

We make it ***possible***

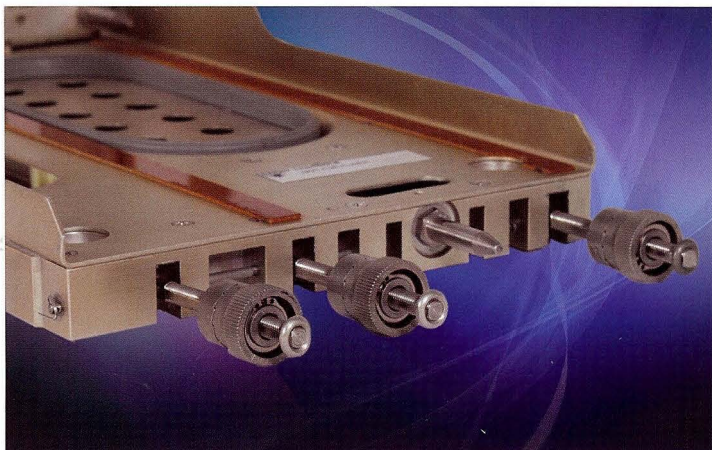
## AVIONICS RACKING SYSTEMS HARDWARE SOLUTIONS

 | HUTCHINSON®



# Hutchinson Aerospace Hardware Solutions

Hutchinson Aerospace manufactures a complete line of avionics racking hardware solutions used to position, retain, insert, extract, electrically bond, and isolate avionics equipment in aircraft and ground vehicles. Our high strength and low weight solutions are proven with over 60 years of use in the harshest environments. Experts in anti-vibration and environmental qualification, Hutchinson Aerospace is able to recommend the optimum hardware solution for the variety of needs faced while packaging sensitive electronics. Hutchinson Aerospace also offers a comprehensive line of standard ARINC trays, custom mounting trays, and avionics enclosures.



## Family of Ruggedized Self-locking Front Retainer

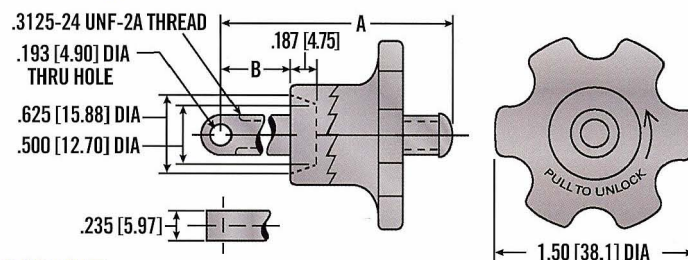


### Retainer MS14108 Type

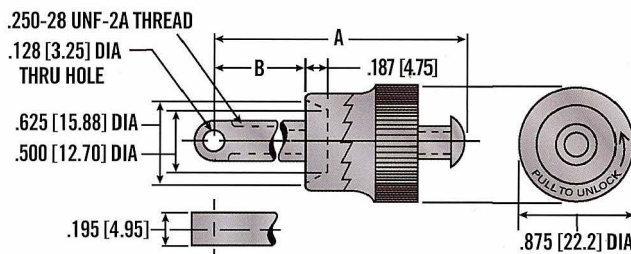
Commercial | Military | Rotary | Ground



#### 21716 Type



#### 21953 Type

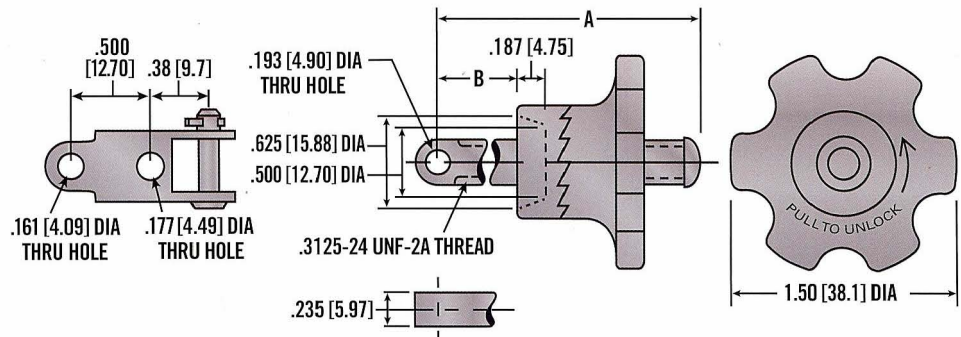


| Part Number            | MS Number | Weight | Material        | A           | B           | Max Tensile Load |
|------------------------|-----------|--------|-----------------|-------------|-------------|------------------|
| 21716-1 without clevis | MS14108-1 | 2.2 oz | Stainless steel | 1.88 [47.8] | 1.00 [25.4] | 1,750 lbs        |
| 21716-2 without clevis | MS14108-2 | 2.4 oz | Stainless steel | 2.75 [69.9] | 1.88 [47.8] | 1,750 lbs        |
| 21953-1 without clevis | MS14108-3 | 1.5 oz | Stainless steel | 1.88 [47.8] | 1.00 [25.4] | 1,000 lbs        |
| 21953-2 without clevis | MS14108-4 | 1.6 oz | Stainless steel | 2.75 [69.9] | 1.88 [47.8] | 1,000 lbs        |



