

型号认可数据单

THE VALIDATION DATA SHEET

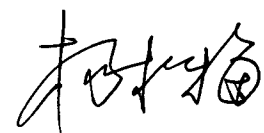
编号/NO: VTC0119A

版本/Revision: 4

型号/Type:

A109E, A119, A109S**AW109SP, AW119MKII**

批准人/Approved By: Yang Zhenmei


职务/Title: Deputy Director General of
CAAC-AAD

日期/Date: 2015-01-04

本数据单是型号认可证（编号：VTC0119A）的组成部分，它规定了符合中国民用航空局的适航要求所颁发此型号认可证的产品状态和限制。

This data sheet, which is part of Validation of Type Certificate (No: VTC0119A), prescribes condition and limitation under the product for which the type certificate was issued meets the airworthiness requirements of the Chinese Civil Aviation Regulation.

型号认可证持有人/Validation of Type Certificate Holder:

AGUSTAWESTLAND S.p.A.

P.zza Monte Grappa, 4

00195 Rome Italy

有效页清单/List of effective pages:

页数/Pages	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
版次/Revision	4	4	4	3	3	3	3	3	3	3	3	3	4	4	3
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第 1 部分 概述 (所有型别)

SECTION 1 GENERAL(ALL MODELS)

1. CAAC 认可数据单和型号合格证数据单

CAAC Validation Data Sheet and Type Certification Data Sheet

	中国民用航空局认可数据单号、版次和颁发日期 CAAC Validation Data Sheet Number, Revision and issuance date	型号合格证数据单号、版次和颁发日期 Type Certificate Data Sheet Number, Revision and issuance date
当前 Current	VTC0119A 版次 4/Revision 4 2015-01-04	AW119MKII EASA.R.005 Issue 14 25 May 2011 AW109SP EASA.R.005 Issue 15 23 Jan 2012 A109S EASA.R.005 Issue 7 11 June 2007 A119 EASA.R.005 Issue 7 11 June 2007 A109E EASA.R.005 Issue 7 11 June 2007
历史 History	VTC0119A 版次 3/Revision 3 2013-07-17	AW109SP EASA.R.005 Issue 15 23 Jan 2012 A109S EASA.R.005 Issue 7* 11 June 2007 A119 EASA.R.005 Issue 7* 11 June 2007 A109E EASA.R.005 Issue 7* 11 June 2007
	VTC0119A 版次 2/Revision2 2009-12-15	A109S EASA.R.005 Issue 7 11 June 2007 A119 EASA.R.005 Issue 7 11 June 2007 A109E EASA.R.005 Issue 7 11 June 2007
	VTC0119A 版次 1/Revision1 2006-04-13	A119 EASA.R.005 Issue 5 13 June 2005 A109E EASA.R.005 Issue 5 13 June 2005
	VTC0119A 原版/Original Issue 2001-07-30	A109E ENAC SO/A 156 rev.21
*从2011年6月1日起, Agusta S.p.A.更名为AgustaWestland S.p.A., Agusta Aerospace Corporation 更名为AgustaWestland Philadelphia Corporation.。按申请人请求, 在进行AW109SP 认可审查时, 将TCDS中涉及到的名称进行了统一更改, 其它内容保持不变。		

2. 认可当局/Validation Authority: 中国民用航空局/CAAC

审定当局/Certification Authority: 欧洲航空局/EASA

3. 型号合格证持有人/Type Certificate Holder: AGUSTAWESTLAND S.p.A.

P.zza Monte Grappa, 4

00195 Rome Italy

4. 进口要求/Import Requirements:

为具备在中国运行的资格, 按本型号认可证制造的每架飞机必须具有一份出口适航证, 其上签注有出口国适航当局的审定声明, 即: 本架航空器符合 CAAC 所批准的型号设计并处于可安全运行的状态。

To be considered eligible for operation in China, each aircraft manufactured under this Validation of Type Certificate must be accompanied by a certificate of airworthiness for export endorsed by the Exporting Authority which states (in English language): This aircraft conforms to its CAAC type design and is in a condition for safe operation.

第 2 部分 A109E

SECTION 2 A109E

I. 总则/General

1. 衍生型或型号/Variant or Model: A109E
- 适航类别/Airworthiness Category: B 类 - 等效于 A 类小型旋翼航空器/Small Rotorcraft - Cat.B and Equivalent Category A operation
- 型号合格证持有人/Type Certificate Holder: AGUSTAWESTLAND S.p.A. Via Giovanni Agusta, 520-21017 Cascina Costa di Samarate (Va) - Italy

2. 生产机构批准/Production Organization Approval

依据批准的许可证 IT.21G.0007, ENAC(Ente Nazionale per l'Aviazione Civil certifies), 批准 AGUSTAWESTLAND S.p.A 为批准的生产机构

Ente Nazionale per l'Aviazione Civil(ENCA) certifies AGUSTAWESTLAND S.p.A as a PRODUCTION ORGANISATION accord to APPROVAL CERTIFICATE IT.21G.0007

3. 国家认证日期 National Certification Date 31 May 1996 (ENAC T.C. No.SO/A 156)

4. CAAC 型号认可日期 CAAC Validation Data 30 July 2001

II. 认可审定基础/Validation Basis

1. 满足要求的日期/Reference Date for determining the applicable requirements:

报告 109-01-15, A109 直升机: 满足申请条款 Report 109-01-15, A109 Helicopter: Compliance with Applicable Rules

2. ENAC 许可日期/ENAC Certification Date: 31 May 1996 (ENAC T.C. No.SO/A156)

3. ENAC 型号合格证数据单号/ENAC Type Certificate Data Sheet No :SO/A156 Rev.21

4. ENAC 审定基础/ENAC Certification Basis:

正常类 Normal Category

FAR part 27 with Amendment from 1 to 8 included

FAR part 29 Paragraph 29.903 (b), "Category A; engine isolation";

FAR part 27 paragraphs: 27.2 Amendment 28; 27.21 Amendment 21; 27.45 Amendment 21; 27.79 Amendment 21; 27.141 Amendment 21; 27.143 Amendment 21; 27.175 Amendment 21; 27.177 Amendment 21; 27.401 Amendment 27; 27.610 Amendment 21; 27.901 Amendment 23; 27.903 Amendment 23; 27.927 Amendment 23; 27.954 Amendment 23; 27.1091 Amendment 23; 27.1189 Amendment 23; 27.1305 Amendment 23; 27.1321 Amendment 13; 27.1322 Amendment 11; 27.1323 Amendment 13; 27.1325 Amendment 13; 27.1505 Amendment 21; 27.1519 Amendment 21; 27.1521 Amendment 23; 27.1527 Amendment 14; 27.1529 Amendment 18; 27.1549 Amendment 23; 27.1555 Amendment 21; 27.1557 Amendment 11; 27.1581 Amendment 14; 27.1583 Amendment 16; 27.1585 Amendment 21; 27.1587 Amendment 21.

等效 A 类使用依据 JAR OPS 3.480 附加上述条款满足以下相应章节/ For "Equivalent Category A" operations as

per JAR OPS 3.480 in addition to what listed above is required the compliance with following paragraphs:

JAR 29.45 (a), (b) (2) Base Amendment, JAR 29.49 (a) Base Amendment, JAR 29.51 Base Amendment, JAR 29.53 Base Amendment, JAR 29.55 Base Amendment, JAR 29.59 Base Amendment, JAR 29.60 Base Amendment, JAR 29.61 Base Amendment, JAR 29.62 Base Amendment, JAR 29.64, Base Amendment, JAR 29.65 (a) Base Amendment, JAR 29.67 (a) Base Amendment, JAR 29.75 Base Amendment, JAR 29.77 Base Amendment, JAR 29.79 Base Amendment, JAR 29.81 Base Amendment, JAR 29.85 Base Amendment, JAR 29.87 (a) Base Amendment, JAR 29.571 Base Amendment (AC Material only: AC29-2A Item 230 paragraph 10), JAR 29.861 (a) Base Amendment, JAR 29.901 (c) Base Amendment, JAR 29.903 (b), (c) (e) Base Amendment, JAR 29.908 (a) Base Amendment, JAR 29.953 (a) Base Amendment, JAR 29.1027 (a) Base Amendment, JAR 29.1045 (a)(1), (b) (c) (d) (f) Base Amendment, JAR 29.1047 (a) Base Amendment, JAR 29.1181 (a) Base Amendment, JAR 29.1187 (e) Base Amendment, JAR 29.1189 (c) Base Amendment, JAR 29.1191 (a)(1) Base Amendment, JAR 29.1193 (e) Base Amendment, JAR 29.1195 (a) (d) Base Amendment, JAR 29.1197 Base Amendment, JAR 29.1199 Base Amendment, JAR 29.1201 Base Amendment, JAR 29.1305 (a)(6), (b) Base Amendment, JAR 29.1309 (b) (2) (i) (d) Base Amendment, JAR 29.1323 (c)(1) Base Amendment, JAR 29.1331 (b) Base Amendment, JAR 29.1351 (d) (2) Base Amendment, JAR 29.1587 (a) Base Amendment.

针对安装应急浮筒审定/For Emergency floats certification:

FAR 27.563 Amendment 26, , FAR 27.801 Amendment 11, FAR 27.807 Amendment 26, FAR 27.1411 Amendment 11, FAR 27.1415 Amendment 11.

For the installation 109-0810-22 (all dashes approved) required for IFR (IMC) operations, with one or two pilots during day and night: FAR 27 App. B Amendment 19, FAR 27.672 Amendment 21, FAR 27.1309 Amendment 21, FAR 27.1329 Amendment 21, FAR 27.1335 Amendment 13

对安装滑撬式起落架的/For the A109E with Skid Landing Gear Installation p/n 109-0812-57-101

In addition to what listed above is required the compliance with following paragraphs:

FAR 27.1 Amendment 37; FAR 27.25 Amendment 36; FAR 27.29 Amendment 14; FAR 27.33 Amendment 14; FAR 27.65 Amendment 33; FAR 27.67 Amendment 23; FAR 27.75 Amendment 14; FAR 27.151 Amendment 21; FAR 27.161 Amendment 21; FAR 27.173 Amendment 21; FAR 27.175 Amendment 34; FAR 27.307 Amendment 26; FAR 27.321 Amendment 11; FAR 27.337 Amendment 26; FAR 27.339 Amendment 11; FAR 27.351 Amendment 34; FAR 27.391 Amendment 34; FAR 27.395 Amendment 26; FAR 27.397 b) Amendment 11; FAR 27.501 Amendment 26; FAR 27.571 Amendment 26; FAR 27.602 dated 24/08/99; FAR 27.603 Amendment 16; FAR 27.605 Amendment 16; FAR 27.610 Amendment 37; FAR 27.613 Amendment 26; FAR 27.621 Amendment 34; FAR 27.625 Amendment 35; FAR 27.629 Amendment 26; FAR 27.663 Amendment 26; FAR 27.675 Amendment 16; FAR 27.685 Amendment 26; FAR 27.727 Amendment 26; FAR 27.863 Amendment 16; FAR 27.917 Amendment 11; FAR 27.923 Amendment 29; FAR 27.1141 Amendment 33; FAR 27.1151 Amendment 33; FAR 27.1163 Amendment 23; FAR 27.1185 Amendment 37; FAR 27.1187 Amendment 37; FAR 27.1329 Amendment 35; FAR 27.1365 Amendment 35; FAR 27.1501 Amendment 14; FAR 27.1525 Amendment 21.

5. 适航要求/Airworthiness Requirements:

FAR 27 Amdt as defined above

6. 专用技术条件/Special Conditions:

N° 27-54-EU-17 dated 26/06/73 forwarded with sheet N°109.489/T dated 03/07/73;

N° 94/253/MAV dated 04/05/1994 for HIRF;

N° 00/1479/MAE dated 11/05/2000 ENAC D-1 issue 2 for cargo hooks P/N 109-0810-31 and P/N 109-0811-75, as written in the CRI D-1.

7. 继承及豁免/Reversion and Exemptions:

Para 27.1(a) Base Amendment (max weight 6000 lb).for normal category and for restricted category, see Note 7

8. 等效安全/Equivalent Safety Findings:

Shut off Valve, instead of FAR 27.1189

9. 环境标准包括噪声/Environmental Standards including Noise:

Noise: ICAO Annex 16 vol I, Part II Amdt 7, Chapt. 8.

