THE ENSTROM HELICOPTER CORPORATION
TWIN COUNTY AIRPORT, P.O. BOX 490, MENOMINEE, MICHIGAN 49858

SERVICE INFORMATION LETTER

DATE: May 28, 1997

1. SUBJECT: Inadvertent Trim Motor Operation on 24 Volt D.C. Systems

2. MODELS: F-28C, F-28C-2, 280C, F-28F, 280F, and 280FX Helicopters.

3. EFFECTIVITY: F-28C, F-28C-2, and 280C: All serial numbers converted to a 24 volt D.C. electrical system.

F-28F, 280F, and 280FX: All serial numbers equipped with a 24 volt D.C. electrical system.

4. BACKGROUND:

There have been additional reported occurrences of inadvertent trim operation since the publication of SDB 0082, Revision A. All trim relay failures to date have been experienced by operators who conduct aerial patrol work and use the trim system extensively in the flight scenario.

5. COMPLIANCE:

This is an optional upgrade. Service Directive Bulletin No. 0082 is still applicable for safety of flight and remains in force.

5.1 Subject helicopter models may be upgraded at owner/operator expense to solid state trim switches per Enstrom drawing 28-19050, Revision B, and kit number 28-01059. Please contact Enstrom Customer Service for the kit and drawing.

5.2 Upgrade procedure:

5.2.1) Remove the seat deck to gain access to the trim control relays located on the right outboard portion of the seat structure.

5.2.2) Remove the co-pilot's cyclic to make working on the wiring easier.

5.2.3) Remove both trim actuator assemblies (longitudinal located under the co-pilot's seat and lateral located under the pilot's seat) and rewire per schematic 28-19050, Revision B. **NOTE: Use pin housing, P/N 1-480426-0, and pins, P/N 60618-1 and 60620-1, for P17 and P18. The pigtails should be at least two to four inches past the back of the trim motors (See Figure 1). Use pin, P/N 60618-1, in positions 1 & 4 and pin, P/N 60620-1, in positions 2 & 3 of both pin housings. Change the wire markers as follows: 40-14A to 37-35B, 40-14B to 37-34B, 40-13A to 37-32B, 40-13B to 37-33B, 40-15A to 37-36B, 40-15B to 37-37B, 40-16A to 37-39B, 40-16B to 37-38B, and remove the wire markers from the red and black wires for the trim motors.**

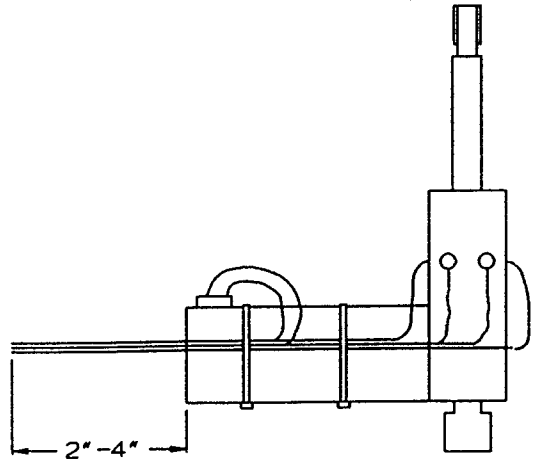

Figure 1

5.2.4) Disconnect the wires from the trim relays RL7, RL8, RL9 and RL10.

5.2.5) Locate wires 37-28, 37-22A, 37-27A, 37-30, 37-31 and 37-29. Separate these wires from the other wires up to where they go through the grommet by the co-pilot's cyclic torque tube.

5.2.6) Remove all other wires going to the relays at this time. **NOTE: Save the wire as you will be reusing some of it later.**

5.2.7) Remove relays RL7, RL8, RL9, and RL10.

5.2.8) Mount TSU1 (trim switch unit 1) by picking up the top mounting hole from where relay RL10 was mounted (See Figure 2). Locate TSU1 on the outside of the seat structure with the unit facing fore and aft **(NOTE: Wires point aft).** Drill the second mounting hole with a #29 drill.

