



AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL - BRASIL

TYPE CERTIFICATE DATA SHEET Nº EM-2020T02

Type Certificate Holder:

SOLO KLEINMOTOREN GMBH
Stuttgarter Strasse 41
Sindelfingen, D71069
Germany

EM-2020T02-00

Sheet 01

SOLO KLEINMOTOREN

Solo 2350
Solo 2350 B
Solo 2350 BS
Solo 2350 C
Solo 2350 D

16 March 2020

Engines of models described herein conforming with this data sheet, which is part of Type Certificate No.2020T02, meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Brazilian Aeronautical Regulations provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manuals and other instructions.

MODEL SOLO 2350, SOLO 2350 B, SOLO 2350 C, SOLO 2350 D.

TYPE Two-stroke, two-cylinder air-cooled inline engine with contactless magneto ignition.
Displacement: 431 cm³
Bore / stroke: 70mm / 56mm
Engine 2350 and 2350 D - no throttle control, no engine starter, no generator;
Engine 2350 B - no fuel pump; see also NOTE 5.

Legend: "--" Same as preceding
"#" Not Applicable

RATINGS		Solo 2350 (* with Muffler)	Solo 2350 B	Solo 2350 C	Solo 2350 D
	Max. continuous, kW. - rpm:	19.6 (*15.3)-5500	17 - 6300	22 - 6500	--
	Takeoff, kW. - rpm:	19.6 (*15.3)-5500	17 - 6300	22 - 6500	--
	The performance values specified above correspond to minimum values defined under the conditions of ICAO or ARDC standard atmosphere.				
FUEL TYPE	See Operation and Maintenance Manual for approved fluids				
CARBURETION / INJECTION		Solo, metering-device Tillotson or WALBRO	Walbro	MIKUNI BN38	Solo, metering-device WALBRO
OIL, LUBRICATION	See Operation and Maintenance Manual for approved fluids				
GEAR RATIO		#	1:2.1	1:2.3	1:1.56
SENCE OF ROTATION		Counter-clockwise, in flight direction	--	--	--
BORE AND STROKE	mm	70mm / 56mm	--	--	--
DISPLACEMENT	ccm	430	--	--	--
COMPRESSION RATIO		1:10	--	1:12	--

Legend: "--" Same as preceding
 "#" Not Applicable

	Models	Solo 2350 (* with Muffler)	Solo 2350 B	Solo 2350 C	Solo 2350 D
IGNITION		Magneto SOLO, ignition coil Ducati	Flywheel SOLO, Coil Prüfrefx, Bosch or PVL	Flywheel SOLO, Coil Prüfrefx	Magneto SOLO, ignition coil Ducati
SPARK PLUGS		BOSCH W 5 AC heat range 225 or Champion L82 C, Gap 0,5 mm Thread M 14X1,25 mm. In combination with spark-plug-cap (23 00 701, R=5kOhm)	BOSCH W5AC, Champion L82C, sparkplug-gap 0,5 mm with sparkplug-cap 5kΩ	--	BOSCH W 5 AC or Champion L82 C, Gap 0,5 mm. Thread M 14X1,25 mm. In combination with spark-plug-cap (23 00 701, R=5kOhm)
WEIGHT (DRY), WITHOUT EXHAUST SYSTEM	kg	17	26	25	23.5
PRINCIPAL DIMENSIONS					
	Overall Length, mm	480	405	472	620
	Overall Height, mm	383	506	575	524
	Width, mm	216	290	259	240
TEMPERATURE LIMITS	Maximum Cyl.Head Temperature (see note 1) °C	275	--	--	--

Legend: "--" Same as preceding
 "#" Not Applicable

IMPORT REQUIREMENTS

Each engine imported separately, and/or spare parts must be accompanied by a EASA Export Airworthiness Approval through the EASA Form 1, Authorized Release Certificate, certifying that the engine conforms to a type design approved by the ANAC, as specified in the ANAC's type certificate data sheet No. 2020T02-00, is in condition for safe operation and has undergone a final operational check. The original Authorized Released Certificate should be sent with the engine and a copy remains with the issuing organization.

For each engine it is required a list of exceptions (if any) in respect to the ANAC approved Type Design, listed in the EASA Authorized Release Certificate above mentioned.

