DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

H14EU
Revision 2
AGUSTA
AS-61N
AS-61N1
August 20, 1990

TYPE CERTIFICATE DATA SHEET No. H14EU

This data sheet which is part of Type Certificate No. H14EU prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder — Agusta S.p. A.
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Italy

I. Model AS-61N (Amphibious Transport Helicopter - Categories A & B), approved July 17, 1984.

See NOTE 12 for approval at higher gross weights.

Engines — 2 General Electric CT58-110-1 (with Hamilton Standard Fuel Control JFC-26).
See NOTE 8 for optional engines

Fuel — Aviation Kerosene JP4 or JP5 (General Electric Company Specification Number D50T1011 or subsequent revisions thereto)

Engine Limits. — Sea Level Static - Standard Day

	Shaft hp	Power Turbine rpm	Gas Gen. rpm	Power Turbine Inlet (T5)
Takeoff (5 min.)	1250	21275(112%Nf)	26300(100%Ng)	1250°F(677°C)
One Engine inoperative (2 1/2 min.) (See Note 5)	1350	21275(112%Nf)	26840(102%Ng)	1300°(704°C)
One Engine inoperative 30 min.) (See NOTE 6)	1250	21275(112%Nf)	26300(100%Ng)	1250°F(677°C)
Maximum continuous	1050	21275(112%Nf)	26300(100%Ng)	1175°F(635°C)
Maximum transient (2 sec.)				1544°F(840°C)
Starting (4 sec.)				1544°F(840°F)
Allowable maximum overspeed (15 sec.)		23100(122%Nf)	27600(105%Ng)	

Takeoff and maximum continuous horsepower ratings are normally obtained at a power turbine speed of 18,966 r.p.m. (100%Nf).

Total power for two-engine operation is limited to 2300 hp. for takeoff and 2100 hp. maximum continuous. (See NOTE 9 for alternate limits).

See NOTE 10 for variation of sea-level static power limits below 59°F.

Rotor Limits — Maximum 225 r.p.m.
Minimum 184 r.p.m.

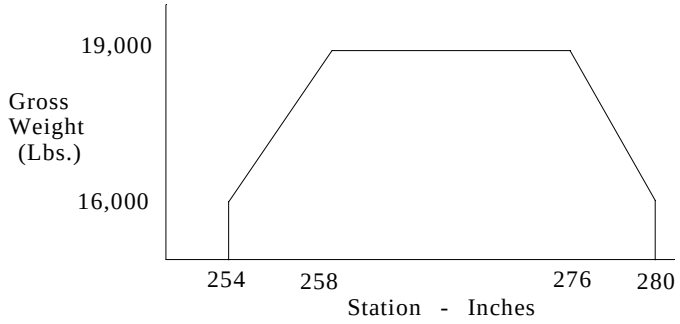
Airspeed Limits — Never exceed 150 m.p.h. (130 knots) CAS (See NOTE 12)

C.G. Range

Category A(except vertical and edge procedures) and Category B: (+258.0) to (+276.0) at 19,000 lb.
(+254.0) to (+280.0) at 16,000 lb. or less

Category A (vertical and edge procedures) (+258.0) to (+276.0) at 19,000 lb. or less

(Above values apply to aircraft with two-tank fuel system. Refer to Flight Manual for additional limitations associated with the three-tank fuel system.)



Empty Weight C. G. Range

None

Maximum Weight

Category A: 19,000 lb. (See Rotorcraft Flight Manual for lesser maximum weights for various Category A takeoff and landing procedures).

Category B: 19,000 lb.

Minimum Crew

2 (pilot, copilot)

Maximum Passengers

39, Limited by emergency exit requirements

Maximum Baggage

Forward Compartment
Above floor: 650 lb. (+153) (if galley not installed) or 590 lb. (+151) (if galley installed)
Below floor: 1500 lb. (+148)

Aft Compartment (below floor): 1000 lb. (+340)
Baggage Rack: 500 lb. (+370)

Below-floor area of forward compartment should not be loaded in excess of 86.5 lbs. per square foot and aft compartment in excess of 65 lbs. per square foot, within the total limits identified above.

The cabin floor, when used for cargo purposes, should not be loaded in excess of 200 lbs. per square foot forward of Station 323 and 150 lbs. per square foot aft of Station 323.

