

MANDATORY SERVICE BULLETIN MSB D4-097/3

SUPERSEDES MSB D4-097/2

I TECHNICAL DETAILS

I.1 Category

Mandatory.

I.2 Airplanes affected

Type: DA 40 D with TAE 125-02-99 engine and dual mass flywheel installed

Serial numbers: D4.001 through D4.399
40.DS001 through 40.DS135

I.3 Date of effectivity

05-Dec-2014

I.4 Time of Compliance

Within 100 flight hours from the date of effectivity, but not later than 01-Dec-2015.

At first installation of an engine with dual mass flywheel after 01-Dec-2015

NOTE: Prior compliance with MSB D4-097 or MSB D4-097/1 does not preclude compliance with this MSB.

I.5 Subject

Installation of a start assist relay for ECU start phase monitoring.

ATA-Code: 80-10

I.6 Reason

A possible overload of the gearbox drive shaft under specific engine start conditions on engines with a dual mass flywheel installed has been identified. To prevent such overload conditions, the engine manufacturer has updated its installation requirements to install an additional start monitoring input to the ECU and a new Firmware and Software Mapping (ref. I.7). This Service Bulletin describes the work necessary to install the required relay in a DA 40 D airplane.

I.7 Concurrent Documents

Technify Motors GmbH Service Bulletin SB TMG 125-1018 P1, Revision 1 or later.

Diamond Aircraft Industries GmbH MSB D4-044/15 or later.

I.8 Approval

The technical information or instructions contained in this document relate to the Design Change Advisories No. MÄM 40-756 and MÄM 40-798, which have been approved under the authority of EASA Design Organization Approval ref. EASA.21J.052.

The technical content of this document has been approved under the authority of DOA ref. EASA.21J.052.

I.9 Accomplishments / Instructions

Comply with WI-MSB D4-097, latest effective issue.

I.10 Mass (Weight) and CG

The change in mass and CG is negligible.

II PLANNING INFORMATION

II.1 Material and Availability

See WI-MSB D4-097, latest effective issue.

II.2 Special Tools

None.

II.3 Labour Effort

Approx. 2.5 hours.

II.4 Credit

None.

II.5 Reference Documents

DA 40 Airplane Maintenance Manual, Doc. No. 6.02.01, latest effective issue.

III REMARKS

1. All work must be done by a certified aircraft service station or a certified aircraft maintenance mechanic.
2. All work, particularly that which is not especially described in this Service Bulletin, must be done in accordance with the referenced Maintenance Manual.
3. Completion of all work must be recorded in the log book.
4. In case of doubt contact Diamond Aircraft Industries GmbH.

**EXECUTION REPORT TO
SERVICE BULLETIN
MSB D4-097/3**

AIRPLANE INFORMATION

Airplane Serial Number _____

Airplane Registration _____

Airplane Operator _____

Hours of operation of airplane _____

No. of landings _____

Hours of operation-engine _____

Typical operation of airplane private, club, training, other _____

Date, Name, SignPlease fax the completed form to Fax No. +43-2622-26700-1369 or e-mail to
airworthiness@diamond-air.at

WORK INSTRUCTION

WI-MSB D4-097

I GENERAL INFORMATION

I.1 Subject

Installation of a start assist relay for ECU start phase monitoring to prevent overload of the gearbox drive shaft under specific engine start conditions on engines with a dual mass flywheel installed.

I.2 Reference Documents

DA 40 Series Airplane Maintenance Manual, Doc. No. 6.02.01, latest effective issue.

I.3 Remarks

- a) All work must be done by a certified aircraft service station or a certified aircraft maintenance mechanic.
- b) All work, in particular if not described in this work instruction, must be done in accordance with the referenced maintenance manual.
- c) For conversion factors between SI units and US/Imperial units refer to AMM Chapter 02.
- d) In case of doubt, contact Diamond Aircraft Industries GmbH.