# Retainer 21716

Commercial | Military | Rotary | Ground

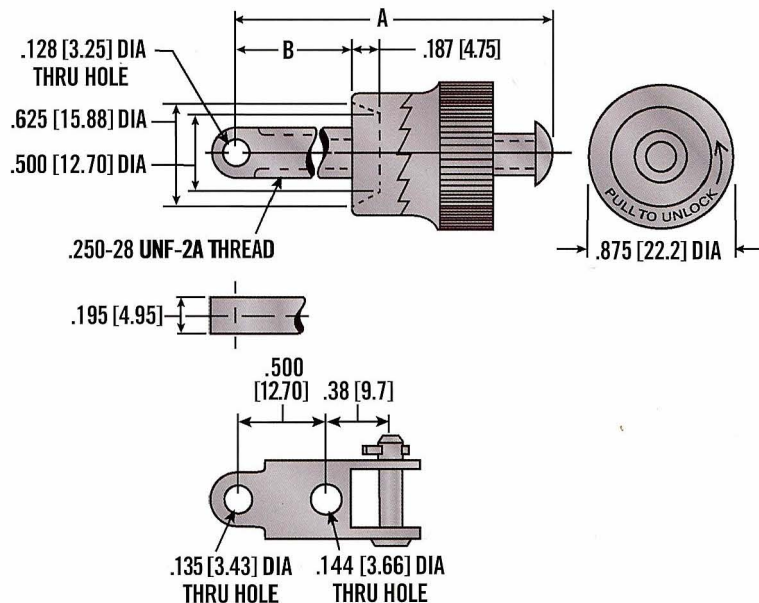


| Part Number            | MS Number | Weight | Material        | A           | B           | Max Tensile Load |
|------------------------|-----------|--------|-----------------|-------------|-------------|------------------|
| 21716-1 without clevis | MS14108-1 | 2.2 oz | Stainless steel | 1.88 [47.8] | 1.00 [25.4] | 1,750 lbs        |
| 21716-2 without clevis | MS14108-2 | 2.4 oz | Stainless steel | 2.75 [69.9] | 1.88 [47.8] | 1,750 lbs        |
| 21716-3 with clevis    | —         | 2.5 oz | Stainless steel | 1.88 [47.8] | 1.00 [25.4] | 1,750 lbs        |
| 21716-4 with clevis    | —         | 2.7 oz | Stainless steel | 2.75 [69.9] | 1.88 [47.8] | 1,750 lbs        |



# Retainer 21953

Commercial | Military | Rotary | Ground

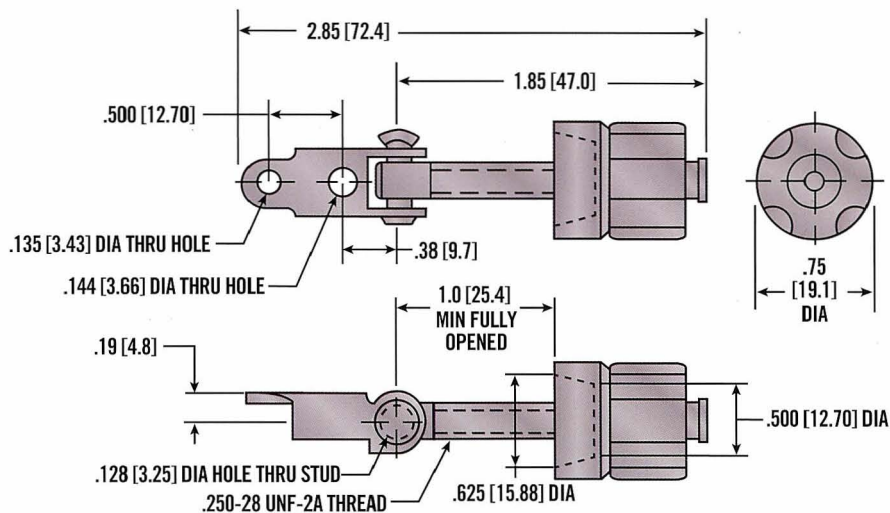


| Part Number            | MS Number | Weight | Material        | A           | B           | Max Tensile Load |
|------------------------|-----------|--------|-----------------|-------------|-------------|------------------|
| 21953-1 without clevis | MS14108-3 | 1.5 oz | Stainless steel | 1.88 [47.8] | 1.00 [25.4] | 1,000 lbs        |
| 21953-2 without clevis | MS14108-4 | 1.6 oz | Stainless steel | 2.75 [69.9] | 1.88 [47.8] | 1,000 lbs        |
| 21953-3 with clevis    | —         | 1.7 oz | Stainless steel | 1.88 [47.8] | 1.00 [25.4] | 1,000 lbs        |
| 21953-4 with clevis    | —         | 1.8 oz | Stainless steel | 2.75 [69.9] | 1.88 [47.8] | 1,000 lbs        |