Fuel Capacity

410 gal. (210 gal. at (204), 200 gal. at (306).) (Two-tanks system)
654 gal. (210 gal. at (204), 244 gal. at (265), 200 gal. at (306).) (Three-tank system)

Oil Capacity

5 gal. (181) (2 tanks 2.5 gal. each)

Rotor Blade and control Movements.	For rigging information, refer to Maintenance Manual
Datum	267.4 in. forward of main rotor centroid
Leveling Means.	Leveling plates on sill and upper frame of forward door
Serial Numbers Eligible	None. No aircraft will be produced under the provisions of this type certificate.
Production Provisions	None
Certification Basis	FAR 21.21 and CAR 7, August 1, 1956, including Amendments 7-1 through 7-4 and Special Conditions for Turbine Power Rotorcraft in FAA letter to Sikorsky Aircraft, March 31, 1961. FAA Administrator telegram, Performance Requirements, dated August 7, 1961. Amendment 29-3 to Part 29 of the Federal Aviation Regulations, effective February 26, 1968, eliminated the requirements of CAR 7.350(e) by deleting FAR 29.771(e) and FAR 29.772(f). Models AS-61N: Exemption No. 186A, dated November 28, 1962. Model AS-61N at 19,000 to 20,500 lbs. gross weight: FAR 29.563, FAR 29.801, and FAR 29.807 of Amendment 12, effective February 1, 1977, to FAR Part 29. Date of Application to Type Certificate: November 15, 1983.
Equipment	The basic required equipment as prescribed in the applicable airworthiness regulations (See Certification Basis) must be installed in the helicopter for certification. In addition, the following items of equipment are required: FAA Approved Rotorcraft Flight Manual, Model S-61N Helicopter, (Published No. SA 4045-82), dated September 9, 1963. Reissued December 17, 1971. Revised November 27, 1981. (i) Supplement No. 15, dated September 9, 1977. Revised September 12, 1979. (ii) Supplement No. 16, dated October 20, 1977. Revised October 3, 1980. There may be approved Rotorcraft Flight Manual (RFM) amendments or supplements issued after the original type certificate, that are required to operate the helicopter when additional equipment is installed and/or when certain modifications are embodied. The helicopter owner/operator should ensure that the correct approved RFM amendments or supplements are incorporated in the approved RFM, for the approved model.
Service Information	Service bulletins, structural repair manuals, aircraft flight manuals, and overhaul and maintenance manuals, which contain a statement that the document is Registro Aeronautico Italiano (RAI) approved, are accepted by the FAA and are considered FAA approved. These approvals pertain to the type design only.
Import Requirements	To be considered eligible for operation in the United States, each aircraft manufactured under this type certificate must be accompanied by a certificate of airworthiness for export or certifying statement endorsed by the exporting foreign civil airworthiness authority which states (in the English language): This aircraft conforms to its U.S. type design (type certificate number H14EU) and is in a condition for .safe operation. The U.S. airworthiness certification basis for aircraft type certificated under FAR Section 21.29 and exported by the country of manufacture is FAR Sections 21.183(c) or 21.185(c). The U.S. airworthiness certification basis for aircraft type certificated under FAR Section 21.29 exported from countries other than the country of manufacture (e.g., third party country) is FAR Sections 21.183(d) or 21.183(b).

NOTE 1. Current weight and balance report including list of required equipment and list of equipment included in certificated empty weight, and loading instructions when necessary, must be provided for each helicopter at the time of original certification.

NOTE 2 The following placard must be displayed in front of and in clear view of the pilot:

"THIS HELICOPTER MUST BE OPERATED IN COMPLIANCE WITH THE OPERATING LIMITATIONS SPECIFIED IN THE FAA APPROVED HELICOPTER FLIGHT MANUAL."

NOTE 3. Information essential to the proper maintenance of the helicopter is contained in the manufacturer's maintenance manual provided with each helicopter, which specifies that service life limited parts be retired in accordance with the following:

Model AS-61N
Section 2C. "List of retireable parts and time limits," of Sikorsky Service Bulletin No. 61B General-1L, dated December 16, 1981.