II DRAWINGS, SPECIAL TOOLS & MATERIALS

II.1 Drawings

D4D-9224-30-06, Schematic, Starter Engaged Input to ECU

II.2 Special Tools

None.

II.3 Material

Quantity	Part Number	Description
1	40-8010-E000601	Board Starter Info
2	D-436-37	Splice, blue
1	D-436-36	Splice, red
0.01m	FT500-240	Heatshrink
10	PLT1MM30	Cable Tie
10	PLT2SM30	Cable Tie

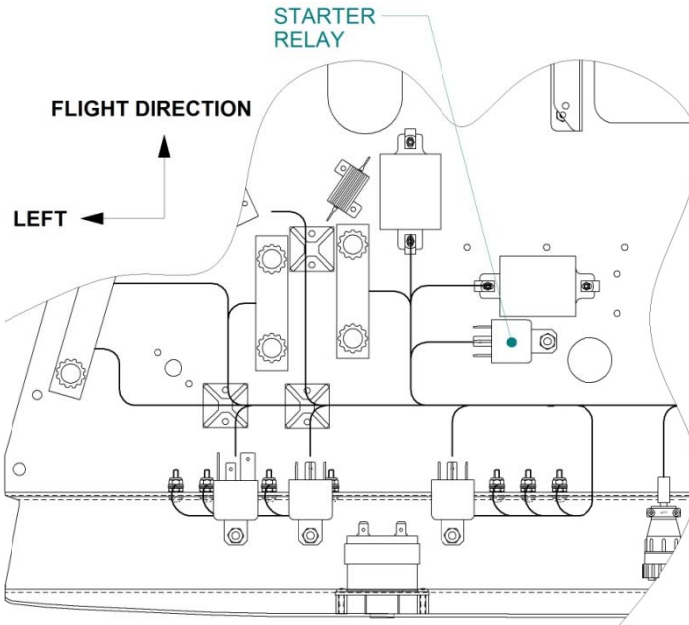
Material including drawing is available from Diamond Aircraft Industries or from Technify Motors GmbH.

III INSTRUCTIONS

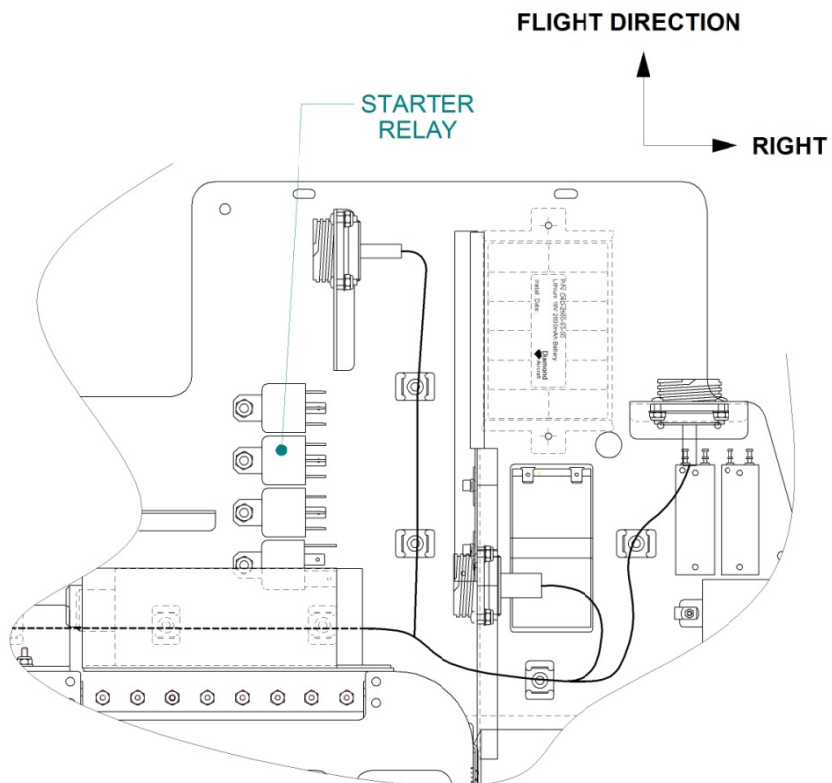
1	Disconnect the main battery for maintenance i.a.w. AMM Section 24-34.
2	Remove the instrument panel cover i.a.w. AMM Section 25-10.
3	Remove wire 24321A22WH from the ECU Test button using a soldering iron.
4	Move the seal of the splice over wire 24321A22WH and crimp it to the wire of the Starter Info Board (P/N 40-8010-E000601) labelled "3" using Splice, red P/N D-436-36. Shrink the seal using an appropriate heatgun.
5	Move the heatshrink P/N FT500-240 over the wire labelled "4" of the Starter Info Board and solder the wire to the terminal of the ECU Test button where wire 24321A22WH was previously installed.

