

# *European Aviation Safety Agency*

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**EASA**

**TYPE CERTIFICATE  
DATA SHEET**

**AB139**

(from S/N 31001 up to S/N 31054)

Name changed in

**AW139**

(from S/N 31055 onwards)

**Type Certificate Holder:**

**AGUSTAWESTLAND S.p.A.**

*Via Giovanni Agusta, 520  
21017 Cascina Costa di Samarate (Va) – Italy*  
(See Note 2 for changes to the Agusta name)

**Manufacturer:**

**AGUSTAWESTLAND S.p.A.**

*Via Giovanni Agusta, 520  
21017 Cascina Costa di Samarate (Va) - Italy*  
(See Note 2 for changes to the Agusta name)

**AGUSTAWESTLAND PHILADELPHIA CORPORATION (AWPC)**

*3050 Red Lion Road  
Philadelphia, PA 19114 (USA)*  
(See Note 2 for changes to the Agusta Aerospace Corporation name)

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## AB139, AW139

AW139 and AB139 are two names for the same product. They identify two batches of aircraft manufactured in conformity with a unique Type Certificate Data Sheet. Refer to Note 2 for applicable Serial Numbers.  
Where not specifically declared, the content of this document is applicable to both AW139 and AB139.

### I. General

1. **Data Sheet No:** EASA.R.006
2. **Type / Variant or Model**
  - (a) **Type:** AB139 (S/N 31001 up to S/N 31054) name changed in AW139 (S/N 31055 onwards)
  - (b) **Variant or Model:** AB139 (S/N 31001 up to S/N 31054) name changed in AW139 (S/N 31055 onwards)
3. **Airworthiness Category:** Large Rotorcraft – Cat A / B See Section IV, item 4 for the required equipment
4. **Type Certificate Holder:** AGUSTAWESTLAND S.p.A. Via Giovanni Agusta, 520 - 21017 Cascina Costa di Samarate (Va) – Italy (See Note 2)
5. **Manufacturer:** AGUSTAWESTLAND S.p.A. Via Giovanni Agusta, 520 - 21017 Cascina Costa di Samarate (Va) – Italy (See Note 2)  
  
AgustaWestland Philadelphia Corporation, 3050 Red Lion Road - Philadelphia, PA 19114 - USA (See Note 2)
6. **National Certification Date:** 18 June 2003, ENAC SO/A415
7. **ENAC Application Date:** 12 March 1999
8. **ENAC Recommendation Date:** NA
9. **EASA Type Certification Date:** NA

### II. Certification Basis

1. **Reference Date for determining the applicable requirements:** March 12, 1999
2. **ENAC Certification Basis:** JAR 29 Amdt 3 dated April 1<sup>st</sup> 2002 (ref. CRI A-01)
3. **Airworthiness Requirements:** JAR 29 Amdt 3 as defined above
4. **Special Conditions:** Special Requirement for HIRF in accordance with JAA interim policy and guidance material document n. INT/POL/27&29/1 "Protection from the effects of HIRF". Refer to CRI F-01.  
  
For EPIC phase 5 approval (including SAR modes) the special condition quoted in CRI B-03 "Search and Rescue System Approval" applies.
5. **Reversion and Exemptions:** None
6. **Equivalent Safety Findings:**
  1. JAR 29.1181 (a)(6) (ref. CRI E-03) Designated fire zone
  2. JAR 29.1309 and 1357 (e) (ref. CRI F-10) EPIC system
  3. JAR 29.1305 (ref. CRI F-11)
7. **Environmental Standards including Noise:**
  - 7.1 Noise: ICAO Annex 16, Ed. 1993, Vol. I 3rd ed., Chapt. 8.
  - 7.2 Emissions: ICAO Annex 16, Ed. 1993, Vol. II, Part II, Chapt. 2 (fuel venting). See Note 4.

### III. Technical Characteristics and Operational Limitations

1. **Type Design Definition:**  
Report n° 139G0000P005/02 "AW139 – Type Design Definition (4 displays configuration)  
Report n° 139G0000P005/03 "AW139 – Type Design Definition (Long Nose configuration)

2. **Description:**

The AW139 is a twin-engine transport helicopter having a conventional configuration with a 5-blades fully articulated main rotor, a 4-blades tail rotor and a tricycle retractable wheel landing gear.

3. **Equipment:** Report n. 139G0840W002-Equipment List  
Report n. 139G0840W005-Equipment List (Long Nose configuration)

4. **Dimensions:**

Fuselage	Length	13,533 m (13,733 m for Long Nose configuration)
	Width	2,26 m
	Height	3,72 m
Main Rotor	Diameter	13,8 m
Tail Rotor	Diameter	2,7 m

5. **Engines:** Two (2) Pratt&Whitney Canada Inc. PW PT6C-67C free turbine turboshaft engines provided with EEC with the implementation of P&WC Service Bulletins 41011, 41012R and 41013.

