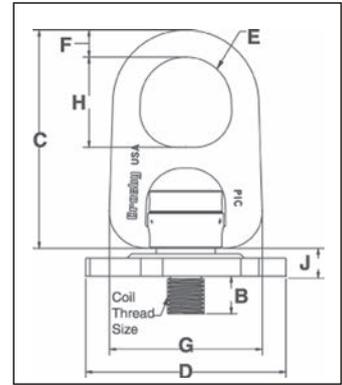




HR-500

- Designed to simplify the lifting and placement of steel plates used to cover trenches in streets.
- Provides a standard fitting to be used in place of products not designed for trench cover applications.
- Capacities of 5,000, 10,000 & 15,000 lbs. for plate thicknesses of 3/4" to 1-1/2".
- Detailed welding instructions included with every hoist ring.
- Forged bail provides the following:
  - Easily readable raised lettering showing the name Crosby or "CG" and PIC code for material traceability.
  - More durability provides the increased "Toughness" desired in potentially abusive field conditions.
- 180 degree pivot and 360 degree rotation at full capacity.
- Design Factor of 5 to 1.
- Individually Proof Tested to 2-1/2 times Working Load Limit.
- All sizes are **RFID EQUIPPED**.



Load Rated



## HR-500 Trench Cover Hoist Rings Coil Threads

HR-500 Stock No.	Working Load Limit (lbs)*	Weight Each (lbs)	Dimensions (in.)								
			Coil Thread Size A	Effective Thread Projection Length B	C	D	Radius E	F	G	H	J
1017907	5000	5.6	1" - 3.5	1.00	5.90	5.50	1.25	.75	4.20	2.50	.77
1017916	10000	15.7	1-1/4" - 3.5	1.00	8.27	7.00	1.63	1.00	6.25	3.25	.81
1017925	15000	29.8	1-1/2" - 3.5	1.50	10.63	9.13	2.00	1.25	7.82	4.00	.80

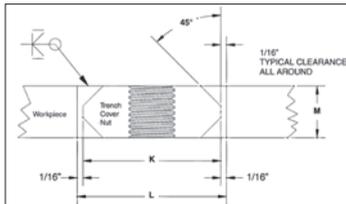
\*Ultimate Load is 5 times the Working Load Limit.



HRN-500

## HRN-500 Trench Cover Nuts

HRN-500 Stock No.	Working Load Limit (lbs.)	Weight Each (lbs.)	Coil Thread Size	Dimensions (in.)		
				Nut Diam. K	Trench Cover Hole Diam. L	Nut Thickness M
1063405	5000	1.2	1" - 3.5	3.00	3.12	.75
1063414	5000	1.4	1" - 3.5	3.00	3.12	.88
1063423	5000	1.6	1" - 3.5	3.00	3.12	1.00
1063432	10000	1.1	1-1/4" - 3.5	3.00	3.12	.75
1063441	10000	1.3	1-1/4" - 3.5	3.00	3.12	.88
1063450	10000	1.5	1-1/4" - 3.5	3.00	3.12	1.00
1063454	10000	1.9	1-1/4" - 3.5	3.00	3.12	1.25
1063458	10000	2.3	1-1/4" - 3.5	3.00	3.12	1.50
1063469	15000	2.0	1-1/2" - 3.5	3.50	3.62	1.00
1063478	15000	2.6	1-1/2" - 3.5	3.50	3.62	1.25
1063487	15000	3.1	1-1/2" - 3.5	3.50	3.62	1.50



## Trench Cover Lifting Ring Tools and Accessories



### HR-500HG Hole Gauge

Aids in determining when studs and plate nuts need replacing.

Coil Thread Size (in.)	HR-500HG Stock No.	Weight Each (lbs.)
1.00 - 3.5	1064666	.6
1.25 - 3.5	1064675	.8
1.50 - 3.5	1064684	1.0



### HR-500TC Thread Clean-Up Tool

Cleans dirt and other material as from nut threads.

