



FITTINGS & BLOCKS

Refer to the Warning and Application Information on the Next Page.

Wire Rope Clips



G-450

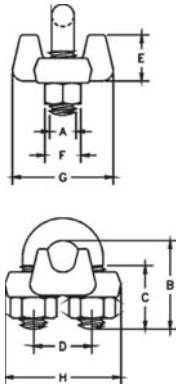
- Each base has a Product Identification Code (PIC) for material traceability, the name CROSBY® or “CG”, and a size forged into it.
- Based on the catalog breaking strength of wire rope, Crosby wire rope clips have an efficiency rating of 80% for 1/8” - 7/8” sizes, and 90% for sizes 1” through 3-1/2”.
- Sizes 1/8” through 2-1/2” and 3” have forged bases.
- Entire Clip - Galvanized to resist corrosive and rusting action.
- Only Genuine Crosby® Clips have a Red U-Bolt® for instant recognition.
- All Clips are individually bagged or tagged with proper application instructions and warning information.
- Clip sizes up through 1-1/2” have rolled threads.
- Meets or exceeds all requirements of AME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these wire rope clips meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.
- Look for the Red-U-Bolt®, your assurance of Genuine Crosby Clips.

Crosby Clips, all sizes 1/4” and larger, meet the performance requirements of Federal Specification FF-C-450 TYPE 1 CLASS 1, except for those provisions required of the contractor.

G-450 Crosby® Clip Specifications

| Rope Size (in.) | Rope Size (mm) | G-450 Stock No. Galv. | Std. Package Qty. | Weight Per 100 (lbs) | Dimensions (in.) | | | | | | | |
|-----------------|----------------|-----------------------|-------------------|----------------------|------------------|-------|------|------|------|------|------|------|
| | | | | | A | B | C | D | E | F | G | H |
| *1/8 | 3-4* | 1010015 | 100 | 6 | .22 | .72 | .44 | .47 | .37 | .38 | .81 | .99 |
| *3/16 | 5* | 1010033 | 100 | 10 | .25 | .97 | .56 | .59 | .50 | .44 | .94 | 1.18 |
| 1/4 | 6-7 | 1010051 | 100 | 19 | .31 | 1.03 | .50 | .75 | .66 | .56 | 1.19 | 1.43 |
| 5/16 | 8 | 1010079 | 100 | 28 | .38 | 1.38 | .75 | .88 | .73 | .69 | 1.31 | 1.66 |
| 3/8 | 9-10 | 1010097 | 100 | 48 | .44 | 1.50 | .75 | 1.00 | .91 | .75 | 1.63 | 1.94 |
| 7/16 | 11 | 1010113 | 50 | 78 | .50 | 1.88 | 1.00 | 1.19 | 1.13 | .88 | 1.91 | 2.28 |
| 1/2 | 12-13 | 1010131 | 50 | 80 | .50 | 1.88 | 1.00 | 1.19 | 1.13 | .88 | 1.91 | 2.28 |
| 9/16 | 14-15 | 1010159 | 50 | 109 | .56 | 2.25 | 1.25 | 1.31 | 1.34 | .94 | 2.06 | 2.50 |
| 5/8 | 16 | 1010177 | 50 | 110 | .56 | 2.25 | 1.25 | 1.31 | 1.34 | .94 | 2.06 | 2.50 |
| 3/4 | 18-20 | 1010195 | 25 | 142 | .62 | 2.75 | 1.44 | 1.50 | 1.39 | 1.06 | 2.25 | 2.84 |
| 7/8 | 22 | 1010211 | 25 | 212 | .75 | 3.12 | 1.62 | 1.75 | 1.58 | 1.25 | 2.44 | 3.16 |
| 1 | 24-26 | 1010239 | 10 | 252 | .75 | 3.50 | 1.81 | 1.88 | 1.77 | 1.25 | 2.63 | 3.47 |
| 1 1/8 | 28-30 | 1010257 | 10 | 283 | .75 | 3.88 | 2.00 | 2.00 | 1.91 | 1.25 | 2.81 | 3.59 |
| 1 1/4 | 32-34 | 1010275 | 10 | 438 | .88 | 4.44 | 2.22 | 2.34 | 2.17 | 1.44 | 3.13 | 4.13 |
| 1 3/8 | 36 | 1010293 | 10 | 442 | .88 | 4.44 | 2.22 | 2.34 | 2.31 | 1.44 | 3.13 | 4.19 |
| 1 1/2 | 38 | 1010319 | 10 | 544 | .88 | 4.94 | 2.38 | 2.59 | 2.44 | 1.44 | 3.41 | 4.44 |
| 1 5/8 | 41-42 | 1010337 | Bulk | 704 | 1.00 | 5.31 | 2.62 | 2.75 | 2.66 | 1.63 | 3.63 | 4.75 |
| 1 3/4 | 44-46 | 1010355 | Bulk | 934 | 1.13 | 5.75 | 2.75 | 3.06 | 2.92 | 1.81 | 3.81 | 5.24 |
| 2 | 48-52 | 1010373 | Bulk | 1300 | 1.25 | 6.44 | 3.00 | 3.38 | 3.03 | 2.00 | 4.44 | 5.88 |
| 2 1/4 | 56-58 | 1010391 | Bulk | 1600 | 1.25 | 7.13 | 3.19 | 3.88 | 3.19 | 2.00 | 4.56 | 6.38 |
| 2 1/2 | 62-65 | 1010417 | Bulk | 1900 | 1.25 | 7.69 | 3.44 | 4.13 | 3.69 | 2.00 | 4.69 | 6.63 |
| **2 3/4 | **68-72 | 1010435 | Bulk | 2300 | 1.25 | 8.31 | 3.56 | 4.38 | 4.88 | 2.00 | 5.00 | 6.88 |
| 3 | 75-78 | 1010453 | Bulk | 3100 | 1.50 | 9.19 | 3.88 | 4.75 | 4.44 | 2.38 | 5.31 | 7.61 |
| **3 1/2 | **85-90 | 1010426 | Bulk | 4000 | 1.50 | 10.75 | 4.50 | 5.50 | 6.00 | 2.38 | 6.19 | 8.38 |

* Electro-Plated U-Bolt and Nuts. ** 2-3/4” and 3-1/2” base made of cast steel.



SS-450 Stainless Steel Wire Rope Clips

- Each base has a Product Identification Code (PIC) for material traceability, the name CROSBY or “CG”, and a size forged into it.
- Entire clip is made from 316 Stainless Steel to resist corrosive and rusting action.
- All components are Electro-Polished.
- All Clips are individually bagged or tagged with proper application instructions and warning information.



SS-450

| Rope Size | | SS-450 Stock Number | Std. Package Qty. | Weight Per 100 (lbs) | Dimensions (in.) | | | | | | | |
|-----------|-------|---------------------|-------------------|----------------------|------------------|------|------|------|------|-----|------|------|
| (in.) | (mm) | | | | A | B | C | D | E | F | G | H |
| 1/8 | 3-4 | 1011250 | Bulk | 6 | .22 | .72 | .44 | .47 | .41 | .38 | .81 | .94 |
| 3/16 | 5 | 1011261 | Bulk | 10 | .25 | .97 | .56 | .59 | .50 | .44 | .94 | 1.16 |
| 1/4 | 6-7 | 1011272 | Bulk | 20 | .31 | 1.03 | .50 | .75 | .66 | .56 | 1.19 | 1.44 |
| 3/8 | 9-10 | 1011283 | Bulk | 47 | .44 | 1.50 | .75 | 1.00 | .91 | .75 | 1.63 | 1.94 |
| 1/2 | 12-13 | 1011305 | Bulk | 77 | .50 | 1.88 | 1.00 | 1.19 | 1.13 | .88 | 1.91 | 2.28 |
| 5/8 | 16 | 1011327 | Bulk | 106 | .56 | 2.38 | 1.25 | 1.31 | 1.34 | .94 | 2.06 | 2.50 |



G-450/SS450 Crosby® Wire Rope Clips

Warnings & Application Instructions



Warning !

Failure to read, understand and follow these instructions may cause death or serious injury.

- Read and understand these instructions before using clips.
- Match the same size slip to the same size wire rope.
- Prepare wire rope end termination only as instructed.
- Do not use plastic coated wire rope.
- Apply first load to test the assembly. This load should be of equal or greater weight than loads expected in use. Next check and retighten nuts to recommended torque. (See table below).

Efficiency ratings for wire rope end terminations are based upon the catalog breaking strength of wire rope. The efficiency rating of a properly prepared loop or thimble - eye termination for clip sizes 1/8" through 7/8" is 80%, and for sizes 1" through 3-1/2" is 90%.

The number of clips shown (see Table 1) is based upon using RRL or RLL wire rope, 6 x 19 or 6 x 37 Class, FC or IWRC; IPS or XIP, XXIP. If Seale construction or similar large outer wire type construction in the 6 x 19 Class is to be used for sizes 1 inch and larger, add one additional clip. If a pulley (sheave) is used for turning back the wire rope, add one additional clip.

The number of clips shown also applies to rotation - resistant RRL wire rope, 8 x 19 Class, IPS, XIP, XXIP sizes 1-1/2 inch and smaller; and to rotation - resistant RRL wire rope, 19 x 7 Class, IPS, XIP, XXIP sizes 1-3/4 inch and smaller.

For other classes of wire rope not mentioned above, we recommend contacting Crosby Engineering to ensure the desired efficiency rating.

For elevator, personnel hoist, and scaffold applications, refer to ANSI A17.1 and ANSI A10.4. These standards do not recommend U-Bolt style wire rope clip terminations. The style wire rope termination used for any application is the obligation of the user.

For OSHA (Construction) applications, see OSHA 1926.251.

1. Refer to Table 1 in following these instructions. Turn back specified amount of rope from thimble or loop. Apply first clip one base width from dead end of rope. Apply U-Bolt over dead end of wire rope - live end rests in saddle (Never saddle a dead horse!). Use torque wrench to tighten evenly, alternate from one nut to the other until reaching the recommended torque. (See Figure 1).



Figure 1

2. When two clips are required, apply the second clip as near the loop or thimble as possible. Use torque wrench to tighten evenly, alternating until reaching the recommended torque. When more than two clips are required, apply the second clip as near the loop or thimble as possible, turn nuts on second clip firmly, but do not tighten. (See Figure 2).



Figure 2

3. When three or more clips are required, space additional clips equally between first two - take up rope slack - use torque wrench to tighten on each U-Bolt evenly, alternating from one nut to the other until reaching recommended torque. (See Figure 3).



Figure 3

4. If a pulley (sheave) is used, in place of a thimble add one additional clip. Clip spacing should be as shown.

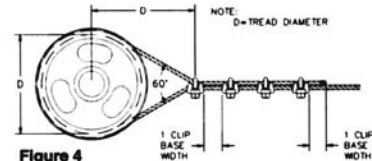


Figure 4

5. WIRE ROPE

SPLICING PROCEDURES: The preferred method of splicing two wire ropes together is to use inter-locking turnback eyes with thimbles, using the recommended number of clips on each eye (See Figure 5).

An alternate method is to use twice the number of clips as used for a turnback termination. The rope ends are placed parallel to each other, overlapping by twice the turnback amount shown in the application instructions. The minimum number of clips should be installed on each dead end (See Figure 6). Spacing, installation torque, and other instructions still apply.



Figure 5

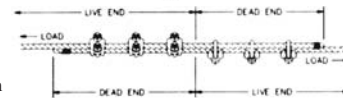


Figure 6

6. **IMPORTANT:** Apply first load to test the assembly. This load should be of equal or greater weight than loads expected in use. Next, check and use torque wrench to retighten in accordance with good rigging and maintenance practices, the wire rope end termination should be inspected periodically for wear, abuse, and general adequacy.

FITTINGS & BLOCKS

G450 Crosby® Wire Rope Clip Specifications

| Clip Size (in.) | Rope Size (in.) | Minimum Number of Clips | Rope Turnback (in.) | *Torque (ft/lbs) |
|-----------------|-----------------|-------------------------|---------------------|------------------|
| 1/8 | 1/8 | 2 | 3-1/4 | 4.5 |
| 3/16 | 3/16 | 2 | 3-3/4 | 7.5 |
| 1/4 | 1/4 | 2 | 4-3/4 | 15 |
| 5/16 | 5/16 | 2 | 5-1/4 | 30 |
| 3/8 | 3/8 | 2 | 6-1/2 | 45 |
| 7/16 | 7/16 | 2 | 7 | 65 |
| 1/2 | 1/2 | 3 | 11-1/2 | 65 |
| 9/16 | 9/16 | 3 | 12 | 95 |
| 5/8 | 5/8 | 3 | 12 | 95 |
| 3/4 | 3/4 | 4 | 18 | 130 |
| 7/8 | 7/8 | 4 | 19 | 225 |
| 1 | 1 | 5 | 26 | 225 |
| 1-1/8 | 1-1/8 | 6 | 34 | 225 |
| 1-1/4 | 1-1/4 | 7 | 44 | 360 |
| 1-3/8 | 1-3/8 | 7 | 44 | 360 |
| 1-1/2 | 1-1/2 | 8 | 54 | 360 |
| 1-5/8 | 1-5/8 | 8 | 58 | 430 |
| 1-3/4 | 1-3/4 | 8 | 61 | 590 |
| 2 | 2 | 8 | 71 | 750 |
| 2-1/4 | 2-1/4 | 8 | 73 | 750 |
| 2-1/2 | 2-1/2 | 9 | 84 | 750 |
| 2-3/4 | 2-3/4 | 10 | 100 | 750 |
| 3 | 3 | 10 | 106 | 1200 |
| 3-1/2 | 3-1/2 | 12 | 149 | 1200 |

If a pulley (sheave) is used for turning back the wire rope, add one additional clip. See Figure 4. If a greater number of clips are used than shown in the table, the amount of turnback should be increased proportionately. *The tightening torque values shown are based upon the threads being clean, dry, and free of lubrication.



Fist Grip® Wire Rope Clips

Refer to the Warning and Application Information on the Next Page.



**3/16\" - 5/8\"
(New Style)**

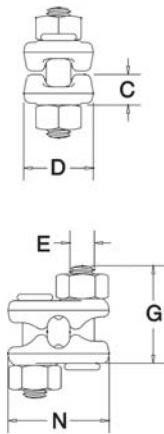


3/4\" - 1-1/2\"

- Entire clip is Galvanized to resist corrosive and rusting action.
- Based on the catalog breaking strength of wire rope, Crosby wire rope clips have an efficiency rating of 80% for 3/16\" - 7/8\" sizes, and 90% for sizes 1\" through 1-1/2\".
- Bolts are an integral part of the saddle. Nuts can be installed in such a way as to enable the operator to swing the wrench in a full arc for fast installation.
- All sizes have forged steel saddles.
- All Clips are individually bagged or tagged with proper application instructions and warning information.
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these wire rope clips meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.
- Assembled with standard heavy hex nuts.

Fist Grip® wire clips meet or exceed the performance requirements of Federal Specification FF-C-450 Type III, Class 1, except for those provisions required of the contractor.

G429 Fist Grip® Wire Rope Clip Specifications



| Rope Size (in.)* | Rope Size (mm) | G-429 Stock Number Galv. | Std. Package Qty. | Weight Per 100 (lbs) | Dimensions (in.) | | | | |
|------------------|----------------|--------------------------|-------------------|----------------------|------------------|------|------|------|------|
| | | | | | C | D | E | G | N |
| 3/16-1/4 | 5-7 | 1010471 | 100 | 23 | .40 | .94 | .38 | 1.41 | 1.44 |
| 5/16 | 8 | 1010499 | 100 | 28 | .47 | 1.06 | .38 | 1.50 | 1.54 |
| 3/8 | 10 | 1010514 | 50 | 40 | .51 | 1.06 | .44 | 1.84 | 1.78 |
| 7/16-1/2 | 11-13 | 1010532 | 50 | 62 | .59 | 1.25 | .50 | 2.21 | 2.15 |
| 9/16-5/8 | 14-16 | 1010550 | 50 | 103 | .72 | 1.50 | .63 | 2.72 | 2.57 |
| 3/4 | 18-20 | 1010578 | 25 | 175 | .86 | 1.81 | .75 | 2.94 | 2.67 |
| 7/8 | 22 | 1010596 | 25 | 225 | .97 | 2.12 | .75 | 3.31 | 2.86 |
| 1 | 24-26 | 1010612 | 10 | 300 | 1.13 | 2.25 | .75 | 3.72 | 3.06 |
| 1-1/8 | 28-30 | 1010630 | 10 | 400 | 1.28 | 2.38 | .88 | 4.22 | 3.44 |
| 1-1/4 | 32-34 | 1010658 | 10 | 400 | 1.34 | 2.50 | .88 | 4.25 | 3.56 |
| 1-3/8 - 1-1/2 | 36-40 | 1010676 | Bulk | 700 | 1.56 | 3.00 | 1.00 | 5.56 | 4.12 |

* Sizes through 5/8\" incorporate New Style design.



G-429 Crosby® Fist Grip Clip

Warnings & Application Instructions



New Style Fist Grip®
3/16" - 5/8"



Old Style Fist Grip®
3/4" - 1-1/2"

Warning !

- Failure to read, understand and follow these instructions may cause death or serious injury.
- Read and understand these instructions before using clips.
- Match the same size clip to the same size wire rope.
- Do not mismatch Crosby clips with other manufacturers clips.
- Prepare wire rope end termination only as instructed.
- Do not use plastic coated wire rope.
- Apply first load to test the assembly. This load should be of equal or greater weight than loads expected in use. Next check and retighten nuts to recommended torque. (See table below).

Efficiency ratings for wire rope end terminations are based upon the catalog breaking strength of wire rope. The efficiency rating of a properly pre-pared loop or thimble-eye termination for clip sizes 1/8" through 7/8" is 80%, and for sizes 1" through 3-1/2" is 90%.

The number of clips shown (see Table 1) is based upon using RRL or RLL wire rope, 6 x 19 or 6 x 37 Class, FC or IWRC; IPS or XIP. If Seale construction or similar large outer wire type construction in the 6 x 19 Class is to be used for sizes 1 inch and larger, add one additional clip. If a pulley (sheave) is used for turning back the wire rope, add one additional clip.

The number of clips shown also applies to rotation - resistant RRL wire rope, 8 x 19 Class, IPS, XIP, sizes 1-1/2 inch and smaller; and to rotation - resistant RRL wire rope, 19 x 7 Class, IPS, XIP, sizes 1-1/2 inch and smaller.

For other classes of wire rope not mentioned above, we recommend contacting Crosby Engineering at the address or telephone number on the back cover to ensure the desired efficiency rating.

The style of wire rope termination used for any application is the obligation of the user.

For OSHA (Construction) applications, see OSHA 1926.251



Figure 1

1. Refer to Table 1 in following these instructions. Turn back specified amount of rope from thimble or loop. Apply first clip one base width from dead end of rope. Tighten nuts evenly, alternating from one nut to the other until reaching the recommended torque. (See Figure 1).



Figure 2

2. When two clips are required, apply the second clip as near the loop or thimble as possible. Tighten nuts evenly, alternating until reaching the recommended torque. When more than two clips are required, apply the second clip as near the loop or thimble as possible, turn nuts on second clip firmly, but do not tighten. (See Figure 2).



Figure 3

3. When three or more clips are required, space additional clips equally between first two - take up rope slack - tighten nuts on each bolt evenly, alternating from one nut to the other until reaching recommended torque. (See Figure 3).

4. If a pulley (sheave) is used, in place of a thimble add one additional Fist Grip. Fist Grip spacing should be as shown. (See Figure 4).

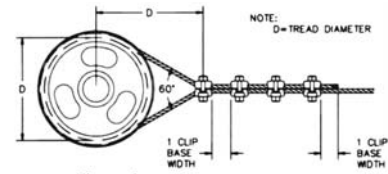


Figure 4

5. WIRE ROPE SPLICING PROCEDURES:

The preferred method of splicing two wire ropes together is to use interlocking turnback eyes with thimbles, using the recommended number of clips on each eye (See Figure 5).



Figure 5

An alternate method is to use twice the number of clips as used for a turn-back termination.

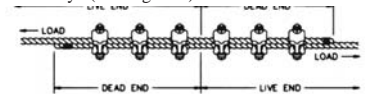


Figure 6

The rope ends are placed parallel to each other, overlapping by twice the turnback amount shown in the application instructions. The minimum number of clips should be installed on each dead end (See Figure 6). Spacing, installation torque, and other instructions still apply.

6. IMPORTANT:

Apply first load to test the assembly. This load should be of equal or greater weight than loads expected in use. Next, check and retighten nuts to recommended torque.

In accordance with good rigging and maintenance practices, the wire rope end termination should be inspected periodically for wear, abuse, and general adequacy.

FITTINGS & BLOCKS

G-429 Crosby® Fist Grip® - Recommendations

| Clip Size (in.) | Rope Size (in.) | Minimum Number of Clips | Amount of Rope to Turn Back (in.) | *Torque in (ft. lbs) |
|-----------------|-----------------|-------------------------|-----------------------------------|----------------------|
| 3/16 | 3/16 | 2 | 4 | 30 |
| 1/4 | 1/4 | 2 | 4 | 30 |
| 5/16 | 5/16 | 2 | 5 | 30 |
| 3/8 | 3/8 | 2 | 5-1/4 | 45 |
| 7/16 | 7/16 | 2 | 6-1/2 | 65 |
| 1/2 | 1/2 | 3 | 11 | 65 |
| 9/16 | 9/16 | 3 | 12-3/4 | 130 |
| 5/8 | 5/8 | 3 | 13-1/2 | 130 |
| 3/4 | 3/4 | 3 | 16 | 225 |
| 7/8 | 7/8 | 4 | 26 | 225 |
| 1 | 1 | 5 | 37 | 225 |
| 1-1/8 | 1-1/8 | 5 | 41 | 360 |
| 1-1/4 | 1-1/4 | 6 | 55 | 360 |
| 1-3/8 | 1-3/8 | 6 | 62 | 500 |
| 1-1/2 | 1-1/2 | 7 | 78 | 500 |

If a pulley (sheave) is used for turning back the wire rope, add one additional clip. See Figure 4. If a greater number of clips are used than show in the table, the amount of turnback should be increased proportionately. *The tightening torque values shown are based upon the threads being clean, dry, and free of lubrication.



Links & Rings

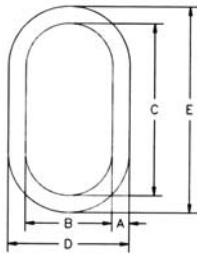
Alloy Master Link

- Alloy Steel - Quenched and Tempered.
- Individually Proof Tested to values shown, with certification.
- Proof Tested with 60% inside width special fixtures sized to prevent localized point loading per ASME A-952.
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these links meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.
- Forgings have a Product Identification Code (PIC) for material traceability, along with the size, the name Crosby and USA in raised lettering.
- Selected sizes designated with "W" in the size column have enlarged inside dimensions to allow additional room for sling hardware and crane hook.
- Crosby 1 1/4" to 2" 342/345 master links are type approved to DNV Certification Notes 2.7-1 - Offshore Containers. These Crosby master links are 100% proof tested, MPI and impact tested. The tests are conducted by Crosby and 3.1 test certification is available upon request. Refer to page 161 for Crosby COLD TUFF® master links that meet the additional requirements of DNV rules for certification of lifting applications - Loose Gear.
- Incorporated patented QUIC-CHECK® deformation indicators.

A-342 Master Link Specifications



A-342



A-345

| Size (in.) | Size (mm) | A-342 Stock Number | Working Load Limit (lbs) | Proof Load (lbs) | Weight Each (lbs) | Dimensions (in.) | | | |
|------------|-----------|--------------------|--------------------------|------------------|-------------------|------------------|-------|-------|-----------------------|
| | | | | | | A | B | C | Deformation Indicator |
| ** 1/2W | 13W | 1014266 | 7400 | 17200 | 1.3 | .62 | 2.80 | 5.00 | 3.50 |
| ** 5/8 | 16 | 1014280 | 9000 | 18000 | 1.5 | .62 | 3.00 | 6.00 | 3.50 |
| ** 3/4W | 19W | 1014285 | 12300 | 28400 | 2.0 | .73 | 3.20 | 6.00 | 4.00 |
| ** 7/8W | 22W | 1014319 | 15200 | 35200 | 3.3 | .88 | 3.75 | 6.38 | 4.50 |
| ** 1W | 26W | 1014331 | 26000 | 60000 | 6.1 | 1.10 | 4.30 | 7.50 | 5.50 |
| ** 1-1/4W | 32W | 1014348 | 39100 | 90400 | 12.0 | 1.33 | 5.50 | 9.50 | 7.00 |
| ** 1-1/2W | 38W | 1014365 | 61100 | 141200 | 18.6 | 1.61 | 5.90 | 10.50 | 7.50 |
| ** 1-3/4 | 44 | 1014388 | 84900 | 212250 | 25.2 | 1.75 | 6.00 | 12.00 | 7.50 |
| ** 2 | 51 | 1014404 | 102600 | 256500 | 37.0 | 2.00 | 7.00 | 14.00 | 9.00 |
| **^ 2-1/4 | 57 | 1014422 | 143100 | 289200 | 54.1 | 2.25 | 8.00 | 16.00 | 10.00 |
| ^ 2-1/2 | 63 | 1014468 | 160000 | 320000 | 68.5 | 2.50 | 8.38 | 16.00 | 11.00 |
| ** ^ 2-3/4 | 70 | 1014440 | 216900 | 433800 | 94.0 | 2.75 | 9.88 | 18.00 | 12.50 |
| ^ 3 | 76 | 1014486 | 228000 | 456000 | 115 | 3.00 | 9.88 | 18.00 | 13.00 |
| ^ 3-1/4 | 83 | 1014501 | 262200 | 524400 | 145 | 3.25 | 10.00 | 20.00 | 13.50 |
| ^ 3-1/2 | 89 | 1014529 | 279000 | 558000 | 200 | 3.50 | 12.00 | 24.00 | 15.50 |
| ^ 3-3/4 | 95 | 1015051 | 336000 | 672000 | 198 | 3.75 | 10.00 | 20.00 | 13.50 |
| ^ 4 | 102 | 1015060 | 373000 | 746000 | 264 | 4.00 | 12.00 | 24.00 | 16.00 |
| ^ 4-1/4 | ++108 | 1015067 | 354000 | 708000 | 302 | 4.25 | 12.00 | 24.00 | -- |
| ^ 4-1/2 | ++114 | 1015079 | 360000 | 720000 | 345 | 4.50 | 14.00 | 28.00 | -- |
| ^ 4-3/4 | ++121 | 1015088 | 389000 | 778000 | 436 | 4.75 | 14.00 | 28.00 | -- |
| ^ 5 | ++127 | 1015094 | 395000 | 79000 | 516 | 5.00 | 15.00 | 30.00 | -- |

* Ultimate Load is 5 times the Working Load Limit. Based on single leg sling (in-line load), or resultant load on multiple legs with an included angle less than or equal to 120 degrees. Applications with wire rope and synthetic sling generally require a design factor of 5.
 ** Proof Test Load equals or exceeds the requirements of ASTM A952(8.1) and ASME B30.9. ++ Welded Master Link.

A-345 Master Link Assembly with Engineered Flat for use with S-1325A coupler link

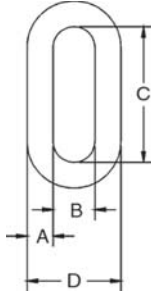
| Size | | A-345 Stock Number | Weight Each (lbs) | Working Load Limit Based on 5:1 Design Factor (lbs) | Proof Load (lbs)** | Dimensions (in.) | | | | | | | |
|--------|------|--------------------|-------------------|---|--------------------|------------------|-------|-------|------|-------|-------|-----|-----------------------|
| (in.) | (mm) | | | | | A | B | C | D | E | F | G | Deformation Indicator |
| 3/4W | 19W | 1014739 | 3.5 | 12300 | 28400 | .73 | 3.20 | 6.00 | .56 | 3.35 | 1.77 | .30 | 4.00 |
| 7/8W | 22W | 1014742 | 4.8 | 15200 | 35200 | .88 | 3.75 | 6.38 | .56 | 3.35 | 1.77 | .30 | 4.50 |
| 1W | 26W | 1014766 | 9.3 | 26000 | 60000 | 1.10 | 4.30 | 7.50 | .75 | 3.94 | 2.36 | .33 | 5.50 |
| 1-1/4W | 32W | 1014779 | 15.8 | 39100 | 90400 | 1.33 | 5.50 | 9.50 | 1.00 | 6.30 | 3.54 | .51 | 7.00 |
| 1-1/2W | 38W | 1014807 | 34.1 | 61100 | 141200 | 1.61 | 5.90 | 10.50 | 1.25 | 7.09 | 3.94 | .65 | 7.50 |
| 1-3/4 | 44 | 1014814 | 46.7 | 84900 | 212250 | 1.75 | 6.00 | 12.00 | 1.38 | 8.00 | 5.00 | .73 | 7.50 |
| 2 | 51 | 1014832 | 67.2 | 102600 | 256500 | 2.00 | 7.00 | 14.00 | 1.50 | 9.00 | 5.75 | - | 9.00 |
| 2-1/2 | 64 | 1014855 | 206 | 160000 | 320000 | 2.50 | 8.38 | 16.00 | 2.50 | 16.00 | 8.38 | - | 11.00 |
| 2-3/4 | 70 | 1014864 | 282 | 216900 | 433800 | 2.75 | 9.88 | 18.00 | 2.75 | 18.00 | 9.88 | - | 12.50 |
| 4 | 102 | 1014999 | 667 | 373000 | 746000 | 4.00 | 12.00 | 24.00 | 3.50 | 24.00 | 12.00 | - | 15.50*** |

* Ultimate Load is 5 times the Working Load Limit. The maximum individual sublink working load limit is 75% of the assembly working load limit except for 2-1/2" and 2-3/4", which are 100% of assembly working load limit.
 Applications with wire rope and synthetic sling generally require a design factor of 5.
 ** Proof Test Load equals or exceeds the requirement of ASTM A952(8.1) and ASME B30.9. *** Sublink only.



G-340 & S-340 Weldless End Links

- Self-Colored or Hot Dip Galvanized
- Forged carbon steel - Quenched and Tempered



| Size (A) (in.) | Stock Number | | Working Load Limit (lbs)* | Weight (lbs) | Dimensions (in.) | | |
|----------------|--------------|------------|---------------------------|--------------|------------------|------|------|
| | G-340 Galv. | S-340 S.C. | | | B | C | D |
| 5/16 | 1014057 | 1014066 | 2500 | .15 | .50 | 1.75 | 1.18 |
| 3/8 | 1014075 | 1014084 | 3800 | .22 | .56 | 1.88 | 1.38 |
| 1/2 | 1014093 | 1014100 | 6500 | .49 | .75 | 2.38 | 1.81 |
| 5/8 | 1014119 | 1014128 | 9300 | .97 | 1.00 | 3.25 | 2.32 |
| 3/4 | 1014137 | 1014146 | 14000 | 1.51 | 1.13 | 3.50 | 2.68 |
| 7/8 | 1014155 | 1014164 | 12000 | 2.59 | 2.00 | 5.13 | 3.75 |
| 1 | 1014173 | 1014182 | 15200 | 3.95 | 2.25 | 5.75 | 4.25 |
| 1-1/4 | 1014191 | 1014208 | 26400 | 7.30 | 2.50 | 7.00 | 5.00 |
| 1-3/8 | 1014217 | 1014226 | 30000 | 10.38 | 2.75 | 7.75 | 5.50 |

* Ultimate Load is 5 times the Working Load Limit. Based on single leg sling (in-line load), or resultant load on multiple legs with an included angle less than or equal to 120°.



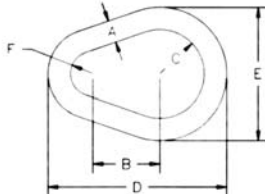
G-340 from 5/8" thru 7/8" meet the performance requirements of Federal Specification RR-C-271F, Type XV, except for those provisions required of the contractor.

Pear Shaped Links



A-341

- Alloy Steel - Quenches and Tempered.
- Individually Proof Tested at 2 times Working Load Limit with certification.
- Proof Test certification shipped with each link.
- Sizes 1/2", 5/8", 3/4" 7/8", 1", 1-1/4" and 1-3/8" are forged.



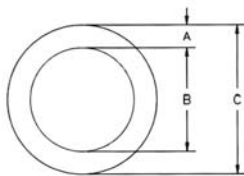
| Size (A) (in.) | Stock Number | Working Load Limit* Single Pull (lbs) | Weight Each (lbs) | Dimensions (in.) | | | |
|----------------|--------------|---------------------------------------|-------------------|------------------|-------|-------|------|
| | | | | B | C | D | F |
| 1/2 | 1013575 | 7000 | 3.15 | .55 | 3.00 | 2.00 | 1.00 |
| 5/8 | 1013584 | 9000 | 4.09 | 1.10 | 3.75 | 2.50 | 1.25 |
| 3/4 | 1013595 | 12300 | 5.59 | 1.76 | 4.50 | 3.00 | 1.50 |
| 7/8 | 1013604 | 15000 | 6.81 | 2.82 | 5.25 | 3.50 | 1.75 |
| 1 | 1013613 | 24360 | 11.0 | 4.22 | 6.00 | 4.00 | 2.00 |
| 1 1/8 | 1013622 | 30600 | 13.9 | 6.25 | 6.50 | 4.50 | 2.25 |
| 1 1/4 | 1013631 | 36000 | 16.4 | 8.25 | 7.75 | 5.00 | 2.50 |
| 1 3/8 | 1013640 | 43000 | 19.5 | 11.25 | 8.25 | 5.50 | 2.75 |
| ++ 1 1/2 | 1013649 | 54300 | 24.7 | 14.25 | 9.00 | 6.00 | 3.00 |
| ++ 1 5/8 | 1013658 | 62600 | 28.4 | 18.50 | 9.75 | 6.50 | 3.25 |
| ++ 1 3/4 | 1013667 | 84900 | 38.6 | 22.50 | 10.50 | 7.00 | 3.50 |
| ++ 1 7/8 | 1013676 | 95800 | 43.5 | 29.00 | 11.25 | 7.50 | 3.75 |
| ++ 2 | 1013685 | 102600 | 46.6 | 34.00 | 12.00 | 8.00 | 4.00 |
| ++ 2 1/4 | 1013694 | 143100 | 65.0 | 48.00 | 13.50 | 9.00 | 4.50 |
| ++ 2 1/2 | 1013703 | 147300 | 66.9 | 66.00 | 15.00 | 10.00 | 5.00 |
| ++ 2 3/4 | 1013712 | 216900 | 98.6 | 88.00 | 16.50 | 11.00 | 5.50 |
| ++ 3 | 1013721 | 228000 | 103 | 114.00 | 18.00 | 12.00 | 6.00 |
| ++ 3 1/4 | 1013730 | 262200 | 119 | 146.00 | 19.50 | 13.00 | 6.50 |
| ++ 3 1/2 | 1013739 | 279000 | 126 | 181.00 | 21.00 | 14.00 | 7.00 |
| ++ 4 | 1013748 | 373000 | 169 | 271.00 | 24.00 | 16.00 | 8.00 |

* Based on single leg sling (in-line load), or resultant load on multiple legs with an included angle less than or equal to 120°. Minimum Ultimate load is 5 times the Working Load Limit.
++ Welded Link.

FITTINGS & BLOCKS

S-643 Weldless Ring

- Self-Colored
- Forged carbon steel - Quenched and Tempered



Weldless Rings meet the performance requirements of Federal Specification RR-C-271D, Type VI, except for those provisions required of the contractor.

| Size A (In.) | S-643 Stock Number | Working Load Limit Single Pull (lbs)* | Weight Each (lbs) | Dimensions (in.) | |
|--------------|--------------------|---------------------------------------|-------------------|------------------|------|
| | | | | B | C |
| 7/8 x 4 | 1013780 | 7200 | 2.72 | 4.00 | 5.75 |
| 7/8 x 5-1/2 | 1013806 | 5600 | 3.47 | 5.50 | 7.25 |
| 1 x 4 | 1013824 | 10800 | 3.69 | 4.00 | 6.00 |
| 1-1/8 x 6 | 1013842 | 10400 | 6.60 | 6.00 | 8.25 |
| 1-1/4 x 5 | 1013860 | 17000 | 6.82 | 5.00 | 7.50 |
| 1-3/8 x 6 | 1013888 | 19000 | 10.12 | 6.00 | 8.75 |

* Ultimate Load is 6 times the Working Load Limit.

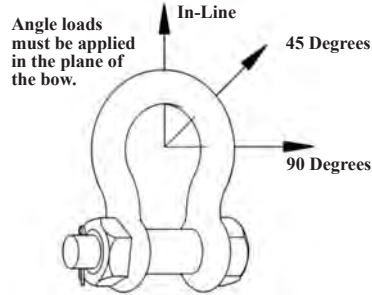




Crosby® Shackles

Side Loaded Rating Reduction Table for 3/16" - 3" (120 Metric Tons)

Angle loads must be applied in the plane of the bow.

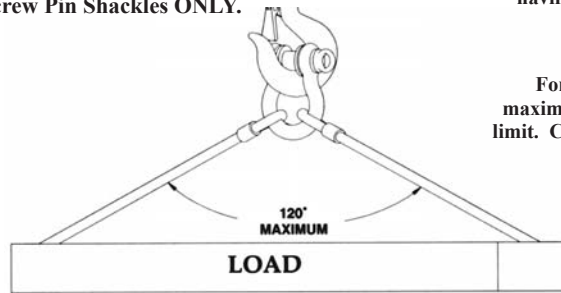


| Table 1 | |
|--|----------------------------------|
| Side Loading Reduction Chart for Screw Pin and Bolt Type Shackles Only + | |
| Angle of Side Load from Vertical In-Line of Shackle | Adjusted Working Load Limit |
| 0° - 5° In-Line* | 100% of Rated Working Load Limit |
| 45° from In-Line* | 70% of Rated Working Load Limit |
| 90° from In-Line* | 50% of Rated Working Load Limit |
| + In-Line Load is applied perpendicular to pin | |
| * DO NOT SIDE LOAD ROUND PIN SHACKLES | |

For shackles larger than 125 metric tons, where the angle of the side load is greater than 5 degrees, contact Crosby Engineering.

Included Angle - Shackles

Never exceed 120° included angle. Use Bolt Type and Screw Pin Shackles ONLY.



Shackles symmetrically loaded with two leg slings having a maximum included angle of 120° can be utilized to full Working Load Limit.

For shackles larger than 125 metric tons, the maximum included angle is 90° for full working load limit. Contact Crosby Engineering if included angle is greater than 90°.

WIRE ROPE SLINGS AND CONNECTIONS TO FITTINGS

USE A THIMBLE TO PROTECT SLING AND TO INCREASE D_W

NEVER PLACE EYE OVER A FITTING SMALLER DIAMETER OR WIDTH THAN THE ROPE'S DIAMETER

WIRE ROPE SLINGS AND CONNECTIONS TO FITTINGS

NEVER PLACE A SLING EYE OVER A FITTING WITH A DIAMETER OR WIDTH GREATER THAN ONE HALF THE NATURAL LENGTH OF THE EYE

SYNTHETIC SLINGS RATED LOAD

FOLDING, BUNCHING OR PINCHING OF SYNTHETIC SLINGS, WHICH OCCURS WHEN USED WITH SHACKLES, HOOKS OR OTHER APPLICATIONS WILL REDUCE THE RATED LOAD

ANSI B30.9-1994

CHOKER HITCH FORMED

WITH SHACKLES **WRONG!**

WITH CHOKER HOOK **CORRECT!**

PLACE PIN IN EYE OF SLING

CROSBY SHACKLES POINT LOADING

POINT LOADING OF CROSBY SHACKLE BOWS IS ACCEPTABLE

POINT LOADING OF CROSBY SHACKLE PINS IS ACCEPTABLE AS LONG AS LOAD IS REASONABLY CENTERED ON THE PIN

ALTHOUGH POINT LOADING IS ACCEPTABLE, A PIN EYE WIDTH OF 5/16" OR MORE OF SHACKLE SPREAD IS BEST PRACTICE

17718 page 26



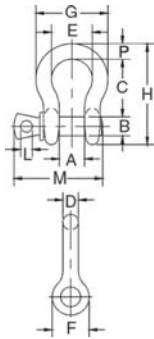
Crosby® Screw Pin Shackles



G-209/S-209 Screw Pin Anchor Shackle

G-209 Screw pin anchor shackles meet the performance requirements of Federal Specifications RR-C-271F Type IVA, Grade A, Class 2, except for those provisions required of the contractor.

- Capacities 1/3 thru 55 metric tons, grade 6..
- Forged - Quenched and Tempered, with alloy pins.
- Working Load Limit and grade "6" permanently shown on every shackle.
- Hot Dip galvanized or Self Colored.
- Fatigue Rated.
- Shackles 25t and larger are RFID EQUIPPED.
- Shackles can be furnished proof tested with certificates to designated standards, such as ABS, DNV, Lloyds, or other certification. Charges for proof testing and certification available when requested at the time of order.
- Approved for use at -40 degree C (-40 degree F) to 204 degree C (400 degree F).
- 2t through 25t bow and screw pin are Certified to meet charpy impact testing of 42 joules (31 ft.-lbs.) minimum average at -20 degree C (-4 degree F).
- All shackles are Quenches and Tempered and can meet DNV impact requirements of 42 joules (31 ft. lbs.) at -20 degree C (-4 degree F).
- Meet or exceeds all requirements of ASME B30.26.
- Type Approval and certification in accordance with ABS 2006 Steel Vessel Rules 1-1-17.7, and ABS Guide for Certification of Cranes.
- Crosby 2t through 25t G209 anchor shackles are type approved to DNV Certification Notes 2.7-1 - Offshore Containers. These Crosby shackles are statistical proof and impact tested. The tests are conducted by Crosby and 3.1 test certification is available upon request.
- Look for the Red Pin® ... the mark of genuine Crosby quality.

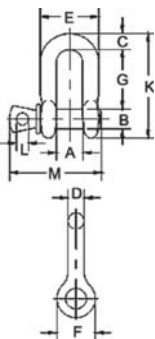


G-209/S-209



G-210/S-210 Screw Pin Chain Shackle

G-210 Screw pin chain shackles meet the performance requirements of Federal Specification RR-C 271F Type IVB, Grade A, Class 2, except for those provisions required of the contractor.



G210/S-210

G-209 & S-209 Screw Pin Anchor Shackles

| Nominal Size (in.) | Working Load Limit (tons) * | Stock Number | | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | | | | | Tolerance +/- | |
|--------------------|-----------------------------|--------------|---------|-------------------|------------------|------|-------|------|------|------|-------|-------|------|-------|------|-----|-----|---------------|--|
| | | G-209 | S-209 | | A | B | C | D | E | F | G | H | L | M | P | C | A | | |
| 3/16 | 1/3 | 1018357 | -- | .06 | .38 | .25 | .88 | .19 | .60 | .56 | .98 | 1.47 | .16 | 1.14 | .19 | .06 | .06 | | |
| 1/4 | 1/2 | 1018375 | 1018384 | .10 | .47 | .31 | 1.13 | .25 | .78 | .61 | 1.28 | 1.84 | .19 | 1.43 | .25 | .06 | .06 | | |
| 5/16 | 3/4 | 1018393 | 1018400 | .18 | .53 | .38 | 1.22 | .31 | .84 | .75 | 1.47 | 2.09 | .22 | 1.71 | .31 | .06 | .06 | | |
| 3/8 | 1 | 1018419 | 1018428 | .31 | .66 | .44 | 1.44 | .38 | 1.03 | .91 | 1.78 | 2.49 | .25 | 2.02 | .38 | .13 | .06 | | |
| 7/16 | 1-1/2 | 1018437 | 1018446 | .38 | .75 | .50 | 1.69 | .44 | 1.16 | 1.06 | 2.03 | 2.91 | .31 | 2.37 | .44 | .13 | .06 | | |
| 1/2 | 2 | 1018455 | 1018464 | .72 | .81 | .63 | 1.88 | .50 | 1.31 | 1.19 | 2.31 | 3.28 | .38 | 2.69 | .50 | .13 | .06 | | |
| 5/8 | 3-1/4 | 1018473 | 1018482 | 1.37 | 1.06 | .75 | 2.38 | .63 | 1.69 | 1.50 | 2.94 | 4.19 | .44 | 3.34 | .69 | .13 | .06 | | |
| 3/4 | 4-3/4 | 1018491 | 1018507 | 2.35 | 1.25 | .88 | 2.81 | .75 | 2.00 | 1.81 | 3.50 | 4.97 | .50 | 3.97 | .81 | .25 | .06 | | |
| 7/8 | 6-1/2 | 1018516 | 1018525 | 3.62 | 1.44 | 1.00 | 3.31 | .88 | 2.28 | 2.09 | 4.03 | 5.83 | .50 | 4.50 | .97 | .25 | .06 | | |
| 1 | 8-1/2 | 1018534 | 1018543 | 5.03 | 1.69 | 1.13 | 3.75 | 1.00 | 2.69 | 2.38 | 4.69 | 6.56 | .56 | 5.13 | 1.06 | .25 | .06 | | |
| 1-1/8 | 9-1/2 | 1018552 | 1018561 | 7.41 | 1.81 | 1.25 | 4.25 | 1.16 | 2.91 | 2.69 | 5.16 | 7.47 | .63 | 5.71 | 1.25 | .25 | .06 | | |
| 1-1/4 | 12 | 1018570 | 1018589 | 9.50 | 2.03 | 1.38 | 4.69 | 1.29 | 3.25 | 3.00 | 5.75 | 8.25 | .69 | 6.25 | 1.38 | .25 | .06 | | |
| 1-3/8 | 13-1/2 | 1018598 | 1018605 | 13.53 | 2.25 | 1.50 | 5.25 | 1.42 | 3.63 | 3.31 | 6.38 | 9.16 | .75 | 6.83 | 1.50 | .25 | .13 | | |
| 1-1/2 | 17 | 1018614 | 1018623 | 17.20 | 2.38 | 1.63 | 5.75 | 1.54 | 3.88 | 3.63 | 6.88 | 10.00 | .81 | 7.33 | 1.62 | .25 | .13 | | |
| 1-3/4 | 25 | 1018632 | 1018641 | 27.78 | 2.88 | 2.00 | 7.00 | 1.84 | 5.00 | 4.19 | 8.86 | 12.34 | 1.00 | 9.06 | 2.25 | .25 | .13 | | |
| 2 | 35 | 1018650 | 1018669 | 45.00 | 3.25 | 2.25 | 7.75 | 2.08 | 5.75 | 4.81 | 9.97 | 13.68 | 1.22 | 10.35 | 2.40 | .25 | .13 | | |
| 2-1/2 | 55 | 1018678 | 1018687 | 85.75 | 4.13 | 2.75 | 10.50 | 2.71 | 7.25 | 5.69 | 12.87 | 17.84 | 1.38 | 13.00 | 3.13 | .25 | .25 | | |

G-210 & S-210 Screw Pin Chain Shackles

| Nominal Size (in.) | Working Load Limit (tons) * | Stock Number | | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | | | Tolerance +/- | |
|--------------------|-----------------------------|--------------|---------|-------------------|------------------|------|------|------|------|------|------|-------|------|-------|-----|---------------|--|
| | | G-210 | S-210 | | A | B | C | D | E | F | G | K | L | M | G | A | |
| 1/4 | 1/2 | 1019150 | 1019169 | .11 | .47 | .31 | .25 | .25 | .97 | .62 | .97 | 1.59 | .19 | 1.43 | .06 | .06 | |
| 5/16 | 3/4 | 1019178 | 1019187 | .17 | .53 | .38 | .31 | .31 | 1.15 | .75 | 1.07 | 1.91 | .22 | 1.71 | .06 | .06 | |
| 3/8 | 1 | 1019196 | 1019203 | .28 | .66 | .44 | .38 | .38 | 1.42 | .92 | 1.28 | 2.31 | .25 | 2.02 | .13 | .06 | |
| 7/16 | 1-1/2 | 1019212 | 1019221 | .43 | .75 | .50 | .44 | .44 | 1.63 | 1.06 | 1.48 | 2.67 | .31 | 2.37 | .13 | .06 | |
| 1/2 | 2 | 1019230 | 1019249 | .59 | .81 | .63 | .50 | .50 | 1.81 | 1.18 | 1.66 | 3.03 | .38 | 2.69 | .13 | .06 | |
| 5/8 | 3-1/4 | 1019258 | 1019267 | 1.25 | 1.06 | .75 | .63 | .63 | 2.32 | 1.50 | 2.04 | 3.76 | .44 | 3.34 | .13 | .06 | |
| 3/4 | 4-3/4 | 1019276 | 1019285 | 2.63 | 1.25 | .88 | .81 | .75 | 2.75 | 1.81 | 2.40 | 4.53 | .50 | 3.97 | .25 | .06 | |
| 7/8 | 6-1/2 | 1019294 | 1019301 | 3.16 | 1.44 | 1.00 | .97 | .88 | 3.20 | 2.10 | 2.86 | 5.33 | .50 | 4.50 | .25 | .06 | |
| 1 | 8-1/2 | 1019310 | 1019329 | 4.75 | 1.69 | 1.13 | 1.00 | 1.00 | 3.69 | 2.38 | 3.24 | 5.94 | .56 | 5.13 | .25 | .06 | |
| 1-1/8 | 9-1/2 | 1019338 | 1019347 | 6.75 | 1.81 | 1.25 | 1.25 | 1.13 | 4.07 | 2.69 | 3.61 | 6.78 | .63 | 5.71 | .25 | .06 | |
| 1-1/4 | 12 | 1019356 | 1019365 | 9.06 | 2.03 | 1.38 | 1.38 | 1.25 | 4.53 | 3.00 | 3.97 | 7.50 | .69 | 6.25 | .25 | .13 | |
| 1-3/8 | 13-1/2 | 1019374 | 1019383 | 11.63 | 2.25 | 1.50 | 1.50 | 1.38 | 5.01 | 3.31 | 4.43 | 8.28 | .75 | 6.53 | .25 | .13 | |
| 1-1/2 | 17 | 1019392 | 1019409 | 15.95 | 2.38 | 1.63 | 1.62 | 1.50 | 5.38 | 3.62 | 4.87 | 9.05 | .81 | 7.33 | .25 | .13 | |
| 1-3/4 | 25 | 1019418 | 1019427 | 26.75 | 2.88 | 2.00 | 2.12 | 1.75 | 6.38 | 4.19 | 5.78 | 10.97 | 1.00 | 9.06 | .25 | .13 | |
| 2 | 35 | 1019436 | 1019445 | 42.31 | 3.25 | 2.25 | 2.36 | 2.10 | 7.25 | 5.00 | 6.77 | 12.74 | 1.13 | 10.35 | .25 | .13 | |
| 2-1/2 | 55 | 1019454 | 1019463 | 71.75 | 4.12 | 2.75 | 2.63 | 2.63 | 9.38 | 5.68 | 8.07 | 14.85 | 1.38 | 13.00 | .25 | .25 | |

* Note: Maximum Proof Load is 2.0 times the Working Load Limit. Minimum Ultimate Strength is 6 times the Working Load Limit.

