



A Textron Company

TECHNICAL BULLETIN

407-23-140

PSL # 1461

2 March 2023

MODEL AFFECTED: 407

SUBJECT: COLLECTIVE PITCH TRANSDUCER 412-074-101-105, INTRODUCTION OF.

HELICOPTERS AFFECTED: Serial numbers 54304, 54567, 54805 through 54999, and 56300 through 56339.

[Serial number 56340 and subsequent will have the intent of this bulletin accomplished prior to delivery.]

COMPLIANCE: At customer's option.

DESCRIPTION:

Bell has received reports that the Collective Pitch Transducer (CPT) 412-074-101-107 that was introduced by Alert Service Bulletin (ASB) 407-21-125 can cause engine parameter oscillations with uncommanded yaw, and in some cases the declaration of the FADEC CpCCFIt fault. These have been attributed to sporadic CPT output signals caused by vibrations being induced to the transducer during certain flight parameter operations (i.e. high power settings and straight level flight for extended periods of time). This Technical Bulletin (TB) provides installation instructions for a new transducer 412-074-101-105 that has design improvements incorporated to address the conditions experienced (Figure 1). The transducers 412-074-101-103 and the 412-074-101-107 are no longer procurable for the model 407 and are superseded to the 412-074-101-105.

This bulletin also provides a one-time warranty compensation for parts and labor for acquisition and installation of the 412-074-101-105 transducer to affected helicopters. Customers who fail to submit their PSL Bulletin claim within 12 months following the release date of this bulletin will no longer be eligible for the special warranty.

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 Product Support Engineering
Tel: 1-450-437-2862 / 1-800-363-8023 / productsupport@bellflight.com

MANPOWER:

Approximately 2.0 man-hours are required to complete this bulletin. This estimate is based on hands-on time and may vary with personnel, helicopter configurations, and facilities available.

WARRANTY:

Owners / Operators of Bell Helicopters who comply with the instructions in this bulletin will be eligible to receive non prorated replacement part as applicable, listed in the bulletin. The www.mybell.com portal 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. This is going to be a required field when submitting a claim on the Bulletins Tab 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, \$210.00 USD

To receive parts, labor, under warranty:

- Customers who fail to submit their PSL Bulletin claim before **2 March 2024** will no longer be eligible for the special warranty listed above.
- 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 on www.mybell.com portal to file your claim.

NOTE:

- A user guide on how to submit a claim can be found here: [How to Submit PSL Bulletin Claims](#).

MATERIAL:

Required Material:

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

<u>Part Number</u>	<u>Nomenclature</u>	<u>Qty</u>
412-074-101-105	TRANSDUCER	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 Supply Center.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Qty (Note)</u>	<u>Reference *</u>
2100-10442-00	Corrosion Preventive Compound	2 OZ (1,2)	C-101
2100-00350-00	Corrosion Preventive Compound	2.5 OZ (1)	C-104

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

NOTES:

1. Quantity indicated is the format that the product is delivered in. Actual quantity required to accomplish the instructions in this bulletin may be less than what has been delivered.
2. 2100-10442-00 is no longer procurable and superseded to 2100-00349-00 which is also no longer procurable and superseded to 2100-00322-00. Any of those products are acceptable alternates.

SPECIAL TOOLS:

None required.

WEIGHT AND BALANCE:

Not affected.

ELECTRICAL LOAD DATA:

Not affected.

REFERENCES:

407-MM, Maintenance Manual, Chapters 25 and 76.
Alert Service Bulletin (ASB) 407-21-125.

PUBLICATIONS AFFECTED:

407-IPB, Illustrated Parts Breakdown, Chapter 76.

ACCOMPLISHMENT INSTRUCTIONS:

1. Prepare the helicopter for maintenance.

-NOTE-

Although the DMC referenced in step 2 below is the removal procedure of the Collective Pitch Transducer (CPT) with Bell Automatic Flight Control System (AFCS) installed, the same procedures are to be used for helicopters that do not have the Bell AFCS kit installed.

2. Remove 412-074-101-103 or 412-074-101-107 transducer ([DMC-407-A-76-05-06-00A-520A-A](#)).

-NOTE-

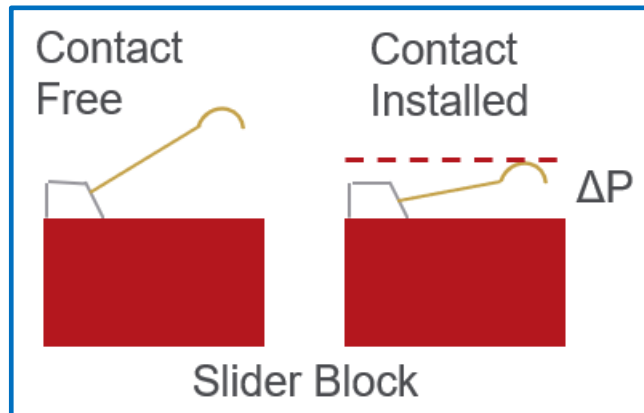
Although the DMC referenced in step 5 below is the installation procedure of the Collective Pitch Transducer (CPT) with Bell Automatic Flight Control System (AFCS) installed, the same procedures are to be used for helicopters that do not have the Bell AFCS kit installed.

3. Install 412-074-101-105 transducer ([DMC-407-A-76-05-06-00A-720A-A](#)).
4. Make an entry in the helicopter logbook and historical service records indicating compliance with this Technical Bulletin.

Contact staking process: Contacts installed into preset angled piece for more repeatable/consistent installation.



Installed vs. Uninstalled Requirements: After contacts are installed, pressure on housing is measured and must respect specific tolerance to insure consistency.



Brush Design: Brush lengths are different to help deal with different resonant frequencies. Material of brush changed and is less brittle when subjected to cold temperatures.

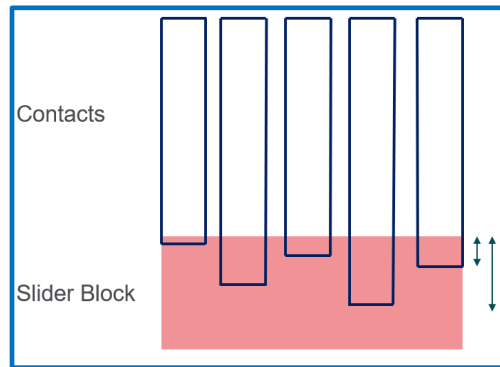


Figure 1 – Design Improvements to 412-074-101-105 Transducer