

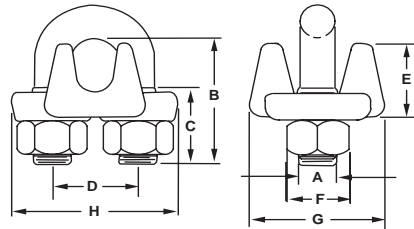


# WIRE ROPE CLIPS

SIZES: 1/8 TO 1-1/2 IN.

## BENEFITS & FEATURES

- Precision manufactured and galvanized to meet federal specifications (FF-C-450 Type 1 Class 1) on 1/4" and larger.
- Drop forged base

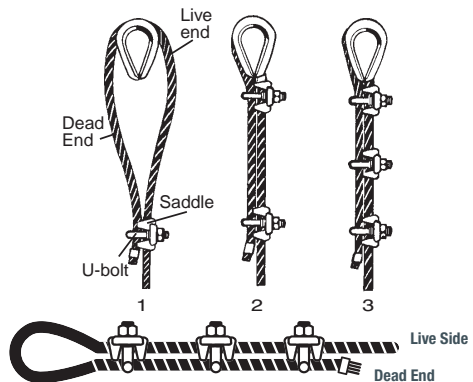


| Size (in.) | Standard Package | Product Code | Dimensions (in.) |      |      |      |      |      |      |      | Minimum Number of Clips | Torque (ft./lbs.) | Rope Turnback | Weight (lbs.) |
|------------|------------------|--------------|------------------|------|------|------|------|------|------|------|-------------------------|-------------------|---------------|---------------|
|            |                  |              | A                | B    | C    | D    | E    | F    | G    | H    |                         |                   |               |               |
| 1/8        | 50               | M244         | 1/8-24UNC        | 0.72 | 0.44 | 0.47 | 0.42 | 0.38 | 0.81 | 1.09 | 2                       | 4-1/2             | 3-1/4         | 0.08          |
| 3/16       | 50               | M245         | 1/4-20UNC        | 0.94 | 0.56 | 0.59 | 0.50 | 0.50 | 0.94 | 1.19 | 2                       | 7-1/2             | 3-3/4         | 0.12          |
| 1/4        | 50               | M246         | 5/16-18UNC       | 1.03 | 0.50 | 0.75 | 0.66 | 0.56 | 1.19 | 1.44 | 2                       | 15                | 4-3/4         | 0.18          |
| 5/16       | 50               | M247         | 3/8-16UNC        | 1.38 | 0.75 | 0.88 | 0.72 | 0.69 | 1.31 | 1.69 | 2                       | 30                | 5-1/4         | 0.30          |
| 3/8        | 50               | M248         | 7/16-14UNC       | 1.50 | 0.75 | 1.00 | 0.91 | 0.75 | 1.63 | 1.94 | 2                       | 45                | 6-1/2         | 0.42          |
| 7/16       | 50               | M249         | 1/2-13UNC        | 1.88 | 1.00 | 1.19 | 1.06 | 0.88 | 1.78 | 2.31 | 2                       | 65                | 7             | 0.70          |
| 1/2        | 20               | M250         | 1/2-13UNC        | 1.88 | 1.00 | 1.19 | 1.16 | 0.88 | 1.91 | 2.31 | 3                       | 65                | 11-1/2        | 0.85          |
| 9/16       | 20               | M296         | 9/16-12UNC       | 2.38 | 1.25 | 1.31 | 1.24 | 0.94 | 1.94 | 2.50 | 3                       | 95                | 12            | 1.00          |
| 5/8        | 20               | M251         | 9/16-12UNC       | 2.38 | 1.25 | 1.31 | 1.34 | 0.94 | 2.00 | 2.49 | 3                       | 95                | 12            | 1.00          |
| 3/4        | 10               | M252         | 5/8-11UNC        | 2.75 | 1.44 | 1.50 | 1.44 | 1.06 | 2.34 | 2.81 | 4                       | 130               | 18            | 1.53          |
| 7/8        | 10               | M253         | 3/4-10UNC        | 3.13 | 1.63 | 1.75 | 1.63 | 1.25 | 2.44 | 3.16 | 4                       | 225               | 20            | 2.40          |
| 1          | 10               | M254         | 3/4-10UNC        | 3.50 | 1.81 | 1.88 | 1.78 | 1.25 | 2.63 | 3.47 | 5                       | 225               | 26            | 2.50          |
| 1-1/8      | 5                | M255         | 3/4-10UNC        | 3.88 | 2.00 | 2.00 | 1.88 | 1.25 | 2.81 | 3.59 | 6                       | 225               | 34            | 3.10          |
| 1-1/4      | 5                | M256         | 7/8-9UNC         | 4.25 | 2.13 | 2.31 | 2.19 | 1.44 | 3.15 | 4.22 | 7                       | 360               | 37            | 4.10          |
| 1-3/8      | 5                | M257         | 7/8-9UNC         | 4.63 | 2.31 | 2.38 | 2.25 | 1.44 | 3.08 | 4.25 | 7                       | 360               | 44            | 4.50          |
| 1-1/2      | 5                | M258         | 7/8-9UNC         | 4.94 | 2.38 | 2.59 | 2.50 | 1.44 | 3.41 | 4.47 | 8                       | 360               | 48            | 5.40          |

