



A I R C R A F T

# SERVICE BULLETIN

## SB-AG-83

Rev A: 03/19/2024

### S2R-510 Main Fuel Lines Inspection & Replacement

Affected Aircraft Models	Serial Number Range
S2R-510	101,105-112, 114, 115, 118-120, 122, 125-127, 129, 131, 136-138, 502-506, 509, 513, 515, 516, 518, H80-140.

David Yarbrough

Director of Engineering

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## LOG OF REVISIONS

**NOTE:** Reformatting and correction of typographical errors is not considered revision. True revisions are indicated by a dark vertical line at the right margin of the lines revised.

REV	PAGE	DESCRIPTION OF REVISION	BY:
IR	All	New Document Initial Release.	T. Surratt 02/20/2024
A	4, 12-17	Updated new forward hose assembly part number (124F002-12CR-0240), instructions, and images. Added new hose fitting part number (AN833 12J), instructions, and images. Updated images and instructions for DG Clamp installation. Removed previous instructions and images of DG Clamp installation. Updated bolt part number used for DG Clamp (AN3C 5A). Removed Washer and Nut from parts list and instructions. Removed CAUTION note about battery and image.	T. Surratt 03/19/2024

## 1. PURPOSE/REASON FOR PUBLICATION

Thrush has been notified by one or more operator(s) of fuel line deformation. The purpose of this Service Bulletin is to inform S2R-510 Aircraft operators of the possibility of fuel line deformation between the airframe fuel filter and the engine driven fuel pump and how to replace them as required.

## 2. SCOPE/COMPLIANCE

This Service Bulletin contains the instructions for the immediate inspection and replacement of the main fuel lines as required.

## 3. BY WHOM WORK WILL BE ACCOMPLISHED

The work is to be accomplished by an FAA Certified A&P Mechanic or foreign equivalent.

## 4. APPROVAL

This Service Bulletin is approved by the FAA and the Director of Engineering at Thrush Aircraft, LLC.

## 5. MAN HOURS

2 hours will be required.

## 6. SPECIAL TOOLS

To include, but not limited to, Chassis Hole Punch, Hole Saw, etc. (as required).

## 7. PARTS LIST

QUANTITY	PART NUMBER	NOMENCLATURE	USE
1	124F002-12CR-0240	HOSE ASSY	Fwd Fuel Line (FFL)
1	124001-12CR0410	HOSE ASSY	Aft Fuel Line (AFL)
3	MS21919WH16	CLAMP	Fwd Fuel Line (FFL)
2	AN3C5A	BOLT	FFL Clamp
1	MS21045C3	NUT	Butterfly Clamp
2	NAS1149C0363R	WASHER	Butterfly Clamp
1	9563K35	PLUG BUTTON	Plug Hole
1	700	FIREWALL SEALANT	Plug Hole
1	AN833-12J	ELBOW, FLARED TUBE	FFL Fitting

