TYPE-CERTIFICATE DATA SHEET

EASA.E.239

for
Walter Minor III series engines

Type Certificate Holder
PARMA-TECHNIK, s.r.o.

Uherskobrodská 962
763 26 Luhačovice
Czech Republic

For Models:
Walter Minor 4-III
Walter Minor 4-IIIS
Walter Minor 6-III
Walter Minor 6-IIIS

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I. General

1. Type / Models

Walter Minor III / Walter Minor 4-III (WM4-III), Walter Minor 4-IIIS (WM4-IIIS), Walter Minor 6-III (WM6-III), Walter Minor 6-III S (WM6-IIIS)

2. Type Certificate Holder

PARMA-TECHNIK, s.r.o
Design Organisation Approval No.: AP.027

Previous Type Certificate Holders: See Type Certificate Holder Record on last page

3. Manufacturer

- Walter - Praha XVII, Jinonice (1946 - 1948)
- Letecké závody, n.p. - Praha XVII, Jinonice (1948 - 1960)
- Avia Letňany, n.p. (1960 - 1992)

4. Date of Application

	WM4-III	WM4-IIIS	WM6-III	WM6-IIIS
Original TC	Unknown	Unknown	Unknown	Unknown
Reissued TC CZ	1 Jan 2004	1 Jan 2004	1 Jan 2004	1 Jan 2004
Reissued TC EASA	17 June 2019	17 June 2019	17 June 2019	17 June 2019

Note: Application for WM4-III, WM4-IIIS, WM6-III, and WM6-IIIS was made to CAA-CZ before EASA has been established.

5. EASA Type Certification Date

	WM4-III	WM4-IIIS	WM6-III	WM6-IIIS
Original TC	20 Apr 1946	20 Apr 1946	29 Jan 1947	29 Jan 1947
Reissued TC CZ	29 Apr 2004	29 Apr 2004	29 Apr2004	29 Apr 2004
Reissued TC EASA	18 Sept 2019	18 Sept 2019	18 Sept 2019	18 Sept 2019

Note: WM4-III, WM4-IIIS, WM6-III, and WM6-IIIS had been certified by CAA-CZ (TC/TCDS 04-01 and 04-02) and were transferred to EASA TC E.239 on 18 September 2019.

II. Certification Basis

1. State of Design Authority Certification Basis

N/A

2. Reference Date for determining the applicable airworthiness requirements

Before 20 April 1946

3. EASA Certification Basis

3.1. Airworthiness Standards

ICAO, draft Annex 8, 1946

3.2. Special Conditions (SC)
None

3.3. Equivalent Safety Findings (ESF)
None

3.4. Deviations
None

3.5. Environmental Protection
None (not required for piston engines)

III. Technical Characteristics

1. Type Design Definition

TPF-0002-02-58 (WM4-III, WM4-IIIS)
TP-01-2019-61 (WM6-III, WM6-IIIS)

2. Description

Walter Minor III engines are 4 or 6 cylinder, four stroke, spark ignited, air cooled, in-line inverted and ungeared piston engines equipped with carburettor(s) and 2 magnetos. WM4-IIIS and WM6-IIIS models are equipped with a supercharger driven by the crankshaft and controlled from the cockpit.

Model	WM4-III	WM4-IIIS	WM6-III	WM6-IIIS
Number of Cylinders	4		6	
Timing Gear (Valve Control)	OHV			
Displacement (dm³)	3,98		5,97	
Bore x Stroke (mm)	105 x 115			
Compression Ratio	6:1			
Rotation Direction	counter clockwise			
Gear Ratio	N/A			
Supercharger	N/A	1	N/A	1

3. Equipment

Model	WM4-III	WM4-IIIS	WM6-III	WM6-IIIS
Magneto(s)	LH: OBF 4R 502 Z 250 or Scintilla Vertex NVK 4-Z2 RH (with the accelerated clutch): OBF 4R 702 Z 250 or Scintilla Vertex AVK 4-Z2			
Alternative Magneto(s)	LH: Magneton LUN 2225 RH: Magneton LUN 2225 (incl. starting device LUN 2231.1-8)			
Carburettor (s)	Walter 45 (or acrobatic 45 –AK)		2x Walter 45 (or acrobatic 45 –AK)	
Starter	Walter RE 25 (Alternative - Magneton LUN 2254)			
Dynamo	Magneton LUN 2111 (600W/28V)			
Voltage Governor	Magneton LUN 2141 (600W/28V)			
Fuel Pump	Walter 2M 50			
Inertia Scavenge Oil Valve	For acrobatic operation only			

Note: Detailed and updated information - see Engine Manual, SB and/or SL.

4. Dimensions

Model	WM4-III	WM4-IIIS	WM6-III	WM6-IIIS
Overall Length (with propeller boss)	1032 mm	1176 mm	1324 mm	1468 mm
Overall Height	630 mm		639 mm	
Width	399 mm			

5. Dry Weight

Model	WM4-III	WM4-IIIS	WM6-III	WM6-IIIS
Dry Weight (Kg)	90,3±2%	97,3 ± 2%	126,8±2%	135,5±2%

Note: Engines Overall weights in detail – see the Engine Manual "Letadlový motor Walter Minor 4-III" (resp. Engine Manual "Letadlový motor Walter Minor 6-III").

