



SERVICE DIRECTIVE BULLETIN

SERVICE DIRECTIVE BULLETIN NO. 0082

Revision A

Page 1 of 4

DATE: March 18, 1993

1. SUBJECT: Inadvertent Trim Motor Operation on 24 Volt D.C. Systems
2. MODELS: All F-28F, 280F and 280FX models equipped with 24 volt D.C. electrical systems and any F-28C, F-28C-2, or 280C models that have been converted to a 24 volt D.C. system
3. EFFECTIVITY: Prior to the next flight and as noted under compliance.
4. BACKGROUND:

There have been reports of 3 instances of inadvertent trim motor operation as a result of sticking relays. This condition was preceded, in all instances, by erratic trim motor operation such as hesitant starting, over running the required input, or stalling. Any operators experiencing any of these indications during trim operation should immediately stop use of the trim system.

A stuck relay can result in a rapid full trim condition resulting in extremely high stick forces to maintain control. Enstrom has revised the control circuitry of the flight trim system to eliminate the possibility of over travel if the relays should stick.

5. COMPLIANCE:

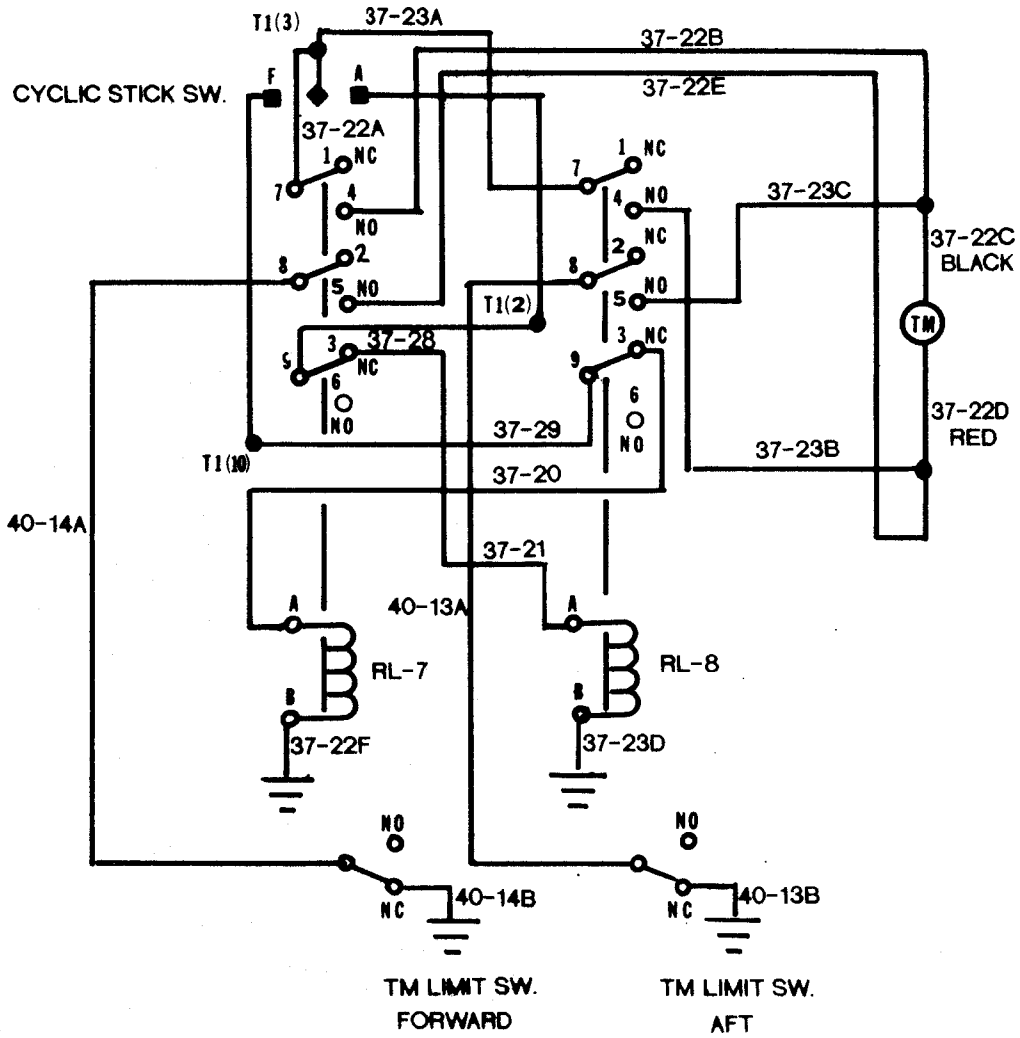
Within the next 5 hours of service, a thorough inspection for evidence of premature failure must be made. In order to view the area of the trim actuators and reversing relays, located under the passenger seat on the outboard side, the seat deck must be removed. The relays and wiring should be closely inspected for heat discolored wires on the terminals. The interior of the relay can be viewed through the Lucite case. Closely examine the copper-colored contactor fingers for heat discoloration and burned points. The trim actuator assembly should also be closely inspected in the area of the limit switch plate for any signs of deformation resulting from any previous over runs.