# Retainer SLR1

Commercial | Military | Rotary | Ground

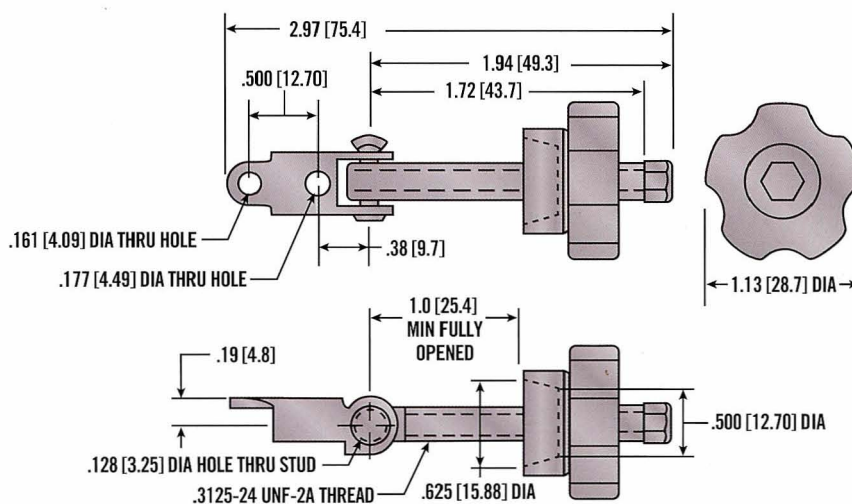
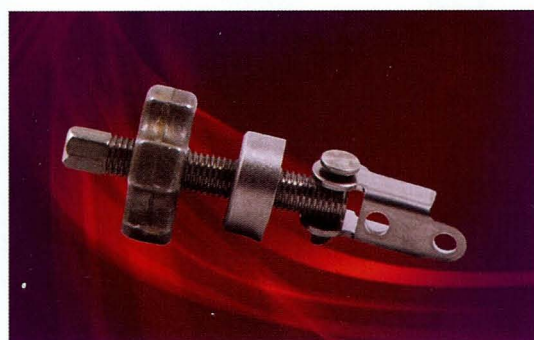


| Part Number                  | Weight | Material            | Max Tensile Load |
|------------------------------|--------|---------------------|------------------|
| SLR1-AB with clevis & pin    | 1.6 oz | All stainless steel | 1,500 lbs        |
| SLR1-BB without clevis & pin | 1.4 oz | All stainless steel | 1,500 lbs        |



# Retainer SLR2

Commercial | Military | Rotary | Ground



| Part Number                  | Weight | Material                           | Max Tensile Load |
|------------------------------|--------|------------------------------------|------------------|
| SLR2-AB with clevis & pin    | 1.6 oz | Stainless steel with aluminum knob | 1,500 lbs        |
| SLR2-BB without clevis & pin | 1.4 oz | Stainless steel with aluminum knob | 1,500 lbs        |

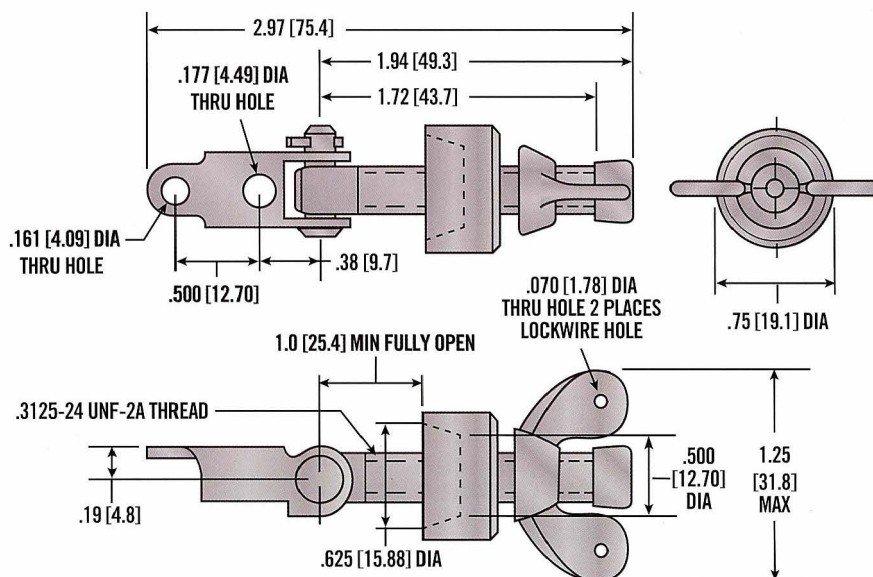


# Retainer 3393-001000

Commercial | Military | Rotary | Ground



| Part Number | Weight | Material                                           | Max Tensile Load |
|-------------|--------|----------------------------------------------------|------------------|
| 3393-001000 | 1.6 oz | Stainless steel with cadmium plated steel wing nut | 1,750 lbs        |

