QR
Structural Panel Fasteners

The QR Structural Panel Fastener qualifies to MIL-F-22978 and meets MS17731 and MS17732. The QR fastening system is lightweight, has a small envelope and is fast operating. Most versions lock and unlock in less than two turns. Positive stud retention is featured. Flush or protruding head styles and various recess configurations are available. Optional stud hold-out grommet is available which provides bottom flush condition. Receptacle provides .020 inch minimum radial float. There are other QR Panel Fastener styles and types which are not featured in this catalog; contact Fairchild Fasteners for details.

Typical QR Fastening System:

The QR Fastening System has a high-strength-to-weight ratio. Quick operating, it locks and unlocks in less than two turns. Optional stud hold-out grommet is available which provides bottom flush condition.

Stud assembly is retained in retracted position by sprint-loaded grommet and retaining ring.

Stud assembly is automatically ejected free from sub-structure during unlocking cycle.
QR
‘MS’ Version

Retaining Ring
Standard Version
FX10-1525

Material: 18-8 Type 300 Series CRES per AMS 7245 or QQ-W-423.
Heat Treat: Stressed relieved.
Finish: Passivated per QQ-P-35.
Weight: .033 lbs./100, approximate.

Installation Tool for FX10-1525 Retaining Ring:
FX10-1530T

Material: Alloy Steel
Finish: Black Oxide per MIL-C-13924

To Install FX10-1525 Retaining Ring:

1. Slide retaining ring onto mandrel (Figures A and B).
2. Slide handle onto mandrel (Figure C).
3. Place anvil on top side of panel to brace stud assembly.
4. Align tool assembly onto stud assembly and push on handle until retaining ring is captivated to the stud assembly (Figures D and E).
5. Remove tool.

Retaining Ring
Oversize Version.
FX10-1576

Material: 17-7Ph CRES per AMS 5528.
Finish: Passivated per QQ-P-35.
Weight: .043 lbs./100, approximate.

Notes:
1. Ring is designed to be used when hole in substructure is .391 or greater. See hole preparation on Page 69.
2. FX10-1576 retaining ring is hand installed.
QR
Standard Version

Stud Assemblies
Flush Head Style.
FX10-1558-( ) ( ) Series

Protruding Head Style.
FX10-1559-( ) ( ) Series

Material:
Screw: 8740 Alloy Steel per MIL-S-6049.
Grommet: 4140 Alloy Steel per MIL-S-5626.
Spring: 17-7PH CRES per AMS 5673.

Heat Treat:
Spring: Condition CH900 per MIL-H-6875.

Finish:
Screw and Grommet: Cadmium Plated per QQ-P-416, Type II, Class 3.
Spring: Passivated per QQ-P-35.

Specifications: See Page 2.

<table>
<thead>
<tr>
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<tbody>
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<td>.35</td>
<td>.41</td>
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<td>.62</td>
<td>.361</td>
<td>.430</td>
<td>.017</td>
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<tr>
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<td>.431</td>
<td>.500</td>
<td>.019</td>
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<td>FX10-1558-6 ( )</td>
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<td>.76</td>
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<td>.711</td>
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<td>1.04</td>
<td>.781</td>
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<td>1.05</td>
<td>1.11</td>
<td>.851</td>
<td>.920</td>
<td>.031</td>
</tr>
</tbody>
</table>

Notes:
2. For retaining ring information see Page 65.

How to Order:
FX10 — 1558 — 4 P

Recess options:
- p = recess per MS9006,
- No. 10 size
- TS = recess per NAS1078,
- No. 10 size

Grip range: (see stud part number selection Page 8 for grip range requirements)
- FX10-1558-4 = .361 to .430
- FX10-1559-4 = .326 to .395

Head style:
- FX10-1558 = Flush head style
- FX10-1559 = Protruding head style
Stud Assembly
Fully Retractable Flush Head Style.
FX10-15010( )P Series

Material:
- Screw: 8740 Alloy Steel per MIL-S-6049.
- Grommet: 4140 Alloy Steel per MIL-S-5626.

Heat Treat:

Finish:
- Screw and Grommet: Cadmium Plated per QQ-P-416, Type II, Class 3.

Specifications: See Page 2.

