

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

A22SO Revision 8 Amphibian Aircraft International, Inc. Grumman G-111 (Albatross) October 14, 2014
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TYPE CERTIFICATE DATA SHEET NO. A22SO

This data sheet, which is part of type certificate No. A22SO, prescribes conditions under which the product for which the type certificate was issued, meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder Amphibian Aircraft International, Inc.
c/o Dunlap Weaver, PLLC (See Note 7)
211 Church Street
Leesburg, Virginia 20175

Type Certificate Holder Record Flying Boat, Inc. transferred type certificate to Amphibian Aircraft International, Inc. on July 1, 2010.

I. - Model Grumman G-111, (Albatross), Transport Category, Amphibian, Approved April 29, 1980

Engine 2 Wright Aeronautical Nine Cylinder 982C9HE3, Reciprocating Engines.

Fuel Minimum 100 Octane Low Lead (LL).

Oil Engine: MIL-L-6082 Grade 1120
MIL-L-22851 (WEP)
Propeller: MIL-O-6081 (Grade 1010) (50%) and
MIL-C-6529 (Type II) (50%).
For other approved oil combinations, see NOTE 3.

<u>Engine Limits</u>	<u>BHP</u>	<u>RPM</u>	<u>MP</u>	<u>Altitude</u>
Takeoff (5 minutes)	1475	2800	54.5	SL
Takeoff (5 minutes)	1475	2800	54.0	1250 Ft. Critical Alt.
Maximum Continuous	1275	2500	46.5	SL
Maximum Continuous	1275	2500	45.5	2550 Ft. Critical Alt.

Propeller and Propeller Limits

- Number and Type Two Hamilton Standard 43D51-667
Blades Three 7113(-)-5
Diameter 11 ft. 2 in.
Pitch setting at 54 inch blade station
Low 13°
High (feathered) 84°
Reverse -18°
Operation between 2100 and 2200 rpm; 2550 and 2650 rpm is restricted to passing through only.
- Number and Type Two Hamilton Standard 43D51-669
Blades Three 6915(-)-7
Diameter 11 ft. 0 in.
Pitch setting at 42 inch blade station
Low 19.5°
High (feathered) 89.5°
Reverse -11.5°
Operation between 2550 and 2650 rpm is restricted to passing through only.
Avoid ground running between 1650 and 1900 rpm when off the low-pitch stop.

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Airspeed Limits

		<u>KIAS</u>	<u>KCAS</u>
V _{ne}	(never exceed)	229	228
V _{no}	(normal operating)	206	205
V _a	(design maneuvering)	134	133
V _{fe}	(max. flap extended)	142	141
V _{lo}	(max. landing gear operating)	131	130
V _{le}	(max. landing gear extended)	151	150
V _{lle}	(max. with landing lights extended)	120	119
V _{rb}	(max. with rudder boost on)	150	149
V _{mc}	(min. control speed-air)	81	80

Center of Gravity (CG) Range

The center of gravity range is between 22.5 and 27.5 percent MAC (stations 296.96 and 303.54).

Datum

Reference Datum is 149 inches forward of jig point located in nose wheel well. The jig point is located by hanging a plumb bob from the small hole drilled in the beam on the aft bulkhead of the nose wheel well.

Mean Aerodynamic Chord (MAC)

The leading edge of the MAC is at Station 267.33.
The length of the MAC is 131.67 inches.

Leveling Means
Longitudinal

Longitudinal leveling is determined by use of plumb bob hung from small hole drilled in the shelf in either main wheel well.

Lateral

Lateral leveling is determined by use of leveling device on leveling brackets on nose wheel well bulkhead at station 150.

Maximum WeightsTakeoff:

Landplane	30,605 pounds
Seaplane	31,365 pounds

Landing:

Landplane	29,500 pounds
Seaplane	31,365 pounds

Minimum Crew

Two: Pilot and Co-Pilot

Number of Passengers

28

Cargo

None

Maximum Baggage

<u>Compartment</u>	<u>Capacity (lbs.)</u>	<u>Max. Loading</u>	<u>C.G. (F.S.)</u>
I	700	50 lb/ft ²	66.0
II	300	200 lb/ft ²	183.5
III	300	200 lb/ft ²	183.5
IV	300	200 lb/ft ²	186.5
V	750	250 lb./ft ²	535.0

