



TCDS No A-14
Revision 16
Pacific Aerospace Ltd
750XL
14 June 2018

TYPE CERTIFICATE DATA SHEET No A-14

This data sheet which is part of Type Certificate No A-14 prescribes the conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the New Zealand Civil Aviation Rules.

Type Certificate Holder : **Pacific Aerospace Ltd**
Hamilton

Transferred on 12/12/06 from : **Pacific Aerospace Corporation Ltd**
Hamilton

I - Model 750XL (Normal category) Approved 23.7.03 (Restricted category Approved 28.9.05 (See Note 4))

Engine: Pratt & Whitney PT6A-34 (TC E-6) (See Note 5)

Fuel: Jet A/A1 (See Approved Flight Manual for additional fuels)

Engine Limits:

Power Setting	Torque psi	Max ITT °C	Gas Gen RPM % Ng	Prop RPM % Np (RPM)	Oil Press psi	Oil Temp. °C	Shaft Horse- Power
Takeoff	64.5 (2)	790	101.6	91.2 (2006)	85-105	10-99	750 (31 °C)
Maximum Continuous	54	740	101.6	91.2 (2006)	85-105	10-99	633
Maximum Climb	54	740	101.6	91.2 (2006)	85-105	0-99	633
Maximum Cruise	64.5 (2) 54	790 740	101.6 101.6	91.2 (2006) 91.2 (2006)	85-105 85-105	0-99 0-99	750 633
Idle	-	685	52-54	-	40	-40-99	-
Maximum Reverse	64.5 (2)	790	101.6	86 (1892)	85-105	0-99	-
Transient	68.4 (5)	850 (3)	102.6 (3)	100 (2200)	85-105	0-99	-
Starting	-	1090 (3) (4)	-	-	-	-40	-

(1) All limits are based on sea level (2) 5 minute time limit (3) These values are limited to two secs
(4) Starting temperatures above 850°C should be investigated for cause (5) Time limited to 20 secs

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<u>Propeller & Limits:</u>	Hartzell HC-B3TN-3D/T10282NS+4 (TC P15EA) or Hartzell HC-B3TN-3D/T10282NSK+4 (Installed by modification PAC/XL/0615)
	Diameter : 106 in max., 106 in min.
	Feathered propeller angle : $86.3^{\circ} \pm 1.5^{\circ}$
	Low Pitch Setting at 30" Station : $18.5^{\circ} \pm 0.5^{\circ}$
	Maximum reverse angle : $-8.1^{\circ} \pm 0.5^{\circ}$
	or
	Hartzell HC-E4N-3P/D9900 (TC P10NE) (Installed by Modification PAC/XL/0453)
	Diameter : 100 in max., 100 in min.
	Feathered propeller angle : $89.5^{\circ} \pm 0.5^{\circ}$
	Low Pitch Setting at 30" Station : $19.3^{\circ} \pm 0.1^{\circ}$
	Maximum reverse angle : $-10.0^{\circ} \pm 0.5^{\circ}$
<u>Airspeed Limits:</u>	
	V_{NE} Never exceed 170 kt IAS
	V_{NO} Max. structural cruising 140 kt IAS
	V_A, V_O Manoeuvring
	7,500 lbs (3,402 kgs) 131 kt IAS
	6,500 lbs (2,948 kgs) 122 kt IAS
	5,500 lbs (2,495 kgs) 112 kt IAS
	4,500 lbs (2,041 kgs) 101 kt IAS
	V_{FE} Max Flap Extended
	Flaps 20° 130 kt IAS
	Flaps 40° 120 kt IAS
<u>C.G. Range:</u>	
(See Note 9)	Fwd Limit: 100.46 ins (2.55 m) aft of datum at 4,209 lbs (1,909 kgs). 103.18 ins (2.62 m) aft of datum at 5,639 lbs (2,558 kgs). 111.55 ins (2.83 m) aft of datum at 7,500 lbs (3,402 kgs).
	Aft Limit: 125.6 ins (3.19 m) aft of datum at all weights. Straight line variation between points given.
<u>Empty Weight C.G. Range:</u>	None.
<u>Datum:</u>	Station 0.00 (100.21 ins forward of wing leading edge.)
<u>Levelling means:</u>	Longitudinally : Two bolts on Fuselage upper longerons forward of LH main door. Laterally: Top of inner wing main spar.
<u>Maximum Weight:</u>	Take-off: 7,500 lbs (3,402 kgs) Landing: 7,125 lbs (3,232 kgs)
<u>Minimum Crew:</u>	One
<u>Number of seats:</u>	Two at Station 66.5 ins (1.69m). (See Note 6 for additional seating.)