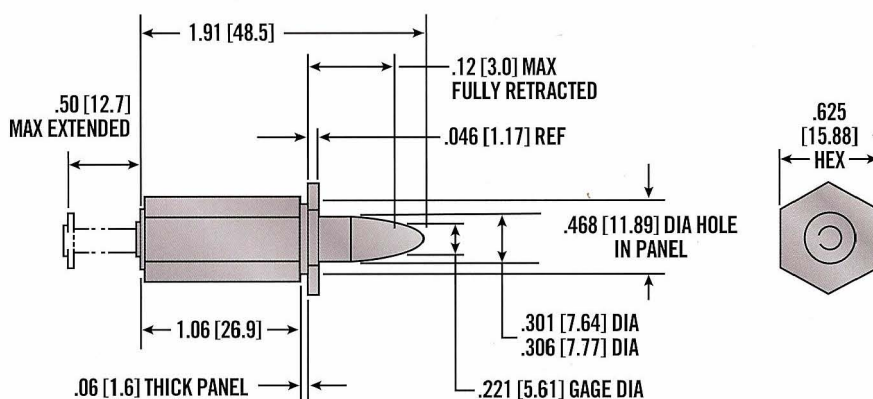


# Rear Retainer 91703

Commercial | Military | Rotary | Ground



| Part Number | Weight | Material        |
|-------------|--------|-----------------|
| 91703-1     | 1.0 oz | Stainless steel |

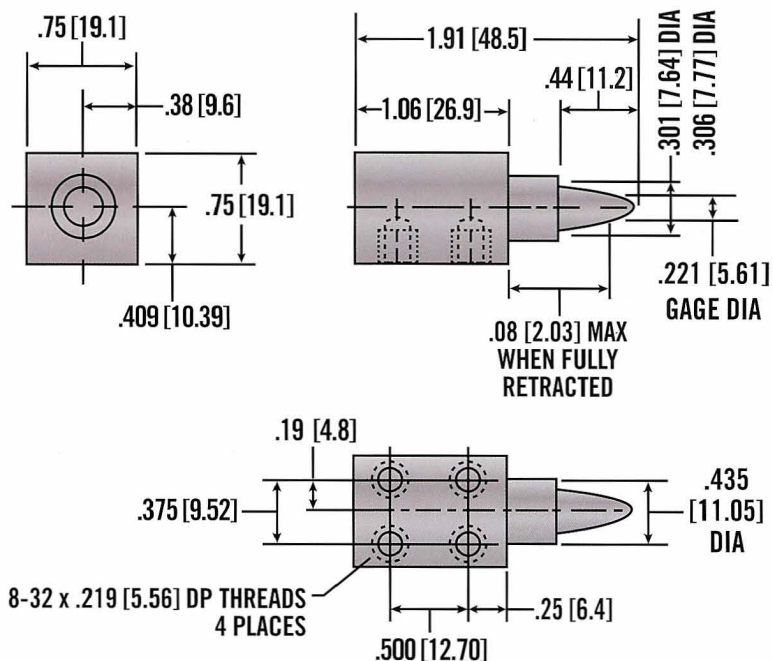




## Rear Retainer

3098-005000

Commercial | Military | Rotary | Ground



| Part Number | Weight | Material                            |
|-------------|--------|-------------------------------------|
| 3098-005000 | 1.5 oz | Stainless steel with aluminum block |

PN 3098-005-000 is now 3098-005000

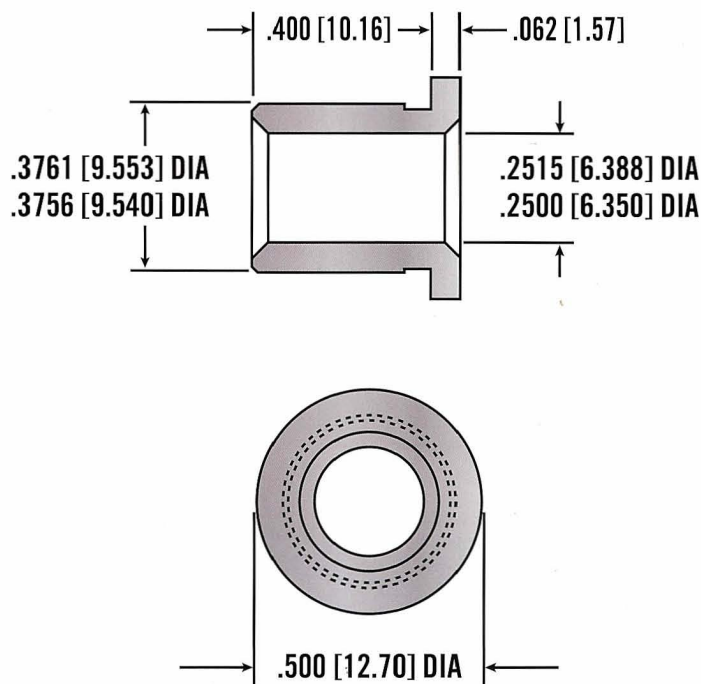
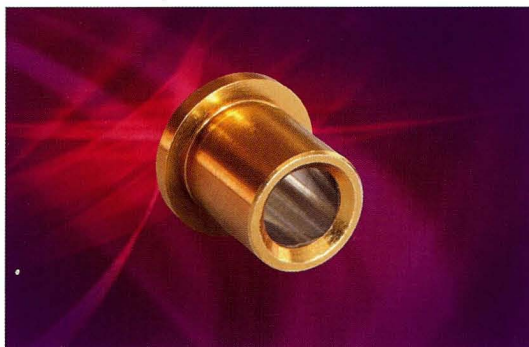
## Hardened Stainless Steel Bushing