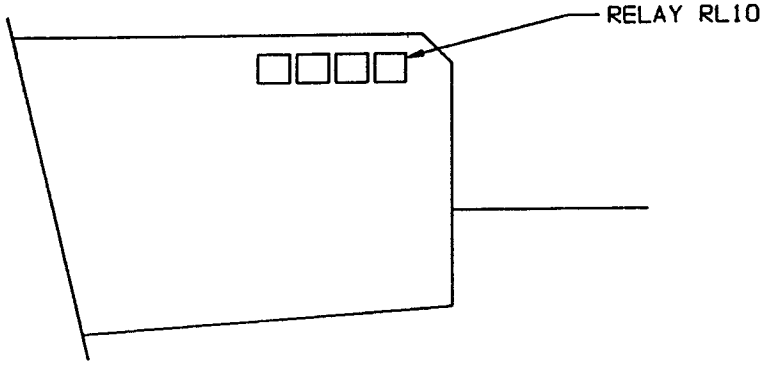

Figure 2

5.2.9) Once the second mounting hole has been drilled, remove TSU1 from the outside of the seat structure and mount on the inside of the seat structure with the wires pointing aft using AN960-10 washers as spacers between the TSU and the seat structure (two places). Secure with AN526-632R6 screws and nuts and washers from the removal of the trim relays.

5.2.10) Use two ABMM-AT-C tie rap mounts to route the wire from the TSU so that plug (P16) is located beneath the TSU facing forward.

5.2.11) Take wires 37-28, 37-29, and 37-40 (previously identified as 37-22A) and route to the TSU and install plug J16. **NOTE: Use socket housing 1-480283-0 and sockets 60617-1 per schematic.**

5.2.12) Add ground wire 37-42 from J16 to the former ground location for the relays. **NOTE: Use socket 60617-1 and terminal AA-532-06.**

5.2.13) Cut four wires 8" long from the residual wires removed in step 5.2.6 and install wire numbers 37-35A, 37-34A, 37-33A, and 37-32A.

5.2.14) Install the wires into J17 and J16 per schematic, using sockets 60617-1. **NOTE: Use pin housing 1-480424-0 for J17.**

5.2.15) Reinstall the longitudinal trim actuator assembly (M1). Connect J17 to P17 and J16 to P16 and tie off wires as necessary.

