THRUSH AIRCRAFT

P.O. Box 3149
Albany, GA 31706-3149
300 Old Pretoria Road
Albany, GA 31721
Phone: 229.883.1440
Fax: 229.439.9790
www.thrushaircraft.com

SERVICE LETTER

No. SL-AG-115

Initial Release 03/03/2014

GE Turboprop GH80-100 Engine Fuel Filtration

James Alman, Vice President Engineering

AIRPLANES AFFECTED:

MODEL	SERIAL NUMBERS
S2R-H80	H80-101 & UP

LOG OF REVISIONS

NOTE: Re-formatting 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.	3-3-14

TABLE OF CONTENTS

Topic **Page**

1. PURPOSE AND REASON FOR PUBLICATION

GE indicated that recent field data gathered from GE H80-100 engine operators indicated that fuel system contamination could exist due to foreign material.

Thrush Aircraft, Inc. has subsequently issued this service letter to address this issue.

2. SCOPE/COMPLIANCE

It is mandatory that this Service Letter be accomplished to ensure proper aircraft performance.

2.1. INSPECTION FREQUENCY

Perform the inspections called for in this document before the next flight and every 50 flight hours thereafter.

3. BY WHOM WORK WILL BE ACOMPLISHED

The work is to be accomplished by an FAA licensed A&P mechanic, or foreign equivalent. The action must be recorded in the airplane log book and signed off by the mechanic.

4. APPROVAL

4.1. THRUSH AIRCRAFT, INC. APPROVAL

This Service Letter is approved by the Vice President of Engineering at Thrush Aircraft, Inc.

4.2. FAA APPROVAL

N/A

5. INSTRUCTIONS

5.1. REMOVAL AND MODIFICATION

Incorporating SL-AG-115 is as follows:

5.1.1. Aircraft Skin Removal, and Aircraft Skin Reassembly

5.1.2. Remove visible sediment or other foreign material/build up from the aircraft fuel tanks, header tank, and fuel filter.

5.1.3. Remove airframe fuel filter, check for contamination, clean if contaminated, and re-install.

5.1.4. Service the High Pressure Fuel Filter on engine.

6. NEW PARTS AND MATERIAL

6.1. PARTS REQUIRED MAY BE PURCHASED FROM THRUSH AIRCRAFT IF NEEDED. 1 EACH.

- All affected “O” RINGS are to be replaced.
- Firewall Fitting #10 to #8 must be replaced if Service Letter.SL-AG-114, dated 2/7/2014, has not be accomplished on the aircraft and documented in the aircraft log book.

“O” RING	102A10001-15	OR	MS29561-237
“O” RING	102A10001-16	OR	MS29513-013
“O” RING	MS83248-1-910	OR	MS9387-10
Firewall Fitting #10 to #8:	282010005-001, Revision B		
“O” RING	MS28775-114		

7. GE TURBOPROP H80-100 ENGINE FUEL FILTRATION

7.1. REMOVE APPLICABLE SKINS.

Remove the skins that are high-lighted in Figure 115-1 from the fuselage forward assembly o gain access to areas where work is to be performed.

