

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 001 dated Dec 01/23

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

| Page No. | Description of Change   | Effectivity |
|----------|---|-------------|
| 1        | Updated paragraphs 1.A.(1). and 1.A.(3).  | _           |
| 2        | Modified 'Date of Manufacturer (DOM)' to 'Date of Manufacture (DOM). Updated paragraph 1.B.(2).   | _           |
| 7        | Added 'Front View' and 'Back View' text in Figure 1.  | _           |
| 8        | Updated Conclusion and Corrective Actions.  |             |
| 9        | Added more inspection criteria in Suggested Operation Action section.   | _           |
| 10       | Updated flowchart (Figure 2) and added action to identify buckle as "INS. A".   | _           |
| 11       | Replaced 'faulty screws' with 'suspect screws'. Updated Warranty Information. Replaced 'reassembly' with 'reassemble'.                                | _           |
| 13       | Updated 3.A. Added website link. Added note under Material Necessary for Each Component. Updated Re-identified Parts / Existing Parts Accountability. | _           |
| 14       | Updated formatting of section 4.B.  | _           |
| 16 to 17 | Updated 4.B.(3). Revised inspection procedure by adding magnet test and disassembly procedure.  | _           |
| 18       | Added Figure 8.   | <b> </b>    |
| 19       | Added procedure for identifying buckle with "INS. A". Added part number re-marking procedure. Added Figure 9.   | _           |



| Page No. | Description of Change   | Effectivity |
|----------|---|-------------|
| 20       | Added identification instructions during rotary buckle removal.   | _           |
| 21       | Replaced 'faulty screws' with 'suspect screws'. Updated 4.D.(1).(a). Added metric units.  | _           |
| 22       | Updated formatting and changed CAUTION statement to WARNING statement. Added notes and metric units. Updated title of Figure 12.          | _           |
| 23       | Added equivalent tools can be used. Added metric units. Replaced '1/8 inch turn' to '1/8 rotation'.                                       | _           |
| 24       | Updated 4.D.(1).(I).1 and 4.D.(1).(m). Removed chem film touch up. Added reference to Figure 4 in Installation of Rotary Buckles section. | _           |
| 25       | Updated instructions to return damaged back assemblies. Added reference to Table 3. Updated title of Figure 14.                           | _           |
| 26 to 27 | Added new instructions to return damaged buckle assemblies. Added Tables 3 and 4.   |             |



**CAGE Code: 45402** 

#### **SERVICE BULLETIN**

#### **CHAPTER 25 - EQUIPMENT/FURNISHINGS**

### Information Regarding Screw Inspection for the

## **Restraint Systems**

#### with PNR 1111475 Series Rotary Buckles

#### **Trade Compliance Regulations:**

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| Export Control Standards :  |                 |                          |                 |  |  |  |
|-----------------------------|-----------------|--------------------------|-----------------|--|--|--|
| CH Control                  |                 | US Control               |                 |  |  |  |
| ECN / ML No. / Uncontrolled | N/A             | ECCN / EAR / USML No.    | 9E991           |  |  |  |
| Technology ML No.           | N/A             | Technology USML No.      | 9E991           |  |  |  |
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This manual is published by Parker Meggitt (CAGE Code = 45402) d/b/a Pacific Scientific HTL.

#### 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 September 2012.

Date of original issue: Sep 01/23



#### 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 September 2012, 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 September 2012. New production units do not contain the suspect screws.
- (3) This SB applies to all parts on-wing or in inventory that fall within the specified DOM ranges.

#### C. Concurrent Requirements

(1) Not applicable.



Table 1 Restraint Systems and Corresponding Rotary Buckle Part Numbers

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



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

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



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

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



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

| Restraint<br>Systems<br>PNR | Rotary<br>Buckle PNR | Restraint<br>Systems<br>PNR | Rotary<br>Buckle PNR | Restraint<br>Systems<br>PNR | Rotary<br>Buckle PNR |
|-----------------------------|----------------------|-----------------------------|----------------------|-----------------------------|----------------------|
| 2000114-71-<br>225          | 1111475-01           | 2000124-103-<br>001         | 1111475-03           | 2100018-03-<br>104          | 1111475-23           |
| 2000114-73-<br>001          | 1111475-03           | 2000124-21-<br>001          | 1111475-01           | 2100018-03-<br>245          | 1111475-23           |
| 2000114-73-<br>225          | 1111475-03           | 2000124-23-<br>001          | 1111475-03           | 2100018-13-<br>104          | 1111475-23           |
| 2000115-101                 | 1111475-01           | 2000124-31-<br>001          | 1111475-01           | 2100018-13-<br>224          | 1111475-23           |
| 2000115-103                 | 1111475-03           | 2100011-03                  | 1111475-03           | 2100018-13-<br>245          | 1111475-23           |
| 2000115-121                 | 1111475-01           | 2100018-01-<br>104          | 1111475-21           | 2100023-15-<br>001          | 1111475-05           |
| 2000124-101-<br>001         | 1111475-01           | 2100018-01-<br>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.
- (3) Suggested Operator Action:
  - (a) Refer to the flowchart in Figure 2 on page 10.
  - (b) Operators should check all parts 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.

