



TECHNICAL BULLETIN

206L-16-253
14 December 2016

MODEL AFFECTED: 206L, 206L-1, 206L-3 and 206L-4

SUBJECT: HYDRAULIC FLUID CONVERSION FROM MIL-PRF-5606 TO MIL-PRF-87257

HELICOPTERS AFFECTED: Serial numbers 45001 through 45153, 46601 through 46617, 45154 through 45790, 51001 through 51612, and 52001 and subsequent.

[Serial number 52494 and subsequent will have the intent of **Part I** of this bulletin accomplished prior to delivery]

COMPLIANCE: At customer's option.

DESCRIPTION:

Bell Helicopter has determined that MIL-PRF-87257 (Synthetic base) hydraulic fluid (C-072) is acceptable for use as an alternate for the current MIL-PRF-5606 (Petroleum base) hydraulic fluid (C-002) used in the Model 206L Series helicopters. **Part I** of this bulletin provides a procedure to retrofit the helicopter with the appropriate decals. **Part II, III, and IV** of this bulletin provides recommended procedures for introducing the new hydraulic fluid into the systems.

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 Helicopter Product Support Engineering - Light Helicopters
Tel: 450-437-2862 / 1-800-363-8023 / pselight@bh.com

MANPOWER:

Approximately 1.0 man-hour is required to accomplish **Part I** of this bulletin. Accomplishment of **Part II, III, and IV** of this bulletin during normal maintenance will not require additional man-hours. 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 Helicopter Textron Supply Center. (See **Table 1** for a description of the new decals.)

<u>Part Number</u>	<u>Nomenclature</u>	<u>Qty</u>
206-076-379-105	Decal (206L/L1/L3)	1
206-076-379-103	Decal (206L4)	1
206-076-387-101	Decal	1
MS28778-4	Packing	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>Qty</u>	<u>Reference</u> *
2400-00066-00	Hydraulic Fluid	2	C-072
2010-06640-00	Edge Sealer	A/R	C-349
2110-00010-00	Aliphatic Naphtha	A/R	C-305

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

SPECIAL TOOLS:

None required.

WEIGHT AND BALANCE:

Not affected.

ELECTRICAL LOAD DATA:

Not affected.

REFERENCES:

BHT-206L-IPB, Illustrated Parts Breakdown
BHT-206L-MM, Maintenance Manual
BHT-206L1-MM, Maintenance Manual
BHT-206L3-MM, Maintenance Manual
BHT-206L4-MM, Maintenance Manual

PUBLICATIONS AFFECTED:

BHT-206L-IPB, Illustrated Parts Breakdown
BHT-206L-MM, Maintenance Manual
BHT-206L1-MM, Maintenance Manual
BHT-206L3-MM, Maintenance Manual
BHT-206L4-MM, Maintenance Manual
BHT-206L, Flight Manual
BHT-206L1, Flight Manual
BHT-206L3-FM-1, Flight Manual
BHT-206L4-FM-1, Flight Manual
BHT-206L3-MD-1, Manufacturer's Data
BHT-206L4-MD-1, Manufacturer's Data
BHT-ALL-SPM, Standard Practice Manual

ACCOMPLISHMENT INSTRUCTIONS:

Part I - Decals Replacement

1. Prepare the helicopter for maintenance.
2. To gain access to the hydraulic reservoir and to the filter assemblies, open the forward fairing assembly and remove the transmission fairing.
3. Remove the existing decal P/N 206-076-387-001 (2, Figure1) from the hydraulic reservoir. Thoroughly wipe the surface with a clean cloth dampened with aliphatic naphtha (C-305) prior to receiving the new decal.
4. Install the new decal P/N 206-076-387-101 on the hydraulic reservoir.
5. On Models 206L/L1/L3, remove the existing decal P/N 206-076-379-001 (3) from the roof deck in the hydraulic filters area. Thoroughly wipe the surface with a clean cloth dampened with aliphatic naphtha (C-305) prior to receiving the new decal.
6. Install the new decal P/N 206-076-379-105 at the same location on the roof deck.

7. On Model 206L4, remove the existing decal P/N 206-076-379-101 (3) from the roof deck in the hydraulic filters area. Thoroughly wipe the surfaces with a clean cloth dampened with aliphatic Naphtha (C-305) prior to receiving the new decal.
8. Install the new decal P/N 206-076-379-103 at the same location on the roof deck.
9. Apply clear edge sealer (C-349) and allow a 1/8 inch overlap on all sides of the newly installed decals referred to in step 4 and step 6.
10. Reinstall the transmission fairing and close the forward fairing.
11. Make an entry in the helicopter logbook and historical records indicating compliance with **Part I** of this Technical Bulletin.

