirements with one engine inoperative.  Department of Aviation letter 138/91/36 dated 8 July 1976 relating to en route climb requirements with one engine inoperative.
Equipment	Flight manual Supplement "R280 – Transport Category" must be incorporated in the Approved Flight Manual.  In addition the mandatory equipment listed in paragraph 2 of Supplement R280 is required to be installed.
Manufacturer's Serial Numbers	N22B-5 and onwards excluding serial numbers with suffix "M". Suffix T added indicates aircraft configured in Transport Category by Manufacturer.

**Model N24 (Normal Category). Approved : 27 October 1977**

Engines	2 Detroit Diesel Allison Division of General Motors Model 250-B17, 250-B17B, 250-B17C or 250-B17E.
Fuel	ASTM-D-1655 Jet A or Jet A-1, MIL-T-5624 Grade JP-5 See NOTE 4 for emergency fuel.  Allison 250-B17 Series Operation and Maintenance Manual, Publication 11W2, lists detailed information.
Oil	MIL-L-7808G, MIL-L-23699.  Allison 250-B17 Series Operation and Maintenance Manual, Publication 11W2, lists approved brand oils.

Engine Limits (B17, B17B, B17C and B17E)*	** SHP	*** Gas Generator Speed N <sub>1</sub> %	Power Turbine Speed N <sub>2</sub> %	Turbine Outlet Temp °C
Take-off (5min)	420	105	105	810
Max Continuous	385	105	105	810
- B17B and C	420	105	105	810
- B17E				

See NOTE 5, \*\* See NOTE 6, \*\*\* Normal operations are limited to 100%N<sub>2</sub>.

100%N <sub>1</sub>	-	50970 rpm
100%N <sub>2</sub>	-	33290 rpm – 2030 propeller rpm

Propellers 2 Hartzell Type HC-A3VF-7/V10133D-11 (See Note 7).

Propeller Limits Diameter: : 90 (2286 mm) inches nominal  
88 (2235 mm) inches minimum

Pitch settings at 30 (762 mm) inch station:

Flight Idle	-	6 deg
Ground Idle	-	0 deg
Reverse	-	-13.5 deg ± 0.5 deg
Feather	-	85 deg ± 1 deg

Airspeed Limits	Max operating limit speed	162 knots CAS
	Manoeuvring	131 knots CAS
	Max flap extension speed	
	0 – 20 deg extension	120 knots CAS
	20 – 38 deg extension	100 knots CAS
	Landing gear operating speed	120 knots CAS
	Landing gear extended speed	120 knots CAS

CG Range (landing gear extended) 5420 mm (213.4 inches) to 5781 mm (227.6 inches) aft of datum at 3652 kg (8050 lb) or less;  
5491 mm (216.2 inches) to 5781 mm (227.6 inches) aft of datum at 3856 kg (8500 lb);  
Straight line variation between 3652 kg (8050 lb) and 3856 kg (8500 lb).

Datum Datum located 5076.4 mm (199.86 ins) forward of wing leading edge.

Levelling Means Longitudinal - Along cabin seat rails.  
Lateral - Across cabin seat rails.

Maximum Weights	Ramp	-	3878 kg (8550 lb)
	Take-off	-	3856 kg (8500 lb)
	Landing	-	3856 kg (8500 lb)
	Maximum Zero Fuel	-	3742 kg (8250 lb)