FITTINGS & BLOCKS



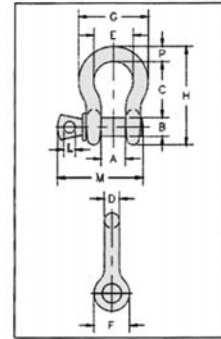
Crosby® Alloy Screw Pin Anchor Shackles



G-209A Alloy Screw Pin Shackle

Screw pin anchor shackles meet the performance requirements of Federal Specification RR-C-271DF Type IVA, Grade B, Class 2, except for those provisions required of the contractor.

- Capacities 2 thru 21 metric tons. Meets performance requirements of Grade 8 shackles.
- Forged Alloy Steel - Quenched and Tempered, with alloy pins.
- Working Load Limit permanently shown on every shackle.
- Hot Dip Galvanized.
- Meet or exceed all requirements of ASME B30.26 including identification, ductility, design, factor, proof load, and temperature requirements. Importantly, Crosby products meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.
- Shackles can be furnished proof tested with certificates to designated standards, such as ABS, DNV, Lloyds, or other certification. Charges for proof testing and certification available when requested at the time of order.
- Approved for use at -40 degree C (-40 degree F) to 204 degree C (400 degree F).

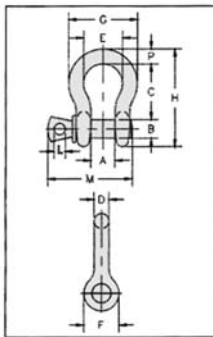


G-209A Alloy Screw Pin Shackles

| Nominal Shackle Size (in.) | Working Load Limit * (tons) | G-209-A Stock Number | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | | | | Tolerance +/- | |
|----------------------------|-----------------------------|----------------------|-------------------|------------------|------|------|------|------|------|------|------|-----|------|------|-----|---------------|--|
| | | | | A | B | C | D | E | F | G | H | L | M | P | C | A | |
| 3/8 | 2 | 1017450 | .31 | .66 | .44 | 1.44 | .38 | 1.03 | .91 | 1.78 | 2.49 | .25 | 2.03 | .38 | .13 | .06 | |
| 7/16 | 2-2/3 | 1017472 | .38 | .75 | .50 | 1.69 | .44 | 1.16 | 1.06 | 2.03 | 2.91 | .31 | 2.38 | .44 | .13 | .06 | |
| 1/2 | 3-1/3 | 1017494 | .63 | .81 | .63 | 1.88 | .50 | 1.31 | 1.19 | 2.31 | 3.28 | .38 | 2.69 | .50 | .13 | .06 | |
| 5/8 | 5 | 1017516 | 1.38 | 1.06 | .75 | 2.38 | .63 | 1.69 | 1.50 | 2.94 | 4.19 | .44 | 3.34 | .69 | .13 | .06 | |
| 3/4 | 7 | 1017538 | 2.25 | 1.25 | .88 | 2.81 | .75 | 2.00 | 1.81 | 3.50 | 4.97 | .50 | 3.97 | .81 | .25 | .06 | |
| 7/8 | 9-1/2 | 1017560 | 3.61 | 1.44 | 1.00 | 3.31 | .88 | 2.28 | 2.09 | 4.03 | 5.83 | .50 | 4.50 | .97 | .25 | .06 | |
| 1 | 12-1/2 | 1017582 | 5.32 | 1.69 | 1.13 | 3.75 | 1.00 | 2.69 | 2.38 | 4.69 | 6.56 | .56 | 5.07 | 1.06 | .25 | .06 | |
| 1-1/8 | 15 | 1017604 | 7.25 | 1.81 | 1.25 | 4.25 | 1.16 | 2.91 | 2.69 | 5.16 | 7.47 | .63 | 5.59 | 1.25 | .25 | .06 | |
| 1-1/4 | 18 | 1017626 | 9.88 | 2.03 | 1.38 | 4.69 | 1.29 | 3.25 | 3.00 | 5.75 | 8.25 | .69 | 6.16 | 1.38 | .25 | .06 | |
| 1-3/8 | 21 | 1017648 | 13.25 | 2.25 | 1.50 | 5.25 | 1.42 | 3.63 | 3.31 | 6.38 | 9.16 | .75 | 6.84 | 1.50 | .25 | .13 | |

* Maximum Proof Load is 2 times the Working Load Limit (metric tons) and 2.2 times the Working Load Limit (short tons). Minimum Ultimate Strength is 4.5 times the Working Load Limit for metric tons, and 5 times the Working Load Limit for short tons. For Working Load Limit reduction due to side loading applications, see section titled "Safe Shackle Use."

S-209T Theatrical Shackles



- Sizes 3/8" through 3/4".
- Capacities: 1 through 4-3/4 metric tonnes.
- Forged - Quenched and Tempered with alloy pins.
- Working Load Limit permanently shown on every shackle.
- Flat Black baked on powder coat finish.
- Fatigue Rated.
- Industry leading 6:1 design factor.
- Screw pin anchor shackles meet the performance requirement of Federal Specification RR-C-271F Type A, Grade A, Class 2, except for those provisions required of the contractor.
- Meets the performance requirements of EN 13889:2003.



Meet or exceed all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, Crosby products meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.

S-209 Theatrical Shackles

| Nominal Shackle Size (in.) | Working Load Limit * (tons) | S-209T Stock Number | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | | | | Tolerance +/- | |
|----------------------------|-----------------------------|---------------------|-------------------|------------------|-----|------|-----|------|------|------|------|-----|------|-----|-----|---------------|--|
| | | | | A | B | C | D | E | F | G | H | L | M | P | C | A | |
| 3/8 | 1 | 1018706 | .31 | .66 | .44 | 1.44 | .38 | 1.03 | .91 | 1.78 | 2.49 | .25 | 2.02 | .38 | .13 | .06 | |
| 7/16 | 1-1/2 | 1018724 | .38 | .75 | .50 | 1.69 | .44 | 1.16 | 1.06 | 2.03 | 2.91 | .31 | 2.37 | .44 | .13 | .06 | |
| 1/2 | 2 | 1018742 | .72 | .81 | .63 | 1.88 | .50 | 1.31 | 1.19 | 2.31 | 3.28 | .38 | 2.69 | .50 | .13 | .06 | |
| 5/8 | 3-1/4 | 1018760 | 1.37 | 1.06 | .75 | 2.38 | .63 | 1.69 | 1.50 | 2.94 | 4.19 | .44 | 3.34 | .69 | .13 | .06 | |
| 3/4 | 4-3/4 | 1018778 | 2.35 | 1.25 | .88 | 2.81 | .75 | 2.00 | 1.81 | 3.50 | 4.97 | .50 | 3.97 | .81 | .25 | .06 | |

* Minimum Ultimate Load is 5 times the Working Load Limit.



Crosby® Round Pin Shackles



G-213/S-213 Round Pin Anchor Shackle

Round pin anchor shackles meet the performance requirements of Federal Specification, RR-C 271F Type IVA, Grade A, Class 1, except for those provisions required of the contractor.

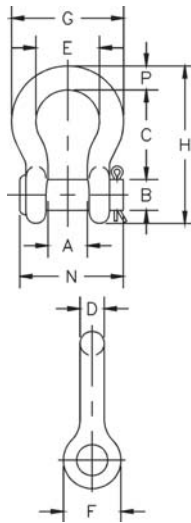
- Shackles are Quenched and Tempered and can meet DNV impact requirements of 42 joules (31 ft-lbs.) at -20 degree C (-4 degree F).
- Working Load Limit permanently shown on every shackle.
- Forged - Quenched and Tempered, with alloy pins.
- Capacities 1/2 thru 35 metric tons.
- Hot Dip Galvanized or Self-Colored. Fatigue Rated.
- Fatigue rated.
- Shackles can be furnished proof tested with certificates to designated standards, such as ABS, DNV, Lloyds, or other certification. Charges for proof testing and certification available when requested at the time of order.
- Shackles 25t and larger are **RFID EQUIPPED**
- Look for the Red Pin® ... the mark of genuine Crosby quality.



G-215/S-215 Round Pin Chain Shackle

Round pin chain shackles meet the performance requirements of Federal Specification, RR-C 271F Type IVB, Grade A, Class 1, except for those provisions required of the contractor.

G-213 & S-213 Round Pin Anchor Shackles

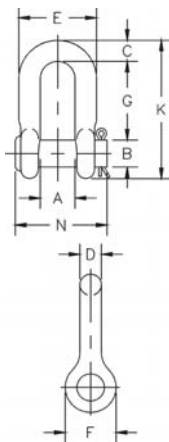


G-213/S-213

| Nominal Size (in.) | Working Load Limit (tons) * | Stock Number | | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | | | Tolerance +/- | |
|--------------------|-----------------------------|--------------|---------|-------------------|------------------|------|------|------|------|------|------|-------|------|------|-----|---------------|--|
| | | G-213 | S-213 | | A | B | C | D | E | F | G | H | N | P | C | A | |
| 1/4 | 1/2 | 1018017 | 1018026 | .13 | .47 | .31 | 1.13 | .25 | .78 | .61 | 1.28 | 1.84 | 1.34 | .25 | .06 | .06 | |
| 5/16 | 3/4 | 1018035 | 1018044 | .18 | .53 | .38 | 1.22 | .31 | .84 | .75 | 1.47 | 2.09 | 1.59 | .31 | .06 | .06 | |
| 3/8 | 1 | 1018053 | 1018062 | .29 | .66 | .44 | 1.44 | .38 | 1.03 | .91 | 1.78 | 2.49 | 1.86 | .38 | .13 | .06 | |
| 7/16 | 1-1/2 | 1018071 | 1018080 | .38 | .75 | .50 | 1.69 | .44 | 1.16 | 1.06 | 2.03 | 2.91 | 2.13 | .44 | .13 | .06 | |
| 1/2 | 2 | 1018099 | 1018106 | .71 | .81 | .63 | 1.88 | .50 | 1.31 | 1.19 | 2.31 | 3.28 | 2.38 | .50 | .13 | .06 | |
| 5/8 | 3-1/4 | 1018115 | 1018124 | 1.50 | 1.06 | .75 | 2.38 | .63 | 1.69 | 1.50 | 2.94 | 4.19 | 2.91 | .69 | .13 | .06 | |
| 3/4 | 4-3/4 | 1018133 | 1018142 | 2.32 | 1.25 | .88 | 2.81 | .75 | 2.00 | 1.81 | 3.50 | 4.97 | 3.44 | .81 | .25 | .06 | |
| 7/8 | 6-1/2 | 1018151 | 1018160 | 3.49 | 1.44 | 1.00 | 3.31 | .88 | 2.28 | 2.09 | 4.03 | 5.83 | 3.81 | .97 | .25 | .06 | |
| 1 | 8-1/2 | 1018179 | 1018188 | 5.00 | 1.69 | 1.13 | 3.75 | 1.00 | 2.69 | 2.38 | 4.69 | 6.56 | 4.53 | 1.06 | .25 | .06 | |
| 1-1/8 | 9-1/2 | 1018197 | 1018204 | 6.97 | 1.81 | 1.25 | 4.25 | 1.13 | 2.91 | 2.69 | 5.16 | 7.47 | 5.13 | 1.25 | .25 | .06 | |
| 1-1/4 | 12 | 1018213 | 1018222 | 9.75 | 2.03 | 1.38 | 4.69 | 1.29 | 3.25 | 3.00 | 5.75 | 8.25 | 5.50 | 1.38 | .25 | .06 | |
| 1-3/8 | 13-1/2 | 1018231 | 1018240 | 13.25 | 2.25 | 1.50 | 5.25 | 1.42 | 3.63 | 3.31 | 6.38 | 9.16 | 6.13 | 1.50 | .25 | .13 | |
| 1-1/2 | 17 | 1018259 | 1018268 | 17.25 | 2.38 | 1.63 | 5.75 | 1.54 | 3.88 | 3.63 | 6.88 | 10.00 | 6.50 | 1.62 | .25 | .13 | |
| 1-3/4 | 25 | 1018277 | 1018286 | 29.46 | 2.88 | 2.00 | 7.00 | 1.84 | 5.00 | 4.19 | 8.86 | 12.34 | 7.75 | 2.25 | .25 | .13 | |
| 2 | 35 | 1018295 | 1018302 | 45.75 | 3.25 | 2.25 | 7.75 | 2.08 | 5.75 | 4.81 | 9.97 | 13.68 | 8.75 | 2.40 | .25 | .13 | |

* Maximum Proof Load is 2.0 times the Working Load Limit. Minimum Ultimate Strength is 6 times the Working Load Limit. For Working Load Limit reduction due to side loading applications, see section titled "Safe Shackle Use."

G-215 & S-215 Round Pin Chain Shackles



G-215/S-215

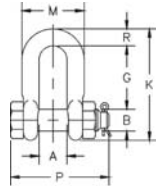
| Nominal Size (in.) | Working Load Limit (tons) * | Stock Number | | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | | | Tolerance +/- | |
|--------------------|-----------------------------|--------------|---------|-------------------|------------------|------|------|------|------|------|------|-------|------|-----|-----|---------------|--|
| | | G-215 | S-215 | | A | B | C | D | E | F | G | K | N | G | A | | |
| 1/4 | 1/2 | 1018810 | 1018829 | .10 | .47 | .31 | .25 | .25 | .97 | .62 | .91 | 1.59 | 1.34 | .06 | .06 | | |
| 5/16 | 3/4 | 1018838 | 1018847 | .18 | .53 | .38 | .31 | .31 | 1.15 | .75 | 1.07 | 1.91 | 1.63 | .06 | .06 | | |
| 3/8 | 1 | 1018856 | 1018865 | .25 | .66 | .44 | .38 | .38 | 1.42 | .92 | 1.28 | 2.31 | 1.86 | .13 | .06 | | |
| 7/16 | 1-1/2 | 1018856 | 1018865 | .40 | .75 | .50 | .44 | .44 | 1.63 | 1.06 | 1.48 | 2.67 | 2.13 | .13 | .06 | | |
| 1/2 | 2 | 1018874 | 1018883 | .50 | .81 | .63 | .50 | .50 | 1.81 | 1.18 | 1.66 | 3.03 | 2.38 | .13 | .06 | | |
| 5/8 | 3-1/4 | 1018892 | 1018909 | 1.21 | 1.06 | .75 | .63 | .63 | 2.32 | 1.50 | 2.04 | 3.76 | 2.91 | .13 | .06 | | |
| 3/4 | 4-3/4 | 1018918 | 1018927 | 2.00 | 1.25 | .88 | .81 | .75 | 2.75 | 1.81 | 2.40 | 4.53 | 3.44 | .25 | .06 | | |
| 7/8 | 6-1/2 | 1018936 | 1018945 | 3.28 | 1.44 | 1.00 | .97 | .88 | 3.20 | 2.10 | 2.86 | 5.33 | 3.81 | .25 | .06 | | |
| 1 | 8-1/2 | 1018954 | 1018963 | 4.75 | 1.69 | 1.13 | 1.00 | 1.00 | 3.69 | 2.38 | 3.24 | 5.94 | 4.53 | .25 | .06 | | |
| 1-1/8 | 9-1/2 | 1018972 | 1018981 | 6.30 | 1.81 | 1.25 | 1.25 | 1.13 | 4.07 | 2.68 | 3.61 | 6.78 | 5.13 | .25 | .06 | | |
| 1-1/4 | 12 | 1018990 | 1019007 | 9.00 | 2.03 | 1.38 | 1.38 | 1.25 | 4.53 | 3.00 | 3.97 | 7.50 | 5.50 | .25 | .13 | | |
| 1-3/8 | 13-1/2 | 1019016 | 1019025 | 12.00 | 2.25 | 1.50 | 1.50 | 1.38 | 5.01 | 3.31 | 4.43 | 8.28 | 6.13 | .25 | .13 | | |
| 1-1/2 | 17 | 1019034 | 1019043 | 16.15 | 2.38 | 1.63 | 1.62 | 1.50 | 5.38 | 3.62 | 4.87 | 9.05 | 6.50 | .25 | .13 | | |
| 1-3/4 | 25 | 1019052 | 1019061 | 29.96 | 2.88 | 2.00 | 2.12 | 1.75 | 6.38 | 4.19 | 5.82 | 10.97 | 7.75 | .25 | .13 | | |
| 2 | 35 | 1019070 | 1019105 | 43.25 | 3.25 | 2.25 | 2.36 | 2.10 | 7.25 | 5.00 | 6.82 | 12.74 | 8.75 | .25 | .13 | | |

* Maximum Proof Load is 2.0 times the Working Load Limit. Minimum Ultimate Strength is 6 times the Working Load Limit. For Working Load Limit reduction due to side loading applications, see section titled "Safe Shackle Use."

FITTINGS & BLOCKS

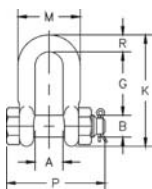


Crosby® Bolt Type Shackles



G-2130/S-2130 Bolt Type Anchor Shackle

G-2130/S-2130 Bolt Type Anchor shackles. Thin hex head bolt - nut with cotter pin. Meets the performance requirements of Federal Specification RR-C-271F Type IVA, Grade A, Class 3, except for those provisions required of the contractors.



G-2150/S-2150 Bolt Type Chain Shackle

G-2150/S-2150 Bolt Type Chain shackles. Thin hex head bolt - nut with cotter pin. Meets the performance requirements of Federal Specification RR-C-271F Type IVB, Grade A, Class 3, except for those provisions required of the contractors.

- Capacities 1/3 thru 150 metric tons, grade 6.
- Working Load Limit and grade "6" permanently shown on every shackle.
- Forged - Quenched and Tempered, with alloy pins.
- Hot Dip galvanized or Self Colored. (85, 120 and 150 metric ton shackles are all hot dip galvanized bows and the bolts and Dimetecote® and painted red).
- Fatigue rated (1/3t - 55t).
- Shackles 25t and larger are RFID EQUIPPED.
- Approved for use at -40 degree C (-40 degree F) to 204 degree C (400 degree F).
- Meets or exceeds all requirements of ASME B30.26.
- Shackles 85 metric tons and larger are individually proof tested to 2.0 times the working load limit.
- Shackles 120 metric tons and larger are proof tested, Magnetic Particle Inspected and provided with Serialized Pin and Bow.
- Type Approval and certification in accordance with ABS 2006 Steel Vessel Rules 1-1-17.7, and a BS Guide for Certification of Cranes.
- 3.1 Certification as standard available for charpy and statistical proof test for page 79 only up to 25 tons to DNV2.7-1 and EN13889.
- Crosby 2t through 25t G2130 anchor shackles are type approved to DNV Certification Notes 2.7-1 - Offshore Containers. These Crosby shackles are statistical proof and impact tested to 42 joules (31 ft-lbs.) minimum average at -20 degree C (-4 degree F). The tests are conducted by Crosby and 3.1 test certification is available upon request. Refer to page 76 for Crosby COLD TUFF® shackles that meet the additional requirements of DNV rules for certification of lifting applications - Loose Gear.
- All other 2130 and all 2150 shackles can meet charpy requirements of 42 joules (31 ft-lbs) average at -20 degree C (-4 degree F) upon special request.
- Look for the Red Pin® ... the mark of genuine Crosby quality.

| Nominal Size (in.) | Working Load Limit (t)* | Stock Number | | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | | Tolerance +/- | |
|--------------------|-------------------------|--------------|---------|-------------------|------------------|------|-------|------|-------|------|-------|-------|------|-----|---------------|--|
| | | G-2130 | S-2130 | | A | B | C | D | E | F | H | L | N | C | A | |
| 3/16 | 1/3++ | 1019464 | - | .06 | .38 | .25 | .88 | .19 | .60 | .56 | 1.47 | .98 | .19 | .06 | .06 | |
| 1/4 | 1/2 | 1019466 | - | .11 | .47 | .31 | 1.13 | .25 | .78 | .61 | 1.84 | 1.28 | .25 | .06 | .06 | |
| 5/16 | 3/4 | 1019468 | - | .22 | .53 | .38 | 1.22 | .31 | .84 | .75 | 2.09 | 1.47 | .31 | .06 | .06 | |
| 3/8 | 1 | 1019470 | - | .33 | .66 | .44 | 1.44 | .38 | 1.03 | .91 | 2.49 | 1.78 | .38 | .13 | .06 | |
| 7/16 | 1-1/2 | 1019471 | - | .49 | .75 | .50 | 1.69 | .44 | 1.16 | 1.06 | 2.91 | 2.03 | .44 | .13 | .06 | |
| 1/2 | 2 | 1019472 | 1019481 | .79 | .81 | .64 | 1.88 | .50 | 1.31 | 1.19 | 3.28 | 2.31 | .50 | .13 | .06 | |
| 5/8 | 3-1/4 | 1019490 | 1019506 | 1.68 | .77 | 2.38 | .63 | .63 | 1.69 | 1.50 | 4.19 | 2.94 | .69 | .13 | .06 | |
| 3/4 | 4-3/4 | 1019515 | 1019524 | 2.72 | 1.25 | .89 | 2.81 | .75 | 2.00 | 1.81 | 4.97 | 3.50 | .81 | .25 | .06 | |
| 7/8 | 6-1/2 | 1019533 | 1019542 | 3.95 | 1.44 | 1.02 | 3.31 | .88 | 2.28 | 2.09 | 5.83 | 4.03 | .97 | .25 | .06 | |
| 1 | 8-1/2 | 1019551 | 1019560 | 5.66 | 1.69 | 1.15 | 3.75 | 1.00 | 2.69 | 2.38 | 6.56 | 4.69 | 1.06 | .25 | .06 | |
| 1-1/8 | 9-1/2 | 1019579 | 1019588 | 8.27 | 1.81 | 1.25 | 4.25 | 1.13 | 2.91 | 2.69 | 7.47 | 5.16 | 1.25 | .25 | .06 | |
| 1-1/4 | 12 | 1019597 | 1019604 | 11.71 | 2.03 | 1.40 | 4.69 | 1.29 | 3.25 | 3.00 | 8.25 | 5.75 | 1.38 | .25 | .06 | |
| 1-3/8 | 13-1/2 | 1019613 | 1019622 | 15.83 | 2.25 | 1.53 | 5.25 | 1.42 | 3.63 | 3.31 | 9.16 | 6.38 | 1.50 | .25 | .13 | |
| 1-1/2 | 17 | 1019631 | 1019640 | 19.00 | 2.38 | 1.66 | 5.75 | 1.53 | 3.88 | 3.63 | 10.00 | 6.88 | 1.62 | .25 | .13 | |
| 1-3/4 | 25 | 1019659 | 1019668 | 33.91 | 2.88 | 2.04 | 7.00 | 1.84 | 5.00 | 4.19 | 12.34 | 8.80 | 2.25 | .25 | .13 | |
| 2 | 35 | 1019677 | 1019686 | 52.25 | 3.25 | 2.30 | 7.75 | 2.08 | 5.75 | 4.81 | 13.68 | 10.15 | 2.40 | .25 | .13 | |
| 2-1/2 | 55 | 1019695 | 1019702 | 98.25 | 4.13 | 2.80 | 10.50 | 2.71 | 7.25 | 5.69 | 17.90 | 12.75 | 3.13 | .25 | .25 | |
| 3 | #85 | 1019711 | - | 154.00 | 5.00 | 3.30 | 13.00 | 3.12 | 7.88 | 6.50 | 21.50 | 14.62 | 3.62 | .25 | .25 | |
| 3-1/2 | #120++ | 1019739 | - | 265.00 | 5.25 | 3.76 | 14.63 | 3.62 | 9.00 | 8.00 | 24.88 | 17.02 | 4.38 | .25 | .25 | |
| 4 | #150++ | 1019757 | - | 338.00 | 5.50 | 4.26 | 14.50 | 4.00 | 10.00 | 9.00 | 25.68 | 18.00 | 4.56 | .25 | .25 | |

| Nominal Size (in.) | Working Load Limit (t)* | Stock Number | | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | | Tolerance +/- | |
|--------------------|-------------------------|--------------|---------|-------------------|------------------|------|------|------|------|-------|-------|-------|------|-----|---------------|--|
| | | G-2150 | S-2150 | | A | B | D | F | G | K | M | P | R | G | A | |
| 1/4 | 1/2 | 1019768 | - | .13 | .47 | .31 | .25 | .62 | .91 | 1.59 | .97 | 1.56 | .25 | .06 | .06 | |
| 5/16 | 3/4 | 1019770 | - | .23 | .53 | .38 | .31 | .75 | 1.07 | 1.91 | 1.15 | 1.82 | .31 | .06 | .06 | |
| 3/8 | 1 | 1019772 | - | .33 | .66 | .44 | .38 | .92 | 1.28 | 2.31 | 1.42 | 2.17 | .38 | .13 | .06 | |
| 7/16 | 1-1/2 | 1019774 | - | .49 | .75 | .50 | .44 | 1.06 | 1.48 | 2.67 | 1.63 | 2.51 | .44 | .13 | .06 | |
| 1/2 | 2 | 1019775 | 1019784 | .75 | .81 | .64 | .50 | 1.18 | 1.66 | 3.03 | 1.81 | 2.80 | .50 | .13 | .06 | |
| 5/8 | 3-1/4 | 1019793 | 1019800 | 1.47 | 1.06 | .77 | .63 | 1.50 | 2.04 | 3.76 | 2.32 | 3.56 | .63 | .13 | .06 | |
| 3/4 | 4-3/4 | 1019819 | 1019828 | 2.52 | 1.25 | .89 | .75 | 1.81 | 2.40 | 4.53 | 2.75 | 4.15 | .81 | .25 | .06 | |
| 7/8 | 6-1/2 | 1019837 | 1019846 | 3.85 | 1.44 | 1.02 | .88 | 2.10 | 2.86 | 5.33 | 3.20 | 4.82 | .97 | .25 | .06 | |
| 1 | 8-1/2 | 1019855 | 1019864 | 5.55 | 1.69 | 1.15 | 1.00 | 2.38 | 3.24 | 5.94 | 3.69 | 5.39 | 1.00 | .25 | .06 | |
| 1-1/8 | 9-1/2 | 1019873 | 1019882 | 7.60 | 1.81 | 1.25 | 1.13 | 2.68 | 3.61 | 6.78 | 4.07 | 5.90 | 1.25 | .25 | .06 | |
| 1-1/4 | 12 | 1019891 | 1019908 | 10.81 | 2.03 | 1.40 | 1.25 | 3.00 | 3.97 | 7.50 | 4.53 | 6.69 | 1.38 | .25 | .06 | |
| 1-3/8 | 13-1/2 | 1019917 | 1019926 | 13.75 | 2.25 | 1.53 | 1.38 | 3.31 | 4.43 | 8.28 | 5.01 | 7.21 | 1.50 | .25 | .13 | |
| 1-1/2 | 17 | 1019935 | 1019944 | 18.50 | 2.38 | 1.66 | 1.50 | 3.62 | 4.87 | 9.05 | 5.38 | 7.73 | 1.62 | .25 | .13 | |
| 1-3/4 | 25 | 1019953 | 1019962 | 31.40 | 2.88 | 2.04 | 1.75 | 4.19 | 5.82 | 10.97 | 6.38 | 9.33 | 2.12 | .25 | .13 | |
| 2 | 35 | 1019971 | 1019980 | 46.75 | 3.25 | 2.30 | 2.10 | 5.00 | 6.82 | 12.74 | 7.25 | 10.41 | 2.36 | .25 | .13 | |
| 2-1/2 | 55 | 101999 | 1020004 | 85.00 | 4.12 | 2.80 | 2.63 | 5.68 | 8.07 | 14.85 | 9.38 | 13.58 | 2.63 | .25 | .25 | |
| 3 | #85 | 1020013 | - | 124.25 | 5.00 | 3.25 | 3.00 | 6.50 | 8.56 | 16.87 | 11.00 | 15.13 | 3.50 | .25 | .25 | |

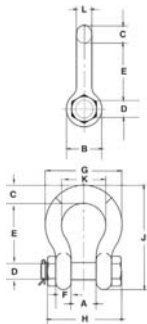
*Note: Maximum Proof Load is 2.0 times the Working Load Limit. Minimum Ultimate Strength is 6 times the Working Load Limit. + Individually proof Tested with certification. ++ Furnished in Anchor style only and furnished with Round Head Bolts with welded handles.



Crosby® Alloy Bolt Type Shackles



G-2140/S-2140 Alloy Bolt Type Anchor Shackles



- Quenched and Tempered.
- Alloy bows, Alloy bolts.
- Forged Alloy Steel 30 thru 200 metric tons and Cast Alloy Steel 250 thru 400 metric tons. Meets performance requirements of grade 8 shackles.
- Working Load Limit is permanently shown on every shackle.
- 30, 40, 55 and 85 metric ton shackle bows are available galvanized or self colored with pins that are galvanized and painted red.
- 120, 150 and 175 metric ton shackle bows are hot-dip galvanized; pins are Dimetcoated® and painted red.
- 200, 250, 300 and 400 metric ton shackle bows are Dimetcoated®; and painted red.
- All sizes are RFID EQUIPPED.
- Approved for use at -40 degree C (-40 degree F) to 204 degree C (400 degree F).
- Shackles are Quenches and Tempered and can meet DNV impact requirements of 42 joules (31 ft-lbs.) at -20 degree C (-4 degree F).
- All sizes are individually proof tested to 2.0 times the Working Load Limit.
- Check with your sales representative for Crosby COLD TUFF® shackles that meet the additional requirements of DNV rules for certification of lifting applications - Loose Gear.
- Shackles 200 metric tons and larger are provided as follows.
 - Serialized Pin and Bow
 - Material Certification (Chemical)
 - Magnetic Particle Inspected
 - Certification must be requested at time of order
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these shackles meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.
- Type Approval and certification in accordance with ABS 2006 Steel Vessel Rules 1-1-17.7, and ABS Guide for Certification of Cranes.
- Look for the Red Pin® ... the mark of genuine Crosby quality.

G-2140 & S-2140 Crosby® Alloy Bolt Type Shackles

| Nominal Shackle Size (in.) | Working Load Limit (tons)* | Stock Number | | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | | | Tolerance +/- | |
|----------------------------|----------------------------|--------------|---------|-------------------|------------------|-------|------|-------|-------|------|-------|-------|-------|-------|------|---------------|-----|
| | | G-2140 | S-2140 | | A | B | C | D +/- | E | F | G | H | J | K | L | A | E |
| 1-1/2 | 30 | 1021110 | 1021129 | 18.8 | 2.38 | 3.62 | 1.62 | 1.63 | 5.75 | 1.39 | 6.88 | 7.73 | 10.00 | 3.88 | 1.53 | .13 | .25 |
| 1-3/4 | 40 | 1021138 | 1021147 | 33.8 | 2.88 | 4.19 | 2.25 | 2.00 | 7.00 | 1.75 | 8.81 | 9.33 | 12.34 | 5.00 | 1.84 | .13 | .25 |
| 2 | 55 | 1021156 | 1021165 | 49.9 | 3.25 | 4.81 | 2.40 | 2.25 | 7.75 | 2.00 | 10.16 | 10.41 | 13.68 | 5.75 | 2.08 | .13 | .25 |
| 2-1/2 | 85 | 1021174 | 1021183 | 103 | 4.12 | 5.81 | 3.12 | 2.75 | 10.50 | 2.62 | 12.75 | 13.58 | 17.90 | 7.25 | 2.71 | .25 | .25 |
| 3 | 120 | 1921192 | - | 162 | 5.00 | 6.50 | 3.63 | 3.25 | 13.00 | 3.00 | 14.62 | 15.13 | 21.50 | 7.88 | 3.12 | .25 | .25 |
| 3-1/2 | #150 | 1021218 | - | 268 | 5.25 | 8.00 | 4.38 | 3.75 | 14.63 | 3.75 | 17.02 | 17.62 | 24.88 | 9.00 | 3.62 | .25 | .25 |
| 4 | #175 | 1021236 | - | 332 | 5.50 | 9.00 | 4.56 | 4.25 | 14.50 | 4.00 | 18.00 | 20.37 | 25.68 | 10.00 | 4.00 | .25 | .25 |
| 7** | #400 | 1021478 | - | 1200 | 8.25 | 14.00 | 7.25 | 7.00 | 22.50 | 6.50 | 26.00 | 28.68 | 40.25 | 13.00 | 6.00 | .25 | .25 |

*Note: Maximum Proof Load is 2.0 times the Working Load Limit. Minimum Ultimate Load is 4 times the Working Load Limit on 200 through 400 metric Tons. For sizes 30 through 175 metric Tons, Minimum Ultimate Load is 5.4 times the Working Load Limit.
** Cast Alloy Steel. # Furnished with Round Head Bolts with an eye bolt for handling.

FITTINGS & BLOCKS

Crosby® Alloy Easy-Loc Shackles



G-2140E

G-2140E & S-2140E Crosby® Alloy Easy-Loc Shackles

| Nominal Shackle Size (in.) | Working Load Limit (tons)* | Stock Number | | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | | | Tolerance +/- | | |
|----------------------------|----------------------------|--------------|---------|-------------------|------------------|-------|------|-------|-------|------|-------|-------|-------|-------|------|---------------|-----|-----|
| | | G-2140E | S-2140E | | A | B | C | D +/- | E | F | G | H | J | K | L | M | A | E |
| 4-3/4 | #200 | 1021422 | - | 452 | 7.25 | 10.50 | 5.00 | 4.75 | 15.19 | 4.58 | 20.84 | 23.11 | 27.81 | 11.00 | 4.75 | 1.75 | .25 | .25 |
| 5** | #250 | 1021442 | - | 594 | 8.50 | 12.00 | 5.63 | 5.00 | 18.50 | 4.48 | 23.63 | 24.28 | 32.63 | 13.00 | 5.00 | 1.75 | .25 | .25 |
| 6** | #300 | 1021460 | - | 791 | 8.38 | 13.00 | 6.06 | 6.00 | 18.72 | 4.89 | 24.76 | 25.45 | 34.28 | 13.00 | 5.88 | 1.75 | .25 | .25 |



Crosby® Hoist Hooks

S-320 & S-320N Eye Hooks



S-320



S-320N

All Crosby® 320 Eye Hoist Hooks incorporate the following features:

- The most complete line of Eye hoist hooks.
- Available in carbon steel and alloy steel.
- Designed with a 5:1 Design Factor for (Carbon Steel); 4:5:1 Design Factor for 30t - 60t (Alloy Steel). Eye hooks are load rated.
- Proper design, careful forging and precision controlled quenched and tempering give maximum strength without excessive weight and bulk.
- Every Crosby® Eye Hook has a pre-drilled cam which can be equipped with a latch. Even years after purchase of the original hook, latch assemblies can be added.
- Chemical analysis and tensile tests performed on each PIC to verify chemistry and mechanical properties.
- Type Approval and certification in accordance with ABS 2007 Steel Vessel Rules 1-1-17.7, and ABS Guide for Certification of Cranes.
- Hoists hooks incorporate two types of strategically placed markings forged into the product which address two (2) **QUIC-CHECK®** features: Deformation Indicators and Angle Indicators.

The following additional features have been incorporated in the new Crosby S-320N Eye Hoist Hooks. (Sizes 3/4 metric ton Carbon through 22 metric ton Alloy.)

- Metric Rated at 5:1 Design Factor for (Carbon Steel); 5:1 Design Factor for 1t - 22 (Alloy Steel).
- Can be proof tested to 2 times the working Load Limit.
- Low profile hook tip.
- New integrated latch (S-4320) meets the World class standard for lifting.
 - Heavy duty stamped latch interlocks with the hook tip.
 - High cycle, long life spring.
 - When secured with proper cotter pin through the hold in the tip of hook, meets the intent of OSHA Rule 1926.1431(g) and 1926.1501(g) for personnel hoisting.
- Fatigue rated at 1-1/2 times the Working Load Limit at 20,000 cycles.

| Working Load Limit (t) | | Hook ID Code | Eye Hook Stock Number | | | Weight Each (lbs) | Replacement Latch Kits | | |
|------------------------|-------|--------------|----------------------------|--------------------|----------------------------|-------------------|------------------------|-----------------|----------------------|
| Carbon | Alloy | | Carbon S.C. S-320C/S-320CN | Carbon Galv G-320N | Alloy S.C. S-320-A/S-320AN | | S-4320 Stock Number | PL Stock Number | SS-4055 Stock Number |
| .75 | 1 | #D | 1022200 | 1022208 | 1022375 | .61 | 1096325 | - | - |
| 1 | 1.5 | #F | 1022211 | 1022219 | 1022386 | .89 | 1096374 | - | - |
| 1.5 | 2 | #G | 1022222 | 1022230 | 1022397 | 1.44 | 1096421 | - | - |
| 2 | 3 | #H | 1022233 | 1022241 | 1022406 | 2.07 | 1096468 | - | - |
| 3 | 5 | #I | 1022244 | 1022249 | 1022419 | 4.30 | 1096515 | 1092000 | - |
| 5 | 7 | #J | 1022255 | 1022262 | 1022430 | 8.30 | 1096562 | 1092001 | - |
| 7.5 | 11 | #K | 1022264 | 1022274 | 1022441 | 15.00 | 1096609 | 1092002 | - |
| 10 | 15 | #L | 1022277 | 1022285 | 1022452 | 20.77 | 1096657 | 1092003 | - |
| 15 | 22 | #N | 1022288 | 1022296 | 1022465 | 39.50 | 1096704 | 1092004 | - |
| 20 | 30 | O | 1023289 | -- | 1023546 | 60.00 | - | 1093716 | 1090161 |
| 25 | 37 | P | 1023305 | -- | 1023564 | 105.00 | - | 1093717 | 1090189 |
| 30 | 45 | S | 1023323 | -- | 1023582 | 148.00 | - | 1093718 | 1090189 |
| 40 | 60 | T | 1023341 | -- | 1023608 | 228.00 | - | 1093719 | 1090205 |

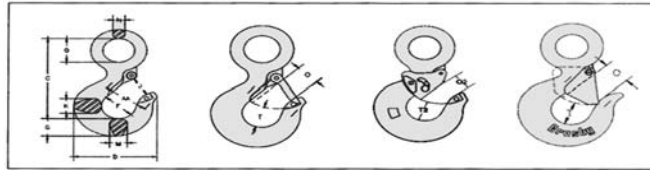
* Eye Hooks (3/4 TC - 22 TA), Proof load is 2 times Working Load Limit. Eye Hooks (20 TC - 60 TA). All carbon hooks - average straightening load (Ultimate Load) is 5 times Working Load Limit. Alloy eye hooks 1 ton through 22 ton - average straightening load (Ultimate Load) is 5 times Working Load Limit. Alloy eye hooks 30 tons through 60 tons - average straightening load (Ultimate Load) is 4.5 times Working Load Limit.
New 320N style hook.

Hoist hooks incorporate markings forged into the product which address two (2) **QUIC-CHECK®** features.



- Deformation Indicators** - Two strategically placed marks, one just below the shank or eye and the other on the hook tip, which allows for a **QUIC-CHECK®** measurement to determine if the throat opening has changed, thus indicating abuse or overload. To check, use a measuring device (i.e., tape measure) to measure the distance between the marks. The marks should align to either an inch or half-inch increment on the measuring device. If the measurement does not meet this criteria, the hook should be inspected further for possible damage.
- Angle Indicators** - Indicates the maximum included angle which is allowed between two (2) sling legs in the hook. These indicators also provide the opportunity to approximate other included angles between two sling legs.

S-320CN



S320 HOOK SPECIFICATIONS

| Hook ID* Code | Dimensions (in.) | | | | | | | | | | | | | |
|---------------|------------------|-------|------|------|------|------|------|------|------|------|------|------|------|-------|
| | C | D | F | G | J | K | M | N | O # | O2## | Q | T# | T2## | AA |
| D | 3.34 | 2.83 | 1.25 | .73 | .90 | .63 | .63 | .36 | .89 | - | .75 | .87 | - | 1.50 |
| F | 3.81 | 3.11 | 1.38 | .84 | .93 | .71 | .71 | .42 | .91 | - | .91 | .98 | - | 2.00 |
| G | 4.14 | 3.53 | 1.50 | 1.00 | 1.00 | .88 | .88 | .55 | 1.00 | - | 1.13 | 1.03 | - | 2.00 |
| H | 4.69 | 3.97 | 1.63 | 1.13 | 1.13 | .94 | .94 | .58 | 1.09 | - | 1.25 | 1.16 | - | 2.00 |
| I | 5.77 | 4.81 | 2.00 | 1.44 | 1.47 | 1.31 | 1.31 | .72 | 1.36 | 1.00 | 1.56 | 1.53 | 1.50 | 2.50 |
| J | 7.37 | 6.27 | 2.50 | 1.81 | 1.75 | 1.66 | 1.66 | .90 | 1.61 | 1.31 | 2.00 | 1.96 | 1.88 | 3.00 |
| K | 9.07 | 7.45 | 3.00 | 2.25 | 2.29 | 1.88 | 1.63 | 1.11 | 2.08 | 1.81 | 2.44 | 2.47 | 2.25 | 4.00 |
| L | 10.08 | 8.30 | 3.25 | 2.59 | 2.50 | 2.19 | 1.94 | 1.27 | 2.27 | 2.00 | 2.84 | 2.62 | 2.31 | 4.00 |
| N | 12.53 | 10.30 | 4.25 | 3.00 | 3.30 | 2.69 | 2.38 | 1.56 | 3.02 | 2.75 | 3.50 | 2.83 | 2.56 | 5.00 |
| O | 14.06 | 13.62 | 5.00 | 3.62 | 4.00 | 3.00 | 3.00 | 1.75 | 3.25 | - | 3.50 | 3.44 | - | 6.50 |
| P | 18.19 | 14.06 | 5.38 | 4.56 | 4.25 | 3.75 | 3.19 | 2.00 | 3.00 | - | 4.50 | 3.88 | - | 7.00 |
| S | 20.12 | 15.44 | 6.00 | 5.06 | 4.75 | 4.50 | 3.25 | 2.18 | 3.38 | - | 4.94 | 4.75 | - | 8.00 |
| T | 23.72 | 18.50 | 7.00 | 6.00 | 5.75 | 5.50 | 3.91 | 2.53 | 4.12 | - | 5.69 | 5.69 | - | 10.00 |

* Eye Hooks (3/4 TC-22TA), Proof load is 2 times Working Load Limit. Eye Hooks (20TC-60TA). All carbon hooks - average straightening load (Ultimate Load) is 5 times Working Load Limit. Alloy eye hooks 1t through 22t - average straightening load (Ultimate Load) is 5 times Working Load Limit. Alloy eye hooks 30t through 60t - average straightening load (Ultimate Load) is 4.5 times Working Load Limit.
 # 3/4tC - 22tA dimensions shown are for S-4320 Latch Kits. Dimensions for sizes 20t carbon and larger are for PL Latch Kits.
 ## Dimensions are for PL-N Latch Kits.



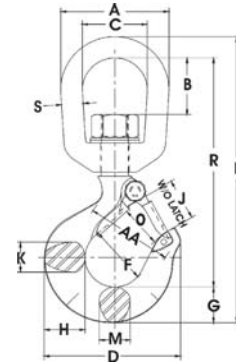
Crosby® Swivel Hooks

S-322CN/S-322AN



(L-322 AN Shown)

- Forged - Quenches and Tempered.
- Swivel hooks are load rated.
- Proper design, careful forging, and precision controlled quench and tempering gives maximum strength without excessive weight and bulk.
- Low profile hook tip designed to utilize Crosby S-4320 or PL-N latch kit. Even years after purchase of the original hook, latch assemblies can be added.
- Hoist hooks incorporate markings forged into the product which address two (2) QUIC-CHECK® features:- Deformation Indicators & Angle Indicators.
- Deformation Indicators - Two strategically placed marks, one just below the shank or eye and the other on the hook tip, which allows for a QUIC-CHECK® measurement to determine if the throat opening has changed, thus indicating abuse or overload.
- Angle Indicators - Indicates the maximum included angle which is allowed between two (2) sling legs in the hook. These indicators also provide the opportunity to approximate other included angles between two sling legs.
- Type Approval and certification in accordance with ABS 2007 Steel Vessel Rules 1-1-17.7, and ABS Guide for Certification of Cranes.



This hook is a positioning device and is not intended to rotate under load.
 Use in corrosive environment requires shank and nut inspection in accordance with ASME B30.10-1.10.4 (b)(5)(c) 2009.

| Working Load Limit* (tons) | | S-322CN Stock Number | S-322AN Stock Number | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | | | | | | | Rep. Latch Stock Number |
|----------------------------|-------|----------------------|----------------------|-------------------|------------------|------|------|-------|------|------|------|------|------|-------|------|------|-------|------|------|-------------------------|
| 322C | 322A | | | | A | B | C | D | F | G | H | J | K | L | M | O+ | R | S | AA | |
| 3/4 | 1 | 1048600 | 1048804 | .75 | 2.00 | .82 | 1.25 | 2.86 | 1.25 | .73 | .81 | .93 | .63 | 5.66 | .63 | .89 | 4.55 | .38 | 1.50 | 1096325 |
| 1 | 1-1/2 | 1048609 | 1048813 | 1.25 | 2.50 | 1.31 | 1.50 | 3.15 | 1.38 | .84 | .94 | .97 | .71 | 6.71 | .71 | .91 | 5.37 | .50 | 2.00 | 1096374 |
| 1-1/2 | 2 | 1048618 | 1048822 | 2.25 | 3.00 | 1.50 | 1.75 | 3.59 | 1.50 | 1.00 | 1.16 | 1.06 | .88 | 7.75 | .88 | 1.00 | 6.12 | .63 | 2.00 | 1096421 |
| 2 | 3 | 1048627 | 1048831 | 2.30 | 3.00 | 1.50 | 1.75 | 4.00 | 1.62 | 1.13 | 1.31 | 1.19 | .94 | 8.25 | .94 | 1.09 | 6.50 | .63 | 2.00 | 1096468 |
| 3 | 5 | 1048636 | 1048837 | 4.96 | 3.50 | 1.64 | 2.00 | 4.84 | 2.00 | 1.44 | 1.63 | 1.50 | 1.31 | 9.69 | 1.13 | 1.36 | 7.50 | .75 | 2.50 | 1096515 |
| 5 | 7 | 1048645 | 1048854 | 10.29 | 4.56 | 2.29 | 2.50 | 6.28 | 2.50 | 1.81 | 2.06 | 1.78 | 1.66 | 12.47 | 1.44 | 1.61 | 9.63 | 1.00 | 3.00 | 1096562 |
| 7-1/2 | 11 | 1048654 | 1048865 | 19.40 | 5.00 | 2.53 | 2.75 | 7.54 | 3.00 | 2.25 | 2.63 | 2.41 | 1.88 | 14.75 | 1.63 | 2.08 | 11.37 | 1.13 | 4.00 | 1096609 |
| 10 | 15 | 1048663 | 1048877 | 23.25 | 5.62 | 2.48 | 3.12 | 8.34 | 3.25 | 2.59 | 2.94 | 2.62 | 2.19 | 16.40 | 1.94 | 2.27 | 12.25 | 1.25 | 4.00 | 1096657 |
| 15 | 22 | 1048672 | 1048886 | 47.00 | 7.10 | 3.76 | 4.10 | 10.34 | 4.25 | 3.00 | 3.50 | 3.41 | 2.69 | 21.34 | 2.38 | 3.02 | 16.71 | 1.50 | 5.00 | 1096704 |
| -- | 30 | -- | 1025688 | 70.50 | 7.10 | 3.76 | 4.10 | 13.62 | 5.00 | 3.61 | 4.63 | 4.00 | 3.00 | 23.25 | 3.00 | 3.25 | 18.01 | 1.50 | 6.50 | 1093716 |

*Note: Carbon swivel hooks .75tC-15tC: proof load is 2 times working load limit. Designed with a 5 to 1 design factor. Alloy swivel hooks 1tA-22tA: proof load is 2.5 times working load limit. Designed with a 4.5 to 1 design factor. Alloy swivel hook 30tA: proof load is 2 times working load limit. Designed with a 4 to 1 design factor.
 + Dimensions for hooks 3 4t carbon thru 22t alloy are for S-4320 latch kits. Dimensions for hooks 31.5t alloy are for PL Latch Kit.

| Working Load Limit (tons)* | | L-322 CN Stock Number | L-322 AN Stock Number | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | | | | | | | Rep. Latch Stock Number |
|----------------------------|-------|-----------------------|-----------------------|-------------------|------------------|------|------|-------|------|------|------|------|------|-------|------|------|-------|------|------|-------------------------|
| Carbon | Alloy | | | | A | B | C | D | F | G | H | J | K | L | M | O+ | R | S | AA | |
| 3/4 | 1 | 1048603 | 1048807 | .75 | 2.00 | .82 | 1.25 | 2.86 | 1.25 | .73 | .81 | .93 | .63 | 5.66 | .63 | .89 | 4.55 | .38 | 1.50 | 1096325 |
| 1 | 1-1/2 | 1048612 | 1048816 | 1.25 | 2.50 | 1.31 | 1.50 | 3.15 | 1.38 | .84 | .94 | .97 | .71 | 6.71 | .71 | .91 | 5.37 | .50 | 2.00 | 1096374 |
| 1-1/2 | 2 | 1048621 | 1048825 | 2.25 | 3.00 | 1.50 | 1.75 | 3.59 | 1.50 | 1.00 | 1.16 | 1.06 | .88 | 7.75 | .88 | 1.00 | 6.12 | .63 | 2.00 | 1096421 |
| 2 | 3 | 1048630 | 1048834 | 2.30 | 3.00 | 1.50 | 1.75 | 4.00 | 1.62 | 1.13 | 1.31 | 1.19 | .94 | 8.25 | .94 | 1.09 | 6.50 | .63 | 2.00 | 1096468 |
| 3 | 5 | 1048639 | 1048840 | 4.96 | 3.50 | 1.64 | 2.00 | 4.84 | 2.00 | 1.44 | 1.63 | 1.50 | 1.31 | 9.69 | 1.13 | 1.36 | 7.50 | .75 | 2.50 | 1096515 |
| 5 | 7 | 1048648 | 1048859 | 10.29 | 4.56 | 2.29 | 2.50 | 6.28 | 2.50 | 1.81 | 2.06 | 1.78 | 1.66 | 12.47 | 1.44 | 1.61 | 9.63 | 1.00 | 3.00 | 1096562 |
| 7-1/2 | 11 | 1048657 | 1048868 | 19.40 | 5.00 | 2.53 | 2.75 | 7.54 | 3.00 | 2.25 | 2.63 | 2.41 | 1.88 | 14.75 | 1.63 | 2.08 | 11.37 | 1.13 | 4.00 | 1096609 |
| 10 | 15 | 1048666 | 1048880 | 23.25 | 5.62 | 2.48 | 3.12 | 8.34 | 3.25 | 2.59 | 2.94 | 2.62 | 2.19 | 16.40 | 1.94 | 2.27 | 12.25 | 1.25 | 4.00 | 1096657 |
| 15 | 22 | 1048675 | 1048889 | 47.00 | 7.10 | 3.76 | 4.10 | 10.34 | 4.25 | 3.00 | 3.50 | 3.41 | 2.69 | 21.34 | 2.38 | 3.02 | 16.71 | 1.50 | 5.00 | 1096704 |
| - | 30 | - | - | 70.50 | 7.10 | 3.76 | 4.10 | 13.62 | 5.00 | 3.61 | 4.63 | 4.00 | 3.00 | 23.25 | 3.00 | 3.25 | 18.01 | 1.50 | 6.50 | 1093716 |

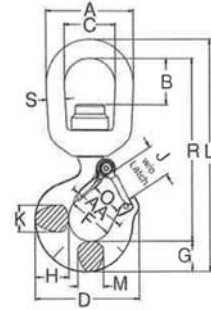
*Note: Carbon swivel hooks .75tC-15tC: proof load is 2 times working load limit. Designed with a 5 to 1 design factor. Alloy swivel hooks 1A-22A: proof load is 2.5 times working load limit. Designed with a 4.5 to 1 design factor. Alloy swivel hook 30tA: proof load is 2 times working load limit. Designed with a 4 to 1 design factor.
 + Dimensions for hooks 3 4t carbon thru 22t alloy are for S-4320 latch kits. Dimensions for hooks 31.5t alloy for PL latch kit.

