

型号认可数据单

日期/Date: 2011-11-22

[illegible]

第 1 部分 概述

SECTION 1 GENERAL

I. 概述/General

1. CAAC 型号认可数据单和 EASA 型号合格证数据单

CAAC Validation Data Sheet and EASA Type Certificate Data Sheet

	CAAC 型号认可数据单号、版次和颁发日期 CAAC Validation Data Sheet Number, Revision and issuance date	EASA 型号合格证数据单号、版次和颁发日期 EASA Type Certificate Data Sheet Number, Revision and issuance date
当前 Current	编号/Number: VTC0217A 版次/ Revision: 1 日期/Date: 22 Nov 2011	编号/Number: EASA.R.100 版次/ Revision: 5 日期/Date: 25 August 2011
历史 History	编号/Number: VTC0217A 版次/ Revision: 0 日期/Date: 30 December 2008	编号/Number: EASA.R.100 版次/ Revision: 2 日期/Date: 31 March 2008

2. 型号/衍生型或型别/Type/Variant or Model:

(a) 型号/Type: PZL SW-4

(b) 衍生型或型别/Variant or Model: 无/N/A

3. 类别: 小型直升机—B类

Category Small rotorcraft – Category B

4. 认可当局/Validation Authority: CAAC

审定当局/Certifying Authority: EASA

5. 合格证/ Certificate

型号合格证/Type Certificate: EASA.R.100

型号合格证持有人/Type Certificate Holder:

WYTWÓRNIA SPRZĘTU KOMUNIKACYJNEGO "PZL-ŚWIDNIK"
SPÓŁKA AKCYJNA
Al. Lotników Polskich 1
21-045 Świdnik
POLAND

6. 制造商/ Manufacturer:

WYTWÓRNIA SPRZĘTU KOMUNIKACYJNEGO "PZL-ŚWIDNIK"
SPÓŁKA AKCYJNA

Al. Lotników Polskich 1
21-045 Świdnik
POLAND

II. 认可审定基础/Validation Basis

CAAC 的认可审定基础由 EASA 审定基础和 CAAC 的附加技术条件组成。

The CAAC validation basis consists of the EASA certification basis and the CAAC additional technical conditions.

1. EASA 审定基础/EASA certification basis

1.1 EASA 审定基础: 见 CRIA-01 第三版规定

EASA Certification Basis: As defined in CRIA-01 Issue 3

1.2 适航要求: JAR27 包括修正案 27/98/1(更改号 1),1998 年 2 月 16 日生效 JAR36(1997 年 5 月 23 日第一版) A 分部第 2 节, E 分部第 400、 410、420、430、440、450 节 CS34 (2003 年 10 月 17 日第一版) 第一节, 燃油系统通气

Airworthiness Requirements:

JAR 27 with Amendment 27/98/1 (change 1) effective 16
February 1998,

JAR 36 (Initial issue, 23 May 1997) Subpart A Para 2 Subpart
E Para .400, .410, .420, .430, .440, .450.

CS 34 (Initial issue, 17 October 2003).
Paragraph 1, Fuel Venting.

1.3 等效安全项目 无

Equivalent Safety Findings: N/A

1.4 专用条件 无

Special Conditions: N/A.

1.5 追溯和豁免: 无

Reversion and Exemptions: N/A

1.6 环境标准 (含噪声): JAR36(1997 年 5 月 23 日第一版) A 分部第 2 节, E 分部第 400、 410、420、430、440、450 节

Environmental Standards including Noise:

JAR 36 (Initial issue, 23 May 1997) Subpart A Para 2 Subpart
E Para .400, .410, .420, .430, .440, .450.

2. CAAC 附加技术条件/CAAC additional technical conditions

2.1 必须满足 CAAC 的运行要求 (例如标记标牌的中文要求, 供乘客和地面营救人员使用的标记和 标牌必须至少包含中文, 供机组和地面维护人员使用的仪表和标记/标牌必须为英文和/或中文)

The operational requirements of CAAC must be met (e.g. Chinese language requirements for

markings and placards, the making and placards used by passengers and ground rescue personnel should be in Chinese at least. Instruments and Marking/placards used by flight crew and maintenance staffs should be in English and/or Chinese).

2.2 燃油符合“中国国标 3 号航空燃油—GB6537-2006”的规范

Fuel conforms to Specification “PRC National Standard No.3 jet fuel -- GB6537-2006”.

2.3 资料批准/Service Information

所有的文件和手册必须为英文和/或中文。

All the documents and manuals should be in English and/or Chinese.