## Bushing

96369

Commercial | Military | Rotary | Ground



| Part Number | Weight  | Material                            |
|-------------|---------|-------------------------------------|
| 96369-1     | 4 grams | 17-4 Stainless steel cadmium plated |

## Hook

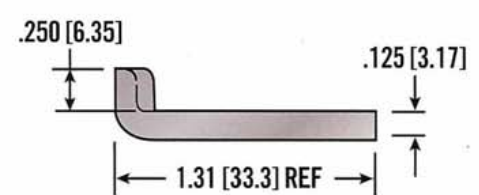
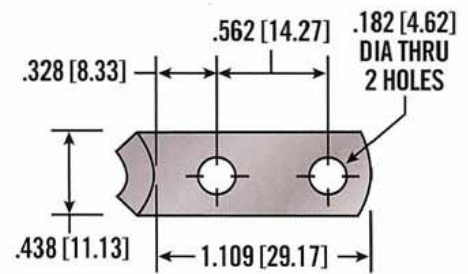
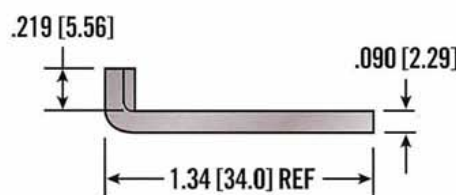
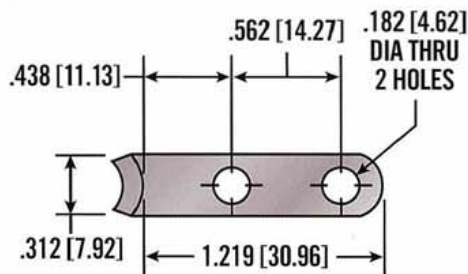
# 430913-00901

# 439507-01901

Commercial | Military | Rotary | Ground



| Part Number  | Weight  | Material        |
|--------------|---------|-----------------|
| 430913-00901 | 4 grams | Stainless steel |
| 439507-01901 | 9 grams | Stainless steel |



## Electrical Grounding Strap

## Bonding Strap

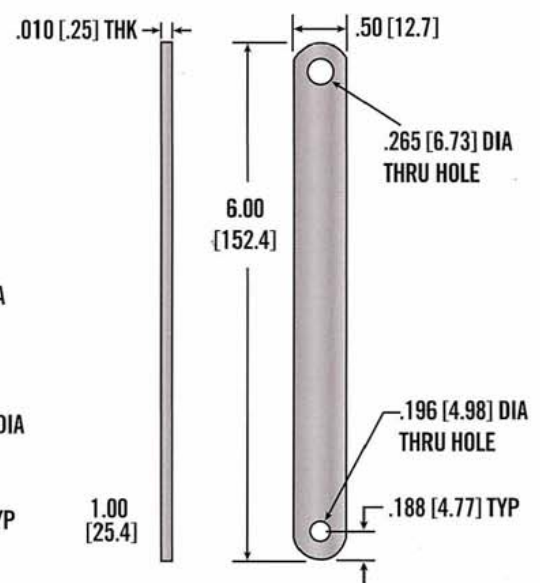
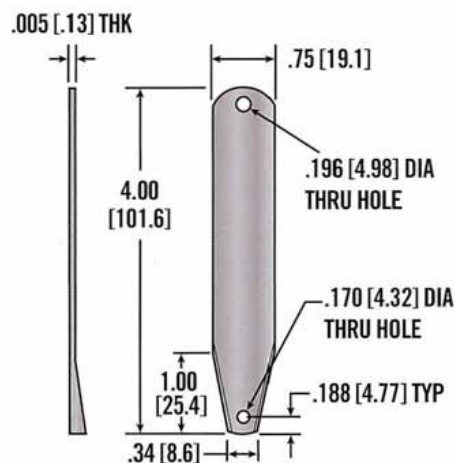
# 885368-90804

# 880749-90704

Commercial | Military | Rotary | Ground



| Part Number  | Weight  | Material        |
|--------------|---------|-----------------|
| 885368-90804 | 3 grams | Phosphor bronze |
| 880749-90704 | 3 grams | Phosphor bronze |