S-3322B Swivel Hooks with Bearing

New anti-friction bearing design allows hook to rotate freely under load.



- Capacity ranging from 2 through 15 metric tonnes.
- Forged - Quenched and Tempered.
- Proper design, careful forging, and precision controlled quench and tempering gives maximum strength without excessive weight and bulk.
- Low profile hook tip designed to utilize Crosby S-4320 or PL-N latch kit. Simply purchase the latch assemblies listed and shown. Even years after purchase of the original hook, latch assemblies can be added.
- S-3322 hooks incorporate markings forged into the product which addresses two (2) QUIC-CHECK® features:
 - **Deformation Indicators** - Two strategically placed marks, one just below the shank or eye and the other on the hook tip, which allows for a QUIC-CHECK® measurement to determine if the throat opening has changed, thus indicating abuse or overload.
 - **Angle Indicators** - Indicates the maximum included angle which is allowed between two (2) sling legs in the hook. These indicators also provide the opportunity to approximate other included angles two sling legs.



For other swivel hooks designed to rotate under load, contact a Crosby Engineer. Use in corrosive environment requires shank and nut inspection in accordance with ASME B30.10-1.10.4 (b)(5)(c) 2009.

FITTINGS & BLOCKS

| Working Load Limit (tons) | S-3322B Stock Number | L-3322B Stock Number + | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | | | | | | Rep. Latch Stock Number | |
|---------------------------|----------------------|------------------------|-------------------|------------------|------|------|------|------|------|------|------|------|-------|------|------|-------|------|-------------------------|---------|
| | | | | A | B | C | D | F | G | H | J | K | L | M | O | R | S | | AA |
| 2 | 1028605 | 1028609 | 2.5 | 3.00 | 1.50 | 1.75 | 3.59 | 1.50 | 1.00 | 1.16 | 1.06 | .88 | 7.64 | .88 | 1.00 | 6.01 | .63 | 2.00 | 1096421 |
| 3 | 1028614 | 1028618 | 3.8 | 3.50 | 1.56 | 2.00 | 4.00 | 1.62 | 1.13 | 1.31 | 1.19 | .94 | 8.60 | .94 | 1.09 | 6.72 | .75 | 2.00 | 1096468 |
| 5 | 1028623 | 1028627 | 7.0 | 4.00 | 1.56 | 2.25 | 4.84 | 2.00 | 1.44 | 1.63 | 1.50 | 1.31 | 10.32 | 1.13 | 1.36 | 8.00 | .88 | 2.50 | 1096515 |
| 7 | 1028632 | 1028636 | 14.0 | 5.00 | 1.94 | 2.75 | 6.27 | 2.50 | 1.81 | 2.06 | 1.78 | 1.66 | 12.84 | 1.44 | 1.61 | 9.90 | 1.13 | 3.00 | 1096562 |
| 11 | 1028641 | 1028645 | 22.3 | 5.62 | 2.05 | 3.12 | 7.54 | 3.00 | 2.25 | 2.63 | 2.41 | 1.88 | 15.24 | 1.63 | 2.08 | 11.74 | 1.25 | 4.00 | 1096609 |
| 15 | 1028650 | 1028654 | 36.0 | 7.12 | 3.62 | 4.10 | 8.33 | 3.25 | 2.59 | 2.94 | 2.62 | 2.19 | 18.64 | 1.94 | 2.27 | 14.41 | 1.50 | 4.00 | 1096657 |

* Note: Proof load is 2.5 times working load limit. Designed with a 4.5 to 1 design factor. + Supplied with latch attached.



Crosby® SHUR-LOC® Hooks



S1316 Hook

All SHUR-LOC® hooks have the following features:

- Forged Alloy Steel - Aqueches and Tempered.
- Recessed trigger design is flush with the hook body, protecting the trigger from potential damage.
 - Easy to operate with enlarged thumb access.
- Positive Lock Latch is Self-Locking when hook is loaded.
- The SHUR-LOC® hook, if properly installed and locked, can be used for personnel lifting applications and meets the intent of OSHA Rule 1926.1431(g)(1)(i)(A) and 1926.1501(g)(4)(iv)(B).

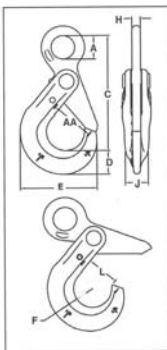
Eye Style incorporates these added features:

- Individually Proof Tested to 2-1/2 times the 4:1 Working Load Limit with certification.
- Fatigue rated at 1-1/2 times the Working Load Limit at 20,000 cycles.
- 25% stronger than grade 80.
- Suitable for use with Grade 100 and grade 80 chain.
- Designed with "Engineered Flat" to connect to S-1325 chain coupler.



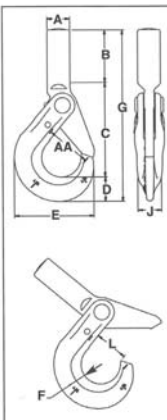
S1318 Hook

SHUR-LOC® Hook Series with Positive Locking Latch S-1316 Eye Hook



| Chain | | | Wire Rope XXIP IWRC Mechanical Splice | | S-1316 Stock Number | Weight Each (lbs) | Dimensions | | | | | | | | | |
|----------|-------|------------------------------------|---|---------------------------------------|---------------------------|----------------------|------------|-------|------|------|------|------|------|------|------|--|
| (in.) | (mm) | Working Load Limit (lbs)* | Size (in.) | Working Load Limit (lbs) 5:1 | | | A | C | D | E | F | H | J | L | AA | |
| - | 6 | 3200 | 5/16 | 2200 | 1022896 | .85 | .78 | 3.95 | .79 | 2.60 | .67 | .31 | .63 | 1.14 | 1.50 | |
| 1/4-5/16 | 7-8 | 5700 | 7/16 | 4200 | 1022914 | 1.80 | 1.08 | 5.31 | 1.10 | 3.50 | .87 | .39 | .81 | 1.48 | 2.00 | |
| 3/8 | 10 | 8800 | 1/2 | 5600 | 1022923 | 3.40 | 1.30 | 6.57 | 1.17 | 4.39 | 1.10 | .51 | .94 | 1.83 | 2.50 | |
| 1/2 | 13 | 15000 | 3/4 | 12400 | 1022932 | 6.00 | 1.65 | 8.23 | 1.67 | 5.45 | 1.26 | .67 | 1.16 | 2.22 | 3.00 | |
| 5/8 | 16 | 22600 | 7/8 | 16600 | 1022941 | 15.1 | 2.20 | 10.06 | 2.04 | 6.56 | 1.50 | .87 | 1.50 | 2.65 | 3.50 | |
| 3/4 | 18-20 | 35300 | 1 | 22000 | 1022942 | 19.0 | 2.60 | 10.77 | 2.22 | 7.76 | 2.01 | .87 | 2.03 | 3.52 | - | |
| 7/8 | 22 | 42700 | 1-1/8 | 26500 | 1022943 | 28.0 | 2.87 | 12.49 | 2.45 | 8.75 | 2.27 | .98 | 2.20 | 3.83 | - | |
| 1 | 26 | 59700 | - | - | 1022944 | 49.5 | 3.15 | 14.60 | 3.21 | 9.87 | 2.46 | 1.26 | 2.68 | 4.09 | - | |

* Minimum Ultimate Load is 4 times the Working Load Limit.



S-1318A SHUR-LOC® Shank Hooks

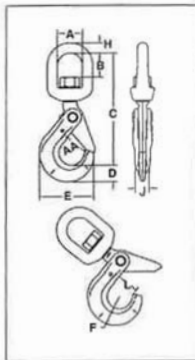
| Chain Size (in.) | (mm) | S-1318A Stock Number | Frame Code | Grade 100 Alloy Chain Working Load Limit (lbs)* | Dimensions (in.) | | | | | | | | | | Weight Each (lbs) |
|---------------------|------|----------------------------|---------------|---|------------------|------|------|------|------|------|-------|------|------|------|-------------------------|
| | | | | | A+ | B | C | D | E | F | G | J | L | AA | |
| - | 6 | 1098200 | D | 3200 | .79 | 2.16 | 3.31 | .79 | 2.60 | .67 | 6.26 | .63 | 1.16 | 1.50 | 1.00 |
| 1/4-5/16 | 7-8 | 1098209 | G | 5700 | 1.00 | 2.40 | 4.16 | 1.10 | 3.51 | .87 | 7.66 | .81 | 1.48 | 2.00 | 1.99 |
| 3/8 | 10 | 1098218 | H | 8800 | 1.14 | 2.95 | 5.14 | 1.17 | 4.39 | 1.10 | 9.26 | .94 | 1.83 | 2.50 | 3.56 |
| 1/2 | 13 | 1098227 | I | 15000 | 1.34 | 3.35 | 6.31 | 1.67 | 5.49 | 1.26 | 11.33 | 1.16 | 2.22 | 3.00 | 7.00 |
| 5/8 | 16 | 1098236 | J | 22600 | 1.63 | 3.94 | 7.28 | 2.04 | 6.55 | 1.50 | 13.26 | 1.50 | 2.65 | 3.50 | 16.00 |

* Ultimate Load is 4 times the Working Limit based on Grade 100 chain. # Dimension before machining (as forged).

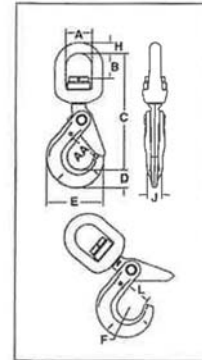


Crosby® SHUR-LOC® Swivel Hooks

S-1326



S-13326



- Forged Alloy Steel - Quenches and Tempered.
- Individually Proof Tested at 2-1/2 times the 4:1 Working Load Limit with certification.
- Recessed trigger design is flush with the hook body, protecting the trigger from potential damage.
 - Easy to operate with enlarged thumb access.
- Positive Lock Latch is Self-Locking when hook is loaded.
- Rated for both Wire Rope and use with Grade 80/100 Chain.
- G-414 Heavy Thimble should be used with wire rope slings.
- Trigger repair Kit available (S-4316). Consists of spring, roll pin and trigger.
- S-13326 Swivel Hook utilizes anti-friction bearing design which allows hook to rotate freely under load.
- Fatigue rated.
- The SHUR-LOC® hook, if properly installed and locked, can be used for personnel lifting applications and meets the intent of OSHA Rule 1926.1431(g)(1)(i)(A) and 1926.1501(g)(4)(iv)(B).
- “Look for the Platinum Color - Crosby Grade 100 Alloy Products”.

S-1326 Shur-Loc® Swivel Hooks

| Chain Size | | Grade 100 Alloy Chain Working Load Limit (lbs) 4:1* | Wire Rope XXIP IWRC Mechanical Splice Working Load Limit (lbs) 5:1* | S-1326 Stock Number | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | |
|------------|-------|---|---|---------------------|-------------------|------------------|------|-------|------|------|------|------|------|------|------|
| (in.) | (mm) | | | | | A | B | C | D | E | F | H | J | L | AA |
| - | 6 | 3200 | 2560 | 1004304 | 1.26 | 1.50 | 1.32 | 6.13 | .79 | 2.60 | .67 | .50 | .63 | 1.13 | 1.50 |
| 1/4-5/16 | 7-8 | 5700 | 4560 | 1004313 | 2.62 | 1.75 | 1.59 | 7.60 | 1.10 | 3.50 | .87 | .63 | .81 | 1.38 | 2.00 |
| 3/8 | 10 | 8800 | 7040 | 1004322 | 4.70 | 2.00 | 1.73 | 8.83 | 1.17 | 4.39 | 1.10 | .75 | .94 | 1.75 | 2.50 |
| 1/2 | 13 | 15000 | 12000 | 1004331 | 8.64 | 2.50 | 2.38 | 11.20 | 1.67 | 5.45 | 1.26 | 1.00 | 1.16 | 2.11 | 3.00 |
| 5/8 | 16 | 22600 | 18000 | 1004340 | 17.00 | 2.75 | 2.53 | 12.90 | 2.05 | 6.56 | 1.50 | 1.13 | 1.50 | 2.49 | 3.50 |
| 3/4 | 18-20 | 35300 | 28240 | 1004349 | 24.00 | 2.83 | 2.52 | 14.10 | 2.22 | 7.76 | 2.01 | 1.10 | 2.03 | 3.52 | 5.00 |
| 7/8 | 22 | 44100 | 35280 | 1004358 | 29.00 | 3.44 | 3.19 | 16.40 | 2.45 | 8.75 | 2.26 | 1.30 | 2.20 | 3.83 | 6.00 |

Suitable for infrequent, non-continuous rotation under load. * Ultimate Load is 4 times the Working Load Limit.

S-13326 Shur-Loc® Swivel Hooks with Bearing

| Chain Size | | Grade 100 Alloy Chain Working Load Limit (lbs) 4:1* | Wire Rope XXIP IWRC Mechanical Splice Working Load Limit (lbs) 5:1* | S-13326 Stock Number | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | |
|------------|------|---|---|----------------------|-------------------|------------------|------|-------|------|------|------|------|------|------|------|
| (in.) | (mm) | | | | | A | B | C | D | E | F | H | J | L | AA |
| - | 6 | 3200 | 2560 | 1004404 | 1.50 | 1.50 | 1.14 | 6.17 | .79 | 2.60 | .67 | .50 | .63 | 1.13 | 1.50 |
| 1/4-5/16 | 7-8 | 5700 | 4560 | 1004413 | 3.10 | 1.75 | 1.52 | 7.54 | 1.10 | 3.50 | .87 | .63 | .81 | 1.44 | 2.00 |
| 3/8 | 10 | 8800 | 7040 | 1004422 | 5.26 | 2.00 | 1.61 | 8.88 | 1.16 | 4.35 | 1.10 | .75 | .94 | 1.83 | 2.50 |
| 1/2 | 13 | 15000 | 12000 | 1004431 | 11.22 | 2.50 | 2.03 | 11.11 | 1.66 | 5.45 | 1.26 | 1.00 | 1.16 | 2.19 | 3.00 |
| 5/8 | 16 | 22600 | 18000 | 1004440 | 17.32 | 2.75 | 1.98 | 12.90 | 2.05 | 6.56 | 1.50 | 1.13 | 1.50 | 2.61 | 3.50 |

Suitable for frequent rotation under load. * Ultimate Load is 4 times the Working Load Limit.

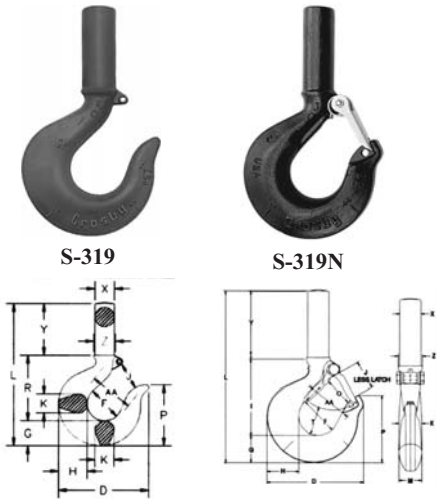
Use in corrosive environment requires shank and nut inspection in accordance with ASME B 30.10-1.10.4 (b)(5)(c) 2009.

FITTINGS & BLOCKS



Crosby® Shank Hooks

- The most complete line of shank hoist hooks. Available 3/4 to 300 metric tons.
- Hook Identification code forged into each hook.
- Quenches and Tempered.
- Available in carbon steel, alloy steel and bronze.
- Proper design, careful forging, and precision controlled quench and tempering give maximum strength without excessive weight and bulk.
- Every Crosby Shank Hook has a pre-drilled cam which can be equipped with a latch. Simply purchase the latch assemblies. Even years after purchase of the original hook, latch assemblies can be added.
- Type Approval and certification in accordance with ABS 2006 Steel Vessel Rules 1-1-17.7, and ABS Guide for Certification of Cranes. Patented McKissick Split-Nut retention system available.



| Working Load Limit (tons)* | | Hook ID Code | Shank Hooks Stock Number | | | Shank Length ++ | Weight Each (lbs) | Rep. Latch Kits | | | |
|----------------------------|-------|--------------|--------------------------|------------------------|---------------|-----------------|-------------------|-----------------|------------|-----------------|---------|
| Carbon | Alloy | | Carbon S-319C & S-319N | Alloy S-319A & S-319AN | Bronze S-19BN | | | S-4320 Stock # | PL Stock # | SS-4055 Stock # | |
| 3/4 | 1 | .5 | #D | 1028505 | 1028701 | 1028900 | Std. | .50 | 1096325 | - | - |
| 1 | 1.5 | .6 | #F | 1028514 | 1028710 | 1028909 | Std. | .75 | 1096374 | - | - |
| 1-1/2 | 2 | 1 | #G | 1028523 | 1028723 | 1028918 | Std. | 1.00 | 1096421 | - | - |
| 2 | 3 | 1.4 | #H | 1028532 | 1028732 | 1028927 | Std. | 1.82 | 1096468 | - | - |
| 3 | 5 | 2 | #I | 1028541 | 1028741 | 1028936 | Std. | 3.69 | 1096515 | 1092000 | - |
| 5 | 7 | 3.5 | #J | 1028550 | 1028750 | 1028945 | Std. | 7.25 | 1096562 | 1092001 | - |
| 7-1/2 | 11 | 5 | #K | 1028563 | 1028765 | 1028954 | Std. | 13.49 | 1096609 | 1092002 | - |
| 10 | 15 | 6.5 | #L | 1028590 | 1028792 | 1028981 | Std. | 21.90 | 1096657 | 1092003 | - |
| 15 | 22 | 10 | #N | 1028599 | 1028801 | 1028990 | Std. | 38.40 | 1096704 | 1092004 | - |
| 20 | 30 | - | O | 1024386 | 1024803 | - | Std. | 72.00 | - | 1093716 | 1090161 |
| 20 | 30 | - | O | 1024402 | 1024821 | - | Long | 85.50 | - | 1093716 | 1090161 |
| 25 | 37 | - | P | 1024420 | 1024849 | - | Std. | 134.00 | - | 1093717 | 1090189 |
| 25 | 37 | - | P | 1024448 | 1024867 | - | Long | 172.00 | - | 1093717 | 1090189 |
| 30 | 45 | - | S | 1024466 | 1024885 | - | Std. | 182.00 | - | 1093718 | 1090189 |
| 30 | 45 | - | S | 1024484 | 1024901 | - | Long | 214.00 | - | 1093718 | 1090189 |
| 40 | 60 | - | T | 1024509 | 1024929 | - | Std. | 268.00 | - | 1093719 | 1090205 |
| 40 | 60 | - | T | 1024545 | 1024965 | - | Long | 312.00 | - | 1093719 | 1090205 |
| 50 | 75 | - | U | 1024563 | 1024983 | - | Std. | 390.00 | - | 1093720 | - |
| 50 | 75 | - | U | 1024581 | 1025009 | - | Long | 426.00 | - | 1093720 | - |
| - | 100 | - | W | - | 1025027 | - | Std. | 610.00 | - | 1093721 | - |
| - | 100 | - | W | - | 1025045 | - | Long | 675.00 | - | 1093721 | - |
| - | 150 | - | X | - | 1025063 | - | Std. | 735.00 | - | 1093721 | - |
| - | 200 | - | Y | - | 1025081 | - | Std. | 1020.00 | - | 1093723 | - |
| - | 300 | - | Z | - | 1025090 | - | Std. | 1390.00 | - | 1093724 | - |

*Note: Proof load is 2 times Working Load Limit. All carbon hooks designed with a 5/1 design factor. All alloy hooks 1-22t designed with a 4.5/1 design factor. All alloy hooks 30t and larger designed with a 4/1 design factor. All bronze hooks designed with a 4/1 design factor. ++ New 319N style hook. ++ See column "Y" on following page for actual length.

Hoist hooks incorporated markings forged into the product which address two (2) QUIC-CHECK® features.

- **Deformation Indicators** - Two strategically placed marks, one just below the shank or eye and the other on the hook tip, which allows for a QUIC-CHECK® measurement to determine if the throat opening has changed, thus indicating abuse or overload. To check, use a measuring device (i.e., tape measure) to measure the distance between the marks. The marks should align to either an inch increment on the measuring device. If the measurement does not meet this criteria, the hook should be inspected further for possible damage.

- **Angle Indicators** - Indicates the maximum included angle which is allowed between two (2) sling legs in the hook. These indicators also provide the opportunity to approximate other included angles between two sling legs.

- **Chemical analysis and tensile tests** performed on each PIC to verify chemistry and mechanical properties.

Rough as forged dimension. Shank will not machine to this dimension. + 3/4(C- 22A dimensions shown are for S-4320 Latch Kits. Dimensions for sizes 20 ton carbon and larger are for PL Latch Kits. ++ Dimensions are for PL-N Latch Kits. For the purpose of calculating D / d ratio, utilize dimension M.

Trademark indicates QUIC-CHECK® product. Hook Material Codes: A-Alloy Steel, B-Bronze High Strength, C-Carbon Steel.

| Hook ID Code | Dimensions (in.) | | | | | | | | | | | | | | | | | |
|--------------|------------------|------|-------|-------|------|------|-------|------|-------|------|-------|-------|------|------|------|-------|------|-------|
| | D | F | G | H | J | K | L | M | O | O2 | P | R | T | T2++ | X | Y | Z | AA |
| D | 2.86 | 1.25 | .73 | .81 | .93 | .63 | 5.14 | .63 | .93+ | - | 1.96 | 2.35 | .97 | - | .59 | 2.06 | .69 | 1.50 |
| F | 3.16 | 1.38 | .84 | .94 | .97 | .71 | 5.68 | .71 | .97+ | - | 2.22 | 2.59 | .97 | - | .66 | 2.25 | .78 | 2.00 |
| G | 3.59 | 1.50 | 1.00 | 1.16 | 1.06 | .88 | 6.35 | .88 | 1.06+ | - | 2.44 | 2.76 | 1.03 | - | .72 | 2.59 | .88 | 2.00 |
| H | 4.00 | 1.62 | 1.14 | 1.31 | 1.19 | .94 | 7.14 | .94 | 1.16+ | - | 2.78 | 3.16 | 1.16 | - | .88 | 2.84 | 1.00 | 2.00 |
| I | 4.84 | 2.00 | 1.44 | 1.63 | 1.50 | 1.31 | 8.36 | 1.13 | 1.36+ | 1.00 | 3.47 | 3.85 | 1.53 | 1.50 | 1.16 | 3.44 | 1.25 | 2.50 |
| J | 6.28 | 2.50 | 1.82 | 2.06 | 1.78 | 1.66 | 10.43 | 1.44 | 1.61+ | 1.31 | 4.59 | 4.77 | 1.96 | 1.88 | 1.41 | 3.84 | 1.56 | 3.00 |
| K | 7.54 | 3.00 | 2.26 | 2.63 | 2.41 | 1.88 | 12.52 | 1.63 | 2.08+ | 1.81 | 5.25 | 5.88 | 2.47 | 2.25 | 1.81 | 4.38 | 1.94 | 4.00 |
| L | 8.34 | 3.25 | 2.60 | 2.94 | 2.62 | 2.19 | 16.10 | 1.94 | 2.27+ | 2.00 | 5.96 | 6.37 | 2.62 | 2.31 | 2.00 | 7.00 | 2.19 | 4.00 |
| N | 10.34 | 4.25 | 3.01 | 3.50 | 3.41 | 2.69 | 18.15 | 2.38 | 3.02+ | 2.75 | 6.88 | 8.14 | 2.83 | 2.56 | 2.56 | 7.00 | 2.63 | 5.00 |
| O | 13.62 | 5.00 | 3.62 | 4.62 | 4.00 | 3.00 | 23.09 | 3.00 | 3.25 | - | 8.78 | 9.44 | 3.44 | - | 3.12 | 10.00 | 3.12 | 6.50 |
| O | 12.62 | 5.00 | 3.62 | 4.62 | 4.00 | 3.00 | 31.09 | 3.00 | 3.25 | - | 8.78 | 9.44 | 3.44 | - | 3.12 | 18.00 | 3.12 | 6.50 |
| P | 14.06 | 5.38 | 4.56 | 5.00 | 4.25 | 3.62 | 32.12 | 3.00 | 3.00 | - | 11.31 | 12.50 | 3.88 | - | 4.00 | 15.00 | 4.00 | 7.00 |
| P | 14.06 | 5.38 | 4.56 | 5.00 | 4.25 | 3.62 | 41.12 | 3.00 | 3.00 | - | 11.31 | 12.50 | 3.88 | - | 4.00 | 24.00 | 4.00 | 7.00 |
| S | 15.44 | 6.00 | 5.06 | 5.50 | 4.75 | 3.72 | 34.12 | 3.25 | 3.38 | - | 12.56 | 14.00 | 4.75 | - | 4.19 | 15.00 | 4.19 | 8.00 |
| S | 15.44 | 6.00 | 5.06 | 5.50 | 4.75 | 3.72 | 43.12 | 3.25 | 3.38 | - | 12.56 | 14.00 | 4.75 | - | 4.19 | 24.00 | 4.19 | 8.00 |
| T | 18.50 | 7.00 | 6.00 | 6.50 | 5.75 | 4.44 | 36.06 | 3.91 | 4.12 | - | 14.75 | 15.56 | 5.69 | - | 4.50 | 14.50 | 4.50 | 10.00 |
| T | 18.50 | 7.00 | 6.00 | 6.50 | 5.75 | 4.44 | 47.56 | 3.91 | 4.12 | - | 14.75 | 15.56 | 5.69 | - | 4.50 | 26.00 | 4.50 | 10.00 |
| U | 20.62 | 7.75 | 6.69 | 7.25 | 6.50 | 5.25 | 41.16 | 4.25 | 4.88 | - | 16.53 | 19.38 | 6.00 | - | 5.00 | 15.00 | 5.00 | 11.50 |
| U | 20.62 | 7.75 | 6.69 | 7.25 | 6.50 | 5.25 | 49.16 | 4.25 | 4.88 | - | 16.53 | 19.38 | 6.00 | - | 5.00 | 23.00 | 5.00 | 11.50 |
| W | 23.00 | 6.81 | 8.59 | 9.88 | 5.88 | 5.50 | 42.12 | 5.50 | 4.50 | - | 17.25 | 18.41 | 7.00 | - | 7.00 | 15.00 | 7.00 | 12.00 |
| W | 23.00 | 6.81 | 8.59 | 9.88 | 5.88 | 5.50 | 48.12 | 5.50 | 4.50 | - | 17.25 | 18.41 | 7.00 | - | 7.00 | 21.00 | 7.00 | 12.00 |
| X | 24.38 | 6.75 | 9.12 | 10.94 | 6.00 | 6.00 | 45.75 | 6.00 | 4.50 | - | 18.00 | 18.38 | 7.00 | - | 7.25 | 18.00 | 7.25 | 13.00 |
| Y | 26.69 | 7.50 | 9.75 | 11.81 | 6.60 | 7.00 | 50.50 | 7.00 | 5.00 | - | 19.75 | 20.50 | 8.00 | - | 8.00 | 20.00 | 8.00 | 13.00 |
| Z | 30.12 | 9.50 | 10.62 | 12.94 | 8.00 | 7.25 | 54.69 | 8.00 | 6.25 | - | 22.69 | 23.50 | 8.25 | - | 9.50 | 20.00 | 9.50 | 15.00 |



Crosby Gate® Hooks

Hook Connectors

The six (6) connector styles shown below make it possible for Crosby to furnish a Golden Gate Hook to fit almost any make or model of hoisting equipment including American Engineering Lo-Hed, ARO, Coffing, Electro Lift, Ingersoll-Rand, P & H, Robbins and Myers, Shepard Niles, CM, Shaw-Box, Wright, Yale & Towne.

CLOSED SWIVEL BAIL

For use where hoisting line or shackle can be inserted into the bail. Suitable for infrequent, non continuous rotation under load. Hook sizes: 1 through 14.

Style A - Manual-Closing Gate
Style C - Self-Closing Gate



SHANK-TYPE HOOK - Standard Length

For use on existing load blocks, with standard shank length. Hook sizes: 2 through 14.

Style B - Manual-Closing Gate
Style D - Self-Closing Gate



SHANK -TYPE HOOK - Long Length

For use on existing load blocks requiring extra shank length. Hook sizes: 4 through 17.

Style I - Manual -Closing Gate
Style K - Self-Closing Gate



UNIVERSAL TYPE

Open swivel bail for attachment to link chain. Suitable for infrequent, non continuous rotation under load. Hook sizes: 3, 4 and 5.

Style G - Manual-Closing Gate
Style E - Self-Closing Gate



LINK CHAIN NEST

With ball-bearing swivel; attaches to chain by an alloy pin. Suitable for frequent rotation under load. Hook sizes: 4, 5 and 7.

Style P - Manual-Closing Gate
Style O - Self-Closing Gate



ROLLER CHAIN NEST

Attachment with ball-bearing swivel and full-floating connector. Suitable for frequent rotation under load. Hook sizes: 4, 5 and 6.

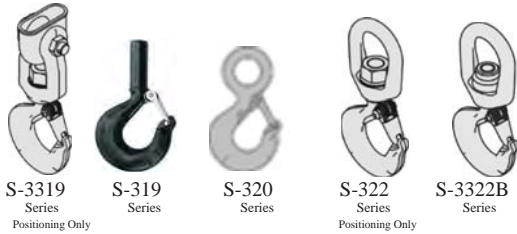
Style R - Manual-Closing Gate
Style S - Self-Closing Gate



Letter designations shown beneath each illustration above indicate BOTH connector style and gate type. Each connector is available with either a self-closing or manual-closing gate. (e.g.: A size 4 hook with a closed swivel bail connector and self-closing gate is 4-C; with manual-closing gate, it is 4-A.)



Warnings and Application Instructions



QUIC-CHECK® Hoist hooks incorporate markings forged into the product which address two (2) QUIC-CHECK® features:

Deformation Indicators - Two strategically placed marks, one just below the shank or eye and the other on the hook tip, which allows for a **QUIC-CHECK®** measurement to determine if the throat opening has changed, thus indicating abuse or overload.

To check, use a measuring device (i.e., tape measure) to measure the distance between the marks. The marks should align to either an inch or half-inch increment on the measuring device. If the measurement does not meet criteria, the hook should be inspected further for possible damage.

Angle Indicator - Indicates the maximum included angle which is allowed between two (2) sling legs in the hook. These indicators also provide the opportunity to approximate other included angles between two sling legs.

IMPORTANT SAFETY INFORMATION

READ AND FOLLOW

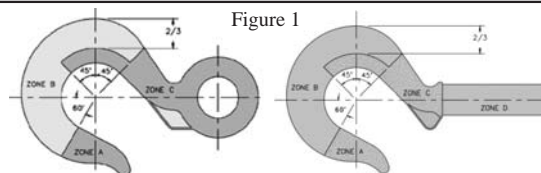
- A visual periodic inspection for cracks, nicks, wear, gouges and deformation as part of a comprehensive documented inspection program, should be conducted by trained personnel in compliance with the schedule in ANSI B30.10.
- For hooks used in frequent load cycles or pulsating loads, the hook and threads should be periodically inspected by Magnetic Particle or Dye Penetrant. (Note: Some disassembly may be required.)
- Never use a hook whose throat opening has been increased, or whose tip has been bent more than 10 degrees out of plane from the hook body, or is in any other way distorted or bent. Note: A latch will not work properly on a hook with a bent or worn tip.
- Never use a hook that is worn beyond the limits shown in Figure 1.
- Remove from service any hook with a crack, nick, or gouge. Hooks with a nick or gouge shall be repaired by grinding lengthwise, following the contour of the hook, provided that the reduced dimension is within the limits shown in Figure 1. Contact Crosby Engineering to evaluate any crack.
- Never repair, alter, rework, or reshape a hook by welding, heating, burning or bending.
- Never side load, back load, or tip load a hook. (Side loading, back loading and tip loading are conditions that damage and reduce the capacity of the hook.) (See Figure 2.)
- Eye hooks, shank hooks and swivel hooks are designed to be used with wire rope or chain. Efficiency of assembly may be reduced when used with synthetic material.
- Do not swivel the S-322, S-3316, or S-3319 swivel hooks while supporting a load. These hooks are distinguishable by hex nuts and flat washers.
- The S-3322 swivel hook is designed to rotate under load. The S-3322 is distinguishable from the S-322 by use of a round nut designed to shield bearing.
- The frequency of bearing lubrication on the S-3322 depends upon frequency and period of product use as well as environmental conditions, which are contingent upon the user's good judgement.
- The use of a latch may be mandatory by regulations or safety codes; e.g., OSHA, MSHA, ANSI/ASME B30, Insurance, etc.. (Note: When using latches, see instructions in "Understanding: The Crosby group Warnings" for further information.)
- Always make sure the hook supports the load. (See Figure 3). The latch must never support the load (See Figure 4).
- When placing two (2) sling legs in hook, make sure the angle from the vertical to the outermost leg is not greater than 45 degrees, and the included angle between the legs does not exceed 90 degrees* (See Figure 5).
- See ANSI/ASME B30.10 "Hooks" for additional information.

* For two legged slings with angles greater than 90 degrees, use an intermediate link such as a master link or bolt type shackle to collect the legs of the slings. The intermediate link can be placed over the hook to provide an in-line load on the hook. This approach must also be used when using slings with three or more legs.



Warning !

- Loads may disengage from hook if proper procedures are not followed.
- A falling load may cause serious injury or death.
- See OSHA Rule 1926.1431(g)(1)(i)(A) and 1926.1501(g)(4)(iv)(B) for personnel hoisting by cranes or derricks, and OSHA Directive CPL 2-1.36 - Interim Inspection Procedures During Communication. Tower Construction Activities. A Crosby 319, 320, or 322 hook with a PL Latch attached and secured with a bolt, nut and cotter pin (or toggle pin) may be used for lifting personnel. A Crosby 319N, 320N or 322N hook with a S-4320 latch attached and secured with cotter pin or bolt, nut and pin; or a PL-N latch attached and secured with toggle pin may be used for lifting personnel. A hook with a Crosby SS-4055 latch attached shall NOT be used for personnel lifting.
- See OSHA Directive CPL 2-1.36 - Crosby does not recommend the placement of lanyards directly into the positive locking Crosby hook when hoisting personnel. Crosby requires that all suspension systems (vertical lifelines/lanyards) shall be gathered at the positive locked load hook by use of a master link, or a bolt-type shackle secured with cotter pin.
- Threads may corrode and/or strip and drop the load.
- Remove securement nut to inspect or to replace S-322, S-3316 and S3319 bearing washers (2).
- Hook must always support the load. The load must never be supported by the latch.
- Never apply more force than the hook's assigned Working Load Limit (WLL) rating.
- Read and understand these instructions before using hook.



Zone A: Repair Not Required
Zone B: 10% of Original Dimension
Zone C: 5% of Original Dimension
Zone D: Consult Minimum Thread Chart 2009 Crosby Catalog p. 125.

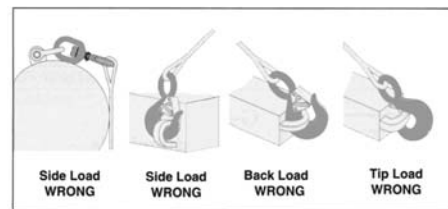
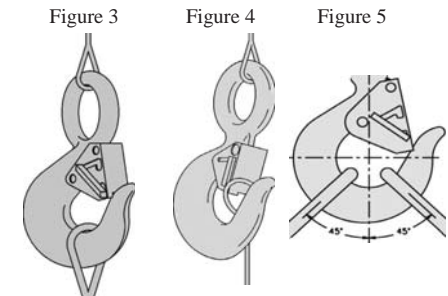


Figure 2



RIGHT

WRONG

RIGHT



SS-4055 Safety Latches

SS-4055 Latch Kits

- Stainless steel construction with cadmium plated steelnuts.
- Shipped packaged and unassembled.
- Instructions included for easy field assembly.



Caution

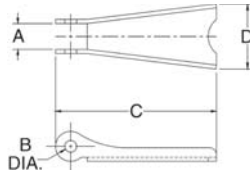
Read and Understand latch kit package before installing.

These latches will not work on new "N" Style Hooks. Use with "old style" hook.

Review the Warning and Application Information on page 114 (except Step 7).

LATCH ORDERING INSTRUCTIONS:

1. Specify latch kit stock number.
2. Specify capacity of hook to which latch will be assembled.
3. Specify hook material (carbon or alloy).



| Hook Size (t) | | | Hook ID Code | SS-4055 Stock Number | Weight Each (lbs) | Dimensions (in.) | | | |
|---------------|-------|---------|--------------|----------------------|-------------------|------------------|-----|------|------|
| Carbon | Alloy | Bronze | | | | A | B | C | D |
| 3/4 | 1 | .5 | D | 1090027 | .02 | .38 | .16 | 1.44 | .59 |
| 1 | 1-1/2 | .6 | F | 1090045 | .02 | .38 | .16 | 1.60 | .59 |
| 1-1/2-2 | 2-3 | 1.0-1.4 | G/H | 1090063 | .03 | .47 | .19 | 1.84 | .82 |
| 3 | 4-1/2 | 2.0 | I | 1090081 | .06 | .56 | .17 | 2.41 | 1.00 |
| 5 | 7 | 3.5 | J | 1090107 | .11 | .58 | .20 | 2.97 | 1.21 |
| 7-1/2-10 | 11-15 | 5.0-6.5 | K/L | 1090125 | .17 | .59 | .27 | 3.66 | 1.50 |
| 15 | 22 | 10.0 | N | 1090143 | .39 | .83 | .39 | 4.94 | 1.90 |
| 20 | 30 | -- | O | 1090161 | .63 | .94 | .52 | 5.88 | 2.56 |
| 25-30 | 37-45 | -- | P/S | 1090189 | 1.12 | 2.19 | .39 | 6.50 | 3.84 |
| 40 | 60 | -- | T | 1090205 | 1.77 | 3.31 | .52 | 7.88 | 4.12 |

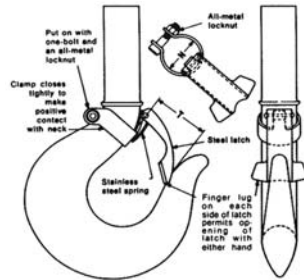
FITTINGS & BLOCKS

Universal Hook Latch



PRODUCT FEATURES:

- Keeps fingers out of danger zones.
- Keeps load on bottom hook when load is slack.
- Keeps top hook on ring, hook or trolley.
- Can be installed on any hook in minutes with only simple tools.
- Meets requirements: Sec. 1910.181(a)(29) OSHA.



Specifications

| Model Number | Hook Dimensions | |
|--------------|------------------|-----------------|
| | Neck (N) | Throat (T) |
| A | 9/16 to 5/8 | 1-1/16 to 1-1/8 |
| B | 3/4 to 13/16 | 1-1/4 |
| C | 7/8 to 1 | 1-3/8 to 1-1/2 |
| D | 1-1/8 to 1-1/4 | 1-3/4 to 1-7/8 |
| E | 1-3/8 to 1-1/2 | 2-1/16 |
| F | 1-5/8 to 1-11/16 | 2-1/4 |
| G | 1-3/4 to 1-13/16 | 2-1/2 |
| H | 1-7/8 to 2 | 3 |
| J | 2-1/16 to 2-1/8 | 3-3/8 |
| K | 2-3/16 to 2-1/4 | 3-1/2 |
| L | 2-5/16 to 2-3/8 | 3-3/4 |
| M | 2-7/16 to 2-3/4 | 4 |
| O | 3 to 3-1/4 | 4-1/2 |



Crosby® Hook Latch Kit

S-4320 Latch Kits

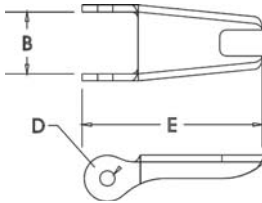
- Heavy duty stamped latch interlocks with the hook tip.
- High cycle, long life spring.
- Can be made into a “Positive Locking” Hook when proper cotter pin is utilized.
- Latch kits shipped unassembled and individually packaged with instructions.
- Meets the intent of OSHA Rule 1926.1431(g) of 1926.1501(g)(when secured with the bolt, nut and pin) for lifting personnel.



NOTE: The new S-4320 Latch Kit will not fit the old style 319, 320, and 322 hooks.

S-4320 Replacement Latch Kit

(For New 319N, and 320N, 322N and 339N and New 1327 and 1339 Hooks)



| Hook Size (t) | | | Hook ID Code | S-4320 Stock Number | SS-4320 Stock Number* | Weight Each (lbs) | Dimensions (in.) | | |
|---------------|-------|--------|--------------|---------------------|-----------------------|-------------------|------------------|-----|------|
| Carbon | Alloy | Bronze | | | | | B | D | E |
| 3/4 | 1 | .5 | D | 1096325 | 1097100 | .03 | .50 | .15 | 1.44 |
| 1 | 1-1/2 | .6 | F | 1096374 | 1097109 | .04 | .54 | .17 | 1.56 |
| 1-1/2 | 2 | 1 | G | 1096421 | 1097118 | .04 | .63 | .17 | 1.66 |
| 2 | 3 | 1.4 | H | 1096468 | 1097127 | .06 | .66 | .17 | 1.91 |
| 3 | 5 | 2 | I | 1096515 | 1097136 | .10 | .83 | .20 | 2.31 |
| 5 | 7 | 3.5 | J | 1096562 | 1097145 | .15 | 1.04 | .20 | 2.88 |
| 7-1/2 | 11 | 5 | K | 1096609 | 1097154 | .28 | 1.25 | .27 | 3.56 |
| 10 | 15 | 6.5 | L | 1096657 | 1097163 | .33 | 1.35 | .27 | 3.81 |
| 15 | 22 | 10 | N | 1096704 | 1097172 | .84 | 1.66 | .39 | 5.18 |

* SS-4320 is Stainless Steel construction with cad plated steel nuts.



S-4320 HOOK LATCH KIT

(For Crosby® 319N, 320N, 322N, S-1327, A1339 Hooks)

WARNINGS & APPLICATION INSTRUCTIONS

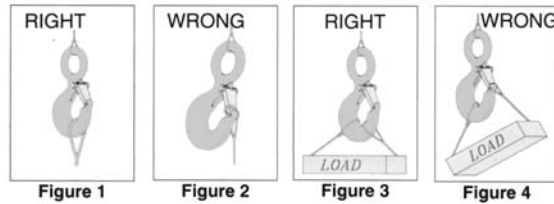
Important Safety Information - Read & Follow

- Always inspect hook and latch before using.
- Never use a latch that is distorted or bent.
- Always make sure spring will force the latch against the tip of the hook.
- Always make sure hook supports the load. The latch must never support the load. (See figure 1&2).
- When placing two (2) sling legs in hook, make sure the angle between the legs is less than 90° and if the hook or load is tilted, nothing bears against the bottom of this latch. (See figure 3&4).
- Latches are intended to retain loose sling or devices under slack conditions.
- Latches are not intended to be an anti-fouling device. When using a latch for personnel lifting, select proper cotter pin (See figure 5).
- See Step 7 below for proper installation instructions.
- Never reuse a bent cotter pin.
- Never use a cotter pin with a smaller diameter or different length than recommended in Figure 5.
- Never use a nail, a welding rod, wire, etc., in place of a recommended cotter pin.
- Always ensure cotter pin is bent so as not to interfere with sling operation.
- Periodically inspect cotter pin for corrosion and general adequacy.



Warning !

- Loads may disengage from hook if proper procedures are not followed.
- A falling load may cause serious injury or death.
- Hook must always support the load. The load must never be supported by the latch.
- See OSHA rule 1926.1431(g)(1)(i)(A) and 1926.1501(g)(4)(iv)(B) for personnel hoisting by crane or Derricks. A Crosby S-319N, S-320N, S-322N, S-1327, A-1339 Hook with an S-4320 latch attached (when secured with cotter pin) may be used for lifting personnel.
- An S-4320 Latch is only to be used with a Crosby S-319N, S-320N, S-322N, S-1327 and A-1339 Hook.
- DO NOT use this latch in applications requiring non-sparking.
- Read and understand these instructions before using hook and latch.



FITTINGS & BLOCKS

| Hook Identification Code | Recommended Cotter Pin Dimensions (in.) | |
|--------------------------|---|--------|
| | Diameter | Length |
| D | 1/8 | 3/4 |
| F | 1/8 | 3/4 |
| G | 1/8 | 1 |
| H | 3/16 | 1-1/4 |
| I | 1/4 | 1-1/2 |
| J | 5/16 | 2 |
| K | 5/16 | 2 |
| L | 3/8 | 3 |
| N | 3/8 | 3 |

The current SS-4055 latch kit and the PL latch will not fit new 319N, 320N, or 322N hooks. They will continue to be offered in both styles to service existing hooks.
Important - The new S4320 latch kit will not fit the old 319, 320 or 322 hooks.

IMPORTANT - Instructions for Assembling S-4320 Latch on Crosby 320N Hooks



Step 1

Place hook at approximately a 45 degree angle with the cam up.

Step 2

Position coils of spring over cam with legs of spring pointing toward point of hook and loop of spring positioned down and lying against the hook.

Step 3

Position latch to side of hook points. Slide latch onto spring legs between lock plate and latch body until latch is partially over hook cam. Then depress latch and spring until latch clears point of hook.

Steps 4, 5, & 6

4. Line up holes in latch with hook cam.
5. Insert bolt through latch, spring, and cam.
6. Tighten self-locking nut on one end of bolt.

Step 7

For Personnel Lifting
With latch in closed position and rigging resting in bowl of hook, insert cotter pin through hook tip and secure by bending prongs.



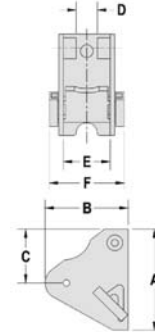
Positive Flapper Latch Kits

PL Latch Kit

- Hot Dipped Galvanized.
- Heavy duty latch with easy operating features.
- Flapper lever indicates locked or unlocked position.
- Assembly instructions included with each latch.
- For additional dimensional data on eye, shank or swivel hooks refer to previous pages in this section.
- Meets the intent of OSHA Rule 1926.1431(g) and 1926.1501(g) (when secured with the bolt, nut, and pin) for lifting personnel.



| Hook size (tons) | | Hook ID Code | PL Latch Kit Stock Number | Weight Each (lbs) | Dimensions (in.) | | | | | |
|------------------------|---------|--------------|---------------------------|-------------------|------------------|-------|------|------|------|-------|
| Carbon | Alloy | | | | A | B | C | D | E | F |
| 3 | 4-1/2 | #I | 1093711 | .54 | 2.57 | 2.34 | 1.94 | .56 | 1.13 | 2.00 |
| 5 | 7 | #J | 1093712 | .66 | 3.00 | 2.34 | 2.00 | .63 | 1.38 | 2.22 |
| 7-1/2 | 11 | #K | 1093713 | 1.00 | 3.63 | 2.77 | 2.38 | .63 | 1.63 | 2.38 |
| 10 | 15 | #L | 1093714 | 1.25 | 4.00 | 3.22 | 2.69 | .63 | 1.88 | 3.38 |
| 15 | 22 | #N | 1093715 | 2.96 | 5.31 | 4.00 | 2.91 | .84 | 2.38 | 3.44 |
| 20 | 30 | O | 1093716 | 4.05 | 6.00 | 4.44 | 3.19 | 1.06 | 2.88 | 4.25 |
| 25 | 37 | P | 1093717 | 8.63 | 7.00 | 6.63 | 4.06 | 2.24 | 4.50 | 6.12 |
| 30 | 45 | S | 1093718 | 10.00 | 6.75 | 7.00 | 4.03 | 2.24 | 4.75 | 6.38 |
| 40 | 60 | T | 1093719 | 14.30 | 8.00 | 7.66 | 4.38 | 3.46 | 5.50 | 7.25 |
| 50 | 75 | U | 1093720 | 27.00 | 9.88 | 8.19 | 5.13 | 3.38 | 6.50 | 8.88 |
| - | 100-150 | W - X | 1093721 | 33.25 | 10.88 | 11.06 | 6.38 | 3.38 | 7.50 | 10.00 |
| - | 200 | Y | 1093723 | 45.00 | 11.88 | 11.19 | 6.38 | 3.38 | 8.75 | 11.25 |
| - | 300 | Z | 1093724 | 55.00 | 12.50 | 12.19 | 8.00 | 3.38 | 9.75 | 13.00 |
| # New 319N style hook. | | | | | | | | | | |



LATCH ORDERING INSTRUCTIONS:

1. Specify PL latch kit stock number from chart.
2. Specify capacity of hook to which latch will be assembled.
3. Specify hook material (carbon or alloy).

