



A Textron Company

## **ALERT SERVICE BULLETIN**

**407-24-140**

17 December 2024

**MODEL AFFECTED:** 407

**SUBJECT:** FUEL LEAK WITHIN SHUTOFF VALVE COMPARTMENT, ONE-TIME INSPECTION OF

**HELICOPTERS AFFECTED:** Serial numbers 54812 through 54999, 56300 through 56407, 56409, 56411 and 56413

[Serial number 56408, 56410, 56412, 56414 and subsequent will have the intent of this bulletin accomplished prior to delivery.]

**COMPLIANCE:** Within 50 flight hours or 60 days whichever occurs first, following the release date of this bulletin.

### **DESCRIPTION:**

Bell has been made aware of potential fuel leakage within the fuel shutoff valve compartment. This bulletin provides instructions to inspect the shutoff valve outlet hose assembly and rectify the leak, as required.

### **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 2 man-hours are 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>
AS5406J06	Union	1 (1)
70-030H000Y046	Hose Assembly	1 (1)

**NOTES:**

1. Only required if found damaged while investigating a leak.

**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>
2400-00189-00	Turbine Engine Oil	1 QT (1)	C-011
2010-00109-00	Low Adhesion Sealant	2 OZ (1)	C-328

\* 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, Chapter 28

## **ACCOMPLISHMENT INSTRUCTIONS:**

-NOTE-

12 month inspection (DMC-407-A-05-40-00-11A-281A-A) requires the shut off valve and components to be inspected for leaks.

1. Review the helicopter technical records to determine if a scheduled 12 month inspection (DMC-407-A-05-40-00-11A-281A-A) has been performed since aircraft delivery.
  - a. If a 12 month inspection has been performed since aircraft delivery, proceed to step 31.
  - b. If 12 month inspection has not been performed since aircraft delivery, proceed to step 2.
2. Prepare the helicopter for maintenance.
3. Make sure the helicopter is grounded.
4. Disconnect the helicopter electrical power.
5. Remove the hat bin panel assembly (DMC-407-A-25-20-00-04A-520A-A or DMC-407-A-25-20-00-10A-520A-A)
6. Remove the screws and the washers from the fuel shutoff valve access panel.
7. Examine for leaks at the junction between the shutoff valve outlet hose assembly 70-030H000Y046 (2, Figure 1) upper B-nut (made of CRES) and the union AS5406J06 (1) (made of CRES) going through the top web.

8. If no signs of leakage are detected, torque check the hose assembly (2) upper B-nut to 200 to 250 in-lbs (23 to 28 Nm) and proceed to step 25.
9. If signs of leakage are detected, loosen hose assembly (2) upper B-nut and examine the flare area for scratches and general condition.

-NOTE-

The outlet hose assembly (2) can be removed to ease the inspection. During hose assembly (2) installation, proper alignment with union (1) must be maintained to prevent leaks.

