A Textron Company

ALERT SERVICE BULLETIN **505-25-43**

13 January 2025

MODEL AFFECTED: **505**

SUBJECT: **CREW SEAT RESTRAINT ROTARY BUCKLE ASSEMBLY 1111475-01, ONE-TIME INSPECTION OF.**

HELICOPTERS AFFECTED: **Serial numbers 65011 through 65505, 65507 through 65512, 65514 through 65576, 65578 through 65594, 65597 through 65599, 65603, 65605, 65611, 65613, 65614, 65616, 65620, 65623, 65624, 65626, 65628, 65629, 65632, 65638, 65641, 65644, 65647, 65649, 65652 through 65656, 65658, and 65660.**

[Serial numbers 65506, 65513, 65577, 65595, 65596, 65600 through 65602, 65604, 65606 through 65610, 65612, 65615, 65617 through 65619, 65621, 65622, 65625, 65627, 65630, 65631, 65633 through 65637, 65639, 65640, 65642, 65643, 65645, 65646, 65648, 65650, 65651, 65657, 65659, 65661 and subsequent will have the intent of this bulletin accomplished prior to delivery.]

COMPLIANCE: Prior to 12 February 2025.

DESCRIPTION:

Bell has been made aware of the release of the Federal Aviation Administration (FAA) Airworthiness Directive (AD) 2024-20-04 which supersedes AD 2024-01-11. There is also an associated Parker Meggitt Service bulletin (SB) 1111475-25-001-2023 Revision 002 that was published 1 April 2024. The AD requires inspection of certain rotary buckles manufactured by Pacific Scientific Company between January 2012 and April 2013, or with unknown dates of manufacturing. These buckles may have Torx head metal screws that are susceptible to hydrogen embrittlement. Bell uses the suspect

rotary buckle 1111475-01 as part of the 505 crew seat restraint assemblies 2000115-101.

This bulletin requires identification of suspect parts by part number and manufacturing date. If the manufacturing date is no longer visible, inspection and rework of the rotary buckle is required using instructions within 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 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 0.1 man-hour is required to inspect and replace the rotary buckle from the restraint system.

Approximately 0.5 man-hour is required to disassemble the rotary buckle, replace suspect screws with new screws, and assemble the rotary buckle.

Approximately 0.1 man-hour is required to vibro-etch markings on the rotary buckle of the restraint system.

This estimate is based on hands-on time and may vary with personnel and facilities available.

WARRANTY:

Refer to section 2.A. of the Parker Meggitt Service Bulletin (SB) 1111475-25-001-2023.

MATERIAL:

Required Material:
Refer to sections 3.C. and 3.D. of the Parker Meggitt Service Bulletin (SB) 1111475-25-001-2023. The following material is required for the accomplishment of this bulletin and may be obtained through Parker Meggitt at points of contact detailed in section 4.F. of the Parker Meggitt Service Bulletin (SB) 1111475-25-001-2023.

Part Number	Nomenclature	Qty (Note)
0901101-149	HEX SCREW	4 (1)
1101813-01	LOGO BUTTON	1 (2)
0908100-40	STEEL BALLS	3 (2)

NOTES
1. Required for accomplishment of this bulletin if a rotary buckle has Torx head screws.
2. Additional material available as needed, but most likely not needed.

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 (Note)	Reference *
2100-00345-00	CHEMICAL FILM (MIL-DTL-81706, Class 1A, Form III)	1 QT (1)	C-100
2400-00030-00	GREASE (MOBIL 28)	1 TUBE (1)	C-001

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

NOTE 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.

SPECIAL TOOLS:

Vibrating stylus (vibro-etcher) – tip to have a minimum radius of 0.015 inch (0.381 mm).

Refer to Section 3.G. of the Parker Meggitt Service Bulletin (SB) 1111475-25-001-2023 for additional tool requirements.

WEIGHT AND BALANCE:

Not affected.

ELECTRICAL LOAD DATA:

Not affected.

REFERENCES:

505-IPC, Illustrated Parts Catalogue, Chapter 25
Federal Aviation Administration Airworthiness Directive 2024-20-04.

Parker Meggitt Service Bulletin 1111475-25-001-2023 Revision 002, Screw Inspection for Restraint Systems with Rotary Buckles 1111475 (all dash numbers)

PUBLICATIONS AFFECTED:

None affected.

ACCOMPLISHMENT INSTRUCTIONS:

1. Prepare the helicopter for maintenance.

2. Verify part number and manufacturing date on back of crew seat (pilot and co-pilot) restraint assembly rotary buckles (Figure 1).

    a. If the manufacturing date **is not** between January 2012 (01/12) and April 2013 (04/13), go to step 5.

    b. If the manufacturing date **is** between January 2012 (01/12) and April 2013 (04/13), **or** the manufacturing date is not legible (partially or completely erased), go to step 3.

3. Using a bright light, inspect rotary buckle screws using procedures in the Parker Meggitt Service Bulletin (SB) 1111475-25-001-2023 section 4.B.

    a. If any screw head is not present, is separated, or not attached to the screw shank, remove the rotary buckle from service prior to next flight. Refer to removal procedures in section 4.C. of the Parker Meggitt SB. Replace with a serviceable rotary buckle that meets the intent of this bulletin. Go to step 2.

    b. If the screw heads are intact, go to step 4.

4. Do one of the three methods highlighted in the Parker Meggitt SB section 4.B.(4) to determine which type of screws (Torx or hex heads) are installed in the rotary buckle assembly (Figure 2).

    a. If **any** of the screws are Torx head screws, prior to next flight replace the screws using the procedures in section 4.D. of the Parker Meggitt SB. Got to step 5.

        (1) Alternatively, replace the rotary buckle with a serviceable assembly meeting the intent of this bulletin. Go to step 2.

    b. If **all** screws are hex head screws, go to step 5.

5. Using a vibrating stylus (vibro-etcher) scribe the information in the locations identified. The depth of the marking shall not exceed 0.005 inch (0.127 mm). Break any sharp edges.

a. For rotary buckles that have manufacturing dates **not** within January 2012 (01/12) and April 2013 (04/13) scribe the part number and manufacturing date in the locations identified (Figure 3), go to step 6.

b. For rotary buckles that have been inspected in step 4 and **do not** have a legible manufacturing date, scribe the part number and “INS. A” in the locations identified (Figure 4), go to step 6.

c. For rotary buckles that have been inspected in step 4 and **do** have a legible manufacturing date, scribe the part number, manufacturing date, and “INS. A” in the locations identified (Figure 5), go to step 6.

d. For rotary buckles that have had the Torx head screws replaced by hex head screws in step 4.a. and **do not** have a legible manufacturing date, scribe the part number and “MOD. A” in the locations identified (Figure 6), go to step 6.

e. For rotary buckles that have had the Torx head screws replaced by hex head screws in step 4.a. and **do** have a legible manufacturing date, scribe the part number, manufacturing date, and “MOD. A” in the locations identified (Figure 7), go to step 6.