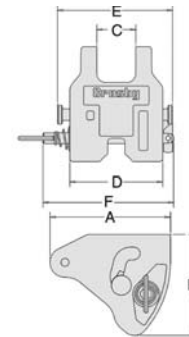
PL-N/O Latch Kits

- Heavy Duty latch with easy operating features.
- PL-N designed for Crosby 319N & 320N hooks,
- PL-O designed for Crosby 319 & 320 old style hooks.
- Flapper lever indicates locked or unlocked position.
- Assembly instructions included with each latch.
- For additional dimensional data on eye, shank or swivel hooks refer to previous pages in this section.
- Meets the intent of OSHA Rule 1926.1431(g) and 1926.1501(g)(when secured with the supplied toggle pin) for lifting personnel.



PL-N/O Latch Kits

| Hook Size (tons) | | Hook ID Code | PL-N Stock Number | PL-O Stock Number | Weight Each (lbs) | Dimension (in.) | | | | | |
|--|--------|--------------|-------------------|-------------------|-------------------|-----------------|------|------|------|------|------|
| Carbon | Alloy | | | | | A | B | C | D | E | F |
| 3 | 4.5/5* | I | 1092000 | 1091900 | .8 | 2.40 | 2.01 | .83 | 2.13 | 2.71 | 3.44 |
| 5 | 7 | J | 1092001 | 1091901 | 1.3 | 2.94 | 2.50 | 1.00 | 2.52 | 3.19 | 3.83 |
| 7-1/2 | 11 | K | 1092002 | 1091902 | 2.0 | 3.63 | 3.02 | 1.19 | 2.75 | 3.44 | 4.38 |
| 10 | 15 | L | 1092003 | 1091903 | 2.8 | 4.00 | 3.39 | 1.34 | 3.19 | 4.00 | 4.50 |
| 15 | 22 | N | 1092004 | 1091904 | 4.9 | 5.19 | 4.32 | 1.61 | 3.86 | 4.81 | 5.13 |
| * "N" style hooks are rated at 5 tonnes. | | | | | | | | | | | |



Note

The PL latch will not work on 319N, 320N, or 322N Hooks. The PL-N/O Latches, in the sizes available, will work on both the old style and new style hooks.

Specialty Forged Hooks

Crosby® A378 Sorting Hook

- Forged Alloy Steel - Quenched and Tempered.
- Deep straight throat permits efficient handling of flat plates or large cylindrical shapes.

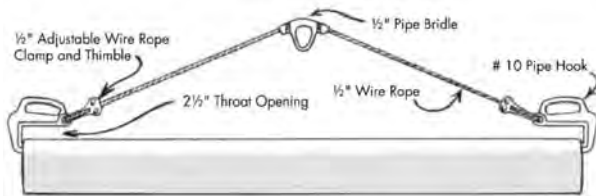


A-378 Sorting Hook Specifications

| Working Load Limit at tip of Hook (tons) | Working Load Limit at bottom of Hook (tons)* | A-378 Stock Number | Style | Weight Each (lbs) | Dimensions (in.) | | | |
|--|--|--------------------|-------------|-------------------|------------------|----------------|------------------------|--------------------------|
| | | | | | I.D. of Eye | Overall Length | Opening at tip of Hook | Radius at bottom of Hook |
| 2 | 7-1/2 | 1028024 | No Handle | 6.42 | 1.38 | 9.69 | 2.81 | .625 |
| 2 | 7-1/2 | 1028033 | With Handle | 6.42 | 1.38 | 9.69 | 2.81 | .625 |

* Ultimate Load is 4 times the Working Load Limit.

Newco Pipe Hooks



Minimum Horizontal Angle of 30 Degrees

Newco Pipe Hooks are designed to ease the job of handling pipe. They speed up loading or unloading of pipe sections, or the moving of pipe. For handling pipe with ease, select the pipe hook best suited to your need from these six sizes. Federal stock number, FSN-3940-909-3716.

No. 2 - Equipped with soft brass inserts to prevent damaging thin wall gas or oil pipe.

No. 3 - Same as No. 2 with a longer throat opening. Has brass insert.

No. 4 - A flame cut 3/4" steel plate hook adaptable for lifting jobs requiring a wide throat opening.

No. 5 - A wide bearing surface pipe hook with a scuff resistant plastic insert for protecting epoxy lined pipe.

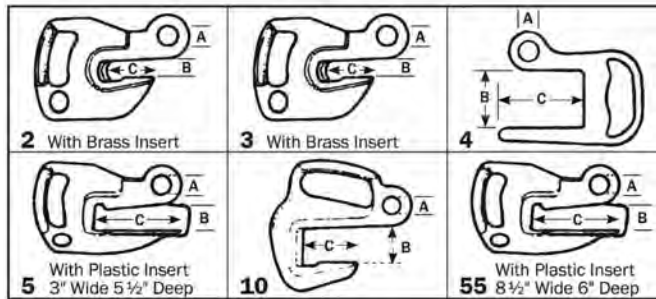
No. 10 - A versatile multi-purpose pipe hook for lighter lifting jobs.

No. 55 - Same as No. 5 with a 8-1/2" wide bearing surface and plastic insert.

Note: Working loads shown in table are based on slings using two pipe hooks.

All Newco Pipe Hooks are equipped with handles for ease of handling.

Warning: The angle of each sling leg should be carefully checked with each usage to prevent overloading.



| Dimensions & Data | | | | | | |
|-------------------|--------|-------|-------|--------------------|------|--------------|
| Stock Number | A | B | C | Rope Size in (in.) | WLL | Weight (lbs) |
| PH-2 | 1-1/4 | 1 | 3-1/4 | 3/8-5/8 | 8500 | 8-1/2 |
| PH-3 | 1-1/4 | 2 | 3-1/4 | 3/8-5/8 | 7500 | 10-1/2 |
| PH-4 | 1-3/8 | 4 | 5-1/2 | 3/8 | 2000 | 5 |
| PH-5 | 1-1/4 | 7/8 | 5-1/2 | 3/8-5/8 | 7000 | 13 |
| PH-10 | 1-3/16 | 2-1/2 | 4-1/4 | 3/8-1/2 | 3500 | 7-1/2 |
| PH-55 | 1-1/4 | 7/8 | 5-1/2 | 3/8-5/8 | 7000 | 29 |



Crosby® A350N Choker Hooks

- New style incorporated throat opening equal to or larger than old style hooks.
- Each product has a Product Identification Code (PIC) for material traceability, along with a Working Load Limit, and the name Crosby or “CG” forged into it.
- All hooks incorporate Crosby’s patented QUIC-CHECK® marks to help in determining if throat opening dimension has changed.
- Each hook can be equipped with a Crosby S-4320 heavy duty stamped latch with the high cycle, long life spring.
- Forged Alloy Steel -- Quenched and Tempered.
- Design Factor of 5:1

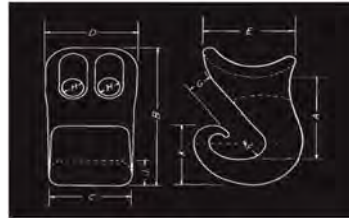


| Single Part Rope Size (in.) | Eight Part Rope Size (in.) | A-350 Stock Number S.C. | A-350L Stock Number | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | | Hook Frame Code | Replacement Latch Kit | |
|-----------------------------|----------------------------|-------------------------|---------------------|-------------------|------------------|------|------|------|------|-----|------|------|------|------|-----------------|-----------------------|---------|
| | | | | | A | B | C | D | E | F | G | H | L | P | | | R |
| 3/8 | - | 1011707 | 1011802 | 1.0 | 2.06 | 1.13 | .63 | 2.41 | .63 | .38 | .84 | .91 | 4.28 | 2.59 | .63 | D | 1096325 |
| 1/2 | 1/8 | 1011716 | 1011811 | 1.4 | 2.25 | 1.31 | .75 | 2.97 | .78 | .50 | .97 | 1.06 | 4.97 | 3.09 | .75 | F | 1096374 |
| 5/8 | - | 1011725 | 1011820 | 3.0 | 3.06 | 1.63 | .75 | 3.56 | .94 | .56 | 1.13 | 1.31 | 6.38 | 3.88 | 1.00 | G | 1096421 |
| 5/8 | 3/16 | 1011734 | 1011839 | 2.7 | 3.06 | 1.63 | 1.00 | 3.56 | .94 | .56 | 1.13 | 1.31 | 6.38 | 4.00 | 1.13 | G | 1096421 |
| 3/4 | - | 1011743 | 1011848 | 4.4 | 3.38 | 2.13 | 1.00 | 4.25 | 1.16 | .63 | 1.44 | 1.63 | 7.66 | 4.58 | 1.13 | H | 1096468 |
| 3/4 | 1/4 | 1011752 | 1011857 | 3.8 | 3.38 | 2.13 | 1.44 | 4.25 | 1.16 | .63 | 1.44 | 1.63 | 7.66 | 4.78 | 1.13 | H | 1096468 |
| 7/8-1 | - | 1028177 | 1028177 | 9.7 | 4.41 | 2.12 | 1.25 | 6.06 | 1.41 | .88 | 2.00 | 2.33 | 9.55 | 5.72 | 1.5 | I | 1096515 |

* Ultimate Load is 5 times the Working Load Limit. † Determine EYE Diameter “C”, before ordering. ** 7/8 - 1” is Cast Steel and furnished with latch attached.

Dual Choker Hook

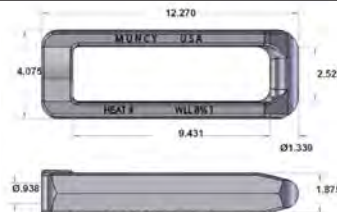
The **Dual Choker Hooks** are adapted for endless slings in choker hitch applications. Ideal for moving round billets and pipe when choker type slings are desired.



| Dimensions & Data | | | | | | | | | | | | | |
|-------------------|-------------|-------|-------|--------|-------|-------|-------|-------|-------|-------|--------|--------------|-------|
| Stock Number | Rope Size | A | B | C | D | E | F | G | H | J | K | Weight (lbs) | WLL |
| DCH-4 | 3/16-1/4 | 1-1/4 | 2-1/8 | 1-1/8 | 1-1/8 | 1-1/4 | 7/32 | 3/8 | 3/8 | 7/16 | 1 | .4 | 1800 |
| DCH-6 | 3/8-7/16 | 2-1/2 | 4-1/4 | 2-3/16 | 2-1/4 | 2-3/8 | 7/16 | 5/8 | 9/16 | 7/8 | 2-1/8 | 3.2 | 5200 |
| DCH-8 | 1/2-5/8 | 2-3/4 | 4-7/8 | 2-1/2 | 2-7/8 | 2-1/2 | 1/2 | 3/4 | 3/4 | 1-1/8 | 2-1/2 | 5.1 | 10200 |
| DCH-12 | 3/4 | 3-1/2 | 5-3/4 | 3 | 3-1/2 | 2-7/8 | 3/4 | 1 | 1 | 1-1/4 | 3-1/8 | 8.8 | 16000 |
| DCH-14 | 7/8-1 | 4-1/4 | 7 | 3-3/4 | 4-5/8 | 3-1/2 | 7/8 | 1-1/4 | 1-1/4 | 1-3/8 | 3-5/16 | 15 | 30000 |
| DCH-18 | 1-1/8-1-1/4 | 5-1/4 | 9-1/4 | 5 | 6 | 5 | 1-1/8 | 1-1/2 | 1-1/2 | 2 | 4-1/2 | 43 | 46000 |

Roll Off Hooks

- Part Number: ROH-28
- For Roll-Off Containers
- Alloy steel for strength and durability
- Heavy Duty Design
- For 7/8” Wire Rope
- 17,000 lb. working load limit
- Use with Standard NB-28 or TB-28 Swage Button

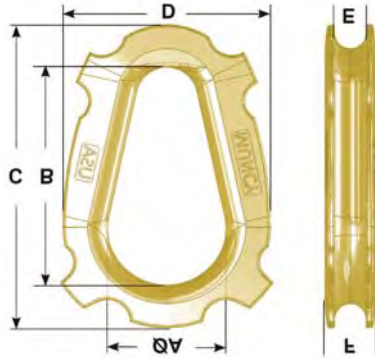


Caution

DO NOT exceed stated working load limit of wire rope.



Slip-Thru Thimbles



- Ears can be peened over to retain wire rope.
- High strength casting.
- Designed to resist elongation from loading.
- Can come cut to bend around a master link.

| Stock Number | Single Part Rope Size | 6 PTS | 8 PTS | Dimensions | | | | | |
|--------------|-----------------------|------------|----------|------------|--------|--------|--------|---------|---------|
| | | | | A | B | C | D | E | F |
| ST-10 | 5/16 - 3/8 | 1/8 | 3/32 | 2.125 | 4.125 | 5.25 | 3.25 | 0.438 | 0.813 |
| ST-16 | 1/2 - 9/16 | 3/16 | 3/16 | 2.34 | 4.38 | 6.09 | 4.09 | 0.69 | 1.00 |
| ST-20 | 5/8 - 3/4 | 1/4 - 5/16 | 1/4 | 3.31 | 6.20 | 8.60 | 5.35 | 0.98 | 1.40 |
| ST-24 | 7/8 - 1 | 3/8 | 5/16 | 3-3/4 | 7-1/8 | 9-3/8 | 6-1/4 | 1-1/8 | 1-5/8 |
| ST-36 | 1-1/8 - 1-1/4 | 7/16 | 3/8 | 4-3/8 | 8-3/8 | 11 | 7-1/8 | 1-3/8 | 1-7/16 |
| ST-44 | 1-3/8 - 1-1/2 | 1/2 | 7-16-1/2 | 5 | 9-1/2 | 12-1/2 | 8-1/8 | 1-5/8 | 2-1/8 |
| ST-52 | 1-5/8 - 1-3/4 | 5/8 | 9/16 | 6-3/4 | 11-3/4 | 14-3/4 | 9-3/8 | 1-13/16 | 2-9/16 |
| ST-60 | 1-7/8 - 2 | 3/4 | 5/8 | 8 | 14-1/2 | 19-1/4 | 13 | 2-1/8 | 3-1/4 |
| ST-68 | 2-1/8 - 2-1/4 | 7/8 - 1 | 3/4 | 8-1/2 | 15-1/2 | 20-3/8 | 13 | 2-1/2 | 3-3/4 |
| ST-80 | 2-1/2 - 3 | 1-1/8 | 7/8 - 1 | 9 | 18-1/2 | 24-3/4 | 15-3/4 | 3-3/16 | 4-11/16 |

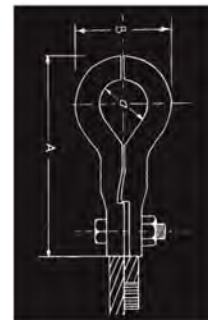
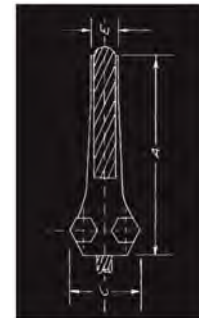
FITTINGS & BLOCKS

Combination Clamp and Thimble

The Newco Combination Clamp and Thimble provides a simple, efficient wire rope coupling which derives its extraordinary holding power from its basic design. Properly assembled and torqued, this clamp develops 70 to 75 percent of catalog listing of wire rope strength. Recommend usage with 6 strand right lay wire rope only. Efficiencies are based upon extra improved plow steel wire rope. See working load limit on chart below. Rugged construction-made to give longer service reduces down time.



U.S. PATENT NO. 2600417



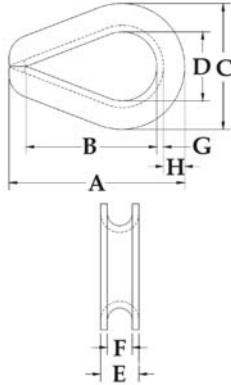
| Dimensions & Data | | | | | | | | | | |
|-------------------|---------------|---------|---------|---------|---------|---------|--------------------------|----------------|--------------|--------|
| Stock Number | Rope Diameter | A | B | C | D | E | Numbers & Sizes of Bolts | Torque Measure | Weight (lbs) | WLL |
| CCT-4 | 1/8 | 2-1/2 | 1-1/16 | 1-1/8 | 9/16 | 5/16 | 2-1/4" x 3/4" | 8 Ft.-Lbs. | 0.2 | 300 |
| CCT-6 | 3/16 | 2-7/8 | 1-11/32 | 1-3/16 | 21/32 | 3/8 | 2-1/4" x 1" | 12 Ft.-Lbs. | 0.3 | 600 |
| CCT-8 | 1/4 | 3-3/4 | 1-3/4 | 1-7/16 | 7/8 | 1/2 | 2-5/16" x 1-1/4" | 19 Ft.-Lbs. | 0.5 | 1,000 |
| CCT-10 | 5/16 | 4-5/8 | 2-1/8 | 1-9/16 | 1-1/16 | 5/8 | 2-5/16" x 1-1/2" | 19 Ft.-Lbs. | 0.7 | 1,600 |
| CCT-12 | 3/8 | 5-3/8 | 2-7/16 | 1-7/8 | 1-1/4 | 15/16 | 2-3/8" x 1-3/4" | 40 Ft.-Lbs. | 1.8 | 2,200 |
| CCT-14 | 7/16 | 6-1/2 | 2-15/32 | 2-1/4 | 1-7/16 | 1 | 2-7/16" x 2" | 80 Ft.-Lbs. | 2.3 | 3,000 |
| CCT-16 | 1/2 | 7-1/8 | 3-13/32 | 2-15/16 | 1-15/32 | 1 | 2-1/2" x 2" | 90 Ft.-Lbs. | 3.5 | 4,000 |
| CCT-18 | 9/16 | 8 | 3-3/4 | 2-5/8 | 1-7/8 | 1-1/8 | 2-1/2" x 2-1/2" | 90 Ft.-Lbs. | 3.5 | 4,000 |
| CCT-20 | 5/8 | 8-1/4 | 4-1/4 | 2-3/4 | 2 | 1-1/8 | 2-5/8" x 2-1/2" | 130 Ft.-Lbs. | 5.0 | 6,000 |
| CCT-24 | 3/4 | 11-5/8 | 5 | 3-3/16 | 2-1/2 | 1-3/8 | 4-5/8" x 3" | 135 Ft.-Lbs. | 10.5 | 8,800 |
| CCT-28 | 7/8 | 13-3/16 | 5-7/8 | 3-3/8 | 2-7/8 | 1-9/16 | 4-5/8" x 3-1/2" | 140 Ft.-Lbs. | 14.0 | 12,000 |
| CCT-32 | 1 | 14-1/4 | 6-5/8 | 3-13/16 | 3-1/4 | 1-13/16 | 4-3/4" x 3-1/2" | 150 Ft.-Lbs. | 19.0 | 15,500 |



Wire Rope Thimbles

G-414 Heavy Duty Thimble

- Available in Hot Dip Galvanized or Stainless Steel.
- Stainless Steel recommended for more corrosive environments where greater protection is required.
- Greater protection against wear and deformation of the wire rope eye.
- Longer service life.



G-414 meets the performance requirements of Federal Specification FF-T-276b Type III, except for those provisions required of the contractor.

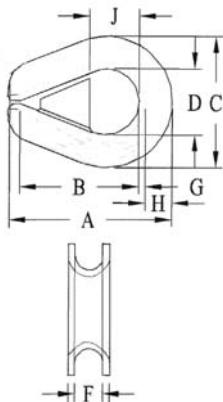
G414 Extra Heavy Wire Rope Thimbles

| Rope Diameter | | Stock Number | | Weight Per 100 (lbs) | Dimensions (in.) | | | | | | | |
|---------------|-------|--------------------|------------------|----------------------|------------------|-------|-------|------|------|------|-----|------|
| (in.) | (mm) | G-414 Stock Number | SS-414 Stainless | | A | B | C | D | E | F | G | H |
| *1/4 | 6-7 | 1037639 | 1037960 | 6.50 | 2.19 | 1.62 | 1.50 | .88 | .41 | .28 | .06 | .25 |
| *5/16 | 8 | 1037657 | 1037988 | 11.80 | 2.50 | 1.88 | 1.81 | 1.06 | .50 | .34 | .08 | .30 |
| *3/8 | 9-10 | 1037675 | 1038004 | 21.60 | 2.88 | 2.12 | 2.12 | 1.12 | .63 | .41 | .11 | .39 |
| 7/16 | 11-12 | 1037693 | - | 34.70 | 3.25 | 2.38 | 2.38 | 1.25 | .72 | .47 | .12 | .45 |
| *1/2-9/16 | 13-15 | 1037719 | 1038022 | 51.00 | 3.62 | 2.75 | 2.75 | 1.50 | .89 | .59 | .15 | .48 |
| *5/8 | 16 | 1037755 | 1038040 | 75.70 | 4.25 | 3.25 | 3.12 | 1.75 | 1.00 | .66 | .16 | .53 |
| *3/4 | 18-20 | 1037773 | 1038068 | 158.10 | 5.00 | 3.75 | 3.81 | 2.00 | 1.22 | .78 | .22 | .69 |
| 7/8 | 22 | 1037791 | - | 177.80 | 5.50 | 4.25 | 4.25 | 2.25 | 1.38 | .94 | .22 | .78 |
| 1 | 24-26 | 1037817 | - | 313.90 | 6.12 | 4.50 | 4.75 | 2.50 | 1.56 | 1.06 | .25 | .88 |
| 1-1/8-1-1/4 | 28-32 | 1037835 | - | 400.00 | 7.00 | 5.12 | 5.88 | 2.88 | 1.88 | 1.31 | .25 | 1.25 |
| 1-1/4-1-3/8 | 32-35 | 1037853 | - | 886.00 | 9.08 | 6.50 | 6.81 | 3.50 | 2.25 | 1.44 | .37 | 1.29 |
| 1-3/8-1-1/2 | 35-38 | 1037871 | - | 1294.80 | 9.00 | 6.25 | 7.12 | 3.50 | 2.62 | 1.56 | .50 | 1.31 |
| 1-5/8 | 40 | 1037899 | - | 1700.00 | 11.25 | 8.00 | 8.12 | 4.00 | 3.00 | 1.72 | .50 | 1.38 |
| 1-3/4 | 44 | 1037915 | - | 1775.00 | 12.19 | 9.00 | 8.50 | 4.50 | 3.06 | 1.84 | .50 | 1.50 |
| 1-7/8-2 | 48-52 | 1037933 | - | 2775.00 | 15.12 | 12.00 | 10.38 | 6.00 | 3.38 | 2.09 | .50 | 1.69 |
| 2-1/4 | 56 | 1037951 | - | 3950.00 | 17.50 | 14.00 | 11.88 | 7.00 | 3.88 | 2.38 | .62 | 1.82 |

* SS-414 sizes available in stainless steel type 304.

G-414SL Heavy Duty Shackle-Loc Thimble

- Prevents the shackle from being removed and replaced in the field, which could compromise the certified integrity of the sling assembly.
- Available in Hot Dip galvanized.
- Crosby's shackle locking thimbles are galvanized after the welding of the wedge has been completed.
- Greater protection against wear and deformation of the wire rope eye.
- Longer service life.



G-414SL meets the performance requirements of Federal Specification FF-T-276b Type III, except for those provisions required of the contractor.

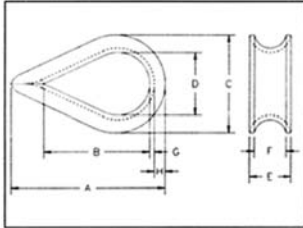
Extra Heavy Wire Rope Thimbles (Shackle-Loc)

| Rope Diameter | | Stock Number | | Weight Per 100 (lbs) | Dimensions (in.) | | | | | | | | |
|---------------|-------|----------------------|--|----------------------|------------------|------|------|------|------|------|-----|------|------|
| (in.) | (mm) | G-414SL Stock Number | | | A | B | C | D | E | F | G | H | J |
| 3/8 | 9-10 | 1036800 | | 21.60 | 2.88 | 2.12 | 2.12 | 1.12 | .63 | .41 | .11 | .39 | .81 |
| 1/2-9/16 | 13-15 | 1036808 | | 51.00 | 3.62 | 2.75 | 2.75 | 1.50 | .89 | .59 | .15 | .48 | 1.12 |
| 5/8 | 16 | 1036817 | | 75.70 | 4.25 | 3.25 | 3.12 | 1.75 | 1.00 | .66 | .16 | .53 | 1.25 |
| 3/4 | 18-20 | 1036826 | | 158.10 | 5.00 | 3.75 | 3.81 | 2.00 | 1.22 | .78 | .22 | .69 | 1.50 |
| 7/8 | 22 | 1036835 | | 177.80 | 5.50 | 4.25 | 4.25 | 2.25 | 1.38 | .94 | .22 | .78 | 1.63 |
| 1 | 24-26 | 1036844 | | 313.90 | 6.12 | 4.50 | 4.75 | 2.50 | 1.56 | 1.06 | .25 | .88 | 1.88 |
| 1-1/8-1-1/4 | 28-32 | 1036853 | | 400.00 | 7.00 | 5.12 | 5.88 | 2.88 | 1.88 | 1.31 | .25 | 1.25 | 2.13 |
| 1-3/8-1-1/2 | 35-38 | 1036862 | | 1294.80 | 9.00 | 6.25 | 7.12 | 3.50 | 2.62 | 1.56 | .50 | 1.31 | 2.50 |



G-411 Standard Wire Rope Thimble

- The standard choice for light duty applications and loading conditions.
- Hot Dip galvanized steel.



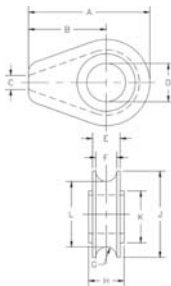
| Rope Dia. (in.) | G-411 Stock Number Galv. | Weight Per 100 (lbs) | Dimensions (in.) | | | | | | | |
|-----------------|--------------------------|----------------------|------------------|------|------|------|------|------|-----|-----|
| | | | A | B | C | D | E | F | G | H |
| 1/8 | 1037256 | 3.50 | 1.94 | 1.31 | 1.06 | .69 | .25 | .16 | .05 | .13 |
| 3/16 | 1037274 | 3.50 | 1.94 | 1.31 | 1.06 | .69 | .31 | .22 | .05 | .13 |
| 1/4 | 1037292 | 3.50 | 1.94 | 1.31 | 1.06 | .69 | .38 | .28 | .05 | .13 |
| 5/16 | 1037318 | 4.00 | 2.13 | 1.50 | 1.25 | .81 | .44 | .34 | .05 | .13 |
| 3/8 | 1037336 | 6.70 | 2.38 | 1.63 | 1.47 | .94 | .53 | .41 | .06 | .16 |
| 1/2 | 1037354 | 12.50 | 2.75 | 1.88 | 1.75 | 1.13 | .69 | .53 | .08 | .19 |
| 5/8 | 1037372 | 34.50 | 3.50 | 2.25 | 2.38 | 1.38 | .91 | .66 | .13 | .34 |
| 3/4 | 1037390 | 47.10 | 3.75 | 2.50 | 2.69 | 1.63 | 1.08 | .78 | .14 | .34 |
| 7/8 | 1037416 | 84.60 | 5.00 | 3.50 | 3.19 | 1.88 | 1.27 | .94 | .16 | .44 |
| 1 | 1037434 | 97.50 | 5.69 | 4.25 | 3.75 | 2.50 | 1.39 | 1.06 | .16 | .41 |
| 1-1/8-1-1/4 | 1037452 | 175.00 | 6.25 | 4.50 | 4.31 | 2.75 | 1.75 | 1.31 | .22 | .50 |

G-411 meets the performance requirements of Federal Specification FF-T-276b Type II, except for those provisions required of the contractor.

FITTINGS & BLOCKS

S-412 Solid Wire Rope Thimbles

- Fits pin for open wire rope socket, boom pendant clevis and wedge socket.
- Cast Ductile Iron.

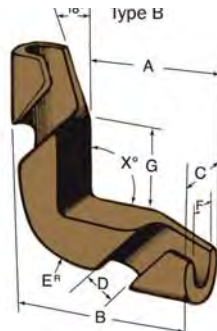


| Rope Diameter (in.) | S-412 Stock Number S.C. | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | | |
|---------------------|-------------------------|-------------------|------------------|------|-----|------|------|------|-----|------|------|------|------|
| | | | A | B | C | D | E | F | G | H | J | K | L |
| 1/2 | 1037121 | .61 | 2.81 | 1.75 | .25 | 1.06 | .75 | .56 | .28 | .88 | 2.13 | 1.63 | 1.56 |
| 5/8 | 1037149 | 2.21 | 4.69 | 3.00 | .38 | 1.31 | 1.06 | .81 | .41 | 1.13 | 3.38 | 2.25 | 2.56 |
| 3/4 | 1037167 | 2.32 | 4.69 | 3.00 | .38 | 1.50 | 1.06 | .81 | .41 | 1.38 | 3.38 | 2.25 | 2.56 |
| 7/8 | 1037185 | 5.45 | 6.06 | 3.81 | .50 | 1.75 | 1.38 | 1.06 | .53 | 1.63 | 4.50 | 3.25 | 3.44 |
| 1 | 1037201 | 5.25 | 6.06 | 3.81 | .50 | 2.13 | 1.38 | 1.06 | .53 | 1.81 | 4.50 | 3.25 | 3.44 |
| 1-1/8 | 1037229 | 9.29 | 7.25 | 4.56 | .63 | 2.38 | 1.75 | 1.31 | .66 | 2.06 | 5.38 | 3.88 | 4.06 |
| 1-1/4-1-3/8 | 1037247 | 9.81 | 7.25 | 4.56 | .63 | 2.63 | 1.94 | 1.53 | .78 | 2.31 | 5.38 | 3.88 | 4.13 |

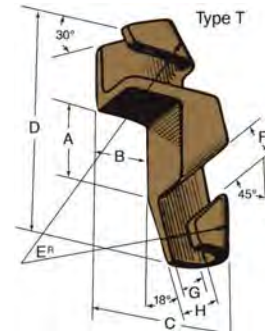
Cast Ductile Iron



Sling Saddle



Bottom Saddle ("B")



Top Saddle ("T")

Newco Sling Saddles (type B and type T) will protect wire rope slings from being cut or severely damaged when rigged around square corner loads, and will aid in protecting the loads themselves. These can be moved or adjusted by hand for various sizes of loads, and are made from a manganese bronze alloy.

| Type B - Bottom | | | | | | | | | | |
|-----------------|---------------|--------|--------|--------|---------|--------|--------|-------|-----|--------------|
| Number | Rope Size | A | B | C | D | E | F | G | X | Weight (lbs) |
| RSP-5B | 3/8 | 2-1/8 | 3 | 7/8 | 7/16 | 1-3/16 | 7/16 | 1-1/4 | 90° | 1/2 |
| RSP-5.5B | 1/2 | 3-1/16 | 4-1/2 | 1-3/16 | 5/8 | 1-5/8 | 5/8 | 1-7/8 | 90° | 1-1/2 |
| RSP-6B | 5/8 | 3-7/16 | 5 | 1-5/16 | 3/4 | 1-3/4 | 3/4 | 2 | 90° | 1-3/4 |
| RSP-7B | 3/4 | 4-9/32 | 6-1/4 | 1-1/2 | 15/16 | 2-3/16 | 15/16 | 2-5/8 | 90° | 3 |
| RSP-9B | 7/8 & 1 | 5-1/8 | 7-3/8 | 1-3/4 | 1-1/8 | 2-5/8 | 1-1/8 | 3-1/8 | 90° | 5 |
| RSP-10B | 1-1/8 & 1-1/4 | 6-1/8 | 9 | 2-1/8 | 1-3/8 | 3-1/8 | 1-5/16 | 3-3/4 | 90° | 10 |
| RSP-12B | 1-3/8 & 1-1/2 | 6-7/8 | 10-1/4 | 2-3/8 | 1-11/16 | 3-1/2 | 1-5/8 | 4-1/8 | 90° | 11 |

| Type T- Top | | | | | | | | | | |
|-------------|---------------|--------|---------|---------|--------|-------|---------|--------|--------|--------------|
| Number | Rope Size | A | B | C | D | E | F | G | H | Weight (lbs) |
| RSP-5T | 3/8 | 1-5/32 | 23/32 | 1-11/16 | 3-5/8 | 4-5/8 | 7/16 | 7/16 | 7/8 | 1/2 |
| RSP-5.5T | 1/2 | 1-7/8 | 1-3/16 | 2-9/16 | 5-5/16 | 5-3/4 | 5/8 | 5/8 | 1-3/16 | 1-1/4 |
| RSP-6T | 5/8 | 2 | 1-3/8 | 2-15/16 | 5-7/8 | 8 | 3/4 | 3/4 | 1-5/16 | 1-1/2 |
| RSP-7T | 3/4 | 2-1/2 | 1-23/32 | 3-19/32 | 7-1/2 | 10 | 15/16 | 15/16 | 1-1/2 | 2-1/2 |
| RSP-9T | 7/8 & 1 | 3 | 2-3/16 | 4-7/16 | 8-3/4 | 12 | 1-1/8 | 1-1/8 | 1-3/4 | 4-1/4 |
| RSP-10T | 1-1/8 & 1-1/4 | 3-1/2 | 2-3/8 | 5 | 10-3/8 | 14 | 1-3/8 | 1-5/16 | 2-1/8 | 7-1/2 |
| RSP-12T | 1-3/8 & 1-1/2 | 4-1/4 | 2-13/16 | 5-15/16 | 11-7/8 | 17 | 1-11/16 | 1-1/8 | 2-3/8 | 9 |



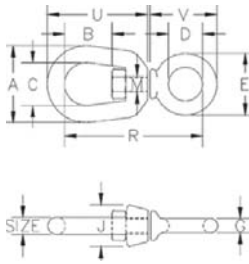
Crosby® Forged Swivels



- Hot dip Galvanized
- Quenched & Tempered
- Crosby products meet or exceed all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, Crosby products meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.

G-401 Chain Swivels

Meets the performance requirements of Federal Specification RR-C-271F, Type VII, Class 1, except for those provisions required by the contractor.



| Size (in.) | G-401 Stock Number | Working Load Limit (lbs)* | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | | |
|------------|--------------------|---------------------------|-------------------|------------------|------|------|------|------|-----|------|-----|------|------|------|
| | | | | A | B | C | D | E | G | J | M | R | U | V |
| 1/4 | 1016233 | 850 | .13 | 1.25 | .69 | .75 | .62 | 1.12 | .25 | .69 | .31 | 2.25 | 1.69 | 1.25 |
| 5/16 | 1016251 | 1250 | .25 | 1.63 | .81 | 1.00 | .75 | 1.38 | .31 | .81 | .38 | 2.72 | 2.06 | 1.47 |
| 3/8 | 1016279 | 2250 | .54 | 2.00 | .94 | 1.25 | 1.00 | 1.75 | .38 | 1.00 | .50 | 3.44 | 2.50 | 1.88 |
| 1/2 | 1016297 | 3600 | 1.12 | 2.50 | 1.31 | 1.50 | 1.25 | 2.25 | .50 | 1.31 | .63 | 4.25 | 3.19 | 2.44 |
| 5/8 | 1016313 | 5200 | 2.09 | 3.00 | 1.56 | 1.75 | 1.50 | 2.75 | .62 | 1.50 | .75 | 5.13 | 3.88 | 2.94 |
| 3/4 | 1016331 | 7200 | 3.09 | 3.50 | 1.75 | 2.00 | 1.75 | 3.25 | .75 | 1.88 | .88 | 5.78 | 4.94 | 3.46 |

* Ultimate Load is 5 times the Working Limit.

G-402 Regular Swivels



Meets the performance requirements of Federal Specification RR-C-271F, Type VII, Class 2, except for those provisions required by the contractor.

| Size (in.) | G-402 Stock Number | Working Load Limit (lbs)* | Weight Each (lbs) | Dimensions (in.) | | | | | | | |
|------------|--------------------|---------------------------|-------------------|------------------|------|------|------|------|------|-------|------|
| | | | | A | B | C | D | J | M | R | S |
| 1/4 | 1016019 | 850 | .21 | 1.25 | .69 | .75 | 1.06 | .69 | .31 | 2.94 | 1.69 |
| 5/16 | 1016037 | 1250 | .39 | 1.63 | .81 | 1.00 | 1.25 | .81 | .38 | 3.56 | 2.06 |
| 3/8 | 1016055 | 2250 | .71 | 2.00 | .94 | 1.25 | 1.50 | 1.00 | .50 | 4.31 | 2.50 |
| 1/2 | 1016073 | 3600 | 1.32 | 2.50 | 1.31 | 1.50 | 2.00 | 1.31 | .63 | 5.44 | 3.19 |
| 5/8 | 1016091 | 5200 | 2.49 | 3.00 | 1.56 | 1.75 | 2.38 | 1.50 | .75 | 6.56 | 3.88 |
| 3/4 | 1016117 | 7200 | 4.02 | 3.50 | 1.75 | 2.00 | 2.63 | 1.88 | .88 | 7.19 | 4.31 |
| 7/8 | 1016135 | 10000 | 6.25 | 4.00 | 2.06 | 2.25 | 3.06 | 2.13 | 1.00 | 8.38 | 5.00 |
| 1 | 1016153 | 12500 | 8.95 | 4.50 | 2.31 | 2.50 | 3.50 | 2.38 | 1.13 | 9.63 | 5.75 |
| 1-1/4 | 1016199 | 18000 | 16.37 | 5.63 | 2.69 | 3.13 | 3.69 | 3.00 | 1.50 | 11.44 | 6.75 |
| 1-1/2 | 1016215 | 45200 | 45.79 | 7.09 | 3.88 | 4.09 | 3.88 | 3.75 | 2.25 | 16.69 | 9.91 |

* Ultimate Load is 5 times the Working Load Limit.

G-403 Jaw End Swivels



| Size (in.) | G-403 Stock Number | Working Load Limit (lbs)* | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | | | | |
|------------|--------------------|---------------------------|-------------------|------------------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| | | | | A | B | C | G | J | K | L | M | N | P | R | U | V |
| 1/4 | 1016395 | 850 | .21 | 1.25 | .69 | .75 | .69 | .69 | .47 | 1.03 | .31 | .88 | .25 | 2.63 | 1.69 | 1.69 |
| 5/16 | 1016411 | 1250 | .34 | 1.63 | .81 | 1.00 | .81 | .81 | .50 | 1.13 | .38 | .88 | .31 | 2.94 | 2.06 | 1.81 |
| 3/8 | 1016439 | 2250 | .66 | 2.00 | .94 | 1.25 | 1.00 | 1.00 | .63 | 1.41 | .50 | 1.06 | .38 | 3.63 | 2.50 | 2.25 |
| 1/2 | 1016457 | 3600 | 1.34 | 2.50 | 1.31 | 1.50 | 1.31 | 1.31 | .75 | 1.75 | .63 | 1.31 | .50 | 4.50 | 3.19 | 2.88 |
| 5/8 | 1016475 | 5200 | 2.48 | 3.00 | 1.56 | 1.75 | 1.63 | 1.50 | .94 | 2.06 | .75 | 1.50 | .63 | 5.31 | 3.88 | 3.44 |
| 3/4 | 1016493 | 7200 | 3.88 | 3.50 | 1.75 | 2.00 | 1.88 | 1.88 | 1.13 | 2.53 | .88 | 1.75 | .75 | 6.06 | 4.31 | 4.00 |
| 7/8 | 1016518 | 10000 | 5.87 | 4.00 | 2.06 | 2.25 | 2.13 | 2.13 | 1.34 | 2.79 | 1.00 | 2.06 | .88 | 7.00 | 5.00 | 4.53 |
| 1 | 1016536 | 12500 | 9.84 | 4.50 | 2.31 | 2.50 | 2.63 | 2.38 | 1.75 | 3.72 | 1.13 | 2.81 | 1.13 | 8.56 | 5.75 | 5.94 |
| 1-1/4 | 1016572 | 18000 | 15.75 | 5.69 | 2.69 | 3.13 | 3.13 | 3.00 | 2.06 | 4.31 | 1.63 | 2.81 | 1.38 | 9.75 | 7.06 | 6.38 |
| 1-1/2# | 1016590 | 45200 | 54.75 | 7.00 | 3.88 | 4.00 | 5.63 | 4.00 | 2.88 | 6.00 | 2.25 | 4.44 | 2.25 | 14.25 | 10.00 | 10.84 |

* Ultimate Load is 5 times the Working Load Limit.
Manufactured with two 1 1/2" bails connected by a stud with a nut on each side.

Meets the performance requirements of Federal Specification RR-C-271F, Type VII, Class 3, except for those provisions required by the contractor.

Note

401, 402 and 403 swivels are positioning devices and are not intended to rotate under load.

Use in corrosive environment requires shank and nut inspection in accordance with ASME B30.10-1.10.4(b)(5)(c)2099.

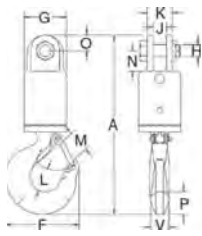


Crosby® Swivels w/ Tapered Roller Thrust Bearing

- Suitable for frequent rotation under load.
- All swivels individually proof tested with certification.
- All hooks furnished with latches assembled.
- All jaws complete with bolts, nuts and cotter pins.
- Pressure lube fitting provided.
- NOT TO USED ON DEMOLITION (WRECKING) BALLS.
- Other types and capacities up to 1250t available to meet your requirements.
- **IMPORTANT - Crosby Swivels should only be used with the recommended wire rope. Have your ALP representative contact the wire rope manufacturer for the proper wire rope to be used with Crosby Swivels.**



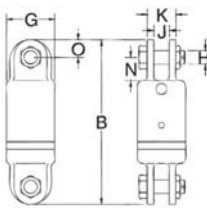
S-1 Jaw & Hook



| Swivel Number | S-1 Stock Number | Working Load Limit (tons) * | Wire Rope Size (in.) | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | | | |
|---------------|------------------|-----------------------------|----------------------|-------------------|------------------|-------|------|------|------|------|------|------|------|------|------|------|
| | | | | | A | F | G | H | J | K | L | M | N | O | P | V |
| 3-S-1 | 297011 | 3 | 1/2 | 9.81 | 11.44 | 4.84 | 2.75 | .75 | .88 | 1.62 | 1.53 | 1.41 | 1.31 | 1.00 | 1.44 | 1.12 |
| 5-S-1 | 297217 | 5 | 5/8 | 15.51 | 13.34 | 6.28 | 3.00 | .88 | 1.00 | 2.25 | 1.94 | 1.69 | 1.62 | 1.12 | 1.81 | 1.44 |
| 8-S-1 | 297413 | 8-1/2 | 3/4 | 29.42 | 16.45 | 7.54 | 4.00 | 1.00 | 1.56 | 2.81 | 2.46 | 2.22 | 2.12 | 1.38 | 2.25 | 1.62 |
| 10-S-1 | 297618 | 10 | 7/8 | 46.75 | 19.75 | 8.34 | 4.50 | 1.50 | 1.75 | 3.38 | 2.59 | 2.41 | 3.50 | 1.75 | 2.59 | 1.94 |
| 15-S-1 | 297814 | 15 | 1 | 73.75 | 22.24 | 10.34 | 5.00 | 1.50 | 1.75 | 3.38 | 2.81 | 3.19 | 3.50 | 1.75 | 3.00 | 2.38 |
| 25-S-1 | 298118 | 25 | - | 140.00 | 26.78 | 13.62 | 6.00 | 2.00 | 2.00 | 4.62 | 3.44 | 3.62 | 3.69 | 2.38 | 3.66 | 3.00 |
| 35-S-1 | 298216 | 35 | - | 220.00 | 29.94 | 14.06 | 6.50 | 2.00 | 2.00 | 4.62 | 3.88 | 3.75 | 3.69 | 2.38 | 4.56 | 3.19 |
| 45-S-1 | 298314 | 45 | - | 251.00 | 35.06 | 15.44 | 7.00 | 2.25 | 2.50 | 5.00 | 4.75 | 4.25 | 4.00 | 3.00 | 5.06 | 3.25 |

* Individually Proof Tested to 2 times the Working Load Limit. Ultimate Load is 5 times the Working Load Limit.

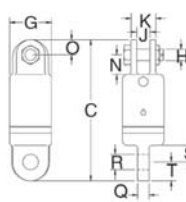
S-2 Jaw & Jaw



| Swivel Number | S-2 Stock Number | Working Load Limit (tons) * | Wire Rope Size (in.) | Weight Each (lbs) | Dimensions (in.) | | | | | | |
|---------------|------------------|-----------------------------|----------------------|-------------------|------------------|------|------|------|------|------|------|
| | | | | | B | G | H | J | K | N | O |
| 3-S-2 | 297020 | 3 | 1/2 | 9.63 | 9.28 | 2.75 | .75 | .88 | 1.62 | 1.31 | 1.00 |
| 5-S-2 | 297226 | 5 | 5/8 | 13.69 | 10.31 | 3.00 | .88 | 1.00 | 2.25 | 1.62 | 1.12 |
| 8-S-2 | 297422 | 8-1/2 | 3/4 | 26.16 | 12.62 | 4.00 | 1.00 | 1.56 | 2.81 | 2.12 | 1.38 |
| 10-S-2 | 297627 | 10 | 7/8 | 45.75 | 16.75 | 4.50 | 1.50 | 1.75 | 3.38 | 3.50 | 1.75 |
| 15-S-2 | 297823 | 15 | 1 | 62.75 | 17.12 | 5.00 | 1.50 | 1.75 | 3.38 | 3.50 | 1.75 |
| 25-S-2 | 298127 | 25 | - | 140.00 | 20.75 | 6.00 | 2.00 | 2.00 | 4.62 | 3.69 | 2.38 |
| 35-S-2 | 298225 | 35 | - | 155.00 | 20.75 | 6.50 | 2.00 | 2.00 | 4.62 | 3.69 | 2.38 |
| 45-S-2 | 298323 | 45 | - | 235.00 | 25.25 | 7.00 | 2.25 | 2.50 | 5.00 | 4.00 | 3.00 |

* Individually Proof Tested to 2 times the Working Load Limit. Ultimate Load is 5 times the Working Load Limit.

S-3 Jaw & Eye

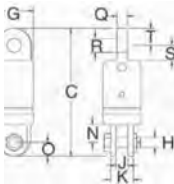


| Swivel Number | S-3 Stock Number | Working Load Limit (tons) * | Wire Rope Size (in.) | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | | |
|---------------|------------------|-----------------------------|----------------------|-------------------|------------------|------|------|------|------|------|------|------|------|------|------|
| | | | | | C | G | H | J | K | N | O | Q | R | S | T |
| 3-S-3 | 297039 | 3 | 1/2 | 9.12 | 9.34 | 2.75 | .75 | .88 | 1.62 | 1.31 | 1.00 | .75 | 1.03 | 1.12 | 1.25 |
| 5-S-3 | 297235 | 5 | 5/8 | 13.50 | 10.06 | 3.00 | .88 | 1.00 | 2.25 | 1.62 | 1.12 | 1.00 | 1.28 | 1.25 | 1.25 |
| 8-S-3 | 297431 | 8-1/2 | 3/4 | 24.90 | 12.25 | 4.00 | 1.00 | 1.56 | 2.81 | 2.12 | 1.38 | 1.25 | 1.41 | 1.62 | 1.50 |
| 10-S-3 | 297636 | 10 | 7/8 | 43.50 | 16.12 | 4.50 | 1.50 | 1.75 | 3.38 | 3.50 | 1.75 | 1.69 | 1.69 | 2.75 | 1.88 |
| 15-S-3 | 297832 | 15 | 1 | 61.00 | 16.75 | 5.00 | 1.50 | 1.75 | 3.38 | 3.50 | 1.75 | 1.94 | 2.03 | 2.75 | 2.12 |
| 25-S-3 | 298136 | 25 | - | 135.00 | 21.50 | 6.00 | 2.00 | 2.00 | 4.62 | 3.69 | 2.38 | 2.25 | 2.31 | 3.88 | 2.38 |
| 35-S-3 | 298234 | 35 | - | 150.00 | 21.50 | 6.50 | 2.00 | 2.00 | 4.62 | 3.69 | 2.38 | 2.25 | 2.31 | 3.88 | 2.38 |
| 45-S-3 | 298332 | 45 | - | 225.00 | 25.88 | 7.00 | 2.25 | 2.50 | 5.00 | 4.00 | 3.00 | 2.50 | 2.53 | 4.00 | 3.00 |

* Individually Proof Tested to 2 times the Working Load Limit. Ultimate Load is 5 times the Working Load Limit.



S-4 Eye & Jaw



| Swivel Number | S-4 Stock Number | Working Load Limit (tons) * | Wire Rope Size (in.) | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | | |
|---------------|------------------|-----------------------------|----------------------|-------------------|------------------|------|------|------|------|------|------|------|------|------|------|
| | | | | | C | G | H | J | K | N | O | Q | R | S | T |
| 3-S-4 | 297048 | 3 | 1/2 | 9.00 | 9.34 | 2.75 | .75 | .88 | 1.62 | 1.31 | 1.00 | .75 | 1.03 | 1.12 | 1.25 |
| 5-S-4 | 297244 | 5 | 5/8 | 12.33 | 10.06 | 3.00 | .88 | 1.00 | 2.25 | 1.62 | 1.12 | 1.00 | 1.28 | 1.25 | 1.25 |
| 8-S-4 | 297440 | 8-1/2 | 3/4 | 29.00 | 12.25 | 4.00 | 1.00 | 1.56 | 2.81 | 2.12 | 1.38 | 1.25 | 1.41 | 1.62 | 1.50 |
| 10-S-4 | 297645 | 10 | 7/8 | 44.00 | 16.12 | 4.50 | 1.50 | 1.75 | 3.38 | 3.50 | 1.75 | 1.69 | 1.69 | 2.75 | 1.88 |
| 15-S-4 | 297841 | 15 | 1 | 61.00 | 16.75 | 5.00 | 1.50 | 1.75 | 3.38 | 3.50 | 1.75 | 1.94 | 2.03 | 2.75 | 2.12 |
| 25-S-4 | 298145 | 25 | - | 135.00 | 21.50 | 6.00 | 2.00 | 2.00 | 4.62 | 3.69 | 2.38 | 2.25 | 2.31 | 3.88 | 2.38 |
| 35-S-4 | 298243 | 35 | - | 150.00 | 21.50 | 6.50 | 2.00 | 2.00 | 4.62 | 3.69 | 2.38 | 2.25 | 2.31 | 3.88 | 2.38 |
| 45-S-4 | 298341 | 45 | - | 225.00 | 25.88 | 7.00 | 2.25 | 2.50 | 5.00 | 4.00 | 3.00 | 2.50 | 2.53 | 4.00 | 3.00 |

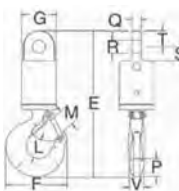
* Individually Proof Tested to 2 times the Working Load Limit. Ultimate Load is 5 times the Working Load Limit.

