A Textron Company

ALERT SERVICE BULLETIN **212-20-163**

20 November 2020
Revision A, 17 December 2020
Revision B, 6 April 2021

MODEL AFFECTED: **212**

SUBJECT: **ENGINE OIL CHECK VALVE P/N 209-062-520-001, INSPECTION AND REPLACEMENT OF.**

HELICOPTERS AFFECTED: **Serial numbers 30501 through 30999, 31101 through 31311, 32101 through 32142 and 35001 through 35103 having a Circor Aerospace (Circle Seal) oil check valve not marked "TQL".**

[Serial numbers listed above having a Circor Aerospace (Circle Seal) oil check valve marked "TQL" are not affected by this bulletin.

COMPLIANCE:

Part I: Within the next 25 flight hours or 30 days, whichever comes first after the release date of the revision A of this bulletin.

Part II: Within the next 25 flight hours or 30 days, whichever comes first after accomplishment of Part I and every 25 flight hours or 30 days thereafter until Part III is accomplished.

Part III: No later than 600 flight hours or 12 months, whichever comes first after accomplishment of Part I.

DESCRIPTION:

Bell recently received a report of a cracked check valve manufactured by Circor Aerospace (Circle Seal). This check valve was manufactured in 2009 which is outside of the manufacturing date range (October 2011 – March 2015) addressed by the ASB

212-15-153 Rev A. Corrective actions implemented in 2015 by Circor Aerospace to prevent cracking of the check valve housings are indicated by the “TQL” marking.

This recent check valve cracking report indicates that additional oil check valves P/N 209-062-520-001 manufactured by Circor Aerospace (Circle Seal) not having the “TQL” marking may be susceptible to cracking with time in service.

This Alert Service Bulletin mandates a one-time inspection of the suspected oil check valves for housing dimension measurement. Oil check valves that do not meet the inspection requirements outlined in the Part I of the Accomplishment Instructions of this bulletin will require replacement. Valves that are found serviceable after accomplishment of Part I of this bulletin will not require further inspection or replacement.

The original release of this bulletin mandated a one-time inspection of oil check valves manufactured between 1995 and March 2015 without the “TQL” marking. Following the original release of this bulletin, Bell received reports from operators indicating that some oil check valves did not have a manufacturing date stamped on the housing. Based on additional information provided by Circor Aerospace, revision A of this bulletin mandates the inspection of all oil check valves manufactured by Circor Aerospace at the Corona facility in California, not having the “TQL” marking. Oil check valves manufactured at the Corona facility have the “CORONA CA” marking. Regardless of the manufacturing date, oil check valves with the “TQL” marking are not affected by this bulletin. This revision corrects the metric dimension provided in Part I for the oil check valve outside diameter measurement in addition to minor editorial changes.

Bell has been informed by Circor Aerospace that the “TQL” marking on some oil check valves manufactured after March 2015 may have been omitted. Revision B of this bulletin informs operators that the omission of the “TQL” marking does not impact the serviceability of those affected check valves and they can be used as is. The housing dimension measurement on these check valves is not required. Revision B does not change the compliance of this bulletin.

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 1 man-hour is required to accomplish Part I of this bulletin and 0.5 man-hour to accomplish Part II. Approximately 1 man-hour per check valve is required to accomplish Part III 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.

Part Number	Nomenclature	Qty (Note)
209-062-520-001	Oil check valve	A/R (1)

NOTE 1: One check valve is installed per engine. Replacement will be required only if the valve does not meet the inspection requirements.

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.

Part Number	Nomenclature	Qty	Reference *
Refer to the BHT-Consumable List	Engine oil	A/R	C-010 or C-011

* 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-212-MM, Maintenance Manual, Chapter 79
Alert Service Bulletin 212-15-153 RA

PUBLICATIONS AFFECTED:

None affected.

ACCOMPLISHMENT INSTRUCTIONS:

Part I. Oil check valve inspection.

1. Prepare the helicopter for maintenance and gain access to the engine oil check valves. The engine oil check valves are located in the engine reduction gearbox compartment under the oil coolers (Figure 1, Details A and B).

-NOTE-

It is not necessary to remove the oil check valve for inspection however some clamping may require removal for better access. Regardless of manufacturing date, any oil check valves with the “TQL” marking are not affected by this bulletin. Oil check valves manufactured by other suppliers are also not affected by this bulletin. Oil check valves with the “CORONA CA” marking and without the “TQL” marking are affected by this bulletin. (Figure 2, Details A and B).

2. Verify if the check valves installed are affected by this bulletin.

3. If the check valves are not affected, make an entry in the helicopter logbook and historical service records indicating the findings and compliance with this Alert Service Bulletin.

