Bell Helicopter
A Textron Company

ALERT SERVICE BULLETIN 505-17-01

PSL 7000000246
11 September 2017
Revision A, 1 February 2018

MODEL AFFECTED: **505**

SUBJECT: **HYDRAULIC OIL INSPECTION AND PRESSURE FILTER ASSEMBLY, INSTALLATION OF**

HELICOPTERS AFFECTED: **Serial numbers 65011 through 65018, and 65021.**

[Serial number 65019, 65020, 65022 and subsequent are not affected by this ASB.]

COMPLIANCE: **PART I**: Within 25 flight hours or 2 months upon receipt of this bulletin and as required by **PART II** or **PART III**.

PART II: 50 flight hours after **PART I** completion.

PART III: 100 flight hours after **PART I** completion.

PART IV: no later than July 31, 2018.

DESCRIPTION:

Following reported cases of hydraulic oil contamination, Bell Helicopter is introducing this Alert Service Bulletin (ASB) to introduce oil inspection intervals to affected aircraft. Helicopters not affected have been modified incorporating an additional filter assembly to prevent future occurrences. This filter modification will be introduced to the affected helicopters of this ASB as a terminating action, at a later date.

Revision A to this bulletin introduces **PART IV**. The addition of an inline pressure filter housing at the hydraulic pump output reestablishes the oil change intervals to original values per Chapter 5 of the BHT-505-MPI Maintenance Planning Information and is considered as a terminating action to this ASB.

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

MANPOWER:

Approximately 2 man-hours are required to complete **PART I, II, and III** of this bulletin.
Approximately 4 man-hours are required to complete **PART IV** of this bulletin.
This estimate is based on hands-on time and may vary with personnel and facilities available.

WARRANTY:

Owners / Operators of Bell Helicopters who comply with the instructions in this Bulletin will be eligible to receive replacement parts as applicable, listed in the bulletin as Kit P/N CT-505-17-01. Bell Helicopter has recently introduced enhancements to the VISTA Portal which allocates specific warranty entitlement for an aircraft by serial number. The Product Service Letter (PSL) number which will be listed below the bulletin number on the introduction page is going to be a required field when submitting a claim for replacement parts, labor, and/or freight. If you receive an ASB or TB that does not have a PSL number, then there is no warranty entitlement for that bulletin.

Labor entitlement: Yes $510.00 USD

To receive parts, labor, and/or freight under warranty:

- Comply with the instructions contained in this Bulletin no later than the applicable date in the “compliance section”.
- If there is a PSL number identified in the bulletin you will be required to enter this PSL number which will validate warranty entitlement for the selected aircraft. Please ensure that you use the Bulletin tab on the warranty section in VISTA to file your claim.

NOTE: Customers who **fail to comply** with the instructions in this Bulletin before the **31 July 2018** will not be eligible for the special warranty listed above.

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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. Order kit **CA-505-17-01** that consists of the following parts to the exception of the first two items listed.

Part Number	Nomenclature	Qty (Note)
QA07941	Filter Element	AR (1)
Commercially Available	Hand suction pump	1 (2)
206-076-034-103	FILTER ASSEMBLY	1 (3)
70-030U000Y146	HOSE ASSEMBLY	1 (3)
SLS-076-150-105	TUBE ASSEMBLY	1 (3)
NAS9926-3L	NUT	4 (3)
MS21919WCF5	CLAMP	1 (3)
NAS1149E0332P	WASHER	7 (3)
NAS1801-3-8	SCREW	2 (3)
NAS1801-3-32	SCREW	1 (3)
AN970-3	WASHER	2 (3)
NAS43DD3-16N	SPACER	1 (3)
MS9596-024	BRACKET	1 (3)
AS5174W0504	UNION	2 (3)
MS28778-4	PACKING	2 (3)
MS21919WCF16	CLAMP	1 (3)
NAS1801-3-10	SCREW	1 (3)
MS9551-016	BRACKET	1 (3)

NOTES:
1. Acceptable alternate; filter element QA09351
2. Hand suction pump probe end must be compatible with MIL-PRF-87257 hydraulic fluid. As an example, materials such as Aluminum, 304 stainless, nylon, urethane are compatible. If in doubt, contact suction pump supplier.
3. Included in kit CA-505-17-01.

