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SB TMG 651-1004 P1, Rev. 2

SERVICE BULLETIN

PRIORITY 1 - SAFETY

Service Bulletin No. / Date: SB TMG 651-1004 P1, Issue 2 / February 05, 2015

Subject: Start Monitoring Loom and Mapping
Starter Info Board and mapping

Type affected: All Piper PA 28 with TAE 125-02 and Dual Mass Flywheel (DMF)

Models affected: Start Monitoring Loom and mapping
→ (Piper PA28 with TAE 125-02-99 / TAE 125-02-114 Installation)

Starter Info Board and mapping
→ (PA28 181 with G1000 only)

Classification: Category P1 – SAFETY

Time of Compliance: Within the next 100 flight hours or with the next maintenance inspection, whichever occurs first

Reason: To prevent an overload torque at the gearbox shaft during engine start.

Checked

B. Metzdorf, CVE

Approved

E. Bollen, Office of Airworthiness

Replaces Service Bulletin No. / Date:
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Correction:

1. Install the Start Monitoring loom

- Disconnect the main, excitation and FADEC backup battery. Ground the aircraft.
- There are two versions of the start monitoring loom:
 - P/N 20-3940-E024801 (14V)
 - P/N 20-3940-E024901 (28V)



- Install the appropriate start monitoring loom behind the cockpit panel between light panel loom and engine loom in accordance with Figure 1a.

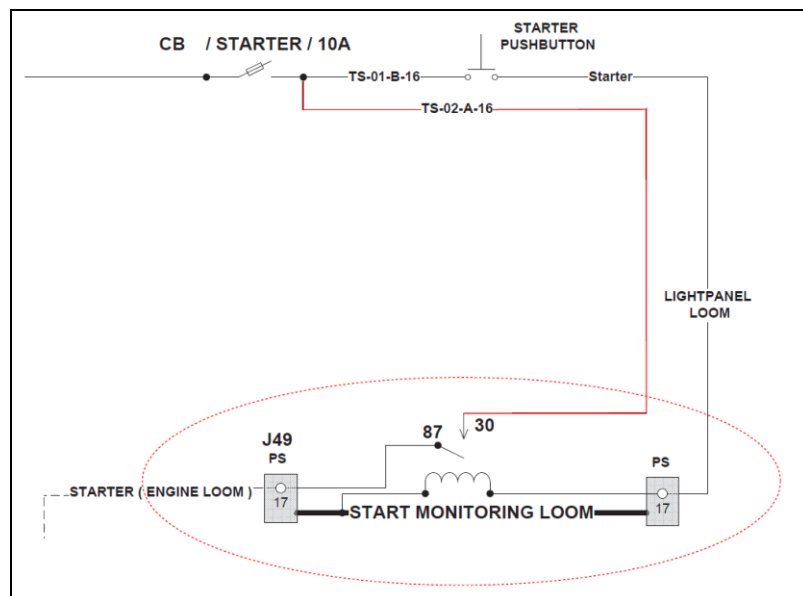


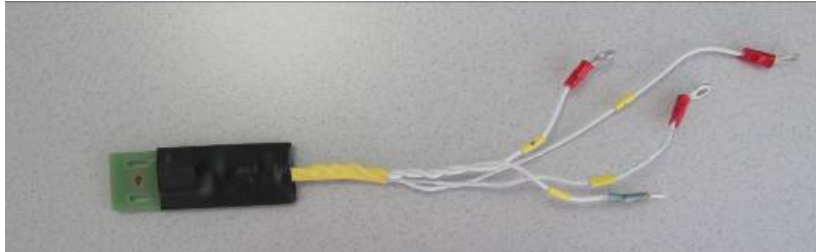
Figure 1a

- Attach the start monitoring loom along existing cable bundles.
- Connect the main, excitation and FADEC backup battery.
- Install the new engine firmware TAE-125m3.30 (D48 FADEC) resp. D4-140 (D4 FADEC) or later version plus A/C related mapping. See TM TAE 000-0007



2. Installation of the Starter Info Board (PA28 181 with G1000 only)

- Disconnect the main, excitation and FADEC backup battery. Ground the aircraft.
- Starter Info Board: (PA28 181 with G1000 only)
P/N 40-8010-E000401 (28V)



- Install the Starter Info Board in the Overhead Switchpanel in accordance with Figure 1b and Figure 1c.