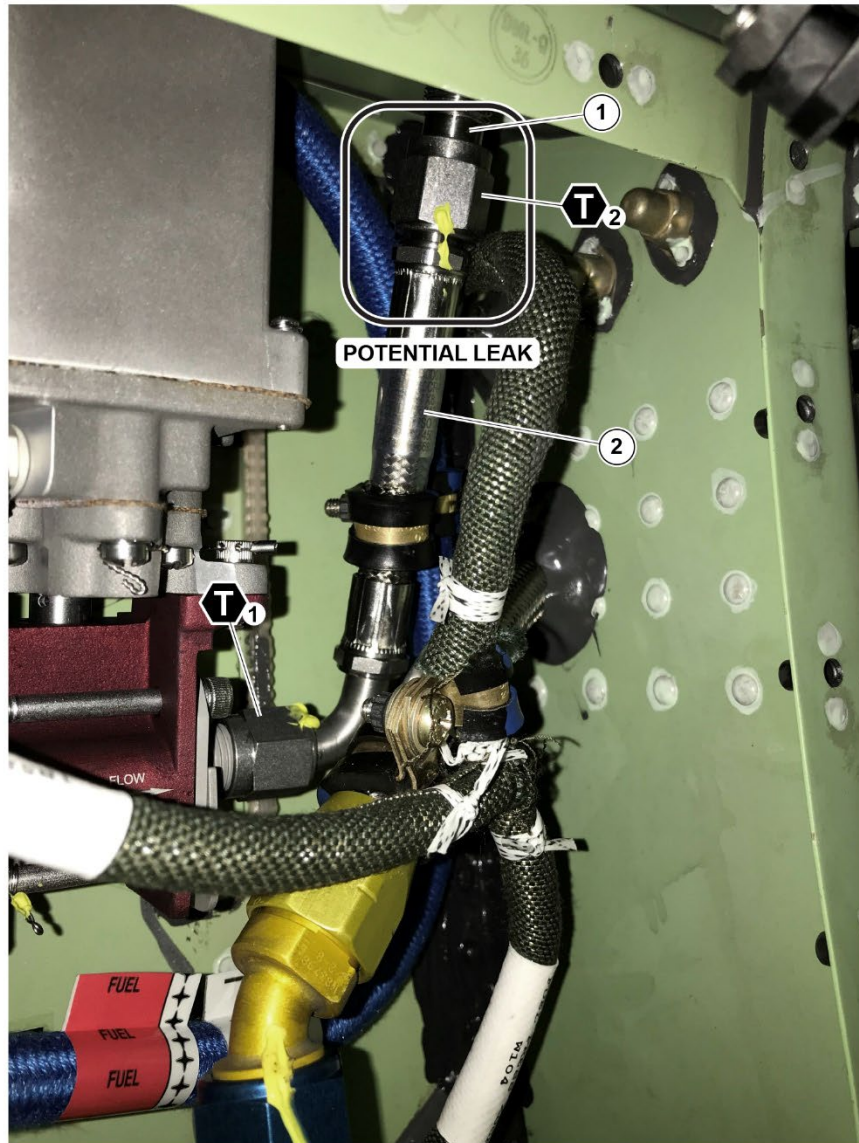
10. Apply turbine engine oil (C-011) to the union (1) threads and engage the B-nut(s) by hand until properly seated.
11. Torque the outlet hose assembly upper B-nut to 200 to 250 in-lbs (23 to 28 Nm). If previously disconnected, torque the outlet hose assembly (2) lower B-nut to 100 to 150 in-lbs (11 to 17 Nm) .
12. Connect the helicopter electrical power.

-NOTE-

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

13. Set the battery switch to the ON position.
14. Set the fuel shut off valve to the ON position (opened).
15. 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.
16. Examine the hose assembly (2) and union (1) for signs of leakage.
  - a. If no signs of leakage are detected, let the BOOST/XFER pumps run for at least 10 minutes and re-inspect.
  - b. If signs of leakage are detected, repeat steps 9 to 16. If leak cannot be rectified, hose assembly (2) and/or union (1) may require replacement.
17. Open the right lower engine cowl (DMC-407-A-53-04-00-03A-520A-A).

18. 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.
19. Examine the hose assembly (2) and union (1) for signs of leakage.
  - a. If no signs of leakage are detected, proceed to step 20.
  - b. If signs of leakage are detected, repeat steps 9 to 19. If leak cannot be rectified, hose assembly (2) and/or union (1) may require replacement.
20. Set the LEFT BOOST/XFER pump and the RIGHT BOOST/XFER pump switch to OFF.
21. Set the fuel shut off valve to the OFF position (closed).
22. Set the battery switch to the OFF position.
23. Disconnect the helicopter electrical power.
24. Close the right lower engine cowl (DMC-407-A-53-04-00-03A-720A-A).
25. Temporarily install the fuel shutoff valve access panel on the structure without sealant and safety the panel with the washers and the screws.
26. Perform an operational check of the fuel system (Step 1.7, DMC-407-A-28-00-00-00A-320A-A).
27. Remove the screws and the washers from the fuel shutoff valve access panel.
28. Examine the hose assembly (2) and union (1) for signs of leakage.
  - a. If no signs of leakage are detected, proceed to step 29.
  - b. If signs of leakage are detected repeat steps 9 to 28. If leak cannot be rectified, hose assembly (2) and/or union (1) may require replacement.
29. Install the fuel shutoff valve access panel on the structure with sealant (C-328) and safety the panel with the washers and the screws.
30. Install the hat bin panel assembly (DMC-407-A-25-20-00-04A-720A-A).
31. Make an entry in the helicopter logbook and historical service records indicating compliance with this Alert Service Bulletin.



1. Union AS5406J06
2. Hose Assembly 70-030H000Y046

**T**<sub>1</sub> 100 TO 150 IN-LBS  
(11 TO 17 Nm)

**T**<sub>2</sub> 200 TO 250 IN-LBS  
(23 TO 28 Nm)

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**Figure 1 – Fuel Shutoff Valve hose and union to inspect**