Notes:
1. Use with FX10-15009 hold-out grommet (see Page 6) to provide flush condition on bottom side of panel in retracted position, and with FX10-1502( ) Series or FX10-1510( ) Series receptacle. Retaining ring is not required.
3. For stud part number selection see Page 8.
4. For other head styles and recesses, contact Fairchild Fasteners.

<table>
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Receptacle Assemblies
FX10-1502( ) Series
FX10-1510( ) Series

Material:
- Receptacle: 1050 Steel per ASI C1050.
- Nut: 8740 Alloy Steel per MIL-S-6049.
- Insert: 4140 Alloy Steel per MIL-S-5626.

Heat Treat:

Finish:
- Receptacle, Nut, and Insert: Cadmium Plated per QQ-P-416, Type II, Class 3.

Weight: .016 lbs. each, approximate.
Hold-Out Grommet
FX10-15009-( ) Series

Material:
Grommet: 18-8 Type 300 Series CRES per ASTM-A-582.
Spring: 17-7PH CRES per AMS 5673.

Heat Treat:
Grommet: None.
Spring: Condition CH900.

Finish:
Grommet and Spring: Passivated per QQ-P-35.

Notes:
1. Use grommet with FX10-15010-( )P Series stud assembly and FX10-1502 Series or FX10-1510 Series receptacles.
2. First and second oversize styles are designed to provide greater strength or replacement of basic style due to panel damage.
3. See Page 71 for hole preparation and installation information.

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Basic</td>
<td>FX10-15009-1</td>
<td>.630</td>
<td>.500</td>
<td>.050</td>
<td>.128</td>
<td>FX10-15009-T10</td>
<td>FX10-15009-T12</td>
<td>FX10-15009-T11</td>
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<td>FX10-15009-2</td>
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<tr>
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<td>FX10-15009-4</td>
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<tr>
<td>2nd Oversize</td>
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<td>.530</td>
<td>.066</td>
<td>.128</td>
<td>FX10-15009-T15</td>
<td>FX10-15009-T16</td>
<td>FX10-15009-T11</td>
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<td></td>
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</tbody>
</table>

Flaring Tool
FX10-15009-T( ) Series

Material:
Tool Steel
Heat Treat: Rc45 min. per MIL-H-6875
Finish: Black Oxide per MIL-C-13924

Back-Up Tool
FX10-15009-T( ) Series

Material:
Tool Steel
Heat Treat: Rc45 min. per MIL-H-6875
Finish: Black Oxide per MIL-C-13924

Stud Assembly Installation Tool
FX10-15009-T11
Used to install FX10-15010-( )P Series stud assembly into FX10-15009-( ) grommet assembly.

| Part No.     | A Dia. |        |        |        |        |                  |               |                        |
|--------------|--------|--------|--------|--------|--------|-------------------|---------------|                        |
| FX10-15009-T10| .469   | .467   |        |        |        |                  |               |                        |
| FX10-15009-T13| .484   | .482   |        |        |        |                  |               |                        |
| FX10-15009-T15| .500   | .498   |        |        |        |                  |               |                        |
QR
Structural Panel Fasteners
Panel/Substructure Preparation and Installation Data.

Flush Head Styles.

<table>
<thead>
<tr>
<th>Application</th>
<th>A Dia.</th>
<th>B Dia.</th>
<th>Retaining Ring Part No.</th>
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<tr>
<td>Basic Installation</td>
<td>.378</td>
<td>.536</td>
<td>FX10-1525</td>
</tr>
<tr>
<td>When curvature of panel is 18 inches or less*</td>
<td>.395</td>
<td>.630</td>
<td>FX10-1576</td>
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</table>

*Subject to approval of structures group.

Notes:
1. Locate and drill "A" diameter hole through panel and substructure.
2. Countersink panel to diameter.
3. Counterbore to "B" diameter backside of panel or frontside of substructure to deep. Location is optional when "T1" = .125 or greater. Otherwise counterbore substructure (panel is preferred location).
4. Locate, drill and countersink two holes for rivets (not supplied).
5. Shim is required when total thickness ("T1," + "T2," plus any compressed gasketing material, paint or other finishes) equals .155 or less. Contact Fairchild Fasteners for details.

Basic Installation.

Notes:
1. Place stud assembly into panel.
2. Install retaining ring (see Page 3).
3. Rivet receptacle in place.

Protruding Head Styles.