Coil Thread Size (in.)	HR-500TC Stock No.	Weight Each (lbs.)
1.00 - 3.5	1064639	1.2
1.25 - 3.5	1064648	1.7
1.50 - 3.5	1064657	1.9



### HR-500WF Weld Fixture

Holds nut securely in place to ease in initial tack welding.

Coil Thread Size (in.)	HR-500WF Stock No.	Weight Each (lbs.)
1.00 - 3.5	1064602	1.8
1.25 - 3.5	1064611	2.1
1.50 - 3.5	1064620	2.5



**CROSBY® TRENCH COVER HOIST RING**  
**WARNINGS & APPLICATION INSTRUCTIONS**



**HR-500**

**Trench Cover Hoist Ring  
 Application / Assembly Instructions**

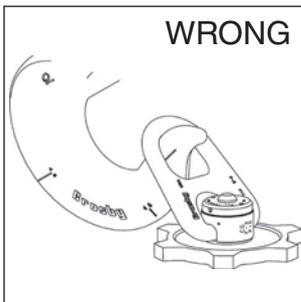
- Use trench cover hoist ring only with ferrous metal (steel, iron) workpiece.
- After determining the loads on each trench cover hoist ring, select the proper size using the Working Load Limit (WLL) ratings in Table 1 (see next page). For proper nut selection, reference trench cover nut welding guidelines (see next page). Nut thickness must equal workpiece thickness.
- For proper welding of nut, reference Nut Welding Guidelines on the following page.
- Always make sure the nut is free of dirt or contaminants before installation of the Trench Cover Hoist Ring. A clean out tool is available from Crosby.
- To install, spin base down flush with workpiece surface and tap one of the lugs on the base with a hammer to tighten; repeat procedure before each use.
- Never use spacers between the trench cover hoist ring base and workpiece surface.
- Always select proper load rated lifting device for use with trench cover hoist ring.
- Attach lifting device ensuring free fit to trench cover hoist ring bail (lifting ring) (Figure 1).
- Apply partial load and check proper rotation and alignment. There should be no interference between load (workpiece) and trench cover hoist ring bail (Figure 2).
- Always ensure free movement of bail. The bail should pivot 180 degrees and swivel 360 degrees (Figure 4).

**⚠ WARNING**

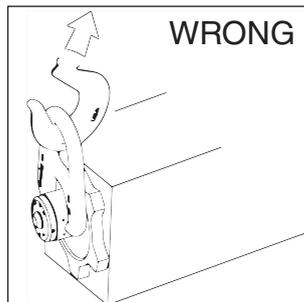
- Load may slip or fall if proper Trench Cover Hoist and lifting procedures are not used.
- A falling load can seriously injure or death.
- Do not use with damaged slings or chain. For inspection criteria see ASME B30.9.
- Never apply load except in line with the pivot direction.
- Use only genuine Crosby parts as replacements.
- Read and understand these warnings and application instructions.

**Trench Cover Hoist Ring  
 Inspection / Maintenance**

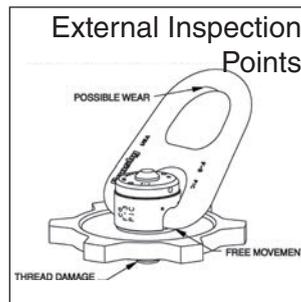
- Always inspect trench cover hoist ring parts before use (Figure 3). Be sure threads on shank and receiving hole are clean, not damaged or worn, and fit properly. A thread gauge is available from Crosby.
- Never use trench cover hoist ring that shows signs of corrosion, wear or damage.
- Never use trench cover hoist ring if bail is bent or elongated.
- Do not use parts showing cracks, nicks or gouges. Always make sure there are no spacers (washers) used between trench cover hoist ring body and the workpiece surface. Remove any spacers (washers) and retighten before use.
- Always be sure total workpiece surface is in contact with the trench cover hoist ring body mating surface.
- Drilled and tapped hole in the weld-in nut must be 90 degrees to load (workpiece) surface. A welding fixture is available from Crosby.
- A visual periodic inspection of the nut to workpiece weld should be performed. Check the weld visually, or use a suitable NDE (Non-Destructive Examination) method if required.