Emissions: ICAO Annex 16, Ed 1993, vol II, Part II, Chapt. 2 (fuel venting)

III. 技术特性及操作限制/Technical Characteristic and Operational Limitations

1. 型号设计定义/Type Design Definition:

参考图纸/Refer to the drawing 109-9000-01-151

2. 描述/Description:

B 类, 等效 A 类使用, 轻型双发直升机, 四片复合材料桨叶, (具有弹性轴承) 铰接式主旋翼, 两片跷跷板式尾桨, 前三点可收放式起落架或装有组件 p/n 109-0812-57-101 的滑撬式起落架, 一/二驾驶员机六/七位乘客的座舱布局。

Cat B. and "Equivalent Cat A" operations, Light twin-engine aircraft, four (4) composite MR blades, articulated (with elastomeric bearings) main rotor, twin (2) blades teetering tail rotor, tricycle retractable landing gear or skid landing gear for helicopters equipped with kit p/n 109-0812-57-101 , one (1) pilot and seven (7) passengers capacity.

A109E 与 A109K2 不同点在于安装了由 FADEC 控制的 Pratt & Whitney Canada PW206C 或 Turbomeca Arrius 2K1 涡轮发动机, 座舱配装了综合显示系统 (IDS)

The A109E differs from A109K2 model for the installation of Pratt & Whitney Canada PW206C or Turbomeca Arrius 2K1 turbo engines, controlled by FADEC; and for the new cockpit with Integrated Display System (IDS).

3. 设备/Equipment:

依据适航规范 (见审定基础) 要求的基本设备, 为适航许可须按安装在直升机上。另外需要以下设备须安装:

Basic equipment required by the Airworthiness Specifications (see Certification Basis) shall be installed on the helicopter for Airworthiness Certificate release. Besides are required the following equipments.

与外部温度有关的数据, 从 IDS 和件号 P/N E22307-2-4 外部探头;

Data relevant to outside temperature, provided from IDS and external probe identified by P/N E22307-2-4;

依据图纸 N° 109-0753-28 安装的低旋翼转速和发动机故障警告系统。

Low rotor rpm and engine failure warning according to drawing N° 109-0753-28.

针对等效 A 类操作要求, 依据 JAR OPS3.480 安装 P/N 109-0811-39 (所有系列均认可),

For "Equivalent Category A" operations as per JAR OPS 3.480 install P/N 109-0811-39 (all dashes approved)

针对仪表飞行规则要求, 一侧或双侧飞行员仪表规则组件 P/N 109-0810-22 (所有系列) 适用于 n.c. 11001 及以后。

对于选装滑撬式起落架的 A109E 滑撬式起落架 P/N 109-0570-69-103, 主旋翼 P/N 109-0112-02-101 和由 FADEC 控制的 Pratt & Whitney Canada. PW206C 发动机。

For IFR (IMC) operation, with one or two pilots during day and night install IFR P/N 109-0810-22 (all dashes) applicable to n.c. 11001 and subsequent. For the A109E with Skid Landing Gear install: skid landing gear P/N 109-0570-69-103, main rotor P/N 109-0112-02-101 and engines Pratt & Whitney Canada. PW206C controlled by FADEC.

许可强制和被选设备清单见报告 109-07-16 "Elenco degli equipaggiamenti",

Approved mandatory and optional equipments are listed in the Report 109-07-16 "Elenco degli equipaggiamenti".

可参考飞行手册设备清单。

Refer also to the Equipment list in the RFM.

4. 尺寸/Dimensions:

机身/Fuselage	长/Length	m	11,450
	宽/Width	m	2,880
	高/Height	m	3,500
主旋翼/Main Rotor	4 片桨叶-直径/ 4 blades – Diameter	m	11,00
尾桨/Tail Rotor type	2 片桨叶-直径/ 2 blades – Diameter	m	2,00

安装滑撬式起落架/For helicopter equipped with skid landing gear kit p/n 109-0812-57-101

机身/Fuselage	长/Length	m	11,020
	宽/Width	m	2,880
	高/Height	m	3,536
主旋翼/Main Rotor	4 片桨叶-直径/ 4 blades – Diameter	m	10,830
尾桨/Tail Rotor type	2 片桨叶-直径/ 2 blades – Diameter	m	2,00

5. 发动机/Engines:

2 台加拿大普惠公司/2 Pratt & Whitney Canada

由 FADCE 控制的 PW206C controlled by FADEC

发动机 TCDS 设计声明/State of Design Engine TCDS No: TC E-23 issue 21 dated 16/03/05 issued by DOT
Canada

EASA 发动机 TCDS/EASA Engine TCDS No: NA

2 台透博梅卡公司/ 2 TURBOMECA

由 FADEC 控制的 Arrius 2K1 controlled by FADEC

发动机 TCDS 设计声明/State of Design Engine TCDS No: DGAC n. M20 of 16 October 2000

EASA 发动机 TCDS/EASA Engine TCDS No: NA

5.1 安装的发动机制限制/Installed Engine Limits

PW206C

双发工作:	起飞功率	450 SHP, 100% (Nr 100%)
双发工作:	最大连续	450 shp, 100% (Nr100%)
单发(应急):	2.5 分钟	640 shp, 142% (Nr100%)
单发(应急):	最大连续	560 shp, 124% (Nr100%)
AEO:	Take Off Power	450 shp, 100% (Nr100%)
AEO:	Maximum Continuous	450 shp, 100% (Nr100%)
OEL(emergency):	2,5 min.	640 shp, 142% (Nr100%)
OEL(emergency):	Maximum Continuous	560 shp, 124% (Nr100%)

Arrius 2K1

双发工作:	起飞功率	450 SHP, 100% (Nr 100%)
双发工作:	最大连续	450 shp, 100% (Nr100%)
单发(应急):	2.5 分钟	640 shp, 142% (Nr100%)
单发(应急):	最大连续	560 shp, 124% (Nr100%)
AEO:	Take Off Power	450 shp, 100% (Nr100%)
AEO:	Maximum Continuous	450 shp, 100% (Nr100%)
OEL(emergency):	2,5 min.	640 shp, 142% (Nr100%)
OEL(emergency):	Maximum Continuous	560 shp, 124% (Nr100%)

参考 EASA 批准的飞行手册— 第 1 部分在 TOT, N1 上的附加详细信息

See EASA approved Rotorcraft Flight Manual for TOT, N1 and transient

5.2 瞬时扭矩限制/Transmission Torque Limits:

参考 EASA 批准的飞行手册, 第 1 部分, 附加详细信息

Refer to EASA approved RFM, Section 1, for additional detailed information

6. 液体/Fluids (燃油/滑油/附加/Fuel/Oil/Additives):

6.1 燃油/Fuel

PW206C

适用于所有温度/For all temperatures: ASTM D-1655 Jet A, Jet A1, Jet A2, Jet B.

Arrius 2K1

适用于所有温度 For all temperatures: ASTM D-1655 Jet A, JetA1.

军标（仅供参考） Military Specifications (for reference only):

MIL-T-83133 type JP-8; MIL-T-5624 type JP4, JP5.

更详细信息见 EASA 批准的飞行手册第一部分

For detailed information see EASA approved Rotorcraft Flight Manual Section 1.

6.2 滑油/Oil

PW206C

发动机/Engine: MIL-PRF-23699F (MIL-L-23699) or PWA-521

Arrius 2K1

发动机/Engine: MIL-PRF-23699 (MIL-L-23699) or MIL-L-PRF-7808 (MIL-L-7808)

传动系统 Transmission: DOD-L-85734 or MIL-PRF-23699 (MIL-L-23699)

更详细信息见 ENCA 批准的飞行手册第一部分

For detailed information see Flight Manual section 1 ENAC approved.

7. 液体容量/Fluid capacities:

7.1 燃油/Fuel

可用燃油/Total usable: Fuel 595 l (157 US Gal).

当安装辅助油箱情况下的不可用燃油见飞行手册

See Rotorcraft Flight Manual for unusable fuel capacity when installed auxiliary tank.

7.2 滑油/Oil

PW206C: 每台发动机/5,12 l (1,35 US Gal) each engine

Arrius 2K1: 每台发动机/4,31 l (1,13 US Gal) each engine

不能放出的滑油量见飞行手册/See Flight Manual for non drainable lubricant

传动系统/Transmission: 11 l (2,9 US Gal)

不能放出的滑油量见飞行手册/See Rotorcraft Flight Manual for non drainable lubricant.

8 空速限制/Airspeed limits:

有动力时/168 Kts IAS power on

无动力时/128 kts IAS power off

附加详细信息参见 EASA 批准的飞行手册-第一部分

For detailed information refer to EASA approved Rotor Flight Manual Section 1.

9. 旋翼转速限制/Rotor Speed Limits:

有功率状态 Power on AEO:	最大 Max	102% (394 rpm)
	最小 Min	99% (380 rpm)
单发功率状态 Power on OEI:	最大 Max	102% (394 rpm)
	最小 Min	99% (380 rpm)
无动力状态 Power off:	最大 Max	110% (422 rpm)
	最小 Min	90% (346 rpm)

附加详细信息参见 EASA 批准的飞行手册-第一部分

For detailed information see EASA approved Rotorcraft Flight Manual – Section 1.

10. 最大适用升限及温度 Maximum Operating Altitude and Temperature:

起飞和着陆/Take-off and landing	4572 m (15000 ft) Hp
最大使用高度/Maximum operating altitude	6095 m (20000 ft) Hp

见飞行手册第一部分温度限制

See Rotorcraft Flights Section 1 for temperature limitations.

针对安装滑撬式起落架组件 p/n 109-0812-57-101

For helicopter equipped with skid landing gear kit p/n 109-0812-57-101

起飞和着陆/Take-off and landing	914m (3000 ft) Hp
最大使用高度/Maximum operating altitude	4572 m (15000 ft) Hp

见 EASA 批准的飞行手册第一部分温度限制

See EASA approved Rotorcraft Flight Manual Section 1 for temperature limitations.

11. 使用限制 Operating Limitations:

11.1 概述: B 类和“等效于 A 类”使用 - VFR/IFR 白天及夜间, 无结冰条件。

General: Cat B and “Equivalent Cat A” operations - VFR/IFR day and night, non-icing conditions

11.2 起飞和着陆附加限制: 见 EASA 批准的飞行手册第一部分。

Additional limitations for take-off and landing: See EASA approved Rotorcraft Flight Manual Section 1.

12. 最大重量 /Maximum Certified Weights:

起飞和着陆/Take-off and landing 2850 kg (6283 lb) 见注 7 see Note 7

13. 重心范围/Centre of Gravity Range:

见飞行手册重心包线

See Rotorcraft Flight Manuals for CG envelope

14. 基准/Datum:

纵向基准线原点 (SAT 0) 位于前支撑点前 1835mm(72 in)处

Longitudinal datum line (STA 0) is located at 1835 mm (72in) forward of the front jack point.

侧向基准线位于两侧主支撑点 ± 450 mm (± 18 in)中间, 与纵向基准线相交

Lateral datum line (BL 0) is located at ± 450 mm (± 18 in) inboard of each of the two main jack points and it coincides with the helicopter longitudinal plane of symmetry.

详见飞行手册-第六部分

For detailed information refer to RFM – Section 6

15. 水平方法/Leveling Means:

水平平台位于客舱顶部右侧参考支柱。

详见飞行手册-第六部分

The spirit level plate is to be placed on cabin roof right stanchion reference.

For detailed information refer to RFM – Section 6

16. 最小飞行机组/Minimum Flight Crew:

右侧单驾驶员可操纵直升机

1 pilot, who shall operate the aircraft from the right crew seat.

17. 最大乘客座位数 Maximum Passenger Seating Capacity:

7 人 7 (seven) passengers

18. 乘客应急出口 Passenger Emergency Exit:

两个, 客舱每侧一个 2 (two), one on each side of the passengers cabin

19. 最大行李/货物装载/Maximum Baggage/Cargo Loads:

位置/Location

最大载荷/装载 Max Load/Loading

行李舱/Baggage compartments

在 STA5300mm 处 150 kg (330 lbs) 或依据飞行手册-第六部分定义载荷为
120 kg (265 lbs)

150 kg (330 lbs) at STA 5300 mm (209 in) or according to load distribution defined in the RFM – Section 6.