No of Seats	17 maximum. See loading instructions for passenger loading. Crew at 3010 mm (118.0 ins) aft of datum. Crew at 2959 mm (116.5) aft of datum when crew seat relocated to forward mounting alternative (Option R238).	
Maximum Baggage	145 kg (320 lb) at 958 mm (37.7 ins) aft of datum. 90 kg (200 lb) at 10127 mm (398.7 ins) aft of datum. (With option G44 fitted).	
Fuel Capacity	1036 litres (228 Imp gal) total, in two interconnected tanks per side. 1018 litres (224 Imp gal) useable at 5016 mm (197.5 ins) aft of datum When optional self-sealing tanks fitted (Option G28 OR G28A). 1016 litres (224 Imp gal) total in two interconnected tanks per side. 997 litres (219 Imp gal) useable at 5016 mm (197.5 ins) aft of datum. When optional Wing Auxiliary Tanks fitted (Option G99/G99M); 338 litres (74.4 Imp gal) total in two integral tanks, one per side. 334 litres (73.6 Imp gal) useable at 5728 mm (225.5 ins) aft of datum.	
Oil Capacity	6.8 litres (12.0 Imp pints) drainable oil per engine at 4293.6 mm (169 ins) aft of datum.	
Maximum Operating Altitude	25,000 feet. (Except as limited by oxygen system requirements). 16,000 feet when fuel contained in auxiliary wing tanks (when option G99 or G99M fitted), except as limited by oxygen system requirements. 10,000 feet when Automatic Pilot is engaged.	
Control Surface Movements	Wing flaps Maximum 38 deg Aileron (flaps retracted) Spoiler (flaps 38 deg) Horizontal Stabiliser (at trailing edge) Horizontal Stabiliser (at trailing edge) Rudder Rudder Tab (trim wheel at zero position) Horizontal Stabiliser Tab (trim wheel at zero position) Horizontal Stabiliser Tab (trim wheel at zero position) Rudder Trim (rudder at zero position) Horizontal Stabiliser Trim (stabiliser at neutral position)	UP 20 deg DOWN 20 deg UP 28 deg DOWN 3 deg Up 18 deg DOWN 4 deg (Pre-modification N211) Up 16 deg DOWN 10 deg (Post-modification N211) Right 21 deg Left 21 deg Right 12 deg Left 12 deg  Up 27 deg DOWN 6 deg (Pre-modification N211) Up 28.5 deg DOWN 12 deg (Post-modification N211) Right 15 deg Left 19 deg  UP 17 deg DOWN 6 deg
Manufacturer's Serial Numbers	N24-10 onward; excluding serial numbers with Suffix "M".	

**Model N24A (Normal Category). Approved : 1 May 1978**

Engines	2 Detroit Diesel Allison Division of General Motors Model 250-B17, 250-B17B, 250-B17C or 250-B17E.
Fuel	ASTM-D-1655 Jet A or Jet A-1, MIL-T-5624 Grade JP-5 see NOTE 4 for emergency fuel.  Allison 250-B17 Series Operation and Maintenance Manual, Publication 11W2, lists detailed information.
Oil	MIL-L-7808G, MIL-L-23699.  Allison 250-B17 Series Operation and Maintenance Manual, Publication 11W2, lists approved brand oils

Engine Limits (B17, B17B, B17C and B17E)*	**		***	
	SHP	Gas Generator Speed N <sub>1</sub> %	Power Turbine Speed N <sub>2</sub> %	Turbine Outlet Temp °C
Take-off (5min)	420	105	105	810
Max Continuous	385	105	105	810
- B17B and C	420	105	105	810
- B17E				

See NOTE 5, \*\* See NOTE 6, \*\*\* Normal operations are limited to 100%N<sub>2</sub>.

100%N <sub>1</sub>	-	50970 rpm
100%N <sub>2</sub>	-	33290 rpm – 2030 propeller rpm

Propellers 2 Hartzell Type HC-A3VF-7/V10133D-11 (See Note 7).

Propeller Limits Diameter : 90 (2286 mm) inches nominal  
88 (2235 mm) inches minimum

Pitch settings at 30 (762 mm) inch station:

Fight Idle	-	6 deg
Ground Idle	-	0 deg
Reverse	-	-13.5 deg ± 0.5 deg
Feather	-	85 deg ± 1 deg

Airspeed Limits	Max operating limit speed	162 knots CAS
	Manoeuvring	134 knots CAS
	Max flap extension speed	
	0 - 10 deg extension	120 knots CAS
	10 – 38 deg extension	106 knots CAS
	Landing gear operating speed	120 knots CAS
	Landing gear extended speed	129 knots CAS

CG Range (landing gear extended) 5474 mm (215.5 inches) to 5781 mm (227.6 inches) aft of datum at 3402 kg (7500 lb) or less;  
5523 mm (217.5 inches) to 5781 mm (227.6 inches) aft of datum at 4264 kg (9400 lb);  
Straight line variation between 3402 kg (7500 lb) and 4264 kg (9400 lb).