NOTE: 1/8" through 5/8" packed 1 piece per poly bag. 3/4" & larger shipped assembled in factory packs and tagged.

## PROPER USE OF WIRE ROPE CLIPS

1. Refer to the chart above when 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, ensuring live end rests in saddle. Tighten nuts evenly, alternate from one nut to the other until reaching the recommended torque.
2. When two clips are required, apply the second clip as near the thimble or loop 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 and turn nuts on second clip firmly, but do not tighten. Proceed to Step 3.
3. When three or more clips are required, space additional clips equally between the first two and take up rope slack. Then tighten nuts on each U-bolt evenly, alternating from one nut to the other until reaching the recommended torque.
4. Apply an initial load equal to loads expected in use. Inspect for proper orientation and spacing of clips and retighten the nuts to recommended torque.



NOTE: Mechanical spliced or finished eyes slings are the preferred method of wire rope sling construction. OSHA does not allow the use of clips to form the eyes of wire rope slings.

## CARE

- Care should be exercised in the installation and use of wire rope clips so that the clip, wire rope, or thimble is not damaged.
- Do not over torque or under torque the nuts. Too much torque can result in damage to the clip and/or the wire rope. Too little torque can result in the wire rope slipping. Torque nuts to the value specified in the accompanying instructions.
- Clips should not be subjected to bending or come in contact with sharp object.
- Avoid exposure to corrosive mediums.

## INSPECTION

- Visually inspect wire rope clips before each use.
- Be certain threads are not stripped and that nuts are tight.
- Check torque of nuts periodically.
- Replace distorted thimbles.
- Shorten wire rope and form new loop if damaged.
- Replace distorted thimbles.

### WARNING

**NEVER INSTALL THE U-BOLT ON THE LIVE SIDE!**

INCORRECT

INCORRECT

**IMPROPER USE OF WIRE ROPE CLIPS**

RIGGING HARDWARE



# MID-GRIP WIRE ROPE CLIPS

**SIZES: 3/16 TO 3/4 IN.**

## BENEFITS & FEATURES

- Allows for full arc wrench swing for quicker installation, retightening and disassembly.
- Saddles are made of forged steel for strength and wearability. Full assembly is mechanical galvanized per ASTM B695-04 Class 25 Type 1.
- Size, manufacturer and trace code are clearly marked on the saddle for easy identification.
- Meets or exceeds performance requirements of FF-C-450 specifications, Type III, Class 1 and will provide maximum holding strength.

### NEW & IMPROVED HEX BOLT & NUT DESIGN

#### TIGHT, SECURE FIT

Hexagon bolt head fits securely into hex-shaped socket for exceptional rotation resistance. This prevents spinning even after repeated use and re-torquing.

#### PRECISE THREADING

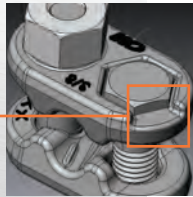
Precise threading on bolt and nut ensures tight alignment and exceptional strength.