AVIONICS RACKS, TRAYS AND STRUCTURES

# Aerospace & Defense

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Project Management  
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Mil-F-85731  
Mil-STD 810  
RTCA-DO/160  
Mil-STD 167



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# BARRY MS TYPE RETAINERS

**Mil-qualified positive self-locking retainers for no-fail retention of avionic and ground vehicle electronic equipment**

## Applications

- For secure case and rack mounting of equipment in avionic or ground vehicles

## Features

- Insures restraint under severe environmental conditions such as those defined in MIL-STD-810 and MIL-C-172
- Furnished in light and heavy-duty construction and with integral clamp assembly
- Positive self-locking feature prevents backoff
- Ratchet design speeds and facilitates fastener engagement

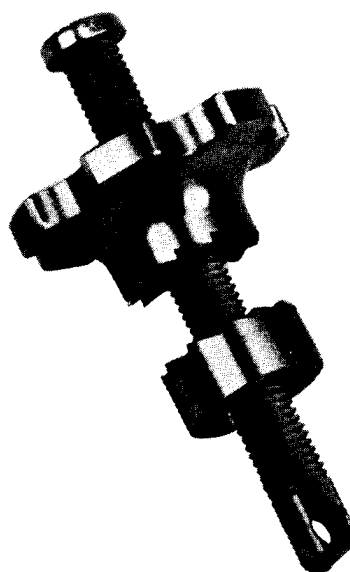
## Environmental Data

- Stainless steel construction
- Resists corrosion and meets the environmental conditions outlined in MIL-STD-810 and MIL-C-172

## Installation Data

- No special tools required
- Suitable for original or retrofit installation on equipment mounting racks or shelves and on MS-91405 and electronic mounting bases, including Barry Controls AOLA and ATR