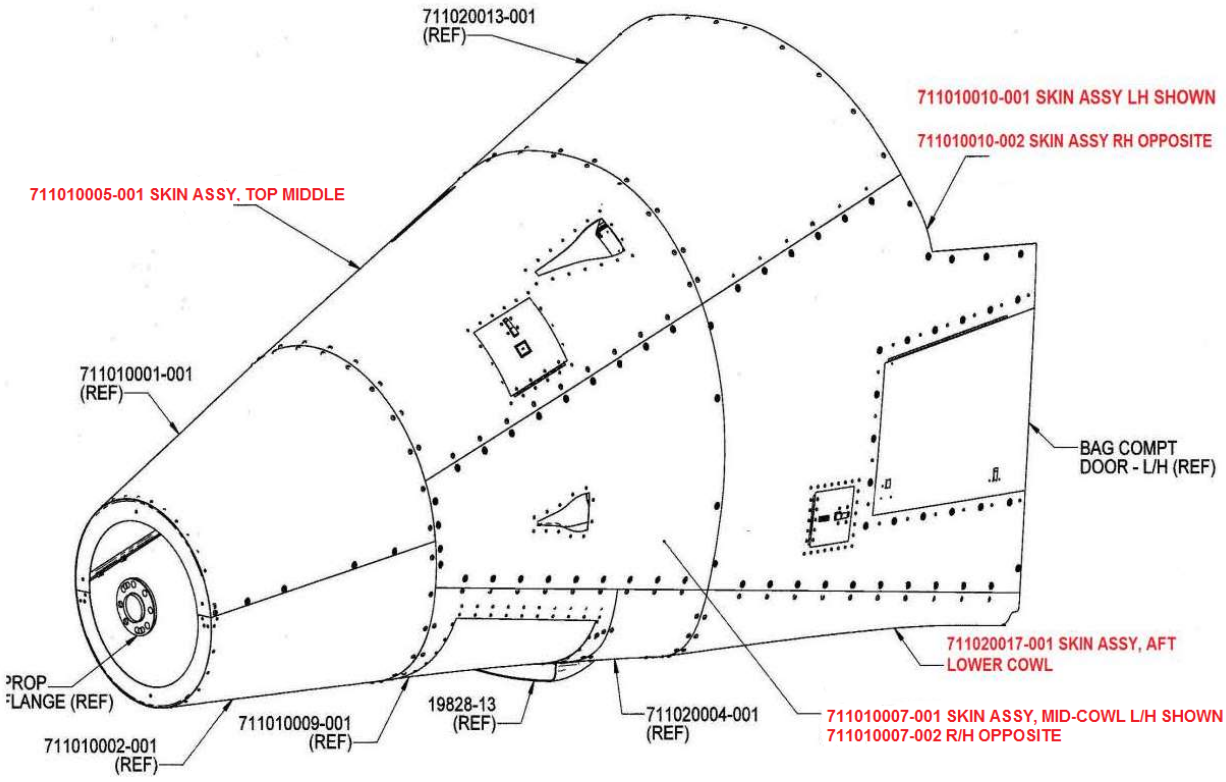

Figure 115-1 Skins to be Removed

7.2. DRAIN FUEL SYSTEM

Turn airframe fuel shutoff valve to “OFF” position. Obtain adequate containers to catch fuel released during the following steps.

Four fuel drain points are provided to allow fuel draining in order to extract the moisture and sediment entrapped in the system. The drains are located at the bottom of each wing tank (Figure 115-2), the header tank (Figure 115-3), and firewall fuel filter (Figure 115-4). Drain a small quantity of fuel, from each drain, into a transparent container to permit inspection for the presence of moisture or sediment. The fuel should be drained until all evidence of moisture or sediment disappears.