4. If one or both check valves are affected, proceed as follows:

    a. Using a caliper or equivalent, measure the check valve housing at the center and record dimension (Figure 3).

    b. Measure the housing at the inlet end where the threaded fitting is installed and record dimension.

    c. If the dimension measured at the inlet end is no more than 0.003 inch (0.0762 mm) greater than the measurement at the center, the valve is serviceable and does not require further inspection or replacement. Make an entry in the helicopter logbook and historical service records indicating the findings and compliance with this Alert Service Bulletin.

    -NOTE-

    Due to possible delay in getting replacement check valves, Bell recommends that operators place their order as soon as Part I is accomplished if one or two check valves are found defective.

    d. If the dimension measured at the inlet end is greater than 0.003 inch (0.0762 mm) when compared to the measurement at the center, the valve will require replacement. Part III can be accomplished immediately, or Part II can be accomplished until the defective valve can be replaced in accordance with Part III.

    e. If the defective check valve is not replaced immediately, make an entry in the helicopter logbook and historical service records indicating the findings and that Part II must be accomplished every 25 flight hours or 30 days whichever comes first until Part III is accomplished.

Part II. Recurring 25 flight hour or 30-day inspection.

1. Prepare the helicopter for maintenance and gain access to the engine oil check valves (Figure 1, Details A and B).

2. Using a strong light source, visually inspect the oil check valves for general condition and oil leaks. Inspect for cracks at the inlet end where the threaded fitting is installed (Figure 3).

3. If a crack is found, replace the check valve prior to next flight. Figure 4 shows an example of a cracked check valve.

4. If no cracks or any other defects that would cause the valve to be unserviceable are found, make an entry in the helicopter logbook and historical service records

indicating the findings and that Part II will require accomplishment until Part III is accomplished.

Part III. Engine oil check valve replacement.

-NOTE-

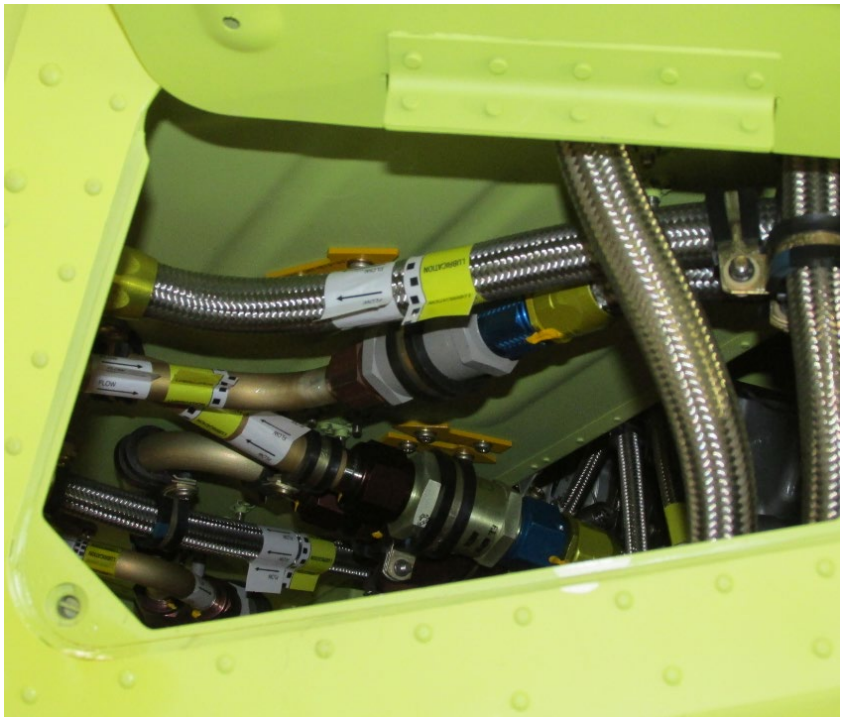
The accomplishment of Part III constitutes the terminating action of this ASB.

1. Prepare the helicopter for maintenance and gain access to the engine oil check valves (Figure 1, Details A and B).

2. Refer to the applicable Maintenance Manual and replace defective oil check valve(s) (BHT-212-MM, Chapter 79).

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

Detail A. Engine Number 2 (Right Side)



Detail B. Engine Number 1 (Left Side)

Figure 1. Engine Oil Check Valves Locations

Detail A. Circor Aerospace Engine Oil Check Valve Marked “TQL”