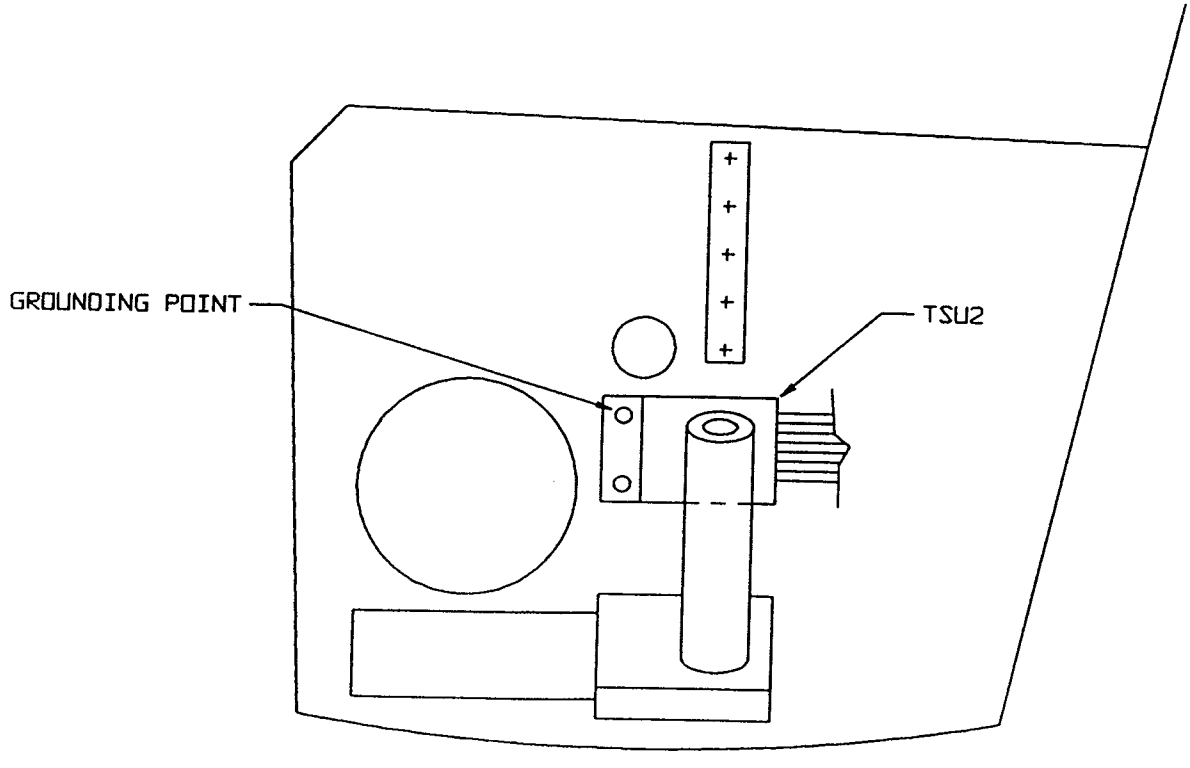

Figure 3

5.2.16) Mount TSU2 to the longitudinal beam seat structure on the pilot's side below the pilot's seat with the unit facing fore and aft (**NOTE: wires pointing aft**) using the hole from old grounding point and upper hole on TSU. Drill lower hole with #29 drill (See Figure 3).

5.2.17) Mount TSU2 with AN960-10 washers as spacers (2 places) in the pilot's seat location. Also add ground wire 37-43 to the upper mounting screw. Secure with AN526-632R6 screw in the lower hole and AN526-632R7 screw in the upper hole and nuts and washers from removal of the trim relays. **NOTE: Use terminal AA532-06 with wire 37-43 at the ground location.**

5.2.18) Use two ABMM-AT-C tie rap mounts to route wires from TSU so that P19 is above TSU facing forward.

5.2.19) Take wires 37-30, 37-31, and 37-41 (ie, previously identified as 37-27A) from step 5.2.5 and route to TSU2 for termination into plug J19 per schematic. Connect wires 37-30, 37-31, 37-41 and ground 37-43 using sockets 60617-1 and socket housing (P/N 1-480283-0).

5.2.20) Cut four wires 8" long from the residual wires removed in step 5.2.6 and install wire numbers 37-36A, 37-37A, 37-38A, and 37-39A.

5.2.21) Install wires into plugs J18 and J19 using 60617-1 sockets. **NOTE: Use pin housing 1-480424-0 for J18 and pin housing 1-480283-0 for J19.**

5.2.22) Reinstall the lateral trim actuator assembly (M2). Connect J18 to P18 and J19 to P19 and tie off wires as necessary.

5.2.23) At terminal strip T1, remove wires 37-1, 37-2, 37-3, 37-26A, 37-23A, 37-22A, and 37-27A from the terminal strip. Remove the terminal from wires 37-26A, 37-23A, 37-22A, and 37-27A. Discard wires 37-26A and 37-23A. Reidentify wire 37-22A as 37-40 and attach terminal AA-532-06. Reidentify wire 37-27A as 37-41 and attach terminal AA-532-06. Install wires 37-41, 37-40, and 37-1 to terminal strip T1, position 3. Install wires 37-2 and 37-3

to seat structure ground at the grounding point for TSU-2.

5.2.24) Tie and secure all wires and harnesses as necessary.

5.2.25) Check all connections and check the trim system for proper operation (ie, cycle several times through full travel along with frequent, small moves).

5.2.26) Reinstall the seat deck and the co-pilot's cyclic.

6. SPECIAL TOOLS:

AMP 90123-2 Crimping Tool
DMC GMT245 Crimping Tool
ETC 2000 Crimping Tool

7. MAN-HOURS REQUIRED: 4 man-hours

8. WARRANTY: None

9. WEIGHT CHANGE: -.74 lbs at longitudinal station 62.0

10. LOG BOOK ENTRY:

Enter compliance with this Service Information Letter

11. REPETITIVE INSPECTIONS:

Normal 100 hour/annual inspection requirements. Installation of this option eliminates the requirement for compliance with SDB No. 0082.