



A Textron Company

## **ALERT SERVICE BULLETIN**

**407-24-139**

16 December 2024

**MODEL AFFECTED:** 407

**SUBJECT:** AIRFRAME FUEL FILTER ASSEMBLY 222-366-621-105 DRAIN HOLE, INSPECTION OF

**HELICOPTERS AFFECTED:** Serial numbers 53000 through 53900, 53911 through 54166 and 54300 through 54752.

**COMPLIANCE:** Within 330 flight hours or 12 months whichever occurs first, following the release date of this bulletin.

### **DESCRIPTION:**

Bell has been made aware of potential condition of mislocated filter bowl drain hole on airframe fuel filter assembly 222-366-621-105. This Alert Service Bulletin mandates the filter bowls identified with a mislocated drain hole to be removed from service.

Applicability of this bulletin to any spare part shall be determined prior to its installation on an affected helicopter.

### **APPROVAL:**

The engineering design aspects of this bulletin are Transport Canada Civil Aviation (TCCA) approved.

### **CONTACT INFO:**

For any questions regarding this bulletin, please contact:

Bell Product Support Engineering  
Tel: 1-450-437-2862 / 1-800-363-8023 / [productsupport@bellflight.com](mailto:productsupport@bellflight.com)

**MANPOWER:**

Approximately 1 man-hour is required to complete this bulletin. This estimate is based on hands-on time and may vary with personnel and facilities available.

**WARRANTY:**

There is no warranty credit applicable for parts or labor associated with this bulletin.

**MATERIAL:****Required Material:**

The following material is required for the accomplishment of this bulletin and may be obtained through your Bell Supply Center.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Qty (Note)</u>
222-366-621-105	Fuel Filter Assembly	1 (1)
MS29512-12	Fuel Filter Head Packing	2 (1)
MS29512-04	Drain Valve Packing	1
MS29513-238	Filter Bowl Packing	1
222-366-643-001	Filter Element	1 (2)
222-366-644-001	Filter Element Seal	2

**NOTES:**

1. Only required if the filter bowl drain hole is found mislocated during the inspection.
2. Only required if filter bowl drain hole is correctly located and accomplishment instructions of this ASB are performed in conjunction with scheduled airframe fuel filter replacement (Table 1, DMC-407-A-12-00-00-00A-040A-A).

**Consumable Material:**

The following material is required to accomplish this bulletin, but may not require ordering, depending on the operator's consumable material stock levels. This material may be obtained through your Bell Supply Center.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Qty (Note)</u>	<u>Reference *</u>
N/A	Turbine fuel	A/R	C-003
1650-03297-00	Wire, Safety, CRES, 0.032"	Roll (1 LB) (1)	C-405

\* C-XXX numbers refer to the consumables list in the BHT-ALL-SPM, Standard Practices Manual

**NOTE 1:** Quantity indicated is the format that the product is delivered in. Actual quantity required to accomplish the instructions in this bulletin may be less than what has been delivered.

**SPECIAL TOOLS:**

None required.

**ELECTRICAL LOAD DATA:**

Not affected.

**REFERENCES:**

407-MM Maintenance Manual, Chapter 28, Chapter 53  
407-IPB Illustrated Part Breakdown, Chapter 28

**PUBLICATIONS AFFECTED:**

407-MM Maintenance Manual, Chapter 28

**ACCOMPLISHMENT INSTRUCTIONS:**

1. Prepare the helicopter for maintenance.

-NOTE-
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This inspection can be accomplished in conjunction with the scheduled airframe fuel filter replacement (Table 1, DMC-407-A-12-00-00-00A-040A-A).

2. Make sure the helicopter is grounded.
3. Disconnect the helicopter electrical power.
4. Open the right lower engine cowl (DMC-407-A-53-04-00-03A-520A-A).
5. Turn the handle on the manual drain valve (8, Figure 1) and drain the fuel from the fuel filter bowl (4).
6. Remove the drain hose (7) from the manual drain valve (8).
7. Loosen the nut (6) and remove the manual drain valve (8) and the packing (5) from the fuel filter bowl (4). Discard the packing (5).
8. Remove the lockwire from the filter bowl (4) and the filter head (1).
9. Turn the filter bowl (4) and unscrew the filter bowl from the filter head (1).