Part II - Fluid Conversion

Hydraulic System Servicing (Introduction of fluid by attrition)

NOTE

Hydraulic fluid (C-002) and hydraulic fluid (C-072) are compatible and can be mixed.

1. To gain access to the hydraulic reservoir and the filter assemblies, open the forward fairing assembly and remove the transmission fairing assembly.
2. Open the filler cover (1, Figure 1) on the hydraulic reservoir.

NOTE

Until the next fluid replacement is due, it is acceptable to use hydraulic fluid (C-072), as required, for topping off the hydraulic reservoir during normal servicing.

3. Fill the hydraulic reservoir with hydraulic fluid (C-072) to the correct level on the sight gauge.
4. Close the filler cover on the hydraulic reservoir. Install the safety clip on the filler cover.
5. Reinstall the transmission fairing and close the forward fairing.

Part III - Hydraulic System Complete Fluid Conversion

NOTE

Hydraulic fluid (C-002) and hydraulic fluid (C-072) are compatible and can be mixed.

1. Open the forward fairing assembly and remove the transmission fairing assembly.
2. Position a container under the hydraulic reservoir.
3. Open the filler cover (1) of the hydraulic reservoir.
4. Remove the drain plug (5) with the packing (4) from the bottom of the hydraulic reservoir. Discard the packing (4).
5. Drain the hydraulic fluid from the hydraulic reservoir.
6. Install the new packing (4) on the drain plug (5) and install the drain plug in the drain port on the bottom of the hydraulic reservoir.
7. Service the hydraulic reservoir using approved MIL-PRF-87257 hydraulic fluid (C-072).
8. Install the transmission fairing assembly and close the forward fairing.

NOTE

Hydraulic fluid (C-002) and hydraulic fluid (C-072) are compatible and can be mixed, therefore the residual oil trapped in the system during fluid replacement will be diluted and mixed with the new fluid. This condition is acceptable and can remain until next scheduled servicing is performed, although this will not permit taking full advantage of the improved characteristics of hydraulic fluid (C-072) until full conversion has been accomplished.

9. To complete full conversion to the MIL-PRF-87257 hydraulic fluid (C-072), repeat step 1 through step 8 after the helicopter has run for at least 15 minutes while cycling controls within the allowable limits of the flight manual (ground run or flight). Once this second servicing is performed, the resulting mix ratio will be insignificant and will not affect the characteristics of the new fluid.
10. Make an entry in the helicopter logbook and historical records indicating conversion to the MIL-PRF-87257 hydraulic fluid (C-072) in accordance with **Part III** of this Technical Bulletin.

