S-TEC

SERVICE LETTER - SL 19-011

PN: 77155
DATE: July 25, 2019

TO: HeliSAS Dealers and Operators

FROM: Tammy Underwood, Director of Customer Support

1. SUBJECT

Hold-Up Capacitors in Mod "B" and previous HeliSAS Flight Control Computers

2. BACKGROUND

There are capacitors in the HeliSAS Flight Control Computer that function as an energy store to allow the tone circuit to sound an alert in the unlikely event that the Flight Control Computer loses power in operation while HeliSAS is engaged. These capacitors are referred to as hold-up capacitors.

A failure of one of these capacitors could lead to an unannunciated disconnect; meaning HeliSAS could disengage SAS/AP without the four-beep aural warning. The indications on the HeliSAS Control Panel will still show the disconnect by going to standby (white) SAS light and it will be apparent that the system is no longer providing stabilization. Under these circumstances, the operator should simply resume manual control.

S-TEC has learned that improved long term reliability of the hold-up capacitors could be achieved by using a greater derating. Derating is when a system or component is operated below its normal operating limit. In Mod "B" and previous Flight Control Computers, a derating of 25% was selected on the hold-up capacitors; meaning the capacitors used on the 15V internal hold-up circuit were rated for 20V. Although this was an appropriate margin/derating at the time of design, new information has become available that recommends a 50% derating for improved long term reliability.

Due to the VFR operation only limitation of HeliSAS, a system disconnect, annunciated or unannunciated, does not present a safety of flight issue. However, S-TEC wants to minimize the possibility of the failure occurring and is making a computer modification available to replace the hold-up capacitors with the higher rated components. Flight Control Computers updated with the new capacitors will be marked as Mod "B1".

3. REFERENCE DOCUMENTS

Installation Instructions – Aircraft/STC specific
Instruction for Continued Airworthiness (ICA) – Aircraft/STC specific
Aircraft Flight Manual Supplement (AFMS) – Aircraft/STC specific
Pilots guide; P/N 87295 4th Edition

4. PART NUMBER AND APPLICABILITY

Applicable autopilot equipment

01311-0x-0x, Mod "B" or previous   HeliSAS Flight Control Computer

5. Updating to Mod "B1"

A. COMPLIANCE

- This Service Letter is not mandatory; customers may have their computers updated upon request.
- The mod is available free of charge and warranty labor reimbursable until February 1, 2021.

B. **DISASSEMBLY**

- Remove FCC in accordance with applicable Instructions for Continued Airworthiness (ICA).
- Contact S-TEC Customer Support at (800) 872-7832 for a Service Repair Order (SRO) number.
- Place unit into appropriate shipping container and return to S-TEC for modification.

C. **RE-ASSEMBLY**

- Remove modified unit from shipping container.
- Verify the hardware mod code on the FCC is "B1"
- Install FCC in accordance with applicable ICA.
- Perform ground functional checks per the ICA and make an appropriate entry in the aircraft maintenance record for return to service.

6. **Additional Information**

A. **MANPOWER**

- 4.0 man-hours per aircraft.
- Labor will be reimbursed for 4.0 man-hours maximum @ $100 per hour.
- Complete an S-TEC Warranty Claim form for the labor used to complete this Service Letter as described above.
- The S-TEC Warranty Claim form can be obtained from our website at www.genesys-aerosytems.com by selecting the "Dealer Login" tab.
- Submit the claim form to the S-TEC Customer Support department:
- Email: support@genesys-aerosystems.com / Fax: (940) 328-0753

B. **APPROVAL**

- The modification does not affect the original Flight Control Computer TSO or STC installation approvals.

Tammy Underwood

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Director, Customer Support