货舱地板最大载荷

Maximum load on cargo compartment floor: 500 kg/m² (102 lb/ft²)

最大货舱安全挂点载荷为 91 Kg (200 lbs).

Maximum load on securing points of cargo compartment: 91Kg (200 lbs).

客舱/Cabin compartment

不适用 NA

20. 桨叶控制移动范围/Rotor blade and control movement:

主旋翼（总距）/Main Rotor (Collective) min -2° /max +12°

尾/Tail RH pedal - 7° LH pedal +24°

操纵系统详细参数见 A109S 维护手册

For rigging information refer to the A109S Maintenance Manual

21. 辅助动力装置/Auxiliary Power Unit (APU): 不适用 NA

22. 寿命件/Life-limited parts:

参考 EASA 批准的维护手册第 4 章

Refer to EASA Approved Chapter 4 of Maintenance Manual

23. 机轮和轮胎/Wheels and Tyres: 无内胎 360 x 135-6 tubeless (除安装滑撬式起落架的 A109E)

IV. 使用和操作规范 Operating and Service Instructions

1. 飞行手册文件号/Rotorcraft Flight Manual, Document No: 针对安装有 PW206C 的直升机 A109E 飞行手册, ENAC 以信件 N° 97/3147/MAE, 1997 年 7 月 3 日批准。

For Helicopters equipped with PW206C: "A109E Rotorcraft Flight Manual" ENAC Approved with letter N° 97/3147/MAE dated 30/07/1997.

针对安装有 Arrius 2K1 的飞行手册, ENAC 以信件 03/171337/SPA, 1997 年 7 月 3 日批准。关系到第 5 部分“使用设备补充部分” 109-08-063, EASA 以 N° 2004-6322 在 2004 年 6 月 17 日批准。

For Helicopters equipped with Arrius 2K1: "Rotorcraft Flight Manual" 109-08-053 ENAC approved with letter 03/171337/SPA dated 29/07/2003 and relevant section 5 "Optional Equipment supplements" 109-08-063 EASA approved N° 2004-6322 dated 17-06-2004.

针对安装有滑撬式起落架组件 p/n 109-0812-57-101 的飞行手册 109-08-055, ENAC 以信件 N° 120350/SICU, 年 6 月 1 日批准。关系到第 5 部分“使用设备补充部分” 109-08-058, EASA 以 N° 2004-6322 在 2004 年 6 月 17 日批准。

For aircraft equipped with skid landing gear kit p/n 109-0812-57-101: "Rotorcraft Flight Manual" 109-08-055 ENAC approved with letter N° 120350/SICU dated 01/06/2001 and relevant section 5 "Optional Equipment supplements" 109-08-058 EASA approved N° 2004-6322 dated 17/06/2004

2. 维护手册文件号/Maintenance Manual, Document No: 参考 A109E 维护手册

Refer to the A109E Maintenance Manual

3. 服务信件和服务通告/Service Letters and Service Bulletins: 由 AgustaWestland 出版

As published by AgustaWestland

4. 必备设备/Required Equipment:

参考 III.3 和 EASA 批准的飞行手册, 批准的强制和选装设备。

Refer to point III.3 above and EASA Approved Rotorcraft Flight Manual for the approved mandatory and optional equipments.

注/ Notes

1. 符合的系列号: 组装图纸号 109-9000-01-151 从 S/N 11001 到 S/N 11999

Eligible serial numbers: Assembly Drawing 109-9000-01-151 from S/N 11001 to S/N 11999

7. 标准 C.N. 获得正常类增重 (2850) /Weight increase (2850) in normal category for standard C.N. release

A109K2 e A109E: 通过满足 1993 年 3 月 4 日信件 93/09 (对 A109K2)、1997 年 6 月 2 日信件 97/3.335 (对 A109E) 的要

求; 依据 1996 年 5 月 4 日信件 96/1429/MAE 许可, 作为审定流程的结论及相关的飞行手册版次, 已经同意对 27.1(a)条款得豁免, 因此标准 C.N. 可获得正常类 2850kg 的起飞最大重量 (A109K2, 1997 年 7 月 31 日获得批准信件 97/3166/MAE, A109E , 19997 年 7 月 30 日获得批准信件 97/3147/MAE)

Following the request forwarded with letter 93/09 dated 04/03/1993 (for A109K2) and 97/3.335 dated 2/6/1997 (for A109E); following the approval expressed with letter 96/1429/MAE dated 05/04/1996, as conclusion of certification procedures and relevant RFM revisions, it has been granted the exemption to paragraph 27.1(a) therefore the standard C.N. can be obtained in normal category with takeoff maximum weight of 2850 Kg (approval letters 97/3166/MAE dated 31/07/97 for A109K2 and 97/3147/MAE dated 30/7/97 for A109E)

8. 中文标牌和标识包含在图纸 109-0812-66, 版本 C 或 CAAC 批准的更新版本中。

Chinese Placards and markings are included in Drawing 109-0812-066, Revision C or later revisions CAAC approved.

第3部分 A119

SECTION 3 A119

I. 总则/General

1. 衍生型或型别/Variant or Model: A119
 适航类别/Airworthiness Category: B类 - 等效于A类小型旋翼航空器/Small Rotorcraft - Cat.B and Equivalent Category A operation
 型号合格证持有人/Type Certificate Holder: AGUSTAWESTLAND S.p.A. Via Giovanni Agusta, 520-21017 Cascina Costa di Samarate (Va) - Italy
2. 生产机构批准/Production Organization Approval 依据批准的许可证 IT.21G.0007, ENAC(Ente Nazionale per l'Aviazione Civil certifies), 批准 AGUSTAWESTLAND S.p.A 为批准的生产机构
 Ente Nazionale per l'Aviazione Civil(ENCA) certifies AGUSTAWESTLAND S.p.A as a PRODUCTION ORGANISATION accord to APPROVAL CERTIFICATE IT.21G.0007
3. 国家认证日期/National Certification Date 30 December 1999 (ENAC T.C. No.SO/A 156)
4. CAAC 型号认可日期/CAAC Validation Date 13 April 2006

II. 认可审定基础/Validation Basis

1. 满足要求的日期/Reference Date for determining the applicable requirements:

报告 109-01-15, A109-01-15, A109 直升机: 符合相应规章

Report 109-01-15, A109 Helicopter: Compliance with Applicable Rules

2. ENAC 许可日期/ENAC Certification Date: 30 December 1999

3. ENAC 型号合格证数据单号/ENAC Type Certificate Data Sheet No : SO/A156 Rev.21

4. ENAC 审定基础/ENAC Certification Basis:

JAR 27 Small Rotorcraft

For significant changes JAR 27 Small rotorcraft issue 1 dated 6 September 1993 except the following paragraphs
 JAR 27.561 replaced by FAR 27.561 Base Amendment; JAR 27.785 replaced by FAR 27.2 Amendment 28 and FAR 27.785 Base Amendment; JAR 27.952; JAR 27.562; JAR 27.963 replaced by FAR 27.963 Amendment 23; JAR 27.971 replaced by FAR 27.971 Base Amendment; JAR 27.973 replaced by FAR 27.973 Base Amendment; JAR 27.865 Amendment 2 dated 1 may 2001 for Cargo Hook and rescue hoist.

5. 适航要求/Airworthiness Requirements:

JAR27 修正案定义如上/JAR 27 Amdt as defined above

6. 专用技术条件/Special Conditions:

依据 JAA 内部文件 n° INT/POL/27&29/1 执行 HIRF

HIRF Protection according to JAA Interim Policy, Paper n° INT/POL/27&29/1

7. 继承及豁免/Reversion and Exemptions: 不适用 NA

8. 等效安全/Equivalent Safety Findings: JAR 27.1322; JAR 27.1509(a) See CRI A1 for details on certification basis

9. 环境标准包括噪声/Environmental Standards including Noise:

ICAO Annex 16, Chapter 11, Vol. 1, third edition 1993

Emissions: ICAO Annex 16, Vol. II, Ed. 1993 (see Note 5)

III. 技术特性及操作限制/Technical Characteristic and Operational Limitations

1. 型号设计定义/Type Design Definition:

参考报告 109-00-155 Rev. B 和 and subsequent

Refer to Report 109-00-155 Rev. B and subsequent

2. 描述/Description:

B 类单发直升机, 四片复合材料主旋翼桨叶, 具有柔性轴承的铰接式主旋翼, 两片跷跷板式尾桨, 滑撬式起落架, 一/二驾驶员机六/七位乘客的座舱布局。A119 与 A109E 不同点在于安装了一台由 EECU 控制的 Pratt & Whitney Canada PT6B-37207C 涡轮发动机。

Cat B. Single engine aircraft, four (4) composite MR blades, articulated (with elastomeric bearings) main rotor, twin (2) blades teetering tail rotor, skid landing gear, one (1) pilot and seven (7) passengers capacity.

The A119 differs from A109E model for the installation of a single Pratt & Whitney Canada PT6B-37A turbo engine, controlled by Electronic Engine Control (EEC).

3. 设备/Equipment:

依据适航规范 (见审定基础) 要求的基本设备, 为适航许可须按安装在直升机上。还需要以下设备须安装:

Basic equipment required by the Airworthiness Specifications (see Certification Basis) shall be installed on the helicopter for Airworthiness Certificate release. Besides are required the following equipments.

大气温度指示器 P/N MS28028-1

OAT indicator P/N MS28028-1

旋翼低转速和发动机故障告警系统, 依据图纸 N° 109-0729-21 and 109-0729-22.

Low rotor rpm and engine failure warning system according to drawing N° 109-0729-21 and 109-0729-22.

针对装有 IDS 的机型, 109-900-66 替代 109-0729-21。

For Helicopters equipped with IDS, the 109-0729-21 is replaced by the 109-900-66.

许可强制和被选设备清单见报告 109-07-19 “Elenco degli equipaggiamenti”,

Approved mandatory and optional equipments are listed in the Report 109-07-19 “Elenco degli equipaggiamenti”.

可参考飞行手册设备清单。

Refer also to the ENAC approved Equipment list in RFM

4. 尺寸/Dimensions:

机身/Fuselage	长/Length	m	11,173
	宽/Width	m	2,880
	高/Height	m	3,773
主旋翼/Main Rotor	4 片桨叶-直径/ 4 blades – Diameter	m	10,830
尾桨/Tail Rotor type	2 片桨叶-直径/ 2 blades – Diameter	m	2,000
	(金属尾桨叶 with metallic tail rotor blades)		
	2 片桨叶-直径/ 2 blades – Diameter	m	1,940
	(复合材料尾桨叶 with composite tail rotor blades)		

5. 发动机/Engines:

加拿大普惠公司/ Pratt & Whitney Canada

PT6B-37A 按照安装规范 No. 1017 (不装 IDS 的直升机)

Build Specification No. 1017 (for helicopters not equipped with IDS)

或按照安装规范 No. 1142 (装 IDS 的直升机)

or Build Specification No. 1142 (for helicopters equipped with IDS)

发动机 TCDS 设计声明/State of Design Engine TCDS No: Transport Canada Approval E-20 of 23 July 1999

EASA 发动机 TCDS/EASA Engine TCDS No: NA

5.1 安装的发动机限制/Installed Engine Limits

起飞功率 (5 分钟) 900SHP, 108,5% (Nr 100%)

最大连续 830 SHP, 100% (Nr 100%)

对与 ITT, N1 及瞬态值, 参考 EASA 批准的飞行手册

Take Off (5 minutes) 900 shp, 108,5% (Nr 100%)

Maximum Continuous 830 shp, 100% (Nr 100%)

See EASA approved Rotorcraft Flight Manual for ITT, N1 and transient

5.2 瞬时扭矩限制/Transmission Torque Limits:

参考 EASA 批准的飞行手册相应信息

See EASA approved Rotorcraft Flight Manual for information

6. 液体/Fluids (燃油/滑油/附加/Fuel/Oil/Additives):

6.1 燃油/Fuel 适用于所有温度情况下/For all temperatures:

ASTM D1655 Type Jet A; ASTM D1655 Type Jet A-1; ASTM D1655 Type Jet A-2;
MIL-T-5624 Type JP-5A; MIL-T-83133 Type JP-8..