Part IV - Rotor Brake System - Fluid Conversion

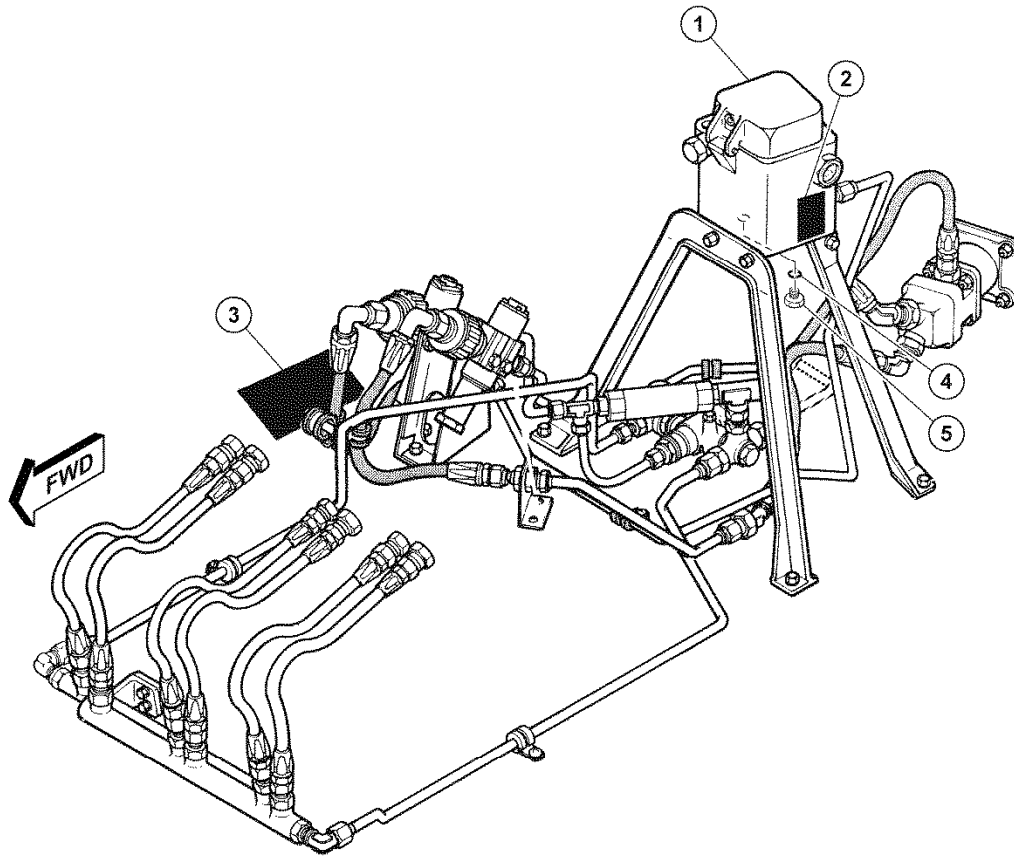
NOTE

Servicing of the optional rotor brake system can be performed using hydraulic fluid MIL-PRF-5606 (C-002) or MIL-PRF-87257 (C-072).

1. Conversion to MIL-PRF-87257 (C-072) is accomplished by bleeding and purging the hydraulic fluid through the top bleeder valves of the calipers using the procedure found in the Chapter 12 of the applicable maintenance manual.
2. Make an entry in the helicopter logbook and historical records indicating rotor brake system conversion of the hydraulic fluid to the MIL-PRF-87257 (C-072) in accordance with **Part IV** of this Technical Bulletin.

TABLE I

<p>206-076-032 RESERVOIR USE MIL-H-5606 OR MIL-PRF-87257 RED HYDRAULIC FLUID RESERVOIR CAP. 1.3 PTS REFILL CAP. 0.8 PT NOTE WHEN FLUID LEVEL IS VISIBLE FILL TO OVERFLOW</p>	<p>INSTRUCTIONS: FOR USE OF HYDRAULIC GROUND TEST STAND FLUID PER: MIL-H-5606 OR MIL-PRF-87257</p> <table border="1" data-bbox="574 1150 984 1276"> <tbody> <tr> <td>TEST STAND SETTINGS</td> </tr> <tr> <td>USE TESTSTAND RESERVOIR</td> </tr> <tr> <td>RELIEF VALVE 1375 PSI</td> </tr> <tr> <td>VOLUME OUTPUT 2.85 US GPM</td> </tr> <tr> <td>PRESSURE COMPENSATOR 1000 PSI</td> </tr> </tbody> </table>	TEST STAND SETTINGS	USE TESTSTAND RESERVOIR	RELIEF VALVE 1375 PSI	VOLUME OUTPUT 2.85 US GPM	PRESSURE COMPENSATOR 1000 PSI	<p>INSTRUCTIONS: FOR USE OF HYDRAULIC GROUND TEST STAND FLUID PER: MIL-H-5606 OR MIL-PRF-87257</p> <table border="1" data-bbox="1026 1150 1435 1276"> <tbody> <tr> <td>TEST STAND SETTINGS</td> </tr> <tr> <td>USE TESTSTAND RESERVOIR</td> </tr> <tr> <td>RELIEF VALVE 770 PSI</td> </tr> <tr> <td>VOLUME OUTPUT 2.0 GPM</td> </tr> <tr> <td>PRESSURE COMPENSATOR 600 PSI</td> </tr> </tbody> </table>	TEST STAND SETTINGS	USE TESTSTAND RESERVOIR	RELIEF VALVE 770 PSI	VOLUME OUTPUT 2.0 GPM	PRESSURE COMPENSATOR 600 PSI
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206-076-387-101	206-076-379-103	206-076-379-105										



- 1. Cover
- 2. Decal (206-076-387)
- 3. Decal (206-076-379)
- 4. Packing (MS28778-4)
- 5. Plug

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Figure 1 – Decal Locations