

ALERT SERVICE BULLETIN

222U-17-84  
3 March 2017

**MODEL AFFECTED:** 222U

**SUBJECT:** **MAGNETIC BRAKE ASSEMBLY 204-001-376-105 AND 204-001-376-107, INSPECTION AND REPAIR OF.**

**HELICOPTERS AFFECTED:** Serial numbers 47501 through 47574.

**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. A similar magnetic brake 204-001-376-105 and 204-001-376-107 may be used on Model 222U that have 222-706-013 kit installed.

**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 - Intermediate Helicopters  
Tel: 450-437-2077 / 1-800-463-3036 / pseinter@bh.com

**MANPOWER:**

No additional man-hours are required to accomplish Part I of this bulletin when accomplished during the scheduled 600 Hour/12 Month inspection. 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.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Qty (Note)</u>	<u>Reference *</u>
2000-09182-01	Adhesive 299-947-100 Ty II, CI 2	A/R (1)	C-317
2010-05847	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 screw is removed.

**SPECIAL TOOLS:**

None required.

**WEIGHT AND BALANCE:**

Not affected.

**ELECTRICAL LOAD DATA:**

Not affected.

**REFERENCES:**

BHT-222U-MM Maintenance Manual

BHT-ALL-SPM Standard Practices Manual

BHT-222-CR&O-V.1 Component Repair and Overhaul Manual Vendor Data

**PUBLICATIONS AFFECTED:**

BHT-222U-MM Maintenance Manual, Chapter 67

**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. (BHT-222U-MM).
3. Perform a detailed visual inspection of the stop assemblies (Figures 1 and 2). (Figures 3 and 4) show 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, Para 3-16).
  - 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 records to indicate findings and compliance with this Alert Service Bulletin.

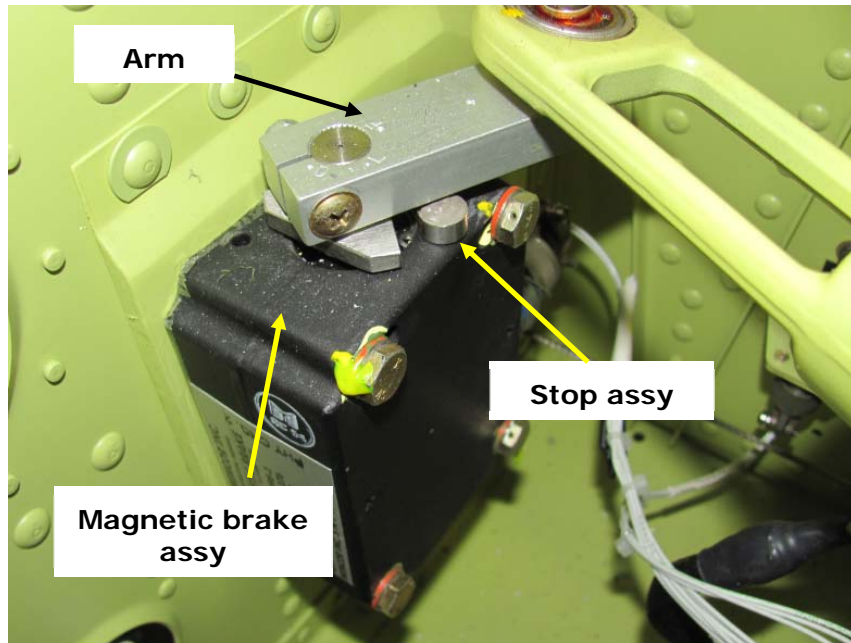
## **Part II. Stop assembly shaft bonding**

1. Disconnect the helicopter battery.
2. Remove the magnetic brake assembly (BHT-222U-MM).
3. Mark the stop assembly and the housing for installation at the same location.
4. Pull out the stop assembly from the housing.