详细信息参考 EASA 批准的飞行手册第一部分

For detailed information refer to EASA approved Rotor Flight Manual – Section 1.

6.2 滑油/Oil

发动机/Engines: MIL-PRF-23699F (MIL-L-23699) or PWA-521

传动系统/Transmission: DOD-L-85734 or MIL-PRF-23699 (MIL-L-23699)

详细信息参考 EASA 批准的飞行手册第一部分

For detailed information refer to EASA approved Rotor Flight Manual – Section 1

7. 液体容量/Fluid capacities:

7.1 燃油/ Fuel

可用燃油/ Total usable 595 l (157 US Gal)

不可用燃油和安装辅助油箱状态的燃油量见飞行手册

See Flight Manual for unusable fuel and for fuel capacity when installed auxiliary tanks.

不可用燃油见旋翼飞行手册

See Rotorcraft Flight Manual for unusable fuel.

7.2 滑油/Oil 发动机/Engine 10,45 l (2,76 US Gal)

(不可放滑油见飞行手册 See Flight Manual for non-drainable lubricant).

传动系统/Transmission: 10,3 l (2,7 US Gal)

(不可放滑油见飞行手册 See Rotorcraft Flight Manual for non-drainable lubricant).

8 空速限制/Airspeed limits:

152 Kts IAS

附加详细信息参见 ENCA 批准的飞行手册-第一部分

For detailed information see Rotor Flight Manual Section 1 approved by ENCA.

9. 旋翼转速限制/Rotor Speed Limits:

有功率状态 Power on:

最大

Max 101% (388 rpm)

103% (103%) with torque<50%

无动力状态 Power off:	最小	Min 95 % (365 rpm)
	最大	Max 110% (422 rpm)
	最小	Min 90 % (346 rpm)

附加详细信息参见 EASA 批准的飞行手册-第一部分

For detailed information see EASA approved Rotor Flight Manual – Section 1.

10. 最大适用升限及温度 **Maximum Operating Altitude and Temperature:**

最大适用升限/Maximum operating altitude 4572 m (15000 ft)

附加详细信息参见 EASA 批准的飞行手册-第一部分，温度限制

See EASA approved Rotorcraft Flight Manual, Section 1, for temperature limitations.

11. 使用限制 **Operating Limitations:**

11.1 一般 General: B 类，无结冰条件下，白天和夜间目视飞行
Cat. B - VFR day and night, non-icing conditions.

11.2 起飞和着陆附加限制: 参考 EASA 批准的飞行手册第一部分
Additional limitations for take-off and landing See EASA approved Rotorcraft Flight Manual section 1

12. 最大重量 **Maximum Certified Weights:**

起飞和着陆/Take-off and landing 2720 kg (6000 lb)

13. 重心范围 **Centre of Gravity Range:**

参考飞行手册重心包线

See Rotorcraft Flight Manual for CG envelope

14. 基准 **Datum:**

纵向基准线原点 (SAT 0) 位于前支撑点前 1785 mm (70.3in) 处

Longitudinal datum line (STA 0) is located at 1785 mm (70.3in) forward of the front jack point.

侧向基准线位于两侧主支撑点 ± 450 mm (± 18 in)中间，与纵向基准线相交

Lateral datum line (BL 0) is located at ± 450 mm (± 18 in) inboard of each of the two main jack points and it coincides with the helicopter longitudinal plane of symmetry.

详见飞行手册-第六部分

For detailed information refer to RFM – Section 6

15. 水平方法/Leveling Means:

从顶棚参考点悬挂铅垂线到客舱地板制定位置, 详见飞行手册-第六部分

Plumb line from ceiling reference point to the index plate located on passengers compartment floor.

For detailed information refer to RFM – Section 6

16. 最小飞行机组/Minimum Flight Crew:

右侧单驾驶员可操纵直升机

1 pilot, who shall operate the helicopter from the cockpit right seat.

17. 最大乘客座位数 Maximum Passenger Seating Capacity:

7 人 7 (seven) passengers

18. 乘客应急出口 Passenger Emergency Exit:

两个, 客舱每侧一个 2 (two), one on each side of the passengers cabin

19. 最大行李/货物装载/Maximum Baggage/Cargo Loads:

位置/Location 最大载荷/装载 Max Load/Loading

行李舱/Baggage compartments 在 STA4880mm(192in)处 150kg(330 lbs)或依据飞行手册第六部分载荷分布定义。

150 kg (330 lbs) at STA 4880 mm (192 in) or according to load distribution defined in the RFM – Section 6.

货舱地板最大载荷 500 kg/m² (102 lb/ft²)

Maximum load on cargo compartment floor: 500 kg/m² (102 lb/ft²)

最大货舱安全挂点载荷为 91 Kg (200 lbs).

Maximum load on securing points of cargo compartment: 91 Kg (200 lbs).

客舱/Cabin compartment

不适用 NA

20. 桨叶控制移动范围/Rotor blade and control movement:

主旋翼 (总距) /Main Rotor (Collective) min -2° /max +12°

尾/Tail

RH pedal - 7° /LH pedal +24° (金属尾桨 with metallic tail rotor blades)

RH pedal -8° /LH pedal +24° (复合材料尾桨 with composite tail rotor blades)

操纵系统详细参数见 A119 维护手册

For rigging information refer to the A119 Maintenance Manual

21. 辅助动力装置/Auxiliary Power Unit (APU): 不适用 NA

22. 寿命件/Life-limited parts:

参考 EASA 批准维护手册第 4 章

Refer to EASA Approved Chapter 4 of the Maintenance Manual

23. 机轮和轮胎/Wheels and Tyres: 不适用 NA

IV. 使用和操作规范 Operating and Service Instructions

1. 飞行手册文件号/Rotorcraft Flight Manual, Document No: 针对安装标准设备的直升机: ENAC 以信件 n° 99/4812/MAE, 1999 年 12 月 30 日, 批准了相应的飞行手册。

For aircraft equipped with standard instrument: RFM ENAC approved with letter n° 99/4812/MAE, dated 30.12.1999.

针对安装综合显示器的直升机: ENAC 以信件 n° 03/171218/SPA, 2003 年 5 月 23 日, 批准了相应的飞行手册。

For aircraft equipped with Integrated Display System RFM n° 109G0040A006, ENAC approved with letter n° 03/171218/SPA dated 23.5.2003

2. 维护手册文件号/Maintenance Manual, Document No: A119 / AW119 MKII-MPM Issue 1 Rev. 0 Maintenance Planning Manual (维修大纲)
A119 / AW119 MKII-MM Issue 1 Rev. 0 Maintenance Manual 维修手册
A119 / AW119 MKII-WDM Issue 1 Rev. 0 Wiring Diagram Manual 布线手册
and subsequent approved (when required) revisions. 及后续经批准的(如需要)相应版次。

3. 服务信件和服务通告/Service Letters and Service Bulletins: As published by AgustaWestland

4. 必备设备/Required Equipment: 针对批准的强制和备选设备, 参考 上面 III.3 提到的设备及 EASA 批准的飞行手册

1. 符合的系列号: 组装图纸号 119-9000-01-107 从 S/N 14003 到 S/N 14700

2. 制造/Manufacturer: from s/n 14003 to s/n 14516: AGUSTA WESTLAND S.p.A Via Giovanni Agusta, 520
21017 Cascina Costa di Samarate (VA) – Italy

from s/n 14517 to s/n 14700: AgustaWestland Philadelphia Corporation
3050 Red Lion Road
Philadelphia, PA 19114 – USA

3. 中文标牌和标识包含在图纸 109-0812-91, ISS. B 或 CAAC 批准的更新版本中。

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第 4 部分 A109S

SECTION 4 A109S

I 总则/General

1. 衍生型或型号/Variant or Model: A109S
 适航类别/Airworthiness Category: 正常类旋翼航空器/Normal Category Helicopter
 型号合格证持有人/Type Certificate Holder: AGUSTAWESTLAND S.p.A. Via Giovanni Agusta, 520-21017
 Cascina Costa di Samarate (Va) - Italy
2. 生产机构批准/Production Organization Approval 依据批准的许可证 IT.21G.0007, ENAC(Ente Nazionale per l'Aviazione Civil certifies)批准AGUSTAWESTLAND S.p.A 为批准的生产机构
 Ente Nazionale per l'Aviazione Civil certifies
 AGUSTAWESTLAND S.p.A as a PRODUCTION ORGANISATION accord to APPROVAL CERTIFICATE IT.21G.0007
3. 国家认证日期/National Certification Date N.A.
4. ENAC 申请/ENAC Application Date 11 December 2001
5. ENAC 推荐日期/ENAC Recommendation Date 24 May 2005
6. EASA 型号合格日期 EASA Type Certification Date 01 June 2005
7. 申请 CAAC 认可审定的日期/Date of Application for CAAC Validation 30 MAR 2009
8. CAAC 型号认可日期/CAAC Validation Date 15 December 2009

II. 认可审定基础/Validation Basis

CAAC 的认可审定基础由 EASA 审定基础中的适用要求和 CAAC 的附加技术条件组成

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

1. 审定基础/ Certification basis

1.1. 满足要求的日期/Reference Date for determining the applicable requirements: 31 May 2002

1.2. ENAC 许可日期/ENAC Certification Date: 不适用 N.A.

1.3. ENAC 型号合格证数据单号/ENAC Type Certificate Data Sheet No : 不适用 N.A.

1.4. ENAC 审定基础/ENAC Certification Basis:

As defined in CRI A-01 issue 6: FAR 27 as quoted in the EASA TCDS R.005 for unchanged areas and JAR 27 Amdt 3 1st April 2002 for the new or changed parts with respect to the A109E (identified in document n° 109-01-182 rev B) with the exceptions of JAR 27.863; for Category A Operations Appendix C to JAR 27 amdt 3.

1.5. 适航要求/Airworthiness Requirements:

FAR 27 / JAR 27 Amdt as defined above (ref CRI A-01 Issue 6)

1.6. 专用技术条件/Special Conditions:

1994 年 5 月 4 日关于 HIRF 的专用技术条件 n° 94/253/MAV。

HIRF Special condition n° 94/253/MAV dated May 4th 1994 (as for A109E model).

1.7.继承及豁免/Reversion and Exemptions: 无 None

1.8.等效安全/Equivalent Safety Findings: 无 None

1.9.环境标准包括噪声/Environmental Standards including Noise:

Noise: ICAO Annex 16 vol I, Part II Amdt 7, Chapt. 8.

Emissions: ICAO Annex 16, Ed 1993, vol II, Part II, Chapt. 2 (fuel venting)

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

2.1 CCAR21.29, Amendment Level: R3

2.2 环保标准/Environmental Standards

排除物/ Emissions:CCAR-34 涡轮发动机飞机燃油排泄和排气排出物规定

CCAR-34 Fuel Venting and Exhaust Emission Requirement for Turbine Powered Airplanes

噪声/Noise: CCAR-36-R1 航空器型号和适航合格审定噪声规定

CCAR-36-R1 Noise Standards: Aircraft Type and Airworthiness Certification

2.3 用于告知乘客或地面救援人员舱门位置和打开方法的标记标牌必须满足中文要求

All literal markings and placards on an airplane used for indicating passengers or outboard rescue personnel of the location of doors and their means of opening must be at least in Chinese language.

2.4 燃油符合中国航空燃油 3 号喷气燃料 (GB -6537-2006) ;

Fuel conforms to China Aviation No.3 JET FUEL (PRC National Standard GB-6537-2006)

2.5 CAAC 批准的型号设计的定义文件/CAAC Approved Type Design Definition (applicant) document

型号设计定义文件 109G0000X006/07 Rev.G 及合并的许可版次。

Type Design Definition Doc. 109G0000X006 / 07 Rev. G and subsequent approved revisions.

