

ALERT SERVICE BULLETIN
Bell Helicopter **TEXTRON**

A Subsidiary of Textron Inc.

NO. 206-05-103

DATE Feb 11, 2005

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DATE
REV

MODEL AFFECTED: 206 A/B Series

SUBJECT: FUEL DISTRIBUTION SYSTEM, INSPECTION AND REWORK OF.

HELICOPTERS AFFECTED: PART I

206A, S/N 004 through 660, and 672 through 715;
206B, S/N 661 through 671, and 716 through 4586;
206B, S/N 5101 through 5305

[206B helicopters serial number 4587 and subsequent and serial number 5306 and subsequent will have the intent of PART I completed before delivery. 206A/B Helicopters serial number 187, 1852 and 2897 already comply with the intent of Part I]

PART II

NOTE

Model 206A S/N 4 through 253 complying with Service Letter No. 206A-100 is affected by PART II of this bulletin.

NOTE

Model 206A/B S/N 4 through 2123 complying with TB 206-85-113 meet the intent of PART II of this bulletin.

206A, S/N 254 through 660, and 672 through 715;
206B, S/N 661 through 671, and 716 through 2123;

[206B helicopters serial number 2124 and subsequent and TH-67 helicopter serial number 5101 and subsequent are not affected by PART II of this bulletin. 206A/B Helicopters serial number 187, 1852 already comply with the intent of Part II]

COMPLIANCE:

PART I: at the next 100-hour inspection, but not later than May 31, 2005.

PART II: Whenever the aircraft is defueled for any reason but not later than December 1, 2005.

DESCRIPTION:

A field investigation has determined that, as a probable result of improper repair or field installation, an inadequate electrical grounding of the fuel boost pumps and the fuel drain solenoid valve may exist. This inadequate grounding combined with contact between the engine fuel purge hose and the boost pump interconnect hose may cause arcing in the main fuel cell.

During this investigation, it was also determined that an incorrect orientation of the engine fuel purge hose and the boost pump interconnect hose could result in chafing of the hoses wire braiding protection.

Following this investigation, Bell Helicopter has determined that a one time inspection is required on the fuel boost pump and fuel drain solenoid valve electrical wiring installation. In addition, to eliminate chafing, the engine fuel purge hose installed in the main fuel cell is disconnected and stowed at the fuel drain solenoid valve.

PART I provides inspection and instructions to ensure that the fuel boost pumps and fuel drain solenoid valve use a common electrical ground. It has been determined that these electrical ground wires should not be separated for any reason.

PART II provides instructions to disconnect and stow the engine purge hose.

APPROVAL:

The engineering design aspects of this bulletin are Transport Canada approved.

MANPOWER:

PART I: Approximately 3.0 man-hours are required to complete Part I of this bulletin. Man-hours are based on hands-on time, and may vary with personnel and facilities available.

PART II: Approximately 4.0 man-hours are required to complete part II of this bulletin. Man-hours are based on hands-on time, and may vary with personnel and facilities available.

MATERIAL:**Required Material:**

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

PART I

<u>Part Number</u>	<u>Nomenclature</u>	<u>Quantity</u>
31-065-2400GD1	DECAL	1
31-065-2400GD3	DECAL	1

PART II

<u>Part Number</u>	<u>Nomenclature</u>	<u>Quantity</u>
MS21919WCF6	CLAMP	1
MS21919WCF9	CLAMP	1
MS27039C1-08	SCREW	1
NAS1149C0332R	WASHER	1
MS21043-3	NUT	1

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 Helicopter Textron Supply Center.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Quantity</u>	<u>Reference</u>
3950 Scotchcal	EDGE SEALER	A/R	C-349

SPECIAL TOOLS:

None required

WEIGHT AND BALANCE:

Not affected.

ELECTRICAL LOAD DATA:

Not affected

REFERENCES:

BHT-206 A/B-IPB Illustrated Parts Breakdown
Chapter 28 - Fuel

BHT-206A/B-SERIES-MM-4 Maintenance Manual
Chapter 28 – Fuel

BHT-206A/B-SERIES-MM-5 Maintenance Manual
Chapter 32 - Fuel

PUBLICATIONS AFFECTED:

BHT-206 A/B-IPB Illustrated Parts Breakdown
Chapter 28 - Fuel

ACCOMPLISHMENT INSTRUCTIONS:

PART I

-NOTE-

For aircraft S/N 004 through 4204, the electrical grounding point is located at station 130.00, Waterline (W.L.) 27.00, Right Buttock Line (R.B.L.) 15.00. at the aft cross tube tunnel as shown in Figure 1. Some aircraft may have had the grounding point relocated as shown in figure 2.