6. Apply chemical film (C-100) to exposed bare Aluminum from the vibro-etching performed in step 5.

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

Figure 1 – Crew Seat Restraint Assembly Rotary Buckle (Rear View)

PART NUMBER
0901101-123

PART NUMBER
0901101-149

Figure 2 – Internal Rotary Buckle Screw Types

Figure 3 – Vibro-Etching of Part Number and Manufacturing Date

Figure 4 – Vibro-Etching of Part Number and "INS. A" on Rotary Buckle Assembly

Figure 5 - Vibro-Etching of Part Number, Manufacturing Date, and “INS. A” on Rotary Buckle Assembly

Figure 6 - Vibro-Etching of Part Number and "MOD. A" on Rotary Buckle Assembly

Figure 7 – Vibro-Etching Part Number, Manufacturing Date, and "MOD. A" on Rotary Buckle Assembly

SERVICE BULLETIN

FROM : PARKER MEGGITT TECHNICAL PUBLICATIONS

TO : HOLDERS OF SB 1111475-25-001-2023 FOR THE RESTRAINT SYSTEM ROTARY BUCKLE WITH PNR 1111475 SERIES

TRANSMITTAL SHEET

REVISION 002
dated Apr 01/24

The Table that follows gives a list of the primary changes in this manual :

Page No.	Description of Change	Effectivity
1, 2, and 15	Revised ‘September 2012’ to ‘April 2013’.	—
2	Updated paragraph 1.B.(3).	—
8	Added paragraph 1.E.(2)(c). Updated paragraph 1.E.(3)(b).	—
9	Added paragraph 1.E.(3)(h).	—
10	Updated Figure 2.	—
11	Updated paragraph 2.B.(1).	—
13	Updated the website address. Added Additional Materials.	—
14	Updated Special Tooling – Price and Availability. Added Table 2 Special Tools or Equipment.	—
15	Updated paragraph 4.A.(1). Updated note.	—
17	Added magnet test for rotary buckle with Velcro.	—
18	Added Figure 6 and direction of magnet slip in Figure 7.	—
21	Updated Figure 10 with new graphics.	—
22	Revised paragraph 4.C.(3).	—
25	Updated paragraph 4.D.(1)(g).	—
26	Added step (5). Updated steps (3) to (6). Added paragraph 4.D.(1)(n).	—
27	Updated Figure 15 with new graphics.	—

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SERVICE BULLETIN

CHAPTER 25 - EQUIPMENT/FURNISHINGS

Information Regarding Screw Inspection for the

Restraint Systems

with PNR 1111475 Series Rotary Buckles

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Checked by : Name / Date	N/A	Checked by : Name / Date	PMI / Apr 01/24

This manual is published by Parker Meggitt (CAGE Code = 45402) d/b/a Pacific Scientific HTL.

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1. PLANNING INFORMATION

A. Effectivity

(1) This Service Bulletin (SB) covers all restraint systems with PNR 1111475 Series rotary buckles, which may contain suspect screws. According to Parker Meggitt records, the restraint systems and buckle assemblies subject to this SB are shown in Table 1 on page 3.

(2) This SB will provide details for inspection and if required, replacement of suspect screws used in the rotary buckles of the restraint systems. This SB includes tooling information, illustrations, and contact information.

(3) This SB is not applicable to new original equipment manufacturer (OEM) production units being delivered now, or to any units manufactured before January 2012 or after April 2013.

B. Applicability

(1) Owners or operators of Parker Meggitt [Pacific Scientific / HTL] restraint systems that use PNR 1111475 Series rotary buckle assembly that have a Date of Manufacture (DOM) between January 2012 and April 2013, or those units that do not have a clear or legible DOM.

(2) This SB does not apply to new production units manufactured before January 2012 or after April 2013. New production units do not contain the suspect screws.

(3) This SB applies to all restraint systems and rotary buckles on-wing or in inventory that fall within the specified DOM ranges.

C. Concurrent Requirements

(1) Not applicable.

SERVICE BULLETIN

Table 1

Restraint Systems and Corresponding Rotary Buckle Part Numbers

Restraint Systems PNR	Rotary Buckle PNR	Restraint Systems PNR	Rotary Buckle PNR	Restraint Systems PNR	Rotary Buckle PNR
0118026-05	1111475-05	1109026-51-001	1111475-01	1111460-03	1111475-13
0118030-07	1111475-83	1109026-61-001	1111475-01	1111466-93	1111475-83
0118030-300	1111475-03	1109042-01-001	1111475-01	N/A	1111475-01
0118038-01	1111475-01	1109050-01-001	1111475-01	N/A	1111475-03
0118041-05	1111475-15	1109050-11-001	1111475-11	N/A	1111475-05
1101906-101	1111475-51	1109207-03-001	1111475-03	N/A	1111475-101
1101906-103	1111475-53	1111067-101	1111475-01	N/A	1111475-11
1101906-11	1111475-51	1111067-102	1111475-03	N/A	1111475-13
1101906-13	1111475-53	1111131-03	1111475-03	N/A	1111475-15
1106193-03	1111475-03	1111147-01-001	1111475-01	N/A	1111475-21
1106193-13	1111475-13	1111150-01-001	1111475-01	N/A	1111475-23
1106193-53	1111475-03	1111150-15-001	1111475-05	N/A	1111475-41
1109012-03-001	1111475-03	1111158-03-226	1111475-03	N/A	1111475-51
1109026-01-001	1111475-01	1111158-103-226	1111475-03	N/A	1111475-53
1109026-11-001	1111475-01	1111165-01-001	1111475-41	N/A	1111475-65
1109026-31-001	1111475-01	1111165-11-001	1111475-101	N/A	1111475-75
1109026-41-001	1111475-01	1111460-01	1111475-11	N/A	1111475-83

Table 1 *(Continued)*
Restraint Systems and Corresponding Rotary Buckle Part Numbers

Restraint Systems PNR	Rotary Buckle PNR	Restraint Systems PNR	Rotary Buckle PNR	Restraint Systems PNR	Rotary Buckle PNR
1111492-05	1111475-05	1111500-263	1111475-03	1111572-71-001	1111475-01
1111492-35	1111475-15	1111500-31	1111475-01	1111572-73-001	1111475-03
1111492-45	1111475-05	1111500-33	1111475-03	1111572-75-001	1111475-05
1111492-51	1111475-01	1111500-341	1111475-01	1111572-81-001	1111475-01
1111492-53	1111475-03	1111500-351	1111475-01	1111572-85-001	1111475-05
1111500-101	1111475-01	1111500-41	1111475-01	1111585-55-001	1111475-05
1111500-113	1111475-03	1111500-43	1111475-03	1111587-05-001	1111475-05
1111500-123	1111475-05	1111500-65	1111475-05	2000013-01-001	1111475-01
1111500-125	1111475-05	1111500-83	1111475-03	2000013-03-001	1111475-03
1111500-141	1111475-01	1111572-01-001	1111475-01	2000013-11-001	1111475-01
1111500-143	1111475-03	1111572-17-104	1111475-21	2000013-13-001	1111475-03
1111500-163	1111475-23	1111572-17-245	1111475-21	2000013-301-001	1111475-01
1111500-211	1111475-01	1111572-19-104	1111475-23	2000013-303-001	1111475-03
1111500-233	1111475-03	1111572-19-224	1111475-23	2000014-01	1111475-01
1111500-251	1111475-01	1111572-19-245	1111475-23	2000014-03	1111475-03
1111500-253	1111475-03	1111572-55-001	1111475-65	2000014-81	1111475-01

Table 1 *(Continued)*
Restraint Systems and Corresponding Rotary Buckle Part Numbers

Restraint Systems PNR	Rotary Buckle PNR	Restraint Systems PNR	Rotary Buckle PNR	Restraint Systems PNR	Rotary Buckle PNR
2000021-05-001	1111475-65	2000067-41	1111475-01	2000114-01-001	1111475-01
2000029-01	1111475-01	2000091-05-001	1111475-05	2000114-03-001	1111475-03
2000029-03	1111475-03	2000097-13	1111475-03	2000114-101-001	1111475-01
2000029-101	1111475-01	2000097-15	1111475-05	2000114-101-225	1111475-01
2000029-103	1111475-03	2000104-103-226	1111475-03	2000114-103-001	1111475-03
2000029-11	1111475-11	2000104-23-226	1111475-03	2000114-103-225	1111475-03
2000029-31	1111475-01	2000104-43-226	1111475-03	2000114-11-001	1111475-01
2000029-33	1111475-03	2000107-103	1111475-03	2000114-21-001	1111475-01
2000029-61	1111475-01	2000107-23	1111475-03	2000114-23-001	1111475-03
2000029-73	1111475-63	2000108-01-001	1111475-01	2000114-31-001	1111475-01
2000037-05	1111475-05	2000108-03-001	1111475-03	2000114-41-001	1111475-01
2000040-01	1111475-01	2000108-101-001	1111475-01	2000114-43-001	1111475-03
2000052-03	1111475-03	2000108-103-001	1111475-03	2000114-51-001	1111475-01
2000058-01	1111475-01	2000108-105-001	1111475-05	2000114-53-001	1111475-05
2000067-01	1111475-01	2000108-11-001	1111475-01	2000114-61-001	1111475-01
2000067-03	1111475-03	2000108-13-001	1111475-03	2000114-71-001	1111475-01