应急出口标识图纸 109-0814-86 。

109-0814-86 INSTALLATION DECALS STENCILS AND MARKINGS KIT T.P.P。

III 技术特性及操作限制/Technical Characteristic and Operational Limitations

1. 型号设计定义/Type Design Definition:

型号设计定义文件 109G0000X006/07 Rev.G 及合并的许可版次。

Type Design Definition Doc. 109G0000X006 / 07 Rev. G and subsequent approved revisions

2. 描述/Description:

B 类和 A 类, 轻型双发直升机, 四片桨叶, 铰接式主旋翼, , 两片跷跷板式尾桨, 前三点可收放式起落架, 一/二驾驶员机六/七位乘客的座舱布局。A109S 与 A109E 不同点在于安装了由 FADEC 控制的 Pratt & Whitney Canada PW207C 涡轮发动机, 乘客及飞行员油箱及燃油油量指示系统采用了抗坠毁设计, 主旋翼、发动机和传动系统的滑油冷却系统也作了相应更改, 机身作了相应更改, 以适应座舱的进出。

Cat. B and Cat A, Light twin-engine helicopter, four (4) blades articulated main rotor, twin (2) blades teetering tail rotor, tricycle retractable landing gears, one/two pilots and six/seven passengers capacity. The A109S differs from A109E

model for the installation of Pratt & Whitney Canada PW207C turbo engines, controlled through FADEC, passengers and pilots crash resistant seats and fuel tanks and fuel quantity gauging system crash resistant, main rotor group, engine and transmission oil cooling system, and airframe modifications to improve cockpit accessibility.

3. 设备/Equipment:

依据适航规范（见审定基础）要求的基本设备，为适航许可须按安装在直升机上。还需要安装以下设备：与外部温度有关的数据，从 IDS 和件号 P/N E22307-2-4 外部探头；依据图纸 N° 109-0753-28 安装的低旋翼转速和发动机故障警告系统。 Basic equipment required by the Airworthiness Specifications (see Certification Basis) shall be installed on the helicopter for Airworthiness Certificate release. In addition the following equipment is required: Data relevant to outside temperature, provided from IDS and external probe identified by P/N E22307-2-4; Low rotor rpm and engine failure warning according to drawing N° 109-0753-28.

针对 A 类操作要求，须以下相应设备（参考 109-0823-98-101）：发动机灭火瓶 109-0811-39; EDU 109-0900-76-2A01; DAU 109-0900-76-6A01; AWG 109-0729-96-105; Cat A 电子组件 109-0823-96; 搜索灯 109-0811-46 (针对夜间飞行); 附加高度表 109-0814-93; 附加磁罗盘 109-0814-94.

For Category A operations the following equipments are required (ref 109-0823-98-101): Engine Fire Extinguisher 109-0811-39; EDU 109-0900-76-2A01; DAU 109-0900-76-6A01; AWG 109-0729-96-105; Cat A Electrical kit 109-0823-96; Searchlight 109-0811-46 (for night operations); Additional Altimeter 109-0814-93; Additional Magnetic Compass 109-0814-94.

许可强制和被选设备清单见报告 109G0840W017, issue B "Elenco degli equipaggiamenti"或参考飞行手册设备清单。 Approved mandatory and optional equipments are listed in the Report 109G0840W017, issue B "Elenco degli equipaggiamenti". Refer also to the Equipment list in the RFM.

4. 尺寸/Dimensions

机身/Fuselage	长/ Length	m	12,96
	宽/Width	m	3,290
	高/Height	m	3,395
主旋翼/Main Rotor	4 片桨叶-直径/ 4 blades – Diameter	m	10,830
尾桨/Tail Rotor type	2 片桨叶-直径/ 2 blades – Diameter	m	1,94

5. 发动机/Engines

2 台加拿大普惠公司/2 Pratt & Whitney Canada

PW207C

发动机 TCDS 设计声明

No: TC E-23 issue 21 dated 16/03/05 issued by DOT Canada

State of Design Engine TCDS

EASA 发动机 TCDS

No: EASA IM.E.017 Issue 1, dated May 10, 2005

EASA Engine TCDS

5.1 安装的发动机限制/Installed Engine Limits (热力/机械功率 thermodynamics/mechanical power)

双发工作:	最大连续	625 SHP / 572 SHP (102% NR)
	起飞功率 (5 分钟)	735 SHP / 572 SHP (102% NR)
单发(应急):	最大连续	735 SHP / 646 SHP (102% NR)
	2.5 分钟	815 SHP / 745 SHP (102% NR)

在 TOT, N1 上的附加详细信息, 参考 EASA 批准的飞行手册- 第 1 部分

AEO:	Maximum Continuous	625 SHP / 572 SHP (102% NR)
	Take Off Power (5 min)	735 SHP / 572 SHP (102% NR)
OEI (emergency):	Maximum Continuous	735 SHP / 646 SHP (102% NR)
	2.5 min	815 SHP / 745 SHP (102% NR)

Refer to EASA approved RFM – Section 1 for additional detailed information on TOT, N1

5.2 瞬时扭矩限制/Transmission Torque Limits:

双发工作:	最大连续	900 SHP 100% TQ (100% NR)
	起飞功率 (5 分钟)	960 SHP 107% TQ (100% NR)
	瞬时[6 秒]	990 SHP 110% TQ (100% NR)
单发(应急):	最大连续	600 SHP 133% TQ (100% NR)
	2.5 分钟	730 SHP 162% TQ (100% NR)
	瞬时[6 秒]	780 SHP 173% TQ (100% NR)

附加详细信息, 参考 EASA 批准的飞行手册, 第 1 部分,

AEO:	Maximum Continuous	900 SHP 100% TQ (100% NR)
	Take Off Power (5 min)	960 SHP 107% TQ (100% NR)
	transient [6 sec]	990 SHP 110% TQ (100% NR)
OEI(emergency):	Maximum Continuous	600 SHP 133% TQ (100% NR)
	2.5 min	730 SHP 162% TQ (100% NR)
	transient [6 sec]	780 SHP 173% TQ (100% NR)

Refer to EASA approved RFM, Section 1, for additional detailed information

6. 液体/Fluids (燃油/滑油/附加/Fuel/Oil/Additives):

6.1 燃油/Fuel 适用于所有温度情况下/For all temperatures:

ASTM D-1655 Jet A, ASTM D-1655-82 Jet A1, MIL-T-5624 JP-5, MIL-T-83133 JP-8

详细信息参考 EASA 批准的飞行手册第一部分

For detailed information refer to EASA approved RFM – Section 1.

6.2 滑油/Oil 发动机滑油适用标准/Engine oil applicable specifications: MIL-PRF-23699 (MIL-L-23699);

传动系统滑油适用标准/Transmission oil applicable specifications: MIL-PRF-23699 (MIL-L-23699);
DOD-L-85734

详细信息参考 EASA 批准的飞行手册第一部分

For additional detailed information refer to EASA approved RFM – Section 1

7. 液体容量/Fluid capacities:

7.1 燃油/Fuel 可用燃油/Total usable: Fuel 575 l (151,9 US Gal).

不可用燃油量见飞行手册/See Rotorcraft Flight Manual for unusable fuel.

7.2 滑油/Oil 每台发动机/Engines (PW207C) 5,25 l (1,38 US Gal) for each engine

传动系统/Transmission: 11,7 l (3,09 US Gal)

不可用滑油量见飞行手册/See Rotorcraft Flight Manual for unusable lubricant.

8. 空速限制/Airspeed limits:

有动力时/168 Kts power on

无动力时/128 kts power off

附加详细信息参见 EASA 批准的飞行手册-第一部分

For additional detailed information refer to EASA approved RFM – Section 1.

9. 旋翼转速限制/Rotor Speed Limits:

有功率状态 Power on AEO:	最小	99%	Min
	最到连续	101%	Max continuous
	起飞和着陆	102%	Take-off and landing
无动力状态 Power off:	最小	95%	Min
	最大	110%	Max

附加详细信息参见 EASA 批准的飞行手册-第一部分

For additional detailed information refer to EASA approved RFM – Section 1.

10. 最大使用升限及温度 Maximum Operating Altitude and Temperature:

最大适用升限/Maximum operating altitude 6095 m (20000 ft)

附加详细信息参见 EASA 批准的飞行手册-第一部分, “起飞和着陆高度” 及温度限制

See EASA approved Rotorcraft Flight Manual, Section 1, for “Take-off and Landing altitude” and for temperature limitations.

11. 使用限制 Operating Limitations:

11.1 一般 General:

B 类, 无结冰条件下, 白天和夜间目视/仪表飞行

Cat. B, day and night VFR/IFR operation in non-icing conditions

A 类, 无结冰条件下, 白天和夜间目视/仪表飞行

Cat. A, day and night VFR/IFR operation in non-icing conditions

(参考 EASA 批准的飞行手册 109G0040A013 和 109G0040A014)

(Refer also to EASA approved RFM 109G0040A013 and 109G0040A014)

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

参考 EASA 批准的飞行手册 109G0040A013 和 109G0040A014-第一部分

See Sections 1 of EASA approved Rotorcraft Flight Manual (109G0040A013 and 109G0040A014)

12. 最大重量 /Maximum Certified Weights:

最大重量/Maximum gross weight

3175 kg (7000 lb)

13. 重心范围/Centre of Gravity Range:

参考 EASA 批准的飞行手册-第一部分纵向及横向重心包线

Refer to EASA approved RFM – Section 1 for longitudinal and lateral CG envelopes

14. 基准/Datum:

纵向基准线原点 (SAT 0) 位于前支撑点前 1645mm(64,4 in)处

Longitudinal datum line (STA 0) is located at 1635 mm (64,4 in) forward of the front jack point.

侧向基准线位于两侧主支撑点 ± 450 mm (± 18 in)中间, 与纵向基准线相交

Lateral datum line (BL 0) is located at ± 450 mm (± 18 in) inboard of each of the two main jack points and it coincides with the helicopter longitudinal plane of symmetry.

详见飞行手册-第六部分

For detailed information refer to RFM – Section 6

15. 水平方法/Leveling Means:

水平平台位于客舱顶部右侧参考支柱, 详见飞行手册-第六部分

The spirit level plate is to be placed on cabin roof right stanchion reference. For detailed information refer to RFM – Section 6

16. 最小飞行机组/Minimum Flight Crew:

右侧单驾驶员可操纵直升机

One pilot who shall operate the helicopter from the right crew seat.

17. 最大乘客座位数/Maximum Passenger Seating Capacity:

7 人 7 (seven) passengers

18. 乘客应急出口 Passenger Emergency Exit:

两个, 客舱每侧一个 2 (two), one on each side of the passengers cabin

19. 最大行李/货物装载/Maximum Baggage/Cargo Loads:

位置/Location	最大载荷/装载 Max Load/Loading
行李舱/Baggage compartments	依据飞行手册-第六部分定义载荷为 120 kg (265 lbs) 120 kg (265 lbs) according to load distribution defined in the RFM – Section 6. 货舱地板最大载荷/Maximum load on cargo compartment floor: 500 kg/m2 (102 lb/ft2) 最大货舱安全挂点载荷为 91 Kg (200 lbs). Maximum load on securing points of cargo compartment: 91 Kg (200 lbs).
客舱/Cabin compartment	不适用 NA

20. 桨叶控制移动范围/Rotor blade and control movement:

主/Main	- 1° / +12°
尾/Tail	RH pedal - 7° LH pedal +24°

操纵系统详细参数见 A109S 维护手册

For rigging information refer to the A109S Maintenance Manual

21. 辅助动力装置/Auxiliary Power Unit (APU): 不适用 NA

22. 寿命件/Life-limited parts:

参考 EASA 批准的适航限制 0B-A-AMPI-00P, 第 4 章, 0B-A-04-10-00-00A-000A-A 部分
Refer to EASA Approved Airworthiness Limitations 0B-A-AMPI-00P, Chapter 4, Section
0B-A-04-10-00-00A-000A-A

23. 机轮和轮胎/Wheels and Tyres: 无内胎 360 x 135-6 tubeless

IV. 使用和操作规范 Operating and Service Instructions

1. 飞行手册文件号/Rotorcraft Flight Manual, Document No

109G0040A013 issue 1 rev 3 and subsequent approved revisions OES 109G0040A014 issue 1 rev 3 and subsequent approved revisions

2. 维护手册文件号/Maintenance Manual, Document No:

0B-A-AMPI-00P Chapter 00 (ch 1 or subs); Chapter 4 (ch 3 or subs approved);
Chapter 5 (ch 5 or subs)
0B-A-AMP-00P Chapters 6 and subs (Amendment 12 or subs)

3. 服务信件和服务通告/Service Letters and Service Bulletins:

As published by AgustaWestland

4. 必备设备/Required Equipment:

Refer to EASA Approved Rotorcraft Flight Manual for the approved mandatory and optional equipments.

