



SERVICE LETTER NUMBER 134			
TITLE: TWIN OTTER/13000 LOWER BOW STRUT FITTING LIFE LIMIT			
BY: K. Taylor	ACFT MAKE/MODEL(S): Viking DHC-6, all models	FLOAT MODEL(S): 13000, seaplane and amphibian	NOTE(S): OPTIONAL COMPLIANCE RECOMMENDED FOR HIGH CYCLE/HEAVY SEAS COMMERCIAL OPERATORS
APP: D. Garrett			
DATE: 27-Aug-12			
REV: A			

FAA APPROVAL HAS BEEN OBTAINED FOR TECHNICAL DATA IN THIS PUBLICATION THAT AFFECTS STC OR TSO DESIGN COMPLIANCE

EFFECTIVITY:

All Manufacturer's Serial Number (MSN) Viking DHC-6 aircraft equipped with the Wipaire, Inc. model 13000 seaplane or amphibious floats per FAA STC SA2CH.

SERVICE LETTER P/N: 1005815 for ECN 10102

COMPLIANCE: OPTIONAL FOR ALL AIRCRAFT EQUIPPED WITH STC SA2CH
RECOMMENDED FOR COMMERCIAL OPERATIONS IN HIGH CYCLE AND/OR
HEAVY SEAS OR OCEAN ENVIRONMENTS

BACKGROUND:

Lower bow strut deck attachment fittings P/N 13A02030-006 have exhibited cracking between 5200 and 6800 hrs in service on two DHC-6 aircraft equipped with model 13000 floats. Cracks have only been observed in aircraft subject to high cycle ocean operations from 2.6 to 3.5 cycles per hour in generally rough water conditions. Cracks have been observed in one or both fitting lugs, and only on the starboard side. This service letter defines a recommended life limit for the port and starboard bow strut fitting P/N 13A02030-006 as a recommendation for operators in high cycle and/or heavy seas or ocean operations. Limits are prescribed in terms of total cycles or time in service.

COMPLIANCE METHOD:

Compliance is achieved through completion of the instructions in the Technical Data section of this service letter.



APPROX. SHOP HOURS:

The functions outlined by this service bulletin will take approximately 6 hr. to accomplish.

WARRANTY INFORMATION:

This service letter does not include any warranty labor or parts.

TECHNICAL DATA

1. Gather necessary technical data:
 - a. For seaplanes, top installation drawing number 7D1-3001, revision J, or later approved revision.
 - b. For amphibians, top installation drawing number 7D1-3002, revision L, or later approved revision.
 - c. Strut installation drawing number 7D1-3008, revision F, or later approved revision
 - d. Latest copy of this SL 134, revision A, or later approved revision, available on website www.wipaire.com.
 - e. Service manual for DHC-6 aircraft, available from Viking Aircraft, Ltd. (VAL) P/N PSM-1-6-2, 1-63-2, or 1-64-2, latest revision, depending on your particular aircraft configuration.
 - f. Wipline model 13000 Float Service Manual and ICAW, P/N 1002548, rev. B or later approved revision, as available on website www.wipaire.com.
 - g. Aircraft logbooks and records for airframe and floats.

Copies of all published technical data are available from the Wipaire, Inc. customer service department.

INSTRUCTIONS

1. Review floats' logbooks to determine total Time in Service (TIS) and/or Total Cycle Count (TCC) of lower bow strut fittings P/N 13A02030-006, both port and starboard. [See Note 2 for a definition the total cycle count.]
 - a. If logbooks show the fitting(s) was/were installed new with the floats and has/have not been replaced, then the fittings' TIS is equal to the floats' TIS.
 - b. If logbooks show the fitting(s) has/have been replaced; determine the time at replacement, then calculate TIS of the fittings by subtracting TIS of the floats at the time of replacement from the floats' total time.
 - c. If the logbooks include TCC of the fitting(s), then take note of this value.

- d. If the logbooks do not include the TCC of the fittings(s), or if for any reason the TCC cannot be accurately determined, then a disposition by TIS will be required.
 - e. If the fitting(s) TIS and TCC is unknown for any reason, disposition in accordance with the ICA Airworthiness Limitations
2. Compare the determined TIS or TCC of fitting P/N 13A02030-006 against the following recommended life limits; part life limit is recommended when both of the following have been exceeded

3500 hrs Time In Service (TIS), and
6800 cycles

If the number of float cycles is unknown, then the floats' TIS should be used as the metric to determine when the fitting(s) should be replaced. Fittings that have reached their life limit should be removed and replaced within 100 cycles, or 50 hrs, of the life limit; except, within 6 months following issuance of revision A of this service letter, fittings that have reached their life limit should be removed and replaced within 500 cycles, or 250 hrs, of the life limit. Note that both the time and cycle limit should be exceeded before the part is replaced; time or cycle count may be exceeded before replacement, which is recommended only after both the time and count threshold is reached.

3. If it is determined that the fitting(s) should be replaced, follow instructions in Wipaire ICA 1002548. Accomplish the following functions:
 - a. Obtain new fitting(s) P/N 13A02030-006.
 - i. Serviceable fittings that have been previously installed may also be used, but only if their TIS and/or TCC is known. If a serviceable non-new fitting is used, the fittings' TIS and TCC must be recorded in the aircraft logs. This fitting(s) must be replaced when its TIS or TCC limit is reached.
 - b. Secure the aircraft from moving.
 - c. Hoist, or otherwise support, the forward fuselage structure such that the bow strut may be removed temporarily.
 - d. Remove the bow strut(s) with the affected fittings.
 - e. Remove the affected fittings by removing the AN5-33A bolts retaining the fitting to the lower end of the bow strut(s)
 - f. Reinstall the replacement bow strut fitting(s) back on to the bow strut(s) with AN5-33A bolts.
 - g. Reinstall the bow strut(s) back onto the aircraft, and double check their security.
 - h. Lower the forward fuselage back onto the reinstalled bow struts.



FOLLOW UP ACTIONS:

After completion of procedures in the Technical Data section:

1. Make an aircraft logbook entry in accordance with 14 CFR Part 43, or in accordance with your local Civil Aviation regulations, referencing accomplishment of the inspection and/or part replacement procedures in this service letter.

NOTES:

1. ICAW document P/N 1002548 for the 13000 installation on DHC-6 aircraft specifies inspection of all attachment fittings for damage and security at 100 hr intervals. It is critical this interval be adhered to. This inspection is also mandated by 14 CFR Part 43 Appendix D as part of an annual or 100 hr inspection. Wipaire also considers it acceptable to conduct inspection of the attachment fittings at 125 hr intervals, if this matches better with an approved aircraft inspection program.
2. For the purposes of this service letter the TCC is defined as the total number of cycles, where one cycle is defined as a takeoff and landing. i.e. one complete flight is considered a cycle regardless of the length of the flight.

END