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.

Part Number	Nomenclature	Qty (Note)	Reference *
2400-00066-00	Hydraulic Fluid	AR (1)	C-072

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

Note 1: This part number is a 1 quart quantity, but other sizes may be available.

SPECIAL TOOLS:

None required.

WEIGHT AND BALANCE:

The following information is applicable to **PART IV** only.

	Longitudinal		Lateral*	
Weight	**Arm**	**Moment**	**Arm**	**Moment**
+1.1 pounds	164.2 inch	+181 inch-pounds	-10.2 inch	-11 inch-pounds
+0.5 kgs	4171 mm	+21 kg x mm/100	-259 mm	-1 kg x mm/100

* In lateral calculations, - is left and + is right.

ELECTRICAL LOAD DATA:

Not affected.

REFERENCES:

BHT-505-IPB Illustrated Parts Breakdown
BHT-505-MM Maintenance Manual
BHT-ALL-SPM Standard Practices Manual
BHT-ALL-SRM Structural Repair Manual

PUBLICATIONS AFFECTED:

BHT-505-IPB Illustrated Parts Breakdown
BHT-505-MM Maintenance Manual

ACCOMPLISHMENT INSTRUCTIONS:

PART I: Hydraulic Oil Inspection

1. Prepare the helicopter for maintenance.
2. Gain access to hydraulic oil reservoir (DMC-505-A-12-10-02-00A-369A-A Hydraulic system fluid level check).
3. In a clean container, collect hydraulic oil sample from Hydraulic Reservoir Filter Module (HRFM) with a suction pump.
4. Visually inspect sample (Figure 1).

a. If the oil sample is opaque or darkened as depicted in the image, compliance with **PART II** is required.

b. If the oil sample is clear as depicted in the image, compliance with **PART III** is required.

5. Make an entry in the helicopter logbook and historical service records indicating compliance with **PART I** of this Alert Service Bulletin.

PART II: Hydraulic Oil Drain and Recurring Sampling

1. Fully drain oil per step 3 (DMC-505-A-12-10-02-00A-228A-A).

2. Examine the filter element (DMC-505-A-29-10-01-01A-921A-A Filter element replace procedure).

    a. Visually examine the filter element for metal particles.

    b. If metal particles are found, discard the filter.

    c. Install the replacement filter element per procedural steps.

3. Fill with hydraulic fluid (DMC-505-A-12-10-02-00A-218A-A).

4. Comply with **PART I** of this bulletin after 50 flight hours.

5. Make an entry in the helicopter logbook and historical service records indicating compliance with **PART II** of this Alert Service Bulletin.

PART III: Hydraulic Oil Recurring Sampling

1. Fill with hydraulic fluid (C-072) as required (DMC-505-A-12-10-02-00A-369A-A hydraulic system fluid level check).

2. Comply with **PART I** of this bulletin after 100 flight hours.

3. Make an entry in the helicopter logbook and historical service records indicating compliance with **PART III** of this Alert Service Bulletin.

PART IV: Hydraulic Oil In-Line Pressure Filter, installation of

1. Prepare the helicopter for maintenance.

2. Fully drain oil per step 3 (DMC-505-A-12-10-02-00A-228A-A).

3. Remove pressure line, pump to HRFM pressure tube (DMC-505-A-29-10-04-00A-520A-A).

-NOTE-

For aircraft equipped with air conditioning kit PR-505AC-120M, the hardware stack up will differ from basic ship configuration. Refer to Figure 2 and 3 for visual reference.

4. Install pressure filter assembly (DMC-505-A-29-10-09-00A-720A-A).

5. Install pressure line, pump to filter (DMC-505-A-29-10-10-00A-720A-A).

6. Install pressure line, filter to HRFM pressure tube (DMC-505-A-29-10-11-00A-720A-A).

7. For aircraft equipped with air conditioning kit, clamp bracket (1, Figure 3) to existing P-clamp stack up. Replace existing screw (2) with NAS1801-3-10 screw supplied in materials list.