S-5 Eye & Eye

| Swivel Number | S-5 Stock Number | Working Load Limit (tons) * | Wire Rope Size (in.) | Weight Each (lbs) | Dimensions (in.) | | | | | |
|---------------|------------------|-----------------------------|----------------------|-------------------|------------------|------|------|------|------|------|
| | | | | | D | G | Q | R | S | T |
| 3-S-5 | 297057 | 3 | 1/2 | 8.50 | 9.41 | 2.75 | .75 | 1.03 | 1.12 | 1.25 |
| 5-S-5 | 297253 | 5 | 5/8 | 11.30 | 9.81 | 3.00 | 1.00 | 1.28 | 1.25 | 1.25 |
| 8-S-5 | 297459 | 8-1/2 | 3/4 | 29.25 | 11.88 | 4.00 | 1.25 | 1.41 | 1.62 | 1.50 |
| 10-S-5 | 297654 | 10 | 7/8 | 42.00 | 15.50 | 4.50 | 1.69 | 1.69 | 2.75 | 1.88 |
| 15-S-5 | 297850 | 15 | 1 | 49.00 | 16.38 | 5.00 | 1.94 | 2.03 | 2.75 | 2.12 |
| 25-S-5 | 298154 | 25 | - | 130.00 | 22.25 | 6.00 | 2.25 | 2.31 | 3.88 | 2.38 |
| 35-S-5 | 298252 | 35 | - | 145.00 | 22.25 | 6.50 | 2.25 | 2.31 | 3.88 | 2.38 |
| 45-S-5 | 298350 | 45 | - | 215.00 | 26.50 | 7.00 | 2.50 | 2.53 | 4.00 | 3.00 |

* Individually Proof Tested to 2 times the Working Load Limit. Ultimate Load is 5 times the Working Load Limit.

S-6 Eye & Hook



| Swivel Number | S-6 Stock Number | Working Load Limit (tons) * | Wire Rope Size (in.) | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | | |
|---------------|------------------|-----------------------------|----------------------|-------------------|------------------|-------|------|------|------|------|------|------|------|------|------|
| | | | | | E | F | G | L | M | P | Q | R | S | T | V |
| 3-S-6 | 297066 | 3 | 1/2 | 9.32 | 11.50 | 4.84 | 2.75 | 1.53 | 1.41 | 1.44 | .75 | 1.03 | 1.12 | 1.25 | 1.12 |
| 5-S-6 | 297262 | 5 | 5/8 | 14.24 | 13.09 | 6.28 | 3.00 | 1.94 | 1.69 | 1.81 | 1.00 | 1.28 | 1.25 | 1.25 | 1.44 |
| 8-S-6 | 297468 | 8-1/2 | 3/4 | 32.00 | 16.07 | 7.54 | 4.00 | 2.46 | 2.22 | 2.25 | 1.25 | 1.41 | 1.62 | 1.50 | 1.62 |
| 10-S-6 | 297663 | 10 | 7/8 | 45.50 | 19.12 | 8.34 | 4.50 | 2.59 | 2.41 | 2.59 | 1.69 | 1.69 | 2.75 | 1.88 | 1.94 |
| 15-S-6 | 297869 | 15 | 1 | 63.00 | 21.24 | 10.34 | 5.00 | 2.81 | 3.19 | 3.00 | 1.94 | 2.03 | 2.75 | 2.12 | 2.38 |
| 25-S-6 | 298163 | 25 | - | 135.00 | 27.53 | 13.62 | 6.00 | 3.44 | 3.62 | 3.66 | 2.25 | 2.31 | 3.88 | 2.38 | 3.00 |
| 35-S-6 | 298261 | 35 | - | 215.00 | 30.69 | 14.06 | 6.50 | 3.88 | 3.75 | 4.56 | 2.25 | 2.31 | 3.88 | 2.38 | 3.19 |
| 45-S-6 | 298369 | 45 | - | 270.00 | 35.69 | 15.44 | 7.00 | 4.75 | 4.25 | 5.06 | 2.50 | 2.53 | 4.00 | 3.00 | 3.25 |

* Individually Proof Tested to 2 times the Working Load Limit. Ultimate Load is 5 times the Working Load Limit.

Note

For swivels larger than 45 metric tons, or for swivels designed to meet the requirements of demanding applications such as subsea applications, please contact the Crosby Special Engineered Products Department.

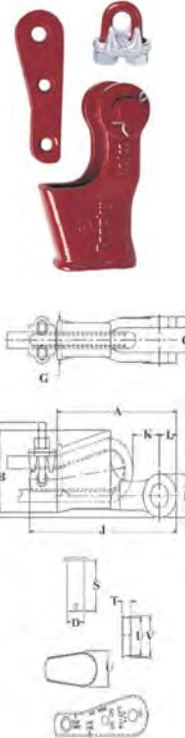


Wire Rope Sockets

Wedge sockets meet the performance requirements of Federal Specification RR-S-550E, Type C, except those provisions required of the contractor.

S-421T Wedge Sockets

- Wedge socket terminations have an efficiency rating of 80% based on the catalog strength of XXIP wire rope.
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these sockets meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.
- Type Approval and certification in accordance with ABS 2007 Steel Vessel Rules.1-1-17.7, and ABS Guide for Certification of Cranes.
- Basket is cast steel and individually magnetic particle inspected.
- Pin diameter and jaw opening allows wedge and socket to be used in conjunction with closed swage and spelter sockets.
- Secures the tail or “dead end” of the wire rope to the wedge, thus eliminates loss or “Punch out” of the wedge.
- Eliminates the need for an extra piece of rope, and is easily installed.
- The TERMINATOR™ wedge eliminates the potential breaking off of the tail due to fatigue.
- The tail, which is secured by the base of the clip and wedge, is left undeformed and available for reuse.
- Incorporates Crosby’s patented QUIC-CHECK® “Go” and “No-Go” feature cast into the wedge. The proper size rope is determined when the following criteria are met:
 1. The wire rope should pass thru the “Go” hole in the wedge.
 2. The wire rope should NOT pass thru the “No-Go” hole in the wedge.
- Utilizes standard Crosby Red-U-Bolt® wire rope clip.
- The 3/8” thru 1-1/8” standard S-421 wedge socket can be retrofitted with the new style TERMINATOR™ wedge.
- Available with Bolt, Nut and Cotter Pin.
- U.S. patent 5,553,360, Canada patent 2,217,004 and foreign equivalents.
- Meets the performance requirements of EN 13411-6: 2003.



S-421 Wedge Sockets Assembly includes Socket, Wedge, Pin and Wire Rope Clip

| Wire Rope Diameter | | S-421T Stock Number | API 2C S-421T Stock Number | Dimensions (in.) | | | | | | | | | | | | | | | |
|--------------------|-------|---------------------|----------------------------|------------------|------|---------|------|------|------|-------|------|------|------|------|------|------|------|------|--|
| (in.) | (mm) | | | A | B | C +/-09 | D | G | H | J* | K* | L | P | R | S | T | U | V | |
| 3/8 | 9-10 | 1035000 | 1035005 | 5.69 | 2.72 | .81 | .81 | 1.38 | 3.06 | 7.80 | 1.88 | .88 | 1.56 | .44 | 2.13 | .44 | 1.25 | 1.38 | |
| 1/2 | 11-13 | 1035009 | 1035014 | 6.88 | 3.47 | 1.00 | 1.00 | 1.62 | 3.76 | 8.91 | 1.26 | 1.06 | 1.94 | .50 | 2.56 | .53 | 1.75 | 1.88 | |
| 5/8 | 14-16 | 1035018 | 1035023 | 8.25 | 4.30 | 1.25 | 1.19 | 2.12 | 4.47 | 10.75 | 1.99 | 1.22 | 2.25 | .56 | 3.25 | .69 | 2.00 | 2.19 | |
| 3/4 | 18-19 | 1035027 | 1035032 | 9.88 | 5.12 | 1.50 | 1.38 | 2.44 | 5.28 | 12.36 | 2.41 | 1.40 | 2.63 | .66 | 3.63 | .78 | 2.34 | 2.56 | |
| 7/8 | 20-22 | 1035036 | 1035041 | 11.25 | 5.85 | 1.75 | 1.63 | 2.69 | 6.16 | 14.37 | 2.48 | 1.67 | 3.13 | .75 | 4.31 | .88 | 2.69 | 2.94 | |
| 1 | 24-26 | 1035045 | 1035050 | 12.81 | 6.32 | 2.00 | 2.00 | 2.94 | 6.96 | 16.29 | 3.04 | 2.00 | 3.75 | .88 | 4.70 | 1.03 | 2.88 | 3.28 | |
| 1-1/8 | 28 | 1035054 | 1035059 | 14.38 | 6.92 | 2.25 | 2.25 | 3.31 | 7.62 | 18.34 | 2.56 | 2.25 | 4.25 | 1.00 | 5.44 | 1.10 | 3.25 | 3.56 | |
| 1-1/4 | 30-32 | 1035063 | 1035068 | 16.34 | 8.73 | 2.62 | 2.50 | 3.56 | 9.39 | 20.48 | 2.94 | 2.34 | 4.50 | 1.06 | 6.13 | 1.19 | 4.62 | 4.94 | |

* Nominal NOTE: For intermediate wire rope sizes, use next larger size socket. The S-423T Super TERMINATOR™ wedge is designed to be assembled only into the Crosby S-421T TERMINATOR™ socket body. IMPORTANT: The S-423TW for sizes 5/8” through 1-1/8” (14mm through 28mm) will fit respective size standard Crosby S-421T basket. The 1-1/4” (30-32mm) S-423TW will only fit the Crosby S-421T 1-1/4” basket marked with “TERMINATOR™”

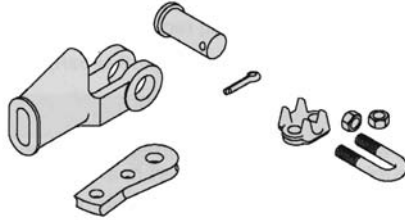
| Wire Rope Diameter | | S-421T Stock Number | API 2C S-421T Stock Number | Weight Each (lbs) | S-421TW Stock Number Wedge Only | API 2C S-421 TW Stock Number Wedge Only | Wedge Only Weight Each (lbs) | Optional G-4082 Bolt, Nut & Cotter | |
|--------------------|-------|---------------------|----------------------------|-------------------|---------------------------------|---|------------------------------|------------------------------------|-------------------|
| (in.) | (mm) | | | | | | | G-4082 Stock Number | Weight Each (lbs) |
| 3/8 | 9-10 | 1035000 | 1035005 | 3.18 | 1035555 | 1092230 | .50 | 1092227 | .38 |
| 1/2 | 11-13 | 1035009 | 1035014 | 6.15 | 1035564 | 1092248 | 1.05 | 1092236 | .69 |
| 5/8 | 14-16 | 1035018 | 1035023 | 9.70 | 1035573 | 1092257 | 1.79 | 1092254 | 1.15 |
| 3/4 | 18-19 | 1035027 | 1035032 | 14.50 | 1035582 | 1092293 | 2.60 | 1092281 | 1.91 |
| 7/8 | 20-22 | 1035036 | 1035041 | 21.50 | 1035591 | 1092319 | 4.00 | 1092307 | 3.23 |
| 1 | 24-26 | 1035045 | 1035050 | 30.75 | 1035600 | 1092337 | 5.37 | 1092325 | 5.40 |
| 1-1/8 | 28 | 1035054 | 1035059 | 45.30 | 1035609 | 1092364 | 7.30 | 1092343 | 7.50 |
| 1-1/4 | 30-32 | 1035063 | 1035068 | 64.90 | 1035618 | 1092375 | 10.60 | 1092372 | 10.34 |



Wedge Sockets

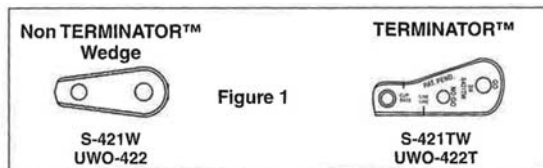
Warnings and Application Instructions

Extended Wedge Socket Assembly U.S. Patent No.5.553.360 and Canada Patent No. 2.217.004.



S-421T / US-422
"TERMINATOR"TM

NOTE: The design of the basket for the S-421T 1-1/4" TERMINATORTM Wedge Socket does not allow proper fit to the old style Crosby S-421W wedge (see Fig. 1). **Do not assemble or use.** The design of the basket for each US-422 TERMINATORTM Wedge Socket does not allow proper fit to the old style UWO-422 wedge (see Fig. 1). **Do not assemble or use.** All S-421T and US-422 TERMINATORTM baskets are marked with a capital "T" or TERMINATORTM.



QUIC-CHECK[®] "GO" and "No-Go" features cast into wedge. The proper size wire rope is determined when the following criteria are met:

1. The wire rope shall pass thru the "Go" hole in the wedge.
2. The wire rope shall NOT pass thru the "No-Go" hole in the wedge.

Important Safety Information - Read and Follow Inspection/Maintenance Safety

- Always inspect socket, wedge and pin before using.
- Do not use part showing cracks.
- Do not use modified or substitute parts.
- Repair minor nicks or gouges to socket or pin by lightly grinding until surfaces are smooth.
- Do not reduce original dimension more than 10%.
- Do not repair by welding.
- Inspect permanent assemblies annually, or more often in severe operating conditions.
- Do not mix and match wedges or pins between models or sizes.
- Always select the proper wedge and socket for the wire rope size.

Assembly Safety

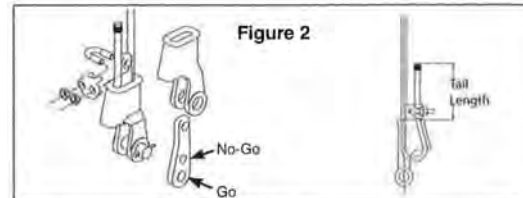
- Use only with standard 6 to 8 strand wire rope of designated size. For intermediate size rope, use next larger size socket. For example: when using 9/16" diameter wire rope use a 5/8" size Wedge Socket Assembly. Welding of the tail on standard wire rope is not recommended. Seizing of the tail is preferred following the recommended practices of the wire rope manufacturer. The tail length of the dead end should be a minimum of 6 rope diameters but not less than 6" (See Figure 2).
- **To use with Rotation Resistant wire rope** (special wire rope constructions with 8 or more outer strands) ensure that the dead end is welded, brazed or seized before inserting the wire rope into the wedge socket to prevent core slippage or loss of rope lay. Seizing of the tail is preferred following the recommended practices of the wire rope manufacturer. The tail length of the dead end should be a minimum of 20 rope diameters but not less than 6" (See Figure 2).
- Properly match socket, wedge and clip (See Table 1) to wire rope size.

- Align live end of rope, with center line of pin. (See Figure 1).
- Secure dead end section of rope. (See Figure 1).
- **DO NOT ATTACH DEAD END TO LIVE END.** (See Figure 1).
- Use a hammer to seat Wedge and Rope as deep into socket as possible before applying first load.

Warning !

- Loads may slip or fall if the Wedge Socket is not properly installed.
- Load misapplied in direct contact with the wedge can dislodge the wedge & cause loss of load.
- A falling load can seriously injure or kill.
- Read and understand these instructions before installing the Wedge Socket.
- Do not side load the Wedge Socket.
- Do not interchange Crosby wedge socket, wedge or pin with non Crosby Wedge socket, wedge or pin.
- Apply first load to fully seat the Wedge and Wire Rope in the socket. This load should be of equal or greater weight than loads expected in use.
- Do not interchange wedge between S-421 and US-422 or between sizes.
- Do not assemble an old style 1-1/4" (30-32mm) S-421W wedge into a S-421T 1-1/4" (30-32mm) TERMINATORTM basket.
- Do not assemble an old style UWO-422 wedge into a US-422T TERMINATORTM basket.

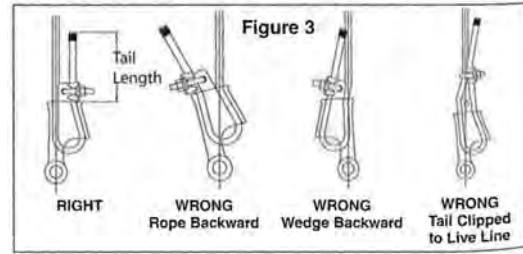
FITTINGS & BLOCKS



| *Tail Length | |
|---|--|
| Standard 6 to 8 Strand Wire Rope | Rotation Resistant Wire Rope |
| A minimum of 6 rope diameters, but not less than 6" | A minimum of 20 rope diameters, but not less than 6" |

| TABLE 1 | | | | | | | | |
|-------------------|-----|-----|-----|-----|-----|-----|-------|-------|
| Rope Size (in.) | 3/8 | 1/2 | 5/8 | 3/4 | 7/8 | 1 | 1-1/8 | 1-1/4 |
| Clip Size (in.) | 3/8 | 1/2 | 5/8 | 3/4 | 7/8 | 1 | 1-1/8 | 1-1/4 |
| * Torque Ft./lbs. | 45 | 65 | 95 | 130 | 225 | 225 | 225 | 360 |

* The tightening torque values shown are based upon the threads being clean, dry, and free of lubrication.



Operating Safety

- Apply first load to fully seat the Wedge and Wire Rope in the socket. This load should be of equal or greater weight than loads expected in use.
- Efficiency rating of the Wedge Socket termination is based upon the catalog breaking strength of Wire Rope. The efficiency of a properly assembled Wedge Socket is 80%.
- During use, do not strike the dead end section with any other elements of the rigging (Called two blocking).
- Do not allow a direct load to contact the wedge.

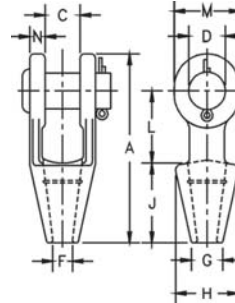


Open Spelter Sockets



G-416/S-416

- Forged Steel Sockets thru 1-1/2", cast alloy steel 1-5/8" thru 4".
- Spelter socket terminations have an efficiency rating of 100%, based on the catalog strength of wire rope. Ratings are based on recommended use with 6x7, 6x19, or 6x37, IPS or XIP (EIP), XXIP (EIP), RRL, FC, or IWRC wire rope.
- Strand constructed with minimal number of wires (e.g., 1 x 7) requires special consideration that socket basket length be five (5) times the strand diameter or fifty (50) times the wire diameter, whichever is the greater.
- Open Grooved Sockets meet the performance requirements of Federal Specification RR-S-550E, Type A, expect for those provisions required of the contractor.



G-416 & S-416 Open Spelter Sockets

| Rope Diameter | | Structural Strand Diameter (in.) | Ultimate Load (tons) | Stock Number | | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | | Tolerance +/- |
|-----------------|------------|----------------------------------|----------------------|--------------|------------|-------------------|------------------|------|------|------|------|-------|-------|-------|-------|------|---------------|
| (in.) | (mm) | | | G-416 Galv. | S-416 S.C. | | A | C | D | F | G | H | J | L | M | N | |
| 1/4 | 6 - 7 | - | 4.5 | 1039619 | 1039628 | 1.10 | 4.56 | .75 | .69 | .38 | .69 | 1.56 | 2.25 | 1.56 | 1.31 | .36 | .06 |
| 5/16-3/8 | 8 - 10 | - | 12 | 1039637 | 1039646 | 1.30 | 4.84 | .81 | .81 | .50 | .81 | 1.69 | 2.25 | 1.75 | 1.50 | .44 | .06 |
| 7/16-1/2 | 11 - 13 | - | 20 | 1039655 | 1039664 | 2.25 | 5.56 | 1.00 | 1.00 | .56 | .94 | 1.88 | 2.50 | 2.00 | 1.88 | .50 | .06 |
| 9/16-5/8 | 14 - 16 | 1/2 | 27 | 1039673 | 1039682 | 3.60 | 6.75 | 1.25 | 1.19 | .69 | 1.13 | 2.25 | 3.00 | 2.50 | 2.25 | .56 | .06 |
| 3/4 | 18 | 9/16-5/8 | 43 | 1039691 | 1039708 | 5.83 | 7.94 | 1.50 | 1.38 | .81 | 1.25 | 2.62 | 3.50 | 3.00 | 2.62 | .62 | .06 |
| 7/8 | 20 - 22 | 11/16-3/4 | 55 | 1039717 | 1039726 | 9.65 | 9.25 | 1.75 | 1.63 | .94 | 1.50 | 3.25 | 4.00 | 3.50 | 3.13 | .80 | .06 |
| 1 | 24 - 26 | 13/16 - 7/8 | 78 | 1039735 | 1039744 | 15.50 | 10.56 | 2.00 | 2.00 | 1.13 | 1.75 | 3.75 | 4.50 | 4.00 | 3.75 | .88 | .06 |
| 1-1/8 | 28 - 30 | 15/16 - 1 | 92 | 1039753 | 1039762 | 21.50 | 11.81 | 2.25 | 2.25 | 1.25 | 2.00 | 4.12 | 5.00 | 4.62 | 4.12 | 1.00 | .12 |
| 1-1/4 to 1-3/8 | 32 - 35 | 1-1/16 to 1-1/8 | 136 | 1039771 | 1039780 | 31.00 | 13.19 | 2.50 | 2.50 | 1.50 | 2.25 | 4.75 | 5.50 | 5.00 | 4.75 | 1.13 | .12 |
| 1-1/2 | 38 | 1-3/16 to 1-1/4 | 170 | 1039799 | 1039806 | 47.25 | 15.12 | 3.00 | 2.75 | 1.63 | 2.75 | 5.25 | 6.00 | 6.00 | 5.38 | 1.19 | .12 |
| *1-5/8 | * 40 - 42 | 1-5/16 to 1-3/8 | 188 | 1039815 | 1039824 | 55.00 | 16.25 | 3.00 | 3.00 | 1.75 | 3.00 | 5.50 | 6.50 | 6.50 | 5.75 | 1.31 | .12 |
| *1-3/4 to 1-7/8 | * 44 - 48 | 1-7/16 to 1-5/8 | 268 | 1039833 | 1039842 | 82.00 | 18.25 | 3.50 | 3.50 | 2.00 | 3.13 | 6.38 | 7.50 | 7.00 | 6.50 | 1.56 | .12 |
| *2 to 2-1/8 | * 50 - 54 | 1-11/16 to 1-3/4 | 291 | 1039851 | 1039860 | 129.00 | 21.50 | 4.00 | 3.75 | 2.25 | 3.75 | 7.38 | 8.50 | 9.00 | 7.00 | 1.81 | .12 |
| *2-1/4 to 2-3/8 | * 56 - 60 | 1-13/16 to 1-7/8 | 360 | 1039879 | 1039888 | 167.00 | 23.50 | 4.50 | 4.25 | 2.50 | 4.00 | 8.25 | 9.00 | 10.00 | 7.75 | 2.13 | .12 |
| *2-1/2 to 2-5/8 | * 64 - 67 | 1-15/16 to 2-1/8 | 424 | 1041633 | 1041642 | 252.00 | 25.50 | 5.00 | 4.75 | 2.88 | 4.50 | 9.25 | 9.75 | 10.75 | 8.50 | 2.38 | .12 |
| *2-3/4 to 2-7/8 | * 70 - 73 | 2-3/16 to 2-7/16 | 511 | 1041651 | 1041660 | 315.00 | 27.25 | 5.25 | 5.00 | 3.12 | 4.88 | 10.50 | 11.00 | 11.00 | 9.00 | 2.88 | .25 |
| *3 to 3-1/8 | * 75 - 80 | 2-1/2 to 2-5/8 | 563 | 1041679 | 1041688 | 380.00 | 29.00 | 5.75 | 5.25 | 3.38 | 5.25 | 11.12 | 12.00 | 11.25 | 9.50 | 3.00 | .25 |
| *3-1/4 to 3-3/8 | * 82 - 86 | 2-3/4 to 2-7/8 | 722 | 1041697 | 1041704 | 434.00 | 30.88 | 6.25 | 5.50 | 3.62 | 5.75 | 11.88 | 13.00 | 11.75 | 10.00 | 3.12 | .25 |
| *3-1/2 to 3-5/8 | * 88 - 92 | 3 to 3-1/8 | 779 | 1041713 | 1041722 | 563.00 | 33.25 | 6.75 | 6.00 | 3.88 | 6.50 | 12.38 | 14.00 | 12.50 | 10.75 | 3.25 | .25 |
| *3-3/4 to 4 | * 94 - 102 | - | 875 | 1041731 | 1041740 | 783.00 | 36.25 | 7.50 | 7.00 | 4.25 | 7.25 | 13.62 | 15.00 | 13.50 | 12.50 | 3.50 | .25 |

* Cast Alloy Steel Note: Available with bolt nut and cutter for more information.

Note

All cast steel sockets 1-5/8" and larger are magnetic particle inspected and ultrasonic inspected.

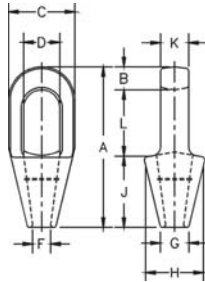
Proof testing available on special order.

Drawing illustrates one groove used on sockets 1/4" through 3/4".

Sizes 7/8" through 1-1/2" use 2 grooves. Sizes 1-5/8" and larger use 3 grooves.



Closed Spelter Socket



- Forged Steel Sockets thru 1-1/2", cast alloy steel 1-5/8" thru 4".
- Spelter socket terminations have an efficiency rating of 100%, based on the catalog strength of wire rope. Ratings are based on the recommended use with 6x7, 6x19 or 6x37, IPS (EIP), XXIP (EEIP), RRL, FC or IWRC wire rope. Strand constructed with minimal number of wires (e.g., 1 x 7) requires special consideration that socket basket length be five (5) times the strand diameter or fifty (50) times the wire diameter, whichever is the greater.



G-417/S-417

Closed grooved Sockets meet the performance requirements of Federal Specification RR-S-550E, Type B, except for those provisions required of the contractor.

G-417 & S-417 Closed Spelter Sockets

| Rope Diameter | | Structural Strand Diameter (in.) | Ultimate Load (t) | Stock Number | | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | |
|------------------|------------|----------------------------------|-------------------|--------------|------------|-------------------|------------------|------|-------|------|------|------|-------|-------|------|-------|
| (in.) | (mm) | | | G-417 Galv. | S-417 S.C. | | A | B | C | D* | F | G | H | J | K | L |
| 1/4 | 6 - 7 | - | 4.50 | 1039897 | 1039904 | .50 | 4.50 | .50 | 1.50 | .88 | .38 | .69 | 1.56 | 2.25 | .50 | 1.75 |
| 5/16-3/8 | 8 - 10 | - | 12.0 | 1039913 | 1039922 | .75 | 4.94 | .62 | 1.69 | .97 | .50 | .81 | 1.69 | 2.25 | .69 | 2.06 |
| 7/16-1/2 | 11 - 13 | - | 20.0 | 1039931 | 1039940 | 1.50 | 5.50 | .69 | 2.00 | 1.16 | .56 | .94 | 2.00 | 2.50 | .88 | 2.31 |
| 9/16-5/8 | 14 - 16 | 1/2 | 30.8 | 1039959 | 1039968 | 2.50 | 6.31 | .81 | 2.63 | 1.41 | .69 | 1.12 | 2.38 | 3.00 | 1.00 | 2.50 |
| 3/4 | 18 | 9/16-5/8 | 43.5 | 1039977 | 1039986 | 4.25 | 7.62 | 1.06 | 3.00 | 1.66 | .88 | 1.25 | 2.75 | 3.50 | 1.25 | 3.06 |
| 7/8 | 20 - 22 | 11/16-3/4 | 65.3 | 1039995 | 1040000 | 7.25 | 8.75 | 1.25 | 3.63 | 1.94 | 1.00 | 1.50 | 3.25 | 4.00 | 1.50 | 3.50 |
| 1 | 24 - 26 | 13/16 - 7/8 | 81.6 | 1040019 | 1040028 | 10.50 | 9.88 | 1.38 | 4.13 | 2.30 | 1.13 | 1.75 | 3.75 | 4.50 | 1.75 | 4.00 |
| 1-1/8 | 28 - 30 | 15/16 - 1 | 100 | 1040037 | 1040046 | 14.25 | 11.00 | 1.50 | 4.50 | 2.56 | 1.25 | 2.00 | 4.13 | 5.00 | 2.00 | 4.50 |
| 1-1/4 to 1-3/8 | 32 - 35 | 1-1/16 to 1-1/8 | 136 | 1040055 | 1040064 | 19.75 | 12.12 | 1.63 | 5.00 | 2.81 | 1.50 | 2.25 | 4.75 | 5.50 | 2.25 | 5.00 |
| 1-1/2 | 38 | 1-3/16 to 1-1/4 | 170 | 1040073 | 1040082 | 29.20 | 13.94 | 1.94 | 5.38 | 3.19 | 1.63 | 2.75 | 5.25 | 6.00 | 2.50 | 6.00 |
| 1-5/8 | * 40 - 42 | 1-5/16 to 1-3/8 | 188 | 1040091 | 1040108 | 36.00 | 15.13 | 2.13 | 5.75 | 3.25 | 1.75 | 3.00 | 5.50 | 6.50 | 2.75 | 6.50 |
| *1 -3/4 to 1-7/8 | * 44 - 48 | 1-7/16 to 1-5/8 | 268 | 1040117 | 1040126 | 57.25 | 17.25 | 2.19 | 6.75 | 3.75 | 2.00 | 3.13 | 6.38 | 7.50 | 3.00 | 7.56 |
| *2 to 2-1/8 | * 50 - 54 | 1-11/16 to 1-3/4 | 309 | 1040135 | 1040144 | 79.00 | 19.87 | 2.44 | 7.63 | 4.38 | 2.25 | 3.75 | 7.38 | 8.50 | 3.25 | 8.81 |
| *2-1/4 to 2-3/8 | * 56 - 60 | 1-13/16 to 1-7/8 | 360 | 1040153 | 1040162 | 105.00 | 21.50 | 2.75 | 8.50 | 5.00 | 2.63 | 4.13 | 8.25 | 9.00 | 3.63 | 9.75 |
| *2-1/2 to 2-5/8 | * 64 - 67 | 1-15/16 to 2-1/8 | 424 | 1041759 | 1041768 | 140.00 | 23.50 | 3.12 | 9.50 | 5.50 | 2.88 | 4.50 | 9.25 | 9.75 | 4.00 | 10.62 |
| *2-3/4 to 2-7/8 | * 70 - 73 | 2-3/16 to 2-7/16 | 549 | 1041777 | 1041786 | 220.00 | 25.38 | 3.12 | 10.75 | 6.25 | 3.12 | 4.88 | 10.19 | 11.00 | 4.88 | 11.25 |
| *3 to 3-1/8 | * 75 - 80 | 2-1/2 to 2-5/8 | 656 | 1041795 | 1041802 | 276.00 | 27.12 | 3.37 | 11.50 | 6.75 | 3.38 | 5.25 | 11.50 | 12.00 | 5.25 | 11.75 |
| *3-1/4 to 3-3/8 | * 82 - 86 | 2-3/4 to 2-7/8 | 750 | 1041811 | 1041820 | 313.00 | 29.25 | 4.00 | 12.25 | 7.25 | 3.62 | 5.75 | 12.25 | 13.00 | 5.75 | 12.25 |
| *3-1/2 to 3-5/8 | * 88 - 92 | 3 to 3-1/8 | 820 | 1041839 | 1041848 | 400.00 | 31.00 | 4.00 | 13.00 | 7.75 | 3.88 | 6.31 | 13.00 | 14.00 | 6.25 | 13.00 |
| *3-3/4 to 4 | * 94 - 102 | - | 1005 | 1041857 | 1041866 | 542.00 | 33.25 | 4.25 | 14.25 | 8.50 | 4.25 | 7.25 | 14.25 | 15.00 | 7.00 | 14.00 |

* Cast Alloy Steel
Diameter of pin must not exceed pin used on companion 416 socket. Reference column "D" dimension.

FITTINGS & BLOCKS

Note

All cast steel sockets 1-5/8" and larger are magnetic particle inspected and ultrasonic inspected.
 Proof testing available on special order.
 Drawing illustrates one groove used on sockets 1/4" through 3/4".
 Sizes 7/8" through 1-1/2" use 2 grooves. Sizes 1-5/8" and larger use 3 grooves.

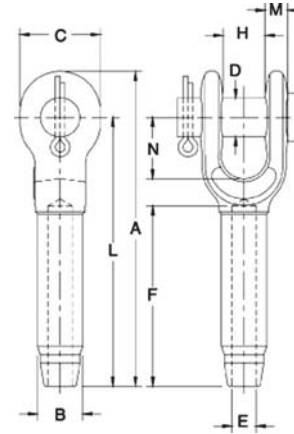


Open Swage Socket



S-501

- Forged from special bar quality carbon steel, suitable for cold forming.
- Hardness controlled by spheroidize annealing.
- Swage Socket terminations have an efficiency rating of 100% based on the catalog strength of wire rope.
- Swage Sockets incorporate a reduced machined area of the shank which is equivalent to the proper "After Swage" dimension. Before swaging, this provides for an obvious visual difference in the shank diameter. After swaging, a uniform shank diameter is created allowing for a QUIC-CHECK[®] and permanent visual inspection opportunity.
- Stamp for identification after swaging without concern for fractures (as per directions in Wire Rope End Terminations User's Manual).
- Designed to quickly determine whether the socket has been through the swaging operation and assist in field inspections, it does not eliminate the need to perform standard production inspection which include gauging for the proper "After Swage" dimensions or proof loading.



S-501 Open Swage Sockets

| S-501 Stock Number | S-501B** Stock Number | Rope Size | | Weight Each (lbs) | Ultimate Load* (tons) | Before Swage Dimensions (in.) | | | | | | | | | | Tolerance +/- | Max. After Swage Dim. (in.) | Die Description |
|--------------------|-----------------------|-----------|-------|-------------------|-----------------------|-------------------------------|------|------|------|------|-------|------|-------|------|------|---------------|-----------------------------|-----------------|
| | | (in.) | (mm) | | | A | B | C | D | E | F | H | L | M | N | | | |
| 1039021 | 1054001 | 1/4 | 6 | .52 | 5.4 | 4.78 | .50 | 1.38 | .69 | .27 | 2.19 | .69 | 4.00 | .38 | 1.47 | .06 | .46 | 1/4 Socket |
| 1039049 | 1054010 | 5/16 | 8 | 1.12 | 11.8 | 6.30 | .78 | 1.62 | .81 | .34 | 3.25 | .80 | 5.34 | .48 | 1.67 | .06 | .71 | 5/16-3/8 Socket |
| 1039067 | 1054029 | 3/8 | 9-10 | 1.30 | 13.6 | 6.30 | .78 | 1.62 | .81 | .41 | 3.25 | .80 | 5.34 | .48 | 1.67 | .06 | .71 | 5/16-3/8 Socket |
| 1039085 | 1054038 | 7/16 | 11-12 | 2.08 | 18.1 | 7.82 | 1.01 | 2.00 | 1.00 | .49 | 4.31 | 1.00 | 6.69 | .56 | 1.96 | .06 | .91 | 7/16-1/2 Socket |
| 1039101 | 1054047 | 1/2 | 13 | 2.08 | 21.3 | 7.82 | 1.01 | 2.00 | 1.00 | .55 | 4.31 | 1.00 | 6.69 | .56 | 1.96 | .06 | .91 | 7/16-1/2 Socket |
| 1039129 | 1054056 | 9/16 | 14 | 4.67 | 31.8 | 9.54 | 1.27 | 2.38 | 1.19 | .61 | 5.38 | 1.25 | 8.13 | .68 | 2.21 | .06 | 1.16 | 9/16-5/8 Socket |
| 1039147 | 1054065 | 5/8 | 16 | 4.51 | 34.9 | 9.54 | 1.27 | 2.38 | 1.19 | .68 | 5.38 | 1.25 | 8.13 | .68 | 2.21 | .06 | 1.16 | 9/16-5/8 Socket |
| 1039165 | 1054074 | 3/4 | 18-20 | 7.97 | 43.5 | 11.61 | 1.56 | 2.75 | 1.38 | .80 | 6.44 | 1.50 | 10.00 | .80 | 2.69 | .06 | 1.42 | 3/4 Socket |
| 1039183 | 1054083 | 7/8 | 22 | 11.52 | 51.5 | 13.37 | 1.72 | 3.13 | 1.63 | .94 | 7.50 | 1.75 | 11.63 | .94 | 3.20 | .07 | 1.55 | 7/8 Socket |
| 1039209 | 1054092 | 1 | 24-26 | 17.80 | 71.4 | 15.47 | 2.00 | 3.69 | 2.00 | 1.07 | 8.63 | 2.00 | 13.38 | 1.07 | 3.68 | .08 | 1.80 | 1 Socket |
| 1039227 | 1054104 | 1-1/8 | 28 | 25.25 | 83.3 | 17.35 | 2.25 | 4.12 | 2.25 | 1.19 | 9.63 | 2.25 | 15.00 | 1.19 | 4.18 | .10 | 2.05 | 1-1/8 Socket |
| 1039245 | 1054113 | 1-1/4 | 32 | 35.56 | 109 | 19.20 | 2.53 | 4.59 | 2.50 | 1.34 | 10.69 | 2.50 | 16.50 | 1.27 | 4.68 | .10 | 2.30 | 1-1/4 Socket |
| 1039263 | 1054122 | 1-3/8 | 34-36 | 43.75 | 136 | 21.10 | 2.81 | 5.25 | 2.50 | 1.46 | 11.88 | 2.41 | 18.13 | 1.46 | 5.25 | .10 | 2.56 | 1-3/8 Socket |
| 1039281 | 1054131 | 1-1/2 | 38-40 | 58.50 | 181 | 23.17 | 3.08 | 5.50 | 2.75 | 1.59 | 12.81 | 3.00 | 19.75 | 1.70 | 5.70 | .10 | 2.81 | 1-1/2 Socket |
| 1039307 | 1054140 | 1-3/4 | 44 | 88.75 | 228 | 26.70 | 3.40 | 6.25 | 3.50 | 1.87 | 15.06 | 3.50 | 23.00 | 2.11 | 6.67 | .10 | 3.06 | 1-3/4 Socket |
| 1042767 | 1054159 | 2 | 48-52 | 146.2 | 272 | 31.15 | 3.94 | 7.80 | 3.75 | 2.12 | 17.06 | 4.00 | 26.75 | 1.81 | 8.19 | .10 | 3.56 | 2 Socket |

* The Ultimate Loads of 3/4" through 1 1/4" sizes have been increased to meet the requirements for 8 strand 2160 Grade pendants.
 ** Assembly with bolt, nut and cotter pin.

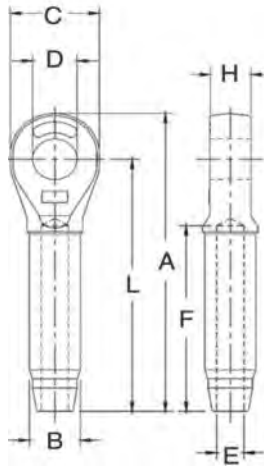
Note

S-501 Swage Sockets are recommended for use with 6 x 19 or 6 x 37, IPS or XIP (EIP), XXIP (EEIP), RRL, FC or IWRC wire rope.

Before using any National Swage fitting with any other type lay, construction or grade of wire rope, it is recommended that the termination be destructive tested and documented to prove the adequacy of the assembly to be manufactured.

In accordance with ASME B30.9, all slings terminated with swage sockets shall be proof loaded.*

Closed Swage Socket



- Forged from special bar quality carbon steel, suitable for cold forming.
- Swage Socket terminations have an efficiency rating of 100% based on the catalog strength of wire rope.
- Hardness controlled by spheroidize annealing.
- Stamp for identification after swaging without concern for fractures (as per directions in the Wire Rope End Terminations User's Manual).
- Swage sockets incorporate a reduced machined area of the shank which is equivalent to the proper "After Swage" dimension. Before swaging, this provides for an obvious visual difference in the shank diameter. After swaging, a uniform shank diameter is created allowing for a QUIC-CHECK® and permanent visual inspection opportunity.
- Designed to quickly determine whether the socket has been through the swaging operation and assist in field inspections, it does not eliminate the need to perform standard production inspections which include gauging for the proper "After Swage" dimensions or proof loading.



S-502

S-502 Closed Swage Sockets

| S-502 Stock Number | Rope Size | | Weight Each (lbs) | Ultimate Load ** (t) | Before Swage Dimensions (in.) | | | | | | | | Max. After Swage Dim. (in.) | Die Description |
|--------------------|-----------|-------|-------------------|----------------------|-------------------------------|------|------|------|------|-------|------|-------|-----------------------------|-----------------|
| | (in.) | (mm) | | | A | B | C | D | E | F | H | L | | |
| 1039325 | 1/4 | 6 | .33 | 5.4 | 4.28 | .50 | 1.38 | .76 | .27 | 2.19 | .50 | 3.50 | .46 | 1/4 Socket |
| 1039343 | 5/16 | 8 | .75 | 11.8 | 5.42 | .77 | 1.62 | .88 | .34 | 3.25 | .68 | 4.50 | .71 | 5/16-3/8 Socket |
| 1039361 | 3/8 | 9-10 | .72 | 13.6 | 5.42 | .78 | 1.62 | .88 | .41 | 3.25 | .68 | 4.50 | .71 | 5/16-3/8 Socket |
| 1039389 | 7/16 | 11-12 | 1.42 | 18.1 | 6.88 | 1.01 | 2.00 | 1.07 | .49 | 4.31 | .87 | 5.75 | .91 | 7/17-1/2 Socket |
| 1039405 | 1/2 | 13 | 1.42 | 21.3 | 6.88 | 1.01 | 2.00 | 1.07 | .55 | 4.31 | .87 | 5.75 | .91 | 7/16-1/2 Socket |
| 1039423 | 9/16 | 14 | 2.92 | 31.8 | 8.59 | 1.27 | 2.38 | 1.28 | .61 | 5.38 | 1.14 | 7.25 | 1.16 | 9/16-5/8 Socket |
| 1039441 | 5/8 | 16 | 2.85 | 34.9 | 8.59 | 1.27 | 2.38 | 1.28 | .68 | 5.38 | 1.14 | 7.25 | 1.16 | 9/16-5/8 Socket |
| 1039469 | 3/4 | 18-20 | 5.00 | 43.5 | 10.25 | 1.56 | 2.88 | 1.49 | .80 | 6.44 | 1.33 | 8.63 | 1.42 | 3/4 Socket |
| 1039487 | 7/8 | 22 | 6.80 | 51.5 | 11.87 | 1.72 | 3.12 | 1.73 | .94 | 7.50 | 1.53 | 10.09 | 1.55 | 7/8 Socket |
| 1039502 | 1 | 24-26 | 10.40 | 71.4 | 13.56 | 2.00 | 3.62 | 2.11 | 1.07 | 8.63 | 1.78 | 11.50 | 1.80 | 1 Socket |
| 1039520 | 1-1/8 | 28 | 14.82 | 83.3 | 15.03 | 2.25 | 4.00 | 2.37 | 1.19 | 9.75 | 2.03 | 12.75 | 2.05 | 1-1/8 Socket |
| 1039548 | 1-1/4 | 32 | 21.57 | 109 | 16.94 | 2.53 | 4.50 | 2.62 | 1.34 | 10.81 | 2.25 | 14.38 | 2.30 | 1-1/4 Socket |
| 1039566 | 1-3/8 | 34-36 | 28.54 | 136 | 18.59 | 2.81 | 5.00 | 2.62 | 1.46 | 11.88 | 2.29 | 15.75 | 2.56 | 1-3/8 Socket |
| 1039584 | 1-1/2 | 38-40 | 38.06 | 181 | 20.13 | 3.08 | 5.38 | 2.87 | 1.59 | 12.81 | 2.56 | 17.00 | 2.81 | 1-1/2 Socket |
| 1039600 | 1-3/4 | 44 | 51.00 | 228 | 23.56 | 3.40 | 6.25 | 3.63 | 1.87 | 15.06 | 3.08 | 20.00 | 3.06 | 1-3/4 Socket |
| 1042589 | 2 | 48-52 | 89.25 | 272 | 27.13 | 3.94 | 7.25 | 3.88 | 2.12 | 17.06 | 3.31 | 23.00 | 3.56 | 2 Socket |

* Maximum Proof Load shall not exceed 50% of XXIP rope catalog breaking strength.
 ** The Ultimate Loads of 3/4" through 1 1/4" sizes have been increased to meet the requirements for 8 strand 2160 Grade pendants.

FITTINGS & BLOCKS

Note

S-502 Swage Sockets are recommended for use with 6 x 19 or 6 x 37, IPS or XIP (EIP), XXIP (EEIP), RRL, FC or IWRC wire rope.

Before using any National Swage fitting with any other type lay, construction or grade of wire rope, it is recommended that the termination be destructive tested and documented to prove the adequacy of the assembly to be manufactured.

In accordance with ASME B30.9, all slings terminated with swage sockets shall be proof loaded.*



Crosby® Turnbuckles

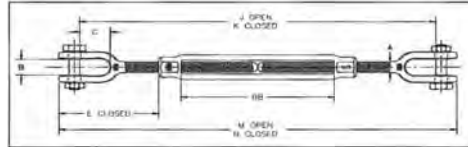
Jaw & Jaw Turnbuckles



**HG-228
JAW & JAW**

Meets the performance requirements of Federal Specifications FF- T-971b, Type 1, Form 1- CLASS 7, and ASTM F-1145, except for those provisions required of the contractor.

- End fittings are Quenched and Tempered or Normalized, bodies heat treated by normalizing.
- Hot Dip galvanized steel.
- TURNBUCKLES RECOMMENDED FOR STRAIGHT OR IN-LINE PULL ONLY.
- Forged jaw ends are fitted with bolts and nuts for 1/4" through 5/8", and pins and cotters on 3/4" through 2-3/4" sizes.
- Modified UNJ thread on end fittings for improved fatigue properties.
- Body has UNC threads.
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these turnbuckles meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.
- Lock Nuts available for all sizes.
- Comprehensive end fitting data provided.
- Fatigue Rated.



HG-228 Jaw & Jaw Turnbuckle

| Thread Diameter & Take up (in.) | HG-228 Stock Number | Working Load Limit (lbs)* | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | | |
|---------------------------------|---------------------|---------------------------|-------------------|------------------|------|----------|------|--------|----------|--------|----------|-------|--|--|
| | | | | A | B | E Closed | G | J Open | K Closed | M Open | N Closed | BB | | |
| +1/4x4 | 1032493 | 500 | .37 | .25 | .45 | 1.66 | .64 | 11.19 | 7.19 | 12.18 | 8.18 | 4.07 | | |
| +5/16x4-1/2 | 1032518 | 800 | .56 | .31 | .50 | 2.02 | .87 | 13.07 | 8.57 | 14.12 | 9.62 | 4.58 | | |
| +3/8x6 | 1032536 | 1200 | .85 | .38 | .53 | 2.11 | .85 | 16.25 | 10.25 | 17.50 | 11.50 | 6.10 | | |
| 1/2x6 | 1032554 | 2200 | 1.82 | .50 | .64 | 3.22 | 1.07 | 18.65 | 12.65 | 20.14 | 14.14 | 6.03 | | |
| 1/2x9 | 1032572 | 2200 | 2.29 | .50 | .64 | 3.20 | 1.07 | 24.94 | 15.94 | 26.43 | 17.43 | 9.36 | | |
| 1/2x12 | 1032590 | 2200 | 2.71 | .50 | .64 | 3.20 | 1.07 | 30.94 | 18.94 | 32.43 | 20.43 | 12.36 | | |
| 5/8x6 | 1032616 | 3500 | 3.21 | .63 | .79 | 3.90 | 1.32 | 19.74 | 13.74 | 21.82 | 15.82 | 6.03 | | |
| 5/8x9 | 1032634 | 3500 | 3.95 | .63 | .79 | 3.89 | 1.32 | 26.08 | 17.08 | 28.16 | 19.16 | 9.39 | | |
| 5/8x12 | 1032652 | 3500 | 4.58 | .63 | .79 | 3.89 | 1.32 | 32.08 | 20.08 | 34.16 | 22.16 | 12.39 | | |
| 3/4x6 | 1032670 | 5200 | 4.80 | .75 | .97 | 4.71 | 1.52 | 21.09 | 15.09 | 23.68 | 17.68 | 6.13 | | |
| 3/4x9 | 1032698 | 5200 | 5.85 | .75 | .97 | 4.68 | 1.52 | 27.49 | 18.49 | 30.08 | 21.08 | 9.59 | | |
| 3/4x12 | 1032714 | 5200 | 6.72 | .75 | .97 | 4.68 | 1.52 | 33.49 | 21.49 | 36.08 | 24.08 | 12.59 | | |
| 3/4x18 | 1032732 | 5200 | 8.45 | .75 | .97 | 4.71 | 1.52 | 45.49 | 27.49 | 48.08 | 30.08 | 18.53 | | |
| 7/8x12 | 1032750 | 7200 | 9.37 | .88 | 1.16 | 5.50 | 1.77 | 34.65 | 22.65 | 37.62 | 25.62 | 12.16 | | |
| 7/8x18 | 1032778 | 7200 | 11.8 | .88 | 1.16 | 5.50 | 1.77 | 47.12 | 29.12 | 50.09 | 32.09 | 18.63 | | |
| 1x6 | 1032796 | 10000 | 10.4 | 1.00 | 1.34 | 6.09 | 2.05 | 23.82 | 17.82 | 27.18 | 21.18 | 6.18 | | |
| 1x12 | 1032812 | 10000 | 13.8 | 1.00 | 1.34 | 6.09 | 2.05 | 35.82 | 23.82 | 39.18 | 27.18 | 12.18 | | |
| 1x18 | 1032830 | 10000 | 17.1 | 1.00 | 1.34 | 6.09 | 2.05 | 47.82 | 29.82 | 51.18 | 33.18 | 18.18 | | |
| 1x24 | 1032858 | 10000 | 21.0 | 1.00 | 1.34 | 6.06 | 2.05 | 60.42 | 36.42 | 63.78 | 39.78 | 24.84 | | |
| 1-1/4x12 | 1032876 | 15200 | 21.9 | 1.25 | 1.84 | 8.09 | 2.82 | 39.37 | 27.37 | 43.58 | 31.58 | 12.06 | | |
| 1-1/4x18 | 1032894 | 15200 | 25.9 | 1.25 | 1.84 | 8.09 | 2.82 | 51.37 | 33.37 | 55.58 | 37.58 | 18.06 | | |
| 1-1/4x24 | 1032910 | 15200 | 29.8 | 1.25 | 1.84 | 8.09 | 2.82 | 63.93 | 39.93 | 68.14 | 44.14 | 24.62 | | |
| 1-1/2x12 | 1032938 | 21400 | 32.6 | 1.50 | 2.06 | 8.93 | 2.81 | 40.76 | 28.76 | 45.68 | 33.68 | 12.32 | | |
| 1-1/2x18 | 1032956 | 21400 | 38.0 | 1.50 | 2.06 | 8.93 | 2.81 | 52.76 | 34.76 | 57.68 | 39.68 | 18.32 | | |
| 1-1/2x24 | 1032974 | 21400 | 43.5 | 1.50 | 2.06 | 8.93 | 2.81 | 65.38 | 41.38 | 70.30 | 46.30 | 24.94 | | |
| 1-3/4x18 | 1033018 | 28000 | 53.5 | 1.75 | 2.60 | 9.36 | 3.35 | 53.35 | 35.35 | 59.16 | 41.16 | 18.37 | | |
| 1-3/4x24 | 1033036 | 28000 | 61.1 | 1.75 | 2.60 | 9.36 | 3.35 | 65.35 | 41.35 | 71.16 | 47.16 | 24.37 | | |
| 2x24 | 1033054 | 37000 | 96.3 | 2.00 | 2.62 | 11.80 | 3.74 | 69.64 | 45.64 | 76.72 | 52.72 | 24.48 | | |
| 2-1/2x24 | 1033072 | 60000 | 167 | 2.50 | 3.06 | 13.26 | 4.44 | 72.97 | 48.97 | 82.18 | 58.18 | 24.60 | | |
| 2-3/4x24 | 1033090 | 75000 | 199 | 2.75 | 3.69 | 14.92 | 4.19 | 74.75 | 50.75 | 85.50 | 61.50 | 24.65 | | |

* Proof Load is 2.5 times Working Load Limit. Ultimate load is 5 times Working Load Limit. + Mechanical Galvanized.