Datum Datum located 5076.4 mm (199.86 ins) forward of wing leading edge.

Levelling Means Longitudinal - Along cabin seat rails.  
Lateral - Across cabin seat rails.

Maximum Weights Ramp - 4286 kg (9450 lb)  
Take-off - 4264 kg (9400 lb)  
Landing - 4264 kg (9400 lb)  
Maximum Zero Fuel - 4150 kg (9150 lb)

No of Seats 18 maximum.  
See loading instructions for passenger loading.  
Crew at 3010 mm (118.0 ins) aft of datum.  
Crew at 2959 mm (116.5) aft of datum when crew seat relocated to forward mounting alternative (Option R238).

Maximum Baggage 145 kg (320 lb) at 958 mm (37.7 ins) aft of datum.  
90 kg (200 lb) at 10127 mm (398.7 ins) aft of datum.  
(With option G44 fitted).

Fuel Capacity 1036 litres (228 Imp gal) total, in two interconnected tanks per side.  
1018 litres (224 Imp gal) useable at 5728 mm (225.5 ins) aft of datum.  
When optional self-sealing tanks fitted (Option G28 OR G28A).  
1016 litres (224 Imp gal) total in two interconnected tanks per side.  
997 litres (219 Imp gal) useable at 5728 mm (225.5 ins) aft of datum.  
When optional Wing Auxiliary Tanks fitted (Option G99/G99M);  
338 litres (74.4 Imp gal) total in two integral tanks, one per side.  
334 litres (73.6 Imp gal) useable at 5728 mm (225.5 ins) aft of datum.

Oil Capacity	6.8 litres (12.0 Imp pints) drainable oil per engine at 4293.6 mm (169 ins) aft of datum.	
Maximum Operating Altitude	25,000 feet. (Except as limited by oxygen system requirements). 12,500 feet when Automatic Pilot is engaged.	
Control Surface Movements	Wing flaps Aileron (flaps retracted) Spoiler (flaps 38 deg) Horizontal Stabiliser (at trailing edge) Rudder Rudder Tab (trim wheel at zero position) Horizontal Stabiliser Tab (trim wheel at zero position) Rudder Trim (rudder at zero position) Horizontal Stabiliser Trim (stabiliser at neutral position)	Maximum 38 deg UP 20 deg DOWN 20 deg UP 28 deg DOWN 3 deg Up 16 deg DOWN 10 deg  Right 21 deg Left 21 deg Right 12 deg Left 12 deg  Up 28.5 deg DOWN 12 deg  Right 15 deg Left 19 deg  UP 18 deg DOWN 6.5 deg
Manufacturer's Serial Numbers	N24A-44 onwards excluding serial numbers with suffix "M". N24 aircraft modified in accordance with GAF Customer Option R307 are eligible for certification as N24A aircraft. (See also Note 8).	

**Model N24A (Transport Category). Approved : 1 May 1978**

Type Data as for Item 6	Model N24A (Normal Category) except as varied by this item 7. See also "Data common to all models".
Certification Basis	(See also data "Common to all models".)  Air Navigation Orders Section 101.2 and 101.4 dated 1 July 1967 and effective 27 February 1970.  Department of Aviation letter 138/11/59 dated 28 November 1972 relating to take-off climb requirements with one engine inoperative.  Department of Aviation letter 138/91/36 dated 8 July 1976 relating to en-route climb requirements with one engine inoperative.
Equipment	Flight manual Supplement "R281 – Transport Category" must be incorporated in the Approved Flight Manual.  In addition the mandatory equipment listed in paragraph 2 of Supplement R281 is required to be installed.
Manufacturers: Serial Numbers	N24A-44 onwards excluding serial numbers with suffix "M". Suffix "T" added indicates aircraft configured in Transport Category. N24 aircraft modified in accordance with GAF Customer Option R281 are eligible for certification as N24A aircraft in the Transport Category.