Table 1 *(Continued)*
Restraint Systems and Corresponding Rotary Buckle Part Numbers

Restraint Systems PNR	Rotary Buckle PNR	Restraint Systems PNR	Rotary Buckle PNR	Restraint Systems PNR	Rotary Buckle PNR
2000114-71-225	1111475-01	2000124-103-001	1111475-03	2100018-03-104	1111475-23
2000114-73-001	1111475-03	2000124-21-001	1111475-01	2100018-03-245	1111475-23
2000114-73-225	1111475-03	2000124-23-001	1111475-03	2100018-13-104	1111475-23
2000115-101	1111475-01	2000124-31-001	1111475-01	2100018-13-224	1111475-23
2000115-103	1111475-03	2100011-03	1111475-03	2100018-13-245	1111475-23
2000115-121	1111475-01	2100018-01-104	1111475-21	2100023-15-001	1111475-05
2000124-101-001	1111475-01	2100018-01-245	1111475-21	Blank	Blank

D. Reason

(1) In 2012 a specific lot of PNR 0901101-123 screws were improperly zinc chromate plated. This manufacturing issue resulted in the screws becoming brittle. Evidence has shown that the screw heads can break-off under load creating an unsafe condition and improper function of the rotary buckle used on the restraint system.

(2) Screws (PNR 0901101-123) used on rotary buckles (PNR 1111475 Series) are susceptible to premature failure of the screw.

(3) Parker Meggitt has received field reports of cracked and missing screw heads. Figure 1 on page 7 shows an example of a PNR 1111475 Series buckle with a broken screw head.

NOTE 1 : This image is for reference only. In most cases, the broken screw head will be missing and not immediately obvious. Inspection per section 4.B. is required to determine whether a buckle has broken screws.

Figure 1
PNR 1111475 Series Rotary Buckle and Broken Screw Head

E. Description

(1) Summary :

(a) In review and analysis of the evidence and data gathered from an investigation, Parker Meggitt has determined that restraint systems with the rotary buckles in question require inspection in order to validate the presence and integrity of the screw heads inside the buckle.

(2) Conclusion and Corrective Actions :

(a) In September 2012, Parker Meggitt added the DOM to the buckle assembly.

(b) A buckle assembly design change in July 2013 introduced a hex stainless steel screw (PNR 0901101-149). These screws are a different material, and have a different screw head, which makes them visually distinguishable from the previous part number.

(c) Based on a comprehensive review of material certs of the affected batches, we will include an additional batch that was introduced into production immediately following the corrective action implemented in 2012. We are therefore increasing the applicability window to April 2013.

(3) Suggested Operator Action :

(a) Refer to the flowchart in Figure 2 on page 10.

(b) Operators should check all restraint systems and buckle assemblies in service and inventory that meet the criteria in sections 1.A. & 1.B. This also applies to restraint systems in storage or any restraint system that may have had a buckle replaced with one of these part numbers, or that may have been repaired using the suspect screws.

NOTE : Any buckle assemblies with a missing screw head should be removed from service immediately.

(c) Visually inspect the restraint system's rotary buckle to determine the DOM (refer to section 4.A.).

1 Restraint systems with rotary buckles that have a DOM outside of the applicable ranges identified do not require inspection, replacement or any additional actions.

NOTE : Zinc chromate plated screw head type does not relate to the susceptibility to cracking. A design change replaced the zinc chromate plated screws (PNR 0901101-123) with stainless steel screws (PNR 0901101-149) that do not require zinc chromate plating. The new screws happened to have a hex head instead of a Torx head.

(d) If the DOM does fall in the applicable range, visually inspect the restraint system's rotary buckle to determine whether any of the four screw heads are missing (refer to section 4.B.).

1 Buckles which have any missing screws should be taken out of service immediately. Replace the rotary buckle with a spare compliant rotary buckle and send the broken item back to Parker Meggitt for repair or replacement (refer to section 4.F.).

(e) If the rotary buckle has a broken/loose screw head, the rotary buckle should be removed from service immediately.

1 Replace the rotary buckle with a spare compliant rotary buckle and send the broken item back to Parker Meggitt for repair or replacement (refer to section 4.F.).

(f) If the four screw heads are intact, visually inspect the restraint system's rotary buckle to determine whether the screws have Torx heads (PNR 0901101-123) or hex heads (PNR 0901101-149) (refer to section 4.B.).

1 Buckles which have the suspect Torx head screws (PNR 0901101-123) that are still intact, should have the screws replaced with the hex head screws (PNR 0901101-149) per the instructions in this SB at a time convenient to the operator.

(g) If the four screw heads have hex heads, identify the rotary buckle with "**INS. A**" (refer to 4.B.(6) on page 20).

(h) (Optional) If the rotary buckle's DOM is outside the specified date range and is compliant per this SB, you may identify the rotary buckle with "**INS. A**" (refer to 4.B.(6) on page 20).

(i) (Optional) If the rotary buckle is missing its part number, identify the rotary buckle (refer to 4.B.(7) on page 20).

(j) This SB does not affect restraint systems which use other types of Parker Meggitt [Pacific Scientific] buckles.

