Bell Helicopter
A Textron Company

ALERT SERVICE BULLETIN 206L-17-180
3 March 2017

MODEL AFFECTED: **206L-1 and 206L-3**

SUBJECT: **MAGNETIC BRAKE ASSEMBLY 204-001-376-003, INSPECTION AND REPAIR OF.**

HELICOPTERS AFFECTED: **Serial numbers 45154 through 45790 and 51001 through 51612.**

COMPLIANCE: Within the next 600 flight hours or 12 months, whichever comes first after the release of this bulletin and every 600 flight hours or 12 months thereafter.

DESCRIPTION:

Bell Helicopter has received reports of a magnetic brake P/N 204-001-376-003 (Memcor-Truohm P/N MP498-3) adjustable stop assembly contacting the magnetic brake arm. With time in service, the stop assembly shaft may disbond from the housing, back out and cause interference or limit the magnetic brake arm range of motion. This condition, although not desirable, will not affect the proper function of the cyclic controls.

Part I of this bulletin mandates an inspection of the stop assemblies for condition. Part II provides a repair procedure if the stop assembly shaft is found disbonded. 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:

No additional man-hours are required to accomplish Part I of this bulletin when accomplished during one of the scheduled inspections. Approximately 2.5 man-hours may be required to accomplish Part II of 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:

None required.

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 *
2000-09182-01	Adhesive 299-947-100 Ty II, Cl 2	A/R (1)	C-317
2010-05847-00	Adhesive/Sealant MILS22473 GR AA 50cc	A/R (2)	C-320

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

NOTES:

1. The part number 2000-09182-01 is for 50 grams. Negligible quantity of adhesive will be required to accomplish Part II of this bulletin.

2. Required only if the stop assembly is removed.

SPECIAL TOOLS:

None required.

WEIGHT AND BALANCE:

Not affected.

ELECTRICAL LOAD DATA:

Not affected.

REFERENCES:

206-SI-2030, Single Pilot IFR Kit
BHT-ALL-SPM, Standard Practices Manual

PUBLICATIONS AFFECTED:

BHT-206L1-MM, Maintenance Manual, Chapter 5
BHT-206L3-MM, Maintenance Manual, Chapter 5

ACCOMPLISHMENT INSTRUCTIONS:

Part I. Magnetic brake assembly inspection.

1. Prepare the helicopter for maintenance.

2. Gain access to the fore and aft and lateral magnetic brake assemblies located under the co-pilot seat.

3. Perform a detailed visual inspection of the stop assemblies (Figures 1 and 2). (Figures 3 and 4) show a stop assembly found disbonded.

4. By hand, pull on the stop assembly to verify if the stop shaft is disbonded from the housing assembly.

5. If the shaft shows evidence of disbonding, inspect the lower side of the arm for possible chafing damage and carry out Part II. The maximum allowable mechanical damage is 0.030 inch (0.762 mm).

    a. Using 220-grit or finer aluminum oxide abrasive cloth or paper, polish out mechanical damage found within the allowable 0.030 inch (0.762 mm) limit.

    b. Apply aluminum alloy chemical film treatment to the repaired area (BHT-ALL-SPM).

    c. If the mechanical damage exceeds the limitation, contact Product Support Engineering.

6. If the shaft does not show any evidence of disbonding, make an entry in the helicopter logbook and historical service records indicating findings and compliance with Part I of this Alert Service Bulletin.

Part II. Stop assembly shaft bonding repair

1. Prepare the helicopter for maintenance.

2. Disconnect the helicopter battery.

3. Remove the magnetic brake assembly.

4. Mark the stop assembly and the housing for installation at the same location.

5. Pull out the stop assembly from the housing. (Figure 4)

6. Thoroughly clean adhesive residue from the shaft and the housing bore (BHT-ALL-SPM). If splined stop requires removal from the shaft, index mark the stop, the shaft and the housing to ensure stop installation at the same location. If the screw is removed from the shaft, reinstall with Loctite (C-320) and torque 5 to 10 inch-pounds (0.56 to 1.13 Newton-meters).

7. Apply adhesive (C-317) to the mating surfaces of the housing and the shaft.

8. Install the stop assembly in the housing bore and remove excess adhesive.

9. The shaft should protrude from the housing surface between 0.180 inch (4.57 mm) and 0.200 inch (5.08 mm). (Figure 2).

10. Allow sufficient time for the adhesive to cure (24 hours at 21° to 35°C (70° to 95°F)) and return the magnetic brake assembly to service. Verify/adjust stop limits to achieve the arm assembly shaft travel. (Figures 5 and 6).