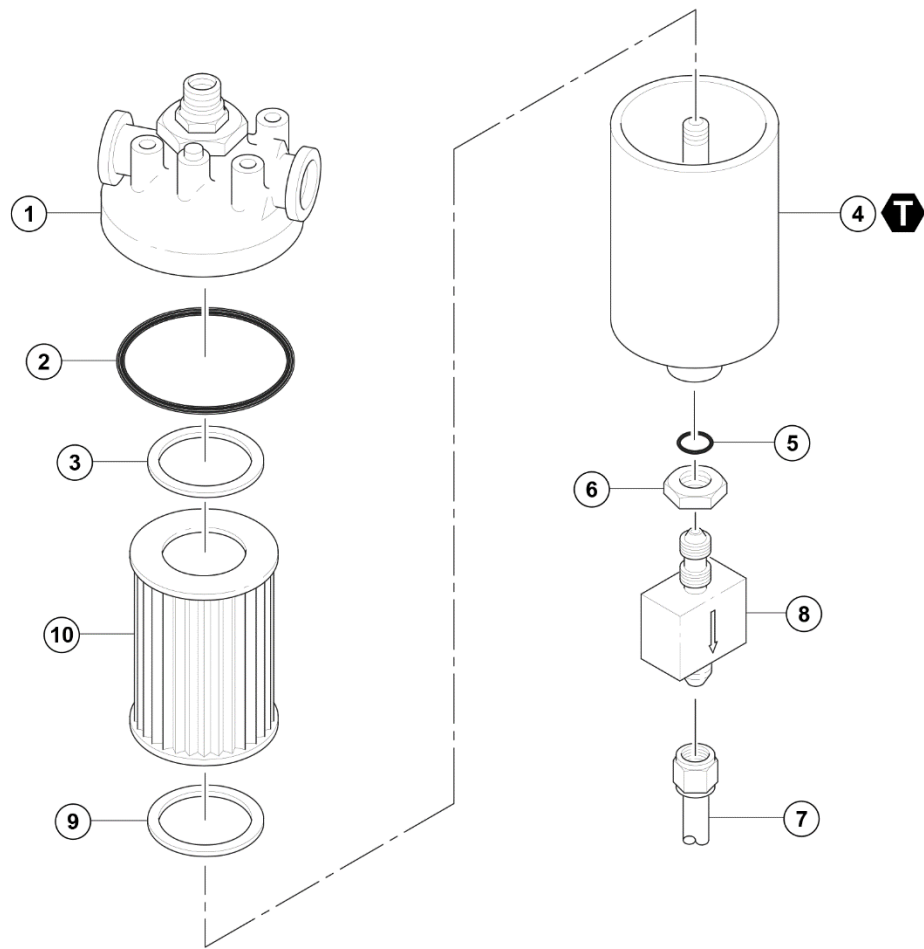
10. Remove the filter element (10), filter head element seal (3), filter bowl element seal (9), and packing (2). Discard seals and packings.
11. Examine the filter bowl drain boss to confirm if the drain hole is mislocated (Figure 2).
  - a. If 2 threads or more are present between the packing seating surface and the edge of the drain hole, the drain hole position is acceptable. Proceed to step 12.
  - b. If less than 2 threads are present between the packing seating surface and the edge of the drain hole, replace the fuel filter assembly 222-366-621-105 (DMC-407-A-28-20-00-18A-520A-A and DMC-407-A-28-20-00-18A-720A-A).
12. Apply a light layer of Turbine fuel (C-003) on the packing (2, Figure 1) and install the packing on the filter head (1).
13. Install the filter head element seal (3) on the filter head (1) and the filter bowl element seal (9) on the filter bowl (4).
14. Install the filter element (10) in the filter bowl (4).
15. Align the filter bowl (4) with the filter head (1) and install the bowl on the filter head.
16. Torque the filter bowl (4) to 100 to 150 in-lbs (11 to 16 Nm).
17. Safety the filter bowl (4) to the filter head (1) with Lockwire (C-405).
18. Apply a light layer of Turbine fuel (C-003) on the packing (5) and install the packing in the drain port of the filter bowl (4).
19. Install the manual drain valve (8) in the drain port of the filter bowl (4) and safety with the nut (6).
20. Install the drain hose (7) on the manual drain valve (8).
21. Connect the helicopter electrical power.

-NOTE-

If available, it is recommended to use a Ground Power Unit (GPU) to accomplish this procedure.

22. Set the battery switch to the ON position.
23. Set the fuel shut off valve to the ON position (opened).

24. On the overhead console, set the LEFT BOOST/ XFER and RIGHT BOOST/XFER pump switch to ON to pressurize the fuel system. Verify all boost and transfer messages extinguish. Check fuel pressure indication.
25. Open fuel filter manual drain valve (8) until there is no evidence of air coming out of the fuel drain hose (7).
26. Examine the fuel filter assembly for signs of leaks.
27. Set the LEFT BOOST/XFER pump and the RIGHT BOOST/XFER pump switch to OFF.
28. Purge the air from the engine fuel system. Refer to Rolls-Royce 250-C47B or 250-C47B/8 Operation and Maintenance Manual (CSP21001) for instructions.
29. Set the fuel shut off valve to the OFF position (closed).
30. Set the battery switch to the OFF position.
31. Disconnect the helicopter electrical power.
32. Close the right lower engine cowl (DMC-407-A-53-04-00-03A-720A-A).
33. Perform an operational check of the fuel system (Step 1.7, DMC-407-A-28-00-00-00A-320A-A).
34. Make an entry in the helicopter logbook and historical service records indicating compliance with this Alert Service Bulletin.

