DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION

A22SO | Revision 10 | |
Amphibian Aircraft Technologies, LLC. | (Grumman) |
G-111 (Albatross)

May 1, 2016

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 Technologies, LLC.

c/o Dunlap Bennett & Ludwig, PLLC

211 Church Street

Leesburg, Virginia 20175

Type Certificate Holder Record Amphibian Aircraft International, Inc. transferred type certificate to Amphibian Aircraft

Technologies, LLC. on May 1, 2016

Flying Boat, Inc. transferred type certificate to Amphibian Aircraft International, Inc. on

July 1, 2010.

I. - Model G-111, (Grumman), (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.

Engine Limits		<u>BHP</u>	<u>RPM</u>	<u>MP</u>	Altitude
	Takeoff (5 minutes)	1475	2800	54.5	SL

 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

1. 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.

2. 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.

Page No.	1	2	3	4
Rev. No.	10	5	8	9

A22SO Page 2 of 4

Airspeed Limits			KIAS	KCAS
All speed Limits	V _{ne} (never exc	eed)	229	228
	V _{no} (normal or		206	205
		aneuvering)	134	133
	V _{fe} (max. flap	extended)	142	141
	V _{lo} (max. land	ling gear operating)	131	130
		ling gear extended)	151	150
	110	landing lights exten		119
	10	rudder boost on)	150	149
	V _{mc} (min. cont	rol speed-air)	81	80
Center of Gravity (CG) Range	The center of grav (stations 296.96 a	vity range is between nd 303.54).	22.5 and 27.5 perc	cent MAC
<u>Datum</u>	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)		of the MAC is at Sta MAC is 131.67 inch		
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 Weights	<u>Takeoff:</u> Landplane Seaplane	30,605 pounds 31,365 pounds		
	<u>Landing:</u> Landplane Seaplane	29,500 pounds 31,365 pounds		
Minimum Crew	Two: Pilot and C	o-Pilot		
Number of Passengers	28			
<u>Cargo</u>	None			
Maximum Baggage	Compartment	Capacity (lbs.)	Max. Loading	<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	Total Fuel	<u>Capacity</u> 662 gallons	<u>Usable Fuel</u> 625 gallons deter (3,750 pounds at	mined with full fuel
	2 Main Tanks each	h 31 gallons	312.5 gallons (de	etermine with full fuel)
	(1,875 pounds at 297.3 (Arm)) See NOTE 1 for Unusable Fuel Data			

See NOTE 1 for Unusable Fuel Data

A22SO Page 3 of 4

Oil Capacity	Engine Total Oil 2 Tanks ea. See NOTE 1 for Uni	Capacity 62 gallons 31 gallons usable Oil Data	<u>Usable Oil</u> 58 gallons (435 lbs. at 262.0) 29 gallons (217.5 lbs. at 262.0)	
	Propeller Total Oil 2 Tanks ea.	7.2 gallons 3.6 gallons	7.2 gallons (54 lbs. at 210.0) 3.6 gallons (27 lbs. at 210.0)	
Control Surface Movements		Degrees	Inches	
Control Surface Wovements	Ailerons	Degrees	niches	
	Up	17 ± 1	$6-1/2 \pm 3/16$	
	Down	17 ± 1 17 ± 1	$6-1/2 \pm 3/16$ $6-1/2 \pm 3/16$	
	Down	17 ± 1	0-1/2 = 5/10	
	Elevators			
	Up	30 ± 1	$12-1/16 \pm 13/32$	
	Down	20 ± 1	$8-3/32 \pm 13/32$	
	20,,,1	2 0 = 1	0 0,02 = 10,02	
	Rudder			
	Right	20 ± 1	$8-3/32 \pm 3/16$	
	Left	15 ± 1	$6-1/16 \pm 3/16$	
	2011	10 = 1	0 1/10 = 0/10	
	Trim Tabs			
	Elevator			
	Up	5 ± 1	$23/32 \pm 1/8$	
	Down	12 ± 1	$1-21/32 \pm 1/8$	
	Rudder			
	Right	16 ± 1	$3-1/8 \pm 3/16$	
	Left	26 ± 1	$5-1/32 \pm 3/16$	
	Aileron			
	Up	18 ± 1	$1-5/8 \pm 3/32$	
	Down	12 ± 1	$1-1/16 \pm 3/32$	
Serial Numbers Eligible	148325, 148327, 148328(See NOTE 3), 148329. (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.			

(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.

Equivalent Safety Finding: CAR 4b.113 applicable for seaplane takeoff only

A22SO Page 4 of 4

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. Deleted

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