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

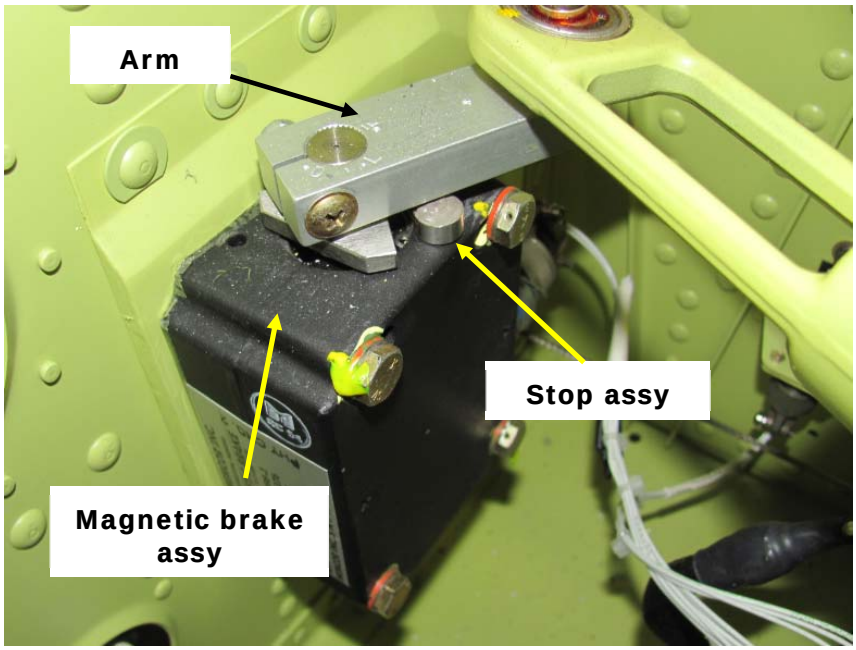


Figure 1. Magnetic brake assembly.
(204-001-376-003 in Bell 412 directional control shown as an example)

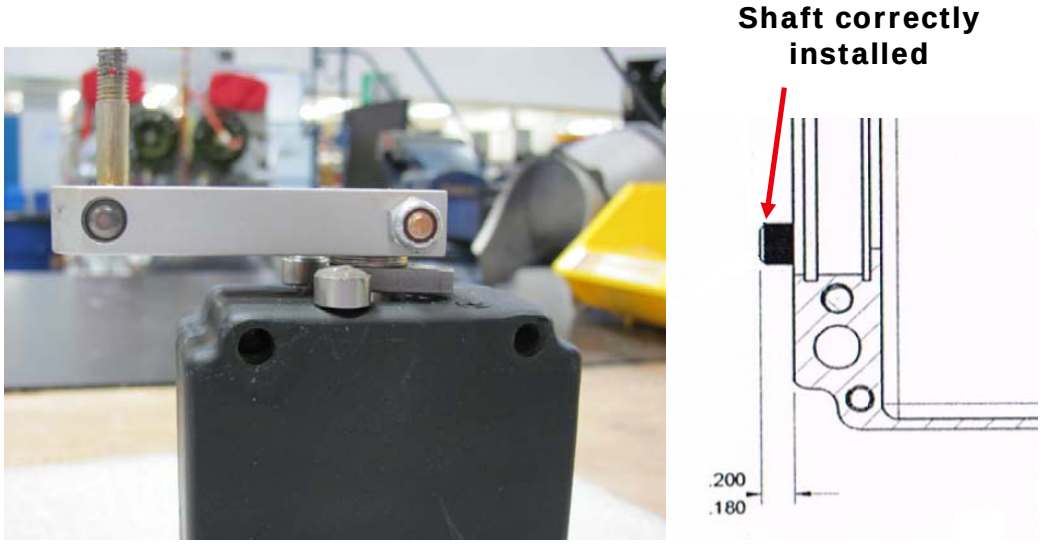


Figure 2. Magnetic brake assembly with stops properly installed.

Figure 3. Stop assembly with disbonded shaft.