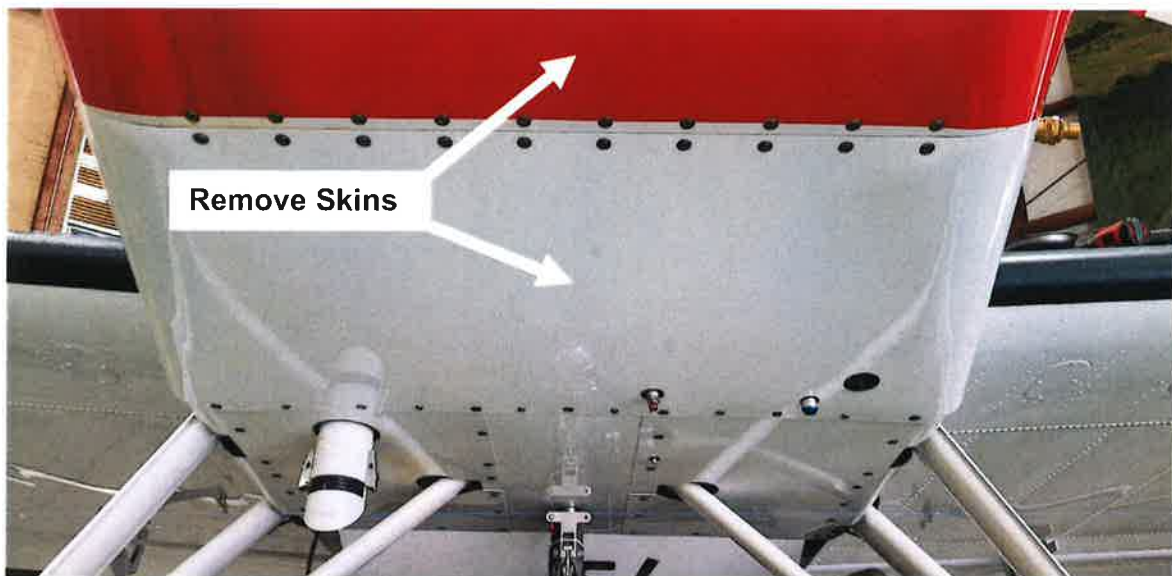
## 8. INSTRUCTIONS

### 8.1 HOW TO ACCESS

1. Remove skins located on LH side and underneath of aircraft by loosening Camlocs and removing screws, then set aside.



*Figure 8.1.1 – LH Side Skins*