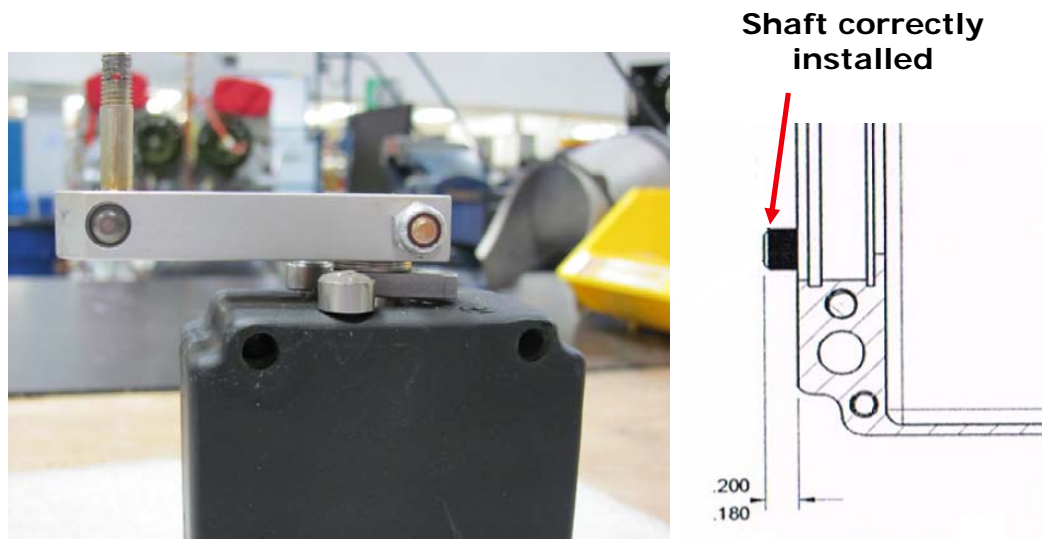
-NOTE-

For detailed magnetic brake assembly maintenance instructions refer to the Memcor-Truohm Technical Manual (Component Repair and Overhaul Manual Vendor Data).

5. Thoroughly clean adhesive residue from the shaft and the housing bore. If the splined stop requires removal from the shaft, index mark the stop, the shaft and the housing to ensure 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).
6. Apply adhesive (C-317) to the mating surfaces of the housing and the shaft.
7. Install the stop assembly in the housing bore and remove excess of adhesive.
8. The shaft should protrude from the housing surface between 0.180 inch (4.57 mm) and 0.200 inch (5.08 mm). Refer to Figure 2.
9. Allow sufficient time for the adhesive to cure 24 hours at 70 to 95°F (21° to 35°C) and return the magnetic brake assembly to service.
10. Allow sufficient time for the adhesive to cure and return the magnetic brake assembly to service. Verify/adjust stop limits to achieve the arm assembly shaft travel. (Figure 5).
11. Make an entry in the helicopter records to indicate compliance with this Alert Service Bulletin.



**Figure 1. Magnetic brake assembly.**  
(magnetic brake 204-001-376-003 shown as an example Figures 1 to 4)  
(Magnetic brake 204-001-376-105/-107 installed in 222U)



**Figure 2. Magnetic brake assembly with stops properly installed.**



Figure 3. Stop assembly with disbonded shaft.

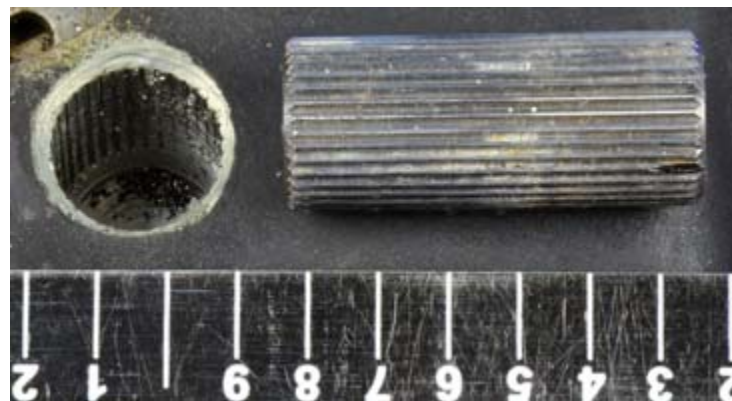


Figure 4. Shaft removed from housing.