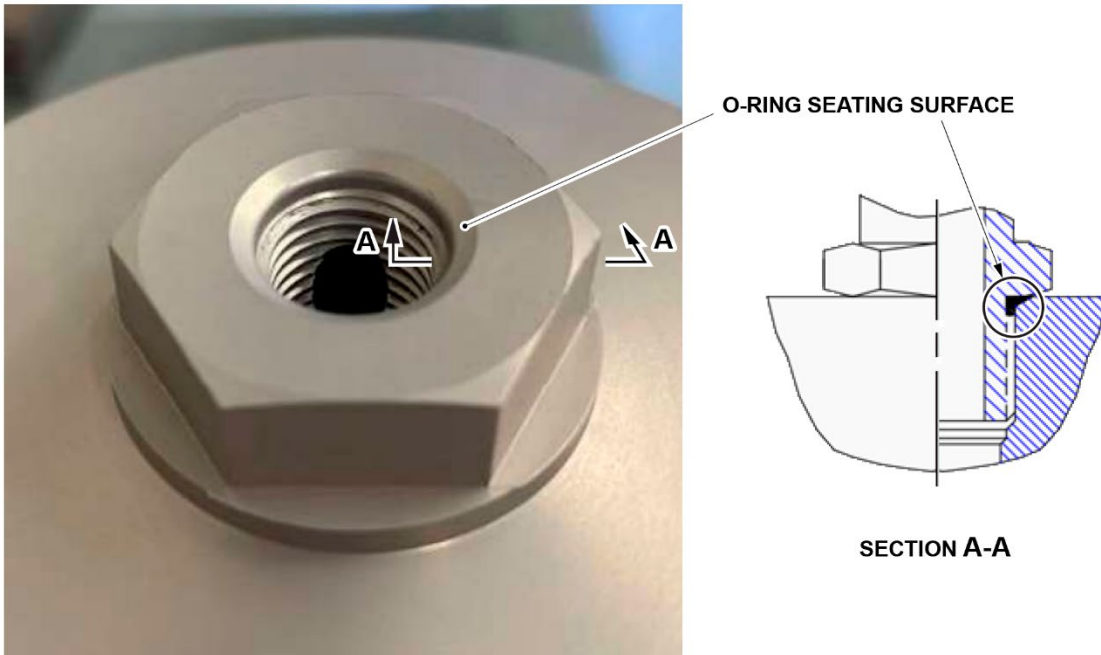


1. Filter head
2. Packing
3. Filter element seal
4. Filter bowl
5. Packing
6. Nut
7. Drain hose
8. Drain valve
9. Filter element seal
10. Filter element

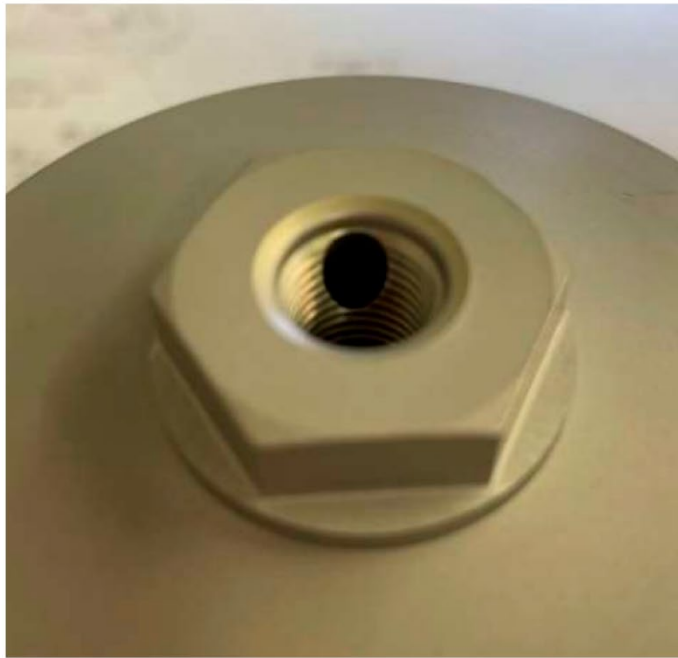
**T** 100 TO 150 IN-LBS  
(11 TO 16 Nm)

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**Figure 1 - Airframe fuel filter removal and installation**



ACCEPTABLE DRAIN HOLE POSITION



MISLOCATED DRAIN HOLE

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Figure 2 - Airframe fuel filter bowl drain hole