Detail B. Engine Oil Check Valve **not** Manufactured by Circor Aerospace

Figure 2. Engine Oil Check Valves **not** Affected

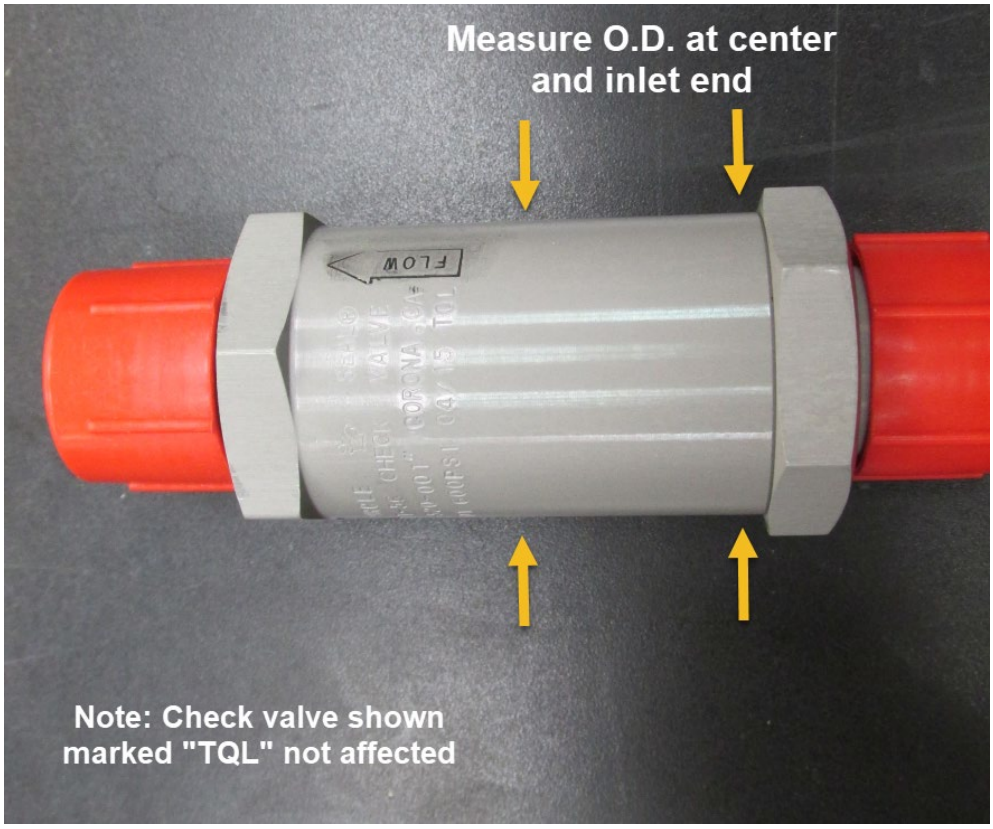


Figure 3. Engine Oil Check Valve Outside Diameter Measurement

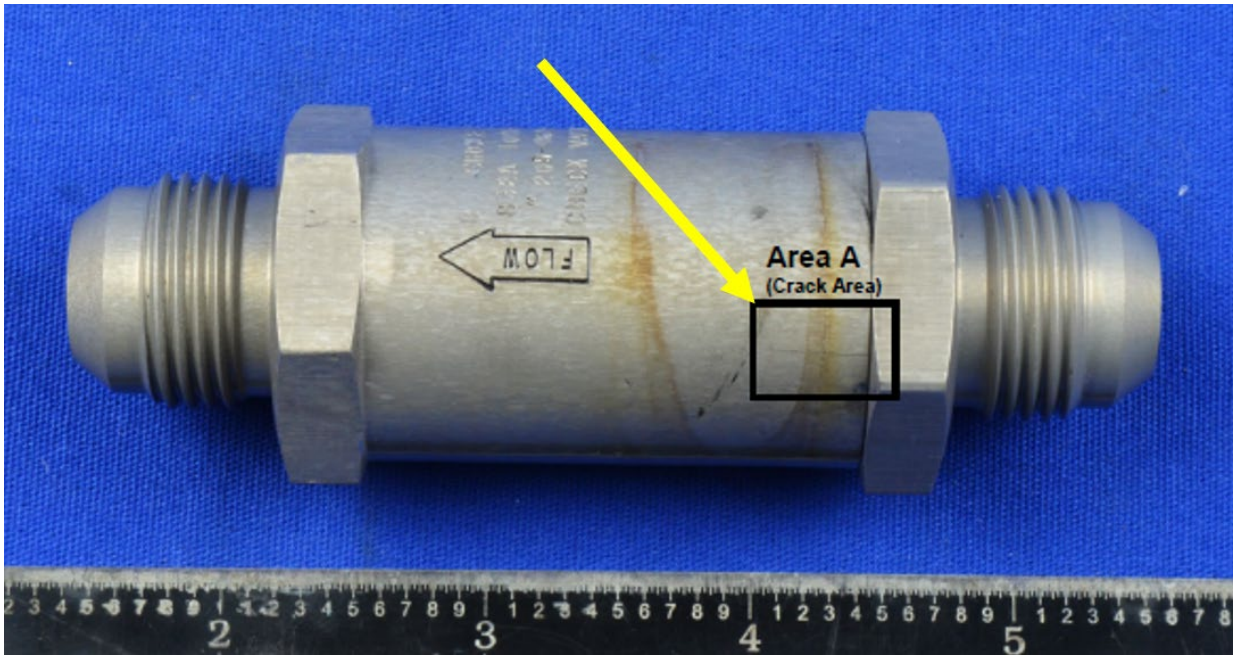


Figure 4. Cracked Engine Oil Check Valve