第 2 部分

SECTION 2

I 技术特征和使用限制

I - Technical Characteristics and Operational Limitations

1. 型号设计定义 << PZL SW-4 型直升机型号设计定义>>

文件号 SW-60-0251 修订版 C 或以后版本

Type Design Definition: PZL SW-4 HELICOPTER TYPE DEFINITION

Doc. No SW-60-0251 Revision C or later

2. 产品描述

PZL SW-4 是一款单涡轴发动机的单主旋翼型直升机，最多可运载五人（乘客和机组）。这是一款多用途多配置的直升机，适用于昼夜目视条件下飞行。最小机组为一名驾驶员，也可提供双驾驶员的配置。

直升机具有常规旋翼系统：三桨叶主旋翼和双桨叶尾旋翼，起落架为滑橇式，动力装置为一台罗尔斯·罗伊斯（原艾利逊）250 C20-R/2 型发动机。

最大起飞重量为 1800 公斤。

Description:

The PZL SW-4 is a single turboshaft engine, single main rotor helicopter designed to carry up to 5 persons (passengers and crew). It is designed as multipurpose and multi version helicopter for operation in day and night VFR conditions. The minimum crew is one pilot, two pilot version is available.

The helicopter has a conventional rotor system with a three-blade main rotor and two-blade tail rotor. The landing gear is skid type. It is powered by a single Rolls-Royce (formerly Allison) 250 C20-R/2 engine.

Maximum take off weight is 1800kg.

3. 设备

适航要求所规定的基本设备必须安装在直升机上，以获得单机适航证。关于设备清单，请参见《旋翼机飞行手册》。

Equipment

Basic equipment required by airworthiness requirements shall be installed on the helicopter for Airworthiness Certificate release. Refer to Rotorcraft Flight Manual for the equipment list.

4. 几何尺寸

机身:	长度	8,238 m (27,028 ft)
	宽度	1,515 m (4,970 ft)
		2,280 m (7,480 ft) 含起落架
	高度	3,139 m (10,299 ft) 含主桨毂

主旋翼: 全铰接式三桨叶、直径 9,0 m (29,53 ft)

尾旋翼: 翘板式两桨叶、直径 1,5 m (4,92 ft)

Dimensions:

Fuselage Length 8,238 m (27,028 ft)

Width 1,515 m (4,970 ft)

2,280 m (7,480 ft) with landing gear

Height 3,139 m (10,299 ft) with MR hub

Main Rotor: Fully articulated with three blades – Diameter 9,0 m (29,53 ft)

Tail Rotor Teetering type with 2 blades Diameter 1,5 m (4,92 ft)

5. 发动机/ Engine

发动机生产厂家: 罗尔斯.罗伊斯 (原艾利逊发动机公司)

Engine Manufacturer: Rolls-Royce Corporation (formerly Allison Engine Company)

发动机描述: 一台 250-C20R/2 型发动机

Engine Designation: One 250-C20R/2

发动机设计状态 TCDS: E4CE 号数据单 1993 年 12 月 1 日颁发 (美国运输部 FAA)

State of Design Engine TCDS No: E4CE Dated: December 1, 1993 (Department of Transportation Federal Aviation Administration, USA)

EASA 发动机数据单号: 无

EASA Engine TCDS No:N/A

5.1 涡轮发动机

5.1 Turbine engine:

5.1.1 装机发动机限制:

额定功率参数		起飞	最大连续
扭矩	最大	100%	85%
动力涡轮转速 (连续)	最大	103%	103%
	最大(下降时)	-	108%
	最小	100%	100%
燃气发生器转速(连续)	最大	105%	105%
涡轮出口温度	最大	810° C	752° C

Installed Engine Limits:

Power ratingparameter		Take-Off	Max. Cont.
Torque	Max.	100%	85%
Power turbine speed (continuous)	Max.	103%	103%
	Max. (in descent)	--	108%

	Min.	100%	100%
Gas producer speed (continuous)	Max.	105%	105%
Turbine Outlet Temperature	Max.	810° C	752° C

5.1.2 传动系统扭矩限制/ Transmission Torque Limits: 100%

6. 液体（燃油、滑油、添加剂） Fluids (Fuel/Oil/Additives):

6.1 燃油/Fuel:

Item	Fuel Type	Conforming to
1	JP-8 (F-34)	MIL-T-83133
2	JP-5 (F-44)	MIL-T-5624
3	Jet A1 (F-35)	ASTM D-1655
4	Jet A	ASTM D-1655
5	JP-1	ASTM D-1555 (corresponds to Jet A)
6	TS-1	GOST 10227-86
7	RT	GOST 16564-71

注：有关防冰添加剂的情况，参见《旋翼机飞行手册》

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

6.2 滑油Oil:

发动机滑油:

壳牌 555 航空涡轮滑油 MIL-PRF-23699F 或 DEF STAN 91-100 或 DOD-L-85734;

壳牌 500 航空涡轮滑油 MIL-PRF-23699F;

美孚 254 喷气滑油 lub 291 MIL-PRF-23699F HTS;

壳牌 560 航空涡轮滑油 MIL-PRF-23699F HTS;

埃克森 Exxon ETO 2197 (BPTO 2197) MIL-PRF-23699F HTS。

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 lub 291 MIL-PRF-23699F HTS

- AeroShell Turbine Oil 560 MIL-PRF-23699F HTS

- Exxon ETO 2197 (BPTO 2197) MIL-PRF-23699F HTS

齿轮箱滑油:

壳牌 500 航空涡轮滑油，符合 MIL-L-23699;

壳牌 555 航空涡轮滑油，符合 DOD-L 85734 / DERD 2497;

嘉实多 599，符合 DERD 2497。

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.

7. 液体容量/Fluid capacities:**7.1 燃油/Fuel:**

- 燃油总容量 377,0 kg (471,3 升)

Total fuel capacity 377,0 kg (471,3 l)

- 不可用燃油 3.8 kg (4.8 升)

Unusable fuel 3,8 kg (4,8 l)

7.2 滑油/Oil:

- 发动机滑油容量 632 升

Engine oil capacity 6,32 l

- 主齿轮箱滑油容量 681 升

Main gearbox oil capacity 6,81 l

8. 空速限制:有动力不可超越速度 $V_{NE} = 140$ 节 (260 km/h)注: 关于 V_{NE} 相对实际重量、外界大气温度和高度变化, 参见《旋翼机飞行手册》的限制部分。无动力不可超越速度 $V_{NE} = 102$ 节 (190 km/h), 直到压力高度 6560 ft (2000 m)无动力不可超越速度 $V_{NE} = V_{NE \text{ POWER-ON}} - 22$ 节 (40 km/h), 当压力高度大于 6560 ft (2000m)**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 (190 km/h) up to 6560 ft (2000 m) press. altitude $V_{NE} = V_{NE \text{ POWER-ON}} - 22$ KIAS (40 km/h) above 6560 ft (2000m)**9. 旋翼转速限制:**

转速范围	旋翼转速	
	有动力	无动力或模拟自转
瞬态最大值	108 (5 秒)	115 (5秒)
最大连续	103	108
最大连续 (下降时)	108	-
最小连续	100	90
瞬态最小值	95 (5秒)	85 (5秒)

Rotor Speed Limits:

Speed range	Rotor speed	
	Power on	Power off or simulation of autorotation
Maximum transient	108 (5 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.

10. 最大使用高度和温度:

飞行时最大压力高度: 5000 m (16400 ft)

海平面外界大气温度: 最高+46°C

最低-30°C

注: 关于高度和外界大气温度的关系, 参见《旋翼机飞行手册》的限制部分

Maximum Operating Altitude and Temperature:

Maximum pressure altitude for flight 5000 m (16400 ft)

Outside temperature at sea level Maximum +46°C

Minimum -30°C

NOTE: For variation of altitude with OAT refer to Limitations Section of Rotorcraft Flight Manual.

11. 使用限制条件/Operating Limitations:**11.1 概述/General:**

昼夜目视飞行规则, 不允许在已知结冰条件下飞行

VFR day / night, operation in known icing conditions is not allowed.

11.2 起飞和着陆附加条件/Additional limitations for take-off and landing:

启动和停止旋翼时的最大风速:

Maximum wind velocity for starting and stopping rotors:

逆风: 48 节 (90 km/h, 25 m/s)

head wind 48 knots (90 km/h, 25 m/s)

侧风: 17 节 (32 km/h, 9 m/s)

side wind 17 knots (32 km/h, 9 m/s)

顺风: 17 节 (32 km/h, 9 m/s)

tail wind 17 knots (32 km/h, 9 m/s)

最大着陆坡度: 5°

Maximum landing slope 5°

12. 最大审定重量/Maximum Certified Weights:

最大起飞和着陆重量: 1800 kg (3968 lb)

Maximum take-off and landing weight 1800 kg (3968 lb)

最小着陆重量: 1150 kg (2535 lb)

Minimum landing weight 1150 kg (2535 lb)

13. 重心范围/Centre of Gravity Range:

纵向重心限制/Longitudinal centre of gravity limitations

后限/aft 500 mm (19,69 ins)

前限/forward 750 mm (29,53 ins)

横向重心限制/Lateral centre of gravity limitations

右限/right 60 mm (2,36 ins)

左限/left 60 mm (2,36 ins)

14. 基准/Datum:

纵向重心的基准位置在主旋翼轴线与机身基准平面相交点后 499 mm (19,65 ins), 横向重心的基准位置在直升机对称面上。

The centre of gravity datum position (longitudinal) is 499 mm (19,65 ins) 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).

15. 水平测量措施:

从顶部基准点垂线至客舱地板上的刻度牌

Levelling Means:

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

16. 最小飞行机组:

一名驾驶员在左侧操作

Minimum Flight Crew: One pilot operating from the left hand seat.**17. 最大座位数/Maximum Passenger Seating Capacity:**

4 (four)

18. 乘客紧急出口/Passenger Emergency Exit:

2 个可抛弃式前舱门

2 forward doors are jettisonable

2 个后舱门的窗户可抛弃

2 rear door window panels are jettisonable

19. 最大行李/货物载重/Maximum Baggage/Cargo Loads:

客/货舱: 323 kg (712 lb)

In passenger / cargo cabin 323 kg (712 lb)

行李舱: 150 kg (330,7 lb)

In baggage compartment 150 kg (330,7 lb)

20. 主桨叶和操纵系统/Rotor Blade and control movement:

参见《维修手册》文件号 AE-60.01.04.0 MM 第六章

see Maintenance Manual, Doc. No. AE-60.01.04.0 MM (Chapter 6)

21. 辅助电源装置/Auxiliary Power Unit (APU):

无/N/A

22. 时限件/Life-limited parts:

参见文件号 AE-60.01.04.0.MM 第一卷第四章第 4.00.00 节: 适航限制

Refer to document AE-60.01.04.0.MM Volume 1, Chapter 4,

Subchapter 4.00.00 Airworthiness Limitations

23. 机轮和轮胎/Wheels and Tyres:

无/N/A

II 使用和服务说明**II Operating and Service Instructions**

1. 旋翼机飞行手册: 文件号AE-60.01.04.1 (英文版)

Rotorcraft Flight Manual, Document No:

In English AE-60.01.04.1 RFM

2. 维修手册: 文件号AE-60.01.04.0 (英文版)

Maintenance Manual, Document No:

In English AE-60.01.04.0 MM

3. 服务函和服务通报: 见PZL出版物

Service Letters and Service Bulletins:

As published by PZL

4. 所需设备: 参见《旋翼机飞行手册》中有关批准的必装和选装设备

Required Equipment:

Refer to RFM for the approved mandatory and optional equipment

III. 备注/NOTES

注释 1 有效序列号: 60.02.02 以及此后的 60.XX.YY 编号 (序列号的格式为 60.XX.YY, 其中 XX 表示生产批号、YY 代表该批次内的编号)

NOTE 1 Eligible serial numbers: 60.02.02 and subsequent 60.XX.YY numbers (The serial number format is 60.XX.YY where XX is the production batch number and YY is the number within the batch).

注释 2 2002 年 11 月的 CAO 型号审定标准是 2007 年 3 月 28 日生效的 EASA 的“始祖”。
“EASA 型号合格证颁发日期”表示从该日起, 因欧洲型号审定作业 (EASA 之前的程序) 而产生的针对始祖的型号设计变更已引入基本的 EASA 型号定义 (第 III, 1 节), 并且已被 EASA 正式承认和接受。(即注释 1 中的有效序列号范围内的所有航空器都符合 2002 年 11 月和 2007 年 9 月的标准)

NOTE 2 The November 2002 CAO Type Certification standard was "grandfathered" to become the EASA standard on 28 March 2007. The 'EASA Type Certificate Issue' date reflects the date at which changes to the grandfathered type

design resulting from a European Type Certification exercise (initiated prior to EASA) and incorporated into the basic EASA Type Definition of paragraph III,1 were formally accepted and adopted by EASA. (i.e. all aircraft falling within the serial number applicability range of Note 1 above conform to the November 2002 plus September 2007 standard).

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