注/ Notes

1. 符合的系列号: 组装图纸号 109-9000-09-101/-103 (参考型号设计 109G0000X006-07 Rev B) 从 S/N 22001 到 S/N 22500
Eligible serial numbers: Assembly Drawing 109-9000-09-101/-103 (ref Type Design 109G0000X006-07 Rev B) From S/N 22001 to S/N 22500
2. 中文标牌和标识包含在图纸 109-5704-04-127, ISS. H 或 CAAC 批准的更新版本中。
Chinese Placards and markings are included in Drawing 109-5704-04-127, ISS. H or later revisions CAAC approved.

第 5 部分 AW109SP

SECTION 5 AW109SP

I. 总则/General

1. 衍生型或型号/Variant or Model: AW109SP
适航类别/Airworthiness Category: 按 A 类运行的正常类旋翼航空器/Small Rotocraft and "Category A" Operations
型号合格证持有人/Type Certificate Holder: AGUSTAWESTLAND S.p.A. Via Giovanni Agusta, 520-21017 Cascina Costa di Samarate (Va) - Italy
2. 制造商/Manufacturer AGUSTAWESTLAND S.p.A. Via Giovanni Agusta, 520-21017 Cascina Costa di Samarate (Va) - Italy
3. 国家认证日期/National Certification Date N.A.
4. EASA 申请日期/EASA Application Date 10 Oct 2007
5. ENAC 推荐日期/ENAC Recommendation Date 22 May 2009
6. EASA 型号合格日期/EASA Type Certification Date 25 May 2009
7. 申请 CAAC 认可审定的日期/Date of Application for CAAC Validation 06 Dec 2011
8. CAAC 型号认可日期/CAAC Validation Date 07 Jul 2013

II. 认可审定基础/Validation Basis

CAAC 的认可审定基础由 EASA 审定基础中的适用要求和 CAAC 的附加技术条件组成

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

1. 审定基础/Certification basis

- 1.1. 满足要求的日期/Reference Date for determining the applicable requirements: 10 Oct2007
- 1.2. ENAC 许可日期/ENAC Certification Date: 不适用 N.A.
- 1.3. ENAC 型号合格证数据单号/ENAC Type Certificate Data Sheet No: 不适用 N.A.
- 1.4. EASA 审定基础/EASA Certification Basis: As defined in CRI A-1 Issue 3:

按 CRI A-1 Issue 3 定义

与 A109S 相对照（参考文件 n° 109G0000N062 Rev A and n° 109G0000N091 Rev B），EASA TCDS R.005 Issue8 定义 FAR27/JAR27 作为没更改/不受影响区域、系统、部件或装置的审定基础，同时定义 2003 年 12 月 14 日前的 CS 27 修正案为新的或更改/受影响的区域、系统、部件或装置的审定基础。

FAR 27 / JAR 27 as quoted in the EASA TCDS R.005 Issue 8 for unchanged/unaffected areas, systems, parts or appliances and CS 27 Amdt /14 November 2003 for the new or changed/affected areas, systems, parts or appliances with respect to the A109S (ref documents n° 109G0000N062 Rev A and n° 109G0000N091 Rev B).

根据 21.A101(b)(2)及(3), CS27.863 不适用。

The paragraph CS 27.863 is not applicable on the basis of Part 21.A101(b)(2) and (3).

对于按照 IFR 运行: CS27 附录 B, 含修正案。

For **IFR Operation** : Appendix B to CS 27 amdt /

对于 A 类运行: CS27 附录 C, 含修正案。

For **Category A Operations**: Appendix C to CS 27 amdt /.

1.5. 适航要求/Airworthiness Requirements: 适用的 CS 27 / JAR 27 / FAR 27 修正案如前 (参考 CRI A-01 Issue 01)

CS 27 / JAR 27 / FAR 27 Amdt as defined above (ref CRI A-01 Issue 01).

1.6. 专用技术条件/Special Conditions: HIRF=> INT/POL/27&29/1 Issu3 3(2003) - HIRF 的保护 - 管理和指导材料的临时政策, 第 3 章, 第 3 部 高能辐射场。

HIRF => INT/POL/27&29/1 Issue 3 (2003) – Protection from the effects of HIRF – Interim Policy in the Administrative and Guidance Material, Section 3, Part 3 High Intensity Radiated Fields.

1.7. 继承及豁免/Reversion and Exemptions: 不适用/N.A.

1.8. 等效安全/Equivalent Safety Findings: 不适用/N.A.

1.9. 环境标准包括噪声/ Noise => ICAO Annex 16 Vol I, Part II Amdt 7 Chapt. 8

Environmental Standards including Noise: Emissions => ICAO Annex 16, Ed 1993, Vol II, Part II, Chapt. 2 (fuel venting).

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

2.1 CCAR21.29, Amendment Level: R3

2.2 环保标准/Environmental Standards

排除物/ Emissions: CCAR-34 涡轮发动机飞机燃油排泄和排气排出物规定

CCAR-34 Fuel Venting and Exhaust Emission Requirement for Turbine Powered Airplanes

噪声/Noise: CCAR-36-R1 航空器型号和适航合格审定噪声规定

CCAR-36-R1 Noise Standards: Aircraft Type and Airworthiness Certification

2.3 用于告知乘客或地面救援人员舱门位置和打开方法的标记标牌必须满足中文要求

All literal markings and placards on an airplane used for indicating passengers or outboard rescue personnel of the location of doors and their means of opening must be at least in Chinese language.

2.4 燃油符合中国航空燃油 3 号喷气燃料 (GB-6537-2006) ;

Fuel conforms to China Aviation No.3 JET FUEL (PRC National Standard GB-6537-2006) ;

2.5 CAAC 批准的型号设计的定义文件/CAAC Approved Type Design Definition (applicant) document

型号设计定义文件 109G0000X016 Rev. A 及其后版次。

Type Design Definition Doc. 109G0000X016 Rev. A and subsequent

III 技术特性及操作限制/Technical Characteristic and Operational Limitations

1. 型号设计定义/Type Design Definition: 型号设计定义文件 109G0000X006/09 Rev. U 及后续批准版次。

Type Design Definition Doc. 109G0000X006/09 Rev. U and subsequent approved revisions

2. 描述/Description: 轻型双引擎直升机, 4 片铰接式主旋翼, 双, 铰接式 (具有弹性轴承) 主旋翼, 两片桨叶跷跷板式尾桨, 三轮可收放起落架, 1/2 名飞行员和 6/7 名乘客。

Light twin-engine helicopter, four (4) blades articulated main rotor, twin (2) blades teetering tail rotor, tricycle retractable landing gears, one/two pilots and six/seven passengers capacity.

AW109SP 与 A109S 型号的差别在于使用了新的混合型金属-复合材料的油箱结构, 4 通道数字自动驾驶仪以及带有 4 台显示器(EFIS)的驾驶舱新布局。

The AW109SP differs from A109S model for a new hybrid Metal-Composite fuselage structure, a four channel digital autopilot and a new cockpit layout with 4 displays (EFIS).

3. 设备/Equipment: 适航规范 (见审定基础) 要求的基本设备, 为适航许可须按安装在直升机上。

Basic equipment required by the airworthiness rules (see Certification Basis) shall be installed on the helicopter for the Airworthiness Certificate release.

4. 尺寸/Dimensions:	机身/Fuselage	长/Length	m	11,648
		宽/Width	m	3,294
		高/Height	m	3,395
	主旋翼/Main Rotor	4 片桨叶-直径/ 4 blades – Diameter	m	10,830
	尾桨/Tail Rotor type	2 片桨叶-直径/ 2 blades – Diameter	m	1,940

5. 发动机/Engines: 2 台加拿大普惠公司 PW207C
2 Pratt & Whitney Canada PW 207C

发动机 TCDS 设计声明 加拿大运输部 TC E-23 Issue 21, 颁发日期: 05 年 3 月 16 日

State of Design Engine TCDS E-20 Issue 7 dated September 08, 2006
issued by Transport Canada

EASA 发动机/Engine TCDS No. EASA IM.E.017 Issue 1,
dated May 10 2005

5.1 安装的发动机限制(热能/机械能) / Installed Engine Limits(thermodynamics/mechanical power):

AEO:	最大连续/Maximum Continuous	625 SHP / 572 SHP (102% NR)
	起飞(5 分钟)/Take Off Power (5min)	735 SHP / 572 SHP (102% NR)

OEI(应急/emergency):	最大连续/Maximum Continuous	735 SHP / 646 SHP (102% NR)
	2.5 分钟/2.5 min	815 SHP / 745 SHP (102% NR)

关于 TOT 及 N 的更详细的信息参考 EASA 批准的 RFM

5.2 瞬时扭矩限制/Transmission Torque Limits:

AEO:	最大连续/Maximum Continuous	625 SHP / 572 SHP (102% NR)
	起飞(5 分钟)/Take Off Power (5 min)	735 SHP / 572 SHP (102% NR)
OEI (应急/emergency):	最大连续/Maximum Continuous	735 SHP / 646 SHP (102% NR)
	2.5 分钟/2.5 min	815 SHP / 745 SHP (102% NR)

更详细的信息参考 EASA 批准的 RFM

6. 液体/Fluids (燃油/滑油/附加/Fuel/Oil/Additives):

6.1 燃油/Fuel	所有温度情况下: ASTM D-1655 Jet A; ASTM D-1655 Jet A1; MIL-T-5624 JP-5; MIL-T-83133 JP-8; GOST 10227-86 R.T.; GSTU 320.00149943.007-97 R.T.; GOST10227-86 TS-1; GSTU 320.00149943.011-99 TS-1. For all temperatures: ASTM D-1655 Jet A; ASTM D-1655 Jet A1; MIL-T-5624 JP-5; MIL-T-83133 JP-8; GOST 10227-86 R.T.; GSTU 320.00149943.007-97 R.T.; GOST10227-86 TS-1; GSTU 320.00149943.011-99 TS-1.	
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详细信息: 参考 EASA 批准的飞行手册

For detailed information refer to EASA approved RFMs.

6.2 滑油/Oil	发动机滑油规范/Engine oil applicable specifications:	MIL-PRF-23699;
	传动系统滑油规范/Transmission oil applicable specifications:	MIL-PRF-23699; DOD-PRF85734.

更多详细信息: 参考 EASA 批准的飞行手册

For additional detailed information refer to EASA approved RFMs

7. 液体容量/Fluid capacities:

7.1 燃油/Fuel	可用燃油/Total usable:	563 l (148.7 US Gal).
	不可用燃油见 EASA 批准的 RFMs	
	See EASA approved RFMs for unusable fuel	
7.2 滑油/Oil	发动机/ Engine(PW207C):	5,12 l (1,35 US Gal) 每个发动机/for each engine
	传动系统/ Transmission:	11,0 l (2,90 US Gal)
	不可用滑油量见 EASA 批准的 RFM	
	See EASA approved RFMs for non-drainable lubricant.	

8 空速限制/Airspeed limits: 168 Kts power on 128 kts power off

更多详细信息参见 EASA 批准的 RFM

For additional detailed information refer to EASA approved RFMs.

9. 旋翼转速限制/Rotor Speed Limits:

AEO 有动力/Power on AEO: 99% 最小/Min

101% 最大连续/Max continuous

无动力/Power off: 95% 最小/Min

110% 最大/Max

更多详细信息参见 EASA 批准的飞行手册

For additional detailed information refer to EASA approved RFMs.

10. 最大使用升限及温度/Maximum Operating Altitude and Temperature:

最大使用升限/Maximum operating altitude 6096 m (20000 ft)

见 EASA 批准的旋翼航空器飞行手册“起飞和着陆高度”及温度限制章节

See EASA approved Rotocraft Flight Manuals for "Take-off and Landing altitude" and for temperature limitations.