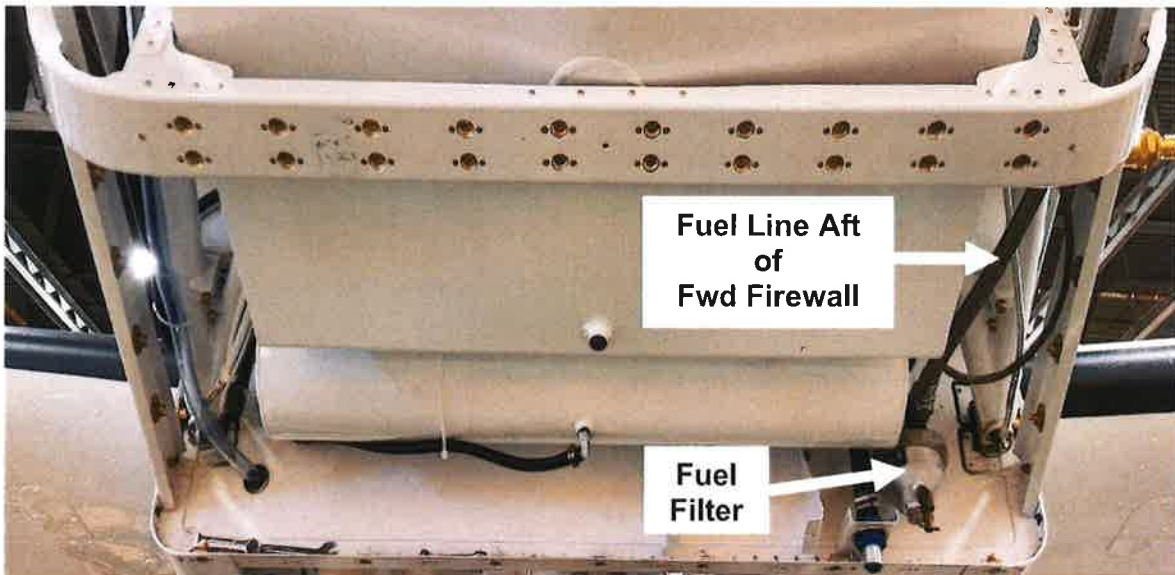


*Figure 8.1.2 – Skin Underneath Aircraft*





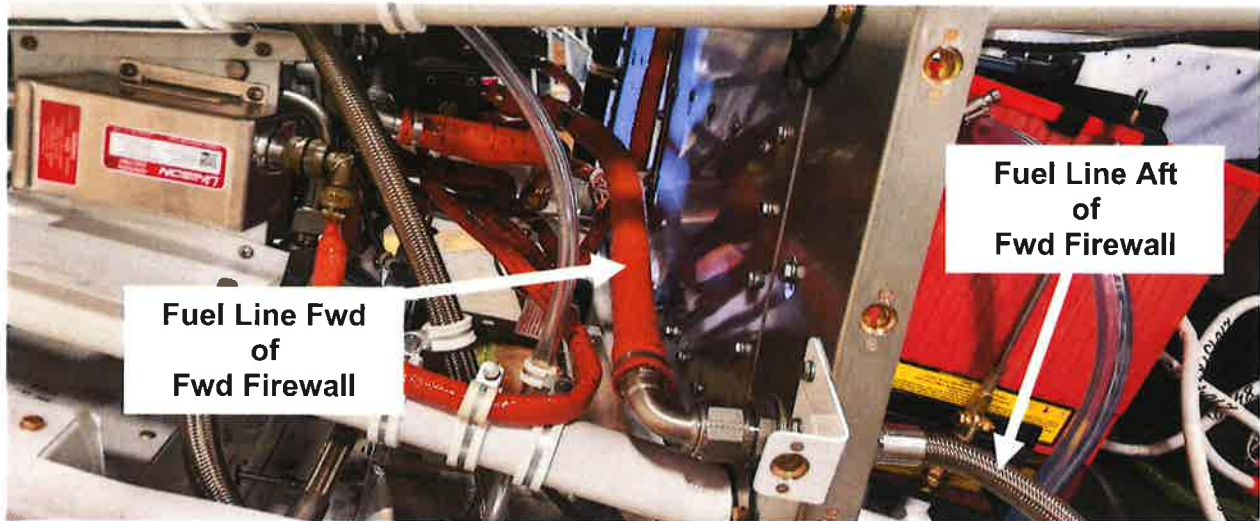
*Figure 8.1.3 – LH Side Skins Removed*



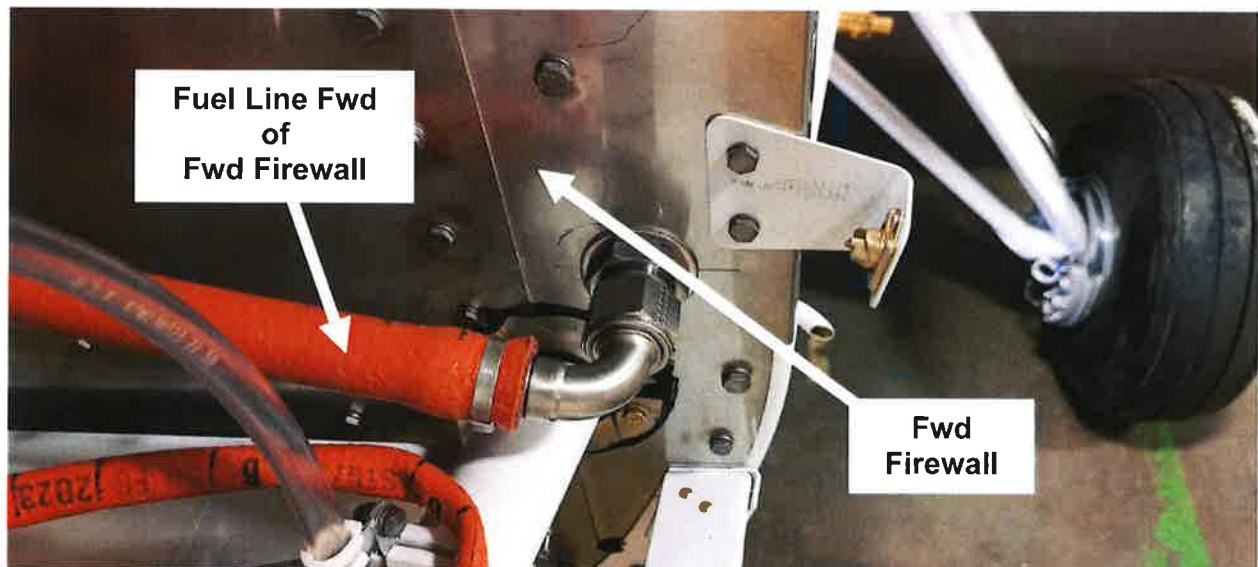
*Figure 8.1.4 – Skin Underneath Aircraft Removed*