5.1 Installed Engine Limits:

	Max torque lbf (Nm)	Max ITT °C	Max gas gen. speed rpm	Max Output Shaft speed rpm
OEI 2 1/2	400 (542)	835	40500	21000 (21420) <sup>(1)</sup>
OEI Continuous	350 (475)	775	39100	21000 (21420) <sup>(1)</sup>
Take Off 5 min	275 (373)	775	39100	21000 (21420) <sup>(1)</sup>
Maximum continuous	250 (339)	735	38200	21000 (21420) <sup>(1)</sup>

(1) for Category A take off and landings below 90KIAS and for external hoist and cargo hook operations

5.2 Transmission Torque Limits:

Transmission	Power @ 100% NR hp (kW)	Torque
MCP Max Continuous OEI	1400 (1044)	140%
2.5' OEI	1600 (1193)	160%
MCP Max Continuous AEO	1000 (746) (x 2)	100%
TOP Take-Off AEO	1100 (820) (x 2)	110%

6. **Fluids (Fuel/Oil/Additives):**

- 6.1 Fuel For all temperatures:  
Jet A-1, Jet A, JP5, JP8, JP8+100, GOST 1022 RT,  
GOST 10227 TS-1
- 6.2 Lubricant For all temperatures:  
MIL-PRF-23699F Transmission Oil  
For engine oils see Engine Maintenance Manual
- 6.3 Hydraulic Oil For all temperatures  
MIL-PRF-83282  
Alternative for low temperatures MIL-PRF-5606

For detailed information see Section 1 of the Rotorcraft Flight Manual

7. **Fluid capacities:** Total: 1588 l  
Unusable: 20 l

8. **Airspeed limits:** Never Exceed Speed (VNE) 167 KIAS  
VNE OEI/Power OFF 147 KIAS

See Section 1 of the Rotorcraft Flight Manual for variation with altitude and temperature.

- 9. Rotor Speed Limits:** AEO and OEI Continuous Operation Range: 98-101%  
Power OFF: 95-110%
- For Category A take off and landings below 90 KIAS and external hoist and cargo hook operations:  
AEO and OEI Cautionary Operation Range: 101-103 %

See Section 1 of the Rotorcraft Flight Manual for additional limitations.

**10. Maximum Operating Altitude and Temperature:**

10.1 Maximum Operating Altitude: 20000 ft pressure or density whichever comes first (see Note 6 and Note 8)

10.2 Ambient Temperature Limitations: See Rotorcraft Flight Manual (see Note 6).

See also Rotorcraft Flight Manual.

- 11. Operating Limitations:** VFR/IFR operations in non icing conditions. For IFR operations in known Icing conditions (see Note 8):

See also Rotorcraft Flight Manual.

**12. Maximum Certified Weights:**

12.1 Maximum Weight: 6400Kg. (see Note 6)

12.2 Taxi and Ramp 6450 Kg. (see Note 6)

12.3 Take Off 6400Kg. (see Note 6)

12.4 Landing 6400Kg. (see Note 6)

**13. Centre of Gravity Range:** See Rotorcraft Flight Manual

**14. Datum:** See Maintenance Manual

**15. Levelling Means:** See Maintenance Manual

- 16. Minimum Flight Crew:** One (1) for VFR day and Two (2) for VFR night and IFR  
See Section IV, item 4 for the required equipment for Single Pilot operations
- For NVG operations, two (2) pilots or one (1) pilot and one (1) crew member are required. Both pilot and crew member must be equipped with NVGs (see Note 7)

**17. Maximum Passenger Seating Capacity:** 15

- 18. Passenger Emergency Exit:** 6 (3 on each side of the passengers cabin)
- 4 (2 on each side of the passengers cabin) if the kit Cabin Bubble Windows P/N 4G5620F00111 is installed

For detailed information see Rotorcraft Flight Manual

**19. Maximum Baggage/Cargo Loads:** 200 kg.

19.1 Increased Baggage Compartment Load: See Note 5

- 20. Rotor blade and control movement:**
- |                                  |  |
|----------------------------------|--|
| Main Rotor (collective)          | +15°24' ÷ 0°36'                            |
| Main Rotor (longitudinal cyclic) | back 10° ÷ 16° forward                     |
| Main Rotor (lateral cyclic)      | left 9° ÷ right 9°                         |
| Tail Rotor pitch range           | -10° ÷ +24°<br>-10° ÷ +25°30' (see Note 6) |