8. Prior to reinstalling on aircraft, cut out hole (BHT-ALL-SRM section 4-2-3, 4-2-4, 4-2-5) in upper-left mid-fuselage access panel (Figure 4). This hole is required to provide visual access to pressure filter assembly impending clog indicator.

9. Paint touch up upper-left mid-fuselage access panel cut out (BHT-ALL-SPM Standard Practices manual).

10. Fill with hydraulic fluid (C-072) as required (DMC-505-A-12-10-02-00A-218A-A).

11. Do an operation test of the main hydraulic system (DMC-505-A-29-10-00-00A-320A-A).

12. Examine the filter element (DMC-505-A-29-10-01-01A-921A-A Filter element replace procedure).

    a. Visually examine the filter element for metal particles.

    b. If metal particles are found, discard the filter.

    c. Install the replacement filter element per procedural steps.

13. Examine the pressure filter element (DMC-505-A-29-10-09-01A-921A-A Filter element replace procedure).

    a. Visually examine the filter element for metal particles.

    b. If metal particles are found, clean the filter. Filter can be cleaned a maximum of three times before needing to discard the element.

c. Install the replacement filter element per procedural steps.

14. Amend aircraft weight and balance records.

15. Make an entry in the helicopter logbook and historical service records indicating compliance with **PART IV** of this Alert Service Bulletin.