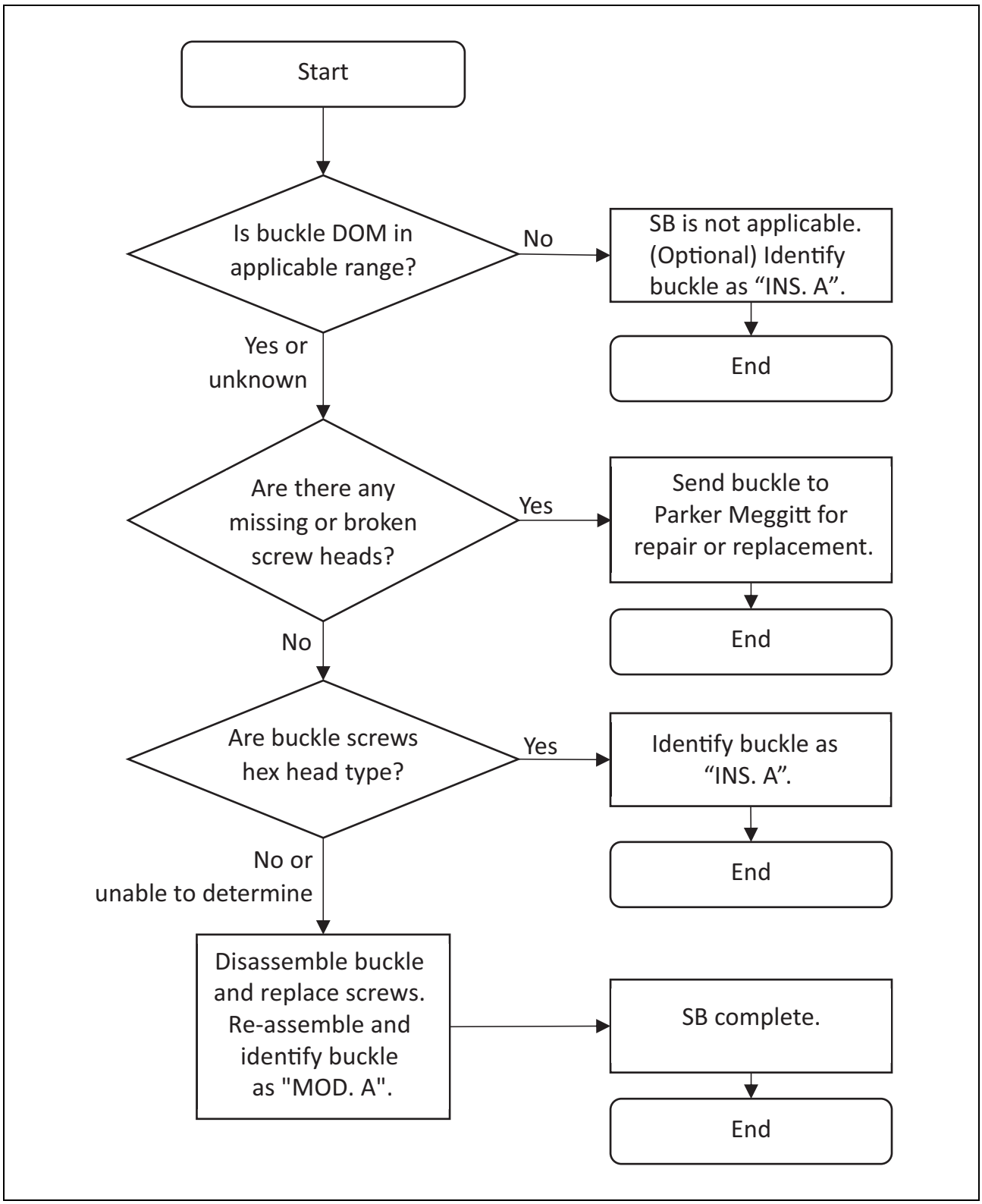


Figure 2
Flowchart of Required Operator Action

2. INDUSTRY SUPPORT STATEMENTS

A. Warranty Information

(1) The manufacturing issue that resulted in the suspect screws occurred in 2012. Restraints that use PNR 1111475 Series buckle assemblies that were manufactured during the specified time period are no longer in warranty.

(2) Parker Meggitt will provide the replacement screws (PNR 0901101-149, Qty = 4) free of charge.

(3) Rotary buckles or restraint systems returned to Parker Meggitt with more damages or repairs outside the described warranty coverage of the SB 1111475-25-001-2023 will be chargeable scope.

B. Compliance

(1) Compliance with this SB is mandatory for the restraint system rotary buckles or rotary buckles in inventory with PNR 1111475 Series that meet the applicability requirement (refer to section 1.B.).

C. Approval

(1) Not applicable.

D. Manpower

(1) The manpower estimate is for direct labor only. The estimate does not include lost time.

(2) Adjust the estimate with operator man-hour data if necessary.

(3) The time required for the procedures described in section 4. of this SB is estimated to be :

(a) 0.1 man-hour to inspect and replace the rotary buckle from the restraint system.

(b) 0.5 man-hour to disassemble the rotary buckle, replace suspect screws with new screws, and reassemble the rotary buckle.

E. Weight and Balance

(1) Not applicable.

F. Electrical Load Data

(1) Not applicable.

G. Software Accomplishments Summary

(1) Not applicable.

H. References

(1) Not applicable.

I. Other Publications Affected

(1) CMM 25-11-19 for rotary buckle assembly PNR 1111475 Series

(2) Restraint CMMs that contain PNR 1111475 Series rotary buckle Assemblies, including :

(a) CMM 25-11-44

(b) CMM 25-11-56

(c) CMM 25-11-57

(d) CMM 25-11-58

(e) CMM 25-11-60

(f) CMM 25-11-61

(g) CMM 25-11-64

J. Interchangeability

(1) Not applicable.

3. MATERIAL INFORMATION

A. Material – Price and Availability

(1) The replacement screws, logo button, and steel balls will be provided free of charge (FOC).

(2) Please contact Parker Meggitt for information regarding parts availability.

(3) Please visit the following website for updated information regarding this SB :

(a) https://www.meggitt.com/services_and_support/customer_experience/update-on-buckle-assembly-service-bulletins/

B. Industry Support Information – Warranty

(1) There are no additional warranty provisions related to this bulletin.

C. Material Necessary for Each Component

NOTE : The following item listed is provided FOC.

(1) Hex Screw, PNR 0901101-149 (Qty = 4)

D. Additional Materials

NOTE : The following items listed will most likely not be needed. However, if a need arises due to loss or damage during modification, they are available FOC on an as-needed basis.

(1) (Available As-Needed) Replacement Logo Button, PNR 1101813-01

(2) (Available As-Needed) Replacement Steel Balls, PNR 0908100-40

E. Material Necessary for Each Spare

(1) Not applicable.

F. Re-identified Parts / Existing Parts Accountability

(1) Buckles with the new screws installed shall be identified as “**MOD. A**”. Refer to 4.D.(1).(m) on page 26 for the marking process for each buckle.

(2) Buckles that have been inspected and found to have the stainless steel screws with the hex head installed shall be identified as "**INS. A**". Refer to 4.B.(6) on page 20 for the marking process for each buckle.

(3) Removed buckles with missing part number shall be marked. Refer to 4.B.(7) on page 20 for marking process and refer to Table 1 on page 3 for part numbers of the restraint systems and related rotary buckles.

G. Special Tooling – Price and Availability

NOTE : Equivalent items can be used.

Table 2
Special Tools or Equipment

Qty	Description	Manufacturer	Estimated Price and Availability
1	Neodymium magnet, 1/8 inch (3,175 mm) thick, 3/8 inch (9,525 mm) OD (https://www.mcmaster.com/5862k104/)	McMaster-Carr	Not available
1	Shim or feeler gauge (metal stock), 0.010 to 0.020 inch (0,25 to 0,50 mm) thick, 1/2 to 3/4 inch (13 to 19 mm), more than 2 inch (50 mm) long Specification: AMS-DTL-22499	Commercially available	Not available

4. ACCOMPLISHMENT INSTRUCTIONS

A. Determine Applicability

(1) Check the PNR and DOM of the rotary buckle in service or inventory. Refer to Figure 1 on page 7 or Figure 15 on page 27 for PNR and DOM locations.

(2) If the rotary buckle is PNR 1111475 Series and has a DOM between January 2012 and April 2013, or does not have a clear or legible DOM, proceed with the screw inspection per section 4.B.

(3) If the DOM is later than April 2013, then the rotary buckle can remain in service with no further actions.

B. Screw Inspection Procedure for PNR 1111475 Series Rotary Buckle Assemblies

NOTE : Inspection is only applicable for rotary buckles with DOM described above.

(1) Use an inspection light to look through the belt openings in the rotary buckle. Refer to Figure 3 and Figure 4 on page 16 to locate the screws.

(2) Inspect for the presence of 2 screw heads each on the left side and the right side of the buckle. Refer to Figure 5 on page 16.

