A Textron Company

ALERT SERVICE BULLETIN **407-21-126**

6 October 2021

MODEL AFFECTED: **407**

SUBJECT: **PILOT CYCLIC CONTROL STICK BALANCE, ONE-TIME VERIFICATION OF.**

HELICOPTERS AFFECTED: **Serial numbers 54300 through 54752, and 54805 through 54951.**

[Serial number 54952 and subsequent will have the intent of this bulletin accomplished prior to delivery.]

COMPLIANCE: Within 300 flight hours or 6 months, whichever occurs first, following the release date of this bulletin.

DESCRIPTION:

Bell has been made aware of a condition where the pilot cyclic control stick balance cannot be obtained with the current rigging procedures published in the 407 Maintenance Manual for helicopters equipped with the Automatic Flight Control System (AFCS) kits (407-706-061 or 407-706-067).
The BHT-407-MM Maintenance Manual (MM) will be revised to include improved rigging instructions and clarify the criteria that defines a properly balanced pilot cyclic control stick. The MM revision will also include a requirement to accomplish a balance verification at each removal/installation of the dual control copilot cyclic control. If the pilot cyclic control stick is not balanced, adjustments to the pilot cyclic control stick balance springs and/or cyclic minimum friction need to be accomplished.

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 0.25 man-hours to 1.5 man-hours are required to complete this bulletin, depending on the ACCOMPLISHMENT INSTRUCTION findings, and may be accomplished at the same time as the scheduled inspection program of the 407-MPI Maintenance Planning Information (Chapter 5).
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:
None required.

SPECIAL TOOLS:

Hydraulic Test Stand (commercial)
1500 PSI (10,342 kPa) pressure maximum, 3.0 GPM (11.4 liters per minute), 10 micron (394 microinch) filter.

WEIGHT AND BALANCE:

Not affected.

ELECTRICAL LOAD DATA:

Not affected.

REFERENCES:

BHT-407-MM, Maintenance Manual, Chapter 67.
OSN 407-21-24, Operation Safety Notice.

PUBLICATIONS AFFECTED:

BHT-407-MM, Maintenance Manual, Chapter 67.

ACCOMPLISHMENT INSTRUCTIONS:

1. Prepare the helicopter for maintenance.

2. Verify affected helicopter serial numbers 54300 through 54752 to determine if the AFCS kit (407-706-061 or 407-706-067) is installed. For helicopter serial numbers 54304, 54567, and 54805 through 54951, go to step 3.

   a. If the AFCS kit is installed go to step 3.

   b. If the AFCS kit is not installed, refer to information contained in the Operation Safety Notice (OSN) 407-21-24, and go to step 6.

3. Install the hydraulic test stand (DMC-407-A-29-00-00-00A-340A-A).

-NOTE-

Balance of the pilot cyclic control stick is achieved when the pilot cyclic control stick is moved from the central position (cyclic centering caution warning light, or Crew Alerting System (CAS) message, OFF) in any direction and will remain stationary, when released at any position.
Adjustment of the cyclic longitudinal or lateral spring length, minimum cyclic friction, or replacement of the longitudinal or lateral springs may be required to ensure the pilot cyclic control stick remains stationary when released at any position.

CAUTION

A pilot cyclic control stick balance verification shall be performed each time the copilot cyclic control stick is installed or removed, and adjustments made as required to achieve balance as detailed in the BHT-407-MM Maintenance Manual procedures.

4. Perform a verification of the pilot cyclic control stick balance.

   a. If the pilot cyclic control stick is balanced, go to step 5.

   b. If the pilot cyclic control stick is not balanced, perform necessary adjustments to the lateral or longitudinal balance springs and/or adjust the pilot cyclic stick minimum friction (DMC-407-A-67-14-00-00A-271B-A, DMC-407-A-67-14-00-

00A-271A-A, and DMC-407-A-67-12-02-00A-280A-A). Once balance is achieved, go to step 5.

5. Remove the hydraulic test stand (DMC-407-A-29-00-00-00A-340A-A).

6. Make an entry in the helicopter logbook and historical service records indicating compliance with this Alert Service Bulletin.