TYPE CERTIFICATE DATA SHEET A33SO

This data sheet, which is part of Type Certificate No. A33SO, prescribes conditions and limitations under which the product for which 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
Robinson Air Crane, Inc. transferred type certificate to Amphibian Aircraft International, Inc. on August 4, 2010.
Air Crane, Inc. transferred type certificate to Robinson Air Crane, Inc. on June 29, 2010.

I - Grumman Model HU-16A (Restricted Category), approved September 29, 1988

Engines
2 Wright F1820-76A, B, C, D

Fuel
100/130 minimum grade aviation gasoline

Engine Limits

<table>
<thead>
<tr>
<th>Low Impeller Ratio</th>
<th>HP</th>
<th>RPM</th>
<th>MP</th>
<th>ALT FT</th>
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<tr>
<td>Takeoff (five min.)</td>
<td>1425</td>
<td>2700</td>
<td>51.5</td>
<td>Sea Level</td>
</tr>
<tr>
<td>Takeoff (five min.)</td>
<td>1425</td>
<td>2700</td>
<td>50.5</td>
<td>2600</td>
</tr>
<tr>
<td>Maximum Continuous</td>
<td>1275</td>
<td>2500</td>
<td>46.5</td>
<td>Sea Level</td>
</tr>
<tr>
<td>Maximum Continuous</td>
<td>1275</td>
<td>2500</td>
<td>45.5</td>
<td>3500</td>
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</table>

Straight line variation between points given

Propeller and Propeller Limits
3 blade Hamilton Standard Hydromatic constant speed full feathering and reversible with integral oil systems.

Hub Model No.: 43D50, 43D50-601, 603 or 637
Blade No.: 6601- ( ), 6601A-7 thru -9, or 6621A-7, Nickel Plated 6999-7 thru -9, or 7005-7, 7007B, 7007B-7

Pitch settings at the 42 in. station:

| Low | 16 degrees |
| Feather | 89 degrees |
| Reverse | -12 degrees |

Diameter:

| Maximum | 132.00 in. |
| Minimum | 129.36 in. |
Airspeed Limits

- Vne (never exceed): 260 KIAS
- Severe Turbulence: 130 KIAS
- Full Aileron Defection: 150 KIAS
- Landing Gear Extended: 130 KIAS
- Landing Lights Extended: 120 KIAS
- Flaps Down 15: 175 KIAS
- Flaps Down 30: 135 KIAS
- Flaps Full Down 40: 115 KIAS
- De-Icer Boot Operation: 200 KIAS

C.G. Range

294" (20.5% MAC) to 304.0" (28% MAC)

Datum

71.5 forward of nose jack pad

Leveling Means

Leveled laterally by leveling lugs located in nose wheel well and longitudinally by a plum bob drop from the small hole located in the shelf of either wheel well.

Maximum Weight

33,500 lbs.

Minimum Crew

2 (pilot & copilot)

Fuel Capacity

- Right and Left Main Tanks: 340 gal. (each), 2040 lbs., (+297.3)
- Right and Left Float Tanks: 212 gal. (each), 1272 lbs., (+307.5)
- Right and Left Drop Tanks: 295 gal. (each), 1770 lbs., (+295.0)

Oil Capacity

Right and Left Tanks: 25.6 gals (each), 192 lbs., (+262.0)

Control Surface Movement

- Wing Flaps: Down 40 ± 3
- Aileron Tab: Up 18 ± 1 Down 12 ± 1
- Aileron: Up 17 ± 1 Down 17 ± 1
- Elevator Tab: Up 5 ± 1 Down 12 ± 1
- Elevator: Up 30 ± 1 Down 20 ± 1
- Rudder Tab: Right 17 ± 1 Left 25 ± 1
- Rudder: Right 20+ 1 Left 15 ± 1

Other Operating Limitation


Serial Nos. Eligible

149836, 142428, 132429, 131266, 131892, 137900, 137926, 137927, 131911, 142361, 142361, 137930, 49-075

II - Grumman Model HU-16B, (Restricted Category), approved September 29, 1988

Engines

2 Wright F1820-76A, B, C, D

Fuel

100/130 minimum grade aviation gasoline

Engine Limits

- Low Impeller Ratio:
  - Takeoff (five min.): 1425 HP, 2700 RPM, 51.5 MP, Sea Level
  - Takeoff (five min.): 1425 HP, 2700 RPM, 50.5 MP, 2600
  - Maximum Continuous: 1275 HP, 2500 RPM, 46.5 MP, Sea Level
  - Maximum Continuous: 1275 HP, 2500 RPM, 45.5 MP, 3500

Straight line variation between points given
Propeller and Propeller Limits

3 blade Hamilton Standard Hydromatic constant speed full feathering and reversible with integral oil systems.

Hub Model No.: 43D50, 43D50-601, 603 or 637

Blade No.: 6601- ( ), 6601A-7 thru -9, or 6621A-7, Nickel Plated 6999-7 thru -9, or 7005-7, 7007B, 7007B-7

Pitch settings at the 42 in. station:

- Low: 16 degrees
- Feather: 89 degrees
- Reverse: -12 degrees

Diameter:

- Maximum: 132.00 in.
- Minimum: 129.36 in.

Airspeed Limits

Vne (never exceed) 254 KIAS
Severe Turbulence 130 KIAS
Full Aileron Deflection 150 KIAS
Landing Gear Extended 130 KIAS
Landing Lights Extended 120 KIAS
Flaps Down 15 243 KIAS
Flaps Down 30 163 KIAS
Flaps Full Down 40 140 KIAS
De-Icer Boot Operation 175 KIAS

C.G. Range

294.4” (20.5% MAC) to 304.0” (28% MAC)

Datum

71.5 forward of nose jack pad

Leveling Means

Leveled laterally by leveling lugs located in nose wheel well and longitudinally by a plum bob drop from the small hole located in the shelf of either wheel well.

