



A Textron Company

ALERT SERVICE BULLETIN

412-20-181

14 May 2020

Revision A, 27 January 2021

MODEL AFFECTED: 412/412EP

SUBJECT: MAIN ROTOR EXPANDABLE BLADE BOLT 412-010-137-103, ONE-TIME INSPECTION OF.

HELICOPTERS AFFECTED: Serial numbers 33001 through 33213, 34001 through 34036, 36001 through 36687, 36689 through 36999, 37002 through 37018, 37021 through 37043 and 37045 through 37049 having expandable blade bolts installed.

[Serial number 36688, 37019, 37020, 37044, 37050 through 37999, 38001 through 38999 and 39101 through 39999 will have the intent of this bulletin accomplished prior to delivery if expandable blade bolts are installed.]

COMPLIANCE: Within the next 50 flight hours or 30 days whichever comes first after the release date of revision A of this bulletin. Revision A of this bulletin applies only to the P/N 412-010-137-103 expandable blade bolts with the earlier design pivot pin shown on Figure 6. If the original release of this bulletin has been accomplished, then revision A of this bulletin does not require accomplishment.

DESCRIPTION:

Bell received a report of a main rotor expandable blade bolt P/N 429-310-004-101 used on the Model 429 that had a handle pivot pin coming out of position due to improper swaging. Since the expandable blade bolt used on the M429 and the M412 are from the

ASB 412-20-181RA

Page 1 of 9

Approved for public release.

same supplier, this bulletin mandates a one-time inspection of the P/N 412-010-137-103 expandable blade bolt handle pin for proper swaging. Expandable blade bolts ordered from a Bell Supply Center after the release date of this bulletin are not affected.

After the original release of this bulletin Bell was made aware that the expandable blade bolt pivot pin for bolts manufactured in 1991 and prior was a different design. This earlier design pivot pin was press-fitted with countersunk blind holes at each end for staking. Revision A of this bulletin mandates a visual inspection and a push test of the earlier style pivot pin.

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 FAA approved for FAA certified helicopters as listed in the applicable Type Certificate Data Sheet. For non FAA certified helicopters, the engineering design aspects of this bulletin are Bell Engineering 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 0.1 man-hour is required to complete the visual inspection portion of this bulletin. Approximately 1.0 man-hour is required to complete the proof load part 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:

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 (Note)</u>
412-010-137-103	Bolt Expandable	A/R (1)

NOTE 1: Quantities required will be determined by the requirements of the ACCOMPLISHMENT INSTRUCTIONS.

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>
2400-00259-00	AERIOL THIXO NO 2 AVIATION GREASE	14.4 oz	C-561

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

SPECIAL TOOLS:

None required.

WEIGHT AND BALANCE:

Not affected.

ELECTRICAL LOAD DATA:

Not affected.

REFERENCES:

BHT-412-MM Maintenance Manual, Chapter 62.

PUBLICATIONS AFFECTED:

None affected.

ACCOMPLISHMENT INSTRUCTIONS:

1. Prepare the helicopter for maintenance.
2. Determine if 412-010-137-103 main rotor expandable blade bolt assemblies are installed on the helicopter.
3. If no expandable blade bolt is installed, go to step 8.
4. If the pivot pin on the installed expandable blade bolts is the same design as shown in Figure 6, go to step 9. If the pivot pin on the installed expandable blade bolts is the same design as shown on Figures 1 through 5, proceed as follows;

NOTE-

Some pivot pins may have one or more hardness check dots on the head (Figure 1). These should not be confused with the swaging dimple that should be in the center of the head of the pivot pin. The presence of a dimple indicates that the pin has been swaged properly. In some cases, there may be no dimple, or the dimple may be difficult to see. The absence of a dimple is not necessarily an indication that the pin was not swaged properly. In doubt, do the proof load check in accordance with step 7 of this ASB.

5. Perform a visual inspection of the pivot pin to verify if it has a swaging dimple in the center of the head of the pivot pin (Figure 1 and 3).
6. If the head of the pivot pin has the swaging dimple, go to step 8.
7. If the pivot pin does not have the swaging dimple, proceed as follows.
 - a. Remove the safety pin and un-latch the bolt handle (Figure 2). Ensure the handle is in a relax position and the bolt can turn freely indicating that the tension has been removed from the collars and the handle.
 - b. Using a rounded rigid object that can fit in the in the concave shank end of the pivot pin (Figure 4), apply hand pressure to attempt pushing out the pivot pin.