6 Locate the starter relay in the instrument panel.

Conventional Instrumentation:

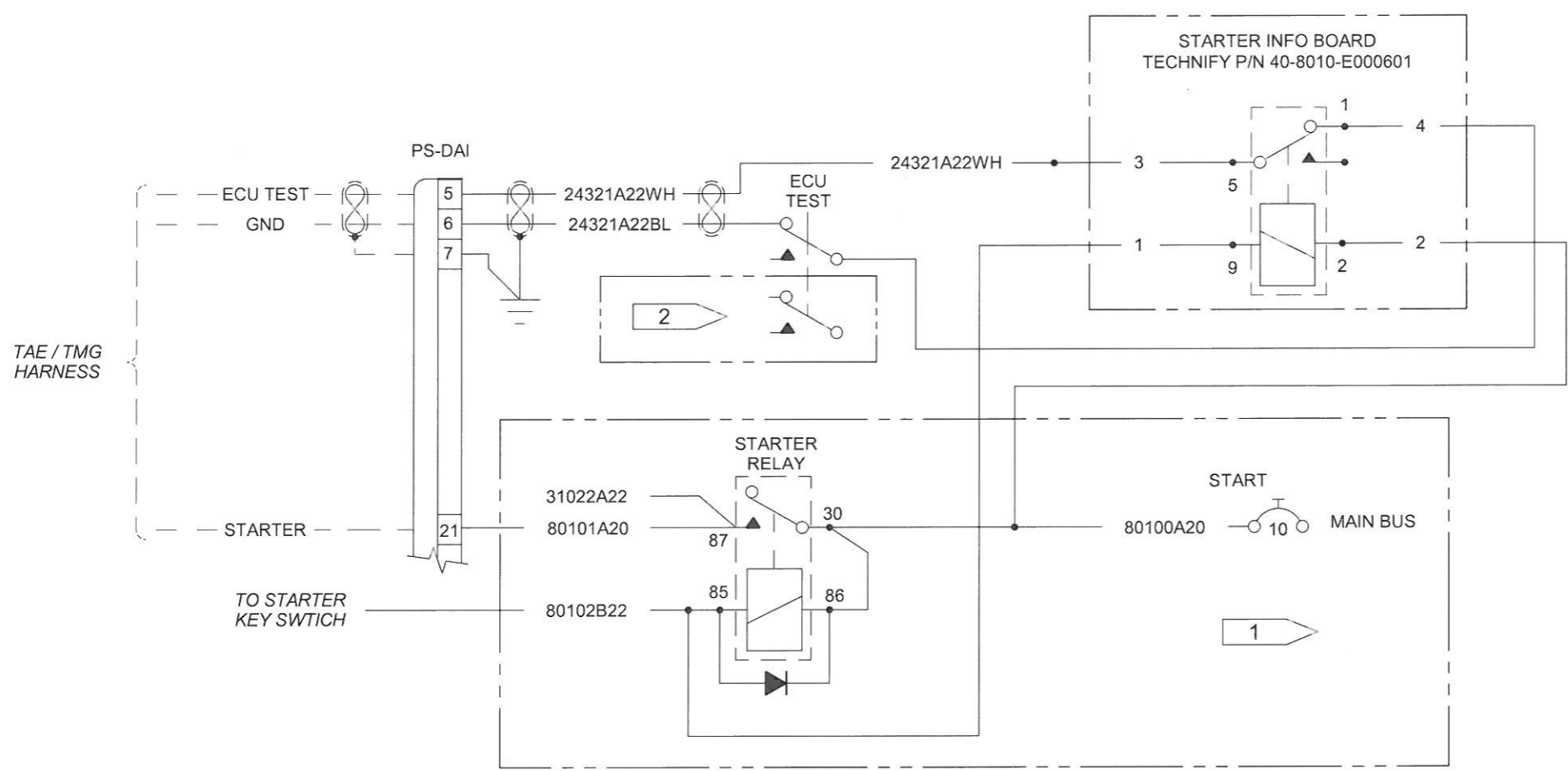


G1000 Instrumentation:



7	Cut the wires labelled "1" and "2" of the Starter Info Board to appropriate length and splice the wires to the wires 80102B22 and 80100A20 respectively using Splices P/N D-436-37. Refer also to wiring schematic D4D-9224-30-06.
8	Secure the Starter Info Board and all other wires to the instrument panel harness using cable ties.
9	Clean working areas, check for foreign objects.
10	Install the instrument panel cover i.a.w. AMM Section 25-10.
11	Connect the main battery after maintenance i.a.w. AMM Section 24-34.
12	Install ECU firmware and mapping in accordance with MSB D4-044/15 or later effective issue.
13	Check all altered, replaced, repaired parts for proper function.
14	Test all systems in working area for function.
15	Make all necessary entries in the airplane and engine logs.

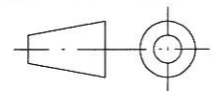

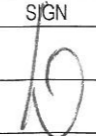
REVISION					
REV	SH	ZONE	DESCRIPTION	DATE	APPROVAL
-	01	ALL	MÄM 40-756 NEW DRAWING, DOES NOT SUPERSEDE ANOTHER DRAWING.	16.10.14	SEE ÄM