Maximum Weight

35,400 lbs.

Minimum Crew

2 (pilot & copilot)

Fuel Capacity

Right and Left Main Tanks 340 gal. (each), 2040 lbs., (+297.3)
Right and Left Float Tanks 212 gal. (each), 1272 lbs., (+307.5)
Right and Left Drop Tanks 295 gal. (each), 1770 lbs., (+295.0)

Oil Capacity

Right and Left Tanks 25.6 gals (each), 192 lbs., (+262.0)

Control Surface Movement

Wing Flaps Down 40±3
Aileron Tab Up 18±1 Down 12±1
Aileron Up 17±1 Down 17±1
Elevator Tab Up 5±1 Down 12±1
Elevator Up 30±1 Down 20±1
Rudder Tab Right 16± Left 26±1
Rudder Right 20± Left 15±1

Other Operating Limitations


Serial Nos. Eligible

III - Grumman Model HU-16C (UF-1, UF-1G) (Restricted Category), approved January 23, 1995

Same as the Model HU-16A, see Section I for information, except as follows:

**Serial Nos. Eligible**

131904, 131905, 131906, 131910, 131917, 137912, 137921, 137924, 137928, 137932, 137933, 141262, 141265, 141271, 142360, 142362, 17164

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IV - Grumman Model HU-16D (UF-2) (Restricted Category), approved January 23, 1995

Same as the Model HU-16B, see Section II for information, except as follows:

**Other Operating Limitations:** U.S. Navy Flight Manual NAVWPS 01-85AB-1

**Serial Nos. Eligible**

7188, 7214, 7227, 7245, 7226, 1311, 146426, 141278

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V - Grumman Model HU-16E (UF-2G) (Restricted Category), approved January 23, 1995

Same as the Model HU-16B, see Section II for information, except as follows:

**Other Operating Limitations:** U.S. Navy Flight Manual NAVWPS 01-85AB-1

**Serial Nos. Eligible**

1265, 1272, 1294, 137904, 137911, 2135

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**DATA PERTINENT TO ALL MODELS**

**Certification Basis**  
FAR 21.25(a)(2), effective February 1, 1965, Amendments 21-1 through 21-60.  
Date of application July 27, 1988. Type Certificate A33SO, issued  
September 29, 1988, for the special purpose of patrolling, agricultural, forest  
and wildlife conservation, aerial surveying, weather control, and carriage of cargo.

**Production Basis**  
None.

**Equipment**  
The basic required equipment as prescribed in the applicable Airworthiness  
Regulations (see Certification Basis) must be installed in the aircraft for  
1U-16(H)B-1, or NAVWPS 01-85AB-1 must be included in the airplane.

**Note 1.**  
Current weight and balance report including a list of equipment in certificated empty weight and  
loading instructions when necessary must be in the aircraft at the time of original certification and  
at all times thereafter.

**Note 2.**  
The following placard must be installed in clear view of the pilot:

> THIS AIRPLANE MUST BE OPERATED AS A RESTRICTED CATEGORY AIRPLANE IN  
> COMPLIANCE WITH THE OPERATING LIMITATIONS STATED IN THE FORM OF  
> PLACARDS, MARKINGS, AND MANUALS.

No persons may be carried on a restricted category civil aircraft unless they are necessary for the  
accomplishment of the work activity directly associated with that special purpose. Reference FAR 91.313.
Note 3. Models HU-16B, HU-16D and HU-16E airplanes are limited to the following flight hours due to the installation of 7075-T6 spar caps in the wing center section:

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<thead>
<tr>
<th>HU-16B S/Ns</th>
<th>Flight Hrs.</th>
<th>HU-16D S/Ns</th>
<th>Flight Hrs.</th>
<th>HU-16E S/Ns</th>
<th>Flight Hrs.</th>
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</table>

Note 4. These airplanes must be serviced and maintained in accordance with T.O. 1U-16(H)A/B-2 or NAVWPS 01-85AB-2 and an approved progressive maintenance program.

Note 5. A. The airplane must satisfactorily pass an inspection for possible hidden damage and for workmanship and materials used in making any repairs and/or alternations. A FAA 8130-9 must be completed.

B. The maintenance, overhaul, and modification records must be reviewed for changes made by the military services that may have an effect on the airworthiness of the airplane. Modifications and changes of equipment which effect the safety or performance of the airplane must be approved by the Federal Aviation Administration.

C. Conduct an inspection of the engine support structures to verify their structural integrity.

D. This aircraft is not equipped or approved for operation with APU.

E. The modification data plate in restricted category must be installed next to manufacturer’s data plate in cockpit.

Note 6. Carriage of hazardous materials is prohibited unless compliance is shown with applicable regulations in the Code of Federal Regulations, Title 49, Part 175.

Note 7. The following note must be placed under "exceptions" on all export certificates of airworthiness for this airplane. "This airplane is type certificated in the restricted category and may not meet the applicable airworthiness code as provided by Annex 8 to the Convention of International Civil Aviation."

Note 8. Flight into known icing is prohibited.

Note 9. Approved cargo nets/straps to be FAA TSO’d equipment.

Note 10. Two (2) oxygen masks providing 100% breathing capacity for both pilots and two (2) smoke masks are required for flight in the aircraft at all times, if in cargo configuration.

Note 11. Two (2) fire extinguishers installed - one in cockpit and one in cabin are required.

Note 12. Deleted

.....END.....