

Grant Robinson

From: McConnell, DAVE P <dave.p.mcconnell@lmco.com>
Sent: Friday, June 30, 2017 8:48 AM
To: Grant Robinson
Subject: S-76D Fuel System Pressure Test

Grant

Following is the CSE response to my request for S-76D fuel system pressure check procedures. I'm awaiting the posting of the referenced ATP to my DocPak.

Case Number: C0064152
Customer: Thai Aviation Services Limited
Aircraft S/N: 761063
Aircraft Model: S-76D
ATA: 28
Case Subject: Request For Fuel Line Pressure Check Procedure

Problem Description:

Reference

- 1) C0061938
- 2) C0062265
- 3) C0063901
- 4) S-76C M/M CH 28-20-02
- 5) S-76D AMM SubTask 28-20-02-420-001

TAS are completing reassembly of the No. 1 and No. 2 fuel systems on A/C S/N 761063 after troubleshooting fuel cell leaks.

S-76D AMM SubTask 28-20-02-420-001 – Install Fuel Supply Lines - Paragraph D., Step (15) instructs the maintainer to "Perform pressure test on fuel lines" with no further guidance given.

S76C M/M CH 28-20-02 Paragraph 1.C. Installation of Fuel Supply Lines Steps (16) (a) thru (k) calls out a specific pressure check procedure to be accomplished after fuel line installation.

In the absence of specific guidance in the S-76D AMM, TAS requests SA approval on an AOG basis to perform a fuel system pressure test on an S-76D using the above referenced procedure called out in the S-76C M/M. EoM

This email notification is provided as the case has been reviewed and does not contain technical data in the issue description.

Problem Resolution:

The below customer letter and accompanying ATP 15294 will be loaded into FSR-Thailand (Thailand) DocPak shortly.

Date: 29 June 2017
To: Thai Aviation Services Limited
Regarding: Request For Fuel Line Pressure Check Procedure
Technical Case #: C0064152
Attn: Grant Robinson

There is a significant difference between the S-76D and S-76C in that the S-76D does not have foot valves like S-76C where the fuel lines connect to the fuel tanks. During the pressure check on the S-76C, these foot valves act like check valve to contain test pressure in the line above the tank, whereas on the S-76D there is nothing stopping the pressure from bleeding out into the tank and vents. So if applying the S-76C

procedure to the S-76D, the customer will need to add additional steps of disconnecting and capping the fuel supply lines at the fuel tank outlet.

CAUTION

Appropriate care must be taken to avoid fuel tank FOD or caps inadvertently left installed.

If the connection inside the tank has not been disturbed, the capping can be done at next downstream connection outside the tank. We did check the Coatesville procedure (to be provided via DocPak). Although this is a vacuum check procedure with special equipment, they do cap the lines at tank outlet.

In discussing this further with the S-76 Chief Engineer, we concluded that leaks between the tank and engine would be manifest by subsequent loss of prime and in the cross-feed line by possible engine flameout in checking cross feed operation. So in the case of this AOG, another alternative if not immediately returning to service would be to prime the system and visually inspect for leakage. Check starting and operation in direct and cross feed and then recheck starting and operation in direct/cross feed approximately 24 hours later. The pressure check however would more proactively check for the leak before filling with fuel and operating.

David P. McConnell

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