SERVICE DIRECTIVE BULLETIN NO. 0082

Revision A

Page 2 of 4

- 5.1 Any relays found with heat discolored wires, terminals, burned points, or interior discoloration of the copper colored contact fingers must be removed and replaced with an airworthy component.
- 5.2 Any trim actuator assemblies found with deformed limit switch brackets must be replaced with an airworthy assembly and control relays.
- 5.3 Within the next 5 hours of time in service and after receipt of this Service Directive Bulletin, the following change to the trim actuator wire harness interconnect to the control relays must be made. See Figures 1 and 2.
 - 5.3.1 On the lateral trim, relay RL-10, move wire # 40-16A from pin B to pin 8, move wire # 37-26F from pin 8 to pin B. On relay RL-9, move wire # 40-15A from pin B to pin 8, move wire # 37-27D from pin 8 to pin B.
 - 5.3.2 On the longitudinal trim, relay RL-8, move wire # 40-13A from pin B to pin 8, move wire # 37-23D from pin 8 to pin B. On relay RL-7, move wire # 40-14A from pin B to pin 8, move wire # 37-22F from pin 8 to pin B.
 - 5.3.3 The trim actuator circuit breaker CB-8, 5 amps, is to be removed and replaced with a 3 amp breaker to decrease the trip time if shorted points should occur.
- 5.4 After making the required changes noted in paragraph 5.3, the trim system should be thoroughly ground checked for proper operation and limit switch stop action.
6. SPECIAL TOOLS: Not applicable
7. MANHOURS REQUIRED: 2 hours
8. WARRANTY: Standard warranty period only.
9. WEIGHT CHANGE: Not applicable
10. LOG BOOK ENTRY: Note when changes were made per this Service Directive Bulletin.
11. REPETITIVE INSPECTIONS: Inspect per paragraph 5.1, at all subsequent 100 hour and annual inspections.



LONGITUDINAL

FWD	
WIRE NO.	
1	NC
2	NC
37-21	3 NC
37-22B	4 NO
37-22E	5 NO
	6 NO
37-22A	7 COM
40-14A	8 COM
37-28	9 COM
37-20	A COIL
37-22F	B COIL