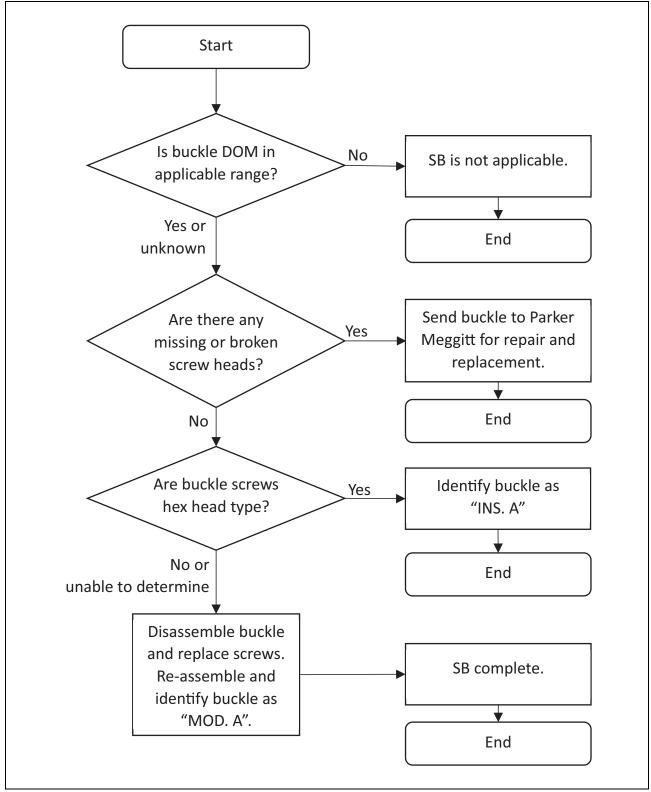
- (c) Visually inspect the restraint system's rotary buckle to determine the DOM (refer to section 4.A.).
  - Restraint systems with rotary buckles that have a DOM outside of the applicable ranges identified do not require inspection, replacement or any additional actions.

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.).
  - 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.
  - 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.).
  - 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 19).
- (h) (Optional) If the rotary buckle is missing its part number, identify the rotary buckle (refer to 4.B.(7) on page 19).
- (i) This SB does not affect restraint systems which use other types of Parker Meggitt [Pacific Scientific] buckles.



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 <u>mandatory</u> for the restraint system rotary buckles 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.
  - (2) Please contact Parker Meggitt for information regarding parts availability.
  - (3) Please visit https://www.meggitt.com/services\_and\_support/customer\_experience/ for updated information regarding this SB.
- 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 items listed are provided free of charge (FOC).

- (1) Hex Screw, PNR 0901101-149 (Qty = 4)
- (2) (As Required) Replacement Logo Button, PNR 1101813-01
- (3) (As Required) Replacement Steel Balls, PNR 0908100-40
- D. Material Necessary for Each Spare
  - (1) Not applicable.
- E. 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 24 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 19 for the marking process for each buckle.
  - (3) Removed buckles with missing part number shall be marked. Refer to 4.B.(7) on page 19 for marking process and refer to Table 1 on page 3 for part numbers of the restraint systems and related rotary buckles.
- F. Special Tooling Price and Availability
  - (1) Not required.
- G. Special Tooling necessary to accomplish this SB
  - (1) No special tooling required.



#### 4. ACCOMPLISHMENT INSTRUCTIONS

- A. Determine Applicability
  - (1) Check the PNR and DOM of the rotary buckle on the restraint system. Refer to Figure 1 on page 7 or Figure 14 on page 25 for PNR and DOM locations.
  - (2) If the rotary buckle is PNR 1111475 Series and has a DOM between January 2012 and September 2012, 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 September 2012, 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 listed 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 15 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 15.