Notes:
1. Refer to table at left.
2. Locate and drill "A" diameter hole through panel and substructure.
3. Counterbore to "B" diameter backside of panel or frontside of substructure to .036 to .030 deep. Location is optional when "T1" = .065 or greater. Otherwise counterbore substructure (Panel is preferred location).
4. Locate, drill and countersink two holes for rivets (not supplied).
5. Shim is required when total thickness ("T1," + "T2," plus any compressed gasketing material, paint or other finishes) equals .155 or less. Contact Fairchild Fasteners for details.
Structural Panel Fasteners

Panel/Substructure Preparation and Installation Data (cont’d.).

Grommet
FX10-15010-( )P Series.

<table>
<thead>
<tr>
<th>Grommet Assembly Part No.</th>
<th>T₁ Panel Thickness</th>
<th>H</th>
<th>J</th>
<th>K</th>
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<tbody>
<tr>
<td>FX10-15009-1</td>
<td>.125</td>
<td>.5020</td>
<td>.635</td>
<td>.110</td>
</tr>
<tr>
<td>FX10-15009-2</td>
<td>.156</td>
<td>.4995</td>
<td>.630</td>
<td>.146</td>
</tr>
<tr>
<td>FX10-15009-3</td>
<td>.125</td>
<td>.5175</td>
<td>.660</td>
<td>.110</td>
</tr>
<tr>
<td>FX10-15009-4</td>
<td>.156</td>
<td>.5150</td>
<td>.655</td>
<td>.146</td>
</tr>
<tr>
<td>FX10-15009-5</td>
<td>.125</td>
<td>.5335</td>
<td>.697</td>
<td>.110</td>
</tr>
<tr>
<td>FX10-15009-6</td>
<td>.156</td>
<td>.5310</td>
<td>.692</td>
<td>.146</td>
</tr>
</tbody>
</table>

Notes:
1. Select grommet dash number to panel “T₁” thickness.
2. Locate and drill “H” diameter hole through panel.
3. Countersink top of panel 101° 95° to “J” diameter.
4. Cウンtersink bottom of panel 101° 95° to “K” depth.
5. Locate and drill 378 .375 diameter hole through substructure.
6. Locate and drill two holes for rivets (not supplied).

Stud Assembly and Grommet Assembly Installation

Notes:
1. Place correct size grommet assembly in panel.
2. Place correct size flaring tool and back-up tool in place and apply sufficient pressure to flare grommet.
3. Insert pilot of stud installation tool into thread end of stud assembly.
4. Push tool and stud assembly through grommet until stud is captivated by hold-out spring.
5. Remove tool.
6. Rivet receptacle in place.
7. Installation is complete.

Stud Part Number Selection

Notes:
1. Determine grip range thickness. Note: Grip range thickness equals “T₁” + “T₂” plus the compressed thickness of any gasket (if used). Also allow for paint or other finish thickness.
2. Refer to appropriate table for stud type and style (see Pages 2, 4 or 5).
3. Locate grip range in table and find the corresponding part no.
QR
Structural Panel Fasteners

Panel/Substructure Preparation and Installation Data (cont’d.).

Grommet
FX10-15009-( )P Series.

<table>
<thead>
<tr>
<th>Grommet Assembly</th>
<th>T₁, Panel Thickness</th>
<th>H</th>
<th>J</th>
<th>K</th>
</tr>
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<td>.125</td>
<td>.5020</td>
<td>.635</td>
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<td>FX10-15009-2</td>
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<td>.4995</td>
<td>.630</td>
<td>.146</td>
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<tr>
<td>FX10-15009-3</td>
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<td>.5175</td>
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<td>.156</td>
<td>.5310</td>
<td>.692</td>
<td>.146</td>
</tr>
</tbody>
</table>

Notes:
1. Select grommet dash number to panel “T₁,” thickness.
2. Locate and drill “H” diameter hole through panel.
3. Countersink top of panel to “J” diameter.
4. Countersink bottom of panel to “K” depth.
5. Locate and drill .378-.375 diameter hole through substructure.
6. Locate and drill two holes for rivets (not supplied).

Stud Assembly and Grommet Assembly Installation

Notes:
1. Place correct size grommet assembly in panel.
2. Place correct size flaring tool and back-up tool in place and apply sufficient pressure to flare grommet.
3. Insert pilot of stud installation tool into thread end of stud assembly.
4. Push tool and stud assembly through grommet until stud is captivated by hold-out spring.
5. Remove tool.
6. Rivet receptacle in place.
7. Installation is complete.