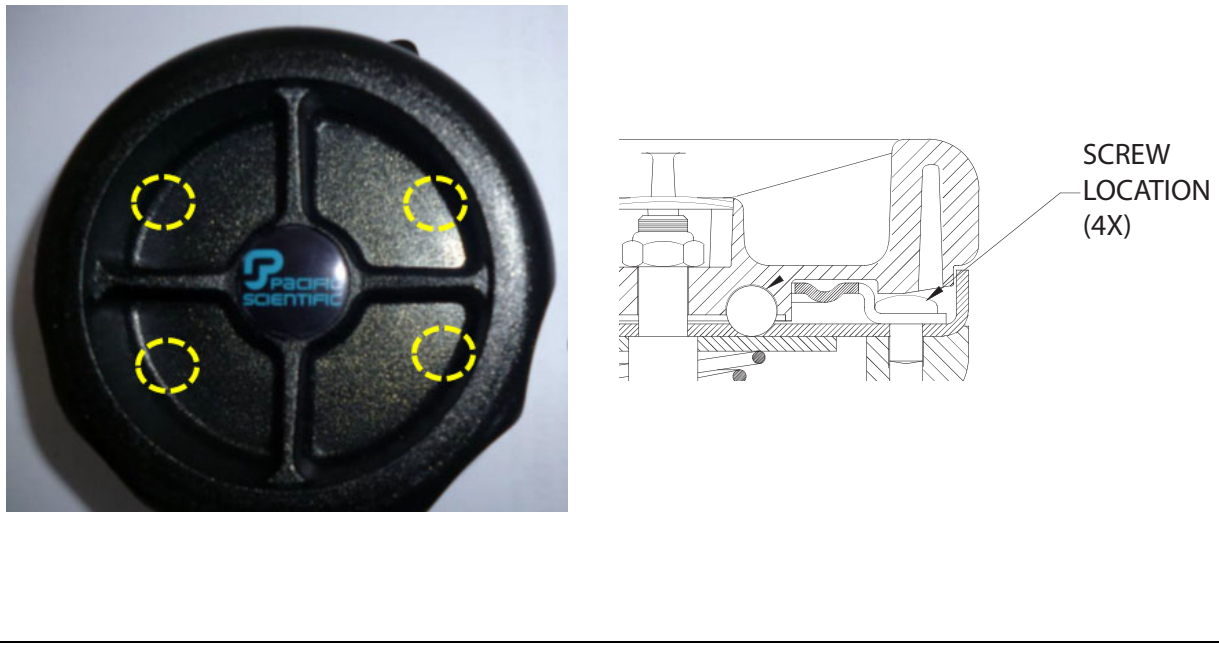


Figure 3
PNR 1111475 Series Rotary Buckle Screw Location

Figure 4
PNR 1111475 Series Rotary Buckle Openings for Inspection

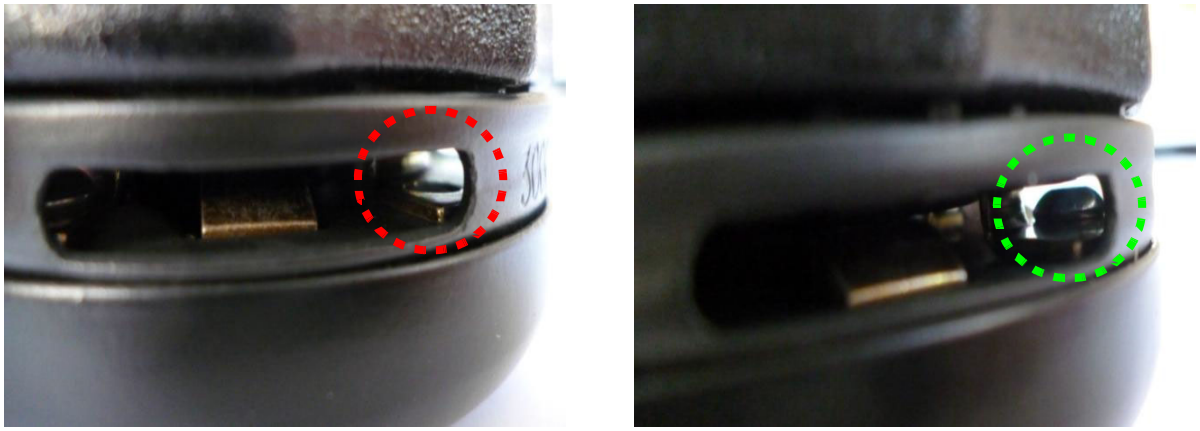


Figure 5
PNR 1111475 Series Rotary Buckle Screw Head

(3) If any screw head is not present or is separated or not attached to the screw shank in the buckle :

(a) Remove the buckle from service immediately. Refer to the procedure in section C. to remove the buckle from the restraint system.

(b) Replace the buckle with a new item. Refer to the procedure in section E. to install the new buckle in the restraint system.

(c) Send the damaged buckle back to Parker Meggitt for repair. Refer to section F. for contact information.

(4) If the screw heads are intact, do one of the three following methods to determine if the screws are Torx head (alloy steel) or hex head (stainless steel) screws :

(a) Method # 1 - Magnet Test

NOTE : Do not use the magnet test on a buckle with a rotary buckle pad, except if the pad has been removed.

1 Use a disc magnet (recommended 3/8 inch diameter by 1/8 inch thick) [9,5 mm diameter by 3,2 mm thick] to check the magnetism of the alloy versus stainless steel screws.

2 Hold the rotary buckle as follows :

a If the rotary buckle does not have Velcro attached, hold the rotary buckle with the back plate vertically and with one screw hole at a 12 o'clock position.

b If the rotary buckle does have Velcro attached as shown in Figure 6 on page 18, hold the rotary buckle such that the through (bolt) holes align vertically, one directly above the other.

3 Put a magnet against the buckle back in the circled yellow area in Figure 6 on page 18 or Figure 7 on page 18 and release the magnet.

4 Repeat 2 and 3 for the other 3 through (bolt) holes.

5 Interpret results for each of the following :

a If the magnet stays in place over the through (bolt) hole, this shows that the buckle has the Torx head (alloy steel) screws installed. The buckle WILL need the screws replaced. An example of this is shown in the left image of Figure 7 on page 18.

b If the magnet slips down to and stops at the center of the buckle, this shows that the buckle has the hex head (stainless steel) screws. The buckle will NOT need the screw replaced. An example of this is shown in the right image of Figure 7 on page 18.

c If the magnet slips off the buckle, the magnet is not strong enough to do this test. Use an applicable magnet.

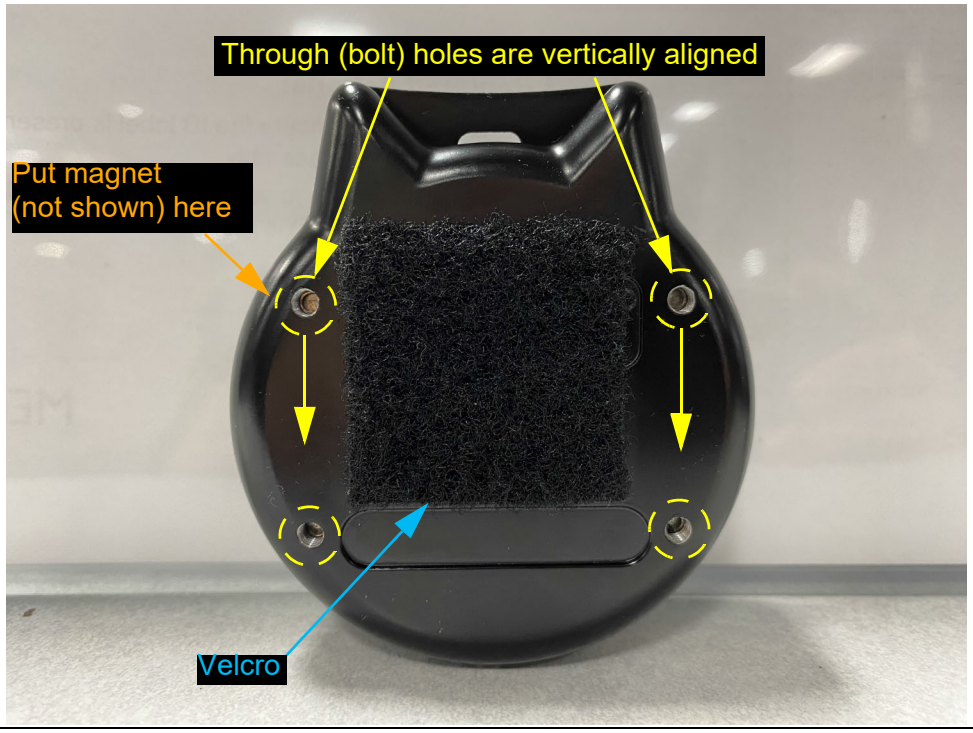
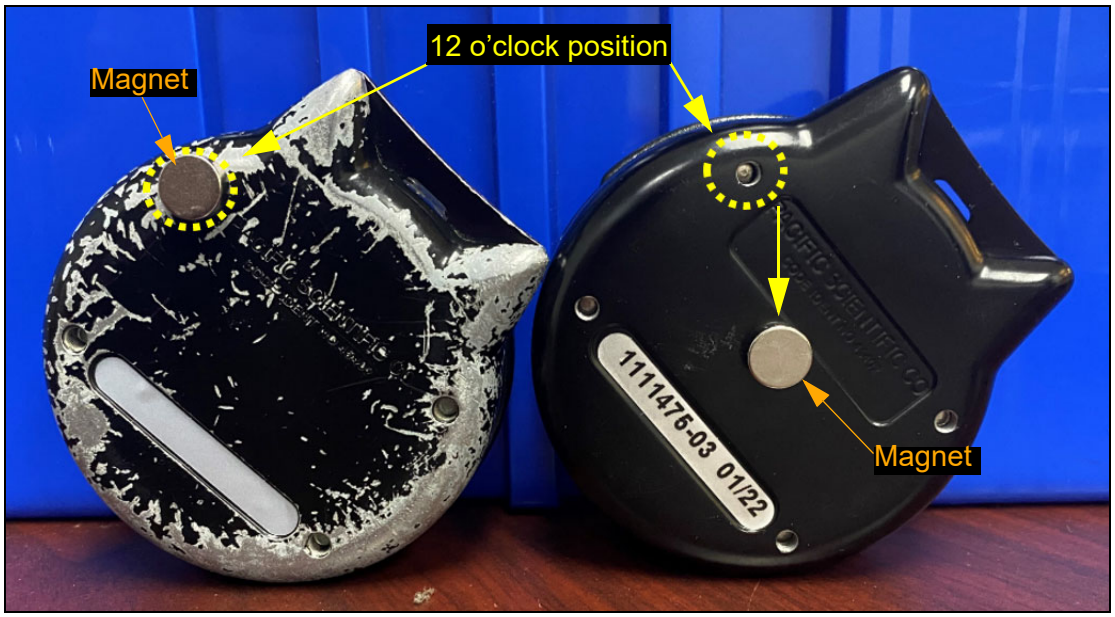