-NOTE-

For aircraft 4205 and subs, the electrical grounding point is located on the bulkhead at station 142.33 on the right side of the baggage compartment as shown in Figure 2. Removal of the baggage compartment R/H side panel will be required.

1. Locate and get access to the electrical grounding point.

-NOTE-

The wires Q22A22N and Q23A22N may not be installed on:

- Aircraft S/N 4 thru 583 unless there is an electrically operated drain valve installed in accordance with the Service Letter 206-140.
- Aircraft S/N 4 thru 2123 with a Fuel Low Caution Light System installed per TB 206-85-113 and S/N 2124 thru 4053 per TB 206-84-94.

2. Verify that the ground wires Q22A22N, Q23A22N, Q2A18N and Q4A18N are connected to the specific ground stud as shown in Figure 1 or Figure 2.

-NOTE-

If the ground wires are found to be too short in length to reach the electrical ground stud, replace existing ground wires in accordance with BHT-ELEC-SPM.

3. If the ground wires Q22A22N, Q23A22N, Q2A18N and Q4A18N are connected together at the electrical grounding point go to step 6.
4. If any of these ground wires are missing on the ground stud, locate the mislocated ground wire(s) and re-route them to the applicable grounding point.
5. After rerouting the mislocated wire(s), perform the following checks:
 - i. For the fuel boost pumps:
 1. Close FWD and AFT fuel boost pump circuit breakers
 2. If pumps fail to operate, refer to trouble shooting flow chart in BHT-206 A/B-SERIES-MM-10, Chapter 96, Figure 96-16.

- ii. For the fuel drain valve solenoid (if installed):
 1. Close FUEL VALVE circuit breaker.
 2. Put the FUEL VALVE in the OFF position.
 3. Press the FUEL DRAIN SWITCH and make sure that the fuel drain valve solenoid operates.
 4. If the fuel drain valve solenoid doesn't operate, refer to BHT-206 A/B-SERIES-MM-12, Chapter 98, Figure 98-17.

6. Identify the electrical ground stud as follow:

- For helicopter S/N 004 through 4204, install decal P/N 31-065-2400GD1 as shown in Figure 1. Aircraft that use the grounding point as shown in Figure 2, locate decal P/N 31-065-2400GD1 as per Figure 2.
- For helicopter S/N 4205 through 4586, install decal P/N 31-065-2400GD3 as shown in Figure 2.