Stud Part Number Selection

Notes:
1. Determine grip range thickness. Note: Grip range thickness equals “T₁” + “T₂” plus the compressed thickness of any gasket (if used). Also allow for paint or other finish thickness.
2. Refer to appropriate table for stud type and style (see Pages 2, 4 or 5).
3. Locate grip range on stud assembly drawing and find the corresponding part dash no.
NOTES:

1. MATERIAL:
   1.1 SCREW: 8740 ALLOY STEEL PER MIL-S-6049.
   1.2 GROMMET: 4140 ALLOY STEEL PER MIL-S-5626
   1.3 SPRING: 17-7 PH CRES PER AMS 5673.

2. HEAT TREAT:
   2.2 SPRING: CONDITION CH900 PER MIL-H-6875.

3. FINISH:
   3.1 SCREW AND GROMMET: CADMIUM PLATE PER QQ-P-416, TYPE II, CLASS 3.
   3.2 SPRING: PASSIVATE PER QQ-P-35.

4. .375 DIAMETER HOLE IN T2 MAY BE ENLARGED TO .390 DIAMETER (MAXIMUM) TO ALLOW FOR HOLE MISALIGNMENT.

5. RECESS OPTIONS AND CALLOUTS:
   5.1 MS9006 RECESSION: ADD “P” AFTER DASH NUMBER. EXAMPLE: FX10-1559-2P
   5.2 NAS1078 RECESSION: ADD “TS” AFTER DASH NUMBER. EXAMPLE: FX10-1559-2TS.

6. ANTI-SEIZE COMPOUND PER MIL-A-907 APPLIED TO THREAD.

DRAWING PROVIDES FORM, FIT AND FUNCTION DATA. DO NOT ATTEMPT TO MANUFACTURE PRODUCT USING THIS DRAWING.
Fairchild Fasteners

Tridair Products

DRAWING PROVIDES FORM, FIT AND FUNCTION DATA. DO NOT ATTEMPT TO MANUFACTURE PRODUCT USING THIS DRAWING.

SCREW ASSY, QR

DASH NUMBER | A  | B  | GRIP RANGE | WEIGHT LBS/EA
--------------|----|----|------------|--------------
-1( )        | .35| .41| .150 - .220| .010
-2( )        | .42| .48| .221 - .290| .013
-3( )        | .49| .55| .291 - .360| .015
-4( )        | .56| .62| .361 - .430| .017
-5( )        | .63| .69| .431 - .500| .019
-6( )        | .70| .76| .501 - .570| .021
-7( )        | .77| .83| .571 - .640| .023
-8( )        | .84| .90| .641 - .710| .025
-9( )        | .91| .97| .711 - .780| .027
-10( )       | .98| 1.04| .781 - .850| .029
-11( )       | 1.05| 1.11| .851 - .920| .031

DRAWING BY: JWH  DATE: 2-28-80  TITLE:
APPROVED BY:    DATE: 3-31-80
PROJECT NUMBER:
APPROVED BY:  DATE: 4-1-80
UNLESS OTHER RANGE SPECIFIED
TOLERANCES
DECIMALS XX = .02
MILLIMETERS XXX = .020
ANGLES = 2°
SURFACE FINISH 125 MICRONCHES
SFC: 29372  SHEET 1 OF 2
3016 West Lomit Boulevard
Torrance, CA 90505 USA
909-947-3366

FX10-1558-00

Tridair Products

Fairchild Fasteners
NOTES:

1. MATERIAL:
   1.1 SCREW: 8740 ALLOY STEEL PER MIL-S-6049.
   1.2 GROMMET: 4140 ALLOY STEEL PER MIL-S-5626.
   1.3 SPRING: 17-7 PH CRES PER AMS 5673.

2. HEAT TREAT:
   2.2 SPRING: CONDITION CH900 PER MIL-H-6875.

3. FINISH:
   3.1 SCREW AND GROMMET: CADMIUM PLATE PER QQ-P-416, TYPE II, CLASS 3.
   3.2 SPRING: PASSIVATE PER QQ-P-35.

4. USE WITH FX10-1510 OR FX10-1502 RECEPTACLE AND FX10-1525 RETAINING RING.

5. .375 DIAMETER HOLE IN T2 MAY BE ENLARGED TO .390 DIAMETER (MAXIMUM) TO ALLOW FOR HOLE MISALIGNMENT.