A	01	ALL	MÄM 40-756/a P/N of Technify Starter Info Board corrected.	28.11.14	SEE TB



FLAG NOTES

- 1 REFER TO WIRING SCHEMATIC D4D-9224-30-01..., D4D-9224-30-02... OR D4D-9224-30-04....
- 2 IFR AND G1000 VERSIONS ONLY, REFER TO WIRING SCHEMATIC D4D-9224-30-03... OR D4D-9224-30-05....

ALL RIGHTS RESERVED FOR THIS DOCUMENT WHICH MAY NOT BE REPRODUCED OR DISCLOSED TO THIRD PARTIES WITHOUT THE PRIOR WRITTEN CONSENT OF DIAMOND AIRCRAFT INDUSTRIES

DIMENSIONS METRIC FIRST ANGLE PROJECTION  UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MM DIMENSION TOLERANCES 2 DECIMAL ±0,25 1 DECIMAL ±0,5 DECIMAL ±1 ANGLE ±1° RAD ±0,5		IDENTIFICATION MARKINGS DP-S-17-00001 CLASSIFICATION: NONE INTERCHANGEABLE PART NO THIS DRAWING WAS PRODUCED USING SOFTWARE: SOLID EDGE ST6 FILENAME D4D-9224-30-06a.dft		 Diamond Aircraft Industries N. A. Otto-Straße 5 A-2700 Wiener Neustadt	
FORMAT A3 3.2 FINISH IN MICROMETER		DEPARTMENT DRAWN Kowarsch CHECKED: Kowarsch QA: N/A STRESS: N/A MANUF.: N/A SYSTEM: N/A APPROVED: C. Burger		SIGN  DATE 28.11.14 PROJECT DA 40 D TITLE Schematic, Starter Engaged Input to ECU DWG.ORIG. DAIA DWG.NO. D4D-9224-30-06 REV "A" CODE 710197 SCALE NTS SH 01 OF 01	