NOTE 4. A modification of the Model AS-61N, replacing the amphibious landing gear with a Sikorsky Model S-61L fixed 1and type gear in accordance with Sikorsky Aircraft Drawing S6107-25112, "Modification Kit, Sponson to Fixed Landing Gear," has been approved for operations at 20,500 lbs. gross weight. With this modification, the Model S-61N is converted to a Transport Helicopter (Categories A and B).

NOTE 5. Engine controls must be set to this rating for Category A vertical operation (Ground-level and Elevated Heliports) and Category A Elevated Heliport Edge Procedures.

NOTE 6. If take-off power is used in cumulative excess of 5 minutes during any one emergency, the engine must be inspected in accordance with G.E. Commercial Engine Service Memorandum CT58-110-1, Maintenance No. 19, April 17, 1962.

NOTE 7. The hoist and cargo sling are special purpose equipment and information concerning the operating limitations for this equipment is contained in the Rotorcraft Flight Manual.

NOTE 8. Optional engines eligible for installation and the applicable limitations:

Engines (2): (a) General Electric CT58-110-2 (with Hamilton Standard Fuel Control JFC-26). Engine Limits Sea Level Static - Standard Day (Same as CT58-110-1)

(b) General Electric CT58-140-1 (with Hamilton Standard Fuel Control JFC-26) Engine Limits Sea Level Static - Standard Day

	Shaft hp	Power Turbine rpm	Gas Gen. rpm	Power Turbine Inlet (T5)
Takeoff (5 min.)	1400	21275(112%Nf)	26300(100%Ng)	1285°F(696°C)
One Engine Inoperative (30 min.) (See NOTE 6)	1400	21275(112%Nf)	26300(100%Ng)	1285°F(696°C)
One Engine inoperative (2 1/2 min.) (See NOTE 5)	1500	21275(112%Nf)	26800(102%Ng)	1330°F(721°C)
Maximum continuous	1250	21275(112%Nf)	26300(100%Ng)	1220°F(660°C)
Maximum transient (2 sec.)				1545°F(840°C)
Starting (2 sec.)				1740°F(950°C)
Allowable maximum (15 sec.)		23100(122%Nf)	27600(105%Ng)	

Takeoff and maximum continuous horsepower rating are normally obtained at a power turbine speed of 18,966 r.p.m. (100%Nf).

Total power for two-engine operation is limited to 2300 hp. for takeoff for AS-61N rotorcraft (See NOTE 9 for alternate limits).
Maximum continuous total power for two-engine operation is limited to 2100 hp.

See NOTE 10 for variation of sea-level static power limits below 59°F.

The use of optional engine Model CT58-140-1 is permitted only when main gearbox part numbers S6135-20600-8, -10, -12 through -15, -18, -19, or -21 through -41 is installed, and left engine cowl, part number S6130-80142, is modified for increased cooling provisions per Sikorsky Engineering Order No. 65718. Refer to Rotorcraft Flight Manual for use of engine inlet duct, part number S6130-80179, with oil tank mounting ring, part number S6132-80205.

(c) General Electric CT58-140-2 (with Hamilton Standard Fuel Control 725725-1).
Engine Limits: See Level Static - Standard Day

	Shaft hp	Power Turbine rpm	Gas Gen. rpm	Power Turbine Inlet (T5)
Takeoff (5 min.)	1400	21275(112%Nf)	26300(100%Ng)	1285°F(696°C)
One Engine inoperative (30 min.) (See NOTE 6)	1400	21275(112%Nf)	26300(100%Ng)	1285°F(696°C)
One Engine inoperative (2 1/2 min.) (See NOTE 5)	1500	21275(112%Nf)	27200(103.4%Ng)	1397°F(758°C)
Maximum continuous	1250	21275(112%Nf)	26300(100%Ng)	1220°F(660°C)
Maximum transient (2 sec.)				1545°F(840°C)
Starting (2 sec.)				1740°F(950°C)
Allowable maximum overspeed (15 sec)		23100(122%Nf)	27600(105%Ng)	

Total power for two-engine operation is limited to 2300 hp. for takeoff for S-61L/N rotorcraft (See Note 9 for alternate limits)

See NOTE 10 for variation of sea-level static power limits below 59°F.