6. Ratings

Rating kW(HP)/rpm	WM4-III	WM4-IIIS	WM6-III	WM6-IIIS
Take-off (3 min. with engaged supercharger)	N/A	88 (120) / 2600 (manifold pres. 110 kPa/1,12 at)	N/A	138 (185) / 2600 (manifold pres. 110 kPa/1,12 at)
Max. Continuous	78 (105) / 2500	55(100) / 2500	119 (160) / 2500	115 (155) / 2500
Cruise	60 (80) / 2300	60 (80) / 2300	93 (125) / 2300	93 (125) / 2300
Idle	N/A / 500 -600			

Notes: The performance values specified above are established at sea level pressure altitude, and correspond to minimum values defined under the conditions of ICAO or ISA.

7. Control System

Walter Minor III series engines are equipped with a carburettor and dual magneto ignition system.

8. Fluids (Fuel, Oil, Coolant, Additives)

See Engine Manual (Section 3) and updated data in SBs and/or SLs.

9. Aircraft Accessory Drives

See Engine Manual (Section 1).

10. Maximum Permissible Air Bleed Extraction

N/A

IV. Operating Limitations

1. Temperature Limits

Temperature	WM4-III	WM4-IIIS	WM6-III	WM6-IIIS
Ambient (°C)	- 40 up to +40			
Cylinder Head (°C)	max. 250 (shortly 260) / min. 70			
Oil outlet(°C)	max. 105 / Min. 30 (for Start or Test)			
Oil Inlet (°C)	max. 85 / min. 20 (for Start or Test)			

Note: Detailed and updated information - see Engine Manual (Section 1), SB and/or SL.

2. Speed Limits

For all models: max. 2750 rpm (for others rating limits – see item III/6 above).

3. Torque Limits
N/A

4. Pressure Limits

4.1 Fuel Pressure
For all models: 10 kPa up to 25 kPa (max. 30 kPa).

4.2 Oil Pressure
For all models: min. 300 kPa /max. 400 kPa (at idle: 200 kPa).

5. Time Limited Dispatch (TLD)

N/A

6. ETOPS Capability

N/A

V. Operating and Service Instructions

Manuals	WM 4-III, WM 4-IIIS	WM 6-III, WM 6-IIIS
Engine Installation Manual, Engine Operation Manual	Letadlový motor Walter Minor 4-III" Manual (1994, reissue 1)	Letadlový motor Walter Minor 6-III" Manual (1994, reissue 1)

Instructions for Continued Airworthiness (ICA)	WM 4-III, WM 4-IIIS	WM 6-III, WM 6-IIIS
Engine Maintenance Manual	Letadlový motor Walter Minor 4-III" Manual (1994, reissue 1)	Letadlový motor Walter Minor 6-III" Manual (1994, reissue 1)
Engine Overhaul Manual	Příručka pro generální opravu motorů WM 4-III WM4-III Overhaul manual	Příručka pro generální opravu motorů WM 6-III WM6-III Overhaul manual
Parts Catalogue	Katalog náhradních dílů WM 4-III WM 4-III Spar parts catalogue	Katalog náhradních dílů WM 6-III WM 6-III Spar parts catalogue
Service Bulletins and Service Letters	as issued	

VI. Notes

1. No Airworthiness Limitations have been established for the Walter Minor III series engines.

2. For recommended Time Between Overhaul (TBO) see the following SB:
   a. For WM4-III/WM4-IIIS: SB No. M4 III/35a or later approved revisions
   b. For WM6-III/WM6-IIIS: SB No. M6 III/36 and/or SB No. M6 III/44a or later approved revisions
   c. For TBO prolongation of WM4-III/WM6-III series see applicable SBs or later approved revisions.

3. For differences btw. WM4-III and WM4-IIIS (resp. WM6-III and WM6-IIIS) engines models see pages 85-87 of Engine Manual in detail.

SECTION: ADMINISTRATIVE

I. Acronyms and Abbreviations

CAA-CZ	Civil Aviation Authority of the Czech Republic
ISA	International Standard Atmosphere
LH/RH	Left-hand/Right-hand
N/A	Not applicable
OHV	Over Head Valve
rpm	Revolutions per minutes
SB/SL	Service bulletins and or Service letters

II. Type Certificate Holder Record

- Walter.- Praha XVII, Jinonice (1946 - 1948)
- Letecké závody, n.p. - Praha XVII, Jinonice (1948 - 1960)
- Avia Letňany, n.p. (1960 - 1992)
- W-Motor Service s.r.o. (1992 - 2019)
- Parma-Technik, s.r.o. (2019)

III. Change Record

Issue	Date	Changes	TC issue
Issue 01	18 September 2019	Initial Issue	Initial Issue, 18 September 2019

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