

This data sheet which is part of Type Certificate No. F 56-25 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 PILATUS Aircraft Ltd.
 CH-6371 Stans
 Switzerland

Aircraft Model: **PC-7 MkII**

Airworthiness Category: Acrobatic & Utility

Date of Type Certificate: September 15, 1994

Engine Pratt & Whitney Aircraft of Canada Ltd. PT6A-25C
 (Turboprop), Type Certificate DOT Canada No. E-13

Fuel Refer to P&WC Service Bulletin No. 1244 for approved fuels.

Oil (Engine and Gearbox) Synthetic turbine oil conforming to Specifications CPW 202 (7.5Cs) and PWA 521 Type II (5Cs). See P&WC Service Bulletin No. 1001 for approved oils.

Engine Limits

	Shaft Power		Torque Pressure	N1 Gas Generator Speed *	Propeller Shaft Speed	Maximum Permissible Turbine Interstage Temperature
	kW	SHP	PSI	%	RPM	°C
Take-off / Max. continuous Max. climb/ cruise	522	700	49,7	101,5	2040	790
Starting Transient	-		-	101,5	-	1090 *
Max. Acceleration	-		56,7	102,6 *	2205	850 *

* these values are time limited to two seconds.

Note: 100% Gas Generator Speed = 37'468 RPM
 Engine torque is limited by a torque controller to 49,7 PSI

Oil temperature: starting -40°C minimum
 idle -40°C to +99°C
 Max. Take-off +10°C to +99°C

Inverted flight (less than zero g) is limited to 30 seconds.

Propeller & Propeller Limits

Hartzell HC-D4N-2D hub (with a pulley PC9-1401-1) or Hartzell HC-D4N-2E hub with four Hartzell D 9512A or D 9512AK blades, constant speed type.

Type Certificate Number FAA P10 NE

Diameter: max. 96 inches (2438 mm)
min. 95 inches (2413 mm)
(cropping of blade tip not permitted)

Pitch settings at: (measured at 30 inch station)

Minimum pitch : +16°

Feathered : +86°

Propeller blade life limit : 11'500 hours

Spinner : Hartzell D-630-1

Air Speed Limits

		<u>Acrobatic</u>	<u>with Underwing Stores</u>
Max. operating speed up to 15'000 ft altitude	(V _{MO})	300 knots	300 knots
above 15'000 ft limited to max. operating Mach No	(M _{MO})	0,60	0,60
Maneuvering speed at MTOW (2250kg / 2350kg)	(V _A)	210 knots	200 knots
Max. speed with flaps and/or landing gear extended	(V _{FE}) (V _{LO})	150 knots	150 knots

Maneuvering Load Factors

	<u>Acrobatic</u>	<u>with Underwing Stores</u>
Max. positive up to V _{MO}	+7.00	+ 4,5
Max. negative up to V _{MO}	-3.50	- 2,25

C.G. Range

(Landing gear extended and retracted)

22% to 30% MAC at MTOW (2250kg / 2350kg) or less for Acrobatic Category

22,5% to 29% MAC at 2700 kg with Underwing Stores

23% to 28% MAC at 2850 kg with Underwing Stores

straight line variation between MTOW acrobatic (2250kg / 2350kg) and MTOW utility (2700 kg / 2850 kg)

MAC = 1650 mm

X-coordinate of MAC leading edge is 3872,5 mm

Maximum Mass

Acrobatic Category

	S/N 101 – 689 and 765 – up	S/N 690 - 764
Ramp	2260 kg	2360 kg
Take-off	2250 kg	2350 kg
Landing	2250 kg	2350 kg
Zero Fuel	1900 kg	2000 kg

With Underwing Stores (Note 3)

	S/N 101 – 199	S/N 601 – up
Ramp	2710 kg	2860 kg
Take-off	2700 kg	2850 kg
Landing	2700 kg	2850 kg
Zero Fuel	2000 kg	2000 kg

Minimum Crew

One pilot (Solo flight is limited to front cockpit).
2 pilots are required for civil IFR flights

Number of Seats

Two
- Front seat at 4061 mm
- Rear seat at 5486 mm

Maximum Baggage

25 kg at 6898 mm in baggage compartment

Fuel Capacity (0.806 kg/l)
(see Note 4)

<u>Total</u>	<u>Usable</u>	<u>Arm</u>
540 liters	518 liters	4192 mm

Oil Capacity

<u>Total</u>
16,1 liters

Maximum Operating Altitude

25'000 ft

Control Surface Movements

Wing flap	Take-off	23°	Landing	50°	± 2.0°
Ailerons	Up	20°	Down	11°	± 1.0°
Elevator	Up	18°30'	Down	16°	± 1.0°
Elevator tab	Up	15°	Down	20°	± 2.0°
Rudder	right	24°	left	24°	± 1.0°
Rudder trim tab	right	5°	left	10°	± 1.0°
Airbrake	down	70°			

Serial No. Eligible
(see Note 1)