Figure 6
Magnet Test on PNR 1111475 Series Rotary Buckle with Velcro



Magnet is over the through (bolt) hole. Left rotary buckle uses Torx head (alloy steel).	Magnet slips to the center of the buckle. Right rotary buckle uses hex head (stainless steel).

Figure 7
Magnet Test on PNR 1111475 Series Rotary Buckle

(b) Method # 2 - Inspection

1 Use an inspection light (100+ lumens light with eye loupe recommended) to look through the aperture between the handle and the non-rotating portion of the buckle (Figure 8) and inspect the screws to determine whether they have Torx heads or hex heads. The handle will need to be rotated slightly to provide the best view of the two lower screws and rotate fully to view the top screws. All screws will be in the same configuration within the affected production window. Refer to Figure 9 on page 20 to distinguish the screw head types.

(c) Method # 3 - Disassembly

1 Disassemble the rotary buckle. Refer to 4.C. on page 21.

2 Reassemble the rotary buckle if the screws have hex heads. Refer to 4.E. on page 26.

(5) If the screws have Torx heads (PNR 0901101-123), the buckle may remain in service temporarily, but the screws should be replaced as convenient to the operator. Refer to the procedure in section 4.D.(1) on page 23 to replace the screws.

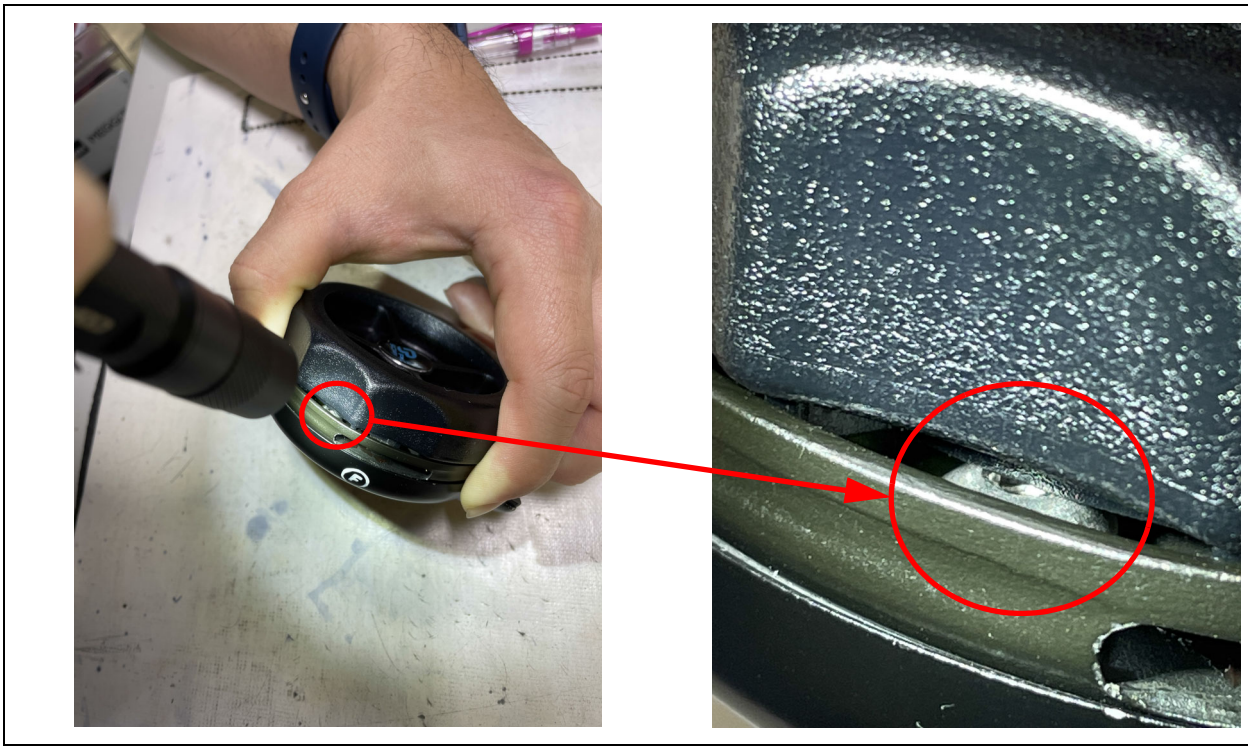


Figure 8
Side Belt Opening Inspection

(6) If the screws have hex heads, then they are the newer stainless steel type (PNR 0901101-149) and do not need to be replaced. Re-identify the buckle as follows :

(a) Use a vibro engraving pen to engrave "**INS. A**" on the back of the buckle. If the buckle has a pad, use an ultra-fine permanent marker to mark **"INS. A"** on the label inside the buckle pad. Refer to Figure 10 for an example of the re-identified buckle and the location of the label for the buckle pad.

(b) Chem film touch up of marked area with MIL-DTL-81706 per manufacturer's instructions if vibro engraved on metal back.

(7) If the buckle assembly is missing its part number and removed from the restraint system, "Bag and Tag" the buckle assembly with records of the restraint system's part number. Re-identify the buckle as follows :

(a) Compare the "Bag and Tag" information with Table 1 on page 3 to identify the rotary buckle's part number.

(b) Use a vibro engraving pen to mark the part number. If the rotary buckle has a pad, use an ultra-fine permanent marker to mark the part number.

(c) Chem film touch up of marked area with MIL-DTL-81706 per manufacturer's instructions if vibro engraved on metal back.