**Model N22S (Normal Category). Approved: 19 December 1979**

Engines	2 Detroit Diesel Allison Division of General Motors Model 250B-17, 250-B17B, 250-B17C or 250-B17E.
Fuel	ASTM-D-1655 Jet A or Jet A-1, MIL-T-5624 Grade JP-5 See NOTE 4 for emergency fuel.  Allison 250-B17 Series Operation and Maintenance Manual, Publication 11W2, lists detailed information.
Oil	MIL-L-23699, MIL-L-7808G  Allison 250-B17 Series Operation and Maintenance Manual, Publication 11W2, lists approved brand oils.

Engine Limits* (B17B, B17C and B17E)	SHP	** Gas Generator Speed N <sub>1</sub> %	*** Power Turbine Speed N <sub>2</sub> %	Turbine Outlet Temp °C
Take-off (5min)	420	105	105	810
Max Continuous				
- B17B and C	385	105	105	810
- B17E	420	105	105	810

See NOTE 5, \*\* See NOTE 6, \*\*\* Normal operations are limited to 100%N<sub>2</sub> for B, C engines and 102%N<sub>2</sub> for E engines.

100%N <sub>1</sub>	-	50970 rpm
100%N <sub>2</sub>	-	33290 rpm – 2030 propeller rpm

Propellers 2 Hartzell Type HC-A3VF-7/V10133D-11 (See Note 7).

Propeller Limits Diameter: : 90 (2286 mm) inches nominal  
88 (2235 mm) inches minimum

Pitch settings at 30 (762 mm) inch station:

Flight Idle	-	6 deg nominal
Ground Idle	-	0 deg nominal
Reverse	-	-13.5 deg ± 0.5 deg
Feather	-	85 deg ± 1 deg

Airspeed Limits	Max operating limit speed	162 knots CAS
	Manoeuvring	136 knots CAS
	Max flap extension speed	
	0 - 10 deg extension	120 knots CAS
	10 – 38 deg extension	106 knots CAS
	Landing gear operating speed	120 knots CAS
	Landing gear extended speed	120 knots CAS

CG Range (landing gear extended) 4763 mm (187.5 inches) to 5007 mm (197.11 inches) aft of datum at 3629 kg (8000 lb) or less;  
4790 mm (188.6 inches) to 5007 mm (197.11 inches) aft of datum at 3856 kg (8500 lb);  
4916 mm (193.6 inches) to 5007 mm (197.11 inches) aft of datum at 4128 kg (9100 lb).  
Straight line variation between 3629 kg (8000 lb) and 3856 kg (8500 lb) and between 3856 kg (8500 lb) and 4128 kg (9100 lb).

Datum Datum located 4365 mm (171.86 ins) forward of wing leading edge.

Levelling Means	Longitudinal	Along cabin seat rails.
	Lateral	Across cabin seat rails.

Maximum Weights VFR Operations

Ramp	-	4150 kg (9150 lb)
Take-off	-	4128 kg (9100 lb)
Landing	-	3856 kg (8500 lb)
Maximum Zero Fuel	-	3742 kg (8250 lb)

#### IFR Operations

Ramp	-	4060 kg (8950 lb)
Take-off	-	4037 kg (8900 lb)

No of Seats 15 maximum.  
Crew at 2921 mm (115.0 ins) aft of datum.  
See loading instructions for passenger loading.

