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SERVICE BULLETIN
PRIORITY 1 - SAFETY

Service Bulletin No. / Date:	SB TMG 601-1007 P1, Revision 4 / January 06, 2016
Subject:	Start Monitoring Loom and Mapping
Type affected:	All Cessna C172 (Reims F172) with TAE 125-02 and Dual Mass Flywheel (DMF)
Models affected:	Cessna 172 F,G,H,I,K,L,M,N,P,R,S with TAE 125-02-99 Installation Cessna 172 F,G,H,I,K,L,M,N,P,R,S with TAE 125-02-114 Installation Reims F172 F,G,H,K,L,M,N,P with TAE 125-02-99 Installation Reims F172 F,G,H,K,L,M,N,P with TAE 125-02-114 Installation
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	Approved
B. Metzdorf, CVE	M. Heinich, Office of Airworthiness

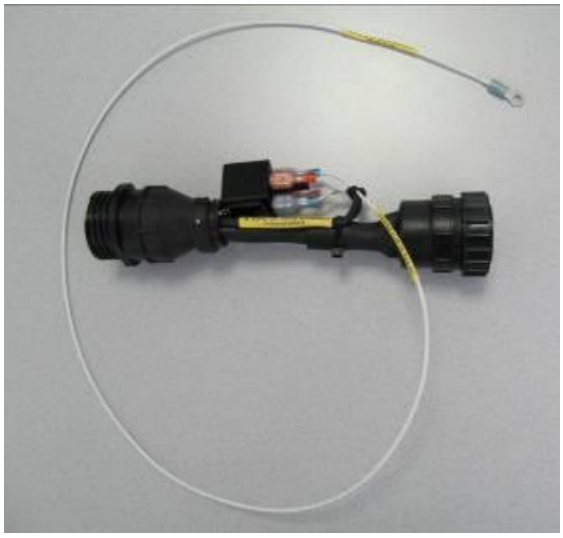
Correction:

1. <u>Install the Start Monitoring loom</u>

- Disconnect the main, excitation and FADEC backup battery. Ground the aircraft.
- There are two versions of the start monitoring loom:

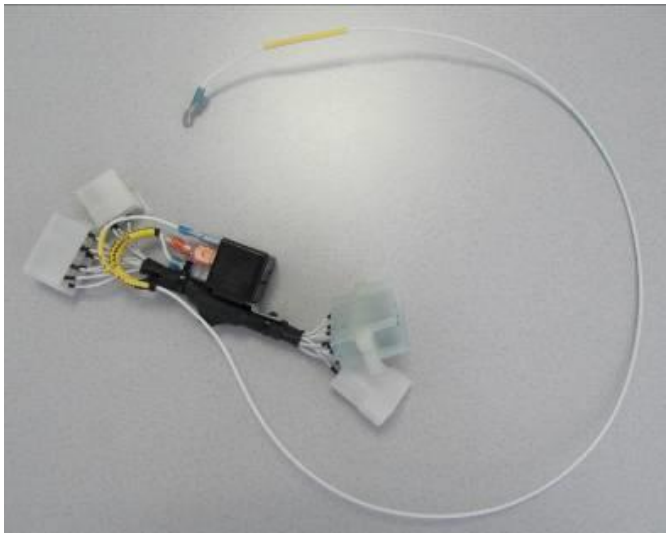
a) Version for TAE 125-02 (initial installation):

P/N 20-3940-E024801 (14V)
P/N 20-3940-E024901 (28V)



b) Version for TAE 125-02 with previous installed TAE 125-01:

P/N 20-3940-E025101 (14V)
P/N 20-3940-E025001 (28V)



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

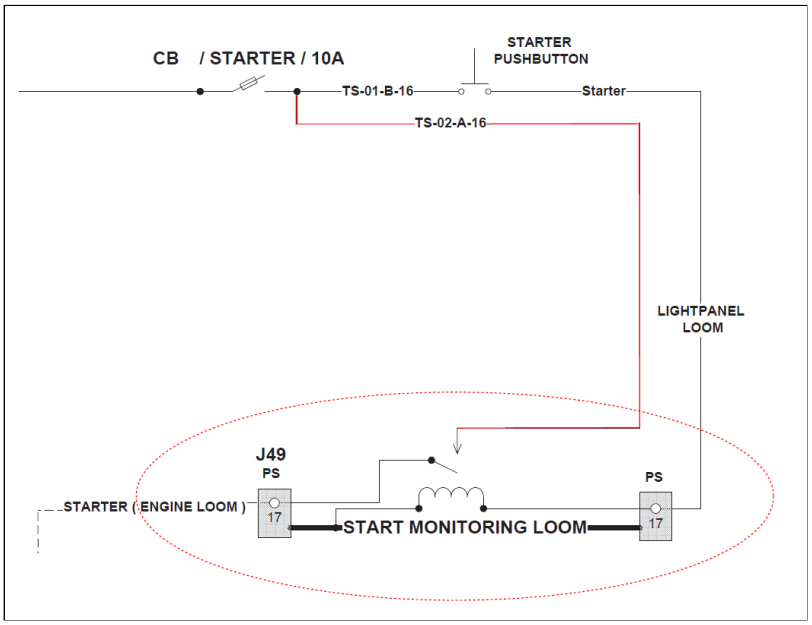


Figure 1a

- 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. Functional Test of the Start Monitoring Loom

- **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) Connect the Pin N of the FADEC A engine loom connector to the Aircraft GND (*only for P/N 20-3940-E025001 & 20-3940-E025101*). To do this prepare a jumper wire and plug it into the connector face.

■ CAUTION: Do not open the connector housing.

f) Check the continuity between pin R and P on the loom side → there must be continuity.
g) Switch the battery master **ON**
h) Push the start button
i) Check the continuity between pin R and P on the loom side → there must be no continuity.
j) Switch the battery master **OFF**.

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k) Connect the engine loom on the FADEC.
l) Push the circuit breakers FADEC A and B.
m) Connect the engine loom ring terminal to the engine starter solenoid.

- **Engine Test**

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

3. 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.