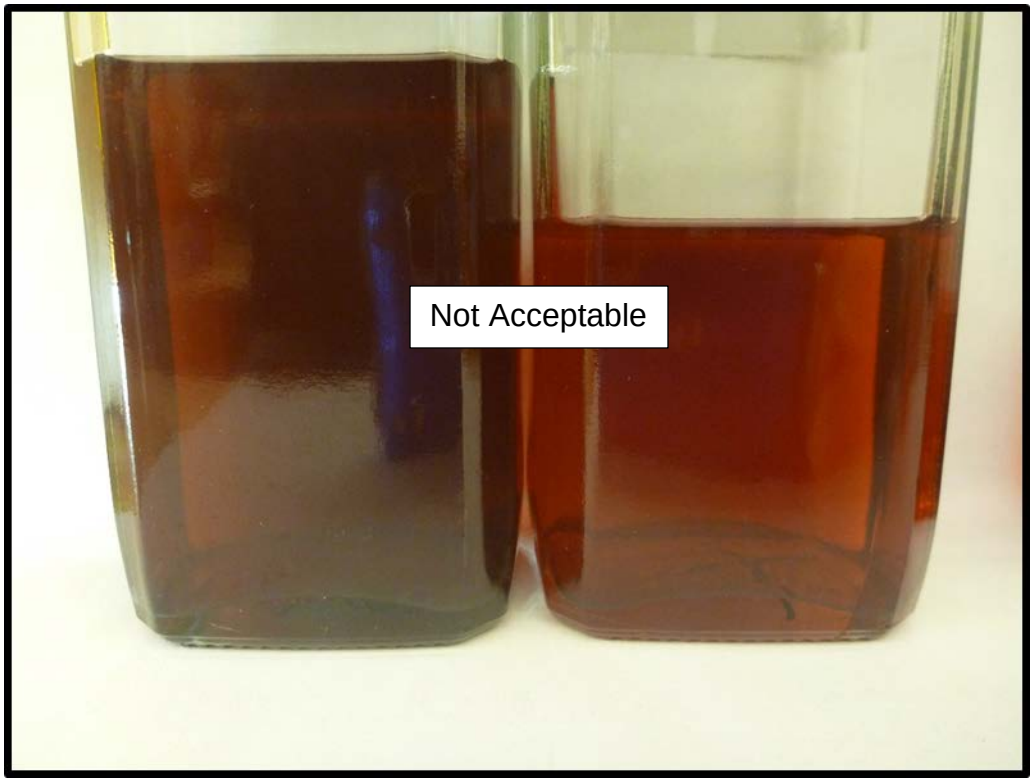

Figure 1 – Typical Oil Sample Visual Determination

Figure 2- Typical Hardware Stack Up, Without Air Conditioning Kit

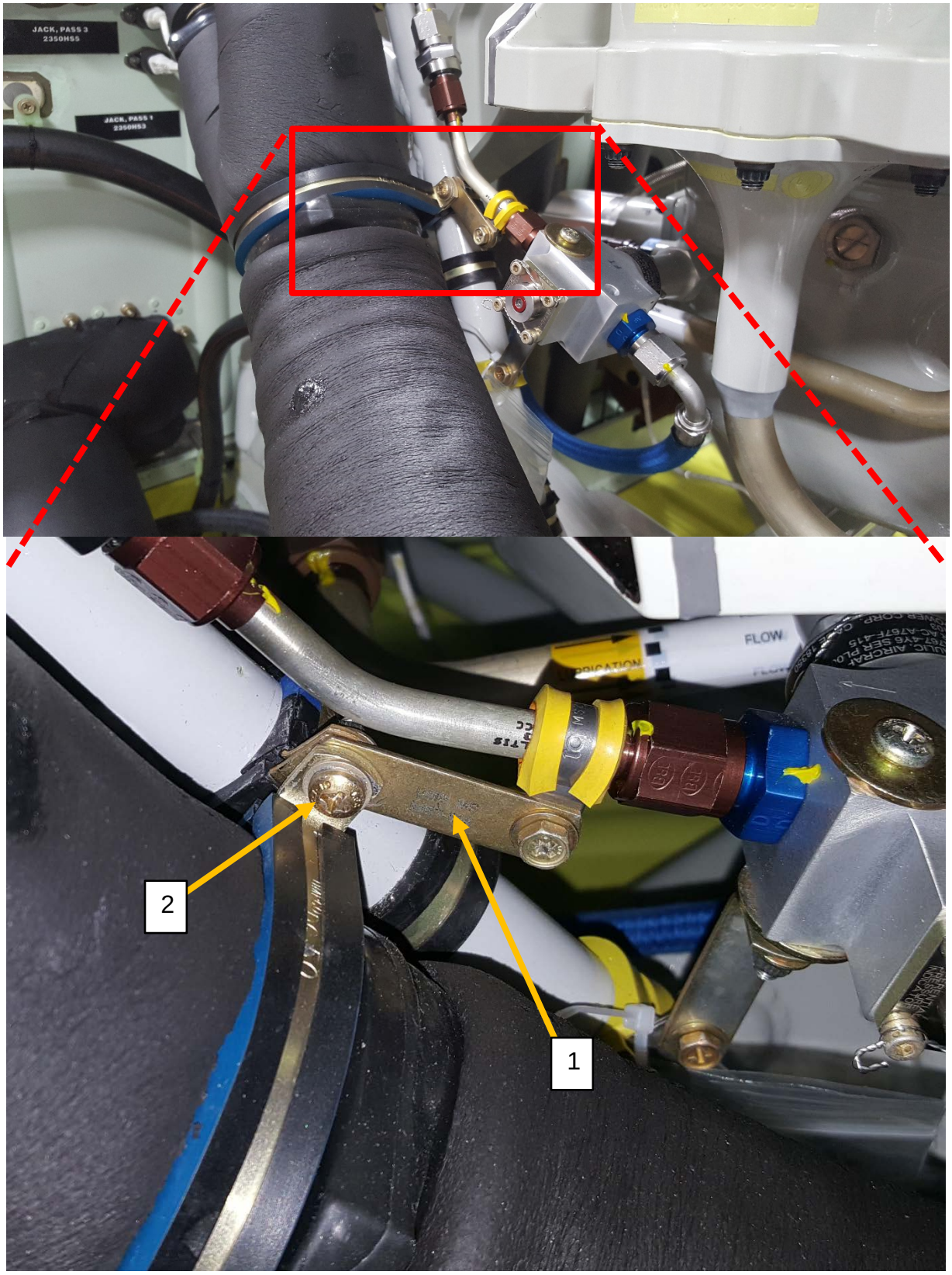