No of Seats With Supplement R1065	5 maximum. Flight crew at 2845 mm (112.0 ins) to 2921 mm (115.0 ins) aft of datum. Sensor operator at 5307 mm (209 ins) aft of datum. Observer 1 at 6883 mm (271.0 ins) aft of datum. Observer 2/Instructor at 7747 mm (305.0 ins) aft of datum.	
Maximum Baggage Without Supplement R1065	91 kg (200 lb) at 8984 mm (353.7 ins) aft of datum. (With option G44 fitted).	
Fuel Capacity	1036 litres (228 Imp gal) total, in two interconnected tanks per side. 1018 litres (224 Imp gal) useable at 5016 mm (197.5 ins) aft of datum. 338 litres (74.4 Imp gal) total in two integral wing auxiliary tanks, one per side. 334 litres (73.6 Imp gal) useable at 5016 mm (197.5 ins) aft of datum.	
Oil Capacity	6.8 litres (12.0 Imp pints) drainable oil per engine at 3581 mm (141.0 ins) aft of datum.	
Maximum Operating Altitude	25,000 feet. (Except as limited by oxygen system requirements). 20,000 feet when fuel contained in auxiliary wing tanks (except as limited by oxygen system requirements). 12,500 feet (when autopilot engaged).	
Control Surface Movements	Wing flaps Aileron (flaps retracted) Spoiler (flaps 38 deg) Horizontal Stabiliser (at trailing edge) Horizontal Stabiliser Tab (trim wheel at zero position) Horizontal Stabiliser Trim (stabiliser at neutral position) Rudder Rudder Tab (trim wheel at neutral position) Rudder Trim (rudder at zero position)	Maximum 38 deg UP 20 deg; DOWN 20 deg UP 28 deg; DOWN 3 deg UP 18 deg; DOWN 8 deg  UP 27 deg; DOWN 12 deg  UP 17 deg; DOWN 6 deg  Right 18 deg; Left 18 deg Right 6 deg 45 min Left 6 deg 45 min Right 27 deg; Left 27 deg
Manufacturer's Serial Numbers	N22S-55 onwards excluding serial numbers with Suffix "M".	

**Model N22C (Normal Category). Approved : 25 February 1985**

Engines	2 Detroit Diesel ,Allison Division of General Motors Model 250-B17, 250-B17B, 250-B17C or 250-B17E.
Fuel	ASTM-D-1655 Jet A or Jet A-1, MIL-T-5624 Grade JP-5 See NOTE 4 for emergency fuel.  Allison 250-B17 Series Operation and Maintenance Manual, Publication 11W2, lists detailed information.
Oil	MIL-L-23699, MIL-L-7808G.  Allison 250-B17 Series Operation and Maintenance Manual, Publication 11W2, lists approved brand oils.

Engine Limits (B17B, B17C and B17E)*	** SHP	Gas Generator Speed N <sub>1</sub> %	Power Turbine Speed N <sub>2</sub> %	*** Turbine Outlet Temp °C
Take-off (5min)	420	105	105	810
Max Continuous	385	105	105	810
- B17B and C	420	105	105	810
- B17E				

See NOTE 5, \*\* See NOTE 6, \*\*\* Normal operations are limited to 100%N<sub>2</sub>.

100%N <sub>1</sub>	-	50970 rpm
100%N <sub>2</sub>	-	33290 rpm – 2030 propeller rpm

Propellers	2 Hartzell Type HC-A3VF-7/V10133D-11 (See Note 7).		
Propeller Limits	Diameter :	90 (2286 mm) inches nominal 88 (2235 mm) inches minimum	

Pitch settings at 30 (762 mm) inch station:

Flight Idle	-	6 deg
Ground Idle	-	0 deg
Reverse	-	-13.5 deg ± 0.5 deg
Feather	-	85 deg ± 1 deg

Airspeed Limits	Max operating limit speed	162 knots CAS
	Manoeuvring	136 knots CAS
	Max flap extension speed	
	0 -10 deg extension	120 knots CAS
	10 – 38 deg extension	97 knots CAS
	Landing gear operating speed	120 knots CAS
	Landing gear extended speed	120 knots CAS

CG Range (landing gear extended)	4763 mm (187.5 inches) to 5070 mm (199.6 inches) aft of datum at 3629 kg (8000 lb) or less; 4790 mm (188.6 inches) to 5070 mm (199.6 inches) aft of datum at 3856 kg (8500 lb); 4885 mm (192.3 inches) to 5022 mm (197.7 inches) aft of datum at 4060 kg (8950 lb); Straight line variation between 3629 kg (8000 lb) and 3856 kg (8500 lb) and between 3856 kg (8500 lb) and 4060 kg (8950 lb).		
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Datum	Datum located 4365 mm (171.86 ins) forward of wing leading edge.		
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Levelling Means	Longitudinal	-	Along cabin seat rails.
	Lateral	-	Across cabin seat rails.