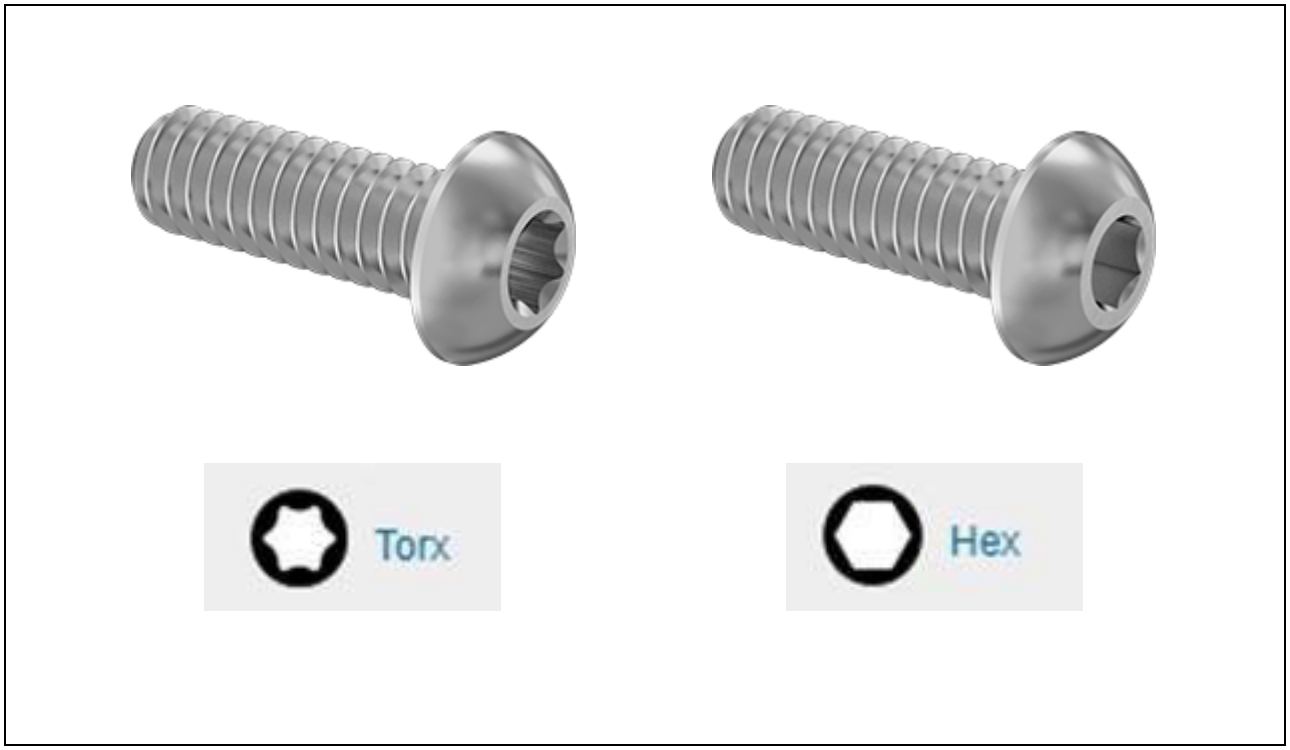


Figure 9
Torx Head Screws vs. Hex Head Screws

C. Removal of Rotary Buckles

NOTE : Buckles can be removed from the restraint systems on-aircraft or off-aircraft.

(1) Before removing the rotary buckle from the restraint system, make sure the rotary buckle is identified (refer to Figure 10). If the rotary buckle is not identified, the rotary buckle should either be “Bag and Tagged” with restraint system upon removal or re-identified (refer to 4.B.(7) on page 20).

Figure 10

Re-Identified PNR 1111475 Series Rotary Buckle Assembly with “INS. A”

(2) Refer to Figure 11.

(3) Insert a piece of thin metal stock or shim into the slot of the rotary buckle and push inward between the fitting and the buckle locking mechanism.

(4) Pull the fitting from the buckle.

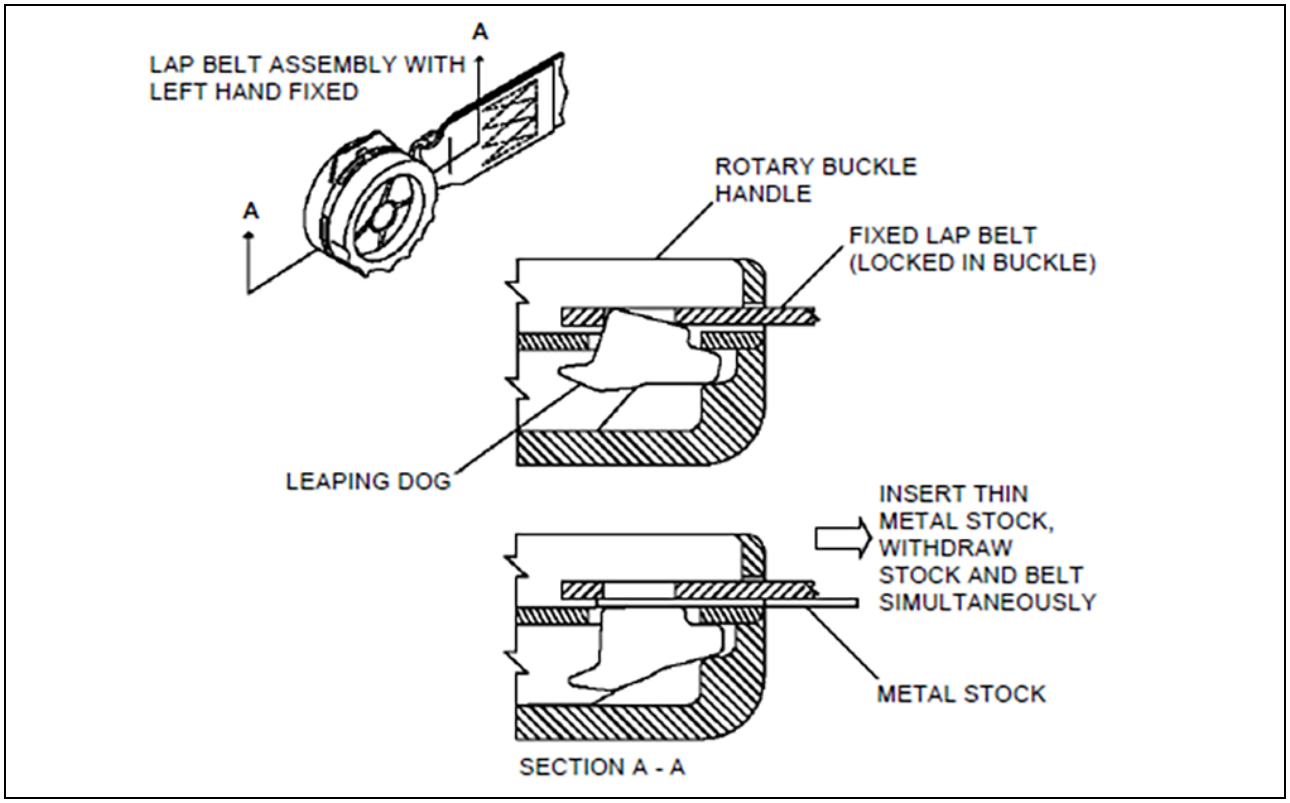


Figure 11
Removal of Rotary Buckle

D. Replace Suspect Screws

(1) Screw Replacement Procedure for PNR 1111475 Series Rotary Buckle Assemblies

(a) Use a pry tool to pry the nameplate button (PNR 1101813-01) free from the buckle. If necessary, pierce the middle of the button (button is soft material). Try to damage the button as little as possible so that it can be used again.

NOTE : An example of the optimal pierce location is shown with a red dot in Figure 12.

(b) Remove the self-locking nut (PNR MS21083N4 or PNR MS20364-428) and the four vane handle (PNR 1111419-01, 1111419-03, 1111419-05, 1111432-01 or 1111517-01) by inserting a 1/8 inch [3,2 mm] Allen wrench in the socket of the center screw (PNR 1101548-1).

(c) Turn the center screw (PNR 1101548-1) clockwise while holding the handle firmly to keep the nut from turning. Raise the handle slightly, as it loosens, to keep the nut captured in the hex opening until the nut is completely free.