**21. Auxiliary Power Unit (APU):** N/A

**22. Life-limited parts:** Refer to EASA Approved Chapter 4 of the Maintenance Manual

23. **Wheels and Tyres:**
- |                             |            |
|-----------------------------|------------|
| Nose Landing Gear: 5.00-5   | Type: 10PR |
| Main Landing Gear: 18 X 5.5 | Type: 10PR |

#### **IV. Operating and Service Instructions**

1. **Rotorcraft Flight Manual, Document No:**

Report n. 139G0290X002 - Rotorcraft Flight Manual (4 display)

2. **Maintenance Manual, Document No:**

Maintenance Planning Information 39-A-AMPI-00-P

Maintenance Publication 39-A-AMP-00-P

3. **Service Letters and Service Bulletins:**

As published by Agusta.

4. **Required Equipment:**

The installation of the following is mandatory for Category A operations:

- Service Bulletin P&WC S.B. No. 41020
- Honeywell Primus EPIC s/w P/N MM7030191-004 or later

The installation of the following is mandatory for Single Pilot VFR night operations:

- Traffic Advisory System (TCAS) RFM 139G0290X002, Supplement 25
- Quick Reference Handbook (QRH) Agusta Pub Code 502500033, latest issue
- Map/QRH holder P/N 4G2510F00111, P/N 4G2510F00113 or equivalent.

The installation of the following is mandatory for Single Pilot IFR operations:

- Flight Director RFM 139G0290X002, Sup. 34 or 40 or 67 or 69 or 70
- Quick Reference Handbook (QRH) Agusta Pub Code 502500033, latest issue
- Map/QRH holder P/N 4G2510F00111, P/N 4G2510F00113 or equivalent.

The installation of the following is mandatory for Night Vision Goggle operations

- NVIS compatible lighting systems P/N 4G3360F00111
- EPIC software 4.8 or subsequent

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

The installation of the following is mandatory for operations in Known Icing condition

- Kit Full Ice Protection System P/N 4G3000F00211

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

#### **V. Notes**

1. Cabin Interior and Seating Configurations must be approved when not yet included in the type design (see list in the Rep.139G9500U001).
2. Applicable serial numbers:
  - S/N 31001 to S/N 31054: AB139 designation, manufactured by Agusta S.p.A. in Italy
  - S/N 31055 to S/N 31200: AW139 designation, manufactured by Agusta S.p.A. in Italy
  - S/N 31201 to S/N 31999: AW139 Long Nose Configuration, manufactured by Agusta S.p.A. in Italy
  - S/N 41001 to S/N 41200: AW139 designation manufactured by Agusta S.p.A. in USA
  
  - S/N 41201 to 41999: AW139 Long Nose Configuration, manufactured by Agusta Aerospace Corporation (AAC) in USA

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

3. Material WNS-2U as an alternative to 15-5PH is acceptable only on the following landing gear S/Ns and for max 6400 Kg Take Off and Landing weight and 6450 Kg Ramp Weight:

Nose Landing gear P/N 3G3220V00131/33 from S/N 101 to S/N 130

Left MLG P/N 3G3210V00131/33 from S/N 101 to S/N 120

Right MLG P/N 3G3210V00231/33 from S/N 101 to S/N 120

4. The fuel vented from the injector line at the engine shutdown, is recollected into the main fuel tank, according to the Report n. 139G0000P005 "AW139 – Type Design Configuration".
5. The installation of the restraint net anchoring system P/N 3G2550F00113 and the restraint net P/N 3G2550F00311 permits the maximum load to be carried in the baggage compartment to be increased to 300 Kg. For detailed information refer to Supplement N°31 of the Rotorcraft Flight Manual.
6. Operation of the aircraft with MTOW up to 6800 kg is permitted according to RFM 139G0290X002 Supplement N°50 if kit P/N 4G0000F0011 is installed.
7. Night Vision Goggle Operations are permitted according to RFM 139G0290X002 Supplement N°60. The aircraft configuration involving internal/external emitting/reflecting equipment approved for use with NVG is described in the Report n. 139G3360A001 "AW139 NVG Compatibility Reference Handbook". Subsequent modifications and deviations to the NVG helicopter configuration shall be managed in accordance with AgustaWestland document 139G3360E001 "AW139 HELICOPTER NVG POLICY".
8. Operation in Known Ice Condition is permitted according to RFM 139G0290X002 Supplement 71 if kit Ice Protection System P/N 4G3000F00211 is installed. The aircraft configuration approved for use in icing condition is described in the Report 139G3000A001 "AW139 Icing Compatibility Reference Handbook".