



TYPE CERTIFICATE DATA SHEET No. ER-2011T13

Type Certificate Holder:

**Wytwórnia Sprzętu Komunikacyjnego
"PZL-Świdnik" S.A.
Al. Lotników Polskich 1
21-045 Świdnik
Poland**

ER-2011T13-00
Sheet 01

**PZL-ŚWIDNIK
PZL SW-4**

August 2011

This data sheet, which is part of Type Certificate No. 2011T13, prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Brazilian Aeronautical Regulations.

I - Model PZL SW-4 (Normal Category Rotorcraft), approved 26 August 2011.

ENGINE

One Rolls-Royce Corporation (formerly Allison Engine Company) 250-C20R/2, Type Certificate number EM-8212-02.

INSTALLED ENGINE LIMITS

Power Rating Parameter		Take-Off	Max. Cont.
Torque	Max.	100%	85%
	Max.	103%	103%
Power Turbine Speed (continuous)	Max. (in descent)	-	108%
	Min.	100%	100%
Gas Producer Speed (continuous)	Max.	105%	105%
Turbine Outlet Temperature	Max.	810°C	752°C

TRANSMISSION TORQUE LIMITS

100%

ROTOR SPEED LIMITS

Speed Range	Rotor Speed	
	Power On	Power Off or Simulation of Autorotation
Maximum Transient	108 % (15 sec)	115 % (5 sec)
Maximum Continuous	103 %	108 %
Maximum Continuous (in descent)	108 %	-
Minimum Continuous	100 %	90 %
Minimum Transient	95 % (5 sec)	85 % (5 sec)
Note: 100 % of main rotor speed corresponds to 437,3 RPM		

FUEL SPECIFICATION

JP-8 (F-34) conforming to MIL-T-83133
 JP-5 (F-44) conforming to MIL-T-5624
 Jet A1 (F-35) conforming to ASTM D-1655
 Jet A conforming to ASTM D-1655
 JP-1 (corresponds to Jet A) conforming to ASTM D-1555
 TS-1 conforming to GOST 10227-86
 RT conforming to GOST 16564-71

NOTE: For anti-ice additives refer to Rotorcraft Flight Manual.

OIL SPECIFICATION**Engine Oils:**

- AeroShell Turbine Oil 555 MIL-PRF-23699F or DEF STAN 91-100 or DOD-L-85734
- AeroShell Turbine Oil 500 MIL-PRF-23699F
- Mobil Jet Oil 254 or 291 MIL-PRF-23699F HTS
- AeroShell Turbine Oil 560 MIL-PRF-23699F HTS
- Exxon ETO 2197 (BPTO 2197) MIL-PRF-23699F HTS

Gearboxes Oils:

- AeroShell Turbine Oil 500 conforming to MIL-L-23699
- AeroShell Turbine Oil 555 conforming to DOD-L 85734 / DERD 2497
- Castrol 599 conforming to DERD 2497

AIRSPEED LIMITS

Power-On Never Exceed Speed	$V_{NE} = 140$ KIAS (260 km/h) NOTE: For V_{NE} variations versus actual weight, OAT and altitude refer to Limitations Section of Rotorcraft Flight Manual
Power-Off Never Exceed Speed	$V_{NE} = 102$ KIAS up to 6560 ft (2000 m) pressure altitude $V_{NE} = V_{NE \text{ POWER-ON}} - 22$ KIAS (40 km/h) above 6560 ft (2000 m)

CG LIMITS

Longitudinal	Aft	500 mm (19,69 in)
	Forward	750 mm (29,53 in)
Lateral	Right	60 mm (2,36 in)
	Left	60 mm (2,36 in)

ALTITUDE LIMITS

Maximum Pressure Altitude for Flight 5000 m (16400 ft)
NOTE: For variation of altitude with OAT refer to Limitations Section of Rotorcraft Flight Manual.

WEIGHTS

Maximum Take-Off and Landing Weight	1800 kg (3968 lb)
Minimum Landing Weight	1150 kg (2535 lb)

MINIMUM CREW

1 (one) pilot operating from the left hand seat.

MAXIMUM PASSENGERS

4 (four).

MAXIMUM BAGGAGE / CARGO LOADS

In Passenger/Cargo Cabin 323 kg (712 lb)
 In Baggage Compartment 150 kg (330,7 lb)

FUEL CAPACITY

Total Fuel Capacity 377,0 kg (471,3 ℓ)
 Unusable Fuel 3,8 kg (4,8 ℓ)