- c. If the pivot pin remains in position, re-install and secure the expandable blade bolt (BHT-412-MM). Go to step 8.
 - d. If the pivot pin moves out of position (Figure 5), remove and replace the main rotor expandable blade bolt assembly with a serviceable part that meets the intent of this ASB before next flight.
8. Make an entry in the helicopter logbook and historical service records indicating findings and compliance with this Alert Service Bulletin.
 9. Remove the safety pin and un-latch the bolt handle (Figure 2). Ensure the handle is in a relaxed position and the bolt can turn freely indicating that the tension has been removed from the collars and the handle.
 10. Visually inspect the pivot pin for any sign of movement. Using a rounded rigid object that can fit in the countersunk blind holes of the pivot pin (Figure 6), apply hand pressure in both directions to attempt pushing out the pivot pin.
 11. If the pivot pin remains in position, re-install and secure the expandable blade bolt (BHT-412-MM). Go to step 13.
 12. If the pivot pin moves out of position, remove and replace the main rotor expandable blade bolt assembly with a serviceable part that meets the intent of this ASB before next flight.
 13. Make an entry in the helicopter logbook and historical service records indicating findings and compliance with the revision A of this Alert Service Bulletin.

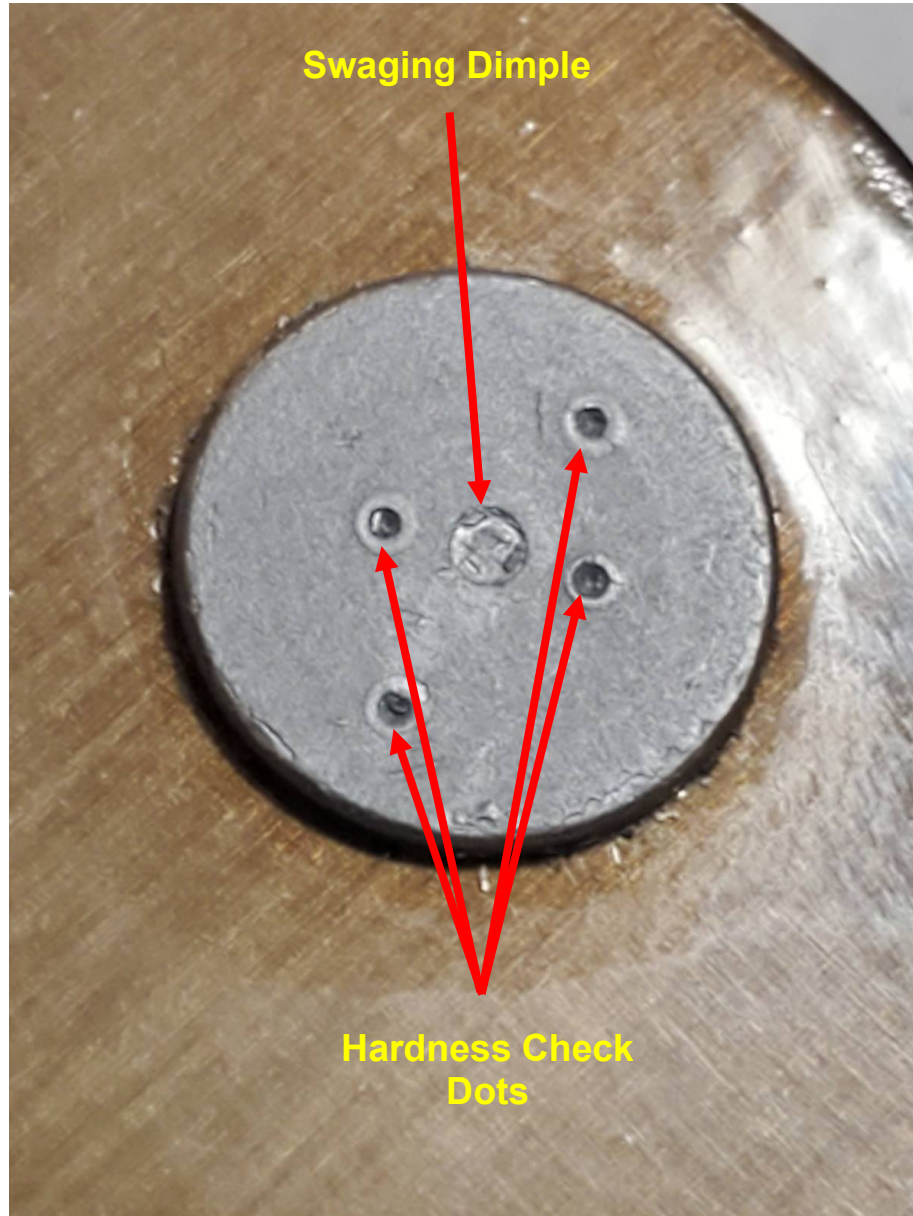


Figure 1 – Hardness check dots and swaging dimple

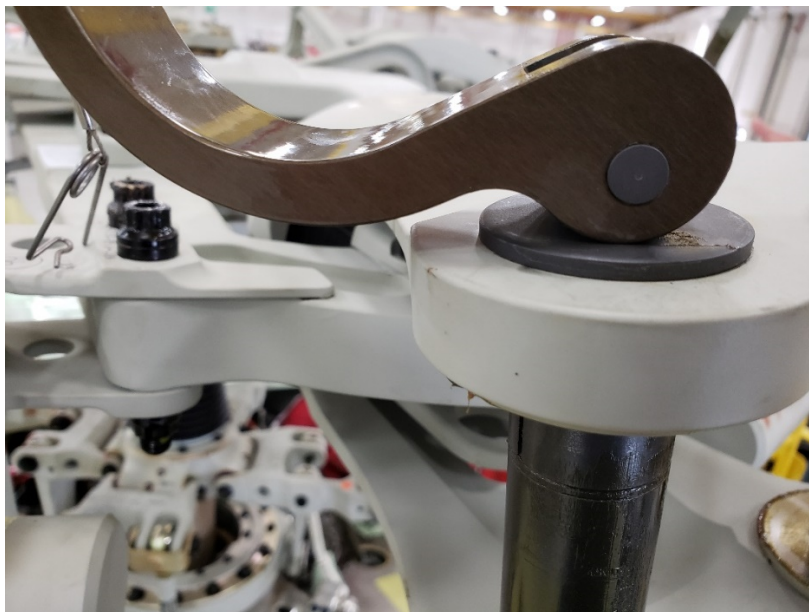


Figure 2 - Blade bolt handle in a relaxed position

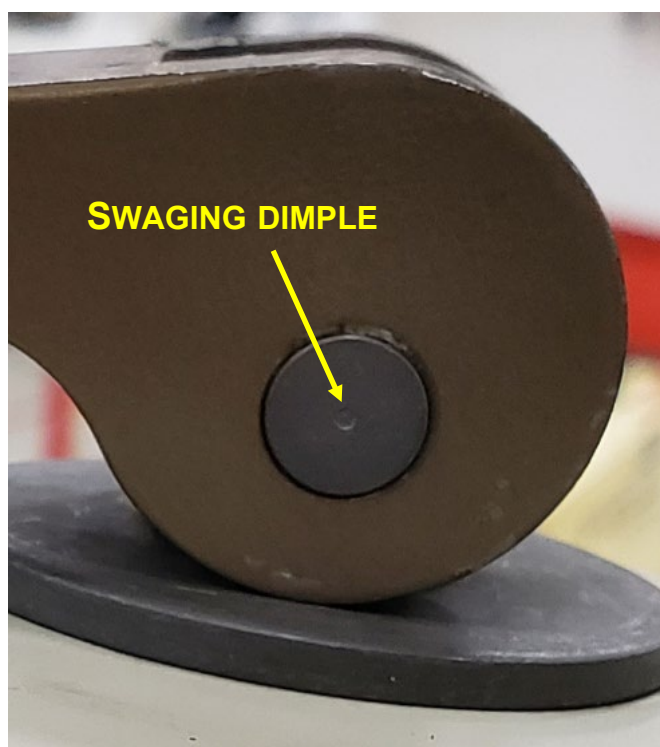


Figure 3 - Swaging dimple

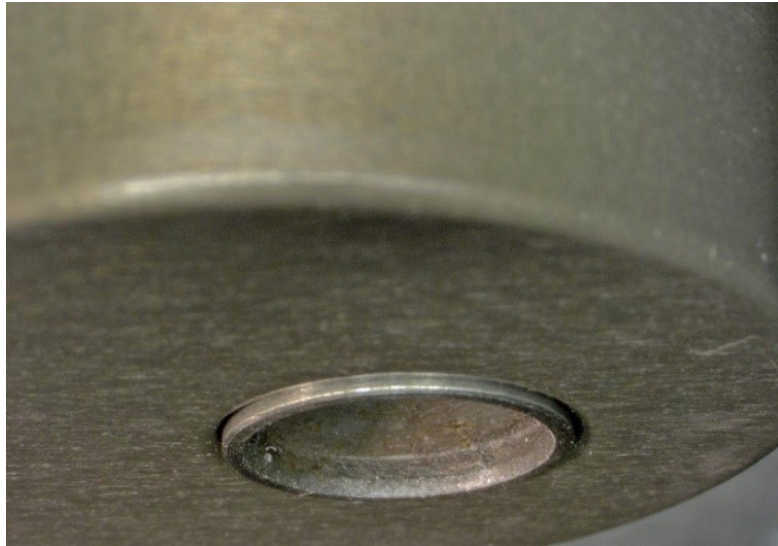


Figure 4 - Pivot Pin Concave End (correctly swaged)



Figure 5 - Pivot Pin Out of Position



Note: Earlier expandable blade bolts (1991 and prior) had a press-fitted pivot pin with countersink blind holes at each end for staking. To verify proper staking, push on the pin one side at a time.

Figure 6 - Earlier Design Expandable Blade Bolt.