6. RECESS OPTIONS AND CALLOUTS:
   6.1 MS9006 RECESS: ADD "P" AFTER DASH NUMBER. EXAMPLE: FX10-1558-2P.
   6.2 NAS1078 RECESS: ADD "TS" AFTER DASH NUMBER. EXAMPLE: FX10-1558-2TS.

7. ANTI-SEIZE COMPOUND PER MIL-A-907 APPLIED TO THREAD.
### Screw Assy, QR

<table>
<thead>
<tr>
<th>DASH NUMBER</th>
<th>A</th>
<th>B</th>
<th>GRIP RANGE (MIN, MAX)</th>
<th>WEIGHT (LBS/EA)</th>
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<tbody>
<tr>
<td>-1P</td>
<td>.42</td>
<td>.41</td>
<td>.230 - .290</td>
<td>.13</td>
</tr>
<tr>
<td>-2P</td>
<td>.49</td>
<td>.48</td>
<td>.291 - .360</td>
<td>.15</td>
</tr>
<tr>
<td>-3P</td>
<td>.56</td>
<td>.55</td>
<td>.361 - .430</td>
<td>.17</td>
</tr>
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<td>-4P</td>
<td>.63</td>
<td>.62</td>
<td>.431 - .500</td>
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<tr>
<td>-5P</td>
<td>.70</td>
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<td>.21</td>
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</tbody>
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**Drawing Information**

- **Drawing by:** JWH
- **Date:** 3-6-80
- **Title:** Screw Assy, QR
- **Approved by:**
  - **Date:** 3-31-80
  - **Date:** 4-1-80
- **Unspecified Tolerances:** Dashed line = .002
- **Surface Finish:** 125 Microinches
- **FSC:** 29372
- **Sheet:** 1 of 2

---

**Drawing Provides Form, Fit and Function Data. Do Not Attempt to Manufacture Product Using This Drawing.**
NOTES:

1. MATERIAL:
   1.1 SCREW: 8740 ALLOY STEEL PER MIL-S-6049.
   1.2 GROMMET: 4140 ALLOY STEEL PER MIL-S-5626

2. HEAT TREAT:

3. FINISH:
   3.1 SCREW AND GROMMET: CADMIUM PLATE PER QQ-P-416, TYPE II, CLASS 3.

4. USE WITH FX10-15009 OR CA17064 HOLD-OUT GROMMET TO PROVIDE FLUSH CONDITION ON BOTTOM SIDE OF PANEL IN RETRACTED POSITION, AND FX10-1502 RECEPTACLE. SEE GROMMET DRAWING FOR PANEL PREPARATION AND INSTALLATION.

5. AN FX10-1579-T11 INSTALLATION TOOL MUST BE USED TO INSTALL SCREW ASSEMBLY INTO FX10-15009 GROMMET.

6. ANTI-SEIZE COMPOUND PER MIL-A-907 APPLIED TO THREAD.
NOTES:

1. MATERIAL:
   1.1 RECEPTACLE: 1050 STEEL PER AISI C1050 OR AMS 5085.
   1.2 NUT: 4140 OR 8740 ALLOY STEEL PER MIL-S-5626 OR MIL-S-6049.
   1.3 INSERT: 4140 ALLOY STEEL PER MIL-S-5626.

2. HEAT TREAT:
   2.1 RECEPTACLE: FTU 150ksi MINIMUM PER MIL-H-6875.
   2.2 NUT: FTU 180 KSI MINIMUM PER MIL-H-6875.
   2.3 INSERT: FTU 160 KSI MINIMUM PER MIL-H-6875.

3. FINISH:
   3.1 RECEPTACLE, NUT AND INSERT: CADMIUM PLATE PER QQ-P-416, TYPE II, CLASS 3.

4. TO BE USED WITH FX10-1500 AND FX10-15000 SERIES, 4 LEAD SCREW ASSEMBLIES.

5. SHIMS FOR THIS RECEPTACLE: SEE FX10-1550 DRAWING.

6. RECEPTACLE MAINTAINS 5 IN-LBS (MINIMUM) RUNNING TORQUE-OUT AFTER 200 COMPLETE CYCLES.
NOTES:

1. MATERIAL:
   1.1 RECEPTACLE: 1050 STEEL PER AISI C1050 OR AMS 5085.
   1.2 NUT: 4140 OR 8740 ALLOY STEEL PER MIL-S-5626 OR MIL-S-6049.
   1.3 INSERT: 4140 ALLOY STEEL PER MIL-S-5626.