7. Apply edge sealer (C-349) on decal.

8. Annotate the aircraft records to indicate compliance with PART I of this bulletin.

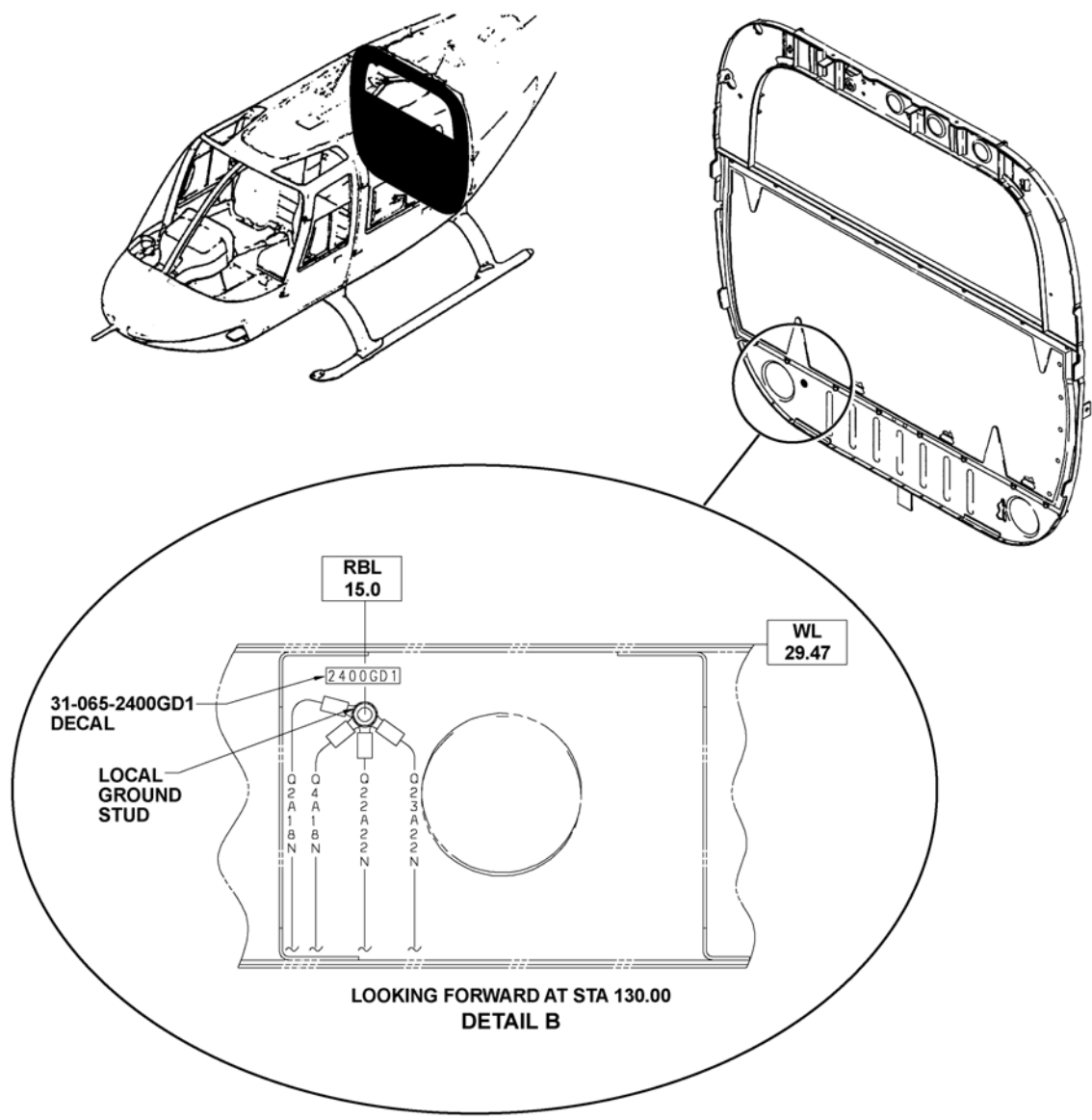
PART II

1. Remove the fuel filler cap and visually confirm that the fuel purge hose is installed. If fuel purge hose is installed proceed to step 2 of this bulletin. If the fuel purge hose is not installed, Part II does not apply, proceed with step 5 of this bulletin.
2. On S/N 004 through 2123, with the engine fuel purge hose installed; remove the forward and aft fuel boost pump assemblies. (Refer to BHT-206 A/B-SERIES-MM-4, Chapter 28)
3. Working through pump openings in fuel cell, do the following:
 - a) Disconnect the engine purge hose P/N 70-010S000D434 from the fuel drain solenoid valve. (Refer to BHT-206 A/B-SERIES-IPB, Chapter 28)

CAUTION

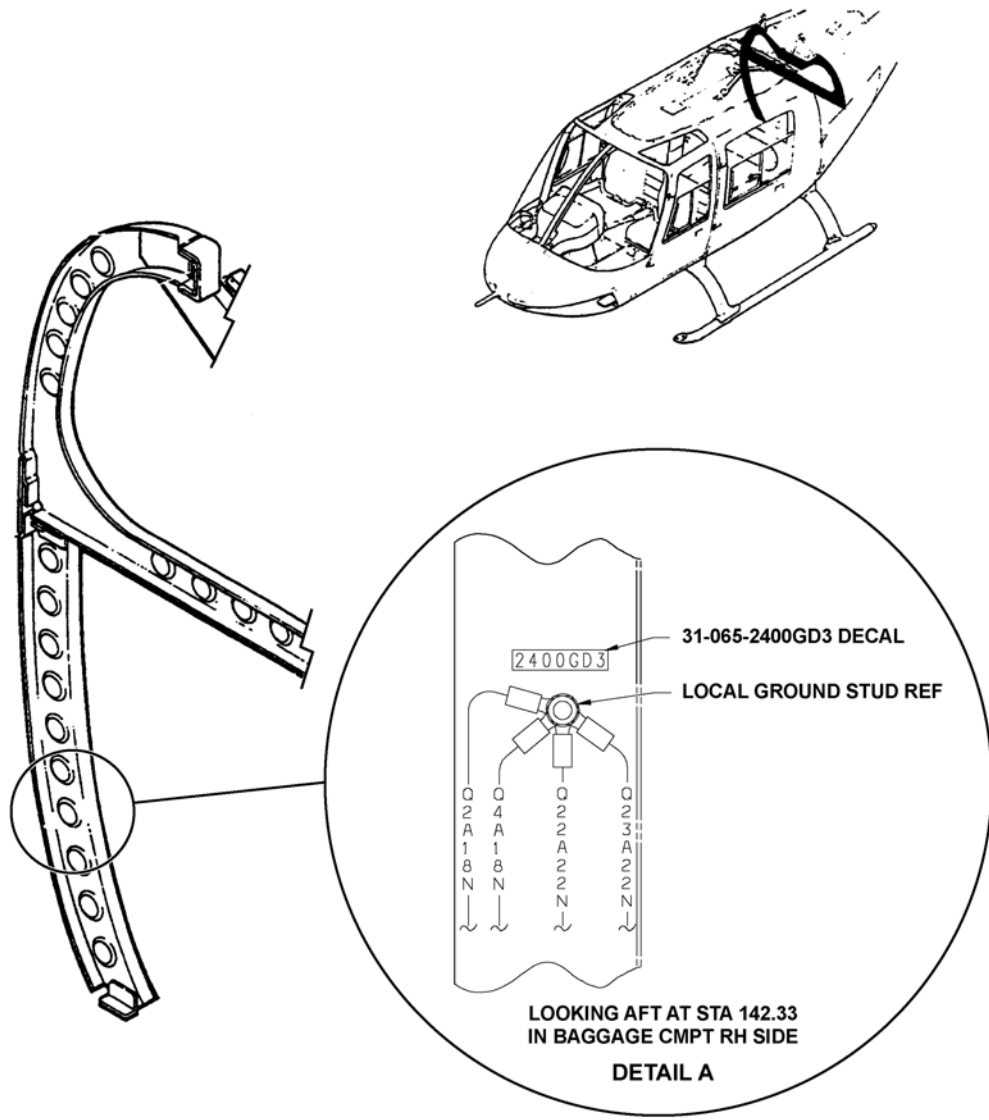
Ensure hoses are not chafing on float arm of lower tank unit.