Maximum Cargo: 1200 lbs (544 kgs) between Stations 82.0 (2.08 m) and 115.0 (2.92 m).
 1200 lbs (544 kgs) between Stations 118.0 (3.0 m) and 166.0 (4.22 m).
 800 lbs (363 kgs) between Stations 166.0 (4.22 m) and 240.0 (6.10 m).

Fuel Capacity:
 (See Note 9)

Tank	Total capacity	Unusable	Usable
Front Left Tank (includes sump tank)	284 litres, 499 lbs 75 U.S. gallons	10 litres, 18 lbs 3 U.S. gallons	274 litres, 481 lbs 72 U.S. gallons
Front Right Tank	293 litres, 515 lbs 77 U.S. gallons	10 litres, 18 lbs 3 U.S. gallons	283 litres, 497 lbs 74 U.S. gallons
Rear Left Tank	142 litres, 249 lbs 37.5 U.S. gallons	0	142 litres, 249 lbs 37.5 U.S. gallons
Rear Right Tank	142 litres, 249 lbs 37.5 U.S. gallons	0	142 litres, 249 lbs 37.5 U.S. gallons
Total	861 litres, 1512 lbs 227 U.S. gallons	20 litres, 36 lbs 6 U.S. gallons	841 litres, 1476 lbs 221 U.S. gallons

Oil Capacity: 8.7 litres at station 13.0 (0.33 m).

Maximum Operating Altitude: 20,000 ft.

Control Surface Movements:

Elevator relative to tailplane:	Up	30°
	Down	8.5°
Elevator tab relative to tailplane:	Up	10.5°
	Down	27.5°
Rudder relative to fin:	Right	25°
	Left	20°
Rudder tab relative to rudder:	Right	13°
	Left	13°
Ailerons relative to wing:	Up	23°
	Down	9.5°
Aileron tab relative to aileron:	Up	15°
	Down	20°
Flaps relative to wing:	Up	0°
	Take-off	21°
	Landing	40°

For all control surfaces except flaps a tolerance of $\pm 0.5^\circ$ is applied. A tolerance of $\pm 1^\circ$ is applied to the flaps in the Up and Take-off positions, and $+1^\circ/-0^\circ$ in the Landing position.

Serial Numbers Eligible: 101 – 120, 122 and up;
 8001 and up (See Note 11).

Drawing List: PAC Drawing No. 11-00001-1 or
 PAC Drawing No. 11-00005-1 (See Note 7) or

PAC Drawing No. 11-00005-2 (See Note 7) or
PAC Drawing No. 11-00007-1 (See Note 8) or
PAC Drawing No. 11-00009-1 (See Note 10)

Certification Basis:

New Zealand Civil Aviation Rules Part 21B current on 25 January 2000 (amendment 5 dated 25 December 1997).

United States Federal Aviation Regulations:

- Part 23 effective 1 February 1965 as amended by amendment 23-1 through 23-55 dated 1 March 2002.
- Part 34 dated September 10, 1990, including Amendments 34-1 through 34-3 dated 2nd March 1999.
- Part 36 effective 1 December 1969 as amended by amendment 36-1 through 36-24 dated 8 July 2002.

The following requirements are not complied with but are compensated for by factors that provide an equivalent level of safety:

FAR 23.1505(c) – See CAA ELOS Decision memo dated 18/7/03.

Application for certification dated 25 January 2000.

- Aircraft with optional HC-E4N-3P 4-bladed propeller installed by modification PAC/XL/0453 have complied with FAR Part 36 at amendment 36-28.
- Modification PAC/XL/0448 (Extended range wing) has been certificated against FAR 23 effective 1 February 1965 as amended by amendment 23-1 through 23-61 dated 20 May 2011.
- Changes for the Avionics and Instruments (IFR Type 25A – Garmin EFIS & Electronic Instruments Inc. MVP-50T EIS – Modification PAC/XL/0679) as defined by drawing 11-82825-1 applicable to 11-00005-2 aircraft are certificated against FAR 23 effective 1 February 1965 as amended by amendment 23-1 through 23-62 dated 31 January 2012.

For Restricted category Certification for the purposes of agricultural aircraft operations:

New Zealand Civil Aviation Rules Part 21B at amendment 6 dated 28 July 2003 and Part 137 at amendment 2 dated 1 April 1997.