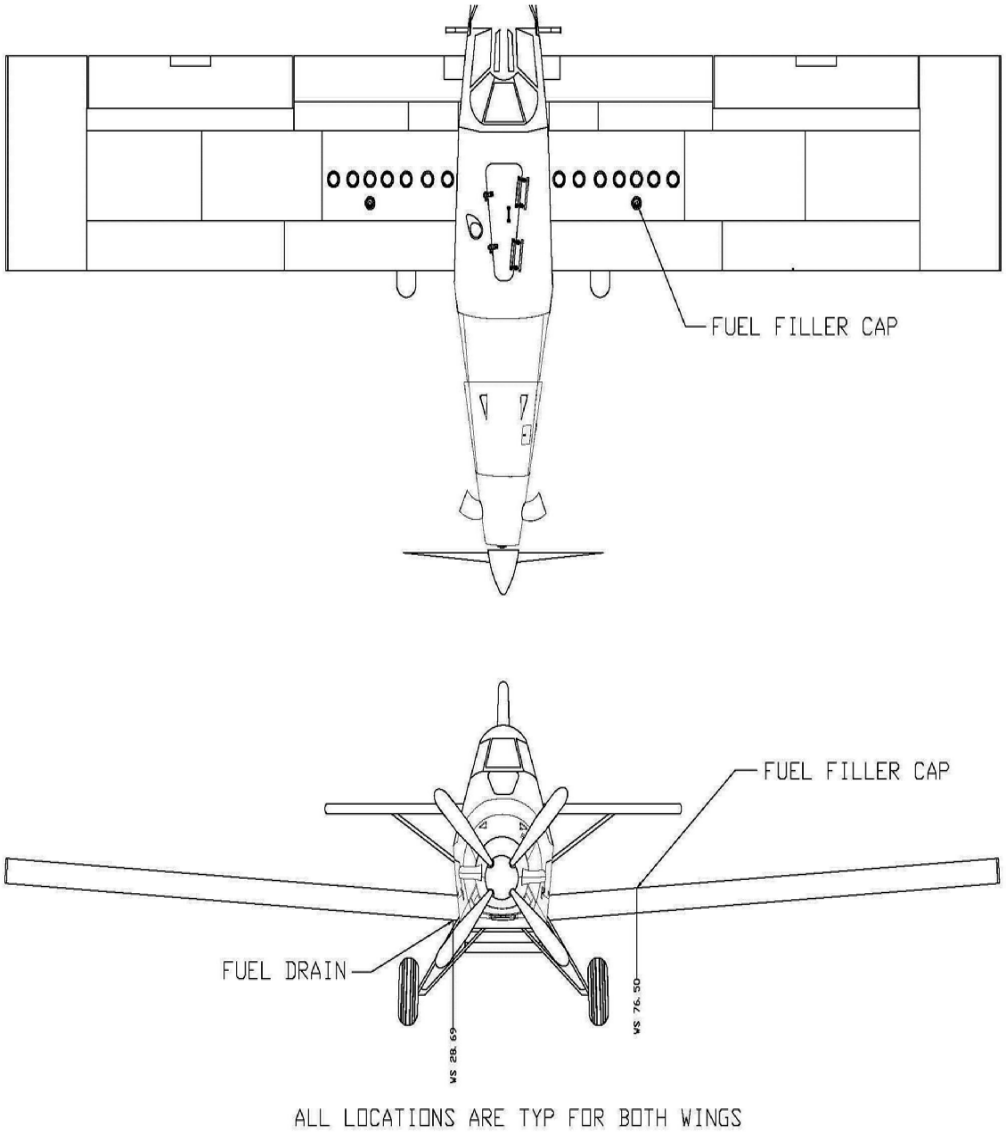

Figure 115-2 Wing Tank Fuel Drain Typical

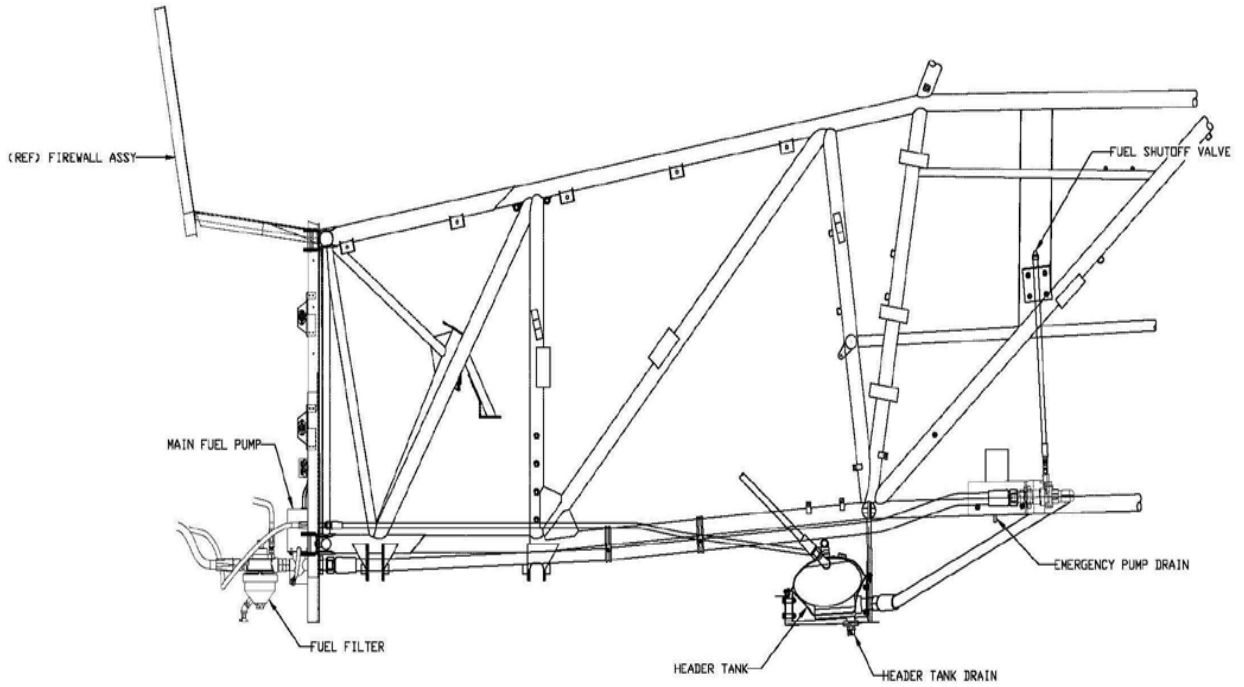

Figure 115-3: Header Tank Fuel Drain