CERTIFICATION BASIS

	<u>Model</u>	<u>Application</u>	<u>Issued TC</u>
JAR 22 Change 2 dated 13 September 1982, Subpart H	Solo 2350	20/01/2020	16/03/2020
JAR 22 Change 2 dated 13 September 1982, Subpart H	Solo 2350 B	20/01/2020	16/03/2020
JAR 22 Change 2 dated 13 September 1982, Subpart H	Solo 2350 BS	20/01/2020	16/03/2020
JAR 22 Change 2 dated 13 September 1982, Subpart H	Solo 2350 C	20/01/2020	16/03/2020
JAR 22 Change 2 dated 13 September 1982, Subpart H	Solo 2350 D	20/01/2020	16/03/2020

NOTES:**NOTE 1**Maximum permissible temperatures:

The maximum permissible Cylinder Head Temperature was increased to 275°C for all Models with a Non-significant major change, EASA approved 21 September 2005, Nr. EASA.E.C.01026.

NOTE 2Pressure limits:

Fuel supply pressure: bar	Minimum 0.2	Maximum 0.4
Oil Pressure: bar	See engine manual	

NOTE 3Aircraft accessory drives:

None

NOTE 4Control System:

The engine models Solo 2350, Solo 2350 D are equipped with dual diaphragm carburetors without throttle control, an additional fuel pump and a contactless magneto ignition.

The engine model Solo 2350 B is equipped with dual diaphragm carburetors and a contactless magneto ignition. For the definition of the Model Solo 2350 BS see VI, No. 5. The engine model Solo 2350 C is equipped with two diaphragm carburetors, an additional fuel pump and a contactless magneto ignition.

NOTE 5 Model Solo 2350 B: The deviations of the Model Solo 2350 BS are defined as follows:
The engine model Solo 2350 BS is equipped with a single float type carburetor and a contactless magneto ignition.

1. Operational limitations

- Take-off Power: 17 KW at 5500 rpm
- Max. Continuous Power: 17 KW at 5500 rpm
- Maximum Speed: 6500 rpm
- Minimum Cont. Speed: 2000 rpm

2. Equipment

- Fuel pump: Bing 80-203A (no longer available) Replacement: Mikuni DF44-18
- Carburetor: Bing 84-2

The width is increasing to 405 mm.

All other technical data are identical to the Model solo 2350 B.

Operating instructions: engine manual 2350 BS, Issue 1, dated 12.06.1991 (or later approved revisions).

Both Models are used for pusher-configuration engine installations only.

NOTE 6 Maximum / Minimum speeds:

	2350	2350 B	2350 C	2350 D
Minimum cont. speed, rpm:	*	2 000	3 000	*
Max. take off and Cont. speed, rpm:	5 500	6 300	6 100	6 500
Maximum Speed, rpm:	6 500	--	--	6 600

* not possible, no throttle control

NOTE 7 Oil consumption and capacity limits:

See engine Manual.

NOTE 8 Operation and service instructions:

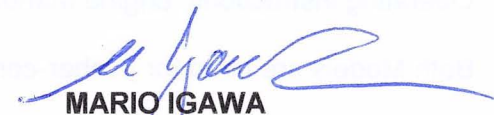
	2350	2350 B	2350 C	2350 D
Manual for engine (Handbuch für den Flugmotor)	Solo Typ 2350 01, Issue 1 dated 24.05.1983 (*)	Solo Typ 2350 B, Issue 1 dated 20.08.1987 (*)	Solo Typ 2350 C, Issue 1 dated 27.04.1989 (*)	Solo Typ 2350 D, Issue 1 dated 30.07.2001 (*)
(*) or later approved revisions.				

NOTE 9 Special Limits:

The suitability and allowable operating ranges of an engine for use in a specific aircraft/propeller combination are to be demonstrated in the aircraft certification.

NOTE 10 Special Notes:

- a) The manufacturer documents recorded in this TCDS are binding in the specified issue or later approved revisions.
- b) For the permitted engine operating hours refer to the relevant operating instructions.
- c) The deviations of the sales designation with starter on the crank shaft are defined in the Service Bulletin No 4603-16, issue 1, dated 19.05.2015.



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