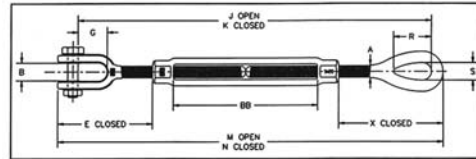
Jaw & Eye Turnbuckles



**HG-227
JAW & EYE**

Meets the performance requirements of Federal Specifications FF-1791b, Type 1, Form 1- CLASS 8, and ASTM F-1145, except for those provisions required of the contractor.

- Hot Dip galvanized steel.
- End fittings are Quenches and Tempered or normalized, bodies heat treated by normalizing.
- Turnbuckles eyes are forged and elongated, by design, to maximize easy attachment in system and minimize stress in the eye. For turnbuckles size 1/4" through 2-1/2", a shackle one size smaller can be reeved through eye.
- Forged jaw ends are fitted with bolts and nuts for 1/4" through 5/8", and pins and cotters on 3/4" through 2-3/4" sizes.
- Modified UNJ thread on end fittings for improved fatigue properties.
- Body has UNC threads.
- Meets or exceed all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these turnbuckles meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.
- TURNBUCKLES RECOMMENDED FOR STRAIGHT OR IN-LINE PULL ONLY.
- Lock Nuts available for all sizes (see page Crosby Catalog).
- For Comprehensive end fitting data (see Crosby Catalog).
- Fatigue Rated.



HG-227 Jaw & Eye Turnbuckle

| Thread Diameter & Take up (in.) | HG-227 Stock Number | Working Load Limit (lbs)* | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | | | |
|---------------------------------|---------------------|---------------------------|-------------------|------------------|------|----------|------|--------|----------|--------|----------|------|------|----------|-------|
| | | | | A | B | E Closed | G | J Open | K Closed | M Open | N Closed | R | S | X Closed | BB |
| #1/4x4 | 1031877 | 500 | .33 | .25 | .45 | 1.66 | .64 | 11.57 | 7.57 | 12.28 | 8.28 | .81 | .34 | 1.76 | 4.07 |
| #5/16x4-1/2 | 1031895 | 800 | .52 | .31 | .50 | 2.02 | .87 | 13.50 | 9.00 | 14.30 | 9.80 | .95 | .44 | 2.20 | 4.58 |
| #3/8x6 | 1031911 | 1200 | .80 | .38 | .53 | 2.11 | .85 | 16.91 | 10.91 | 17.87 | 11.87 | 1.13 | .53 | 2.48 | 6.10 |
| 1/2x6 | 1031939 | 2200 | 1.77 | .50 | .64 | 3.22 | 1.07 | 19.30 | 13.30 | 20.48 | 14.48 | 1.41 | .71 | 3.56 | 6.03 |
| 1/2x9 | 1031957 | 2200 | 2.25 | .50 | .64 | 3.20 | 1.07 | 25.59 | 16.59 | 26.77 | 17.77 | 1.41 | .71 | 3.54 | 9.36 |
| 1/2x12 | 1031975 | 2200 | 2.67 | .50 | .64 | 3.20 | 1.07 | 31.59 | 19.59 | 32.77 | 20.77 | 1.41 | .71 | 3.54 | 12.36 |
| 5/8x6 | 1031993 | 3500 | 2.98 | .63 | .79 | 3.90 | 1.32 | 20.73 | 14.73 | 22.27 | 16.27 | 1.80 | .88 | 4.35 | 6.03 |
| 5/8x9 | 1032019 | 3500 | 3.72 | .63 | .79 | 3.89 | 1.32 | 27.07 | 18.07 | 28.61 | 19.61 | 1.80 | .88 | 4.34 | 9.39 |
| 5/8x12 | 1032037 | 3500 | 4.35 | .63 | .79 | 3.89 | 1.32 | 33.07 | 21.07 | 34.61 | 22.61 | 1.80 | .88 | 4.34 | 12.39 |
| 3/4x6 | 1032055 | 5200 | 4.51 | .75 | .97 | 4.71 | 1.52 | 22.17 | 16.17 | 24.09 | 18.09 | 2.09 | 1.00 | 5.12 | 6.13 |
| 3/4x9 | 1032073 | 5200 | 5.56 | .75 | .97 | 4.68 | 1.52 | 28.57 | 19.57 | 30.49 | 21.49 | 2.09 | 1.00 | 5.09 | 9.59 |
| 3/4x12 | 1032091 | 5200 | 6.42 | .75 | .97 | 4.68 | 1.52 | 34.57 | 22.57 | 36.49 | 24.49 | 2.09 | 1.00 | 5.09 | 12.59 |
| 3/4x18 | 1032117 | 5200 | 8.14 | .75 | .97 | 4.71 | 1.52 | 46.57 | 28.57 | 48.49 | 30.49 | 2.09 | 1.00 | 5.12 | 18.53 |
| 7/8x12 | 1032135 | 7200 | 9.10 | .88 | 1.16 | 5.50 | 1.77 | 35.68 | 23.68 | 37.91 | 25.91 | 2.38 | 1.25 | 5.79 | 12.16 |
| 7/8x18 | 1032153 | 7200 | 11.6 | .88 | 1.16 | 5.50 | 1.77 | 48.15 | 30.15 | 50.38 | 32.38 | 2.38 | 1.25 | 5.79 | 18.63 |
| 1x6 | 1032171 | 10000 | 10.0 | 1.00 | 1.34 | 6.09 | 2.05 | 25.03 | 19.03 | 27.59 | 21.59 | 3.00 | 1.43 | 6.50 | 6.18 |
| 1x12 | 1032199 | 10000 | 13.4 | 1.00 | 1.34 | 6.09 | 2.05 | 37.03 | 25.03 | 39.59 | 27.59 | 3.00 | 1.43 | 6.50 | 12.18 |
| 1x18 | 1032215 | 10000 | 16.7 | 1.00 | 1.34 | 6.09 | 2.05 | 49.03 | 31.03 | 51.59 | 33.59 | 3.00 | 1.43 | 6.50 | 18.18 |
| 1x24 | 1032233 | 10000 | 20.6 | 1.00 | 1.34 | 6.06 | 2.05 | 61.63 | 37.63 | 64.19 | 40.19 | 3.00 | 1.43 | 6.47 | 24.84 |
| 1-1/4x12 | 1032251 | 15200 | 20.9 | 1.25 | 1.84 | 8.09 | 2.82 | 40.76 | 28.76 | 43.98 | 31.98 | 3.59 | 1.82 | 8.49 | 12.06 |
| 1-1/4x18 | 1032279 | 15200 | 24.8 | 1.25 | 1.84 | 8.09 | 2.82 | 52.76 | 34.76 | 55.98 | 37.98 | 3.59 | 1.82 | 8.49 | 18.06 |
| 1-1/4x24 | 1032297 | 15200 | 28.8 | 1.25 | 1.84 | 8.09 | 2.82 | 65.32 | 41.32 | 68.54 | 44.54 | 3.59 | 1.82 | 8.49 | 24.62 |
| 1-1/2x12 | 1032313 | 21400 | 30.6 | 1.50 | 2.06 | 8.93 | 2.81 | 42.50 | 30.50 | 46.21 | 34.21 | 4.09 | 2.12 | 9.46 | 12.32 |
| 1-1/2x18 | 1032331 | 21400 | 36.0 | 1.50 | 2.06 | 8.93 | 2.81 | 54.50 | 36.50 | 58.21 | 40.21 | 4.09 | 2.12 | 9.46 | 18.32 |
| 1-1/2x24 | 1032359 | 21400 | 41.5 | 1.50 | 2.06 | 8.93 | 2.81 | 67.12 | 43.12 | 70.83 | 46.83 | 4.09 | 2.12 | 9.46 | 24.94 |
| 1-3/4-18 | 1032395 | 28000 | 52.1 | 1.75 | 2.60 | 9.36 | 3.35 | 55.37 | 37.37 | 59.77 | 41.77 | 4.65 | 2.38 | 9.97 | 18.37 |
| 1-3/4x24 | 1032411 | 28000 | 59.7 | 1.75 | 2.60 | 9.36 | 3.35 | 67.37 | 43.37 | 71.77 | 47.77 | 4.65 | 2.38 | 9.97 | 24.37 |
| 2x24 | 1032439 | 37000 | 89.9 | 2.00 | 2.62 | 11.80 | 3.74 | 72.66 | 48.66 | 77.95 | 53.95 | 5.81 | 2.69 | 13.03 | 24.48 |
| 2-1/2x24 | 1032457 | 60000 | 158 | 2.50 | 3.06 | 13.26 | 4.44 | 76.08 | 52.08 | 82.68 | 58.68 | 6.49 | 3.12 | 13.76 | 24.60 |
| 2-3/4x24 | 1032475 | 75000 | 187 | 2.75 | 3.69 | 14.92 | 4.19 | 78.05 | 54.05 | 85.67 | 61.67 | 7.00 | 3.25 | 15.09 | 24.65 |

* Proof Load is 2.5 times the Working Load Limit. Ultimate Load is 5 times Working Load Limit. # Mechanical Galvanized.





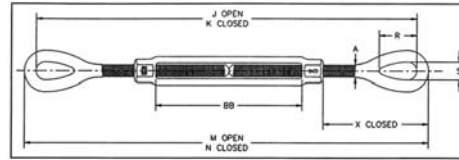
Eye & Eye Turnbuckles



HG-226 Eye & Eye

Meets the performance requirements of Federal Specifications FF-T-791b, Type I, Form 1- CLASS 4, and ASTM F-1145, except for those provisions required of the contractor.

- Hot dip galvanized steel.
- End fittings are Quenched and Tempered or Normalized, bodies heat treated by normalizing.
- Turnbuckle eyes are forged and elongated, by design, to maximize easy attachment in system and minimize stress in the eye. For turnbuckle sizes 1/4" through 2 1/2", a shackle one size smaller can be reeved through eye.
- Modified UNJ thread on end fittings for improved fatigue properties. Body has UNC threads.
- Meets or exceed all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these turnbuckles meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.
- TURNBUCKLES RECOMMENDED FOR STRAIGHT OR IN-LINE PULL ONLY.
- Lock Nuts available for all sizes (see Crosby Catalog).
- Comprehensive end fitting data (see Crosby Catalog).
- Fatigue Rated.



HG-226 Eye & Eye Turnbuckle

| Thread Diameter & Take up (in.) | HG-226 Stock Number | Working Load Limit (lbs)* | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | |
|---------------------------------|---------------------|---------------------------|-------------------|------------------|--------|----------|--------|----------|------|------|----------|-------|--|
| | | | | A | J Open | K Closed | M Open | N Closed | R | S | X Closed | BB | |
| #1/4X4 | 1031252 | 500 | .29 | .25 | 11.94 | 7.94 | 12.38 | 8.38 | .81 | .34 | 1.76 | 4.07 | |
| #5/16X4-1/2 | 1031270 | 800 | .48 | .31 | 13.92 | 9.42 | 14.48 | 9.98 | .95 | .44 | 2.20 | 4.58 | |
| #3/8X6 | 1031298 | 1200 | .75 | .38 | 17.56 | 11.56 | 18.24 | 12.24 | 1.13 | .53 | 2.48 | 6.10 | |
| 1/2x6 | 1031314 | 2200 | 1.72 | .50 | 19.94 | 13.94 | 20.82 | 14.82 | 1.41 | .71 | 3.56 | 6.03 | |
| 1/2x12 | 1031350 | 2200 | 2.63 | .50 | 32.23 | 20.23 | 33.11 | 21.11 | 1.41 | .71 | 3.54 | 12.36 | |
| 5/8x6 | 1031378 | 3500 | 2.75 | .63 | 21.72 | 15.72 | 22.72 | 16.72 | 1.80 | .88 | 4.35 | 6.03 | |
| 5/8x12 | 1031412 | 3500 | 4.12 | .63 | 34.06 | 22.06 | 35.06 | 23.06 | 1.80 | .88 | 4.34 | 12.39 | |
| 3/4x6 | 1031430 | 5200 | 4.22 | .75 | 23.24 | 17.24 | 24.50 | 18.50 | 2.09 | 1.00 | 5.12 | 6.13 | |
| 3/4x12 | 1031476 | 5200 | 6.12 | .75 | 35.64 | 23.64 | 36.90 | 24.90 | 2.09 | 1.00 | 5.09 | 12.59 | |
| 3/4x18 | 1031494 | 5200 | 7.83 | .75 | 47.64 | 29.64 | 48.90 | 30.90 | 2.09 | 1.00 | 5.12 | 18.53 | |
| 7/8x12 | 1031519 | 7200 | 8.83 | .88 | 36.70 | 24.70 | 38.20 | 26.20 | 2.38 | 1.25 | 5.79 | 12.16 | |
| 7/8x18 | 1031537 | 7200 | 11.5 | .88 | 49.17 | 31.17 | 50.67 | 32.67 | 2.38 | 1.25 | 5.79 | 18.63 | |
| 1x6 | 1031555 | 10000 | 9.62 | 1.00 | 26.24 | 20.24 | 28.00 | 22.00 | 3.00 | 1.43 | 6.50 | 6.18 | |
| 1x12 | 1031573 | 10000 | 13.0 | 1.00 | 38.24 | 26.24 | 40.00 | 28.00 | 3.00 | 1.43 | 6.50 | 12.18 | |
| 1x18 | 1031591 | 10000 | 16.3 | 1.00 | 50.24 | 32.24 | 52.00 | 34.00 | 3.00 | 1.43 | 6.50 | 18.18 | |
| 1x24 | 1031617 | 10000 | 20.2 | 1.00 | 62.84 | 38.84 | 64.60 | 40.60 | 3.00 | 1.43 | 6.47 | 24.84 | |
| 1-1/4x12 | 1031635 | 15200 | 19.9 | 1.25 | 42.14 | 30.14 | 44.38 | 32.38 | 3.59 | 1.82 | 8.49 | 12.06 | |
| 1-1/4x18 | 1031653 | 15200 | 23.8 | 1.25 | 54.14 | 36.14 | 56.38 | 38.38 | 3.59 | 1.82 | 8.49 | 18.06 | |
| 1-1/4x24 | 1031671 | 15200 | 27.8 | 1.25 | 66.70 | 42.70 | 68.94 | 44.94 | 3.59 | 1.82 | 8.49 | 24.62 | |
| 1-1/2x12 | 1031699 | 21400 | 28.7 | 1.50 | 44.24 | 32.24 | 46.74 | 34.74 | 4.09 | 2.12 | 9.46 | 12.32 | |
| 1-1/2x18 | 1031715 | 21400 | 34.1 | 1.50 | 56.24 | 38.24 | 58.74 | 40.74 | 4.09 | 2.12 | 9.46 | 18.32 | |
| 1-1/2x24 | 1031733 | 21400 | 39.6 | 1.50 | 68.86 | 44.86 | 71.36 | 47.36 | 4.09 | 2.12 | 9.46 | 24.94 | |
| 1-3/4x18 | 1031779 | 28000 | 50.7 | 1.75 | 57.38 | 39.38 | 60.38 | 42.38 | 4.65 | 2.38 | 9.97 | 18.37 | |
| 1-3/4x24 | 1031797 | 28000 | 58.2 | 1.75 | 69.38 | 45.38 | 72.38 | 48.38 | 4.65 | 2.38 | 9.97 | 24.37 | |
| 2x24 | 1031813 | 37000 | 83.5 | 2.00 | 75.68 | 51.68 | 79.19 | 55.18 | 5.81 | 2.69 | 13.03 | 24.48 | |
| 2-1/2x24 | 1031831 | 60000 | 149 | 2.50 | 79.18 | 55.18 | 83.18 | 59.18 | 6.49 | 3.12 | 13.76 | 24.60 | |
| 2-3/4x24 | 1031859 | 75000 | 174 | 2.75 | 81.34 | 57.34 | 85.84 | 61.84 | 7.00 | 3.25 | 15.09 | 24.65 | |

* Proof Load is 2.5 times the Working Load Limit. Ultimate Load is 5 times Working Load Limit. # Mechanical Galvanized.



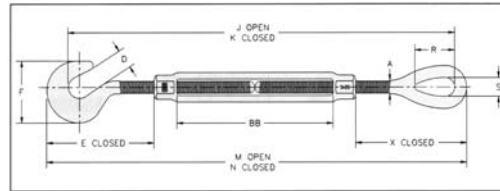
Hook & Eye Turnbuckles



**HG-225
Hook & Eye**

Meets the performance requirements of Federal Specifications FF-T-790b, Type 1, Form 1 - Class 6, and ASTM F-1145 except for those provisions required of the contractor.

- Hot Dip galvanized steel.
- End fittings are Quenched and Tempered or Normalized, bodies heat treated by normalizing.
- Turnbuckle eyes are forged elongated, by design, to maximize easy attachment in system and minimize stress in the eye. For turnbuckle sizes 1/4" through 1", a shackle one size smaller can be reeved through the eye.
- Turnbuckle hooks are forged with a greater cross sectional area that results in a stronger hook with better fatigue properties.
- Meets or exceed all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these turnbuckles meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.
- TURNBUCKLES RECOMMENDED FOR STRAIGHT OR IN-LINE PULL ONLY.
- Modified UNJ thread on end fittings for improved fatigue properties.
- Body has UNC threads.
- Lock Nuts available for all sizes.
- Comprehensive end fitting data provided upon request.
- Fatigue Rated.



HG-225 Hook & Eye Turnbuckle

| Thread Diameter & Take up (in.) | HG-225 Stock Number | Working Load Limit (lbs)* | Weight Each (lbs) | Dimensions (in.) | | | | | | | | | | | |
|---------------------------------|---------------------|---------------------------|-------------------|------------------|------|----------|------|--------|----------|--------|----------|------|------|----------|-------|
| | | | | A | D | E Closed | F | J Open | K Closed | M Open | N Closed | R | S | X Closed | BB |
| +1/4 x 4 | 1030636 | 400 | .31 | .25 | .44 | 1.67 | 1.27 | 11.66 | 7.66 | 12.29 | 8.29 | .81 | .34 | 1.76 | 4.07 |
| +5/16 x 4-1/2 | 1030654 | 700 | .50 | .31 | .50 | 2.00 | 1.50 | 13.50 | 9.00 | 14.28 | 9.78 | .95 | .44 | 2.20 | 4.58 |
| +3/8 x 6 | 1030672 | 1000 | .79 | .38 | .56 | 2.28 | 1.76 | 17.09 | 11.09 | 18.04 | 12.04 | 1.13 | .53 | 2.48 | 6.10 |
| 1/2 x 6 | 1030690 | 1500 | 1.80 | .50 | .65 | 3.53 | 2.28 | 19.57 | 13.57 | 20.79 | 14.79 | 1.41 | .71 | 3.56 | 6.03 |
| 1/2 x 12 | 1030734 | 1500 | 2.70 | .50 | .65 | 3.51 | 2.28 | 31.86 | 19.86 | 33.08 | 21.08 | 1.41 | .71 | 3.54 | 12.36 |
| 5/8 x 6 | 1030752 | 2250 | 2.98 | .63 | .90 | 4.24 | 2.81 | 21.11 | 15.11 | 22.61 | 16.61 | 1.80 | .88 | 4.35 | 6.03 |
| 5/8 x 12 | 1030798 | 2250 | 4.35 | .63 | .90 | 4.23 | 2.81 | 33.45 | 21.45 | 34.95 | 22.95 | 1.80 | .88 | 4.34 | 12.39 |
| 3/4 x 6 | 1030814 | 3000 | 4.21 | .75 | .98 | 5.07 | 3.33 | 22.61 | 16.61 | 24.45 | 18.45 | 2.09 | 1.00 | 5.12 | 6.13 |
| 3/4 x 12 | 1030850 | 3000 | 6.52 | .75 | .98 | 5.04 | 3.33 | 35.01 | 23.01 | 36.85 | 24.85 | 2.09 | 1.00 | 5.09 | 12.59 |
| 3/4 x 18 | 1030878 | 3000 | 8.24 | .75 | .98 | 5.07 | 3.33 | 47.01 | 29.01 | 48.85 | 30.85 | 2.09 | 1.00 | 5.12 | 18.53 |
| 7/8 x 12 | 1030896 | 4000 | 9.34 | .88 | 1.13 | 5.82 | 3.78 | 36.11 | 24.11 | 38.23 | 26.23 | 2.38 | 1.25 | 5.79 | 12.16 |
| 1 x 12 | 1030958 | 5000 | 13.9 | 1.00 | 1.25 | 6.56 | 4.25 | 37.65 | 25.65 | 40.06 | 28.06 | 3.00 | 1.43 | 6.50 | 12.18 |

* Proof Load is 2.5 times Working Load Limit. Ultimate Load is 5 times Working Load Limit. + Mechanical Galvanized.

FITTINGS & BLOCKS



Hoist Rings

En-Guard - Hoist Rings

- Forged High Strength 4140 Alloy Steel Hoist Ring
- Corrosion Resistant Plating - Electroless Nickel (AMS-C-26074 Class 1 Grade B)
- 200% Proof Load Tested (Certificate of Test available upon request)
- Individually Serialized
- Other Standard and Metric Sizes Available
- Customizations Available
- Select Sizes from 800 - 30,000 lbs. WLL In Stock
- Swivels 360°, Pivots 180°
- Easily disassembled & reassembled for inspection
- Complies with ASME-B30.26
- 5:1 Design Factor
- Unlike eye bolts, swivel hoist rings maintain full capacity at 0-90 degrees from the bolt axis
- Manufactured in Valdosta, GA, USA

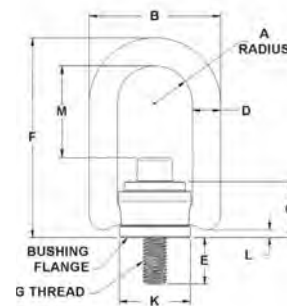


Material: Forged High Strength 4140 Alloy Steel.

Design factor: Minimum Design Factor = 5:1

Specifications: Meets ASME B30.26

Finish: Corrosion Resistant Plating - Electroless Nickel



Inch

| Part Number + | Rated Load (lbs) | A | B | C | D | E +/- .12 | F | G | K | L | M | TL *(ft/lbs) | Weight (lbs) |
|---------------|------------------|------|------|------|------|--------------|------|------------|------|------|------|--------------|--------------|
| EN33212 | 800 | 0.65 | 2.29 | 0.96 | 0.44 | 0.56 | 3.23 | 5/16-18 | 1.25 | 0.15 | 1.51 | 7 | 0.52 |
| EN33312 | 1000 | 0.65 | 2.29 | 0.96 | 0.44 | 0.56 | 3.23 | 3/8-16 | 1.25 | 0.15 | 1.45 | 12 | 0.56 |
| EN33512 | 2500 | 1 | 3.5 | 1.5 | 0.75 | 0.75 | 5.31 | 1/2-13 | 1.89 | 0.17 | 2.56 | 28 | 1.71 |
| EN33614 | 4000 | 1 | 3.5 | 1.5 | 0.75 | 1 | 5.31 | 5/8-11 | 1.89 | 0.17 | 2.44 | 60 | 1.78 |
| EN33714 | 5000 | 1 | 3.5 | 1.5 | 0.75 | 1 | 5.31 | 3/4-10 | 1.89 | 0.17 | 2.31 | 100 | 1.89 |
| EN33102 | 7000 | 1.5 | 5.1 | 2.05 | 1 | 1.20 | 7.37 | 3/4-10 | 2.81 | 0.18 | 3.57 | 100 | 7.23 |
| EN33104 | 8000 | 1.5 | 5.1 | 2.05 | 1 | 0.95 | 7.37 | 7/8-9 | 2.81 | 0.18 | 3.32 | 160 | 7.33 |
| EN33105 | 10000 | 1.5 | 5.1 | 2.05 | 1 | 1.45 | 7.37 | 1" - 8 | 2.81 | 0.18 | 3.2 | 230 | 7.57 |
| EN33402 | 15000 | 2 | 6.75 | 2.87 | 1.25 | 1.88 | 9.22 | 1-1/4" - 7 | 3.88 | 0.18 | 3.74 | 470 | 15.74 |
| EN33424 | 24000 | 2 | 6.75 | 2.87 | 1.25 | 2.63 | 9.22 | 1-1/2" - 6 | 3.88 | 0.32 | 3.49 | 800 | 18.1 |
| +EN33427 | 30000 | 2 | 6.75 | 2.87 | 1.25 | 2.96 | 9.22 | 2" - 4-1/2 | 3.88 | 0.32 | 3.49 | 1100 | 22.9 |

Metric

| Part Number | Rated Load (kg) | A | B | C | D | E +/-3.0 | F | G | K | L | M | TL *(nM) | Weight (kg) |
|-------------|-----------------|------|-------|------|------|-------------|-------|------------|------|-----|------|----------|-------------|
| EN34312 | 450 | 16.5 | 58.2 | 24.4 | 11.1 | 16 | 82 | M10 x 1.5 | 31.8 | 4 | 36.5 | 16 | 0.25 |
| EN34515 | 1050 | 25.4 | 88.9 | 38.1 | 19.1 | 25 | 134.9 | M12 x 1.75 | 48 | 4.4 | 65 | 37 | 0.78 |
| EN34518 | 1500 | 25.4 | 88.9 | 38.1 | 19.1 | 25 | 135.2 | M14 x 2.0 | 48 | 4.4 | 65.3 | 45 | 0.79 |
| EN34614 | 1900 | 25.4 | 88.9 | 38.1 | 19.1 | 25 | 134.9 | M16 x 2.0 | 48 | 4.4 | 62 | 80 | 0.81 |
| 3N34714 | 2200 | 25.4 | 88.9 | 38.1 | 19.1 | 25 | 134.6 | M20 x 2.5 | 48 | 4.4 | 58.7 | 135 | 0.86 |
| EN34102 | 4200 | 35.6 | 129.5 | 52.1 | 25.4 | 28 | 187.2 | M24 x 3.0 | 71.4 | 4.6 | 85.7 | 311 | 3.29 |
| EN34105 | 4500 | 35.6 | 129.5 | 52.1 | 25.4 | 38 | 187.2 | M30 x 3.5 | 71.4 | 4.6 | 79.7 | 311 | 3.44 |

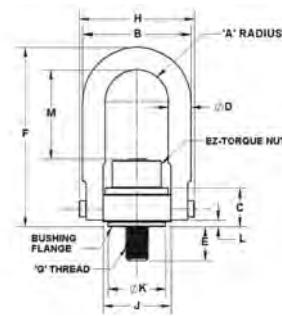
+ Supplied with stud and nut. * Recommended Torque Load. ** Plating threads may subject threads to not meet standard thread tolerances.



EZ-Torque™ Hoist Rings

Exclusively from ADB® - the world's largest manufacturer of Safety Hoist Rings

- ADB®'s EZ-Torque® Hoist Ring eliminates the need of locating and using expensive hydraulic tensioners or torque multipliers.
- For example, a 200,000 lb. WLL Hoist Ring requires the mounting bolt to be torqued to 19,800 lbs-ft. while ADB®'s EZ-Torque® requires only a standard torque wrench and 193 lbs-ft of torque per screw.



FITTINGS & BLOCKS

Inch All dimensions approximate - variations do not effect use or safety factor.

| Part Number | Rated Load (lbs) | A | B | C | D | E +/- .12 | F | G | H | J | K | L | M | TL (ft/lb) | Easy-Torque (ft/lb)* | Weight (lbs) |
|-------------|------------------|------|------|------|-------|-----------|-------|----------|-------|-------|-------|------|-------|------------|----------------------|--------------|
| 23490 | 15,000 | 1.75 | 6.0 | 2.11 | 1 1/4 | 1.89 | 8.73 | 1-1/4"-7 | 6.50 | 3.76 | 3.20 | 0.35 | 3.88 | 470 | 10 | 16.00 |
| 23494 | 24,000 | 2.25 | 8.0 | 2.81 | 1 3/4 | 2.70 | 12.47 | 1-1/2"-6 | 8.55 | 4.87 | 4.20 | 0.47 | 6.12 | 800 | 18 | 37.75 |
| 23290 | 30,000 | 2.25 | 8.0 | 2.81 | 1 3/4 | 2.96 | 12.47 | 2"-4-1/2 | 8.55 | 4.87 | 4.20 | 0.47 | 6.12 | 1100 | 23 | 39.00 |
| 23590 | 50,000 | 3.00 | 10.5 | 4.09 | 2 1/4 | 4.00 | 16.87 | 2-1/2"-8 | 11.67 | 6.52 | 5.75 | 1.12 | 7.73 | 2100 | 49 | 92.00 |
| 23592 | 50,000 | 3.00 | 10.5 | 4.09 | 2 1/4 | 4.00 | 16.87 | 2-1/2"-4 | 11.67 | 6.52 | 5.75 | 1.12 | 7.73 | 2100 | 49 | 92.00 |
| 23690 | 75,000 | 3.75 | 13.0 | 5.27 | 2 3/4 | 5.20 | 19.50 | 3"-4 | 14.15 | 8.10 | 7.25 | 1.00 | 8.53 | 4300 | 92 | 174.60 |
| 23790 | 100,000 | 4.00 | 14.5 | 6.06 | 3 1/4 | 7.00 | 22.09 | 3-1/2"-4 | 15.90 | 8.60 | 7.75 | 1.09 | 9.28 | 6600 | 98 | 246.94 |
| 23792 | 150,000 | 5.00 | 18.0 | 7.50 | 4 | 8.50 | 27.38 | 4 1/4"-4 | 19.69 | 10.75 | 9.87 | 1.33 | 12.93 | 12000 | 123 | 527.00 |
| 23794 | 200,000 | 6.00 | 22.0 | 9.00 | 5 | 9.00 | 33.00 | 5"-4 | 24.00 | 13.00 | 12.38 | 1.88 | 15.00 | 19800 | 193 | 763.00 |
| 23798 | 250,000 | 6.00 | 22.0 | 9.00 | 5 | 9.00 | 33.00 | 6"-4 | 24.00 | 13.00 | 12.38 | 1.88 | 15.00 | 29000 | 207 | 841.00 |

* Recommended Torque Load per each installation bolt. - Larger WLL available upon request.

Metric All dimensions approximate - variations do not effect use or safety factor. Dimensions are in millimeters.

| Part Number | Rated Load (kg) | A | B | C | D | E +/- 3.0 | F | G | H | J | K | L | M | TL (Nm) | EZ-Torque* (Nm)* | Weight (kg) |
|-------------|-----------------|-------|-------|-------|------|-----------|-------|---------|-------|-------|-------|------|-------|---------|------------------|-------------|
| 24490 | 7,000 | 44.5 | 152.4 | 53.6 | 31.8 | 66 | 221.7 | M30x3.5 | 165.1 | 95.5 | 81.3 | 8.9 | 106.3 | 637.2 | 13.5 | 7.26 |
| 24494 | 11,000 | 57.2 | 203.2 | 71.4 | 44.5 | 69 | 316.7 | M36x4.0 | 217.2 | 123.7 | 106.7 | 11.9 | 164.8 | 1085.5 | 20.8 | 17.13 |
| 24498 | 12,500 | 57.2 | 203.2 | 71.4 | 44.5 | 79 | 316.7 | M42x4.5 | 217.2 | 123.7 | 106.7 | 11.9 | 158.8 | 1085.5 | 21.6 | 17.13 |
| 24290 | 13,500 | 57.2 | 203.2 | 71.4 | 44.5 | 79 | 316.7 | M48x5.0 | 217.2 | 123.7 | 106.7 | 11.9 | 152.8 | 1085.5 | 21.3 | 17.69 |
| 24592 | 22,000 | 76.2 | 266.7 | 104.0 | 57.2 | 102 | 428.5 | M64x6.0 | 296.4 | 165.6 | 146.1 | 28.4 | 203.3 | 2847.5 | 53.9 | 41.73 |
| 24690 | 31,500 | 95.2 | 330.2 | 133.9 | 69.8 | 132 | 495.3 | M72x6.0 | 368.3 | 205.7 | 184.1 | 25.4 | 215.4 | 5670.0 | 124.7 | 79.20 |
| 24790 | 51,000 | 101.6 | 368.3 | 153.9 | 82.5 | 178 | 561.1 | M90x6.0 | 403.9 | 218.4 | 196.8 | 27.7 | 235.7 | 9560.0 | 132.8 | 112.01 |

* Recommended Torque Load per each installation bolt. - Larger WLL available upon request.



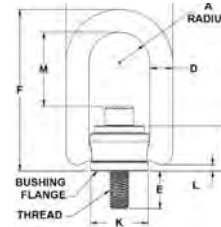
Heavy Duty® Hoist Rings

- **Working Load Limit:** Complete Range through 30,000 lbs.
- **Material:** Forged High Strength 41140 alloy.
- **Range of movement:** Pivot 180°, Swivel 360° Under Load.
- **Design Factor:** Minimum of 5:1.
- Meets Military Specification No. MIL-STD 1365(11) or MIL-STD 209C.
- Meets manufacturing and design requirements of ASME-B30.26 and MIL-STD 209.
- Magnetic Particle Inspected Per ASTM 1444.
- Black oxide coated.
- Each Individually Serial Numbered.

Inch

| Part Number | Rated Load | A | B | C | D | E +/- .12 | F | G | K | L | M | TL* ft/lb | Weight (lbs) |
|-------------|------------|------|------|------|------|-----------|------|----------|------|------|------|-----------|--------------|
| 33112 | 550 | .65 | 2.29 | .96 | .44 | .56 | 3.23 | 1/4-20 | 1.25 | 0.15 | 1.57 | 5 | .50 |
| 33212 | 800 | .65 | 2.29 | .96 | .44 | .56 | 3.23 | 5/16-18 | 1.25 | 0.15 | 1.51 | 7 | .52 |
| 33213 | 800 | .65 | 2.29 | .96 | .44 | .56 | 3.23 | 5/16-24 | 1.25 | 0.15 | 1.51 | 7 | .52 |
| 33314 | 800 | .65 | 2.29 | .96 | .44 | 1.06 | 3.23 | 5/16-18 | 1.25 | 0.15 | 1.51 | 7 | .54 |
| 33312 | 1000 | .65 | 2.29 | .96 | .44 | .56 | 3.23 | 3/8-16 | 1.25 | 0.15 | 1.45 | 12 | .56 |
| 33313 | 1000 | .65 | 2.29 | .96 | .44 | .56 | 3.23 | 3/8-24 | 1.25 | 0.15 | 1.45 | 12 | .56 |
| 33514 | 1000 | .65 | 2.29 | .96 | .44 | 1.06 | 3.23 | 3/8-16 | 1.25 | 0.15 | 1.45 | 12 | .58 |
| 33316 | 2500 | .65 | 2.29 | .96 | .44 | 1.06 | 3.23 | 1/2-13 | 1.25 | 0.15 | 1.45 | 25 | .60 |
| 33317 | 2500 | .65 | 2.29 | .96 | .44 | 1.06 | 3.23 | 1/2-20 | 1.25 | 0.15 | 1.45 | 25 | .60 |
| 33512 | 2500 | 1.00 | 3.50 | 1.50 | .75 | .75 | 5.31 | 1/2-13 | 1.89 | 0.17 | 2.56 | 28 | 1.71 |
| *33513 | 2500 | 1.00 | 3.50 | 1.50 | .75 | .75 | 6.87 | 1/2-13 | 1.89 | 0.17 | 4.12 | 28 | 2.04 |
| 33515 | 2500 | 1.00 | 3.50 | 1.50 | .75 | 1.00 | 5.31 | 1/2-13 | 1.89 | 0.17 | 2.56 | 28 | 1.72 |
| *33505 | 2500 | 1.00 | 3.50 | 1.50 | .75 | 1.00 | 6.87 | 1/2-13 | 1.89 | 0.17 | 4.12 | 28 | 2.05 |
| 33516 | 2500 | 1.00 | 3.50 | 1.50 | .75 | 1.25 | 5.31 | 1/2-13 | 1.89 | 0.17 | 2.56 | 28 | 1.82 |
| *33517 | 2500 | 1.00 | 3.50 | 1.50 | .75 | 1.25 | 6.87 | 1/2-13 | 1.89 | 0.17 | 4.12 | 28 | 2.15 |
| 33612 | 4000 | 1.00 | 3.50 | 1.50 | .75 | .75 | 5.31 | 5/8-11 | 1.89 | 0.17 | 2.44 | 60 | 1.76 |
| *33613 | 4000 | 1.00 | 3.50 | 1.50 | .75 | .75 | 6.87 | 5/8-11 | 1.89 | 0.17 | 4 | 60 | 2.09 |
| 33614 | 4000 | 1.00 | 3.50 | 1.50 | .75 | 1.00 | 5.31 | 5/8-11 | 1.89 | 0.17 | 2.44 | 60 | 1.78 |
| *33604 | 4000 | 1.00 | 3.50 | 1.50 | .75 | 1.00 | 6.87 | 5/8-11 | 1.89 | 0.17 | 4 | 60 | 2.11 |
| 33615 | 4000 | 1.00 | 3.50 | 1.50 | .75 | 1.25 | 5.31 | 5/8-11 | 1.89 | 0.17 | 2.44 | 60 | 1.88 |
| *33616 | 4000 | 1.00 | 3.50 | 1.50 | .75 | 1.25 | 6.87 | 5/8-11 | 1.89 | 0.17 | 4 | 60 | 2.21 |
| 33714 | 5000 | 1.00 | 3.50 | 1.50 | .75 | 1.00 | 5.31 | 3/4-10 | 1.89 | 0.17 | 2.31 | 100 | 1.89 |
| *33715 | 5000 | 1.00 | 3.50 | 1.50 | .75 | 1.00 | 6.87 | 3/4-10 | 1.89 | 0.17 | 3.87 | 100 | 2.22 |
| 33716 | 5000 | 1.00 | 3.50 | 1.50 | .75 | 1.50 | 5.31 | 3/4-10 | 1.89 | 0.17 | 2.31 | 100 | 202 |
| *33717 | 5000 | 1.00 | 3.50 | 1.50 | .75 | 1.50 | 6.87 | 3/4-10 | 1.89 | 0.17 | 3.87 | 100 | 2.35 |
| 33108 | 7000 | 1.40 | 5.10 | 2.05 | 1.00 | .95 | 7.37 | 3/4-10 | 2.81 | 0.18 | 3.57 | 100 | 7.20 |
| *33168 | 7000 | 1.40 | 5.10 | 2.05 | 1.00 | .95 | 9.00 | 3/4-10 | 2.81 | 0.18 | 5.20 | 100 | 7.93 |
| 33102 | 7000 | 1.40 | 5.10 | 2.05 | 1.00 | 1.20 | 7.37 | 3/4-10 | 2.81 | 0.18 | 3.57 | 100 | 7.23 |
| *33162 | 7000 | 1.40 | 5.10 | 2.05 | 1.00 | 1.20 | 9.00 | 3/4-10 | 2.81 | 0.18 | 5.20 | 100 | 7.96 |
| 33103 | 7000 | 1.40 | 5.10 | 2.05 | 1.00 | 1.45 | 7.37 | 3/4-10 | 2.81 | 0.18 | 3.57 | 100 | 7.25 |
| *33163 | 7000 | 1.40 | 5.10 | 2.05 | 1.00 | 1.45 | 9.00 | 3/4-10 | 2.81 | 0.18 | 5.20 | 100 | 7.98 |
| 33104 | 8000 | 1.40 | 5.10 | 2.05 | 1.00 | .95 | 7.37 | 7/8-9 | 2.81 | 0.18 | 3.32 | 160 | 7.33 |
| *33164 | 8000 | 1.40 | 5.10 | 2.05 | 1.00 | .95 | 9.00 | 7/8-9 | 2.81 | 0.18 | 4.95 | 160 | 8.06 |
| 33101 | 8000 | 1.40 | 5.10 | 2.05 | 1.00 | 1.20 | 7.37 | 7/8-9 | 2.81 | 0.18 | 3.32 | 160 | 7.33 |
| *33161 | 8000 | 1.40 | 5.10 | 2.05 | 1.00 | 1.20 | 9.00 | 7/8-9 | 2.81 | 0.18 | 4.95 | 160 | 8.06 |
| 33105 | 10000 | 1.40 | 5.10 | 2.05 | 1.00 | 1.45 | 7.37 | 1"-8 | 2.81 | 0.18 | 3.20 | 230 | 7.57 |
| *33165 | 10000 | 1.40 | 5.10 | 2.05 | 1.00 | 1.45 | 9.00 | 1"-8 | 2.81 | 0.18 | 4.82 | 230 | 8.30 |
| 33106 | 10000 | 1.40 | 5.10 | 2.05 | 1.00 | 1.20 | 7.37 | 1"-8 | 2.81 | 0.18 | 3.20 | 230 | 7.63 |
| *33166 | 10000 | 1.40 | 5.10 | 2.05 | 1.00 | 1.20 | 9.00 | 1"-8 | 2.81 | 0.18 | 4.82 | 230 | 8.36 |
| 33107 | 10000 | 1.40 | 5.10 | 2.05 | 1.00 | 2.20 | 7.37 | 1"-8 | 2.81 | 0.18 | 3.20 | 230 | 7.81 |
| *33167 | 10000 | 1.40 | 5.10 | 2.05 | 1.00 | 2.20 | 9.00 | 1"-8 | 2.81 | 0.18 | 4.82 | 230 | 8.54 |
| 33402 | 15000 | 2.00 | 6.75 | 2.87 | 1.25 | 1.88 | 9.22 | 1 1/4"-7 | 3.88 | 0.32 | 3.74 | 470 | 15.74 |
| 33401 | 15000 | 2.00 | 6.75 | 2.87 | 1.25 | 2.63 | 9.22 | 1 1/4"-7 | 3.88 | 0.32 | 3.74 | 470 | 16.0 |
| +33420 | 20000 | 2.00 | 6.75 | 2.87 | 1.25 | 2.63 | 9.22 | 1 3/8"-6 | 3.88 | 0.32 | 3.62 | 670 | 17.2 |
| 33424 | 24000 | 2.00 | 6.75 | 2.87 | 1.25 | 2.63 | 9.22 | 1 1/2"-6 | 3.88 | 0.32 | 3.49 | 800 | 18.1 |
| +33427 | 30000 | 2.00 | 6.75 | 2.87 | 1.25 | 2.96 | 9.22 | 2" 4-1/2 | 3.88 | 0.32 | 3.49 | 1100 | 22.9 |
| +33432 | 30000 | 2.00 | 6.75 | 2.87 | 1.25 | 2.96 | 9.22 | 2"-8 | 3.88 | 0.32 | 3.49 | 1100 | 22.9 |

+ Supplied with stud and nut - Long Bar Models * Recommended Torque Load
 For load ranges of 50,000 to 250,000 lbs. refer to our Safety Engineered Hoist Rings.
 Heavy Duty® Hoist Rings are completely Interchangeable with Safety Engineered Hoist Rings.

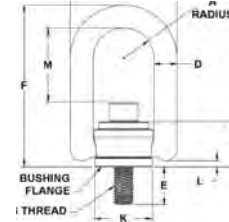




Heavy Duty Hoist Rings - METRIC



- **Material:** Forged High strength 4140 alloy steel.
- **Range of Movement:** Pivot 180°, Swivel 360° Under Load.
- **Minimum Design Factor** is 5:1 .
- Meets manufacturing and design requirements of ASME-B30.26 and MIL-STD 209.
- Magnetic Particle Inspected Per ASTM 1444.
- Black oxide coated.
- Each Individually Serial Numbered.



Metric

| Part Number | Rated Load (kg) | A | B | C | D | E +/- 3.0 | F | G | K | L | M | TL* (Nm) | Weight (kg) |
|-------------|-----------------|------|-------|------|------|-----------|-------|-----------|------|-----|-------|----------|-------------|
| 34212 | 400 | 16.5 | 58.2 | 24.4 | 11.1 | 16 | 82.0 | M8x1.25 | 31.8 | 4.0 | 38.5 | 9.5 | .24 |
| 34214 | 400 | 16.5 | 58.2 | 24.4 | 11.1 | 21 | 82.0 | M8x1.25 | 31.8 | 4.0 | 38.5 | 9.5 | .25 |
| 34312 | 450 | 16.5 | 58.2 | 24.4 | 11.1 | 16 | 82.0 | M10x1.5 | 31.8 | 4.0 | 36.5 | 16.0 | .25 |
| 34314 | 450 | 16.5 | 58.2 | 24.4 | 11.1 | 26 | 82.0 | M10x1.5 | 31.8 | 4.0 | 36.5 | 16.0 | .26 |
| 34515 | 1050 | 25.4 | 88.9 | 38.1 | 19.1 | 25 | 134.9 | M12x1.75 | 48.0 | 4.4 | 65.0 | 37.0 | .78 |
| *34505 | 1050 | 25.4 | 88.9 | 38.1 | 19.1 | 25 | 174.6 | M12x1.75 | 48.0 | 4.4 | 104.7 | 37.0 | .93 |
| 34516 | 1050 | 25.4 | 88.9 | 38.1 | 19.1 | 32 | 134.9 | M12x1.75 | 48.0 | 4.4 | 65.0 | 37.0 | .83 |
| *34517 | 1050 | 25.4 | 88.9 | 38.1 | 19.1 | 32 | 174.6 | M12x1.75 | 48.0 | 4.4 | 101.7 | 37.0 | .98 |
| 34518 | 1500 | 25.4 | 88.9 | 38.1 | 19.1 | 25 | 135.2 | M14x2.0 | 48.0 | 4.4 | 65.3 | 45.0 | .79 |
| *34519 | 1500 | 25.4 | 88.9 | 38.1 | 19.1 | 25 | 174.9 | M14x2.0 | 48.0 | 4.4 | 105.0 | 45.0 | .95 |
| 34520 | 1500 | 25.4 | 88.9 | 38.1 | 19.1 | 32 | 135.2 | M14x2.0 | 48.0 | 4.4 | 65.3 | 45.0 | .84 |
| *34521 | 1500 | 25.4 | 88.9 | 38.1 | 19.1 | 32 | 174.9 | M14 x 2.0 | 48.0 | 4.4 | 105.0 | 45.0 | .98 |
| 34614 | 1900 | 25.4 | 88.9 | 38.1 | 19.1 | 25 | 134.9 | M16x2.0 | 48.0 | 4.4 | 62.0 | 80.0 | .81 |
| *34604 | 1900 | 25.4 | 88.9 | 38.1 | 19.1 | 25 | 174.6 | M16x2.0 | 48.0 | 4.4 | 101.7 | 80.0 | .96 |
| 34615 | 1900 | 25.4 | 88.9 | 38.1 | 19.1 | 32 | 134.9 | M16x2.0 | 48.0 | 4.4 | 62.0 | 80.0 | .85 |
| *34616 | 1900 | 25.4 | 88.9 | 38.1 | 19.1 | 32 | 174.6 | M16x2.0 | 48.0 | 4.4 | 101.7 | 80.0 | 1.00 |
| 34714 | 2200 | 25.4 | 88.9 | 38.1 | 19.1 | 25 | 134.9 | M20x2.5 | 48.0 | 4.4 | 58.7 | 135.0 | .86 |
| *34715 | 2200 | 25.4 | 88.9 | 38.1 | 19.1 | 25 | 174.6 | M20x2.5 | 48.0 | 4.4 | 98.4 | 135.0 | 1.01 |
| 34716 | 2200 | 25.4 | 88.9 | 38.1 | 19.1 | 38 | 134.9 | M20x2.5 | 48.0 | 4.4 | 58.7 | 135.0 | .92 |
| *34717 | 2200 | 25.4 | 88.9 | 38.1 | 19.1 | 38 | 174.6 | M20x2.5 | 48.0 | 4.4 | 98.4 | 135.0 | 1.07 |
| 34101 | 3000 | 35.6 | 129.5 | 52.1 | 25.4 | 28 | 187.2 | M20x2.5 | 71.4 | 4.6 | 89.7 | 135.0 | 3.14 |
| *34161 | 3000 | 35.6 | 129.5 | 52.1 | 25.4 | 28 | 228.6 | M20x2.5 | 71.4 | 4.6 | 131.1 | 135.0 | 3.47 |
| 34102 | 4200 | 35.6 | 129.5 | 52.1 | 25.4 | 28 | 187.2 | M24x3.0 | 71.4 | 4.6 | 85.7 | 311.0 | 3.29 |
| *34162 | 4200 | 35.6 | 129.5 | 52.1 | 25.4 | 28 | 228.6 | M24x3.0 | 71.4 | 4.6 | 127.1 | 311.0 | 3.62 |
| 34103 | 4200 | 35.6 | 129.5 | 52.1 | 25.4 | 38 | 187.2 | M24x3.0 | 71.4 | 4.6 | 85.7 | 311.0 | 3.30 |
| *34163 | 4200 | 35.6 | 129.5 | 52.1 | 25.4 | 38 | 228.6 | M24x3.0 | 71.4 | 4.6 | 127.1 | 311.0 | 3.63 |
| 34105 | 4500 | 35.6 | 129.5 | 52.1 | 25.4 | 38 | 187.2 | M30x3.5 | 71.4 | 4.6 | 79.7 | 311.0 | 3.44 |
| *34165 | 4500 | 35.6 | 129.5 | 52.1 | 25.4 | 38 | 228.6 | M30x3.5 | 71.4 | 4.6 | 79.7 | 311.0 | 3.55 |
| 34107 | 4500 | 35.6 | 129.5 | 52.1 | 25.4 | 48 | 187.2 | M30x3.5 | 71.4 | 4.6 | 79.7 | 311.0 | 3.55 |
| *34167 | 4500 | 35.6 | 129.5 | 52.1 | 25.4 | 48 | 228.6 | M30x3.5 | 71.4 | 4.6 | 121.1 | 311.0 | 3.88 |
| 34401 | 7000 | 50.8 | 171.5 | 72.9 | 31.8 | 67 | 234.2 | M30x3.5 | 98.5 | 8.2 | 95.0 | 637.2 | 7.26 |
| 34402 | 11000 | 50.8 | 171.5 | 72.9 | 31.8 | 67 | 234.2 | M36x4.0 | 98.5 | 8.2 | 88.6 | 1085.5 | 8.21 |
| +34403 | 12500 | 50.8 | 171.5 | 72.9 | 31.8 | 80 | 234.2 | M42x4.5 | 98.5 | 8.2 | 88.6 | 1085.5 | 10.14 |
| +34404 | 13500 | 50.8 | 171.5 | 72.9 | 31.8 | 80 | 234.2 | M48x5.0 | 98.5 | 8.2 | 88.6 | 1085.5 | 10.59 |
| +34406 | 13500 | 50.8 | 171.5 | 72.9 | 31.8 | 88 | 234.2 | M56x5.5 | 98.5 | 8.2 | 88.6 | 1085.5 | 11.03 |

+ Supplied with stud and nut * Long Bar Models. Replacement screws are available.