Fuel Capacity

	<u>Capacity</u>	<u>Usable Fuel</u>
Total Fuel	662 gallons	625 gallons determined with full fuel (3,750 pounds at 297.3 (Arm))
2 Main Tanks each	31 gallons	312.5 gallons (determine with full fuel) (1,875 pounds at 297.3 (Arm))

See NOTE 1 for Unusable Fuel Data

Oil Capacity

	<u>Capacity</u>	<u>Usable Oil</u>
Engine Total Oil	62 gallons	58 gallons (435 lbs. at 262.0)
2 Tanks ea.	31 gallons	29 gallons (217.5 lbs. at 262.0)
See NOTE 1 for Unusable Oil Data.		
Propeller Total Oil	7.2 gallons	7.2 gallons (54 lbs. at 210.0)
2 Tanks ea.	3.6 gallons	3.6 gallons (27 lbs. at 210.0)

Control Surface Movements

	Degrees	Inches
Ailerons		
Up	17 ± 1	6-1/2 ± 3/16
Down	17 ± 1	6-1/2 ± 3/16
Elevators		
Up	30 ± 1	12-1/16 ± 13/32
Down	20 ± 1	8-3/32 ± 13/32
Rudder		
Right	20 ± 1	8-3/32 ± 3/16
Left	15 ± 1	6-1/16 ± 3/16
Trim Tabs		
Elevator		
Up	5 ± 1	23/32 ± 1/8
Down	12 ± 1	1-21/32 ± 1/8
Rudder		
Right	16 ± 1	3-1/8 ± 3/16
Left	26 ± 1	5-1/32 ± 3/16
Aileron		
Up	18 ± 1	1-5/8 ± 3/32
Down	12 ± 1	1-1/16 ± 3/32

Serial Numbers Eligible

148325, 148327, 148328, 148329 (See NOTE 3).
(Produced under Production Certificate (PC) Number 23 issued to
Grumman Aerospace Corporation, Stuart, Florida, under licensing agreement
dated March 9, 1978. This PC is no longer in effect.)

51-7243, 51-7244, 51-7249, 51-7168, 137901, 141282, 148326, 9304, 9308
(Produced under Production Certificate Number 1050 issued to
Grumman St. Augustine Corporation, St. Augustine, Florida, under licensing
agreement dated 22 December 1981. This PC is no longer in effect.)

Certification Basis

FAR 21.27, effective February 1, 1965; CAR 4b, effective December 31, 1953,
including amendments 1 and 2; FAR 36, effective December 1, 1969, including
amendments 1 through 3; FAR 25.2.

Equivalent Safety Finding: CAR 4b.113 applicable for seaplane takeoff only
(See AFM).

Production Basis

None. Prior to original certification of an aircraft, a FAA representative must perform a
detailed inspection for workmanship, materials, and conformity with the approved
technical data, a final inspection of the completed aircraft, and a check of the flight
characteristics.

Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. Approved equipment for the Model G-111 is shown in Aviation Fire Control, Inc., Report No. 16, "Equipment List." FAA approved Airplane Flight Manual, revised May 27, 1981, is also required.

- NOTE 1.
- a. Current weight and balance report including list of equipment included in certificate weight empty, and loading instructions when necessary, must be in each aircraft at the time of original certification and at all times thereafter.
 - b. Refer to FAA Approved Airplane Flight Manual, Sections 7 and 8, for weight and balance and weighing instructions.
 - c. The certificated empty weight must include unusable fuel of 37 gallons (222 lbs. at 300.6 inches (arm)), and unusable oil of 4 gallons (30 lbs. at 262 inches (arm)).
- NOTE 2. Required placards are listed in Resorts International Drawing RI100F2011.
- NOTE 3. Aircraft Serial No. 148328 limited to a maximum of 8900 flight hours due to the installation of 7075-T6 spar caps in center section.
- NOTE 4. Alternate propeller oil can be made by mixing 50% MIL-O-6081 (grade 1010) and 50% of mixture containing one part MIL-H-6083 (Type 1) and three parts MIL-L-6082 (grade 1100).
- NOTE 5. The intumescent nacelle paint must be inspected per (1) or (2) and if found deficient replaced before further flight:
1. Prior to the first flight of the day.
 2. For a series of consecutive day flights the inspection may be conducted at a maximum interval of 24 hours from the last inspection.
- NOTE 6. Continuous electrical loads applied to the DC electrical system must not exceed 400 amperes.
- NOTE 7. Atlanta Aircraft Certification Office is retaining oversight responsibility of this type certificate until a permanent address is provided by the type certificate holder.

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