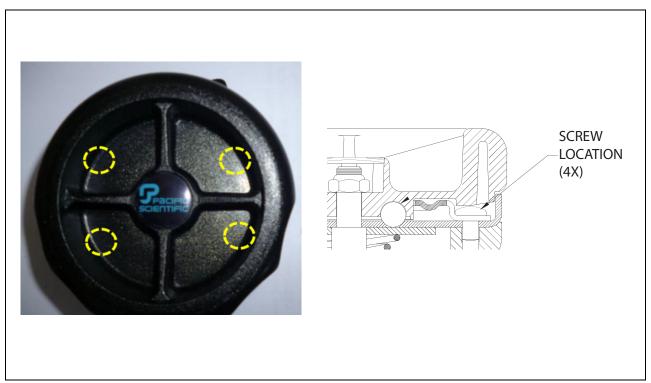


Figure 3
PNR 1111475 Series Rotary Buckle Screw Location



Figure 4 PNR 1111475 Series Rotary Buckle Openings for Inspection

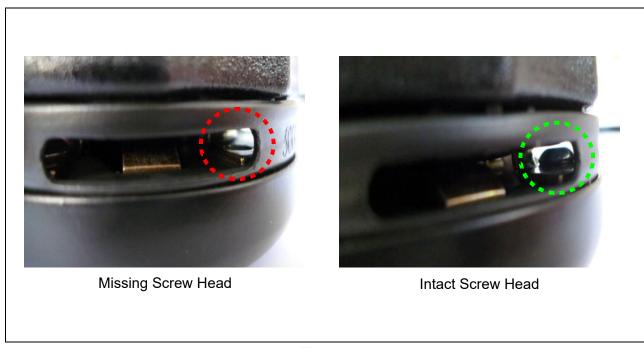


Figure 5 PNR 1111475 Series Rotary Buckle Screw Head



- (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.

- 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.
- A Hold the rotary buckle with the back plate vertically and with one screw hole at a 12 o'clock position.
- <u>3</u> Put a magnet against the buckle back in the circled yellow area in Figure 8 on page 18 and release the magnet.
- A Repeat  $\underline{2}$  and  $\underline{3}$  for the other 3 through (bolt) holes.
- 5 Interpret results for each of the following:
  - 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 8 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 8 on page 18.
  - <u>c</u> If the magnet slips off the buckle, the magnet is not strong enough to do this test. Use an applicable magnet.

#### (b) Method # 2 - Inspection

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 6) 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 7 on page 18 to distinguish the screw head types.

#### (c) Method # 3 - Disassembly

- 1 Disassemble the rotary buckle. Refer to 4.C. on page 20.
- Reassemble the rotary buckle if the screws have hex heads. Refer to 4.E. on page 24.
- (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 21 to replace the screws.



Figure 6
Side Belt Opening Inspection





Figure 7 Torx Head Screws vs. Hex Head Screws



Figure 8 Magnet Test on PNR 1111475 Series Rotary Buckle



- (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 9 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
Re-Identified PNR 1111475 Series Rotary Buckle Assembly with "INS. A"



#### 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 9 on page 19). 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 19).
- (2) Refer to Figure 10.
- (3) Insert a piece of thin metal stock 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.

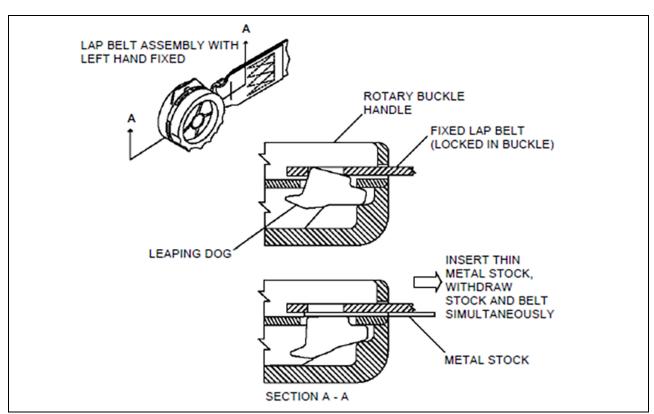


Figure 10
Removal of Rotary Buckle



- 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 11.

- (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 11
Logo Button Optimal Pierce Location



(e) If the screws are the Torx head type (PNR 0901101-123) (as shown in Figure 12), 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.

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

- Repeat  $\underline{1}$ ) and  $\underline{2}$ ) 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 12
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 or equivalent 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.
  - <u>1</u> 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.
  - <u>3</u> 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 13.



Figure 13
PNR 1111475 Series Rotary Buckle Logo Button Alignment



- (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.
- (I) Check the functionality of the buckle as follows:
  - 1 Rotate the buckle handle fully clockwise and release. Make sure the handle freely self-centers.
  - 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
  - <u>3</u> Insert a belt clip and shake the unit. Make sure the belt clip stays in the buckle and does not fall out.
  - 4 Hold the buckle up so that the clip is vertical. Rotate the buckle counterclockwise to allow the clip to release.
  - <u>5</u> Repeat steps 3 and 4 above releasing the belt clip 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 14 on page 25 for an example of the re-identified rotary buckle and the location of the label for the rotary buckle pad.
- E. Installation of Rotary Buckles
  - (1) Insert lap belt fitting into new or repaired buckle. Refer to Figure 4 on page 15 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 2 on page 26 or Table 3 on page 26.
- (6) For existing customers of Parker Meggitt who already have Spares ordering capability, please refer to Table 2 to place orders of FOC Hex Screws PNR 0901101-149.



Figure 14
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 3 to contact our Authorized Distributor Proponent for ordering of FOC Hex Screws PNR 0901101-149 (SB 1111475-25-001-2023).

# **Table 2**Parker Meggitt Aftermarket Services

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

# **Table 3**Parker Meggitt Authorized Repair Shop

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

# **Table 4**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 5.

**Table 5**Parker Meggitt Customer Support

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

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