- b) Clamp end of the engine purge hose on the interconnect hose, using hardware called out in Figure 3.
4. Re-install forward and aft fuel boost pump assemblies. (Refer to BHT-206 A/B-SERIES-MM-4, Chapter 28).
5. Annotate the aircraft records to indicate compliance with PART II of this bulletin.



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FIGURE I



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FIGURE 2

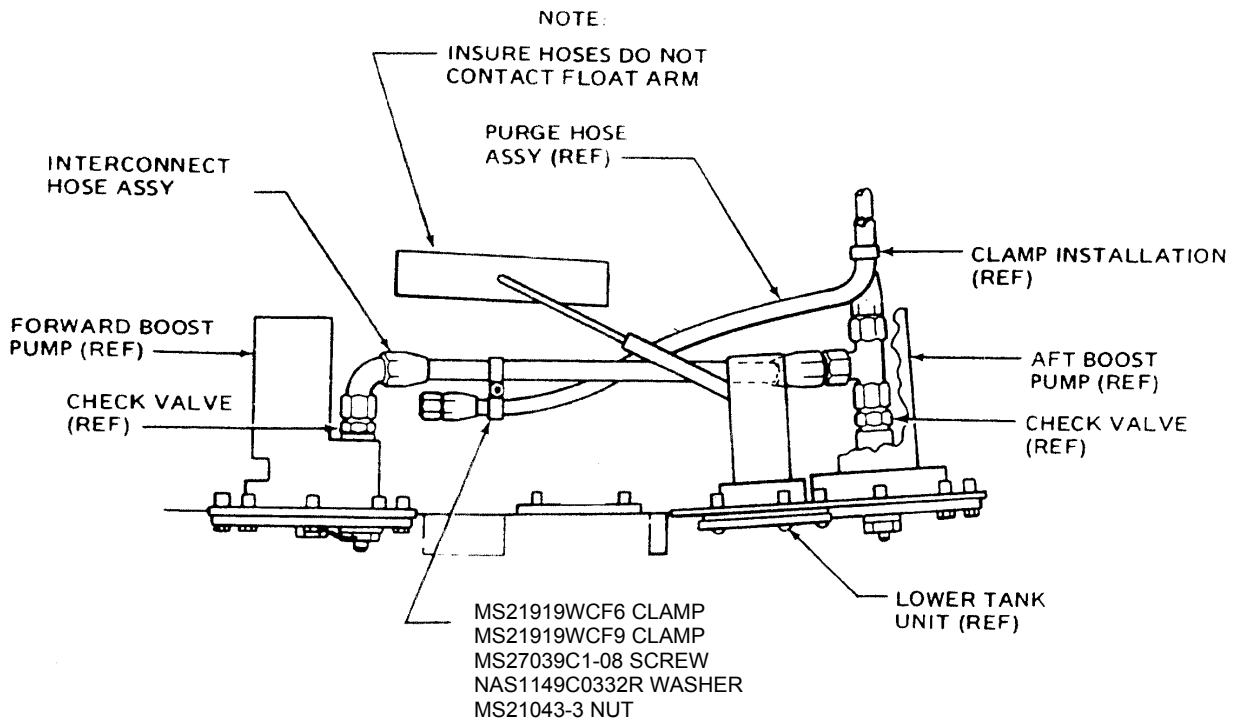


FIGURE 3