MS 14108-1,-2



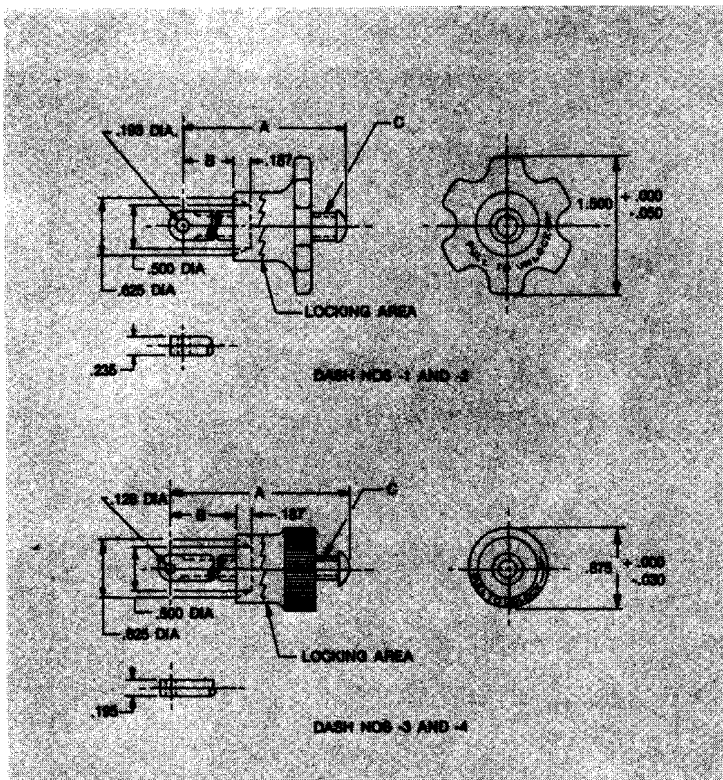
MS 14108-3,-4



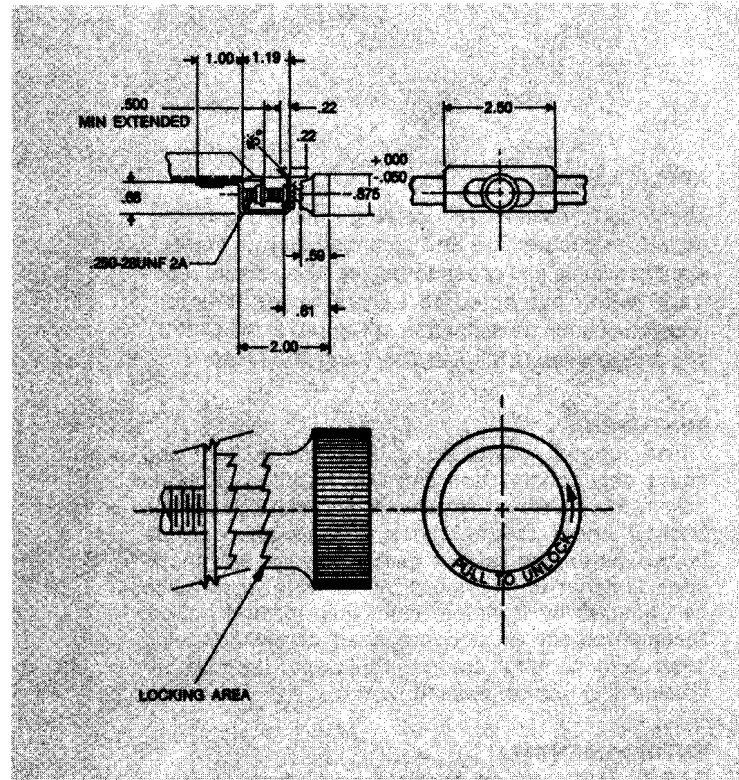
# BARRY MS TYPE RETAINERS

## DIMENSIONS & PERFORMANCE CHARACTERISTICS

### MS 14108



### MS 14109



| Barry<br>Part Number<br>without clevis | A                                | B    | C              | MS<br>Number* | For Two Retainers   |                     | Max. Wt.<br>(ozs.) |
|----------------------------------------|----------------------------------|------|----------------|---------------|---------------------|---------------------|--------------------|
|                                        |                                  |      |                |               | Equipment<br>Weight | Rated<br>Max. Load. |                    |
| 21716-1                                | 1.88                             | 1.00 | .312-24-UNF 2A | MS14108-1     | 160 lbs.            | 2000 lbs.           | 3                  |
| 21716-2                                | 2.75                             | 1.88 | .312-24-UNF 2A | MS14108-2     | 160 lbs.            | 2000 lbs.           | 3                  |
| 21953-1                                | 1.88                             | 1.00 | .250-28 UNF 2A | MS14108-3     | 40 lbs.             | 1000 lbs.           | 2.5                |
| 21953-2                                | 2.75                             | 1.88 | .250-28 UNF 2A | MS14108-4     | 40 lbs.             | 1000 lbs.           | 2.5                |
| 21927-1                                | See Dimensional Dwg. Above Right |      |                | MS14109       | 40 lbs.             |                     | 6                  |

\* MS Numbers refer to retainers without clevis only.

#### MS14108-Type\* Retainers With Optional Clevis

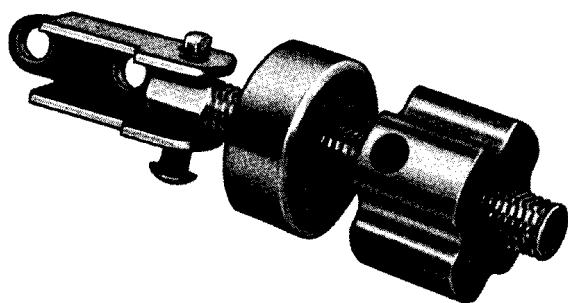
| Barry<br>Part Number<br>with clevis | A    | B    | C              | Max Equipment Weight (2 Retainers) | Max Wt. (ozs.) |
|-------------------------------------|------|------|----------------|------------------------------------|----------------|
| 21716-3                             | 1.88 | 1.00 | .312-24-UNF 2A | 80 lbs.                            | 3.5            |
| 21716-4                             | 2.75 | 1.88 | .312-24-UNF 2A | 80 lbs.                            | 3.5            |
| 21953-3                             | 1.88 | 1.00 | .250-28 UNF 2A | 40 lbs.                            | 3.0            |
| 21953-4                             | 2.75 | 1.88 | .250-28 UNF 2A | 40 lbs.                            | 3.0            |

\* MS Number for reference only. When ordering, use Barry part numbers.