#### FEWER LOOSE PARTS TO DROP

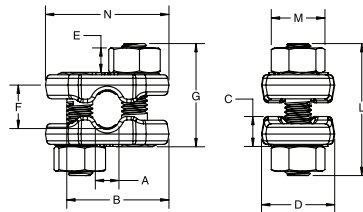
Hex bolt is knurled & machine pressed into socket to securely couple with the saddle.

#### EASY TO INSPECT

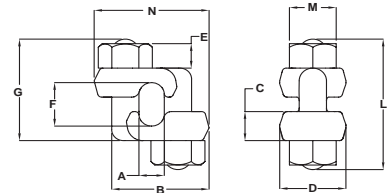
Sight window/notch on top of mid-grip allows for easy inspection of the bolts.



**NEW STYLE**  
Available in 3/16" through 5/8"



**OLD STYLE**  
Available in 3/4" only

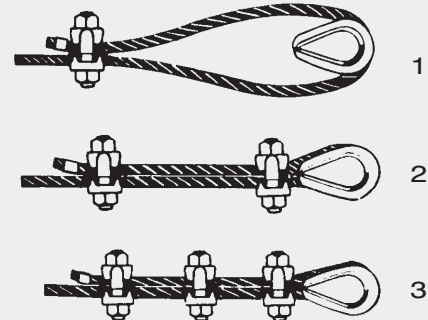


| Size (in.)       | Standard Package | Product Code | Dimensions (in.) |      |      |      |           |      |      |           |      |      | Minimum Number of Clips | Rope Turn-Back (in.) | Torque (ft./lbs.) | Weight (lbs.) |  |
|------------------|------------------|--------------|------------------|------|------|------|-----------|------|------|-----------|------|------|-------------------------|----------------------|-------------------|---------------|--|
|                  |                  |              | A                | B    | C    | D    | E Thread  | F    | G    | L Approx. | M    | N    |                         |                      |                   |               |  |
| <b>New Style</b> |                  |              |                  |      |      |      |           |      |      |           |      |      |                         |                      |                   |               |  |
| 3/16             | 20               | M2546        | 0.37             | 1.53 | 0.44 | 1.06 | 3/8 - 16  | 0.50 | 1.50 | 1.93      | 0.69 | 1.74 | 2                       | 4                    | 30                | 0.38          |  |
| 1/4              | 20               | M2546        | 0.37             | 1.53 | 0.44 | 1.06 | 3/8 - 16  | 0.50 | 1.50 | 1.93      | 0.69 | 1.74 | 2                       | 4                    | 30                | 0.38          |  |
| 5/16             | 20               | M2547        | 0.34             | 1.48 | 0.44 | 1.06 | 3/8 - 16  | 0.63 | 1.50 | 1.90      | 0.69 | 1.80 | 2                       | 5                    | 30                | 0.38          |  |
| 3/8              | 20               | M2548        | 0.46             | 1.67 | 0.54 | 1.13 | 7/16 - 14 | 0.75 | 1.84 | 2.26      | 0.75 | 2.00 | 2                       | 5.5                  | 45                | 0.49          |  |
| 7/16             | 20               | M2550        | 0.65             | 2.03 | 0.59 | 1.31 | 1/2 - 13  | 1.05 | 2.23 | 2.74      | 0.88 | 2.40 | 2                       | 6.5                  | 65                | 0.84          |  |
| 1/2              | 20               | M2550        | 0.65             | 2.03 | 0.59 | 1.31 | 1/2 - 13  | 1.05 | 2.23 | 2.74      | 0.88 | 2.40 | 3                       | 11                   | 65                | 0.84          |  |
| 9/16             | 20               | M2551        | 0.78             | 2.46 | 0.73 | 1.63 | 5/8 - 11  | 1.38 | 2.81 | 3.44      | 1.06 | 2.90 | 3                       | 12.75                | 130               | 1.55          |  |
| 5/8              | 20               | M2551        | 0.78             | 2.46 | 0.73 | 1.63 | 5/8 - 11  | 1.38 | 2.81 | 3.44      | 1.06 | 2.90 | 3                       | 13.5                 | 130               | 1.55          |  |
| <b>Old Style</b> |                  |              |                  |      |      |      |           |      |      |           |      |      |                         |                      |                   |               |  |
| 3/4              | 20               | M2252        | 0.81             | 2.69 | 0.88 | 1.81 | 3/4 - 10  | 1.50 | 3.38 | 5.00      | 1.25 | 3.02 | 3                       | 16                   | 225               | 1.79          |  |