Maximum Weights	Ramp	-	4082 kg (9000 lb)
	Take-off	-	4060 kg (8950 lb)
	Landing	-	3856 kg (8500 lb)
	Maximum Zero Fuel	-	3742 kg (8250 lb)

No of Seats	15 maximum. 16 maximum when Option G507 is fitted. Crew at 2921 mm (115.0 ins) aft of datum. See loading instructions for passenger loading.		
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Maximum Baggage	181 kg (4000 lb) at 1288 mm (50.7 ins) aft of datum. 91 kg (200 lb) at 8984 mm (353.7 ins) aft of datum. (With option G44 fitted).		
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Fuel Capacity	1036 litres (228 Imp gal) total, in two interconnected tanks per side. 1018 litres (224 Imp gal) useable at 5016 mm (197.5 ins) aft of datum When optional self-sealing tanks fitted (Option G28 or G28A); 1016 litres (224 Imp gal) total in two interconnected tanks per side. 997 litres (219 Imp gal) useable at 5016 mm (197.5 ins) aft of datum. When optional wing auxiliary tanks fitted (Option G99/G99M); 338 litres (74.4 Imp gal) total in two integral tanks, one per side; 334 litres (73.6 Imp gal) useable at 5728 mm (225.5 ins) aft of datum.	
Oil Capacity	6.8 litres (12.0 Imp pints) drainable oil per engine at 3581 mm (141.0 ins) aft of datum.	
Maximum Operating Altitude	25,000 feet. (Except as limited by oxygen system requirements). 12,500 feet (when autopilot engaged). 20,000 feet with fuel in auxiliary tanks (except as limited by oxygen system requirements).	
Control Surface Movements	Wing flaps Aileron (flaps retracted) Spoiler (flaps 38 deg) Horizontal Stabiliser (at trailing edge) Rudder Rudder Tab (trim wheel at zero position) Stabiliser Tab (trim wheel at zero position) Rudder Trim (rudder at zero position) Stabiliser Trim (Stabiliser at neutral position)	Maximum 38 deg UP 20 deg DOWN 20 deg UP 28 deg DOWN 3 deg UP 18 deg DOWN 8 deg Right 23 deg Left 23 deg Right 21 deg Left 21 deg UP 27 deg DOWN 12 deg Right 15 deg Left 15 deg UP 17 deg DOWN 6 deg
Manufacturer's Serial Numbers	N22B aircraft modified in accordance with GAF customer option R541 are eligible for registration as N22C aircraft.	

#### **Model N22C (Transport Category) Approved : 25 February 1985**

Type Data as For Item 9	Model N22C (Normal Category except as varied by this item 10).
Certification Basis	(See also data "Common to all models".) Air Navigation Orders Section 101.2 and 101.4 dated 1 July 1967 and effective 27 February 1970. Department of Transport letter 138/11/59 dated 28 November 1972 relating to take-off climb requirements with one engine inoperative. Department of Transport letter 138/91/36 dated 8 July 1976 relating to en-route climb requirements with one engine inoperative.
Equipment	Flight manual Supplement "R280A – Transport Category" must be incorporated in the Approved Flight Manual. In addition the mandatory equipment listed in paragraph 2 of Supplement R280A is required to be installed.
Manufacturer's Serial Numbers	N22B aircraft modified in accordance with GAF customer option R541 are eligible for registration as N22C aircraft. Suffix T added indicates aircraft configured in Transport Category by Manufacturer.