The use of optional engine Model CT58-140-2 is permitted only when main gearbox part numbers S6135-20600-8, -10, -12 through -15, -18, -19, or -21 through -41 is installed, and left engine cowl, part number S6130-80142, is modified for increased cooling provisions per Sikorsky Engineering Order No. 65718. Refer to Rotorcraft Flight Manual for use of engine inlet duct, P/N S6130-80179, with oil tank mounting ring, P/N S6132-80205.

NOTE 9. Two-engine operation limits are increased to 2500 hp. for takeoff when the S6135-20600-12 through -15, -18, -19, or -23 through -41 main transmission is installed. The maximum continuous limit of 2100 hp. is unchanged.

NOTE 10. Below 59°F the sea-level static power limits vary as follows:

	CT58-110-1, CT58-110-2	CT58-140-1	CT58-140-2
2 1/2 Min. Heli.	No variation - engine is flat rated at 1350 hp. at 59°F and below	Increase linearly from 1500 hp. at 59°F to 1545 hp. to 1545 hp. at -65°F.	Increase linearly from 1500 hp. at 59°F to 1560 hp. at -65°F.
Takeoff and 30 Min. Heli.	Increases from 1250 hp. at 59°F to 1350 hp. at +23°F and flat rated below this	Increases linearly from 1400 hp. at 59°F to 1510 hp. at 22°F and to 1540 hp. at -65°F	Increase linearly from 1400 hp. at 59°F to 1530 hp. at 13°F and to 1560 hp. at -65°F
Max. Continuous	Increases linearly from 1050 hp. at 59°F to 1230 hp. at 29°F and flat rated at 1230 hp. at 29°F and below.	Increases linearly from 1250 hp. at 59°F to 1390 hp. at 39°F and flat rated at 1390 hp. at 39°F and below.	

NOTE 11. The maximum rotorcraft-external weight is 22,000 lb. under the condition specified in the Rotorcraft Flight Manual Supplements, in accordance with FAR 133 operations.

NOTE 12. The AS-61N is approved for operations at gross weights from 19,000 to 20,500 pounds when the following components are installed:

Main Rotor Blades, P/Ns 61770-20201-055 and subsequent, S6115-20501-041 and subsequent, and S6115-20601-047, -048, and subsequent.

Tail Rotor Blades, P/N S6117-30101-043 and subsequent.

Engines, G.E. CT58-140-1 and 140-2.

Main Gearbox, P/Ns S6135-20660-12 through -15, -18, -19, -21, through -041 and subsequent.

Bifilar Assembly, P/N S6112-23039-017.

Beam, Pitch Control (Tail Gearbox), P/N S6135-66705-1.

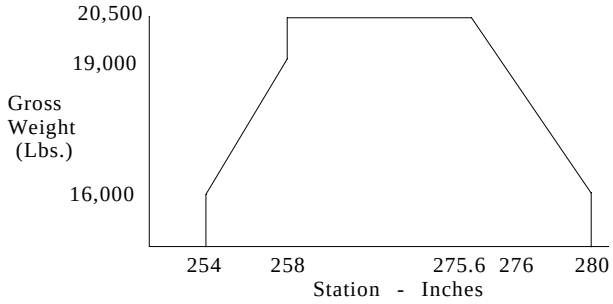
Airspeed Limits

Category A: Never exceed 140 m.p.h. (122 knots) IAS
Category B: Never exceed 144 m.p.h. (125 knots) IAS

C.G. Range

(258.0) to (275.6) at 20,500 lbs.
(258.0) to (276.0) at 19,000 lbs.
(254.0) to (280.0) at 16,000 lbs. or less

(Above values apply to aircraft with two-tank fuel system. Refer to Flight Manual for additional limitations associated with the three-tank fuel system.)



Empty Weight None
C.G. Range.

Maximum Weight
Category A: 20,500 lbs. (See Rotorcraft Flight Manual for lesser weights for various Category A takeoff and landing procedures.)

Category B: 20,000 lbs.

Above 19,000 lbs. gross weight, the helicopter is approved for overwater flights and emergency water landings provided that life saving equipment is installed that meets the requirements of FARs 29.1411, 29.1415, and 29.1561.