## 8.2 INSPECTION

1. Visually and physically inspect the fuel lines for deformation, kinks, and any other damage.



*Figure 8.2.1 – Fwd Fuel Line Inspection*

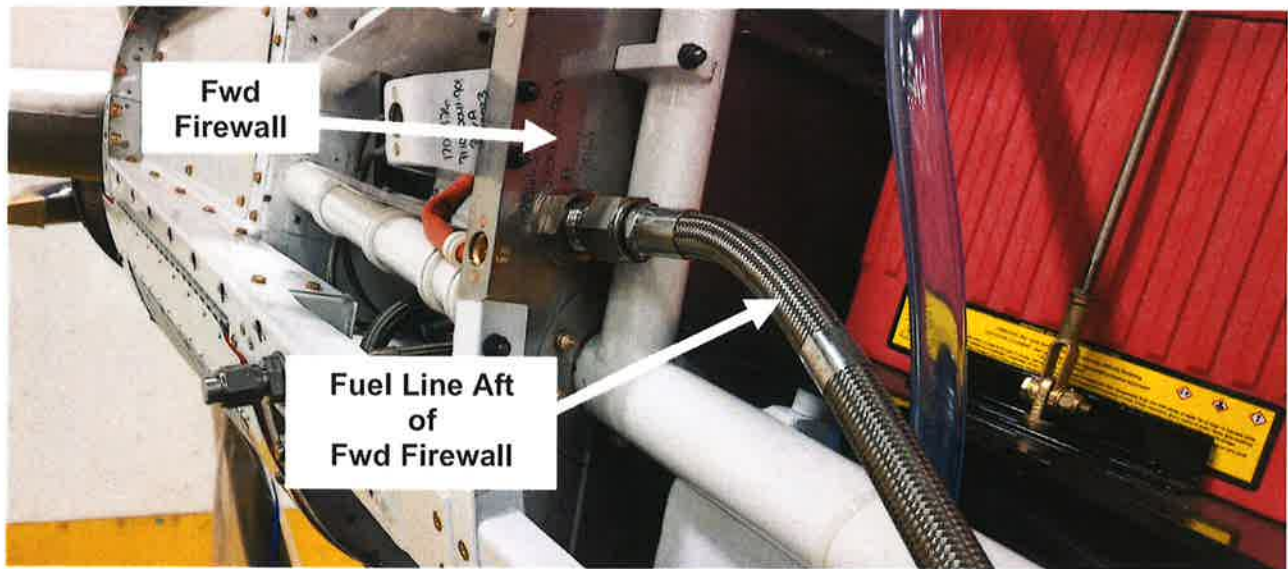


*Figure 8.2.2 – Fwd Fuel Line Inspection*



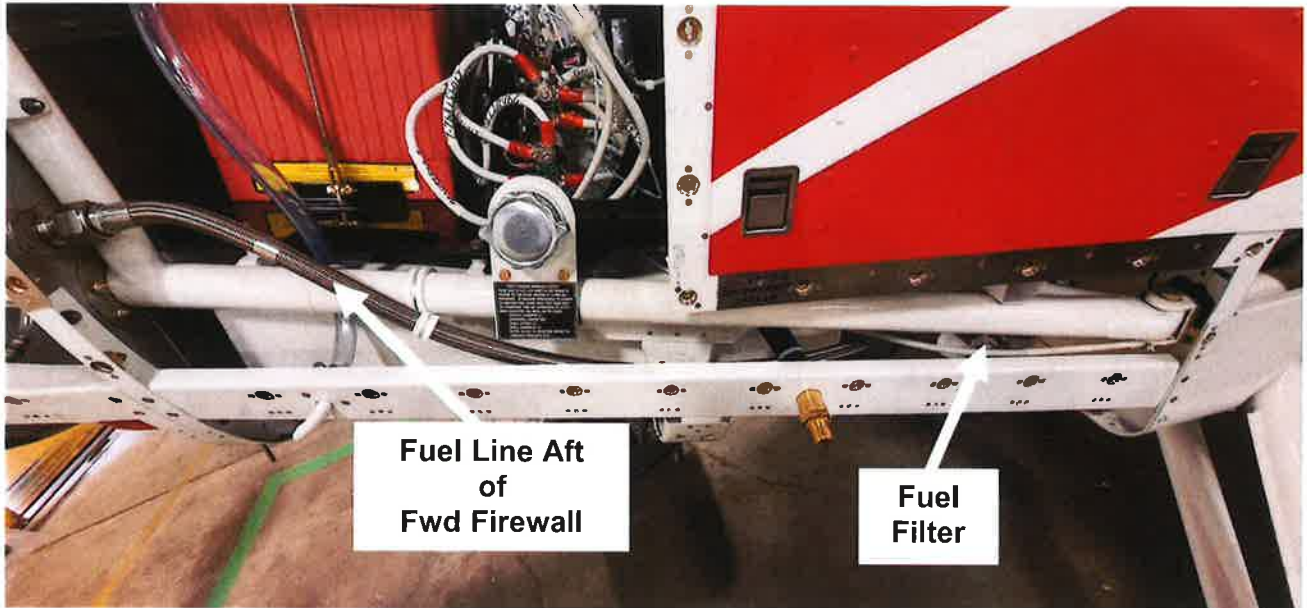


*Figure 8.2.3 – Fwd Fuel Line Inspection*

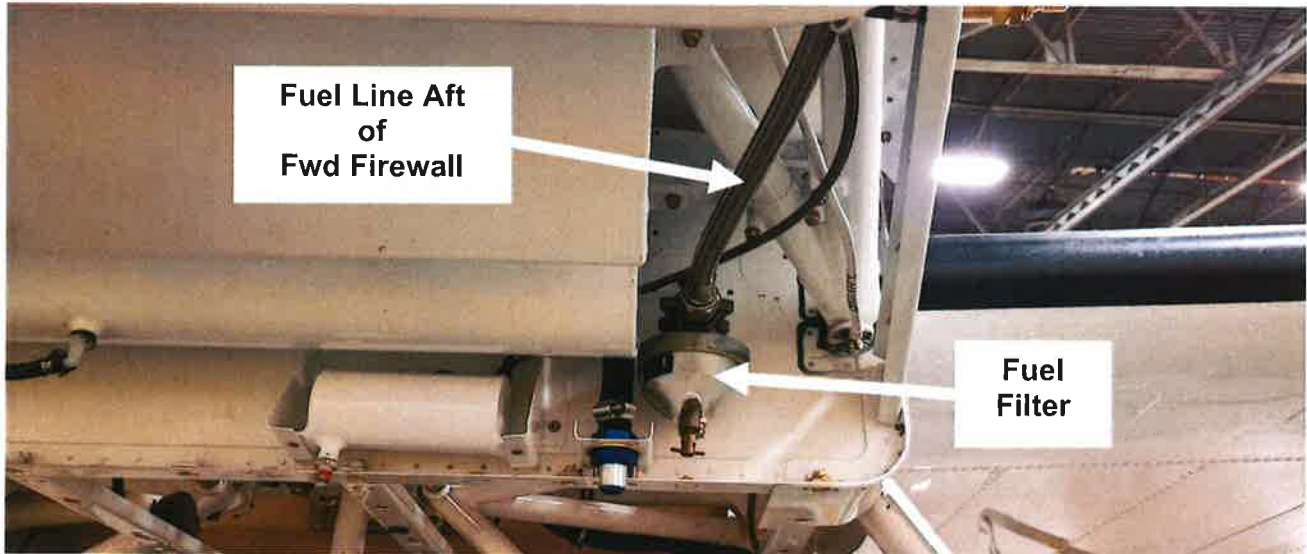