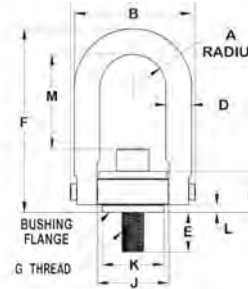
FITTINGS & BLOCKS



Safety Engineered Hoist Rings - Stainless Steel



- Material: 300 Series Stainless Steel
- Design Factor: 5:1
- Range of Movement: Swivel 360°, Pivot 80° Under Load
- NDT: Liquid Penetrant Tested Per ASTM-E 1417
- Purification Process: Clean & Passivate Per ASTM-A967
- Typical Applications: Use Stainless for Corrosive, Cryogenic or Elevated Temperature Environments
- All dimensions approximate - variations do not affect use or design factor
- Each individually Serial Numbered



Patent No. 5,848,815

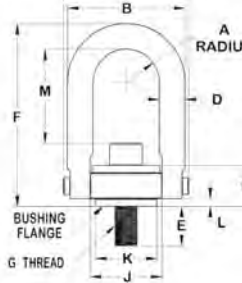
Inch

| Part Number | Rated Load (lbs) | A | B | C | D | E +/- .12 | F | G | H | J | K | L | M | TL* (ft/lbs) | Weight (lbs) |
|-------------|------------------|------|-------|------|-------|--------------|-------|----------|-------|------|------|------|------|-----------------|---------------|
| 29050 | 275 | .43 | 1.61 | .71 | 3/8 | .54 | 2.67 | 1/4-20 | 1.84 | 1.00 | .75 | .17 | 1.33 | 2.5 | 5 oz. |
| 29051 | 400 | .43 | 1.61 | .71 | 3/8 | .29 | 2.67 | 5/16-18 | 1.84 | 1.00 | .75 | .17 | 1.27 | 3.5 | 5 oz. |
| 29052 | 400 | .43 | 1.61 | .71 | 3/8 | .54 | 2.67 | 5/16-18 | 1.84 | 1.00 | .75 | .17 | 1.27 | 3.5 | 5 oz. |
| 29053 | 500 | .43 | 1.61 | .71 | 3/8 | .54 | 2.67 | 3/8-16 | 1.84 | 1.00 | .75 | .17 | 1.21 | 6 | 5 oz. |
| 29301 | 1250 | .70 | 2.40 | .93 | 1/2 | 1.07 | 3.77 | 1/2-13 | 2.58 | 1.49 | 1.25 | .20 | 1.84 | 14 | 1 lb. |
| 29004 | 1250 | .88 | 3.25 | 1.22 | 3/4 | .78 | 4.78 | 1/2-13 | 3.52 | 1.99 | 1.50 | .16 | 2.31 | 14 | 2 lb. 5 oz. |
| *29322 | 1250 | .88 | 3.25 | 1.22 | 3/4 | .78 | 6.72 | 1/2-13 | 3.52 | 1.99 | 1.50 | .16 | 4.25 | 14 | 2 lb. 12 oz. |
| 29005 | 1250 | .88 | 3.25 | 1.22 | 3/4 | 1.03 | 4.78 | 1/2-13 | 3.52 | 1.99 | 1.50 | .16 | 2.31 | 14 | 2 lb. 5 oz. |
| *29323 | 1250 | .88 | 3.25 | 1.22 | 3/4 | 1.03 | 6.72 | 1/2-13 | 3.52 | 1.99 | 1.50 | .16 | 4.25 | 14 | 2 lb. |
| 29006 | 1250 | .88 | 3.25 | 1.22 | 3/4 | 1.28 | 4.78 | 1/2-13 | 3.52 | 1.99 | 1.50 | .16 | 2.31 | 14 | 2 lb. 5 oz. |
| *29324 | 1250 | .88 | 3.25 | 1.22 | 3/4 | 1.28 | 6.72 | 1/2-13 | 3.52 | 1.99 | 1.50 | .16 | 4.25 | 14 | 2 lb. 12 oz. |
| 29001 | 2000 | .88 | 3.25 | 1.22 | 3/4 | .78 | 4.78 | 5/8-11 | 3.52 | 1.99 | 1.50 | .16 | 2.18 | 30 | 2 lb. 7 oz. |
| 29002 | 2000 | .88 | 3.25 | 1.22 | 3/4 | 1.03 | 4.78 | 5/8-11 | 3.52 | 1.99 | 1.50 | .16 | 2.18 | 30 | 2 lb. 7 oz. |
| *29320 | 2000 | .88 | 3.25 | 1.22 | 3/4 | 1.03 | 6.72 | 5/8-11 | 3.52 | 1.99 | 1.50 | .16 | 4.12 | 30 | 2 lb. 14 oz. |
| 29003 | 2000 | .88 | 3.25 | 1.22 | 3/4 | 1.28 | 4.78 | 5/8-11 | 3.52 | 1.99 | 1.50 | .16 | 2.18 | 30 | 2 lb. 7 oz. |
| *29321 | 2000 | .88 | 3.25 | 1.22 | 3/4 | 1.28 | 6.72 | 5/8-11 | 3.52 | 1.99 | 1.50 | .16 | 4.12 | 30 | 2 lb. 14 oz. |
| 29007 | 2500 | .88 | 3.25 | 1.22 | 3/4 | 1.03 | 4.78 | 3/4-10 | 3.52 | 1.99 | 1.50 | .16 | 2.06 | 50 | 2 lb. 9 oz. |
| *29325 | 2500 | .88 | 3.25 | 1.22 | 3/4 | 1.03 | 6.72 | 3/4-10 | 3.52 | 1.99 | 1.50 | .06 | 4.00 | 50 | 3 lb. |
| 29009 | 2500 | .88 | 3.25 | 1.22 | 3/4 | 1.53 | 4.78 | 3/4-10 | 3.52 | 1.99 | 1.50 | .16 | 2.06 | 50 | 2 lb. 9 oz. |
| *29327 | 2500 | .88 | 3.25 | 1.22 | 3/4 | 1.53 | 6.72 | 3/4-10 | 3.52 | 1.99 | 1.50 | .16 | 4.00 | 50 | 3 lb. |
| 29102 | 3500 | 1.40 | 4.80 | 1.71 | 1" | 1.04 | 6.52 | 3/4-10 | 5.14 | 3.00 | 2.37 | .24 | 3.06 | 50 | 6 lb. 10 oz. |
| *29329 | 3500 | 1.40 | 4.80 | 1.71 | 1" | 1.04 | 8.11 | 3/4-10 | 5.14 | 3.00 | 2.37 | .24 | 4.65 | 50 | 7 lb. 4 oz. |
| 29103 | 3500 | 1.40 | 4.80 | 1.71 | 1" | 1.54 | 6.52 | 3/4-10 | 5.14 | 3.00 | 2.37 | .24 | 3.06 | 50 | 6 lb. 10 oz. |
| *29330 | 3500 | 1.40 | 4.80 | 1.71 | 1" | 1.54 | 8.11 | 3/4-10 | 5.14 | 3.00 | 2.37 | .24 | 4.65 | 50 | 6 lb. 10 oz. |
| 29101 | 4000 | 1.40 | 4.80 | 1.71 | 1" | 1.04 | 6.52 | 7/8-9 | 5.14 | 3.00 | 2.37 | .24 | 2.93 | 80 | 6 lb. 12 oz. |
| *29328 | 4000 | 1.40 | 4.80 | 1.71 | 1" | 1.04 | 8.11 | 7/8-9 | 5.14 | 3.00 | 2.37 | .24 | 4.52 | 80 | 6 lb. 12 oz. |
| 29105 | 5000 | 1.40 | 4.80 | 1.71 | 1" | 1.29 | 6.52 | 1"-8 | 5.14 | 3.00 | 2.37 | .24 | 2.81 | 115 | 7 lb. |
| *29331 | 5000 | 1.40 | 4.80 | 1.71 | 1" | 1.29 | 8.11 | 1"-8 | 5.14 | 3.00 | 2.37 | .24 | 4.40 | 115 | 7 lb. |
| 29106 | 5000 | 1.40 | 4.80 | 1.71 | 1" | 1.54 | 6.52 | 1"-8 | 5.14 | 3.00 | 2.37 | .24 | 2.81 | 115 | 7 lb. |
| *29332 | 5000 | 1.40 | 4.80 | 1.71 | 1" | 1.54 | 8.11 | 1"-8 | 5.14 | 3.00 | 2.37 | .24 | 4.40 | 115 | 7 lb. |
| 29107 | 5000 | 1.40 | 4.80 | 1.71 | 1" | 2.29 | 6.52 | 1"-8 | 5.14 | 3.00 | 2.37 | .24 | 2.81 | 115 | 7 lb. |
| *29333 | 5000 | 1.40 | 4.80 | 1.71 | 1" | 2.29 | 8.11 | 1"-8 | 5.14 | 3.00 | 2.37 | .24 | 4.40 | 115 | 7 lb. |
| 29401 | 7500 | 1.75 | 6.00 | 2.11 | 1-1/4 | 1.89 | 8.73 | 1-1/4"-7 | 6.50 | 3.76 | 3.20 | .35 | 4.12 | 235 | 14 lb. |
| 29202 | 12000 | 2.25 | 8.00 | 2.81 | 1-3/4 | 2.70 | 12.47 | 1-1/2"-6 | 8.55 | 4.87 | 4.20 | .47 | 6.41 | 400 | 33 lb. 12 oz. |
| +29200 | 15000 | 2.25 | 8.00 | 2.81 | 1-3/4 | 2.96 | 12.47 | 2"-4-1/2 | 8.55 | 4.87 | 4.20 | .47 | 5.41 | 400 | 36 lb. |
| +29501 | 25000 | 3.00 | 10.50 | 4.09 | 2-1/4 | 4.00 | 16.87 | 2-1/2"-8 | 11.67 | 6.52 | 5.75 | 1.12 | 8.03 | 1050 | 87 lb. 8 oz. |
| +29503 | 25000 | 3.00 | 10.50 | 4.09 | 2-1/4 | 4.00 | 16.87 | 2-1/2"-4 | 11.67 | 6.52 | 5.75 | 1.12 | 8.03 | 1050 | 87 lb. 8 oz. |
| +29600 | 37500 | 3.75 | 13.00 | 5.27 | 2-3/4 | 5.20 | 19.50 | 3"-4 | 14.15 | 8.10 | 7.25 | 1.00 | 8.48 | 2150 | 166 lb. |
| +29701 | 5000 | 4.00 | 14.50 | 6.06 | 3-1/4 | 7.00 | 22.09 | 3-1/2"-4 | 15.90 | 8.60 | 7.75 | 1.09 | 9.28 | 3300 | 240 lb. |

+ Supplied with stud and nut. * Recommended Torque Load.



Safety Engineered Hoist Rings -Stainless Steel Metric



Patent No. 5,848,815

- Hoist Ring Material: 300 Series Stainless Steel
- Design Factor: 5:1
- Range of Movement: Swivel 360°, Pivot 180° Under Load
- NDT: Liquid Penetrant Tested Per ASTM-E 1417
- Purification Process: Clean & Passivate Per ASTM-A967
- Typical Applications: Use Stainless for Corrosive, Cryogenic or Elevated Temperature Environments
- Each Individually Serial Numbered



Metric

| Part Number | Rated Load (kg) | A | B | C | D | E +/- 3.0 | F | G | H | J | K | L | M | TL* (Nm) | Weight (kg) |
|-------------|-----------------|------|-------|-------|------|-----------|-------|----------|-------|-------|-------|------|-------|----------|-------------|
| 29808 | 200 | 10.9 | 40.9 | 48.0 | 9.5 | 17 | 67.8 | M8x1.25 | 46.7 | 25.4 | 19.1 | 4.3 | 32.1 | 4.75 | 0.14 |
| 29810 | 225 | 10.9 | 40.9 | 18.0 | 9.5 | 17 | 67.8 | M10x1.5 | 46.7 | 25.4 | 19.1 | 4.3 | 30.2 | 8.0 | 0.14 |
| 29812 | 525 | 22.4 | 82.5 | 31.0 | 19.0 | 19 | 121.4 | M12x1.75 | 89.4 | 50.5 | 38.0 | 4.1 | 59.4 | 18.5 | 1.05 |
| *29814 | 525 | 22.4 | 82.5 | 31.0 | 19.0 | 19 | 170.6 | M12x1.75 | 89.4 | 50.5 | 38.0 | 4.1 | 108.6 | 18.5 | 1.27 |
| 29816 | 950 | 22.4 | 82.5 | 31.0 | 19.0 | 24 | 121.4 | M16x2.0 | 89.4 | 50.5 | 38.0 | 4.1 | 55.4 | 40.0 | 1.11 |
| *29818 | 950 | 22.4 | 82.5 | 31.0 | 19.0 | 24 | 170.6 | M16x2.0 | 89.4 | 50.5 | 38.0 | 4.1 | 104.4 | 40.0 | 1.33 |
| 29820 | 1100 | 22.4 | 82.5 | 31.0 | 19.0 | 30 | 121.4 | M20x2.5 | 89.4 | 50.5 | 38.0 | 4.1 | 51.4 | 67.5 | 1.16 |
| *29821 | 1100 | 22.4 | 82.5 | 31.0 | 19.0 | 30 | 170.6 | M20x2.5 | 89.4 | 50.5 | 38.0 | 4.1 | 100.6 | 67.5 | 1.38 |
| 29822 | 1500 | 35.6 | 121.2 | 43.4 | 25.4 | 29 | 165.8 | M20x2.5 | 130.5 | 76.2 | 58.7 | 6.1 | 77.0 | 67.5 | 3.06 |
| *29823 | 1500 | 35.6 | 121.2 | 43.4 | 25.4 | 29 | 206.7 | M20x2.5 | 130.5 | 76.2 | 58.7 | 6.1 | 117.9 | 67.5 | 3.77 |
| 29824 | 2100 | 35.6 | 121.2 | 43.4 | 25.4 | 34 | 165.8 | M24x3.0 | 130.5 | 76.2 | 58.7 | 6.1 | 73.0 | 155.5 | 3.18 |
| *29826 | 2100 | 35.6 | 121.2 | 43.4 | 25.4 | 34 | 206.7 | M24x3.0 | 130.5 | 76.2 | 58.7 | 6.1 | 113.9 | 155.5 | 3.89 |
| 29830 | 2250 | 35.6 | 121.2 | 43.4 | 25.4 | 54 | 165.8 | M30x3.5 | 130.5 | 76.2 | 58.7 | 6.1 | 67.0 | 155.5 | 3.30 |
| *29832 | 2250 | 35.6 | 121.2 | 43.4 | 25.4 | 54 | 206.7 | M30x3.5 | 130.5 | 76.2 | 58.7 | 6.1 | 109.9 | 155.5 | 4.01 |
| 29840 | 3500 | 44.5 | 152.4 | 53.6 | 31.8 | 46 | 221.7 | M30x3.5 | 165.1 | 95.5 | 81.3 | 8.9 | 106.3 | 318.6 | 6.36 |
| +29842 | 3500 | 44.5 | 152.4 | 53.6 | 31.8 | 66 | 221.7 | M30x3.5 | 165.1 | 95.5 | 81.3 | 8.9 | 106.3 | 318.6 | 6.70 |
| +29850 | 5500 | 57.2 | 203.2 | 71.4 | 44.5 | 69 | 316.7 | M36x4.0 | 217.2 | 123.7 | 106.7 | 11.9 | 164.8 | 542.7 | 15.34 |
| +29852 | 6250 | 57.2 | 203.2 | 71.4 | 44.5 | 79 | 316.7 | M42x4.5 | 217.2 | 123.7 | 109.7 | 11.9 | 158.8 | 542.7 | 15.91 |
| +29854 | 7250 | 57.2 | 203.2 | 71.4 | 44.5 | 79 | 316.7 | M48x5.0 | 217.2 | 123.7 | 106.7 | 11.9 | 152.8 | 542.7 | 16.36 |
| +29860 | 11000 | 76.2 | 266.7 | 104.0 | 57.2 | 102 | 428.5 | M64x6.0 | 296.4 | 165.6 | 146.1 | 28.4 | 203.3 | 1423.7 | 39.77 |

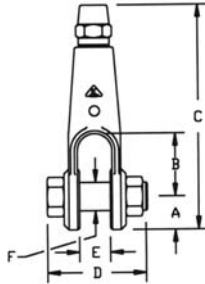
+ Supplied with stud and nut. * Recommended Torque Load. - Long Bar Models.
Note: Dimensions are in millimeters.

FITTINGS & BLOCKS



Electroline Fittings

Open Forged Socket

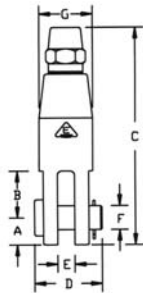


Forged Series: Clevis Socket Specifications

| Rope Size | Self- Colored Steel PIN # | Galvanized Steel | A | B | C | D | E | F |
|-----------|---------------------------|------------------|---------|--------|----------|---------|---------|---------|
| 1/4 | IGD-125-N | GD-125-V* | 9/16 | 1-3/8 | 4-1/4 | 1-23/32 | 17/32 | 1/2 |
| 5/16 | IGD-131-N | GD-131-V* | 13/16 | 1-1/2 | 5-5/16 | 2-5/32 | 11/16 | 5/8 |
| 3/8 | IGD-137-N | GD-137-V* | 13/16 | 1-1/2 | 5-5/16 | 2-5/32 | 11/16 | 5/8 |
| 7/16 | GD-143-N | GD-143-X | 1-1/16 | 2 | 7-3/16 | 2-31/32 | 1 | 7/8 |
| 1/2 | GD-150-N | GD-150-X | 1-1/16 | 2 | 7-3/16 | 2-31/32 | 1 | 7/8 |
| 9/16 | GD-156-N | GD-156-X | 1-1/4 | 2-1/2 | 8-5/8 | 3-7/16 | 1-1/4 | 1 |
| 5/8 | GD-162-N | GD-162-X | 1-1/4 | 2-1/2 | 8-5/8 | 3-7/16 | 1-1/4 | 1 |
| 3/4 | GD-175-N | GD-175-X | 1-7/16 | 3 | 10-3/16 | 4 | 1-1/2 | 1-1/8 |
| 7/8 | GD-187-N | GD-187-X | 1-5/8 | 2-5/8 | 11 | 4-3/8 | 1-17/32 | 1-1/4 |
| 1 | GD-199-N | GD-199-X | 1-15/16 | 2-7/8 | 12-11/16 | 4-7/8 | 1-7/8 | 1-1/2 |
| 1-1/8 | GD-1112-N | GD-1112-X | 2-3/16 | 3-5/16 | 17 | 5-5/8 | 1-7/8 | 1-13/16 |
| 1-1/4 | GD-1125-N | GD1125-X | 2-3/16 | 3-5/16 | 17 | 5-5/8 | 1-7/8 | 1-13/16 |

* Note: Zinc plated only - no galvanized.

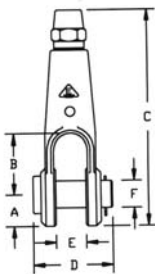
Open Machined Socket



Machined Series: Clevis Socket Specifications

| Rope Size | Self Colored Steel PIN # | Zinc Plated Steel | Stainless Steel | A | B | C | D | E | F | G |
|-----------|--------------------------|-------------------|-----------------|---------|---------|---------|---------|-------|-------|--------|
| 1/16 | ID-106-N | ID-106-V | IS-106 | 17/64 | 3/8 | 2-1/16 | 43/64 | 3/16 | 3/16 | 1/2 |
| 3/32 | ID-109-N | ID-109-V | IS-109 | 5/16 | 1/2 | 2-7/16 | 13/16 | 1/4 | 1/4 | 5/8 |
| 1/8 | ID-112-N | ID-112-V | IS-112 | 5/16 | 1/2 | 2-7/16 | 13/16 | 1/4 | 1/4 | 5/8 |
| 5/32 | ID-115-N | ID-115-V | IS-115 | 3/8 | 5/8 | 2-31/32 | 63/64 | 5/16 | 5/16 | 3/4 |
| 3/16 | ID-118-N | ID-118-V | IS-118 | 3/8 | 5/8 | 2-31/32 | 63/64 | 5/16 | 5/16 | 3/4 |
| 7/32 | ID-121-N | ID-121-V | IS-121 | 15/32 | 3/4 | 3-23/32 | 1-9/64 | 3/8 | 3/8 | 15/16 |
| 1/4 | ID-125-N | ID-125-V | IS-125 | 15/32 | 3/4 | 3-23/32 | 1-9/64 | 3/8 | 3/8 | 15/16 |
| 9/32 | ID-128-N | ID-128-V | IS-128 | 17/32 | 7/8 | 4-1/4 | 1-19/64 | 3/8 | 7/16 | 1-1/16 |
| 5/16 | ID-131-N | ID-131-V | IS-131 | 17/32 | 7/8 | 4-1/4 | 1-19/64 | 3/8 | 7/16 | 1-1/16 |
| 3/8 | ID-137-N | ID-137-V | IS-137 | 5/8 | 1 | 4-27/32 | 1-31/64 | 7/16 | 1/2 | 1-3/16 |
| 7/16 | ID-143-N | ID-143-V | IS-143 | 51/64 | 1-1/4 | 5-5/8 | 1-11/16 | 7/16 | 5/8 | 1-3/8 |
| 1/2 | ID-150-N | ID-150-V | IS-150 | 51/64 | 1-3/8 | 6-11/32 | 1-59/64 | 1/2 | 11/16 | 1-9/16 |
| 9/16 | ID-156-N | ID-156-V | IS-156 | 1-3/64 | 1-17/32 | 7-19/32 | 2-5/32 | 11/16 | 15/16 | 2 |
| 5/8 | ID-162-N | ID-162-V | IS-162 | 1-3/64 | 1-17/32 | 7-19/32 | 2-5/32 | 11/16 | 15/16 | 2 |
| 3/4 | ID-175-N | ID-175-V | IS-175 | 1-15/64 | 1-27/32 | 8-29/32 | 2-7/16 | 3/4 | 1-1/8 | 2-5/16 |
| 7/8 | ID-187-N | ID-187-V | IS-187 | 1-7/16 | 1-7/8 | 10-3/16 | 2-47/64 | 13/16 | 1-1/4 | 2-5/8 |
| 1 | ID-199-N | ID-199-V | IS-199 | 1-3/4 | 2-1/4 | 12 | 3-7/64 | 15-16 | 1-1/2 | 3 |

Extra-Strength Open Forged Socket



Extra Strength Series: Clevis Socket with Pin and Cotter Pin Specifications

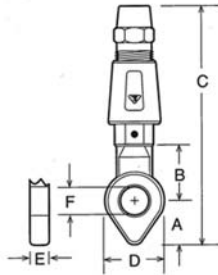
| Rope Size | Galvanized Steel | A | B | C | D | E | F |
|-----------|------------------|---------|--------|----------|---------|---------|---------|
| 7/16 | PD-143X | 1-1/16 | 2 | 7-3/16 | 2-19/32 | 1 | 1 |
| 1/2 | PD-150-X | 1-1/16 | 2 | 7-3/16 | 2-19/32 | 1 | 1 |
| 9/16 | PD-156-X | 1-1/4 | 2-21/2 | 8-5/8 | 3-11/64 | 1-1/4 | 1-13/16 |
| 5/8 | PD-162-X | 1-1/4 | 2-1/2 | 8-5/8 | 3-11/64 | 1-1/4 | 1-3/16 |
| 3/4 | PD-175-X | 1-7/16 | 3 | 10-3/16 | 3-11/16 | 1-1/2 | 1-3/8 |
| 7/8 | PD187-X | 1-15/16 | 2-7/8 | 12-11/16 | 4-7/8 | 1-7/8 | 1-1/2 |
| 1 | PD-199-X | 2-3/16 | 3-5/16 | 17 | 5-5/8 | 1-15/16 | 1-13/16 |

Note: Extra Strength Fittings rated at 100% RBS of Extra - Improved Plow Steel Wire Rope. Larger Sizes Available - Please Contact Factory.



Closed Forged Socket

Forged Series: Eye Socket Specifications

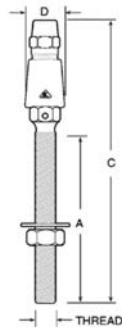


| Rope Size | Self Colored Steel PIN # | Galvanized Steel | A | B | C | D | E | F |
|-----------|--------------------------|------------------|---------|---------|---------|--------|--------|---------|
| 1/4 | GD-225-N | GD-225-X | 1-1/16 | 1-3/8 | 5-5/32 | 1-5/16 | 1/2 | 17/32 |
| 5/16 | GD-231-N | GD-231-X | 1-1/16 | 1-3/8 | 5-3/8 | 1-5/16 | 9/16 | 21/32 |
| 3/8 | GD-237-N | GD-237-X | 1-1/16 | 1-3/8 | 5-1/2 | 1-5/16 | 9/16 | 21/32 |
| 7/16 | GD-243-N | GD-243-X | 1-5/16 | 1-11/16 | 6-7/8 | 1-3/4 | 3/4 | 29/32 |
| 1/2 | GD-250-N | GD-250-X | 1-5/16 | 1-11/16 | 6-7/8 | 1-3/4 | 3/4 | 29/32 |
| 9/16 | GD-256-N | GD-256-X | 1-1/2 | 2-9/16 | 9-3/16 | 2-1/4 | 7/8 | 1-1/32 |
| 5/8 | GD-262-N | GD-262-X | 1-1/2 | 2-9/16 | 9-3/16 | 2-1/4 | 7/8 | 1-1/32 |
| 3/4 | GD-275-N | GD-275-X | 1-11/16 | 2-3/8 | 9-1/2 | 2-1/4 | 1-1/16 | 1-5/32 |
| 7/8 | IGD-287-N | IGD-287-V* | 1-7/8 | 2-13/16 | 11-1/8 | 2-5/8 | 1-5/16 | 1-9/32 |
| 1 | IGD-299-N | IGD-299-V* | 2-1/4 | 3-1/4 | 13-7/16 | 3 | 1-9/16 | 1-17/32 |

*Note: Zinc plated only.

Forged Threaded Stud

Forged Series: Stud Socket Specifications



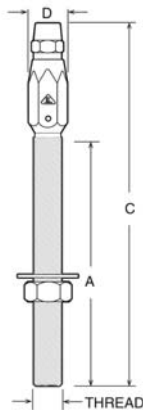
| Rope Size | Galvanized Steel | A | C | Coarse Thread | D |
|-----------|------------------|--------|----------|---------------|--------|
| 1/8 | IGD-312-V | 2-1/2 | 4-1/8 | 1/4-20 | 5/8 |
| 3/16 | IGD-318-V | 4-1/8 | 6-5/16 | 3/8-16 | 3/4 |
| 1/4 | GD-325-X | 4-3/16 | 7-3/8 | 1/2-13 | 1 |
| 5/16 | GD-331-X | 4-3/16 | 7-9/16 | 1/2-13 | 1 |
| 3/8 | GD-337-X | 4-1/2 | 8-1/4 | 5/8-11 | 1-1/8 |
| 7/16 | GD-343-X | 6-3/8 | 10-15/16 | 3/4-10 | 1-1/2 |
| 1/2 | GD-350-X | 6-3/8 | 10-15/16 | 3/4-10 | 1-1/2 |
| 9/16 | GD-356-X | 8-1/8 | 13-7/8 | 7/8-9 | 1-3/4 |
| 5/8 | GD-362-X | 8-1/8 | 13-7/8 | 7/8-9 | 1-3/4 |
| 3/4 | GD-375-X | 8-5/8 | 16-1/8 | 1-1/8-7 | 2-3/16 |
| 7/8 | GD-387-X | 9 | 17-3/16 | 1-1/4-7 | 2-5/8 |
| 1 | GD-399-N | 12-1/8 | 22-5/16 | 22-5/16 | 3 |

* Note: For all other stud dimensions, consult factory.

FITTINGS & BLOCKS

Machined Threaded Stud

Machined Series: Stud Specifications

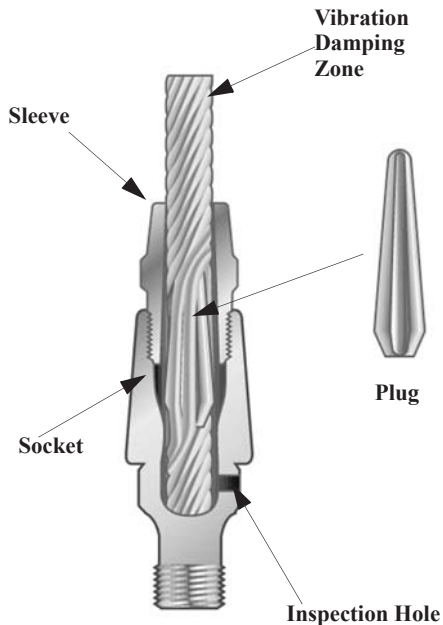


| Rope Size | Self Colored Steel PIN # | Zinc Plated Steel | Stainless Steel | A | C | Fine Thread | D |
|-----------|--------------------------|-------------------|-----------------|---------|----------|-------------|--------|
| 1/16 | ID-306-N | ID-306-V | IS-306 | 1-19/32 | 3-1/32 | 10-32 | 1/2 |
| 3/32 | ID-309-N | ID-309-V | IS-309 | 1-7/8 | 3-1/2 | 1/4-28 | 9/16 |
| 1/8 | ID-312-N | ID-312-V | IS-312 | 1-7/8 | 3-1/2 | 1/4-28 | 9/16 |
| 5/32 | ID-315-N | ID-315-V | IS-315 | 2-3/16 | 4-3/16 | 3/8-24 | 3/4 |
| 3/16 | ID-318-N | ID-318-V | IS-318 | 2-3/16 | 4-3/16 | 3/8-24 | 3/4 |
| 7/32 | ID-321-N | ID-321-V | IS-321 | 4-9/16 | 7-1/16 | 1/2-20 | 7/8 |
| 1/4 | ID-325-N | ID-325-V | IS-325 | 4-9/16 | 7-1/16 | 1/2-20 | 7/8 |
| 9/32 | ID-328-N | ID-328-V | IS-328 | 4-9/16 | 7-1/2 | 5/8-18 | 1 |
| 5/16 | ID-331-N | ID-331-V | IS-331 | 4-9/16 | 7-1/2 | 5/8-18 | 1 |
| 3/8 | ID-337-N | ID-337-V | IS-337 | 4-15/16 | 8-3/16 | 3/4-16 | 1-1/8 |
| 7/16 | ID-343-N | ID-343-V | IS-343 | 6-15/16 | 11 | 7/8-14 | 1-7/16 |
| 1/2 | ID-350-N | ID-350-V | IS-350 | 6-15/16 | 11 | 7/8-14 | 1-7/16 |
| 9/16 | - | ID-356-V | IS-356 | 8-5/8 | 16-3/16 | 1-1/8-7 | 2-3/16 |
| 5/8 | - | ID-362-V | IS-362 | 8-5/8 | 16-3/16 | 1-1/8-7 | 2-3/16 |
| 3/4 | - | ID-375-V | IS-375 | 9-1/4 | 16-3/4 | 1-1/4-7 | 2-1/2 |
| 7/8 | - | ID-387-V | IS-387 | 9-3/4 | 19-7/8 | 1-1/2-6 | 3 |
| 1 | - | ID-399-V | IS-399 | 12-3/4 | 23-7/64 | 1-3/4-5 | 3 |
| 1-1/8 | - | IGD-3112-V | IGS-3312 | 13-1/8 | 25-9/16 | 1-3/4-5 | 3 |
| 1-1/4 | - | IGD-3125-V | IGS-3125 | 13-1/8 | 26-11/16 | 1-3/4-5 | 3-1/2 |
| 1-3/8 | - | IGS-3137-V | IGS-3137 | 16-5/8 | 34-7/16 | 2-4-1/2 | 4 |
| 1-1/2 | - | IGS-3150-V | IGS-3150 | 16-5/8 | 34-7/16 | 2-4-1/2 | 4 |

* Note: For other stud dimensions, consult factory.



TYPICAL ASSEMBLY



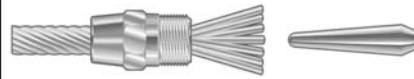
Electroline fittings are the first real advance in connecting practices since the development of wire rope. These fittings are remarkably compact assemblies of three basic units:

1. The SLEEVE, which slips over the end of the rope.
2. The PLUG, which is inserted to separate and hold the rope strands in the sleeve.
3. The covering SOCKET

The combination of these three units literally locks the rope into a strong, solid assembly.



SLEEVE: Wire rope passed through sleeve.



SLEEVE & PLUG: Strands fanned out to insert plug.



SLEEVE, PLUG & SOCKET: Plug driven in and strands closed to apply socket.



COMPLETED ASSEMBLY: With socket applied, twisted strands are visible through inspection hole.

SAFE WORKING LOADS & IMPORTANT INFORMATION

Rope fittings are designed for linear applications only. Never subject Electroline rope fittings to angular loads. Follow rope manufacturers' recommendations regarding the suitability of the rope on angled surfaces such as sheaves and pulleys.

The strength of an assembly greatly depends on the type of rope used. When using Electroline terminations in an assembly, the rope is often the weakest component. Therefore, it is important to follow the rope manufacturers specifications regarding use, care, and suitability of the assembly. Electroline terminations should be inspected for deformation and unusual wear every time the rope is inspected.

The rated assembly breaking strengths provided with Electroline wire rope part numbers in this catalog are typical for 6 x 19 IWRC (1 x 19 IWRC in smaller sizes) carbon steel ropes. Due to customer demand regarding dimensions, open body turnbuckles (XD series), fittings with hooks, and machined eyes (I-200 series) are rated to Improved Plow Steel (IPS) standards. These fittings can be modified to Extra Improved Ploy Steel (EIPS) standards if requested. All other carbon steel fittings conform to EIPS standards.

Stainless steel fittings will hold 100% of the rope's RBS. However, if loaded to 85% of the rope RBS, the fitting will yield and deform. This may make determination impossible.

Machined fittings are at least 1.3 times stronger than the corresponding steel rope. Forged fittings, except studs, are 2.0 times stronger.

Items specified as hot-dipped galvanized include a zinc, electro-plated sleeve.



Terminations - Small Diameter Wire Ropes



Copper & Zinc Plated Copper Oval Sleeves

(For Galvanized Steel Aircraft Cable)



| Nicopress Oval Sleeves | | | | Nicopress Application Tool Selection | | | | | | | |
|------------------------|----------------------|----------------------------|----------------------|--------------------------------------|----------------------|---------------------|----------------------|-------------------------------|----------------------|---------------------------|----------------------|
| Cable Size | Plain Copper Stock # | Zinc Plated Copper Stock # | Approx. Wt. /M (lbs) | Hand Tools | | 3512 Hydraulic Tool | | 635 Bench Type Hydraulic Tool | | 5606 Battery Powered Tool | |
| | | | | Tool Number | # of Crimps Required | 3512 Die Stock # | # of Crimps Required | 635 Die Stock # | # of Crimps Required | Compression Die | # of Crimps Required |
| 1/32" | 17-1-B | 27-1-B | 0.6 | 31-B | 1 | - | - | - | - | - | - |
| 3/64" | 18-11-B4 | 28-11-B4 | 2 | 51-B4-887 | 1 | 12-OVAL-B4 | 1 | OVAL B4 | 1 | 6-OVAL-B4 | 1 |
| 1/16" | 18-1-C | 28-1-C | 3 | 51-C-887 64-CGMP* | 1 | 12-OVAL-C | 1 | OVAL C | 1 | 6-OVAL-C | 1 |
| 3/32" | 18-2-G | 28-2-G | 5 | 51-G-887 64-CGMP* | 1 | 12-OVAL-G | 1 | OVAL G | 1 | 6-OVAL-G | 1 |
| 1/8" | 18-3-M** | 28-3-M | 17 | 51-M-850 64-CGMP* 63V-XPM* | 3 | 12-OVAL-M | 1 | OVAL M | 1 | 6-OVAL-M | 2 |
| 5/32" | 18-4-P | 28-4-P | 23 | 51-P-850 64-CGMP* 63V-XPM* | 3 | 12-OVAL-P | 2 | OVAL P | 1 | 6-OVAL-P | 2 |
| 3/16" | 18-6-X | 28-6-X | 49 | 51-X-850 63-XPM* | 4 | 12-OVAL-X | 2 | OVAL X | 1 | 6-OVAL-X | 2 |
| 7/32" | 18-8-F2 | 28-8-F2 | 48 | 51-F2-850 | 4 | 12-OVAL-F2 | 2 | OVAL F2 | 1 | 6-OVAL-F2 | 2 |
| 1/4" | 18-10-F6** | 28-10-F6 | 78 | 3-F6-950 3V-F6:X:M | 3 | 12-OVAL-F6 | 2 | OVAL F6 | 1 | 6-OVAL-F6 | 3 |
| 5/16" | 18-13-G9 | 28-13-G9 | 114 | 3-G9-950 | 4 | 12-OVAL-G9 | 3 | OVAL G9 | 1 | 6-OVAL-G9 | 4 |
| 3/8" | 18-23-H5 | 28-23-H5 | 153 | 3-H5-950 | 3 | 12-OVAL-H5 | 4 | OVAL H5 | 1 | 6-OVAL-H5 | 5 |
| 7/16" | 18-24-J8 | 28-24-J8 | 302 | - | - | 12-OVAL-J8 | 5 | OVAL J8 | 2 | - | - |
| 1/2" | 18-25-K8 | 28-25-K8 | 410 | - | - | 12-OVAL-K8 | 6 | OVAL K8 | 2 | - | - |
| 9/16" | 18-27-M1 | 28-27-M1 | 551 | - | - | - | - | OVAL M1 | 3 | - | - |
| 5/8" | 18-28-N5 | 28-28-N5 | 802 | - | - | - | - | OVAL N5 | 3 | - | - |

** Model also available with Cable Cutter. Specify 64-CGMP/Cutter Tool or 63 V-XPM/Cutter Tool. (Other Tools Available)
 ** Nicopress® is rolling out a new identification system on its Copper and Zinc-Plated Copper Sleeves. Nicopress® sleeves are the only product to be imprinted with the correct wire size and tool groove. This aids customers in identifying the correct sleeve, wire rope diameter and swagging tool groove; and provides a visual quality assurance check.

FITTINGS & BLOCKS

Stainless Steel Oval Sleeves

(For Stainless Steel Aircraft Cable)



| Nicopress Oval Sleeves | | | Nicopress Application Tool Selection | | | | | | | |
|------------------------|------------------------------|-------------------------|--------------------------------------|------------------------|-----------------------|----------------------|-------------------------------|----------------------|---------------------------|----------------------|
| Cable Size | Stainless Steel Stock Number | Approx. Weight /M (lbs) | Hand Tools | | 3512 Hydraulic Tool | | 635 Bench Type Hydraulic Tool | | 5606 Battery Powered Tool | |
| | | | Tool Number | # of Crimps Required | 3512 Die Stock Number | # of Crimps Required | 635 Die Stock Number | # of Crimps Required | 5606 Die Stock Number | # of Crimps Required |
| 1/32" | 168-1-VB | 0.5 | 31-B | 1 | - | - | - | - | - | - |
| 3/64" | 168-1.5-VB4 | 1.5 | 51-B4-887 3-B4-887 | 1 | 12-OVAL-B4 | 1 | OVAL B4 | 1 | - | - |
| 1/16" | 168-2-VB4 | 1.5 | 51-B4-887 3-B4-887 | 1 | 12-OVAL-B4 | 1 | OVAL B4 | 1 | - | - |
| 3/32" | 168-3-VC | 2.3 | 51-C-887 3-C-887 | 1 | 12-OVAL-C | 1 | OVAL C | 1 | - | - |
| 1/8" | 168-4-VG | 3.8 | 51-G-887 3-G-887 | 1 | 12-OVAL-G | 1 | OVAL G | 1 | - | - |
| 5/32" | 168-5-VM | 14 | 51-M-850 3-M-850 | 3 2 (Overlapped) | 12-OVAL-M | 1 | OVAL M | 1 | - | - |
| 3/16" | 168-6-VP | 21 | 51-P-850 | 4 | 12-OVAL-P | 3 | OVAL 168-6-VP | 1 | - | - |
| 7/32" | 168-7-VX | 31 | 3-X-950 | 5 | 12-OVAL-X | - | OVAL X | 1 | - | - |
| 1/4" | 168-8-VF2 | 44 | 3-F2-950 | 5 | 12-OVAL-F2 | 2 (Overlapped) | OVAL F2 | 1 | - | - |
| 5/16" | 168-10-VF6 | 57 | - | - | 12-168-F6 | - | OVAL 168-10-F6 | 2 | - | - |

(Other Tools Available)



Tin Plated Copper Oval Sleeves

(For Stainless Steel Aircraft Cable)



| Nicopress Oval | | | Nicopress Application Tool Selection | | | | | | | |
|----------------|---------------------------|-------------------------|--------------------------------------|----------------------|---------------------|----------------------|-------------------------------|----------------------|---------------------------|----------------------|
| Cable Size | Tin Plated Copper Stock # | Approx. Weight /M (lbs) | Hand Tools | | 3512 Hydraulic Tool | | 635 Bench Type Hydraulic Tool | | 5606 Battery Powered Tool | |
| | | | Tool Number | # of Crimps Required | 3512 Die Stock # | # of Crimps Required | 635 Die Stock # | # of Crimps Required | Compression Die | # of Crimps Required |
| 3/64" | 428-1.5-VB4 | 2 | 51-B4-887 | 1 | 12-OVAL-B4 | 1 | OVAL B4 | 1 | 6-OVAL-B4 | 1 |
| 1/16" | 428-2-VC | 3 | 51-C-887 | | 12-OVAL-C | 1 | OVAL C | 1 | 6-OVAL-C | 1 |
| | | | 64-CGMP* | 1 | | | | | | |
| 3/32" | 428-3-VG | 6 | 51-G-887 | | 12-OVAL-G | 1 | OVAL G | 1 | 6-OVAL-G | 1 |
| | | | 64-CGMP* | 1 | | | | | | |
| 1/8" | 428-4-VM | 17 | 51-M-850 | 3 | 12-OVAL-M | 1 | OVAL M | 1 | 6-OVAL-M | 2 |
| | | | 64-CGMP* | 3 | | | | | | |
| | | | 63V-XPM* | 3 | | | | | | |
| | | | 3V-CGMP | 2 | | | | | | |
| 5/32" | 428-5-VP | 24 | 51-P-850 | 3 | 12-OVAL P | 2 | OVAL P | 1 | 6-OVAL-P | 2 |
| | | | 64-CGMP* | 3 | | | | | | |
| | | | 63V-XPM* | 3 | | | | | | |
| | | | 3V-CGMP | 2 | | | | | | |
| 3/16" | 428-6-VX | 50 | 51-X-850 | 4 | 12-OVAL-X | 2 | OVAL X | 1 | 6-OVAL-X | 2 |
| | | | 63V-XPM* | 4 | | | | | | |
| | | | 3V-F6:X:M | 2 | | | | | | |
| 7/32" | 428-7-VF2 | 47 | 51-F2-850 | 4 | 12-OVAL-F2 | 2 | OVAL F2 | 1 | 6-OVAL-F2 | 2 |
| | | | 3-F2-850 | 2 | | | | | | |
| 1/4" | 428-8-VF6 | 75 | 3-F6-950 | 3 | 12-OVAL-F6 | 2 | OVAL F6 | 1 | 6-OVAL-F6 | 3 |
| 5/16" | 428-10-VG9 | 120 | 3-G9-950 | 4 | 12-OVAL-G9 | 3 | OVAL G9 | 1 | 6-OVAL-G9 | 4 |
| 3/8" | 428-12-VH5 | 155 | 3-H5-950 | 3 | 12-OVAL-H5 | 4 | OVAL H5 | 1 | 6-OVAL-H5 | 5 |
| 7/16" | 428-14-VJ8 | 310 | - | - | 12-OVAL-J8 | 5 | OVAL J8 | 2 | - | - |
| 1/2" | 428-16-VK8 | 420 | - | - | 12-OVAL-K8 | 6 | OVAL K8 | 2 | - | - |
| 9/16" | 428-18-VM1 | 565 | - | - | - | - | OVAL M1 | 3 | - | - |
| 5/8" | 428-20-VN5 | 822 | - | - | - | - | OVAL N5 | 3 | - | - |

* Model also available with Cable Cutter. Specify 64-CGMP/Cutter Tool or 63 V-XPM/Cutter Tool. (Other Tools Available)

Copper Stop Sleeves

(For Galvanized Steel Aircraft Cable)



| Nicopress Stop Sleeves | | | Nicopress Application Tool Selection | | | | | | | | ** Typical Holding Strength of Stop Sleeve (lbs) |
|------------------------|----------------------|-------------------------|--------------------------------------|----------------------|---------------------|----------------------|-------------------------------|----------------------|---------------------------|----------------------|--|
| Cable Size | Plain Copper Stock # | Approx. Weight /M (lbs) | Hand Tools | | 3512 Hydraulic Tool | | 635 Bench Type Hydraulic Tool | | 5606 Battery Powered Tool | | |
| | | | Tool Number | # of Crimps Required | 3512 Die Stock # | # of Crimps Required | 635 Die Stock # | # of Crimps Required | Compression Die | # of Crimps Required | |
| 1/32" | 871-32-B | .75 | 17-BA | 2 | - | - | - | - | - | - | 120 |
| 3/64" | 871-12-B4 | 1.5 | 17-B4B | 2 (Overlapped) | 12-OVAL-B4 | 1 | - | - | 6-OVAL-B4 | 1 | 240 |
| | | | 51-B4-887 | 1 | | | | | | | |
| 1/16" | 871-1-C | 2 | 51-C-887 | 1 | 12-OVAL-C | 1 | - | - | 6-OVAL-C | 1 | 430 |
| | | | 64-CGMP* | 1 | | | | | | | |
| 3/32" | 871-1-Q* | 2 | 51-Q-929 | 1 | 12-1-Q | 1 | - | - | - | - | 425 |
| | | | 871-17-J | 8 | 51-MJ | 1 | 12-J | 1 | - | 6-J | 1 |
| 1/8" | 871-3-Q* | 2 | 51-Q-929 | 1 | 12-1-Q | 1 | - | - | - | - | 550 |
| | | | 871-33-VG | 8 | 64-CGMP* | 1 | - | - | - | - | - |
| 5/32" | 871-18-J | 8 | 51-MJ | 1 | 12-J | 1 | - | - | 6-J | 1 | 900 |
| | | | 871-34-VG | 8 | 64-CGMP* | 1 | - | - | - | - | - |
| 3/16" | 871-19-M | 13 | 51-MJ | 1 | 12-1M | 1 | - | - | 6-OVAL-M | 1 | 1,200 |
| | | | 871-35-VM | 13 | 64-CGMP* | 2 | - | - | - | - | - |
| 7/32" | 871-20-M | 12 | 51-MJ | 1 | 12-1M | 1 | - | - | 6-OVAL-M | 1 | 1,600 |
| | | | 871-36-VM | 12 | 64-CGMP* | 2 | - | - | - | - | - |
| 1/4" | 871-22-M | 20 | 51-MJ | 2 | 12-1-M | 1 | - | - | 6-OVAL-M | 2 | 2,500 |
| | | | 871-37-VM | 20 | 64-CGMP* | 3 | - | - | - | - | - |
| 5/16" | 871-23-F6 | 60 | 3-F6-950 | 2 | 12-OVAL-F6 | 2 | - | - | 6-STOP-F6 | 2 | 3,500 |
| 3/8" | 871-26-F6 | 55 | 3-F6-950 | 2 | 12-OVAL-F6 | 2 | - | - | 6-STOP-F6 | 2 | 4,000 |
| | 871-27-F6 | 45 | 3-F6-950 | 2 | 12-OVAL-F6 | 2 | - | - | 6-STOP-F6 | 2 | - |

* Electro-Galvanized Steel Sleeves
 ** Model also available with Cable Cutter. Specify 64-CGMP/Cutter Tool or 63 V-XPM Cutter Tool.
 **Electro-Galvanized Steel Sleeves. (Other Tools Available)



Aluminum Oval Sleeves

(For Steel Aircraft Control Cable & Wire Rope)



| Nicopress Aluminum Oval Sleeves | | | Nicopress Application Tool Selection | | | | | | | |
|---------------------------------|------------------|-------------------------|--------------------------------------|----------------------|---------------------|----------------------|-------------------------------|----------------------|---------------------------|----------------------|
| Cable Size | Aluminum Stock # | Approx. Weight /M (lbs) | Hand Tools | | 3512 Hydraulic Tool | | 635 Bench Type Hydraulic Tool | | 5606 Battery Powered Tool | |
| | | | Tool Number | # of Crimps Required | 3512 Die Stock # | # of Crimps Required | 635 Die Stock # | # of Crimps Required | Compression Die | # of Crimps Required |
| 3/64" | 188-1.5-VB4 | 0.7 | 51-B4-887 | 1 | 12-OVAL-B4 | 1 | - | - | 6-188-VB4 | 1 |
| 1/16" | 188-2-VC | 1 | 51-C-887 | 1 | 12-OVAL-C | 1 | OVAL C | 1 | 6-188-VC | 1 |
| | | | 64-CGMP* | | | | | | | |
| 3/32" | 188-3-VG | 3 | 51-G-887 | 2 Overlapped | 12-188-VG | 1 | 188-VG | 1 | 6-188-VG | 2 (Overlapped) |
| | | | 64-CGMP* | | | | | | | |
| 1/8" | 188-4-VM | 6 | 51-M-850 | 3 | 12-188-VM | 1 | 188-VM | 1 | 6-188-VM | 2 |
| | | | 64-CGMP* | | | | | | | |
| 5/32" | 188-5-VP | 9.5 | 51-P-850 | 3 | 12-188-VP | 2 | 188-VP | 1 | 6-188-VP | 2 |
| | | | 64-CGMP* | | | | | | | |
| 3/16" | 188-6-VX | 16 | 51-X-850 | 4 | 12-188-VX | 2 | 188-VX | 1 | 6-188-VX | 2 |
| 1/4" | 188-8-VF6 | 27 | 3-F6-950 | 3 | 12-188-VF6 | 2 | 188-F6 | 1 | 6-188-VF6 | 4 |
| 5/16" | 188-10-VG92 | 48 | 3-G9-950 | 4 | 12-VG92 | 4 | VG92 | 2 | 6-188-VG9 | 4 |
| | | | | | | | OVAL G9 | | | |
| 3/8" | 188-12-VH5 | 65 | 3H5-950 | 4 | 12-OVAL-H5 | 5 | OVAL H5 | 2 | 6-188-VH5 | 5 |
| 7/16" | 188-14-VK8 | 115 | - | - | 12-OVAL-K8 | 6 | OVAL K8 | 2 | - | - |
| 1/2" | 188-16-VM1 | 172 | - | - | 12-188-VM1 | 4 | 188-VM1 | 2 | - | - |
| | | | | | | | OVAL M1 | | | |

* Model also available with Cable Cutter. Specify 64 CGMP/Cutter Tool or 63 V-XPM/Cutter Tool. (Other Tools Available)

FITTINGS & BLOCKS

Aluminum Stop Sleeves

(For Steel Aircraft Control Cable & Wire Rope)



| Nicopress Stop Sleeves | | | Nicopress Application Tool Selection | | | | | | | |
|------------------------|------------------|-------------------------|--------------------------------------|----------------------|---------------------|----------------------|-------------------------------|----------------------|---------------------------|----------------------|
| Cable Size | Aluminum Stock # | Approx. Weight /M (lbs) | Hand Tools | | 3512 Hydraulic Tool | | 635 Bench Type Hydraulic Tool | | 5606 Battery Powered Tool | |
| | | | Tool Number | # of Crimps Required | 3512 Die Stock # | # of Crimps Required | 635 Die Stock # | # of Crimps Required | Compression Die | # of Crimps Required |
| 1/16" | 878-2-VC | 0.83 | 51-C-887 | 1 | 12-OVAL-C | 1 | - | - | 6-OVAL-C | 1 |
| | | | 64-CGMP* | | | | | | | |
| 3/32" | 878-3-J | 3.0 | 51-MJ | 1 | 12-J | 1 | - | - | 6-J | 1 |
| | | | 3-MJ | | | | | | | |
| 1/8" | 878-4-J | 3.0 | 51-MJ | 1 | 12-J | 1 | - | - | 6-J | 1 |
| | | | 3-MJ | | | | | | | |
| 5/32" | 878-5-M | 4.8 | 51-MJ | 1 | 12-M | 1 | - | - | 6-OVAL-M | 1 |
| | | | 3-MJ | | | | | | | |
| 3/16" | 878-6-M | 4.3 | 51-MJ | 1 | 12-M | 1 | - | - | 6-OVAL-M | 1 |
| | | | 3-MJ | | | | | | | |
| 1/4" | 878-8-VF6 | 21 | 3-F6-950 | 2 | 12-OVAL-F6 | 2 | - | - | 6-STOP-F6 | 2 |
| 5/16" | 878-10-VF6 | 19 | 3-F6-950 | 2 | 12-OVAL-F6 | 2 | - | - | 6-STOP-F6 | 2 |
| 3/8" | 878-12-VF6 | 16 | 3-F6-950 | 2 | 12-OVAL-F6 | 2 | - | - | 6-STOP-F6 | 2 |

* Model also available with Cable Cutter. Specify 64 CGMP/Cutter Tool or 63 V-XPM/Cutter Tool. (Other Tools Available)



Nicopress Tools

NICOPRESS



No. 51 Tool

- Each tool has a single sleeve-pressing groove for the size of the cable.
- Range accommodated is 3/64" - 7/32".
- Tool Length is 18-1/4".
- Shipping Weight is 5-1/4 pounds.