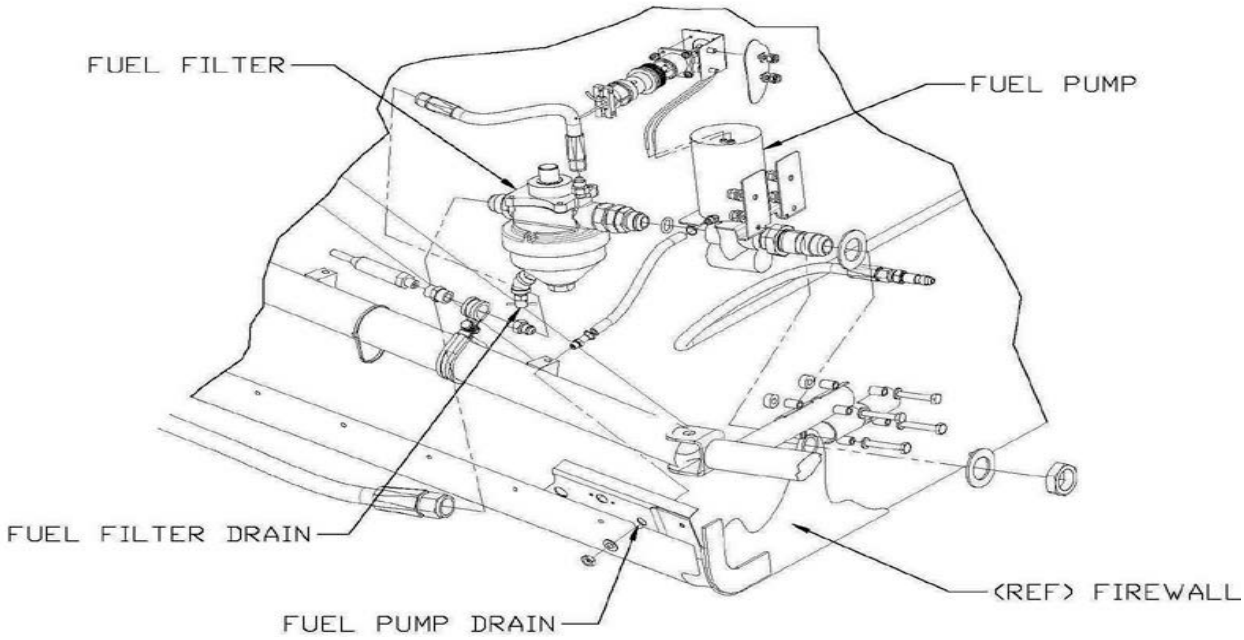

Figure 115-4: Firewall Fuel Filter Drain

7.3. LOCATE FUEL FILTER

Locate fuel filter using Figure 115-5.