2. HEAT TREAT:
   2.1 RECEPTACLE: FTU 150 KSI MINIMUM PER MIL-H-6875.
   2.2 NUT: FTU 180 KSI MINIMUM PER MIL-H-6875.
   2.3 INSERT: FTU 160 KSI MINIMUM PER MIL-H-6875.

3. FINISH:
   3.1 RECEPTACLE, NUT AND INSERT: CADMIUM PLATE PER QQ-P-416, TYPE II, CLASS 3.

4. TO BE USED WITH FX10-1500 AND FX10-15000 SERIES, 4 LEAD SCREW ASSEMBLIES.

5. SHIMS FOR THIS RECEPTACLE: SEE FX10-1550 DRAWING.
NOTES:

1. THIS RING DESIGNED FOR USE ON FX10-1500 SERIES SCREW ASSEMBLIES AND CA1797 TYPE STUD NUTS.

2. INSTALLATION TOOL:
   A.) USE FX10-1530T TO INSTALL RINGS ON FX10-1500 SERIES SCREW ASSEMBLYS.
   B.) USE CA1797-T10 TO INSTALL RINGS ON CA1795-( ) AND CA17036-( ) STUD NUTS.

3. PANEL PREPARATION DATA:
   A.) RETAINING RING RECESS: C’BORE .531 DIA X .030-.035 DEEP.
   B.) MAX SUBSTRUCTURE HOLE: .390 DIA.

4. MATERIAL: 18-8 TYPE 300 SERIES CRES, PER MIL-S-5059 AND/OR QQ-S-766 (CHEMISTRY ONLY).

5. HEAT TREAT: STRESS RELIEVE.

6. FINISH: PASSIVATED PER QQ-P-35.

7. WEIGHT: .312 LBS/1000 PIECES (APPROXIMATE).

UNLESS OTHERWISE SPECIFIED
TOLERANCE:
   DECIMALS
   .XX = .02
   XXX = .010
   ANGLE = ± 2°
SURFACE FINISH: 125 MICROINCHES

AEROSPACE FASTENER DIVISION
ENGINEERING R&D CENTER
1 CIVIC PLAZA, SUITE 500
CARSON, CA 90745

TRIDAIR PRODUCT
FX10-1525

RETAILING RING
OR FASTENER

ECN 33937

FAIRCHILD PRODUCTS
DRAWING PROVIDES FORM, FIT AND FUNCTION DATA. DO NOT ATTEMPT TO MANUFACTURE PRODUCT USING THIS DRAWING.
NOTES:
1. TO BE USED WITH FX10-1502, FX10-1520, FX10-1570 FX10-1540 SCREW ASSEMBLIES.
2. C’BORE .625 ±.010 DIA. x .031 DEEP IN -.000 OUTER PANEL, OR INNER STRUCTURE FOR RETAINING RING RECESS.

DRAWING PROVIDES FORM, FIT AND FUNCTION DATA. DO NOT ATTEMPT TO MANUFACTURE PRODUCT USING THIS DRAWING.

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<th>DATE</th>
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<td>F</td>
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<td>12-11-70</td>
<td>G</td>
<td>CORRECTED TOLERANCES</td>
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17-7 PH CRES
MATERIAL OR NAME: AMS 5528
SPECIFICATION: RETAINING RING
FX10-1576

MFR’S OF NEWTON INSERTS AND CALFAX FASTENERS
3000 W. LOMITA BLVD., TORRANCE, CALIFORNIA, 90505, PHONES: 213-775-3626
NOTES:
1. SELECT DASH NO. ACCORDING TO PANEL THICKNESS
2. USE FX10-19009-T11 TOOL TO INSTALL STUD IN GROMMET AS SHOWN ON SHT 2
3. SEE SHT 2 FOR GROMMET & PANEL PREPARATION DIMENSIONS.
**STUD INSTALLATION**