101 and up

Datum

3000 mm in front of firewall

Leveling Means

Marks (colored rivet heads) on each side of fuselage
Canopy rails horizontal

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Certification Basis	<ul style="list-style-type: none"> - US Federal Aviation Regulation Part 23 Acrobatic Category including Amendments 23-1 through 23-28 effective April 28, 1982. - FOCA Special Requirements for Ejection Seats, dated December 15, 1983 - ICAO Annex 16, Chapter 10 - SFAR 27 Fuel Venting and Exhaust Emission Requirements - Equivalent safety findings for: 23.49, 23.155, 23.1555 e) 2). - Note: Application for Type Certificate extension of Swiss TC F56-20 dated April 6, 1993. - Operation with underwing stores is certified in accordance with the Utility Category requirements of FAR 23.
	<p><u>PC-7 MkII Avionics Upgrade Major Change:</u></p> <p>As per above, except the requirements applicable to the areas affected by the major change (as defined in Issue Paper (CRI) A-01, latest stage).</p> <p>FOCA special conditions:</p> <ul style="list-style-type: none"> - Issue Paper (CRI) F-4 for the Integration and Installation of a Primary Flight Display (PFD) & Secondary Flight Display (SFD) - Issue paper (CRI) F-5 for the Protection from the Effects of High Intensity Radiated Fields (HIRF) - Issue paper (CRI) F-6 for the Protection from the Indirect Effects of Lightning Strike (IEL) <p>FOCA Equivalent Safety Findings (ESF):</p> <ul style="list-style-type: none"> - Issue Paper (CRI) G-1 EICAS Powerplant Markings FAR 23.1549 <p>- Any existing PC-7 MkII Issue Paper (CRI) remains valid unless superseded by a new Issue Paper (CRI).</p>

Kinds of Operation

Eligible for the following kinds of operations when the appropriate equipment and instruments required by the operating requirements are installed, approved and in operable condition:

- VFR Day
- VFR Night (for MSN 606 and up only)
- IFR Day/Night (for MSN 606 and up only)

Flight into known icing conditions is not approved.

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Ejection Seat: Command Ejection from rear seat, or individually
 Ejection through canopy.
 Ejection Seat Boarding Mass Limitations and Ejection Speed and Altitude Envelope for each individual aircraft included in the approved AFM.

Documents FOCA approved Airplane Flight Manuals:
 - for aircraft up to MSN 604: Report No. 02059-001
 - for aircraft from MSN 606 to 674: Report No. 02206
 - for aircraft MSN 675 onwards: Report No. 02282

- FOCA approved Airplane Flight Manual Supplements:
- 02079 MSN 101 through 199
 - 02093 MSN 101 through 604
 - 02097 MSN 101 through 199
 - 02133 MSN 601 and up
 - 02134 MSN 601 and up
 - 02135 MSN 601 through 604
 - 02213 MSN 606 and up
 - 02214 MSN 606 and up
 - 02324 MSN 101 through 160
 - 02358 MSN 685 through 689
 - 02365 MSN 690 through 764
 - 02367 MSN 690 through 764
 - 02392 MSN 765 through 769

Actual Weight & Balance Data and Equipment List for each individual aircraft included in the approved AFM

Maintenance Manual Doc. No 02060
 (S/N 601 and up, Doc. No. 02131)
 (Airworthiness Limitations Section FOCA approved)

Structural Repair Manual (Doc No. 02062)
 (S/N 601 and up, Doc. No. 02132)

Wiring Manual (Doc. No. 02063)
 (S/N 601 and up, Doc. No. 02139)

Illustrated Parts Catalog (Doc. No. 02061)

Placards All placards required in the Approved Airplane Flight Manual and/or applicable AFM Supplements must be installed at the respective locations.

Service Life Limits Life limited airplane components are listed in Chapter 5 of the Aircraft Maintenance Manual (AMM) and must be replaced as indicated therein (see note 5).

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- Note 1:** S/N 010 and 011 fulfill the requirements of the certification basis, however are not production standard.
New Avionics (MCA 72/34/017) upgrade from S/N 675 on or retrofit to existing aircrafts.
- Note 2:** The certification noise level for MTOW of 2250 kg is 72,5 dB(A) i/a/w FAR Part 36, App. G (Swiss VEL)
- The certification noise level for MTOW of 2350 kg is 75,8 dB(A) i/a/w the 6th Edition of ICAO Annex 16 (Amendments 1 -10, July 2011)
- Note 3:** *Aircraft from S/N 601 onwards have 6 underwing stations for external stores, the certification which is based on the Utility Category requirements of FAR 23 (see appropriate AFMS).*
- Note 4:** *The internal fuel capacity can be increased by external underwing fuel tanks.*
- Note 5:** *Airworthiness Limitations are contained in the FOCA approved Airworthiness Limitations Section in the Chapter 5 of the applicable PC-7 MkII Aircraft Maintenance Manual (AMM). These limitations may not be changed without FOCA approval.*

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