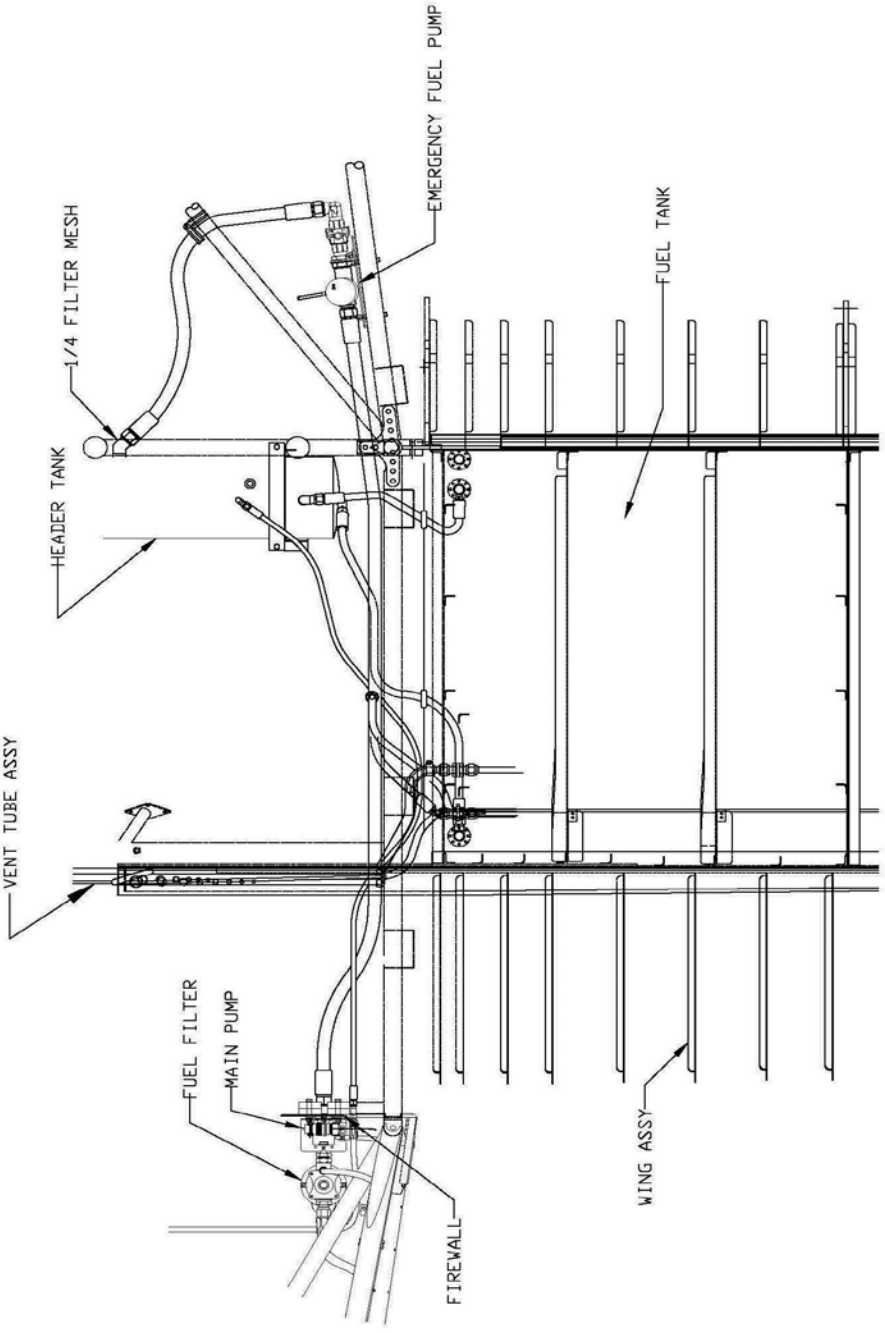

Figure 115-5 Fuel Filter Location

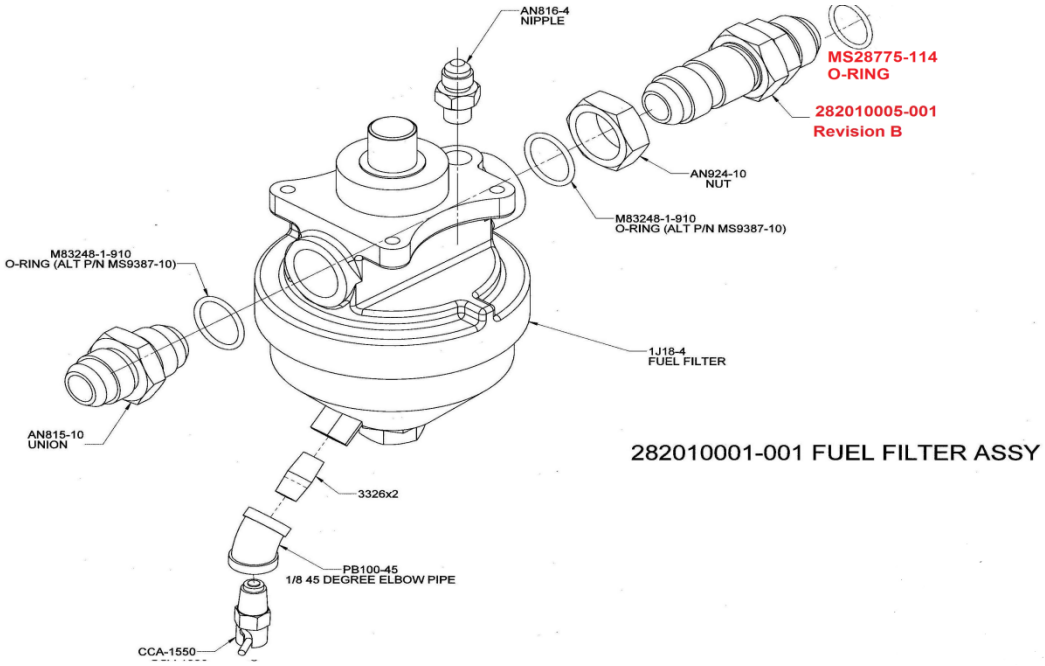

Figure 115-6: Fuel Filter Assy and Associated Hardware

.

8. PROCEDURAL SEQUENCES

Purging instructions are provided in Section 8.3.3 herein.

CAUTION

The following procedures must be followed in the order of steps given to avoid damage to the components and to assure proper functioning of the unit.

CAUTION

Anytime the fuel filter is opened and air is allowed in the system, the FCU must be purged/bled of all air before starting engine.