## ▶ INSPECTION, CARE & USE

### PROPER USE OF MID-GRIP CLIPS

1. Refer to chart above when following these instructions. Turn back specified amounts 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.
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 and turn nuts on second clip firmly, but do not tighten. Proceed to step 3.
3. When three or more clips are required, space additional clips between first two and take up rope slack. Then tighten nuts on all clips, alternating from one nut to the other until reaching the recommended torque.
4. Apply an initial load equal to loads expected in use. Inspect for proper spacing and retighten the nuts to the recommended torque.



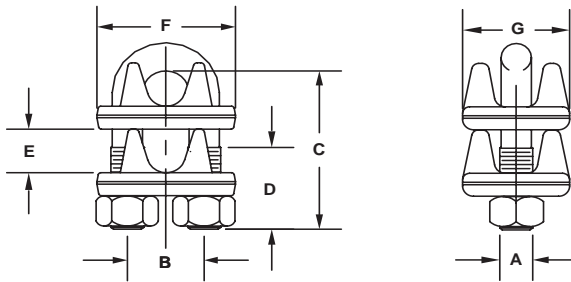


# PIGGYBACK® WEDGE SOCKET CLIPS

SIZES: 3/8 TO 1-1/2 IN.

## BENEFITS & FEATURES

- Forged saddles include size, USA and CM logo
- Drop-forged base for superior function and wearability
- Galvanized finish



| Size (in.) | Standard Package | Product Code | Dimensions (in.) |      |      |      |      |      |      | Torque (ft./lbs.) | Min. Tail (in.) | Weight (lbs.) |
|------------|------------------|--------------|------------------|------|------|------|------|------|------|-------------------|-----------------|---------------|
|            |                  |              | A                | B    | C    | D    | E    | F    | G    |                   |                 |               |
| 3/8        | 10               | M248D        | 7/16-14UNC       | 1.00 | 2.38 | 0.75 | 0.69 | 1.94 | 1.62 | 45                | 6               | 0.8           |
| 7/16       | 10               | M249D        | 1/2-13UNC        | 1.19 | 2.62 | 1.00 | 0.66 | 2.31 | 1.78 | 65                | 6               | 1.3           |
| 1/2        | 10               | M250D        | 1/2-13UNC        | 1.19 | 2.62 | 1.00 | 0.72 | 2.31 | 1.91 | 65                | 6               | 1.4           |
| 9/16       | 10               | M296D        | 9/16-12UNC       | 1.31 | 3.19 | 1.25 | 0.77 | 2.50 | 1.97 | 95                | 6               | 1.7           |
| 5/8        | 10               | M251D        | 9/16-12UNC       | 1.31 | 3.19 | 1.25 | 0.87 | 2.50 | 2.00 | 95                | 6               | 1.7           |
| 3/4        | 10               | M252D        | 5/8-11UNC        | 1.50 | 3.50 | 1.50 | 0.91 | 2.81 | 2.34 | 130               | 6               | 2.5           |
| 7/8        | 5                | M253D        | 3/4-10UNC        | 1.75 | 3.88 | 2.00 | 1.07 | 3.16 | 2.44 | 225               | 6               | 3.6           |
| 1          | 5                | M254D        | 3/4-10UNC        | 1.88 | 4.25 | 2.00 | 1.22 | 3.47 | 2.62 | 225               | 6               | 3.9           |
| 1-1/8      | 5                | M255D        | 3/4-10UNC        | 2.00 | 4.50 | 2.00 | 1.31 | 3.59 | 2.81 | 225               | 6-3/4           | 4.9           |
| 1-1/4      | 5                | M256D        | 7/8-9UNC         | 2.31 | 5.25 | 2.38 | 1.50 | 4.22 | 3.15 | 360               | 7-1/2           | 6.5           |
| 1-3/8      | 5                | M257D        | 7/8-9UNC         | 2.38 | 5.62 | 2.38 | 1.56 | 4.25 | 3.08 | 360               | 8-1/4           | 7.1           |
| 1-1/2      | 5                | M258D        | 7/8-9UNC         | 2.59 | 6.00 | 2.38 | 1.75 | 4.47 | 3.41 | 360               | 9               | 8.2           |