**DRAWING PROVIDES FORM, FIT AND FUNCTION DATA. DO NOT ATTEMPT TO MANUFACTURE PRODUCT USING THIS DRAWING.**

**MATERIAL OR NAME**

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<tr>
<td>TOLERANCES: DECIMALS: .XX ± .010 .XXX ± .010 ANGLES ± 1°</td>
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<td>APPD: FJC</td>
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<td>WEIGHT:</td>
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<td>3000 W. LOMITA BLVD., TORRANCE, CALIFORNIA, 90908, PHONES: 213-775-3626</td>
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**TRIDIAM PRODUCTS**

**FX10-15009**

**STUD ASSY**

**STUD HOLD-OUT**
NOTES:

1. MATERIAL: TOOL STEEL, AISI TYPE 06.

2. HEAT TREAT: Rc 45 MINIMUM PER MIL-H-6875.

3. FINISH: BLACK OXIDE PER MIL-C-13924A, CLASS I.

4. THIS TOOL IS TO BE USED WITH A FX10-15009-T12 BACK-UP TOOL TO INSTALL FX10-15009-1 AND FX10-15009-2 GROMMET.

5. TOOL SHALL HAVE PART NUMBER ETCHED OR STAMPED IN AREA SHOWN.
NOTES:

1. MATERIAL: TOOL STEEL.

2. HEAT TREAT: Rc 45 MINIMUM PER MIL-H-6875.

3. FINISH: BLACK OXIDE PER MIL-C-13924A, CLASS 1.

4. TOOL SHALL HAVE DASH NUMBER, (-T11) ETCHED OR STAMPED ON .374-.369 DIA.

NOTE:
INSERT TOOL AND SCREW ASSEMBLY AS SHOWN THROUGH TOP SIDE OF GROMMET.
NOTES:
1. MATERIAL: TOOL STEEL.
3. FINISH: BLACK OXIDE PER MIL-C-13924A, CLASS I.
4. THIS TOOL IS TO BE USED WITH A FX10-15009-T10 FLARE TOOL TO INSTALL FX10-15009-1 AND FX10-15009-2 GROMMETS.
5. TOOL SHALL HAVE PART NUMBER ETCHED OR STAMPED IN AREA SHOWN.
NOTES:
1. MATERIAL: TOOL STEEL.
2. HEAT TREAT: Rc 45 MINIMUM PER MIL-H-6875.
3. FINISH: BLACK OXIDE PER MIL-C-13924A, CLASS I.
4. THIS TOOL IS TO BE USED WITH A FX10-15009-T14 BACK-UP TOOL TO INSTALL FX10-15009-3 AND FX10-15009-4 GROMMETS.
5. TOOL SHALL HAVE PART NUMBER ETCHED OR STAMPED IN AREA SHOWN.

DRAWING PROVIDES FORM, FIT AND FUNCTION DATA. DO NOT ATTEMPT TO MANUFACTURE PRODUCT USING THIS DRAWING.
NOTES:
1. MATERIAL: TOOL STEEL.
2. HEAT TREAT: Rc 45 PER MIL-H-6875.
3. FINISH: BLACK OXIDE PER MIL-C-13924A, CLASS I.
4. THIS TOOL IS TO BE USED WITH A FX10-15009-T16 BACKUP TOOL TO INSTALL FX10-15009-5 AND FX10-15009-6 GROMMET.
5. TOOL SHALL HAVE PART NUMBER ETCHED OR STAMPED IN AREA SHOWN.

FLARING TOOL

FX10-15009-T15
NOTES:
1. MATERIAL: TOOL STEEL.
2. HEAT TREAT: Rc 45 MINIMUM PER MIL-H-6875.
3. FINISH: BLACK OXIDE PER MIL-C-13924A, CLASS I.
4. THIS TOOL IS TO BE USED WITH A FX10-15009-T16 BACK-UP TO INSTALL FX10-15009-3 AND FX10-15009-4 GROMMETS.
5. TOOL SHALL HAVE PART NUMBER ETCHED OR STAMPED IN AREA SHOWN.
NOTES:
1. MATERIAL: TOOL STEEL.
3. FINISH: BLACK OXIDE PER MIL-C-13924A, CLASS I.
4. THIS TOOL IS TO BE USED WITH A FX10-15009-T15 FLARE TOOL TO INSTALL FX10-15009-5 AND FX10-15009-6 GROMMETS.
5. TOOL SHALL HAVE PART NUMBER ETCHED OR STAMPED IN AREA SHOWN.