11. 使用限制/Operating Limitations:

11.1 一般/General: 无结冰条件下, 白天和夜间目视飞行, A 类运行, (同样参考 EASA 批准的 RFM 109G0040A018, 109G0040A019, 109G0040A020, 109G0040A021)。
VFR/IFR day and night, in non-icing conditions, "Category A" operations, (Refer also to EASA approved RFM 109G0040A018, 109G0040A019, 109G0040A020, 109G0040A021).

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

见 EASA 批准的旋翼航空器飞行手册

See EASA approved RFM – Section 1.

12. 最大重量/Maximum Certified Weights:

最大总重量 3175 kg (7000 lb)

13. 重心范围/Centre of Gravity Range:

纵向和横向重心包线见 EASA 批准的 RFM。

See EASA approved RFMs for longitudinal and lateral CG envelopes .

14. 基准/Datum:

纵向基准线原点 (SAT 0) 位于前支撑点前 1635 mm (64,4 in) 处

侧向基准线位于两侧主支撑点 +/-450 mm (+/-18 in) 中间, 与纵向基准线相交

详见飞行手册。

Longitudinal datum line (STA 0) is located at 1635 mm (64,4 in) forward of the front jack point.

Lateral datum line (BL 0) is located at +/-450 mm (+/-18 in) inboard of each of the two main jack points and it coincides with the helicopter longitudinal plane of symmetry.
For detailed information refer to RFMs.

15. 水平方法/Leveling Means: 水平仪放置在机舱顶部右侧参考柱上
详见飞行手册

The spirit level plate is to be placed on cabin roof right stanchion reference.
For details information refer to RFMs.

16. 最小飞行机组/Minimum Flight Crew: 右侧单驾驶员可操纵直升机
One (1) pilot who shall operate the helicopter from the cockpit right seat.

17. 最大乘客座位数/Maximum Passenger Seating Capacity: 7 人
7 (seven) passengers

18. 乘客应急出口/Passenger Emergency Exit: 两个, 客舱每侧一个
2 (two), one on each side of the passengers cabin

19. 最大行李/货物装载/Maximum Baggage

位置/Location	最大载荷/装载 Max Load/Loading
行李舱/Baggage compartments	根据 RFM 定义的负载分布为 120kg(256 lbs) 货仓地板最大承载: 500 kg/m ² (102 lb/ft ²) 货仓固定点上的最大承载为 91kg(200 lbs)。 120 kg (265 lbs) according to load distribution defined in the RFMs. Maximum load on cargo compartment floor: 500 kg/m ² (102 lb/ft ²) Maximum load on securing points of cargo compartment: 91 Kg (200 lbs).
客舱/Cabin compartment	不适用/N.A.

20. 桨叶控制移动范围/Rotor blade and control movement: 主旋翼/Main -1°24' / 12°
尾桨/Tail 右脚蹬/RH pedal -7°
左脚蹬/LH pedal +24°

操纵系统详细参数见 A109SP AMP
For rigging information refer to the AW109SP AMP

21. 辅助动力装置/Auxiliary Power Unit (APU): 不适用/N.A.

22. 寿命件/Life-limited parts:

- 对于序列 22201, 22203, 22214 和其后的直升机:
参考 EASA 批准的持续适航限制 0B-B-AMPI-00-P, 第 4 章 0B-B-04-10-00-00A-000B-A 节。
- For helicopter s/n 22201, 22203, 22214 and subs:
Refer to EASA Approved Airworthiness Limitations 0B-B-AMPI-00-P, Chapter 4, Section 0B-B-04-10-00-00A-000B-A
- 对于序列 22202, 22204 到 22213:
参考 EASA 批准的持续适航限制 0B-C-AMPI-00-P, 第 4 章 0B-C-04-10-00-00A-000B-A 节。
- For helicopter s/n 22202, 22204 thru 22213:
Refer to EASA Approved Airworthiness Limitations 0B-C-AMPI-00-P, Chapter 4, Section 0B-C-04-10-00-00A-000B-A

23. 机轮和轮胎/Wheels and Tyres:

不适用/N.A.

IV. 使用和操作规范/Operating and Service Instructions

1. 旋翼航空器飞行手册文件号/Rotorcraft Flight Manual, Document No:

109G0040A018 AW109SP Issue B 及后续批准版本
109G0040A019 AW109SP Optional Equipment Supplement Issue B 及后续批准版本 (关于按注 10 进行 NVIS 运行, 参考增补 10)
109G0040A018 AW109SP Issue B and subsequent approved revisions
109G0040A019 AW109SP Optional Equipment Supplement Issue B and subsequent approved revisions (for NVIS operation as per note 10, refer to supplement 10)

Rega 定制的直升机 (Customization P/N 109-B810-12-101) :

109G0040A020 AW109SP REGA RFM Issue B 及后续批准版本
109G0040A021 AW109SP REGA Optional Equipment Supplement Issue B 及后续批准版本 (关于按注 10 进行 NVIS 运行, 参考增补 9.1-2)

For helicopter with Rega Customization (P/N 109-B810-12-101):

109G0040A020 AW109SP REGA RFM Issue B and subsequent approved revisions
109G0040A021 AW109SP REGA Optional Equipment Supplement Issue B and subsequent approved revisions (for NVIS operation as per note 10, refer to supplement 9.1-2).

2. 维护手册文件号/Maintenance Manual, Document No:

直升机序列 22201, 22203, 22214 及其后:

AMPI 0B-B-AMPI-00-P => Chapter 00 (首次发布更改 2 及后续, AgustaWestland 批准版本)
Chapter 04 (第二次发布更改 2 及后续, EASA 批准版本)以及:
- Retirement lives (0B-B-04-10-00-00A-000B-A)
- Mandatory inspections (0B-B-04-20-00-00A-000B-A)
- CMR (0B-B-04-30-00-00A-000B-A)
Chapter 5 (首次发布- 更改 11 以及后续, AgustaWestland 批准版本)

For helicopter s/n 22201, 22203, 22214 and subsequent:

AMPI 0B-B-AMPI-00-P => Chapter 00 (first issue change 2 and subs. AgustaWestland approved Revisions)
Chapter 04 (second issue change 2 and subs. EASA approved revisions) with:
- Retirement lives (0B-B-04-10-00-00A-000B-A)
- Mandatory inspections (0B-B-04-20-00-00A-000B-A)
- CMR (0B-B-04-30-00-00A-000B-A)
Chapter 5 (first issue – change 11 and subs. AgustaWestland approved revisions)

直升机序列 22202, 22204 到 22213:

AMPI 0B-C-AMPI-00-P => Chapter 00 (第二次发布变更及后续, AgustaWestland 批准版本)
Chapter 04 (首次发布变更 3 及后续, EASA 批准版本)以及:
- Retirement lives (0B-C-04-10-00-00A-000B-A)
- Mandatory inspections (0B-C-04-20-00-00A-000B-A)
- CMR (0B-C-04-30-00-00A-000B-A)
Chapter 5 (第二次发布-变更 2 及后续, AgustaWestland 批准版本)

For helicopter s/n 22202, 22204 thru 22213:

AMPI 0B-C-AMPI-00-P => Chapter 00 (second issue change / and subs. AgustaWestland approved Revisions)
Chapter 04 (first issue change 3 and subs. EASA approved revisions) with:
- Retirement lives (0B-C-04-10-00-00A-000B-A)
- Mandatory inspections (0B-C-04-20-00-00A-000B-A)
- CMR (0B-C-04-30-00-00A-000B-A)
Chapter 5 (second issue – change 2 and subs. AgustaWestland approved revisions)

所有直升机:

AMP 0B-A-AMP-00-X => Chapters 06 及后续 (首次发布及后续, AgustaWestland 批准版本)

For all helicopter:

AMP 0B-A-AMP-00-X => Chapters 06 and subs (first issue and subs. AgustaWestland Approved revisions)

3. 服务信件和服务通告/Service Letters and Service Bulletins:

As published by AgustaWestland (See Note 3).

4. 必备设备/Required Equipment:

见 EASA 批准的旋翼航空器飞行手册上批准的必装和选装设备。

Refer to EASA approved Rotorcraft Flight Manuals for the approved mandatory and optional equipment..

V. 注/Notes

1. 符合的系列号/Eligible serial numbers:

组装图纸号 109-9000-09-105/-107 (ref. Type Design Doc. n° 109G0000X006/09) 从 s/n 22201 到 s/n 22499
Assembly Drawing 109-9000-09-105/-107 (ref. Type Design Doc. n° 109G0000X006/09) from s/n 22201 to s/n 22499

2. 名称/Designation:

AgustaWestland AW109SP 直升机市场销售名称为 GrandNew。

The marketing designation GrandNew is also used for AgustaWestland AW109SP helicopters.

3. 从2011年6月1日起, Agusta S.p.A. 更名为 AgustaWestland S.p.A., Agusta Aerospace Corporation 更名为 AgustaWestland Philadelphia Corporation.

Effective 01 June 2011, the Agusta S.p.A. name was changed to AgustaWestland S.p.A., and the Agusta Aerospace Corporation name was changed to AgustaWestland Philadelphia Corporation.

4. 中文标牌和标识包含在图纸 109-5704-04-127, ISS. H 或 CAAC 批准的更新版本中。

Chinese Placards and markings are included in Drawing 109-5704-04-127, ISS. H or later revisions CAAC approved.

第 6 部分 AW119MKII

SECTION 6 AW119 MKII

I. 总则/General

1. 衍生型或型别/Variant or Model: AW119 MKII
- 适航类别/Airworthiness Category: 正常类旋翼航空器/Normal Category Helicopter
- 型号合格证持有人/Type Certificate Holder: AgustaWestland SpA
P.zza Monte Grappa, 4
00195 Rome Italy
2. 制造商/Manufacturer AgustaWestland Philadelphia
Corporation 3050 Red Lion Road
Philadelphia, PA 19114
USA
3. 国家认证日期/National Certification Date N.A.
4. EASA 申请日期/EASA Application Date 04 Aug 2006
5. ENAC 推荐日期/ENAC Recommendation Date 25 May 2007
6. EASA 型号合格日期/EASA Type Certification Date 11 June 2007
7. 申请 CAAC 认可审定的日期/Date of Application for CAAC Validation 17 February 2011
8. CAAC 型号认可日期/CAAC Validation Date 04 Jan 2014

II. 认可审定基础/Validation Basis

CAAC 的认可审定基础由 EASA 审定基础中的适用要求和 CAAC 的附加技术条件组成

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

1. 审定基础/Certification basis

1.1. 确定适用要求的参考日期/Reference Date for determining the applicable requirements: 04 Aug 2006

1.2. ENAC 许可日期/ENAC Certification Date: 不适用/N.A.

1.3. ENAC 型号合格证数据单号/ENAC Type Certificate Data Sheet No : 不适/N.A.

1.4. EASA 审定基础/EASA Certification Basis:

As defined in CRI A-01 Issue 1:

按 CRI A-01 Issue 1 定义

For all the affected areas, systems, parts or appliances, the following paragraphs of the CS 27 Amdt. / dated 14-Nov-2003 apply:

对所有影响的区域、系统、部件或装置, 以下 CS 27 Amdt. / dated 14-Nov-2003 的条款适用:

CS 27.1; JAR 27.2 b)2); CS 27.25; CS 27.351; CS 27.397; CS 27.602; CS 27.610;

CS 27.805; CS 27.865; CS 27.1529; CS Appendix A.

For all the unchanged areas, systems, parts or appliances, JAR 27 Small rotorcraft Issue 1 dated 6 September 1993 apply, except the following paragraphs

对所有未更改区域、系统、部件或装置，以下 JAR 27 小直升机 Issue 1 dated 6 September 1993 的条款适用。除以下条款。

JAR 27.561 由 FAR 27.561 Base Amendment 代替;

JAR 27.562;

JAR 27.785 由 FAR 27.2 Amendment 28 及 FAR 27.785 Base Amendment 代替;

JAR 27.952;

JAR 27.963 由 FAR 27.963 Amendment 23 代替;

JAR 27.971 由 FAR 27.971 Base Amendment 代替;

JAR 27.973 由 FAR 27.973 Base Amendment 代替

1.5. 适航要求/Airworthiness Requirements:

CS 27 / JAR 27 / FAR 27 Amdt as defined above (ref CRI A-01 Issue 01).