RL-7

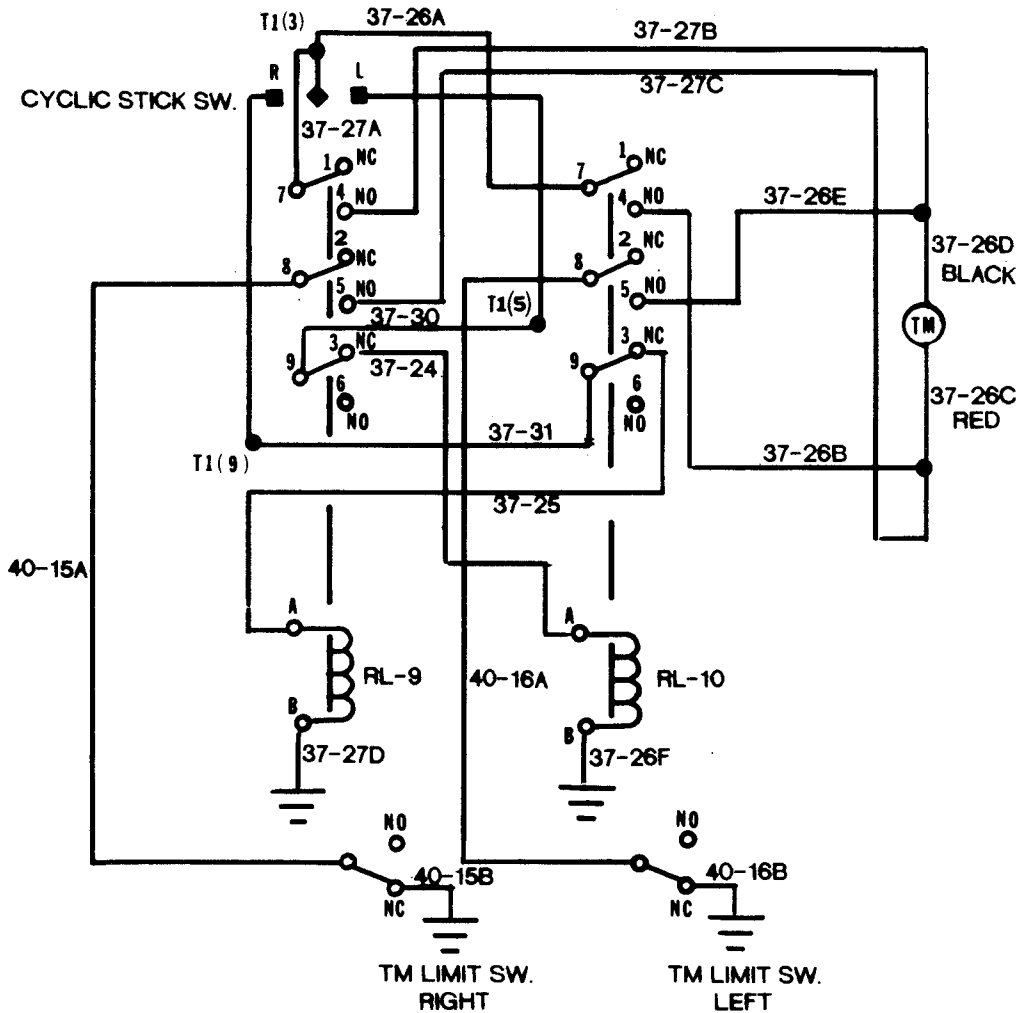
AFT	
WIRE NO.	
1	NC
2	NC
37-20	3 NC
37-23B	4 NO
37-23C	5 NO
	6 NO
37-23A	7 COM
40-13A	8 COM
37-29	9 COM
37-21	A COIL
37-23D	B COIL

RL-8

+ BLACK = SHAFT OUT

+ RED = SHAFT IN

FIG. 1



LATERAL

RIGHT

WIRE NO.	
	1 NC
	2 NC
37-24	3 NC
37-27B	4 NO
37-27C	5 NO
	6 NO
37-27A	7 COM
40-16A	8 COM
37-30	9 COM
37-25	A COIL
37-27D	B COIL

RL-9

LEFT

WIRE NO.	
	1 NC
	2 NC
37-25	3 NC
37-26B	4 NO
37-26E	5 NO
	6 NO
37-26A	7 COM
40-16A	8 COM
37-31	9 COM
37-24	A COIL
37-26F	B COIL

RL-10

+ BLACK = SHAFT OUT

+ RED = SHAFT IN

FIG. 2