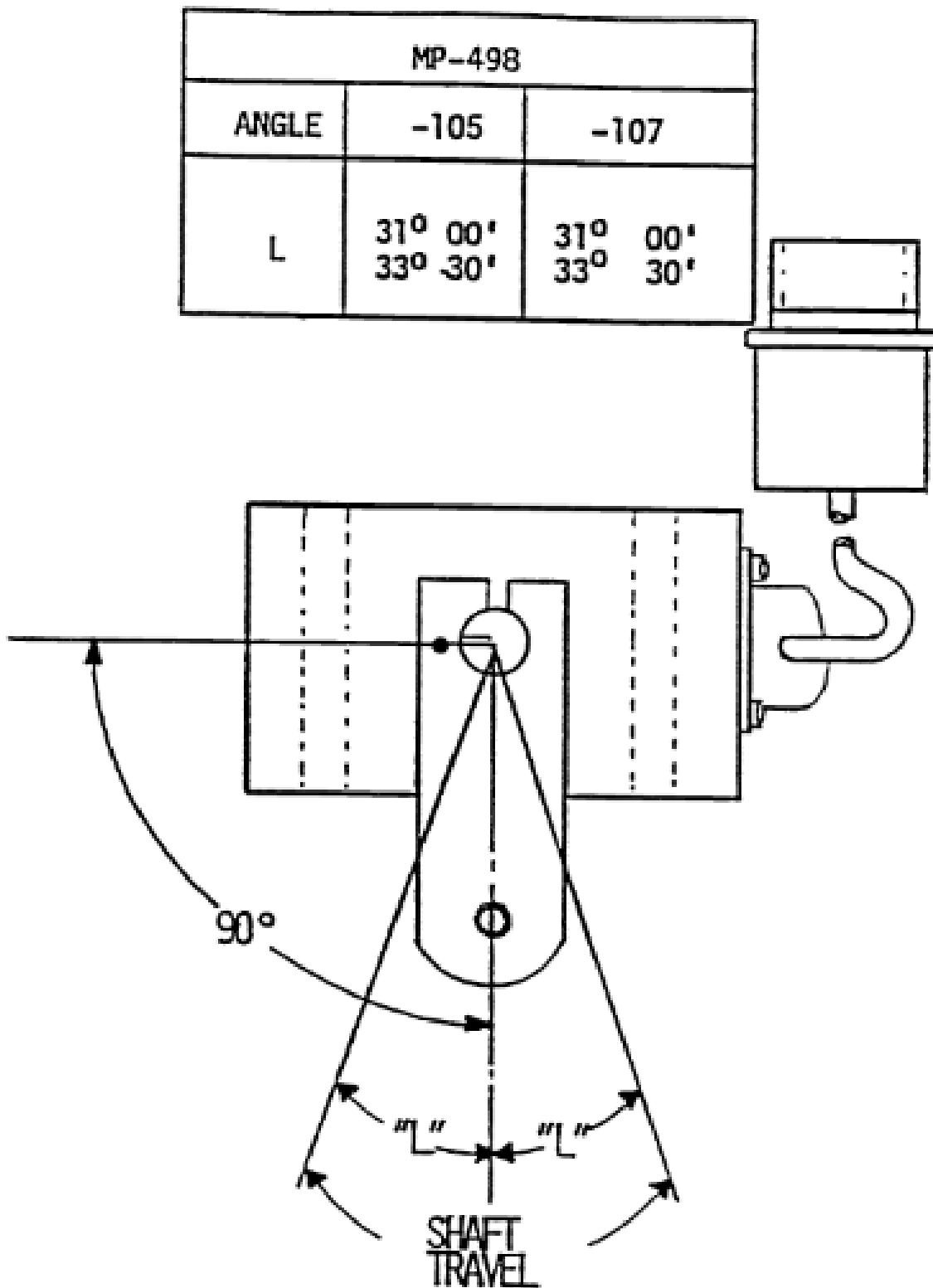


Figure 5. Angle of Arm on magnetic brake 204-001-376-105/ -107