1.6. 专用技术条件/Special Conditions:

依据 JAA 临时政策 Paper No. INT/POL/27&29/1 HIRF 保护

HIRF Protection according to JAA Interim Policy, Paper No. INT/POL/27&29/1

1.7. 继承及豁免/Reversion and Exemptions: 无 None

1.8. 等效安全/Equivalent Safety Findings: 无 None

1.9. 环境标准包括噪声/Environmental Standards including Noise:

Noise: ICAO Annex 16 Vol I, Chapt. 8, 4th edition July 2005.

Emissions: ICAO Annex 16, Ed 1993, Vol II, Part II, Chapt. 2 (see Note 5).

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

2.1 用于告知乘客或地面救援人员舱门位置和打开方法的标记标牌必须满足中文要求

All literal markings and placards on an aircraft used for indicating passengers or outboard rescue personnel of the location of doors and their means of opening must be at least in Chinese language.

2.2 燃油符合中国航空燃油 3 号喷气燃料 (GB -6537-2006)

Fuel conforms to China Aviation No.3 JET FUEL (PRC National Standard GB-6537-2006) ;

3. CAAC 批准的型号设计的定义文件 CAAC Approved Type Design Definition (applicant) document

型号设计定义文件 109G0000X016 Rev. A 及其后续版次。

Type Design Definition Doc. 109G0000X016 Rev. A and subsequent

应急出口标识图纸 109-0814-86 标牌组件。

109-0814-86 INSTALLATION DECALS STENCILS AND MARKINGS KIT T.P.P.

III 技术特性及操作限制/Technical Characteristic and Operational Limitations

1. 型号设计定义/Type Design Definition:

型号设计定义文件 109G0000X016 Rev. A 及其后续版次。

Type Design Definition Doc. 109G0000X016 Rev. A and subsequent

2. 描述/Description:

由电子发动机控制（EEC）控制的单发旋翼航空器，4 片复合材料主旋翼桨叶，铰接式（具有弹性轴承）主旋翼，两片复合材料桨叶跷跷板式尾桨，滑撬式起落架，1 名飞行员和 7 名成员座位设置。

Single engine rotorcraft controlled by Electronic Engine Control (EEC), four (4) composite MR blades, articulated (with elastomeric bearings) main rotor, twin (2) composite blade teetering tail rotor, skid landing gear, one (1) pilot and seven (7) passengers capacity.

3. 设备/Equipment:

依据适航规范（见审定基础）要求的基本设备，为适航许可须按安装在直升机上。

另外，要求安装以下设备：

与外界温度有关的数据，由 IDS 和外部探头 P/N E22307-2-4 提供

报告 109G0840W030 “AW119MKII Chart A – Equipment List” 列出了批准的潜质和选装设备清单。

也可参考在 EASA 批准的旋翼航空器飞行手册中的设备清单。

Basic equipment required by the airworthiness rules (see Certification Basis) shall be installed on the helicopter for the Airworthiness Certificate release.

Besides, the following equipment are required:

* Data relevant to outside air temperature, provided by IDS and external probe P/N E22307-2-4 Approved mandatory and optional equipment are listed in the report 109G0840W030 “AW119MKII Chart A – Equipment List”

Also refer to the EASA approved Equipment list in the RFM

4. 尺寸/Dimensions:

机身/Fuselage	长/Length	11,144 m	
	宽/Width	2,880 m	
	高/Height	3,598 m	
主旋翼/Main Rotor	4 片桨叶-直径/ 4 blades – Diameter	10,830 m	
尾桨/Tail Rotor type	2 片桨叶-直径/ 2 blades – Diameter	1,940 m	

5. 发动机/Engines:

加拿大普惠公司 PT6B-37A 制造专用条件 No.1242

Pratt & Whitney Canada PT6B-37A Build Specification No. 1242

发动机 TCDS 设计声明/State of Design Engine TCDS E-20 Issue 7 dated September 08, 2006 issued by
Transport Canada

EASA 发动机 TCDS No./EASA Engine TCDS No. IM.E.039 Issue 02 dated 25 May 2007

5.1 安装的发动机限制/Installed Engine Limits

起飞 (5 分钟) / Take Off (5 minutes) 917 SHP, 108,5% TQ, (102 % NR)
 最大连续 Maximum Continuous 847 SHP, 100% TQ, (102 % NR)
 参考 EASA 批准的旋翼航空器飞行手册所定义的 ITT 和 N1 限制
 Refer to EASA approved RFM for detailed information on ITT and N1 limits.

5.2 瞬时扭矩限制/Transmission Torque Limits:

起飞 (5 分钟) / Take Off (5 minutes) 917 SHP, 108,5% TQ, (102% NR)
 最大连续 Maximum Continuous 900 SHP, 106,5% TQ, (102% NR)

6. 液体/Fluids (燃油/滑油/附加/Fuel/Oil/Additives):

6.1 燃油/Fuel (适用于所有温度情况下/For all temperatures):

ASTM D1655 Type Jet A; ASTM D1655 Type Jet A-1;

MIL-T-5624 Type JP-5; MIL-T-83133 Type JP-8.

详细信息: 见参考 EASA 批准的飞行手册第一部分

For detailed information: see EASA approved RFM – Section 1.

6.2 滑油/Oil

发动机/Engine: MIL-PRF-23699 (MIL-L-23699) or PWA-521;
 传动系统滑/Transmission: MIL-PRF-23699 (MIL-L-23699) or DOD-L-85734;

详细信息: 见参考 EASA 批准的飞行手册第一部分

For detailed information: See EASA approved RFM – Section 1

7. 液体容量/Fluid capacities:

7.1 燃油/Fuel

可用燃油/Total usable: 595 l (157 US Gal)
 不可用燃油/Total unusable: 10 l (2,64 US Gal)

安装辅助油箱时的可用燃油和不可用燃油量见 EASA 批准的旋翼航空器飞行手册

See EASA approved RFM for unusable fuel and for fuel capacity when supplementary fuel tanks are installed.

7.2 滑油/Oil

发动机/Engine: 10,45 l (2,76 US Gal)
 传动系统/Transmission: 10,3 l (2,72 US Gal)
 不可用滑油量见旋翼航空器飞行手册第 6 章/ See RFM – Section 6 for non-drainable lubricant.

8 空速限制/Airspeed limits:

152 Kts IAS

详细信息参见 EASA 批准的飞行手册-第一部分

For detailed information refer to EASA approved RFM – Section 1.

9. 旋翼转速限制/Rotor Speed Limits:

有动力/Power on:	Max	103% (396 rpm)
	Min	95% (365 rpm)
无动力/Power off:	Max	110% (422 rpm)
	Min	90% (346 rpm)

详细信息参见 EASA 批准的飞行手册-第一部分

For detailed information refer to EASA approved RFM – Section 1.

10. 最大使用升限及温度 **Maximum Operating Altitude and Temperature:**

最大适用升限/Maximum operating altitude 4572 m (15000 ft)

OAT 限制见 EASA 批准的飞行手册-第一部分

See EASA approved RFM – Section 1 for OAT limitations.

11. 使用限制 **Operating Limitations:**

11.1 一般 **General:**

VFR day and night, non-icing conditions.

无结冰条件下, 白天和夜间目视飞行

11.2 起飞和着陆附加限制 **Additional limitations for take-off and landing:**

见 EASA 批准的飞行手册-第一部分

See EASA approved RFM – Section 1.

12. 最大重量 **/Maximum Certified Weights:** 2850 kg (6283 lb)

13. 重心范围 **/Centre of Gravity Range:**

见飞行手册-第一部分纵向及横向重心包线

See RFM – Section 1 for longitudinal and lateral CG envelopes

14. 基准 **/Datum:**

纵向基准线原点 (SAT 0) 位于前支撑点前 1785 mm (70.3 in) 处

Longitudinal datum line (STA 0) is located at 1785 mm (70.3 in) forward of the front jack point.

侧向基准线位于两侧主支撑点 +/-450 mm (+/-18 in) 中间, 与纵向基准线相交

Lateral datum line (BL 0) is located at +/-450 mm (+/-18 in) inboard of each of the two main jack points and it coincides with the helicopter longitudinal plane of symmetry.

详见飞行手册-第六部分

For detailed information refer to RFM – Section 6

15. 水平方法 **/Leveling Means:**

顶棚参考点垂钩铅垂到位于座舱地板制定平台, 详见飞行手册-第六部分

Plumb line from ceiling reference point to the index plate located on passengers compartment floor. For detailed information refer to RFM – Section 6

16. 最小飞行机组 **/Minimum Flight Crew:**

右侧单驾驶员可操纵直升机

One (1) pilot, who shall operate the aircraft from the cockpit right seat

17. 最大乘客座位数 Maximum Passenger Seating Capacity:

7 人/7 (seven) passengers

18. 乘客应急出口 Passenger Emergency Exit:

两个, 客舱每侧一个/2 (two) one on each side of the passengers cabin

19. 最大行李/货物装载/Maximum Baggage/Cargo Loads:

位置/Location	最大载荷/装载 Max Load/Loading
行李舱	在 STA4880mm (192in) 处 150kg 或依据飞行手册-第六部分定义载荷
Baggage compartments	150 kg (330 lbs) at STA 4880 mm (192 in) or according to load distribution defined in the RFM – Section 6.

货舱地板最大载荷: 500 kg/m² (102 lb/ft²)

Maximum load on cargo compartment floor: 500 kg/m² (102 lb/ft²)

最大货舱安全挂点载荷为 91 Kg (200 lbs).

Maximum load on securing points of cargo compartment: 91 Kg (200 lbs).

客舱/Cabin compartment 不适用 NA

20. 桨叶控制移动范围/Rotor blade and control movement:

主旋翼 (总距) / Main Rotor (Collective)	min -2°	max +12°
尾桨/Tail Rotor	右脚蹬、RH pedal -8°	左脚蹬/LH pedal +24°

操纵系统详细参数见 A119/AW119MKII 维护手册

For rigging information refer to the A119/AW119MKII Maintenance Manual

21. 辅助动力装置/Auxiliary Power Unit (APU): 不适用/N.A

22. 寿命件/Life-limited parts:

参考 EASA 批准的 A119/AW119MKII 维护大纲第 4A 章

Refer to EASA Approved Chapter 04A of the A119/AW119MKII Maintenance Planning Manual

23. 机轮和轮胎/Wheels and Tyres: 不适用/N.A

IV. 使用和操作规范 Operating and Service Instructions

1. 飞行手册文件号/ Rotorcraft Flight Manual, Document No:

109G0040A017 Issue 1 Rev. 9 –, EASA approved with letter n° ERO/ula/CT.3/ 0010009614 dated 23 Sept 2014 and subsequent approved revisions.

2. 维护手册文件号/Maintenance Manual, Document No:

A119/AW119MKII-MPM Third Issue Rev. 2 (Maintenance Planning Manual)

A119/AW119MKII-MM First Issue Rev. 5 (Maintenance Manual) and subsequent approved (when required) revisions.

3. 服务信件和服务通告/Service Letters and Service Bulletins:

As published by Agusta and approved by DO (ref DOA certification No. EASA.21J.005).

4. 必备设备/Required Equipment:

See point III.3 and EASA approved RFM for approved mandatory and optional equipment

注/Notes

1. 符合的系列号: 组装图纸号 119-9000-01-111 从 s/n 14701 到 s/n 14999

Eligible serial numbers: Assembly drawing 119-9000-01-111 from s/n 14701 to s/n 14999

- 2 Designation: AW119Ke and Koala enhanced are used as marketing designation for AgustaWestland AW119 MKII helicopters.

名称: AW119Ke 和 Koala 加强是用于 AgustaWestland AW119MKII 直升机市场名称。

- 3 保留/Reserved

- 4 保留/Reserved

- 5 发动机关车时, 喷油管排出的燃油会被收集到主燃油箱中, 相应的图纸编号: 109-0613-67

The Fuel vented from the injector line at the engine shutdown, is recollected into the main fuel tank, according to the Drawing 109-0613-67

6. 中文标牌和标识包含在图纸 109-0812-91, ISS. B 或 CAAC 批准的更新版本中。

Chinese Placards and markings are included in Drawing 109-0812-091, ISS. B or later revisions CAAC approved.