8.1. AIRFRAME FUEL FILTER REMOVAL, CLEAN, AND RE-INSTALLATION

8.1.1. Refer to figure 115-6 and 115-7 for identification of parts during disassembly and re-assembly.

8.1.2. Place adequate sized container under fuel filter to catch any spillage.

a. Turn airframe fuel shutoff valve to “OFF” position. Cut, remove and discard safety wire (not shown) securing filter bowl assembly. Remove all hoses attached to the fuel filter.
b. Using 13/16” wrench unscrew hex nut, (Figure 115-7, Item 1) bowl retainer. (Right hand threads.)
c. Pull filter bowl (Figure 115-7, Item 2) straight off filter housing stud.
d. Using one thin ½” open end wrench, hold filter retaining nut (Figure 115-7, Item 3) while loosening jam nut (Figure 115-7, Item 4) with second ½” wrench.
e. DO NOT twist or bend stud. Stud is not a removable item.
f. Remove retaining and jam nuts (Figure 115-7, Items 3 and 4).
g. Filter element (Figure 115-7, Item 5) will now drop off stud.
h. Seal central tube opening of filter element with suitable size rubber plug, to keep inside of filter element from getting contaminated during the cleaning process. Gently clean filter element by rinsing in new/unused solvent (Safty-kleen SK-105, Varsol, MIL-PRK-680 Type II, Odorless mineral spirits or equivalent) and blowing debris off surfaces using a low-pressure (up to 30 PSI Max) clean compressed air source.

CAUTION

DO NOT scrape, pry or poke mesh surfaces with sharp objects.

NOTE:

A New 282010005-1, Revision B, fitting is only required if it was not changed out per Service Letter SL-AG-114 and documented as such in the Aircraft Log Book.

- Turn upper half of filter counter clockwise and remove from existing 282010005-001 fitting. **See Figure 115-7.
- Remove existing 282010005-001 fitting from fuel pump and discard along with existing O-RING.

- Place a new MS28775-114 O-Ring on the new 282010005-001 Revision B fitting and re-assemble in the fuel pump. **See Figure 115-6 for this step and steps iv thru vii.
- Install the AN924-10 Nut on the new 28201005-004 fitting. **
- Install a new M83248-1-910 O-RING on the new fitting. **
- Install the top of the fuel filter on to the new fitting turning clockwise up to the O_RING. **
- Bring the AN924-10 Nut and secure to O-RING.

i. Replace filter element (Figure 115-7, Item 5) on stud and secure with retaining nut (Figure 115-7, Item 3) tightened moderately.
j. While holding retaining nut with thin ½" open-end wrench tighten jam nut (Figure 115-7, Item 4) with second ½" wrench.

CAUTION

Do not allow stud to twist.

k. Push filter bowl (Figure 115-7, Item 2) into housing taking care not to cock sideways.
l. Replace fuel bowl retaining nut "0" ring. Apply light coating of petroleum jelly or low weight oil lubricant to "0" ring on filter bowl retainer nut (Item 1) and install on stud with 50 to 60 inch pounds torque.
m. Secure Filter bowl retainer nut with .032" stainless steel lockwire.