OIL CAPACITY

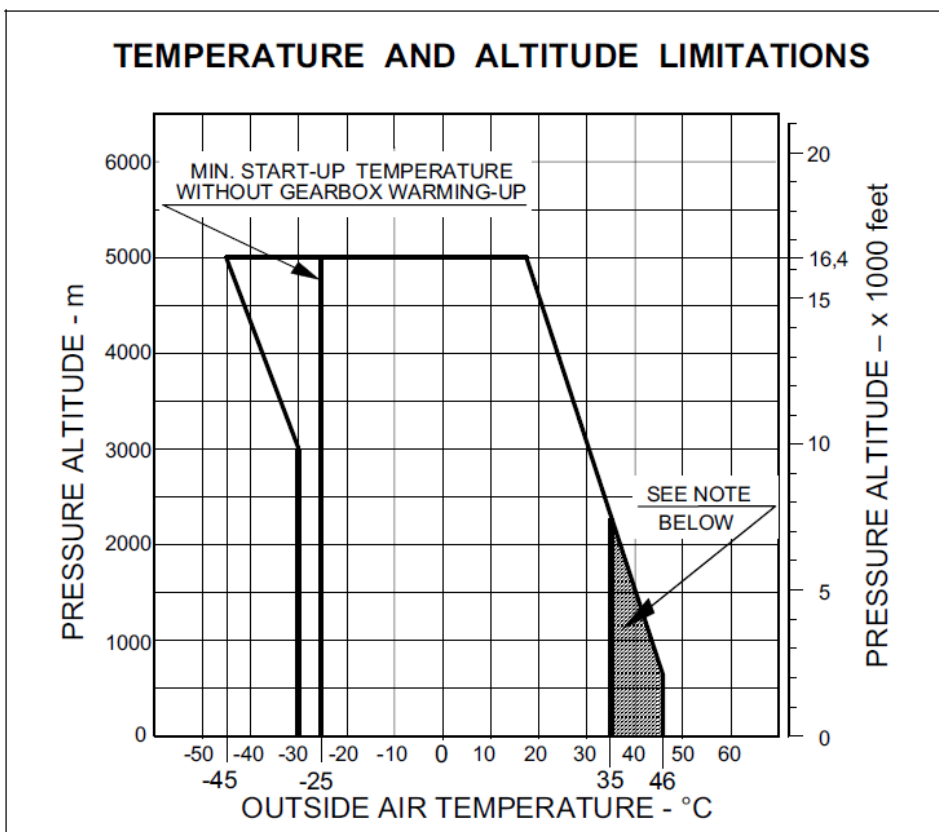
Engine Oil Capacity

6,32 ℓ

Main Gearbox Oil Capacity

6,81 ℓ

TEMPERATURE LIMITS



NOTES:

- The temperature range above 35°C is applicable to helicopters modified for operations at high outside air temperature – refer to supplement Doc. No. AE-60.01.04.1 RFMS-25.00.
- For helicopters with engine oil system cooler P/N 60.06.340.00.00 maximum OAT is 34°C.

ROTOR BLADE AND CONTROL MOVEMENT

See Maintenance Manual, Doc. No. AE-60 01.04.0 MM (Chapter 6).

LIFE-LIMITED PARTS

Refer to document AE-60.01.04.0 MM Volume 1, Chapter 4, Subchapter 4.00.00 – Airworthiness Limitations.

SERIAL NUMBERS ELIGIBLE

60.04.03 and consecutive (the serial number format is 60.XX.YY where XX is the production batch number and YY is the number within the batch).

An EASA Certificate of Airworthiness for Export, endorsed as noted under Import Requirements, must be submitted for each individual rotorcraft for which application for a Brazilian Airworthiness Certificate is made.

DATUM

The centre of gravity datum position (longitudinal) is 499 mm (19,65 in) aft from intersection point of the main rotor axis and base plane of the fuselage and on the plane of symmetry of the helicopter (lateral).

LEVELLING MEANS

Vertical line from ceiling reference point to the index plate located on the passenger compartment floor.

- IMPORT REQUIREMENTS** A Brazilian Airworthiness Certificate must be issued in the basis of the Airworthiness Certificate for Exportation issued by the EASA, including the following statement:
- "The rotorcraft covered by this Certificate has been inspected, tested and found to comply with the Brazilian approved type design as defined by the ANAC Type Certificate No 2011T13, and is in condition for safe operation."
- CERTIFICATION BASIS** Brazilian Type Certificate No. 2011T13 issued on 26 August 2011 based on the RBAC 21 Section 21.29, Brazilian Aeronautical Certification Regulations, including the following Brazilian Aeronautical Certification Regulations:
- RBHA 27, which endorses the 14 Code of Federal Regulations Part 27 effective on 1 February 1965, including Amdts. 27.1 through 27.34;
 - RBAC nº 34, Amdt. nº 03, which endorses Title 14 Code of Federal Regulations Part 34, Amdt. 34-03, effective on 03 February 1999;
 - RBHA 36 corresponding to ICAO Annex 16, Volume I, Chapter 11, 3rd Edition, Amdt. 04, 1993;
 - No equivalent levels of safety findings or special conditions.
- EQUIPMENT** The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for Airworthiness Certificate release, and, in addition, the EASA-approved Brazilian Rotorcraft Flight Manual issued for the applicable helicopters serial numbers.
- NOTES:**
- NOTE 1** Weight and balance: A current weight and balance report, including a list of equipment included in the certificated empty weight, and loading instructions when necessary, must be provided for each aircraft at the time of original airworthiness certification and at all times thereafter, except in the case of operators having an approved weight control system.
- NOTE 2** Marking and placards: The following placard must be installed in clear view of the pilot:
- HELICOPTER IS APPROVED FOR DAY AND NIGHT VFR FLIGHTS
- For additional placards, see the Rotorcraft Flight Manual. All placards required in the approved Rotorcraft Flight Manual supplement must be installed in the appropriate locations.
- NOTE 3** Continuing airworthiness: Information essential to the proper maintenance of the helicopter, including retirement time of critical components, is contained in the Maintenance Manual, Doc. No. AE-60 01.04 0 MM. Retirement times are listed in the approved "AIRWORTHINESS LIMITATIONS" section. The values of retirement or service lives and inspection intervals cannot be changed without EASA Engineering approval.
- NOTE 4** The differences of the Brazilian rotorcrafts in relation to the basic EASA type design are summarized below:
1. The Brazilian Rotorcraft Flight Manual cover page and Supplement;
 2. The Markings and placards in Portuguese or bilingual.
- NOTE 5** VFR day / night operation in known icing conditions is not allowed.
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NOTE 6

Additional Limitations for Take-off and Landing		
Maximum Wind Velocity For Starting and Stopping Rotors	Head Wind	48 knots (90 km/h, 25 m/s)
	Side Wind	17 knots (32 km/h, 9 m/s)
	Tail Wind	17 knots (32 km/h, 9 m/s)
Maximum Landing Slope	5°	

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