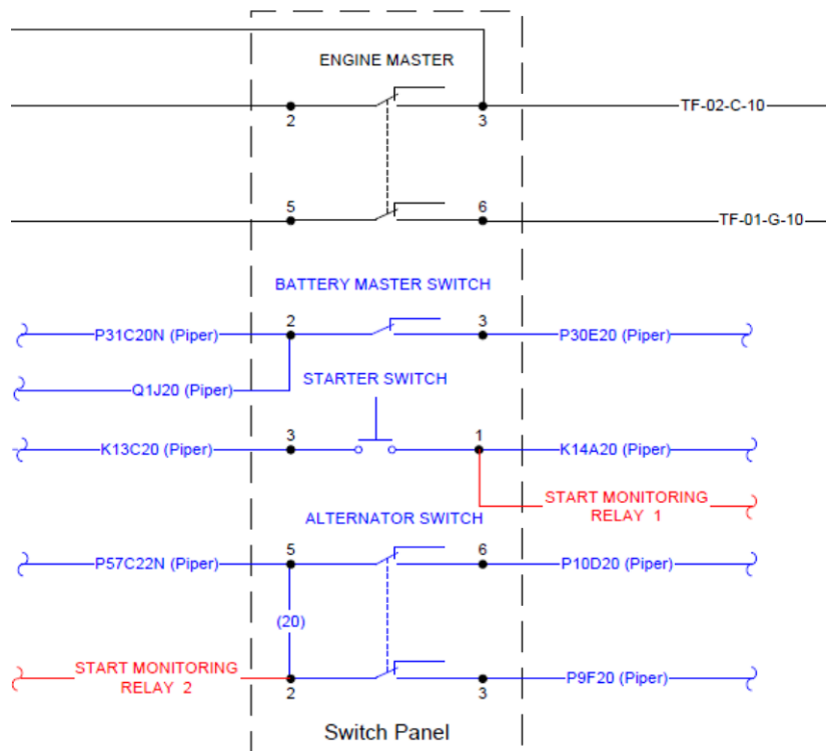


Figure 1b

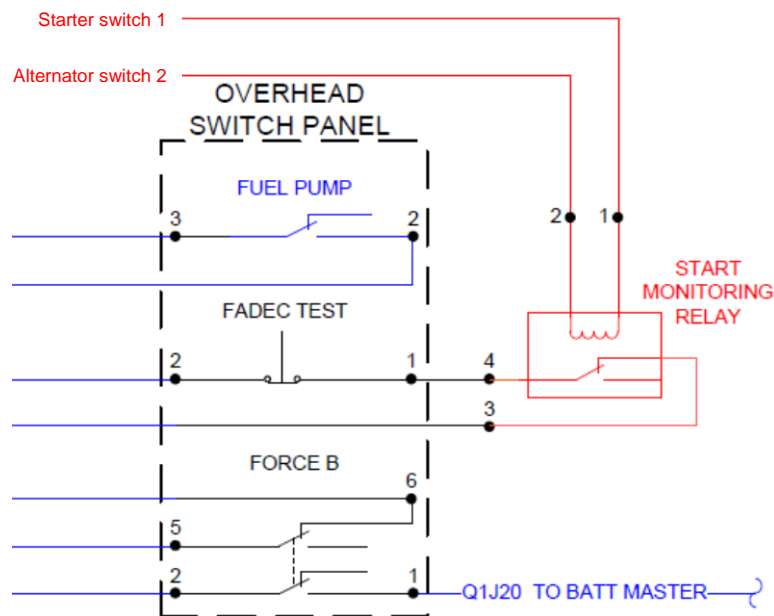


Figure 1c

- Bundle the wires of the Overhead Switchpanel with cable ties.
- Connect the main, excitation and FADEC backup battery.
- Install the new engine firmware TAE-125m3.20 (D48 FADEC) resp. D4-140 (D4 FADEC) or later version plus A/C related mapping. See TM TAE 000-0007.

3. Functional Test of the Monitoring Loom and the Starter Info Board

• General:

- a) Remove the engine loom ring terminal from the engine starter solenoid. Insulate the ring terminal!
- b) Engine master **OFF**.
- c) Pull the circuit breakers FADEC A and B.
- d) Disconnect the ECU FADEC A (J1) engine loom connector from the FADEC.
- e) Check the continuity between pin R and P on the loom side → there must be continuity.
- f) Switch the battery master **ON**
- g) Push the start button
- h) Check the continuity between pin R and P on the loom side → there must be no continuity.
- i) Switch the battery master **OFF**.
- j) Connect the engine loom on the FADEC.
- k) Push the circuit breakers FADEC A and B.
- l) Connect the engine loom ring terminal to the engine starter solenoid.

• Engine Test

Perform an engine test run in accordance with OM 02-02.



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4. AFM update

Replace the Aircraft Flight Manual by the latest revision.

Remarks: By attaching the start monitoring device a damaging of the gearbox shaft during engine start phase is prevented. The start monitoring relay provides a signal for the FADEC if the starter push button is activated / released. At a premature release (range of critical rpm of the DMF) the FADEC will cut off the fuel injection to prevent an engine kickback.

Approval: The technical information contained in this document has been approved under the authority of EASA Design Organisation Approval No. EASA.21J.010.