## DATA COMMON TO ALL MODELS

Certification Basis	<p>Air Navigation Orders Section 101.21 dated 1 July 1967 incorporating AL 11 and effective 27 February 1970. Part 23 of the Federal Aviation Regulations of the United States of America amended by 23-1 to 23-9 and effective 17 June 1970.</p> <p>Air Navigation Orders Section 101.22 dated 1 July 1967 incorporated AL 18 and effective 27 February 1970.</p> <p>Department of Transport Letter 138/23/30 dated 10 December 1970 specifying variations and additions to the standards of Air Navigation Orders Section 101.22.</p> <p>Department of Transport Letter 138/23/61 dated 17 January 1975 relating to certification of ramp weight.</p> <p>Equivalent safety determination in respect of –</p> <ul style="list-style-type: none"><li>FAR 23.777 (d)(1) &amp; (e) (Model N2 only)</li><li>FAR 23.967 (a) (6)</li><li>FAR 23.991 (b)</li><li>FAR 23.1189 (b)(1)</li><li>FAR 23.1189 (b)(2) and paragraph 6.25.1 of AND</li></ul> <p>Section 101.22</p> <p>In addition to the certification basis above, compliance with ice protection requirements has been demonstrated for Models N22, N22B and N24A in accordance with FAR 23.1419 at amendment 23-9 when Options G286A (N22, N22B) and G286 (N24A) are incorporated.</p>
Production Basis	<p>Certificate of Approval No 1101 issued under ANR 35.</p>
Equipment	<p>The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification.</p> <p>In addition, the following equipment is required:</p> <ol style="list-style-type: none"><li>1. either:<ul style="list-style-type: none"><li>* Pre-stall warning detector, Safe Flight Instrument Corp P/N 165.5 and dual warning unit P/N 284 or;</li><li>Pre-stall warning detector, GAF P/N-81-723 and dual warning unit P/N 284.</li></ul></li><li>2. Department of Transport Approved Flight Manual Publication 12.28 (N22), 12.28B (N22B), 12.28C (N22C), 12.58 (N24), 12.58A (N24A), 12.28S (N22S) including the following approved supplements as appropriate to options installed in the particular aircraft.</li></ol>



N2:

N22, N22B, N22C:

#G16	Cabin floor hatch
#G16A	Cabin floor camera hatch
G18/22/59/70	Anti-icing/de-icing system – does not permit operation in known or forecast icing conditions
G28 & G28A	Self sealing fuel tanks.
G48 & G48/N211	Two axis autopilot (Collins AP107)
G59A	PPG LH heated windscreen
G71	Oxygen system
*G99/G99M	Wing tip auxiliary fuel system installation
+G101	Addition of third axis to two-axis autopilot
G102	Chemical toilet installation
G118	Audio fire warning
*G154	Door deflectors
N2:	
R163	SAFT Ni-Cd battery and overheat warning system
G213	Low oil pressure warning system.
G214	Propeller autofeather system
G240	Oil system shut-off valves
G280	Transport category
G283	Forced air ventilation system
G284	Alternate cabin vented static source
226	Night VMC Operations
226	IFR Operations
+G286A	Anti-icing/de-icing system permits operations in known or forecast icing conditions
G507	High density seating configuration
G537	Commuter seating configuration

N24:

G48-24	Two axis autopilot (Collins AP107)
G71-24	Oxygen system
G99/G99M	Wing auxiliary fuel tank installation
G101-24	Addition of third axis to two-axis autopilot
R163	SAFT, Ni-Cd battery and overheat warning system
R170T	Alternate static source
R238	Relocation of crew seat – 51 mm forward
G154A	Operation with cabin door removed
226	Night VMC Operations
226	IFR Operations

N24A:

G18/22/59/70	Anti-icing/de-icing system – does not permit operation in known or forecast icing conditions
G22-24	Propeller de-icing system
G28A	Self sealing fuel tanks
G48-24A	Two axis autopilot (Collins AP107)
G59A	PPG LH heated windscreen
G71-24	Oxygen system
(A,C,D,E,F,G)	
*G99/G99M	Wing tip auxiliary fuel system
+G101-24	Three axis autopilot (Collins AP107)
G102-24	Chemical toilet installation
*G154A-24	Operation with aft cabin door removed
G213	Low oil pressure warning system
G214	Propeller autofeather system
G238	Relocation of crew seat – 51 mm forward
G283	Forced air ventilation system
G284	Alternate static source
G59	LH heated wind-shield
G240-24	Oil system shut off valves
R281	Transport category
G419	Heavy Duty Main Wheels

N24A: (continued)

226 Night VMC Operations  
226 IFR Operations  
G286 Anti-icing/de-icing system – permits operations in known or forecast icing conditions

N22S:

G48 Two axis auto-pilot (Collins AP107)  
R1065 US Customs Service modifications

226 Not to be fitted to aircraft required to operate in known or forecast icing conditions.

# Not to be used when operating in icing conditions  
+ Not applicable to Model N22C

Notes

Note 1 Aircraft weight and loading data including list of equipment and approved loading system in accordance with CAO 100.7 must be provided for each aircraft at the time of original certification.