*Figure 8.2.4 – Aft Fuel Line Inspection*





*Figure 8.2.5 – Aft Fuel Line Inspection*



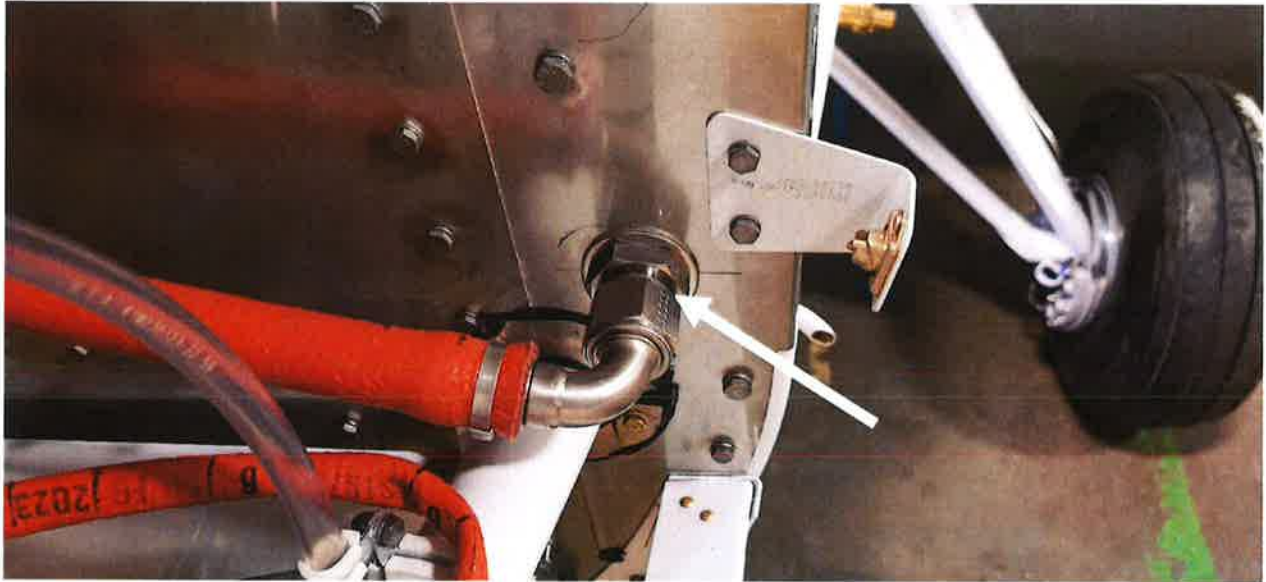
*Figure 8.2.6 – Aft Fuel Line Inspection*

### 8.3 REPLACEMENT (AS REQUIRED)

**CAUTION:** Ensure the engine and fuel lines are cool then properly drain all fuel from the aircraft prior to fuel line replacement.