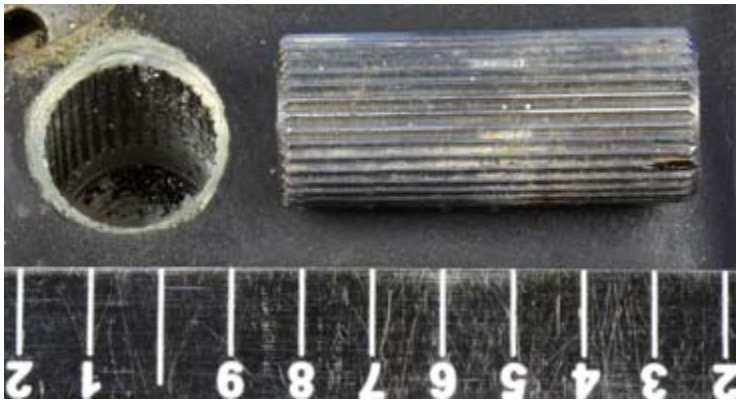
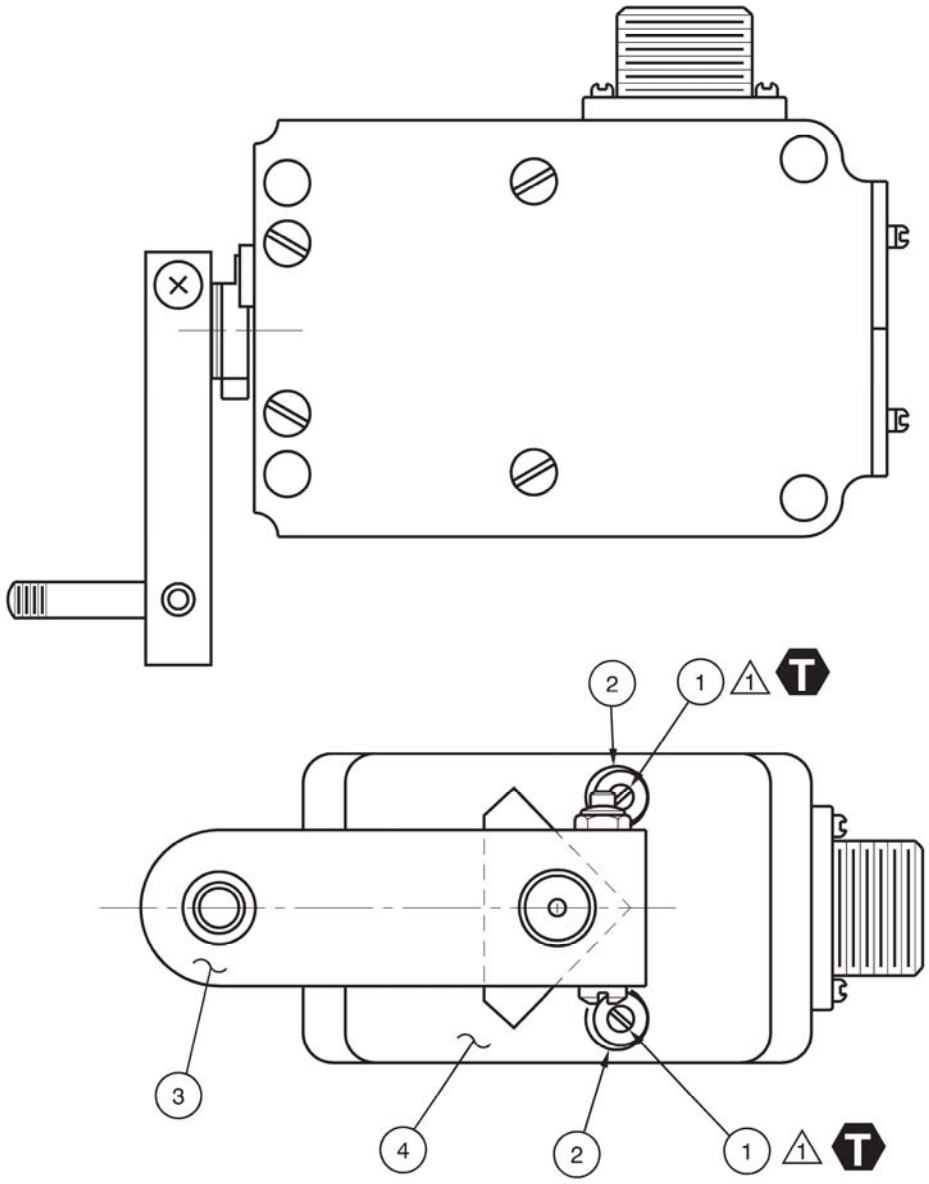


Figure 4. Shaft removed from housing.