Figure 3 - Typical Hardware Stack Up, With Air Conditioning Kit

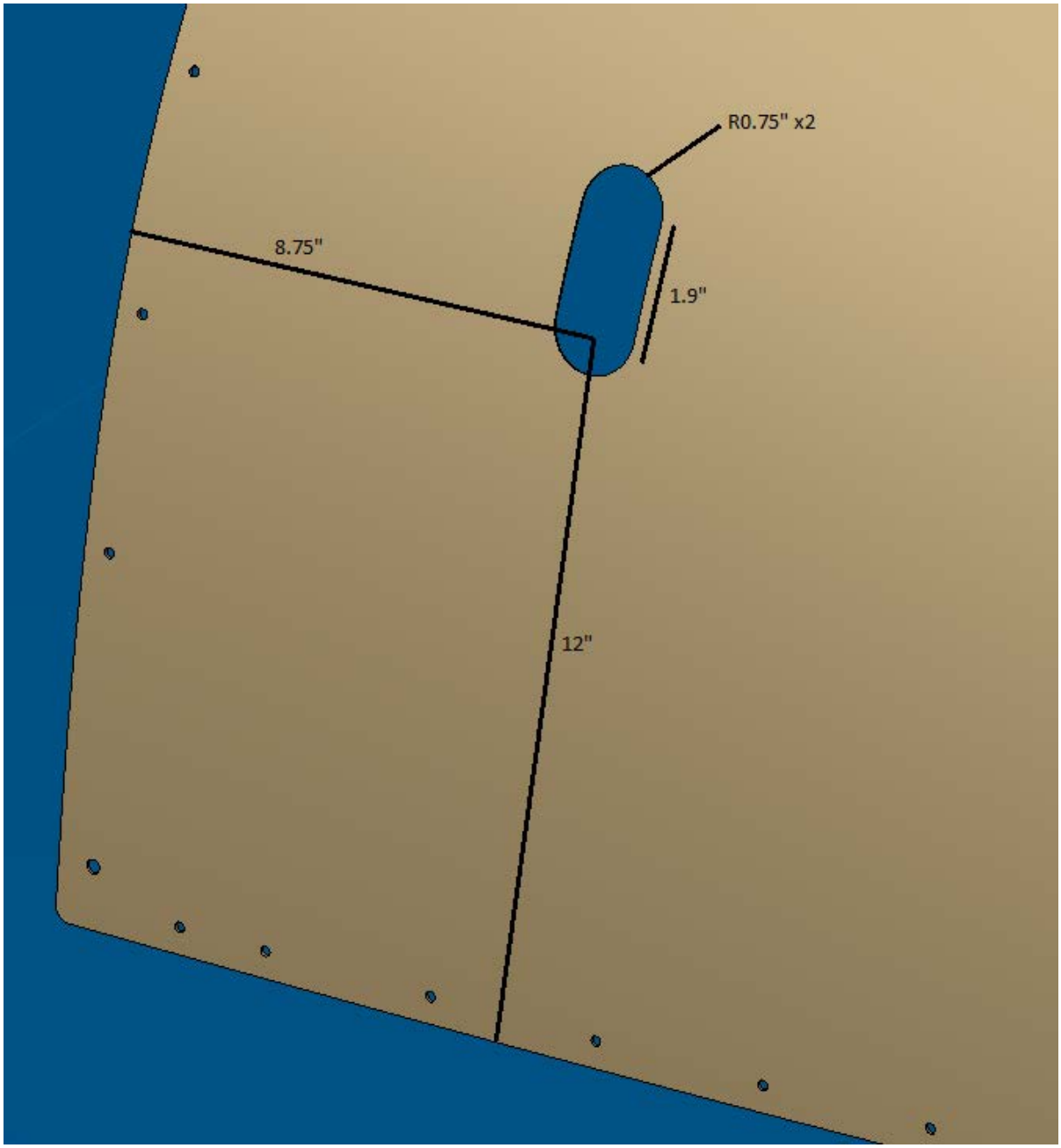

Figure 4 - Upper-Left Mid-Fuselage Access Panel Cut Out