#### 8.3.1 FORWARD FUEL LINE

1. Locate 124F012G0240CR180 fuel line forward of firewall and loosen at both ends.

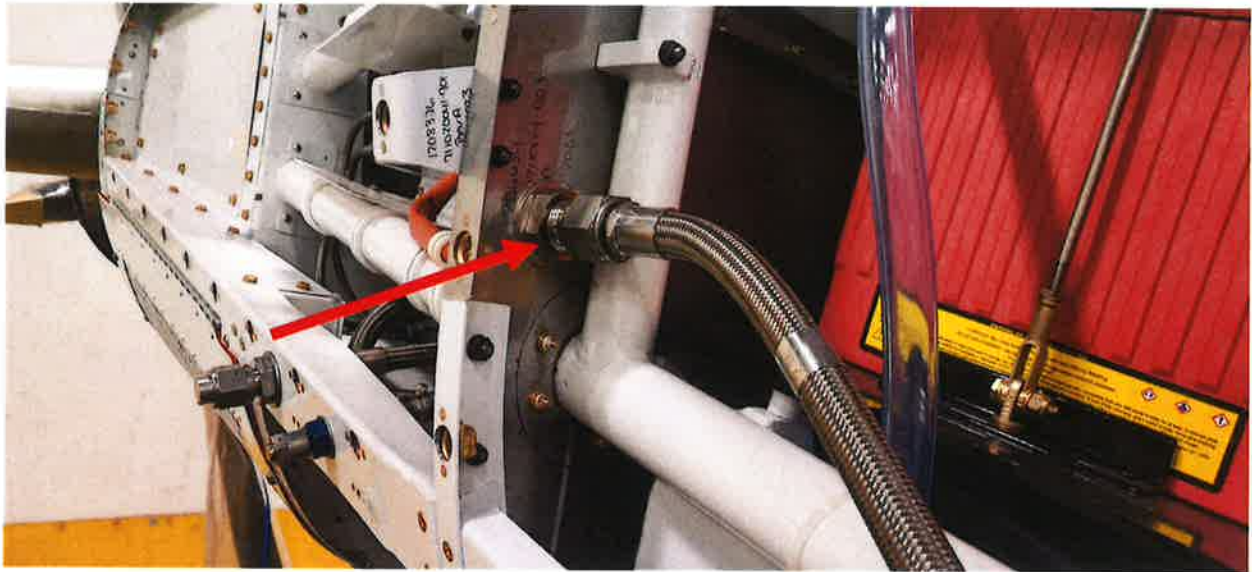


*Figure 8.3.1.1 – Connection at Union*



*Figure 8.3.1.2 – Connection at Fuel Pump*

2. Remove fuel line.
3. Disconnect 124001-12CR0410 fuel line located aft of firewall from union.



**Figure 8.3.1.3**

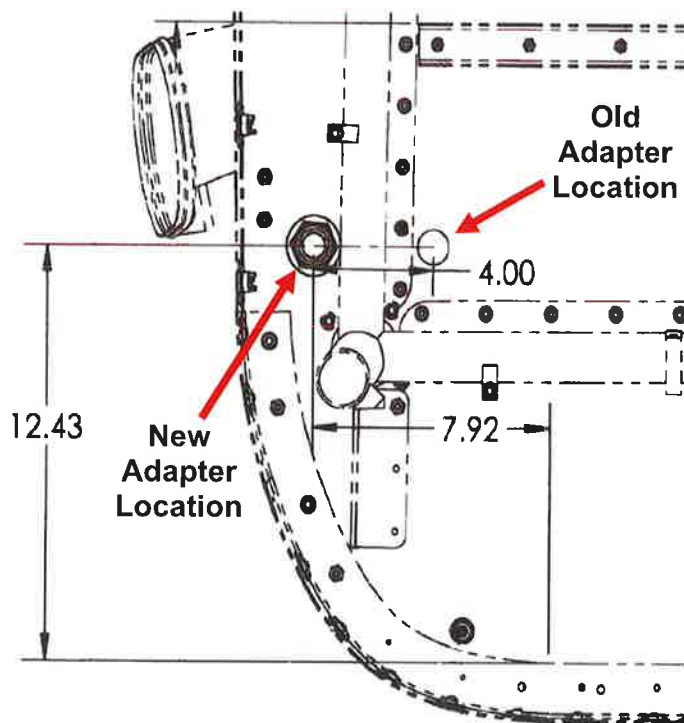
4. Remove union.
5. Plug hole with plug button on the forward side of firewall.
  - (1) 9563K35\_PLUG BUTTON
  - **NOTE:** Bend out flanges of plug button to ensure best hold.



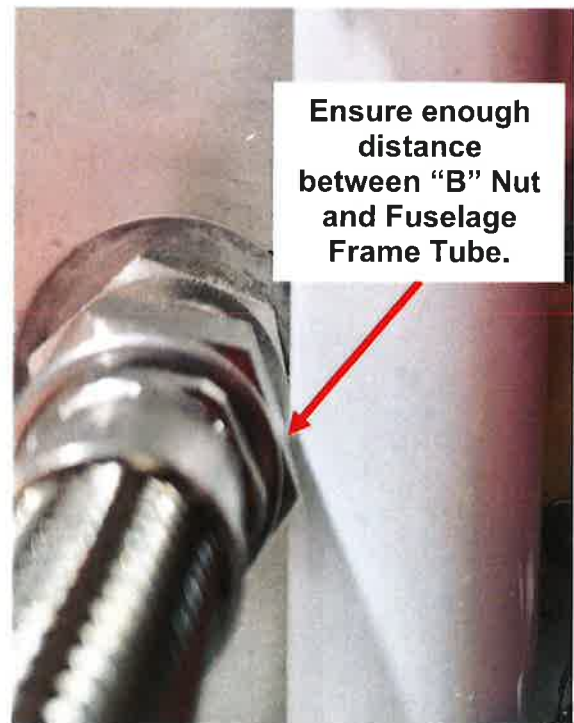
**Figure 8.3.1.4**



6. Completely cover forward side of plug button with firewall sealant.
  - (1) 700\_FIREWALL SEALANT
  - **NOTE:** Smooth out firewall sealant to ensure proper seal.
7. Measure and mark new hole location for union on aft side of firewall.
  - **CAUTION:** Prior to drilling hole, hold union against aft side of firewall and ensure "B Nut" won't touch aircraft frame tube.
    - i. If yes, adjust accordingly then continue to next step.
    - ii. If no, continue to next step.