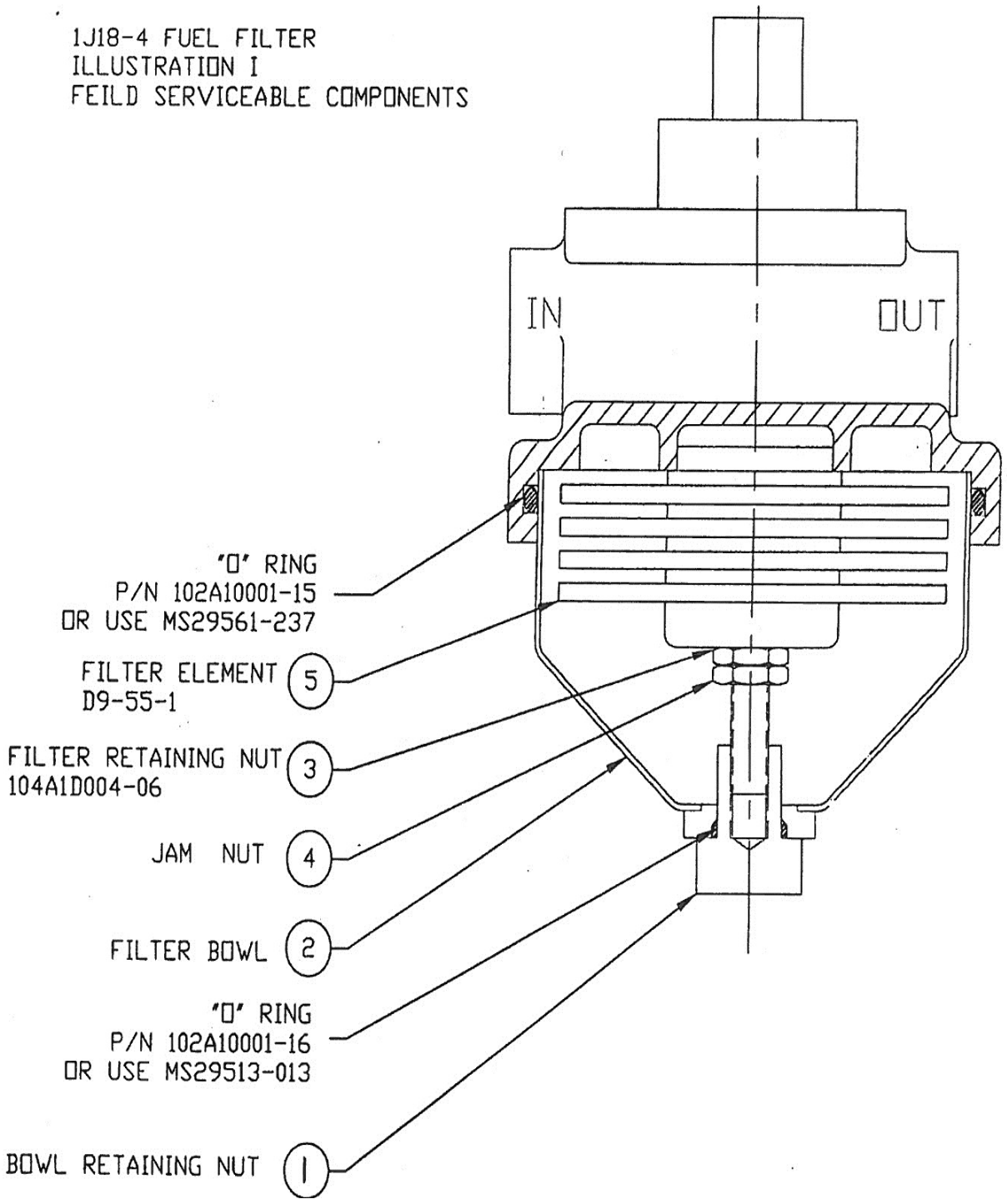

Figure 115-7: Replaceable Parts

8.2. ENGINE FUEL PUMP SERVICING

8.2.1. Remove the strainer (High Pressure Fuel Filter) from the fuel pump LUN 6290.04-8 and visually check for contamination per Engine Maintenance Manual No. 0983402. Chapter 73-10-03, Page 201. Steps 1 thru 10 and stop.

8.2.2. If contamination is excessive between the strainer element, replace the strainer and contact Customer and Product Support in GE Aviation Czech at tp.ops@ge.com and also Product Support at Thrush Aircraft, Inc. via jbays@thrushaircraft.com.

8.2.3. If there is no visible contamination between strainer elements, ultrasonically clean the strainer and return to service (if possible) or replace with new strainer.

8.2.4. Ensure all airframe drains are closed.

8.2.5. Turn airframe fuel shutoff valve to “ON” position. Turn main fuel pump on and observe operation in green range on MVP-50T. Observe fuel filter assembly for leaks prior to closing filter access panel.

8.2.6. Continue, Chapter 73-10-03 page 202, activities at step 11 and 12.

8.2.7. Perform engine run test and power plant performance check per Engine Maintenance Manual No. 0983402, Chapter 71-00-00, and page 501-511.

8.2.8. Record Inspection in Engine Log Book.

9. RECORD OF COMPLIANCE

Make appropriate entry in airplane maintenance records as follows:

"Thrush Service Letter SL-AG-115 Rev. IR complied with at _____ total hours on aircraft."

_____.

(Name & Certificate #) (Signature) (Date)