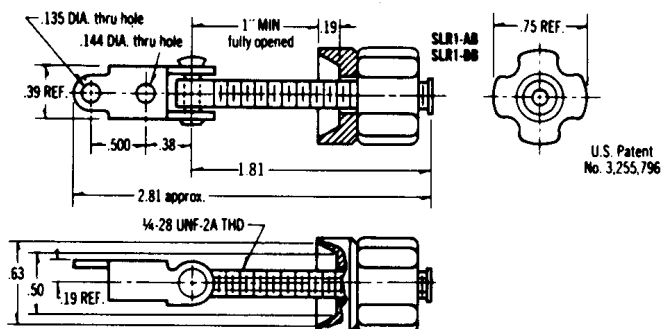
# RETAINERS & HOOKS

## Standard Hardware For Mounting Electronic Equipment

PART NUMBER  
**SLR1**  
SELF-LOCKING  
FRONT RETAINER

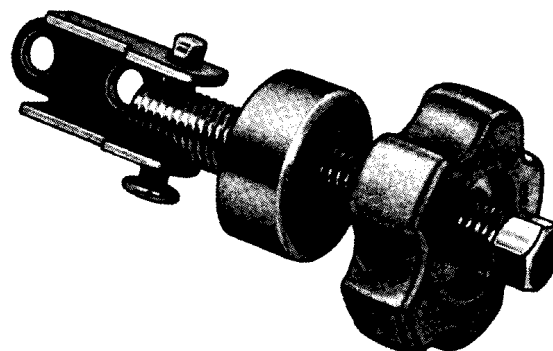


Weight: 1.50 oz. approx.  
Material: all stainless steel

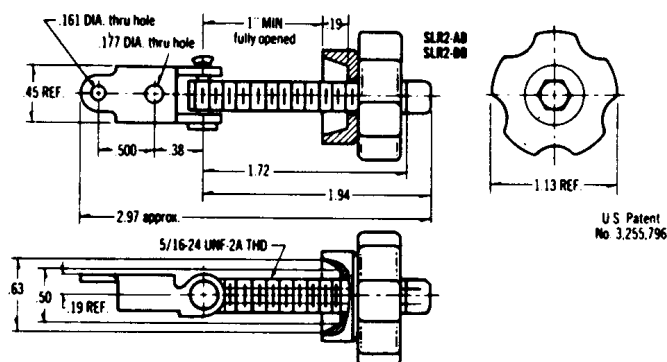


**NOTE:** Part Number **SLR1-AB** with clevis and clevis pin.  
Part Number **SLR1-BB** without clevis and clevis pin.

PART NUMBER  
**SLR2**  
SELF-LOCKING  
FRONT RETAINER



Weight: 1.5 oz. approx.  
Material: stainless steel with aluminum knob



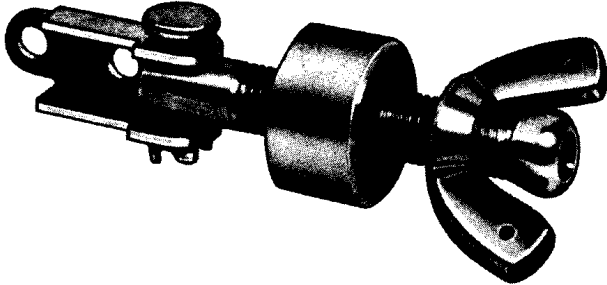
**NOTE:** Part Number **SLR2-AB** with clevis and clevis pin.  
Part Number **SLR2-BB** without clevis and clevis pin.



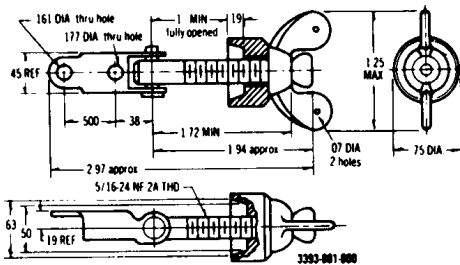
# RETAINERS & HOOKS

## DIMENSIONS & PERFORMANCE CHARACTERISTICS

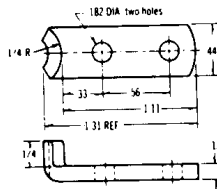
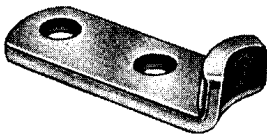
PART NUMBER  
**3393-001000**  
FRONT RETAINER



Weight: 1.5 oz. approx.  
Material: stainless steel with steel wing-nut

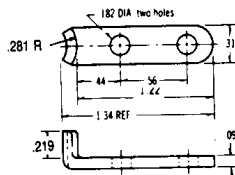
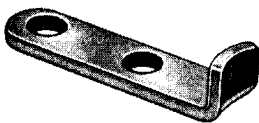


PART NUMBER  
**439507-01901**  
RUGGEDIZED FRONT HOOK



Weight: 0.30 oz. approx.  
Material: stainless steel

PART NUMBER  
**430913-00901**  
FRONT HOOK



Weight: 0.14 oz. approx.  
Material: stainless steel

30  
RE

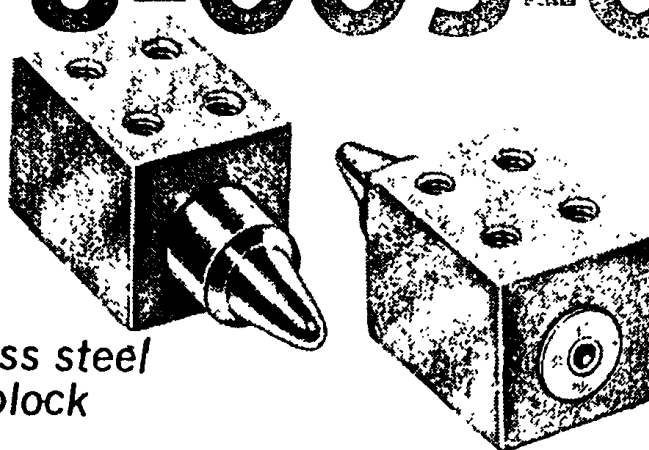
PART NUMBER

# 3098-005-000

**Weight:**

1.5 oz. approx.

**Material:** stainless steel  
with aluminum block



MAXIMUM STATIC LOAD: 40 POUNDS EACH

## REAR RETAINER

