

Type Certificate Data Sheet No. F 56-32

This data sheet, which is part of Type Certificate No. F 56-32, 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: Modular Trainer PC-9(M)

Airworthiness Category: Acrobatic, approved 23. July, 1997
Utility, approved 25. August, 1999

Engine Pratt & Whitney Aircraft of Canada Ltd. PT6A-62
(Turboprop), Type Certificate DOT Canada No. E-12

Fuel Refer to P&WC Service Bulletin No. 13044 for approved fuels

Oil (Engine and Gearbox) Refer to P&WC Service Bulletin No. 13001 for approved oils
(synthetic turbine oil according to Spec. PWA 521 Type II)

Engine Limits

	Shaft Power		Torque	N1 Gas Generator Speed	Propeller Shaft Speed	Maximum Observed Inter Turbine Temperature
	kW	SHP	PSI	%	RPM	°C
Take-off / Max continuous	708	950	67.40	104	2000	800
Max. climb / Max. cruise	671	900	63.83	104	2000	775
Starting (5 seconds)	-	-	-	-	-	1000
Transient (20 seconds)	-	-	74.28	104	2205	870
Transient (10 seconds)	-	-	80.00	-	-	-

Note: 100% Gas Generator Speed = 37'468 RPM

Shaft power, torque and ITT are limited by an electronic limiting unit (ELU)

Oil temperature: starting -40°C minimum
idle -40°C to 99°C
MCL/MCR 0°C to 99°C
T.O./max. cont. 0°C to 99°C

Inverted flight (less than zero g) is limited to 60 seconds.

Propeller & Propeller Limits

Hartzell HC-D4N-2A hub (with a pulley PC9-1401-1) or Hartzell HC-D4N-2F hub with four Hartzell D9512A or D9512AK blades, constant speed type

Diameter: 96" (2438 mm) maximum
95" (2413 mm) minimum

Pitch settings at: (measured at 30 inch station)

Minimum pitch: 14°

Feathered: 86°

Propeller blade life limit: 11'500 hours

Spinner: D-630-1

Air Speed Limits

Max. operating speed (V_{MO}) 320 knots
up to 15'000 ft altitude

above 15'000 ft limited to
max. operating Mach. No. (M_{MO}) 0,65

Maneuvering speed (V_O)

- Acrobatic at 2350 kg 205 knots
at 1650 kg 170 knots

- Utility above 2250 kg 200 knots
at 1650 kg 170 knots

Max. speed with flaps and/ (V_{FE}) (V_{LO}) 150 knots
or landing gear extended

Max. airbrake operating speed 320 knots

Acrobatic Stall speed Flaps up 77 KCAS
(at 2350 kg) Flaps down 69 KCAS

Utility Stall speed Flaps up 93 KCAS
(at 3200 kg) Flaps down 85 KCAS

Maneuvering Load Factors

	<u>Acrobatic</u>	<u>Utility</u>
Max. positive up to V _{MO}	+7.00	+4.50
Max. negative up to V _{MO}	-3.50	-2,25

C.G. Range

(Landing gear extended and retracted)

Acrobatic

22% to 30% M.A.C. at 2250 kg or less
25% to 30% MAC at 2350 kg

Utility

22% to 30% M.A.C. at 2350 kg or less
23% to 28% M.A.C. at 3200 kg

[straight line variation between points]

MAC = 1650 mm Position of MAC leading edge: 3872.5 mm

Maximum Weights

	<u>Acrobatic</u>	<u>Utility</u>
Ramp Weight	2360 kg	3210 kg
Take-off Weight	2350 kg	3200 kg
Landing Weight	2350 kg	3100 kg
Max. Zero Fuel Weight	2000 kg	2000 kg *

* plus the weight of the installed racks and underwing stores

Minimum Crew

One pilot
Solo flight is limited to front cockpit

Number of Seats

1 Front crew at 4061 mm
1 Rear crew at 5486 mm

Maximum Baggage

25 kg at 6898 mm in baggage compartment

Fuel Capacity

(at 0.806 kg/l)

Total	Usable
540 liters	518 liters (integral wing fuel tanks)

Note:

The total fuel capacity might be increased up to 1510 liters, depending on the underwing stores configuration.

Oil Capacity

Total
17,1 liters

Maximum Operating Altitude

25'000 ft

Control Surface Movements

Control Surface	Take-off	23°	Landing	50°	± 2.0°
Wing flap	Up	20°	Down	11°	± 1.0°
Ailerons	Up	5°	Down	5°	± 1.0°
Aileron fixed tab	Up	18°30'	Down	16°	± 1.0°
Elevator	Up		Down		

Elevator tab	Up	15°	Down	20°	± 2.0°
Rudder	right	24°	left	24°	± 1.0°
Rudder tab (anti-flettner)	right	2°12'	left	2°12'	
Rudder tab (trim)	right	3.5°	left	11.5°	± 1.0°
Airbrake	down	70°			

Serial No. Eligible 605, 655 and up

Datum 3000 mm in front of firewall

Leveling Means Marks (colored rivet heads) on each side of fuselage

Certification Basis

- US Federal Aviation Regulation Part 23 Acrobatic Category and Utility Category (for operation with underwing stores) including Amendments 23-1 through 23-28 effective April 28, 1982
- US Federal Aviation Regulation Part 23 Acrobatic Category and Utility Category (for operation with underwing stores) including Amendments 23-1 through 23-52 effective July 25, 1996 for those portions of the design which are significantly different from the initial PC-9 design, as defined on CRI A-1.
- US Federal Aviation Regulation Part 34, Fuel Venting and Emission Requirements
- Swiss Federal Office of Civil Aviation (FOCA) Special Requirements given in CRI A-1, A-3, A-4, A-5, C-1, C-2, D-2, D-3, D-4, F-4, F-5, F-6, F-7, F-9, F-10, G-2, G-3, and H-1.
- ICAO Annex 16, Chapter 10 & Swiss VEL (Noise)
- Equivalent Safety Findings (ESF) for:
 - 23.49, Stalling Speed (CRI B-2)
 - 23.155, Elevator Control Force (CRI B-1)
 - 23.1549 EICAS Powerplant Markings (CRI G-4)
 - 23.1305 (t) [and Amdt. 52, 23.1305(c)(8)], Fuel Filter Contamination Indication (CRI F-1)
 - 23.1555 e) 2), Emergency Handles Color (CRI G-1)
 - Miscellaneous paragraphs for HUD installation (CRI F-8)
 - 23.49(b)(1), 23.155, 23.181(b), 23.221(a) for Operations with Underwing Stores (CRI H-2)

Application for type certification to the Swiss FOCA dated October 30, 1996

Minimum Equipment

As defined in the FOCA approved Airplane Flight Manuals

Ersetzt Ausgabe Remplace l'édition Replaces issue	3 13.04.2005	Ausgabe Edition Issue	4 25.02.2008
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Documents

Swiss Federal Office of Civil Aviation approved
 PC-9(M) Airplane Flight Manuals documents No:
 - 02152-001 dated July 22, 1997 or later approved revisions,
 including actual weight and balance data and equipment list.
 - 02237 for MSN 655 and subsequent

Airplane Flight Manual Supplements are listed in chapter 9 of the
 AFM

PC-9(M) Maintenance Manual Doc. No 02149

PC-9(M) Illustrated Parts Catalog : Document No. 02150

PC-9(M) Structural Repair Manual : Document No. 02151

Placards

All placards required in the Approved Airplane Flight Manuals 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 3).