United States Federal Aviation Regulations:

- Part 23 effective 1 February 1965 as amended by amendment 23-1 through 23-55 dated 1 March 2002 except for 23.221 as per FAA AC 21.25-1; and

– Part 34 dated September 10, 1990, including amendments 34-1 through 34-3 dated 2nd March 1999; and

– Part 36 dated December 1, 1969, including amendments 36-1 through 36-24 dated 1st March 2002. (Note: Exempted in accordance with FAR 36.1(a)(2) as a small propeller-driven aircraft designed for agricultural aircraft operations.)

The following requirements are not complied with but are compensated for by factors that provide an equivalent level of safety:

FAR 23.1505(c) – See CAA ELOS Decision memo dated 18/7/03.

FAR 23.609(b) when modification PAC/XL/0134 is embodied. See Issue paper CRI S-1 dated 22/9/05.

FAR 23.1093(b) when modification PAC/XL/0130 is embodied. See Issue paper CRI E-1 dated 19/9/05.

Application for certification dated 29 August 2005.

Equipment:

The basic required equipment as prescribed in the applicable airworthiness regulations (see certification basis) must be installed in the aircraft for airworthiness certification.

The applicable CAA approved Flight Manual is required for all operations. Included within the Flight Manual is information in the form of supplements which cover installation of optional systems and equipment that are necessary for safe operation of the aircraft.

Aircraft	Flight Manual	Notes
11-00001-1 or 11-00005-1 or 11-00007-1 or 11-00009-1.	AIR 2825	Analogue Instruments. (S/N 001 to 185)
11-00001-1 or 11-00005-1 or 11-00007-1 or 11-00009-1 with PAC/XL/0448	AIR 3237	Extended range wing. Analogue instruments. (S/N 186 and up – New Zealand-built aircraft) (S/N 8001 and up – Chinese-built aircraft) (See Note 11)
11-00005-2	AIR 3380	Extended range wing. Digital instruments (Garmin EFIS & MVP-50T EIS). (S/N 206 and up)

NOTE 1

Current weight and balance report, including list of equipment included in certified empty weight must be provided for each aircraft at the time of original airworthiness certification and at all times thereafter. Loading

- instructions are included in the applicable CAA approved Flight Manual.
- NOTE 2 (a) Placards and instrument markings must be displayed in accordance with the applicable CAA approved Flight Manual including relevant supplements.
- (b) Each aircraft must have a placard in clear view of the pilot that specifies the kind of operations such as VFR or IFR, DAY or NIGHT, to which the operation of the aircraft is limited by the equipment installed, and also that flight in known icing conditions is prohibited.
- NOTE 3 Instructions for continuing airworthiness of the aircraft is contained in the Pacific Aerospace Corporation Ltd Maintenance Manual for the 750XL aircraft. Service Life limits of components are given in the Airworthiness Limitations Section of Chapter 04.
- NOTE 4 When internally equipped for dispensing substances on agricultural aircraft operations the aircraft is only eligible for certification in the restricted category for the purposes of agricultural aircraft operations.
- When any of the following modifications are embodied, the aircraft is only eligible for certification in the restricted category for the purposes of agricultural aircraft operations:
- | | |
|-------------|----------------------------------|
| PAC/XL/0130 | Engine Cowl Filter Installation |
| PAC/XL/0184 | Agricultural Hopper Installation |
| PAC/XL/0134 | Fuselage Sealing Installation |
| PAC/XL/0602 | Installation Spray System |
| PAC/XL/0612 | Installation 1500 litre Hopper |
- NOTE 5 The PT6A-34AG engine is installed when modification PAC/XL/0163 is embodied. Engine specifications and limitations are identical to the PT6A-34 engine.
- NOTE 6 Additional passenger seating is installed in accordance with the following optional modifications:
1. PAC/XL/0148 – Installation of Gippsland Passenger Seats
(Requires the prior installation of PAC/XL/0001 “Mk II floor”, and PAC/XL/0019 or PAC/XL/0079 “Cabin Ventilation”.)

Eight seats	Two at Station 106.46 ins (2.70 m)
	Two at Station 145.23 ins (3.69 m)
	Two at Station 181.12 ins (4.60 m)
	Two at Station 226.21 ins (5.74 m)

The seats at Station 181.12 (4.60m) may not be installed if the standard roller door is fitted.
 2. PAC/XL/0193 – Installation of Aero Twin Passenger Seats
(Requires the prior installation of PAC/XL/0107 “Mk III floor”, and PAC/XL/0019 or PAC/XL/0079 “Cabin Ventilation”.)