## PROPER USE OF PIGGYBACK WEDGE SOCKET CLIPS

- Dead end wire rope tail length should be at least 6 rope diameters, but not less than 6 inches beyond the wedge socket. See Figure 1.
- Apply U-bolt and first saddle on dead end rope and the second saddle on live end rope. Install nuts. See Figures 1 & 2.
- Position the dual saddle clip so that 3 to 4 inches of dead end rope remain beyond the clip. See Figures 1 & 2.
- Tighten nuts evenly. Alternate tightening each nut until reaching the required torque specified. See Figure 2.
- Check that clip does not pinch or clamp the live wire rope. Apply an initial test load equal to the loads expected in regular use. Be certain rope is secured properly in the wedge socket prior to any use.
- Inspect for proper rope alignment with wedge socket and retighten the nuts to the specified torque.

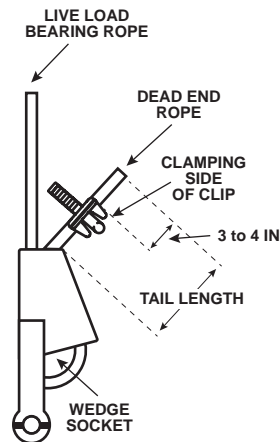


FIGURE 1

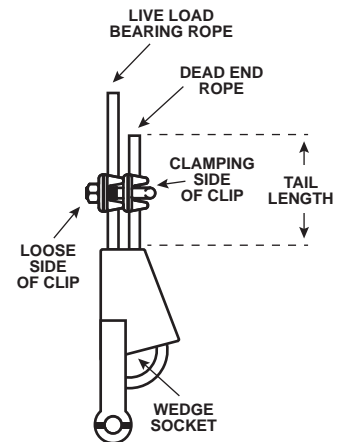


FIGURE 2

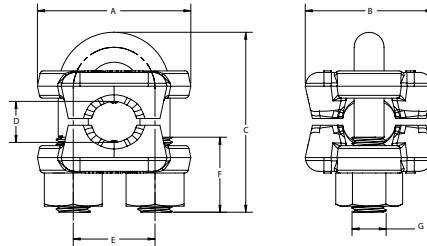


# BUNDLING CLIP

**SIZES: 3/4 TO 1-1/8 IN.**

**BENEFITS & FEATURES**

- Galvanized and painted U-bolt with rolled threads. Interchangeable and replaceable with our standard wire rope clip U-bolts.
- Forged and galvanized saddles come with FORGED USA, size, CM logo and trace code forged in.
- Performs to rated capacities.
- After inspection, the CM Bundling Clip is reusable.
- Available for use with 3/4", 7/8", 1" and 1-1/8" wire rope chokers.



| Size (in.) | Standard Package | Product Code | Dimensions (in.) |      |      |      |      |      |             | Torque (ft./lbs.) | Weight (lbs.) |
|------------|------------------|--------------|------------------|------|------|------|------|------|-------------|-------------------|---------------|
|            |                  |              | A                | B    | C    | D    | E    | F    | G           |                   |               |
| 3/4        | 10               | M252B        | 2.81             | 2.34 | 3.30 | 0.75 | 1.50 | 1.38 | 5/8"-11 UNC | 130               | 2.5           |
| 7/8        | 5                | M253B        | 3.16             | 2.44 | 3.88 | 0.88 | 1.75 | 1.63 | 3/4"-10 UNC | 225               | 3.6           |
| 1          | 5                | M254B        | 3.47             | 2.63 | 4.16 | 1.00 | 1.88 | 1.81 | 3/4"-10 UNC | 225               | 3.9           |
| 1-1/8      | 5                | M255B        | 3.60             | 2.81 | 4.54 | 1.13 | 2.00 | 2.00 | 3/4"-10 UNC | 225               | 4.9           |

RIGGING HARDWARE