II. Model AS-61N1 (Transport Helicopter - Categories A & B), approved August 4, 1988.

Engine: 2 General Electric CT58-140-1 (with Hamilton Standard Fuel Control JFC-26).

Fuel: Aviation Kerosene JP4 or JP5 (General Electric Co. Spec.).

Engine Limits. Sea Level Static - Standard Day

	Shaft hp	Power Turbine rpm	Gas Gen. rpm	Power Turbine Inlet (T5)
Takeoff (5 min.)	1250	21275(112%Nf)	26300(100%Ng)	696°C
One Engine inoperative (30 min.)	1250	21275(112%Nf)	26300(100%Ng)	696°C
One Engine inoperative (2 1/2 min.)	1350	21275(112%Nf)	26800(102%Ng)	721°C
Maximum Continuous	1050	21275(112%Nf)	26300(100%Ng)	660°C
Maximum transient (2 sec.)				820°C
Starting (2 sec)				950°C
Starting interruption				750°C
Allowable maximum overspeed (15 sec.)		23100(122%Nf)	27600(105Ng)	

Rotor Limits: Maximum 225 r.p.m.
Minimum 184 r.p.m.

Airspeed Limits: Never exceed speed 131 knots IAS at 100% rotor speed (Nr).

C.G. Range: Call (405) 954-6628 for C.G. chart. (Entered 2/12/97)

Maximum Weight: Category "A" 21,000 lbs
Category "B" 20,000 lbs

Minimum Crew: 2 (pilot, copilot)

Maximum Passengers: 22 or 24 depending on interior arrangement.

Maximum Baggage: Aft 170 lbs
Fwd 2 x 163 lbs

Fuel Capacity: Total 908,86 gal
Usable 902,02 gal
Unusable 6,84 gal

Oil Capacity: 5 gal (2 tanks 2.5 gal. each)

Rotor Blade and Control Movements: For rigging information, refer to Maintenance Manual

Serial Numbers Eligible: 6401 and Subs.

Certification Basis: CAR 7 and this Part 29 of the Federal Aviation Regulation paragraphs: 29.771, 29.1353, 29.979, 29.783, 29.801, 29.803, 29.805, 29.807, 29.809, 29.811, 29.813, 29.815, 29.831, 29.853, 29.855, 29.607, 29.1141, 29.963, 29.979.

Equipment: The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis), must be installed in the helicopter for certification and on a permanent basis from that period on. The Rotorcraft Flight Manual must be in the helicopter at all times.

Service Information	Service bulletins, structural repair manuals, aircraft flight manuals, and overhaul and maintenance manuals, which contain a statement that the document is Registro Aeronautico Italiano (RAI) approved, are accepted by the FAA and are considered FAA approved. These approvals pertain to the type design only.
Import Requirements	To be considered eligible for operation in the United States, each aircraft manufactured under this type certificate must be accompanied by a certificate of airworthiness for export or certifying statement endorsed by the exporting foreign civil airworthiness authority which states (in the English language): This aircraft conforms to its U.S. type design (type certificate number H14EU) and is in a condition for safe operation. The U.S. airworthiness certification basis for aircraft type certificated under FAR Section 21.29 and exported by the country of manufacture is FAR Sections 21.183(c) or 21.185(c). The U.S. airworthiness certification basis for aircraft type certificated under FAR Section 21.29 exported from countries other than the country of manufacture (e.g., third party country) is FAR Sections 21.183(d) or 21.183(b).

NOTES

NOTE 1. Current weight and balance report, including list of required equipment and list of equipment included in the certificated empty weight, and loading instructions when necessary, must be provided for each helicopter at the time of original certification.

NOTE 2. The following placard must be displayed in front of and clear view of the pilot:

"THIS HELICOPTER MUST BE OPERATED IN COMPLIANCE WITH THE OPERATING LIMITATIONS SPECIFIED IN THE FAA APPROVED HELICOPTER FLIGHT MANUAL."

NOTE 3. Information essential to the proper maintenance of the helicopter is contained in the manufacturer's maintenance manual provided with each helicopter, which specifies that service life limited parts be retired in accordance with the following:

Model AS-61N1

Chapter IV "Airworthiness Limitations Schedule" of "AS-61N1 Airworthiness Limitation Manual", RAI approved December 22nd 1987.

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