Eight seats	Two at Station 104.34 ins (2.65 m)
	Two at Station 144.43 ins (3.67 m)
	Two at Station 178.32 ins (4.53 m)

Two at Station 226.76 ins (5.76 m)

3. PAC/XL/0440 – Installation of Aero Twin Passenger Seats with Millennium crew seats. (Requires the prior installation of PAC/XL/0107 “Mk III floor”, or PAC/XL/0609 and PAC/XL/0610 “Modular Floor”, and PAC/XL/0019 or PAC/XL/0079 “Cabin Ventilation”.)

Eight seats Two at Station 105.34 ins (2.68 m)
 Two at Station 144.43 ins (3.67 m)
 Two at Station 178.32 ins (4.53 m)
 Two at Station 226.76 ins (5.76 m)

NOTE 7 Aircraft manufactured to Drawing No. 11-00005-1 or 11-00005-2 are eligible for IFR operations. Aircraft s/n 126 and any other aircraft modified to an equivalent configuration as defined by drawing No. 11-00005-1 are also eligible for IFR operations.

NOTE 8 Aircraft manufactured to Drawing No. 11-00007-1 are eligible for SEIFR operations in accordance with New Zealand Civil Aviation Rules Part 125 and ICAO Annex 6 Paragraphs 5.4, 6.22 and Appendix 3. Aircraft modified to an equivalent configuration as defined by drawing No. 11-00007-1 are also eligible for SEIFR operations (modification PAC/XL/0500 is equivalent). Aircraft operating SEIFR must be operated in accordance with Flight Manual Supplement No 114 dated 23 March 2012 or later CAA approved revision.

NOTE 9 When modification PAC/XL/0448 (Extended range wing, serial numbers 177, 186 and up; and serial numbers 8001 and up) is embodied, the following are changed:

C.G. range:

Fwd Limit: 102.18 ins (2.60 m) aft of datum at 4,209 lbs (1,909 kgs).
 104.90 ins (2.66 m) aft of datum at 5,639 lbs (2,558 kgs).
 113.27 ins (2.88 m) aft of datum at 7,500 lbs (3,402 kgs).

Aft Limit: 124.60 ins (3.17 m) aft of datum at all weights.
 Straight line variation between points given.

The fuel capacity is changed to the following:

Tank	Total capacity	Unusable	Usable
Front Left Tank (includes sump tank)	183.4 litres, 323 lbs 48.4 U.S. gallons	3.4 litres, 6 lbs 0.9 U.S. gallons	180 litres, 317 lbs 47.6 U.S. gallons
Front Right Tank	182 litres, 320 lbs 48.1 U.S. gallons	2 litres, 3.5 lbs 0.5 U.S. gallons	180 litres, 317 lbs 47.6 U.S. gallons
Rear Left Tank	461.3 litres, 812 lbs 121.9 U.S. gallons	13.3 litres, 23.4 lbs 3.5 U.S. gallons	448 litres, 788 lbs 118.3 U.S. gallons
Rear Right Tank	461.3 litres, 812 lbs 121.9 U.S. gallons	13.3 litres, 23.4 lbs 3.5 U.S. gallons	448 litres, 788 lbs 118.3 U.S. gallons
Total	1288 litres, 2267 lbs 340.3 U.S. gallons	32 litres, 56 lbs 8.5 U.S. gallons	1256 litres, 2210 lbs 331.8 U.S. gallons

NOTE 10 Aircraft manufactured to Drawing No. 11-00009-1 include modifications for eligibility under Interstate Aviation Committee Type Certificate CT338-750XL.

NOTE 11 Aircraft serial numbers 101 – 120, 123, 125 – 128 were manufactured by Pacific Aerospace Corporation Ltd in New Zealand under CAANZ Aircraft Manufacturing organization certificate AM19802.

Aircraft serial numbers 122, 124, 129 and up (excluding 8001 and up) were manufactured by Pacific Aerospace Ltd in New Zealand under Aircraft Manufacturing organization certificate AM69602. (Serial number 121 was not produced, 8001 and up are produced in China per the below.)

Aircraft serial numbers 8001 and up were manufactured in People's Republic of China by Changzhou Pan-Pacific Aviation Technology Co., Ltd. (CPAT) under Civil Aviation Administration of China (CAAC) Production Certificate PC0035A and conform to the CAAC Validation of Type Certificate VTC0272A.

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