**Figure 8.3.1.5 – View Looking Forward**



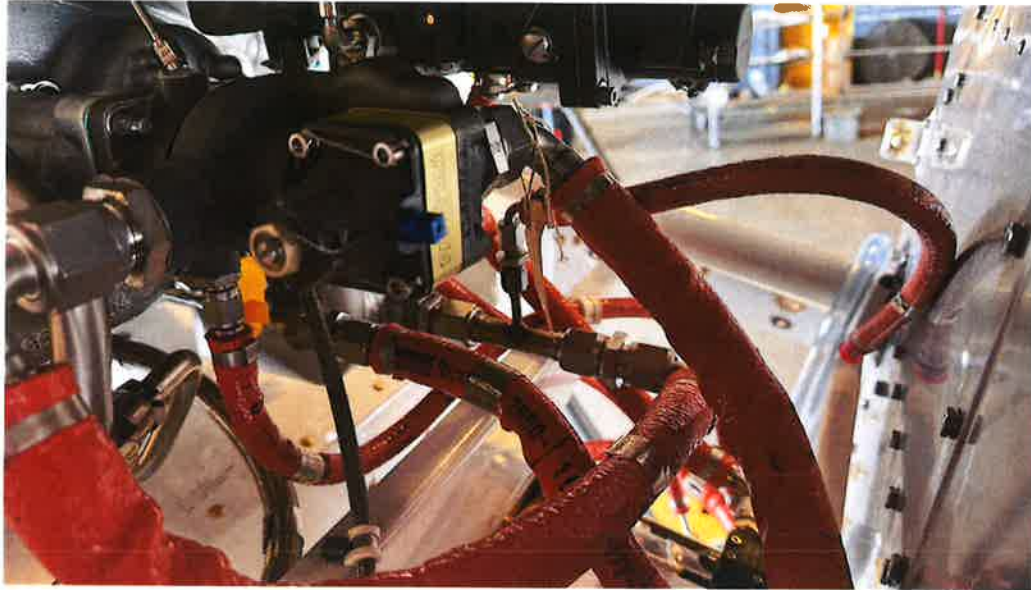
**Figure 8.3.1.6**

8. Using appropriate tool, cut out 1 1/8" hole for union.
9. Deburr hole.
10. Loosely install new union into hole.
  - (1) AN833 12J\_ELBOW, FLARED TUBE



11. Take new fuel line, ensuring I.D. tag is facing outboard and loosely connect to fuel pump.  
(Reference Figures 8.3.1.7 & 8.3.1.9)