No. 64-CGMP Tool

- The 64-CGMP has 4 grooves.
- Used for Oval Sleeves in the range of cables sizes 1/16" thru 5/32".
- The "C" groove is also used for the No. 871-1-C 1/16" Copper Stop Sleeve.
- The 64-CGMP with optional Cable Cutter (shown here) cuts mechanical cable sizes up thru 7/32"
- Tool Length is 20".
- Shipping Weight is 6 pounds.



No. 3512 Hand Compression Tool

- Quick change Compression dies accommodate 1/32" thru 1/2" diameter cable.
- Swivel Head pivots 180° for hard-to-reach splices.
- 12 Ton Output.
- Weight 13 pounds.
- Length is 23".



No. 635 Hydraulic Tool

- Used for larger Nicopress sleeves requiring greater pressing effort.
- Compression dies will press oval sleeves for cables ranging 3/64" to 5/8".
- Optional pneumatic and electric-powered pumps available.
- The 2498 Cable Cutter Die cuts up to 5/8" diameter cable with no unraveled strands.



Model 5606 Battery - Powered Tool

- One-Handed Operation.
- Dies allow swaging up to 3/8" (10 mm) wire.
- Jaws rotate 360° for ease of use in confined spaces.
- Weather-resistant housing.
- Audible By-Pass when predetermined pressure is achieved.
- Crimping Jaws can be opened mid-cycle to adjust connection.
- Crimp cycle times is less than 6 seconds.
- Battery Charge time is less than 1 hour.
- Cutting dies are available.
- Weight: 8 lbs. with battery.
- Dimensions 20.5" L x 4" H x 2.5" W.
- Efficiency: Approx. 250 crimps per charge for 1/4" No. 18-10-F6 Sleeve Connector.



Stainless Steel Fittings

316 Stainless Steel Forged Anchor Shackle



| Item | Stock Diameter | Pin Diameter | WLL | Weight |
|------------|----------------|--------------|----------|--------|
| 1021600182 | 1/4" | 5/16" | 1000 lb. | 0.06 |
| S0116-FS10 | 3/8" | 7/16" | 1500 lb. | 0.30 |
| 1021636182 | 1/2" | 5/8" | 4000 lb. | 0.56 |
| 1021645182 | 5/8" | 3/4" | 6000 lb. | 1.00 |
| S0116-FS16 | 5/8" | 3/4" | 4000 lb. | 1.39 |

Stainless Steel Forged Wire Rope Clip



| Item | Wire Rope Diameter | Weight |
|------------|--------------------|----------|
| 1011250182 | 1/8" | 0.04 lb. |
| 1011261182 | 3/16" | 0.10 lb. |
| 1011272182 | 1/4" | 0.18 lb. |
| 1011292182 | 5/16" | 0.35 lb. |
| 1011283182 | 3/8" | 0.52 lb. |
| S0122-0013 | 1/2" | 0.71 lb. |
| S0122-0016 | 5/8" | 1.00 lb. |
| S0122-0020 | 3/4" | 1.48 lb. |

FITTINGS & BLOCKS

304 Stainless Steel Standard Thimble



| Item | Size | Groove Width | Eye Width | Eye Length | Mat'l Thickness | Weight |
|--------------|------|--------------|-----------|------------|-----------------|----------|
| 1500600182 | 1/8" | 0.12" | 0.38" | 0.72" | 0.03" | 0.01 lb. |
| 1500800182 | 1/4" | 0.25" | 0.68" | 1.06" | 0.05" | 0.03 lb. |
| S0123-FS10** | 3/8" | 0.40" | 1.13" | 2.13" | 0.11" | 0.23 lb. |
| 1501400182 | 1/2" | 0.56" | 1.25" | 1.87" | 0.07" | 0.09 lb. |
| 1501600182 | 5/8" | 0.68" | 1.43" | 2.37" | 0.08" | 0.18 lb. |

** This thimble is 316 stainless steel.

304 Stainless Steel Heavy Thimble



| Item | Size | Groove Width | Eye Width | Eye Length | Mat'l Thickness | Weight |
|------------|------|--------------|-----------|------------|-----------------|----------|
| 1037945182 | 1/8" | 0.12" | 0.36" | 0.66" | 0.03" | 0.01 lb. |
| 1037960182 | 1/4" | 0.25" | 0.59" | 1.06" | 0.06" | 0.03 lb. |
| 1038004182 | 3/8" | 0.42" | 0.94" | 1.70" | 0.06" | 0.06 lb. |
| 1038022182 | 1/2" | 0.56" | 1.14" | 2.08" | 0.10" | 0.12 lb. |
| 1038040202 | 5/8" | 0.63" | 1.25" | 2.24" | 0.12" | 0.24 lb. |



Stainless Steel Jaw & Jaw Turnbuckle



Forged - 316 Stainless Steel

| Item | Size | Adjust | Dimensions | | | WLL | Weight |
|--------------|--------|--------|------------|-------|-------|-----------|-----------|
| | | | C | D | E | | |
| S0108-JJ07 | 1/4" | 4.00" | 7.75" | 0.25" | 0.44" | 500 lb. | 0.45 lb. |
| S0108-JJ08 | 5/16" | 4.50" | 9.00" | 0.25" | 0.50" | 800 lb. | 0.65 lb. |
| S0108-JJ10 | 3/8" | 6.00" | 10.63" | 0.31" | 0.56" | 1200 lb. | 0.90 lb. |
| S0108-JJ13 | 1/2" | 6.00" | 12.00" | 0.38" | 0.63" | 2200 lb. | 1.60 lb. |
| S0108-JJ16 | 5/8" | 6.00" | 13.50" | 0.50" | 0.75" | 3500 lb. | 3.05 lb. |
| S0108-JJ20 | 3/4" | 6.00" | 15.00" | 0.63" | 1.00" | 5200 lb. | 4.25 lb. |
| S0108-JJ25 | 1" | 6.00" | 18.00" | 0.88" | 1.25" | 8000 lb. | 10.59 lb. |
| S0108-JJ25-1 | 1" | 12.00" | 24.00" | 0.88" | 1.25" | 8000 lb. | 12.66 lb. |
| S0108-JJ32-1 | 1-1/4" | 12.00" | 26.630" | 1.13" | 1.88" | 12500 lb. | 22.32 lb. |

Note: Meets WLL and Dimensions of ASTM Specification F1145-92 Type 1, Class G.

Stainless Steel Eye & Eye Turnbuckle



Forged - 316 Stainless Steel

| Item | Size | Adjust | Dimensions | | WLL | Weight |
|--------------|--------|--------|------------|-------|-----------|-----------|
| | | | C | D | | |
| S0107-EE07 | 1/4" | 4.00" | 8.00" | 0.33" | 500 lb. | 0.30 lb. |
| S0107-EE08 | 5/16" | 4.50" | 9.25" | 0.41" | 800 lb. | 0.50 lb. |
| S0107-EE10 | 3/8" | 6.00" | 11.50" | 0.50" | 1200 lb. | 0.85 lb. |
| S0107-EE13 | 1/2" | 6.00" | 13.00" | 0.75" | 2200 lb. | 1.30 lb. |
| S0107-EE16 | 5/8" | 6.00" | 14.50" | 0.87" | 3500 lb. | 2.30 lb. |
| S0107-EE20 | 3/4" | 6.00" | 16.25" | 1.00" | 5200 lb. | 3.50 lb. |
| S0107-EE25 | 1" | 6.00" | 20.00" | 1.38" | 8000 lb. | 8.85 lb. |
| S0107-EE25-1 | 1" | 12.00" | 25.50" | 1.38" | 8000 lb. | 10.91 lb. |
| S0107-EE32-1 | 1-1/4" | 12.00" | 28.38" | 1.71" | 12500 lb. | 17.60 lb. |

Note: Meets WLL and Dimensions of ASTM Specification F1145-92 Type 1, Class D.

Stainless Steel Jaw & Eye Turnbuckle



Forged - 316 Stainless Steel

| Item | Size | Adjust | Dimensions | | | WLL | Weight |
|--------------|--------|--------|------------|-------|-------|------------|-----------|
| | | | C | D | E | | |
| S0109-JE07 | 1/4" | 4.00" | 7.88" | 0.33" | 0.44" | 500 lb. | 0.35 lb. |
| S0109-JE08 | 5/16" | 4.50" | 9.25" | 0.41" | 0.50" | 800 lb. | 0.60 lb. |
| S0109-JE10 | 3/8" | 6.00" | 11.00" | 0.50" | 0.56" | 1200 lb. | 0.80 lb. |
| S0109-JE13 | 1/2" | 6.00" | 12.50" | 0.75" | 0.63" | 2200 lb. | 1.55 lb. |
| S0109-JE16 | 5/8" | 6.00" | 14.00" | 0.87" | 0.75" | 3500 lb. | 2.69 lb. |
| S0109-JE20 | 3/4" | 6.00" | 15.63" | 1.00" | 1.00" | 5200 lb. | 4.00 lb. |
| S0109-JE25 | 1" | 6.00" | 19.00" | 1.38" | 1.25" | 8000 lb. | 9.66 lb. |
| S0109-JE25-1 | 1" | 12.00" | 25.00" | 1.38" | 1.25" | 8000 lb. | 11.79 lb. |
| S0109-JE32-1 | 1-1/4" | 12.00" | 27.50" | 1.71" | 1.88" | 12,500 lb. | 19.96 lb. |

Note: Meets WLL and Dimensions of ASTM Specification F1145-92 Type 1, Class H.

Stainless Steel Forged Shoulder Eye Bolt



Forged - 316 Stainless Steel

| Item | Size | Thread Length | Length Under Shoulder | Eye Diameter D | Thread | WLL |
|------------|-------|---------------|-----------------------|----------------|---------|----------|
| S0314-0750 | 1/4" | 1.50" | 2.00" | 0.50" | 1/4-20 | 500 lb. |
| S0314-0710 | 1/4" | 2.50" | 4.00" | 0.50" | 1/4-20 | 500 lb. |
| S0314-0806 | 5/16" | 1.50" | 2.25" | 0.63" | 5/16-18 | 800 lb. |
| S0314-0810 | 5/16" | 2.50" | 4.25" | 0.63" | 5/16-18 | 800 lb. |
| S0314-1006 | 3/8" | 1.25" | 1.50" | 0.75" | 3/8-16 | 1200 lb. |
| S0314-1012 | 3/8" | 2.50" | 4.50" | 0.75" | 3/8-16 | 1200 lb. |
| S0314-1308 | 1/2" | 1.50" | 3.25" | 1.00" | 1/2-13 | 2150 lb. |
| S0314-1315 | 1/2" | 3.00" | 6.00" | 1.00" | 1/2-13 | 2150 lb. |
| S0314-1615 | 5/8" | 3.00" | 6.00" | 1.25" | 5/8-11 | 3440 lb. |
| S0314-2015 | 3/4" | 3.00" | 6.00" | 1.50" | 3/4-10 | 5140 lb. |



McKissick® Snatch Blocks

Champion Blocks - Single

- Forged alloy heat treated hooks.
- Forged steel swivel tees, yokes and shackles.
- Hook and shackle assemblies on 4-1/2" through 14" sizes can be interchanged.
- Can be furnished with bronze bushings or roller bearings.
- Opening feature permits insertion of rope while block is suspended from gin-pole.
- 3" thru 18" 418 and 419 blocks have exclusive bolt retaining spring to assure no lost bolts.
- Can be furnished with S-4320 hook latch.
- Pressure lube fittings.
- 3"-10" feature dual rated wireline sheaves.
- Fatigue Rated.
- 4-1/2" and larger are **RFID Equipped**.
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these blocks meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.



**418
with Hook**



**419
with Shackle**



**404
Tailboard**

| Sheave Diameter (in.) | Bearing Code | Stock Number | | | Wire Rope Size (in.)++ | Working Load Limit (tons)* | Weight Each (lbs) | | | Replacement Sheave Stock Number | Replacement Latch Stock Number |
|-----------------------|--------------|---------------|------------------|----------------|------------------------|----------------------------|-------------------|------------------|---------------|---------------------------------|--------------------------------|
| | | 418 with Hook | 419 with Shackle | 404 Tail Board | | | 418 with Hook | 419 with Shackle | 404 Tailboard | | |
| **3 | BB | - | 109091 | - | 5/16-3/8 | 2 | - | 4 | - | 460147 | - |
| **3 | BB | 108038 | 109037+ | 102016 | 5/16-3/8 | 2 | 5 | 4 | 3 | 460147 | 1096421 |
| **4-1/2 | BB | 108065 | 109064 | 102025 | 3/8-1/2 | 4 | 12 | 12 | 7 | 2000232 | 1096468 |
| 6 | BB | 108127 | 109126 | 102098 | 5/8-3/4 | 8 | 27 | 28 | 15 | 460815 | 1096562 |
| 6 | RB | 108154 | 109153 | 102114 | 5/8-3/4 | 8 | 27 | 28 | 15 | 472688 | 1096562 |
| 8 | BB | 108225 | 109224 | 102169 | 5/8-3/4 | 8 | 33 | 34 | 21 | 461164 | 1096562 |
| 8 | RB | 108252 | 109251 | 102187 | 5/8-3/4 | 8 | 33 | 34 | 21 | 473277 | 1096562 |
| 10 | BB | 108323 | 109322 | 102230 | 5/8-3/4 | 8 | 41 | 42 | 29 | 461805 | 1096562 |
| 10 | RB | 108350 | 109359 | 102258 | 5/8-3/4 | 8 | 41 | 42 | 29 | 473776 | 1096562 |
| 12 | BB | 169169 | 202961 | 178890 | 5/8 | 8 | 48 | 49 | 36 | 462270 | 1096562 |
| 12 | RB | 199911 | 169347 | 178934 | 5/8 | 8 | 48 | 49 | 36 | 474141 | 1096562 |
| 12 | BB | 108421 | 109420 | 102301 | 3/4 | 8 | 48 | 49 | 36 | 462289 | 1096562 |
| 12 | RB | 108458 | 109457 | 102329 | 3/4 | 8 | 48 | 49 | 36 | 474150 | 1096562 |
| 14 | BB | 194920 | 169356 | - | 5/8 | 8 | 55 | 56 | - | 463625 | 1096562 |
| 14 | RB | 199948 | 167857 | - | 5/8 | 8 | 55 | 56 | - | 474766 | 1096562 |
| 14 | BB | 108528 | 109527 | - | 3/4 | 8 | 55 | 56 | - | 463634 | 1096562 |
| 14 | RB | 108546 | 109545 | - | 3/4 | 8 | 55 | 56 | - | 474775 | 1096562 |
| 16 | BB | 199975 | 203041 | - | 3/4 | 15 | 130 | 135 | - | 4100056 | 1096609 |
| 16 | RB | 200008 | 203087 | - | 3/4 | 15 | 130 | 135 | - | 4200028 | 1096609 |
| 16 | BB | 108608 | 109607 | - | 7/8 | 15 | 130 | 135 | - | 4100065 | 1096609 |
| 16 | RB | 108626 | 109625 | - | 7/8 | 15 | 130 | 135 | - | 4200037 | 1096609 |
| 18 | BB | 200099 | 203130 | - | 7/8 | 15 | 150 | 155 | - | 464571 | 1096609 |
| 18 | RB | 200151 | 203176 | - | 7/8 | 15 | 150 | 155 | - | 475792 | 1096609 |
| 18 | BB | 108644 | 109643 | - | 1 | 15 | 150 | 155 | - | 4104640 | 1096609 |
| 18 | RB | 108662 | 109661 | - | 1 | 15 | 150 | 155 | - | 6000000 | 1096609 |

* Ultimate Load is 4 times the Working Load Limit.
 ** Available in Bronze Bushed only. 3" and 4-1/2" have self lubricating Bronze Bushing.
 ++ Fitted with 1-1/4" ID Swivel Eye.
 +++ May be furnished in other rope sizes.
 Note: When ordering, please specify: size, block number, hook or shackle, bronze bushed or roller bearing and wire rope size.
 Note: Tail Board does not contain the spool that is required with the hook (418) and shackle (419) snatch blocks.

FITTINGS & BLOCKS



Champion Blocks - Double



408
Double with Hook

- Light champion snatch block as a double sheave block.
- Drop forged swivel hook or swivel shackle.
- Can be furnished with bronze bushings or roller bearings.
- Opening feature permits easy insertion of wire rope in both sheaves with removal of one bolt.
- Can be furnished with S-4320 hook latch.
- Pressure lube fittings.
- Fatigue rated. 4-1/2" to 10" models furnished with dual rated wireline sheaves.
- All sizes are **RFID Equipped**.
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these blocks meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.

408/409 Snatch Blocks



409
Double with Shackle

| Sheave Diameter (in.) | Bearing Code | Stock Number | | Wire Rope Size (in.) ⁺⁺ | Working Load Limit (tons)* | Weight Each (lbs) | | Replacement Sheave Stock Number | Replacement Latch Stock Number |
|-----------------------|--------------|---------------|------------------|------------------------------------|----------------------------|-------------------|------------------|---------------------------------|--------------------------------|
| | | 408 with Hook | 409 with Shackle | | | 408 with Hook | 409 with Shackle | | |
| +4-1/2 | BB | 104023 | 105022 | 3/8 - 1/2 | 4 | 18 | 18 | 2000232 | 1096468 |
| 6 | BB | 104103 | 105102 | 5/8 - 3/4 | 12 | 45 | 50 | 460815 | 1096609 |
| 6 | RB | 104121 | 105120 | 5/8 - 3/4 | 12 | 45 | 50 | 472688 | 1096609 |
| 8 | BB | 104185 | 105184 | 5/8 - 3/4 | 12 | 53 | 58 | 461164 | 1096609 |
| 8 | RB | 104201 | 105200 | 5/8 - 3/4 | 12 | 53 | 58 | 473277 | 1096609 |
| 10 | BB | 104265 | 105264 | 5/8 - 3/4 | 12 | 70 | 75 | 461805 | 1096609 |
| 10 | RB | 104283 | 105282 | 5/8 - 3/4 | 12 | 70 | 75 | 473776 | 1096609 |
| 12 | BB | 194578 | 195185 | 5/8 | 12 | 90 | 95 | 462270 | 1096609 |
| 12 | RB | 168044 | 195229 | 5/8 | 12 | 90 | 95 | 474141 | 1096609 |
| 12 | BB | 104345 | 105344 | 3/4 | 12 | 90 | 95 | 462289 | 1096609 |
| 12 | RB | 104363 | 105362 | 3/4 | 12 | 90 | 95 | 474150 | 1096609 |
| 14 | BB | 194621 | 195247 | 5/8 | 12 | 100 | 105 | 463625 | 1096609 |
| 14 | RB | 194649 | 195265 | 5/8 | 12 | 100 | 105 | 474766 | 1096609 |
| 14 | BB | 104425 | 105424 | 3/4 | 12 | 100 | 105 | 463634 | 1096609 |
| 14 | RB | 104443 | 105442 | 3/4 | 12 | 100 | 105 | 474775 | 1096609 |

* Ultimate Load is 4 times the Working Load Limit.
 + Available in Bronze Bushed only.
 ++ May be furnished in other Wire Rope sizes.
 Note: When ordering, please specify: size, block number, hook or shackle, bronze bushed or roller bearing and wire rope size.



Western Wire Rope Blocks

Diamond & Oval Patterns



T-641-B

- Laser cut painted side plates (can be furnished in galvanized upon request).
- Grade 5 bolts secured with lock washers and staked nuts.
- All sizes feature bronze bushed steel sheaves with larger bearing diameter for extended block life.
- New style hanger for fitting attachment.
- Available with hanger only (no fitting).
- For reeving information, see page 158.
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these blocks meet other critical performance requirements include fatigue life, impact properties and material traceability, not addressed by ASME B30.26.



S-642-B

| Block Size (in.) | Fitting | Diamond Pattern w/ Bronze Bushed Steel Sheaves | | Oval Pattern w/ Bronze Bushed Steel Sheaves | |
|------------------|---------|--|--------------|---|--------------|
| | | 641-B Single | 642-B Double | 661-B Single | 662-B Double |
| 4 | T | 781586 | 782193 | 791183 | 791593 |
| 6 | T | 781611 | 782219 | 791218 | 791619 |
| 8 | T | 781639 | 782237 | 791236 | 791637 |
| 10 | T | 781657 | 782255 | 791254 | 791655 |
| 4 | S | 785886 | 785199 | 795884 | 796197 |
| 6 | S | 785902 | 786206 | 795900 | 796204 |
| 8 | S | 785920 | 786224 | 795928 | 796222 |
| 10 | S | 785948 | 786242 | 795946 | 796240 |
| 6 | J | 782102 | 782503 | 791502 | 791904 |
| 8 | J | 782120 | 782521 | 791520 | 791922 |
| 10 | J | 782148 | 782549 | 791548 | 791940 |
| 6 | E | 782004 | 782406 | 791307 | 791708 |
| 8 | E | 782022 | 782424 | 791325 | 791726 |
| 10 | E | 782040 | 782442 | 791343 | 791744 |

* Fitting Type: T - Hook with Latch; S - Round Pin Shackle; J - Oblong Eye; E - Swivel Shackle Eye.

| Block Size (in.) | Sheave Size (in.) | | Wire Rope Size (in.) | Working Load Limit (tons)* | | Weight Each (lbs) | |
|------------------|-------------------|---------------|----------------------|----------------------------|----------------|-------------------|----------------|
| | Outside Diameter | Rim Thickness | | 641 661 Single | 642 662 Double | 641 661 Single | 642 662 Double |
| 4 | 4 | 3/4 | 3/8 | 1 | 2 | 8 | 11 |
| 6 | 6 | 1 | 3/8 | 3 | 4 | 15 | 21 |
| 8 | 8 | 1-1/4 | 5/8 | 4 | 6 | 28 | 41 |
| 10 | 10 | 1-1/4 | 5/8 | 4 | 7 | 38 | 60 |

* Ultimate Load is 4 times the Working Load Limit.





Western Manila Rope Blocks

Wood Blocks - Manila Rope



HS-21-B

- Laser cut side plates.
- Grade 5 bolts secured with lock washers and staked nuts.
- Bronze bushed sheaves with larger bearing diameter for extended block life.
- Becketts furnished on all blocks.
- For reeving information, see page 158.
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these blocks meet other critical performance requirements including fatigue life, impact properties and material traceability addressed by ASME B30.26.

| Block Size (in.) | Fitting | Single Sheave 21 B Stock Number | Double Sheave 22 B Stock Number | Triple Sheave 23 B Stock Number |
|------------------|---------|---------------------------------|---------------------------------|---------------------------------|
| 4 | HS | 603831 | 604634 | 605438 |
| 5 | HS | 603859 | 604652 | 605456 |
| 6 | HS | 603877 | 604670 | 605474 |
| 8 | HS | 603911 | 604714 | 605517 |
| 4 | N | 606437 | 606838 | 607230 |
| 5 | N | 606455 | 606856 | 607258 |
| 6 | N | 606473 | 606874 | 607276 |
| 8 | N | 606516 | 606918 | 607310 |
| 4 | S | 610039 | 611635 | 613232 |
| 5 | S | 610057 | 611653 | 613250 |
| 6 | S | 610075 | 611671 | 613278 |
| 8 | S | 610119 | 611715 | 613312 |

| Block Size (in.) | Sheave Diameter (in.) | | | Manila Rope Size (in.) | Working Load Limit (lbs)* | | | Weight Each (lbs) | | |
|------------------|-----------------------|---------------|---------------------|------------------------|---------------------------|-----------|-----------|-------------------|-----------|-----------|
| | Outside Diameter | Rim Thickness | Center Pin Diameter | | 21 Single | 22 Double | 23 Triple | 21 Single | 22 Double | 23 Triple |
| 4 | 2.25 | .63 | .38 | 1/2 | 1000 | 1400 | 1800 | 1.75 | 3.00 | 4.00 |
| 5 | 3.00 | .75 | .38 | 5/8 | 1200 | 1800 | 2400 | 3.25 | 5.60 | 6.50 |
| 6 | 3.50 | 1.00 | .50 | 3/4 | 1800 | 2500 | 3200 | 5.00 | 8.50 | 11.50 |
| 8 | 4.75 | 1.13 | .63 | 7/8-1 | 2800 | 3800 | 4800 | 13.00 | 14.00 | 21.50 |

* Ultimate Load is 4 times the Working Load Limit.

Loose Side Hooks with Latch - Manila Rope

- Laser cut side plates.
- Grade 5 bolts secured with lock washers and staked nuts.
- Bronze bushed sheaves with larger bearing diameter for extended block life.

HS-262 Double



| Block Size (in.) | Fitting | Manila Rope Size (in.) | Sheave Size | | 261 B Stock Number | 262 B Stock Number | 263 B Stock Number | Working Load Limit (lbs)* | | | Weight Each (lbs) | | |
|------------------|---------|------------------------|------------------------|---------------------|--------------------|--------------------|--------------------|---------------------------|------------|------------|-------------------|------------|------------|
| | | | Outside Diameter (in.) | Rim Thickness (in.) | | | | 261 Single | 262 Double | 263 Triple | 261 Single | 262 Double | 263 Triple |
| 4 | HS | 1/2 | 2.25 | .63 | 666826 | 666229 | 667228 | 900 | 1400 | 1800 | 1.38 | 3.21 | 3.25 |
| 5 | HS | 5/8 | 3.00 | .75 | 666844 | 666247 | - | 1200 | 1800 | - | 2.25 | 3.88 | - |
| 6 | HS | 3/4 | 3.50 | 1.00 | 666862 | 666265 | - | 1800 | 2500 | - | 3.75 | 6.00 | - |
| 8 | HS | 7/8 - 1 | 4.75 | 1.13 | 666906 | 666309 | 667308 | 2800 | 3800 | 4800 | 7.13 | 10.75 | 14.75 |

* Ultimate Load is 3 time the Working Load Limit. Fitting Type: HS - Latch Hook.



McKissick® Easy Reeve® Crane Blocks

#380 Series Easy Reeve® Hook Blocks

See Application and Warning Information on Pages 375 - 382 of the 2014 The Crosby Group Catalog.



The patented McKissick Split-Nut® is the standard retention system for standard crane blocks up to 100 tons.

Center "Dead End" to promote better travel under various reeving configurations.



Flat Bottom side plate for self standing during reeving process.

Sheave Guards that open to allow block reeving without removing the rope end fitting.

Forged Crosby® alloy steel hooks with patented QUIC-CHECK® markings and Heavy Duty positive locking hook latch.

Wide range of product available.

- Capacity: 5 to 80 tons - Larger Models Available.

- Sheave Sizes: 10" to 20".

- Wire Line Sizes: 7/16 to 1-1/4".

- Manufactured by an ISO 9001 and API QI certified facility.
- All single point shank hooks are genuine Crosby®, forged alloy steel, Quenched and Tempered, and have the patented QUIC-CHECK® markings (Duplex hooks are available on most sizes).
- All Easy Reeve® Blocks are furnished standard with Roller Bearings.
- Reeving Guides Standard -All Models.
- Blocks thru 25 tons use 319N hooks with S-4320 latches.
- Heavy Duty Positive Locking (PL) Latch-Models: 30 tons and larger.
- Sheave lubrication through center pin - Separate lube channel to each bearing.
- Sheaves fully protected by side plates.
- Dual action hook (Swings and Rotates).
- Repair parts available through world wide distribution network.
- Design Factor of 4:1 (unless otherwise noted).
- All Easy Reeve® blocks, 16" and larger, are furnished with McKissick® Roll-Forged™ sheaves with flame hardened grooves.
- Look for the Orange Hook... the mark of genuine McKissick® quality.

OPTIONS AVAILABLE:

- Duplex Hooks
- Swivel Tee and Shackle Assemblies
- Sheave Shrouds
- Anti Rotation-Locking Device
- Plate Steel Cheek Weights
- Third party testing with Certification available upon request.



McKissick® Overhaul Balls

UB500 Series Top Swiveling Overhaul Balls



S320 or S320N Eye Hook



S1316A SHUR-LOC® Eye Hook



Both styles available with optional McKissick® Wedge Socket Assembly or S-421 TERMINATOR™ Wedge Socket



UWO 422T TERMINATOR™ Wedge Only

- Sizes 4 tons through 10 tons available with Crosby's S1316A "Positive Locking" SHUR-LOC® hook which may be used for lifting personnel. Meets the intent of OSHA Rule 1926.1431(g)(1)(i)(A) and 1926.1501(g)(4)(iv)(B).
- Design Factor 4:1.
- The top swivel design on the UB500 assures the ball remains stationary if the wire line spins.
- The swivel incorporates a sealed roller thrust bearing together with a grease fitting for easy lubrication.
- Each ball can be equipped with the new McKissick® US-422T Wedge Socket which can be easily adjusted to fit various sizes of wire rope by changing the wedge (Ensure that correct wedge is used for selected wire rope size).
- All hooks used on UB500 Overhaul Balls (S320, S320N & S1316A) are forged from alloy steel. The S320 and S320N hooks come complete with latches.
- The S320 hook (PL Latch) and the S320N hook (S4320 latch), with the proper latch attached, may be used for personnel lifting when secured with proper device (Bolt, nut and pin for the PL latch; Cotter pin for the S4320 latch). Meets the intent of OSHA Rule 1926.1431(g)(1)(i)(A) and 1926.1501(g)(4)(iv)(B).

| Overhaul Ball Assembly | | | | | Optional US-422T Wedge Sockets | | | | | |
|-------------------------------|---------------------------------|----------------------------------|---------------------------|-------------------|--------------------------------|--------------|--------------------------------|-------------------|-------------------------|-------------------|
| McKissick® UB500 Model Number | UB500 "E" Eye Hook Stock Number | UB500 "S" SHUR-LOC® Stock Number | Working Load Limit (tons) | Weight Each (lbs) | Wire Rope Size (in.) | Model Number | Wedge Socket Assy Stock Number | Weight Each (lbs) | Wedge Only Stock Number | Weight Each (lbs) |
| MB4T35 | 1036000* | 1036005 | 4 | 58 | | | | | | |
| MB4T85 | 1036009* | 1036018 | 4 | 102 | 3/8 | US4T | 1044300 | 4.6 | 1047310 | 0.6 |
| MB4T150 | 1036027* | 1036032 | 4 | 162 | 7/16 | US4T | 1044309 | 4.6 | 1047301 | 0.6 |
| MB4T200 | 1036036* | 1036041 | 4 | 201 | 1/2 | US4T | 1044318 | 4.6 | 1047329 | 0.6 |
| MB7T85 | 1036045* | 1036050 | 7 | 109 | 1/2 | US5T | 1044327 | 8.5 | 1047338 | 1.0 |
| MB7T150 | 1036054* | 1036063 | 7 | 170 | 9/16 | US5T | 1044336 | 8.5 | 1047347 | 1.0 |
| MB7T200 | 1036072* | 1036077 | 7 | 210 | 5/8 | US5T | 1044345 | 8.5 | 1047356 | 1.0 |
| MB7T285 | 1036081* | 1036086 | 7 | 321 | 5/8 | US6T | 1044354 | 9.4 | 1047365 | 1.4 |
| MB10T150 | 1036090* | 1036095 | 10 | 216 | 3/4 | US6T | 1044363 | 9.4 | 1047374 | 1.4 |
| MB10T200 | 1036099* | 1036108 | 10 | 260 | | | | | | |
| MB10T285 | 1036117* | 1036122 | 10 | 365 | | | | | | |
| MB10T350 | 1036126* | 1036131 | 10 | 403 | 5/8 | US6T | 1044354 | 9.4 | 1047365 | 2.3 |
| MB10T650 | 1036135* | 1036140 | 10 | 718 | 3/4 | US6T | 1044363 | 9.4 | 1047374 | 2.4 |
| MB12T150 | 1036144* | 1036520 | 12 | 216 | 7/8 | US8T | 1044404 | 20.8 | 1047425 | 5.3 |
| MB12T200 | 1036153* | 1036529 | 12 | 258 | 1 | US8T | 1044417 | 20.8 | 1047431 | 6.0 |
| MB12T285 | 1036171* | 1036538 | 12 | 365 | 1-1/8 | US10T | 1044426 | 46.5 | 1047440 | 9.6 |
| MB12T350 | 1036180* | 1036547 | 12 | 403 | 1-1/4 | US10T | 1044435 | 46.5 | 1047459 | 10.5 |
| MB12T650 | 1036189* | 1036556 | 12 | 718 | | | | | | |
| MB15T200 | 1036198* | 1036565 | 15 | 298 | | | | | | |
| MB15T350 | 1036207* | 1036574 | 15 | 456 | | | | | | |
| MB15T650 | 1036216* | 1036583 | 15 | 753 | | | | | | |
| MB15T1150 | 1036225* | 1036592 | 15 | 1311 | | | | | | |
| MB20T200 | 1036234* | 1036611 | 20 | 298 | 5/8 | US8AT | 1044372 | 17.5 | 1047383 | 3.1 |
| MB20T350 | 1036243* | 1036620 | 20 | 456 | 3/4 | US8AT | 1044381 | 17.5 | 1047392 | 3.4 |
| MB20T650 | 1036252* | 1036629 | 20 | 753 | 7/8 | US8T | 1044404 | 20.8 | 1047425 | 5.3 |
| MB20T1150 | 1036261* | 1036638 | 20 | 1311 | 1 | US8T | 1044417 | 20.8 | 1047431 | 6.0 |
| MB25T350 | 1036270 | 1036647 | 25 | 533 | 1-1/8 | US10T | 1044426 | 46.5 | 1047440 | 9.6 |
| MB25T650 | 1036279 | 1036656 | 25 | 865 | 1-1/4 | US10T | 1044435 | 46.5 | 1047459 | 10.5 |
| MB25T1150 | 1036288 | 1036665 | 25 | 1421 | | | | | | |
| MB30T650 | 1036297 | 1036674 | 30 | 865 | | | | | | |
| MB30T1150 | 1036306 | 1036683 | 30 | 1421 | | | | | | |

* Utilizes Crosby "N" style hooks with integrated latch. Replacement latch kit is S-4320. PL latch and S-4055 latch will not fit. Standard Crosby S-5 Thrust style swivels can not be used with UB500 Overhaul Balls. For replacement swivels, contact Crosby Customer Service.



UB500 Series Non Swiveling Overhaul Balls



S320 or S320N Eye Hook



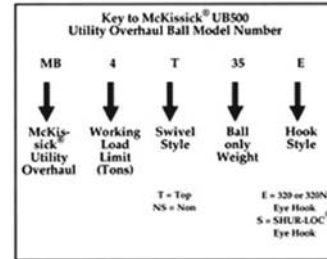
S1316A SHUR-LOC Eye Hook



Both styles available with optional McKissick Wedge Socket Assembly



UWO 422T TERMINATOR Wedge Only



- Sizes 4 tons through 10 tons available with Crosby's S1316A "Positive Locking" SHUR-LOC® hook which may be used for lifting personnel. Meets OSHA Rule 1926.1431(g)(1)(i)(a) y 1926.1501(g)(4)(iv)(B).
- Design Factor 4:1.
- Each ball can be equipped with the new McKissick® US-422T Wedge Socket which can be easily adjusted to fit various sizes of wire rope by changing the wedge (Ensure that correct wedge is used for selected wire rope size).
- All hooks used on UB500 Overhaul Balls (S320, S320N & S1316A) are forged from alloy steel. The S320 and S320N hooks come complete with latches.
- The S320 hook (PL latch) and the S320N hook (S4320 latch), with the proper latch attached, may be used for personnel lifting when secured with proper device (Bolt, nut and pin for the PL latch; Cotter pin for the S4320 latch). Meets the intent of OSHA Rule 1926.1431(g)(1)(i)(a) 0y 1926.1501(g)(4)(iv)(B).

| Overhaul Ball Assembly | | | | Optional US-422T Wedge Sockets | | | | | | |
|-------------------------------|---------------------------------|----------------------------------|---------------------------|--------------------------------|----------------------|--------------|---------------------------------|-------------------|-------------------------|-------------------|
| McKissick® UB500 Model Number | UB500 "E" Eye Hook Stock Number | UB500 "S" SHUR-LOC® Stock Number | Working Load Limit (tons) | Weight Each (lbs) | Wire Rope Size (in.) | Model Number | Wedge Socket Assy. Stock Number | Weight Each (lbs) | Wedge Only Stock Number | Weight Each (lbs) |
| MB4NS35 | 1036402* | 1036407 | 4 | 54 | | | | | | |
| MB4NS85 | 1036411* | 1036416 | 4 | 98 | 3/8 | US4T | 1044300 | 4.6 | 1047310 | 0.6 |
| MB4NS150 | 1036420* | 1036425 | 4 | 158 | 7/16 | US4T | 1044309 | 4.6 | 1047301 | 0.6 |
| | | | | | 1/2 | US4T | 1044318 | 4.6 | 1047329 | 0.6 |
| MB4NS200 | 1036429* | 1036434 | 4 | 200 | 1/2 | US5T | 1044327 | 8.5 | 1047338 | 1.0 |
| MS7NS85 | 1036438* | 1036443 | 7 | 104 | 9/16 | US5T | 1044336 | 8.5 | 1047347 | 1.0 |
| MS7NS150 | 1036447* | 1036452 | 7 | 165 | 5/8 | US5T | 1044345 | 8.5 | 1047356 | 1.0 |
| MS7NS200 | 1036456* | 1036461 | 7 | 205 | 5/8 | US6T | 1044354 | 9.4 | 1047365 | 1.4 |
| | | | | | 3/4 | US6T | 1044363 | 9.4 | 1047374 | 1.4 |
| MS7NS285 | 1036465* | 1036470 | 7 | 316 | | | | | | |
| MB10NS150 | 1036474* | 1036479 | 10 | 198 | | | | | | |
| MB10NS200 | 1036483* | 1036488 | 10 | 242 | | | | | | |
| MB10NS285 | 1036492* | 1036497 | 10 | 347 | | | | | | |
| MB10NS350 | 1036501* | 1036506 | 10 | 385 | 5/8 | US6T | 1044354 | 9.4 | 1047365 | 1.4 |
| MB10NS650 | 1036510* | 1036511 | 10 | 700 | 3/4 | US6T | 1044363 | 9.4 | 1047374 | 1.4 |
| MB12NS150 | 1036519* | - | 12 | 198 | 7/8 | US8T | 1044404 | 20.8 | 1047425 | 7.6 |
| MB12NS200 | 1036528* | - | 12 | 240 | 1 | US8T | 1044417 | 20.8 | 1047431 | 8.6 |
| MB12NS285 | 1036537* | - | 12 | 347 | 1-1/8 | US10T | 1044426 | 46.5 | 1047440 | 12.5 |
| MB12NS350 | 1036546* | - | 12 | 385 | 1-1/4 | US10T | 1044435 | 46.5 | 1047459 | 15.0 |
| MB12NS650 | 1036555* | - | 12 | 700 | | | | | | |
| MB15NS200 | 1036564* | - | 15 | 267 | 5/8 | US8AT | 1044372 | 17.5 | 1047383 | 4.3 |
| MB15NS350 | 1036573* | - | 15 | 425 | 3/4 | US8AT | 1044381 | 17.5 | 1047392 | 4.8 |
| MB15NS650 | 1036582* | - | 15 | 722 | 7/8 | US8T | 1044404 | 20.8 | 1047425 | 7.6 |
| | | | | | 1 | US8T | 1044417 | 20.8 | 1047431 | 8.6 |
| MB15NS1150 | 1036591* | - | 15 | 1280 | 1-1/8 | US10T | 1044426 | 46.5 | 1047440 | 12.5 |
| | | | | | 1-1/4 | US10T | 1044435 | 46.5 | 1047459 | 15.0 |

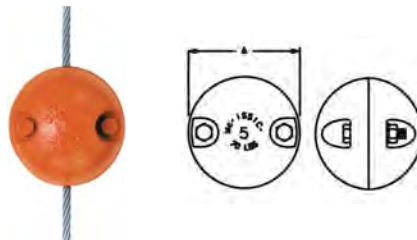
* Utilizes Crosby "N" style hooks with integrated latch. Replacement latch kit is S-4320. PL latch and S-4055 latch will not fit.

FITTINGS & BLOCKS

Split Overhaul Ball

- Attaches easily to wire rope.

| Catalog Number | Stock Number | Wire Rope Size (in.) | Weight Each (lbs) | Ball Diameter A (in.) |
|----------------|--------------|----------------------|-------------------|-----------------------|
| SHB-15 | 2003822 | 1/4 - 5/16 | 15 | 5.06 |
| SHB-20 | 2003830 | 3/8 | 20 | 5.38 |
| SHB-50 | 2003831 | 1/2 - 5/8 | 50 | 7.12 |
| SHB-100 | 2003832 | 5/8 - 3/4 - 7/8 | 100 | 9.19 |





Tackle Block Reeving

THE REEVING OF TACKLE BLOCKS

In reeving tackle blocks, there are many methods. The method discussed below is referred to as “Right Angle” reeving. Please consult your rigging manual for other methods of reeving.

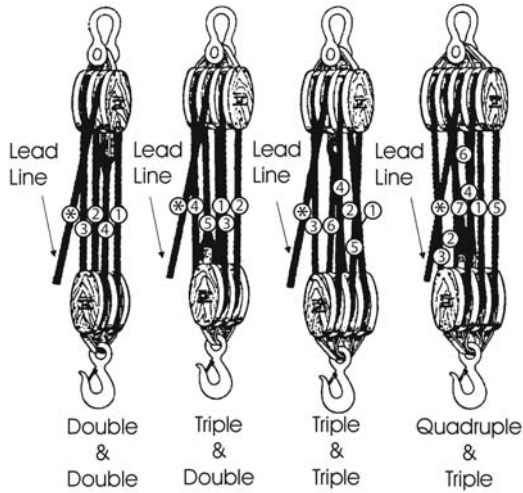
RIGHT ANGLE REEVING

In reeving of tackle blocks, there are many methods. The method discussed below is referred to as “Right Angle” reeving. Please consult your rigging manual for other methods of reeving.

RIGHT ANGLE REEVING

In reeving a pair of tackle blocks, one of which has more than two sheaves, the hoisting rope should lead from one of the center sheaves of the upper block to prevent toppling and avoid injury to the rope. The two blocks should be placed so that the sheaves in the upper block are at right angles to those in the lower one, as shown in the following illustrations.

Start reeving with the becket or dead end of the rope. **Use a shackle block as the upper one of a pair and a hook block as the lower one as seen below.** Sheaves in a set of blocks revolve at different rates of speed. Those nearest the lead line revolve at the highest rate of speed and wear out more rapidly. All sheaves should be kept well lubricated when in operation to reduce friction and wear.



| Caution | |
|---|--|
| <ul style="list-style-type: none"> Exercise care when block is standing in vertical position, as the potential for tipping exists. Potential causes of tipping are unstable work area, boom movement and the reeving process. If work area is unstable, lay block flat on side plate. | |

HOW TO FIGURE LINE PARTS

Sheaves in a system of blocks rotate at different rates of speed, and have different loads. When raising and lowering, the line tension is not equal throughout the system. To help figure the number of parts of line to be used for a given load, or the line pull required for a given load, (for example, use Reeving Diagram. Only numbered lines shall be used in the calculation). The following ratio table is provided with examples of how to use it. The ratios are applicable for blocks as shown and also independent sheave systems that line is reeved through.

| Ratio A Bronze Bushed Sheaves | Ratio B Anti-Friction Bearing Sheaves | Number of Parts of Line |
|-------------------------------|---------------------------------------|-------------------------|
| .96 | .98 | 1 |
| 1.87 | 1.94 | 2 |
| 2.75 | 2.88 | 3 |
| 3.59 | 3.81 | 4 |
| 4.39 | 4.71 | 5 |
| 5.16 | 5.60 | 6 |
| 5.90 | 6.47 | 7 |
| 6.60 | 7.32 | 8 |
| 7.27 | 8.16 | 9 |
| 7.91 | 8.98 | 10 |
| 8.52 | 9.79 | 11 |
| 9.11 | 10.60 | 12 |
| 9.68 | 11.40 | 13 |
| 10.20 | 12.10 | 14 |
| 10.70 | 12.90 | 15 |
| 11.20 | 13.60 | 16 |
| 11.70 | 14.30 | 17 |
| 12.20 | 15.00 | 18 |
| 12.60 | 15.70 | 19 |
| 13.00 | 16.40 | 20 |

$$\text{Ratio A or B} = \frac{\text{Total Load to be Lifted}}{\text{Single Line Pull (lbs.)}}$$

After calculating Ratio A or B, consult table to determine number of parts of line.

Examples:

To find the *number of parts of line* needed when weight load and single line pull are known and using Bronze Bushed Sheaves.

$$\frac{72,180 \text{ lbs. (load to be lifted)}}{8,000 \text{ lbs. (single line pull)}} = 9.02 \text{ (Ratio A)}$$

In table above refer to ratio 9.02 or next highest number, then check column under heading “Number of Line Parts” = 12 parts of line to be used for this load.

To find the single line pull needed when weight of load and number of parts of lines are known and using Anti-Friction Bearing Sheaves.

$$\frac{68,000 \text{ lbs. (load to be lifted)}}{7.32 \text{ (ratio B of 8 part line)}} = 9,290 \text{ lbs. (Single Line Pull)}$$

9,290 lbs. single line pull required to lift this load on 8 parts of a line.