(d) Remove the three steel balls (PNR 0908100-40) and temporarily store them in a clean, safe place.

Figure 12
Logo Button Optimal Pierce Location

(e) If the screws are the Torx head type (PNR 0901101-123) (as shown in Figure 13), then replace the screws with the new stainless steel hex head type (PNR 0901101-149) as follows :

WARNING : **DO NOT REMOVE ALL FOUR SCREWS AT THE SAME TIME. REMOVAL OF ALL SCREWS SIMULTANEOUSLY MAKES RE-ASSEMBLY OF THE BUCKLE MUCH MORE DIFFICULT.**

NOTE 1 : If re-assembly of buckle is not possible, return unit to Parker Meggitt.

NOTE 2 : Screws can be removed and installed in any sequence.

1 Use a T15 Torx bit to remove one screw (PNR 0901101-123).

NOTE : If a screw head breaks off during disassembly, return the unit to Parker Meggitt.

2 Use a 3/32 inch [2,4 mm] hex drive bit to install one new screw (PNR 0901101-149).

3 Repeat 1) and 2) for each of the four screws.

4 Torque the four screws (PNR 0901101-149) to 15 to 25 in-lbs (1.69 to 2.82 N-m).

Figure 13
Disassembled Rotary Buckle with Suspect Torx Head Screws

(f) Inspect greased areas, and if there is any contamination, clean as required.

(g) Apply a light coat of Mobil #28 grease to the three steel balls (PNR 0908100-40) and then place the steel balls in the three openings in the plate.

(h) Install the four vane handle (PNR 111419-01, 1111419-03, 1111419-05, 1111432-01 or 1111517-01).

(i) Start tightening the self-locking nut (PNR MS21083N4 or PNR MS20364-428) on the center screw (PNR 1101548-1) in counter-clockwise direction.

1 Make sure the handle is positioned with the cut-out portion facing downwards to capture the nut in the hex opening.

2 Use a 1/8 inch [3,2 mm] Allen wrench to tighten the assembly.

3 When the assembly is completely tight, back the nut off slightly (approximately 1/8 rotation) until the handle turns and causes the proper release.

(j) Put the buckle in an arbor press or equivalent tool. Put the logo on the center of the buckle, with the “PACIFIC SCIENTIFIC” text levelled evenly with the two plates.

NOTE : An example of the alignment can be seen in Figure 14.

(k) Hold a 7/16 inch [11 mm] socket in place on the button. Use arbor press or equivalent tool to press the button in place on the buckle.

Figure 14
PNR 1111475 Series Rotary Buckle Logo Button Alignment

(l) Check the functionality of the buckle as follows :

1 Rotate the buckle handle fully clockwise and release. Make sure the handle freely self-centers.

2 Repeat in the counter-clockwise direction. Repeat alternating directions for a total of 3 times minimum in each direction. Make sure that the buckle rotates freely in either direction without resistance and the handle should freely self-center

3 Insert a belt fitting and shake the unit. Make sure the belt fitting stays in the buckle and does not fall out.

4 Hold the buckle up so that the belt fitting is vertical.

5 Rotate the handle clockwise until the belt fitting falls freely.

6 Repeat steps 3 and 4 above releasing the belt fitting by rotating the handle counter-clockwise.

(m) Use a vibro engraving pen to engrave "**MOD. A**" on the back of the rotary buckle to re-identify the rotary buckle. If the buckle has a pad, use an ultra-fine permanent marker to mark **"MOD. A"** on the label inside the rotary buckle pad to re-identify the rotary buckle. Refer to Figure 15 on page 27 for an example of the re-identified rotary buckle and the location of the label for the rotary buckle pad.

(n) Chem film touch up of marked area with MIL-DTL-81706 per manufacturer's instructions if vibro engraved on metal back.

E. Installation of Rotary Buckles

(1) Insert lap belt fitting into new or repaired buckle. Refer to Figure 4 on page 16 for location of lap belt fitting.

NOTE : Fixed strap location is indicated by appropriate marking on buckle housing.

F. Instructions to Return Damaged Buckle Assemblies

(1) If a buckle does not pass inspection for missing or broken screw heads, remove the rotary buckle and return to Parker Meggitt for repair or replacement.

NOTE : The entire restraint assembly can also be returned to Parker Meggitt.

(2) Refer to paragraph 4.C. for removal of the existing rotary buckle from the restraint system.

(3) Replace the rotary buckle or restraint assembly with a spare, new, or repaired rotary buckle or restraint assembly.

(4) Refer to paragraph 4.E. for assembly of the new buckle to the restraint system.

(5) For repair of buckle assemblies or restraint systems, send affected units to one of the following locations for replacement. Refer to Table 3 on page 28 or Table 4 on page 28.

(6) For existing customers of Parker Meggitt who already have Spares ordering capability, please refer to Table 3 to place orders of FOC Hex Screws PNR 0901101-149.

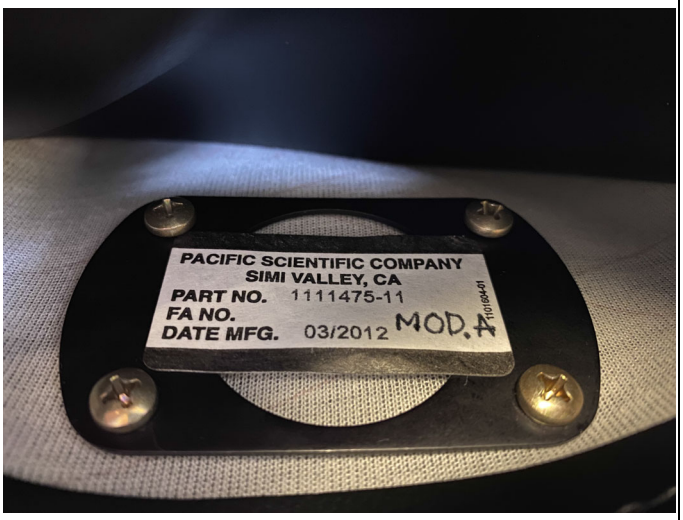


Figure 15

Re-Identified PNR 1111475 Series Rotary Buckle Assembly with "MOD. A"

(7) For customers who have never ordered from Parker Meggitt directly, please refer to Table 4 to contact our Authorized Distributor Proponent for ordering of FOC Hex Screws PNR 0901101-149 (SB 1111475-25-001-2023).

Table 3

Parker Meggitt Aftermarket Services

Worldwide Support :			
Parker Meggitt Aftermarket Services 11700 NW 102nd Road Suite 6 Miami, FL 33178 USA	Phone FAX Email	: : :	+ 1 305 477 4711 Ext. 260 / 229 + 1 305 477 9799 CX.USA@meggitt.com
Parker Meggitt Aerospace Asia Pacific Pte Ltd 1A Seletar Aerospace Link Singapore 797552	Phone DID Email	: : :	+ 65 6511 7200 + 65 6511 6282 CX.APAC@meggitt.com
Parker Meggitt - Service and Support Ansty Business Park Unit 2 Pilot Way Coventry CV7 9JU United Kingdom	Phone Email	: :	+ 44 2477 708 7299 CX.EMEA@meggitt.com

Table 4

Parker Meggitt Authorized Repair Shop

Parker Meggitt Authorized Repair Shop :			
John Cameron Aviation (Australia) Hangar 473, Birch Street Bankstown Airport, NSW 2200 Australia	Email	:	htlworkshop@jcaviation.com.au peter@jcaviation.com.au

Table 5

Parker Meggitt Authorized Distributor

Parker Meggitt Authorized Distributor :			
Proponent	Email	:	meggittreferral@proponent.com

G. Assistance

(1) For assistance on this SB information, requests for further information, or spare parts purchasing, please contact Parker Meggitt Customer Support. Refer to Table 6.

Table 6

Parker Meggitt Customer Support

Worldwide Support :			
Parker Meggitt Customer Services and Support	E-mail	:	TechSupport@meggitt.com

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