- (1) 124F002-12CR-0240\_HOSE ASSY



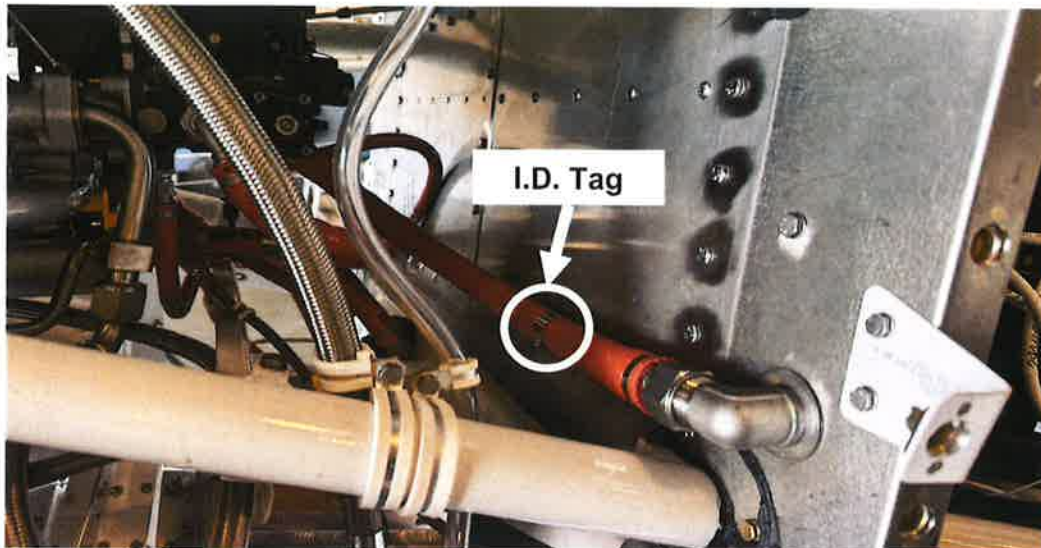
**Figure 8.3.1.7**

12. Loosely connect fuel line at union.



**Figure 8.3.1.8**

13. Before tightening, let fuel line come to natural resting position.



**Figure 8.3.1.9**

14. Hold union at forward side of firewall then tighten “B” nut on aft side of firewall.

15. Hold fuel line with one hand then tighten connection at fuel pump with other hand until snug.

16. Hold fuel line with one hand then tighten connection at union with other hand until snug.

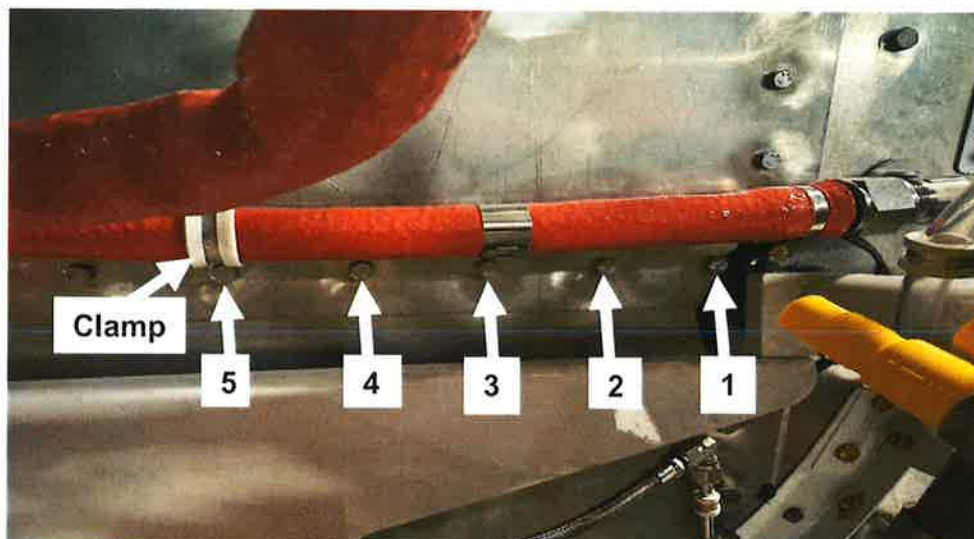
17. Locate and remove fifth bolt from firewall.

18. Take and locate clamp on fuel line at fifth bolt.

- (1) MS21919WH16\_CLAMP

19. Install clamp using hardware.

- **NOTE:** Use longer bolt included in kit (listed below).
- (1) AN3C5A\_BOLT



**Figure 8.3.1.10**



20. Install butterfly clamp to prevent fuel line rubbing against oil line.

- **NOTE:** One washer under bolt head and one under nut.
- (2) MS21919WH16\_CLAMP
- (1) AN3C5A\_BOLT
- (2) NAS1149C0363R\_WASHER
- (1) MS21045C3\_NUT



*Figure 8.3.1.11*



*Figure 8.3.1.12*

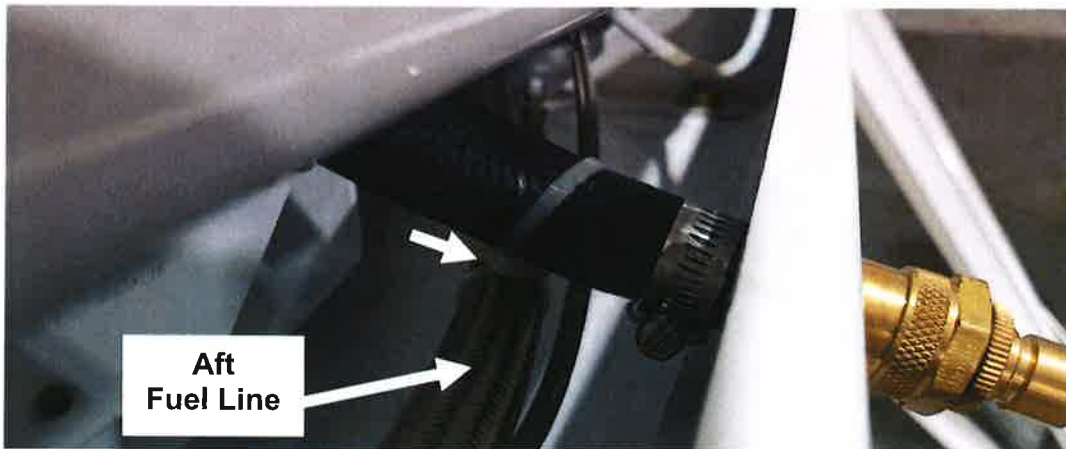
### 8.3.2 AFT FUEL LINE

1. Locate and remove the clamp holding aft fuel line.



*Figure 8.3.2.1*

2. Cut zip tie holding fuel line to other hose.
  - a. It is best practice to re-install zip ties to secure fuel line and create standoff between other hose but is optional.



*Figure 8.3.2.2*

3. Loosen 124001-12CR0410 fuel line at both ends.
4. Remove fuel line.
5. Locate new fuel line, ensuring I.D. located towards union and loosely connect to union.
6. Loosely connect aft end of fuel line to fuel filter.
7. Locate clamp on fuel line in same position as previous fuel line.
8. Re-install clamp where previously removed.
9. Hold fuel line with one hand then tighten connection at union with other hand until snug.
10. Hold fuel line with one hand then tighten connection at fuel filter with other hand until snug.



## 9. COMPLIANCE

### Service Letter SB-AG-83 Rev. A Compliance Report

Aircraft S/N:	Aircraft Owner:
Aircraft Registration #:	Address of Owner:
Airframe Total Time:	City & State:
Engine Total Time:	Physical Location:
Complied With By:	Date of Compliance:
Signature:	Certificate #:

**PLEASE RETURN THIS REPORT ONLY AFTER INSPECTION AND MODIFICATION IS MADE**

This response card may be mailed, faxed to (229) 317-8225, or emailed to:  
[support@thrushaircraft.com](mailto:support@thrushaircraft.com).

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