Note 2 All placards must be installed in the appropriate locations as listed in the "Aircraft Maintenance Manual" – Publication No 12.20 (Models N22, N22B, N22C, N22S) and Publication No 12.50 (Models N24, N24A).

Note 3 Information essential for proper maintenance of aircraft is obtained in:

Model N22, N22B, N22C, N22S  
Publication : 12.20 "Aircraft Maintenance Manual"  
Publication : 12.23 "Wiring Diagram Manual"

Model N24, N24A  
Publication : 12.50 "Aircraft Maintenance Manual"  
Publication : 12.53 "Wiring Diagram Manual"

Note 4 Emergency Fuel Use:

Prior approval for use of the following fuels must be obtained from the Civil Aviation Authority (Ref CAO 108.46)

MIL-T-05624 Grade JP-4

ASTM-D-1655 Jet B

MIL-G-5572 Grade 80/87 (1/3 by volume) mixed with MIL-T-5624 Grade JP-5 or ASTM-D-1655 JET A or A1 (2/3 by volume)

MIL-G-5572 all Grades (6 Hours Operational use maximum per overhaul period).

Note 5 The engine limits are the N<sub>1</sub>, N<sub>2</sub> and TOT limits and rated SHP as shown in the engine type certificate data sheet No. E10CE Revision 12 for Allison Models 250-B17, 250-B17B, 250-B17C and 250-B17E engines.

Note 6 For Model N22 the airframe manufacturer's installed limits and the performance charts in the particular airplane flight manual are based on the engine manufacturer's TOT and torque meter limits for the 250-B17 Engine of 793°C (take-off) and 777°C (maximum continuous) and 1088 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-B17B, 250-B17C and 250-B17E engines.

For Models N22B, N22C, N22S, N24 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 TOT and torque meter limits for the Model 250-B17B engine of 810°C (take-off and maximum continuous) and 1088 lb ft (take-off) and 996 lb ft (maximum continuous). These limits are equal to or

Note 6 (continued)

less than the corresponding limits for the Model 250-B17C and 250-B17E engines.

For Model N22S with Supplement R1065 the airframe manufacturer's installed limits and the performance charts in the airplane flight manual are based on the engine manufacturer's TOT limit for the Model 250-B17E engine of 810°C (take-off and maximum continuous) and a torque limit of 1060 lb ft (take-off and maximum continuous).

Note 7

The following propeller hub/blade combinations are acceptable alternatives to HC A3VF-7/V10133D-11:

HC A3VF-7B/V10133D-11;  
HC A3VF-7B/V10133N-11.

HC-A3VF-7/V10133N-11;

Note 8

N24 Aircraft with R157 incorporated when modified in accordance with GAF Customer Option R307 as varied by R555 are eligible for certification as N24A aircraft and require the issue of GAF Nomad Model N24A Flight Manual. If R157 has been removed then approval for certification as N24A requires incorporation of R307.

Note 9

Aircraft not operated under a Civil Airworthiness Authority will require a survey to ensure the appropriate modifications in this document have been incorporated to be eligible for a Type Certification under a Civil Airworthiness Authority.

Note 10

Issue No 15 of CTADS 73-1 dated 15 June 2007 amends name and address of the holder of Certificate of Type Approval 73-1.

Previous certificate holder:

AeroSpace Technologies of Australia Pty Ltd  
226 Lorimer Street  
PORT MELBOURNE VIC 3207  
AUSTRALIA

Note 11

Issue No 16 of CTADS 73-1 dated 28 March 2008 amends name and address of the holder of Certificate of Type Approval 73-1.

Previous certificate holder:

AeroSpace Technologies of Australia Limited  
Level 33, Chifley Tower  
Chifley Square  
Sydney, NSW, 2000  
AUSTRALIA

Note 12

Issue of Revision 17 of TCDS and Issue 4 of TC under regulations 21.013A & 202.050. Amends address of TC holder.

Previous Type certificate Holder  
Nomad TC Pty Ltd  
ACN 127 459 625  
76 Lincon Road  
Essendon Victoria  
3040 AUSTRALIA

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