MAGNETIC BRAKE ASSEMBLY 204-001-376-003

LEGEND

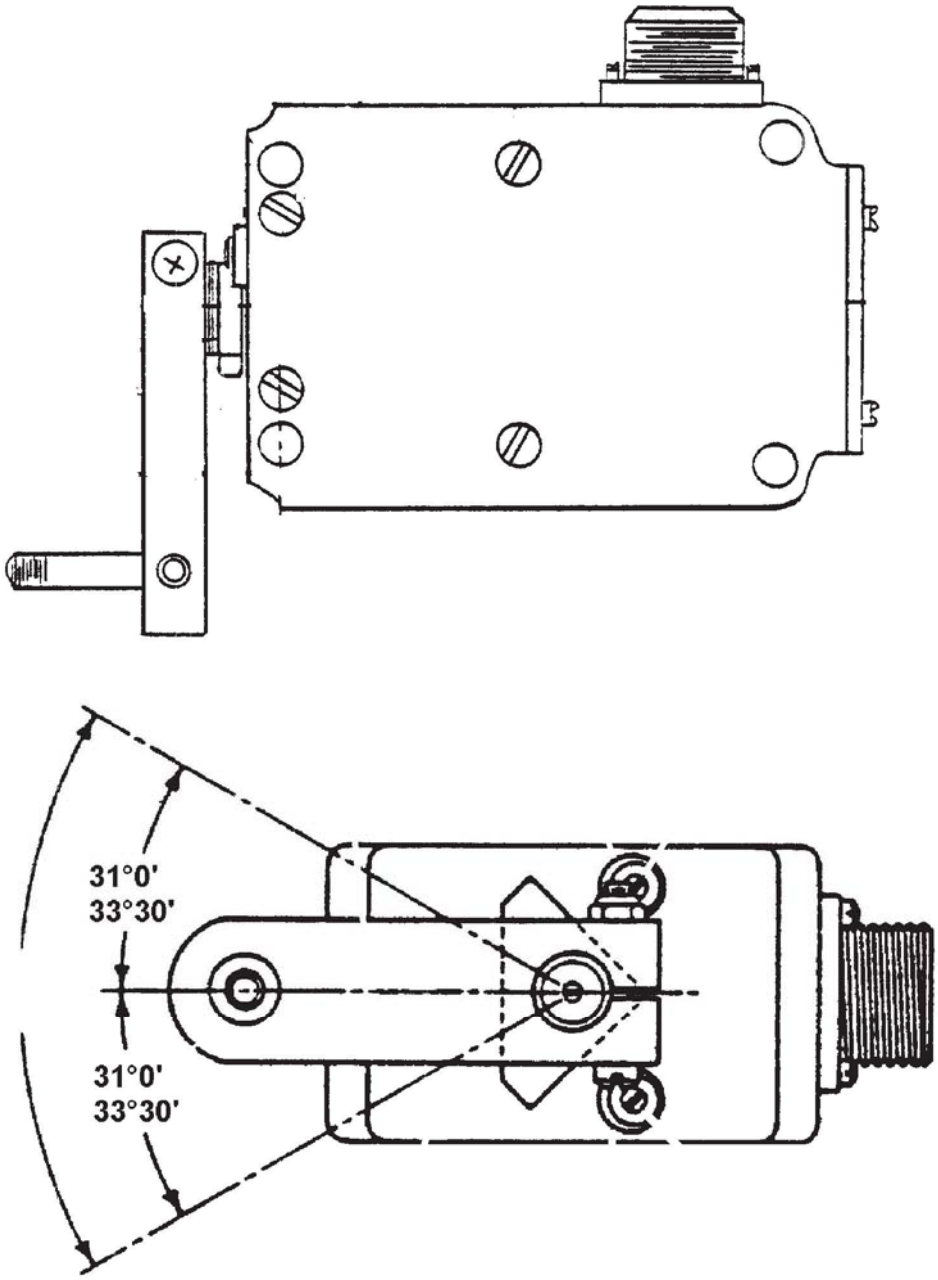
1. Screw MS51959-3
2. Stop Limit
3. Arm Assembly
4. Brake Assembly

T 5 TO 10 IN-LBS (0.56 TO 1.12 Nm)

NOTE

1 Bond screw with adhesive C-320.

Figure 5. Magnetic Brake Assembly Components



-NOTE-

Regardless of arm letter indexing, total travel of the arm in relation to the stops is the same.

Figure 6. Arm total travel.