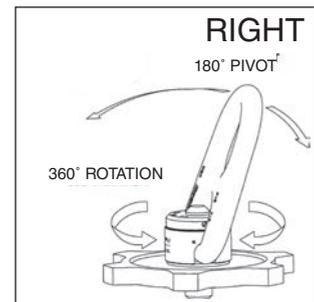
**Figure 1**



**Figure 2**



**Figure 3**



**Figure 4**

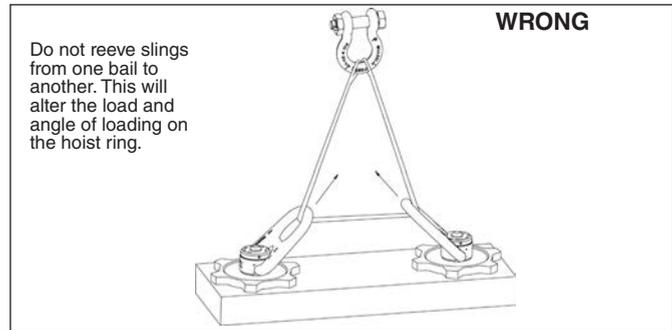
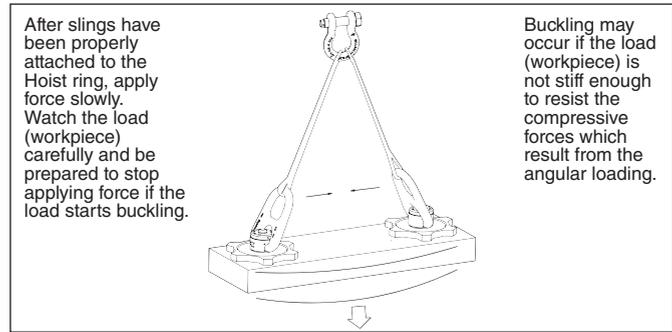
## Operating Safety

- Never exceed the capacity (WLL) of the trench cover hoist ring, see Table 1.
- When using lifting slings of two or more legs, make sure the forces in the legs are calculated using the angle from the horizontal sling angle to the leg and select the proper size trench cover hoist ring.

Working Load Limit (lbs.)*	Dimensions (in.)		Weight Each (lbs.)
	Coil Thread Size A	Effective Thread Projection Length B	
5,000	1" - 3.5	1.000	8.0
10,000	1-1/4" - 3.5	1.000	16.0
15,000	1-1/2" - 3.5	1.000	28.0

\* Ultimate load is 5 times the working load limit. Individually proof tested to 2-1/2 times the working load limit.

\*\* Designed to be used with ferrous workpiece only.



## Trench Cover Nut Welding Guidelines

1. Select the correct size trench cover hoist ring to be used. Be sure to calculate the maximum load that will be applied to the trench cover hoist ring. The nut thickness should be equal to the workpiece thickness.
2. Cut a hole in the workpiece per Table 2 below.
3. Insert the trench cover nut into the hole. The trench cover nut should have 1/16" clearance around its outer edge. The surface of the trench cover nut must be parallel and even with the surface of the workpiece (See Figure 5).
4. A welding fixture is available from Crosby for this.
5. Welding is to be performed by a qualified welder using a qualified procedure in accordance with American Welding Society and/or American Society of Mechanical Engineers requirements.
6. When welding to low or medium carbon cover steel, the following suggestions should be included in the qualified procedure.
  - A. Before welding, all weld surfaces must be clean and free from rust, grease, paint, slag and any other contaminants.
  - B. Weld material is to have a minimum tensile strength of 70,000 PSI (such as AWS A5. 1E-7018). Observe the electrode manufacturer's recommendations.
  - C. Completely fill internal bevel created between trench cover nut and the workpiece.
  - D. Do not rapidly cool the weld.
  - E. The surface of the weld must be ground sufficiently so that the trench cover hoist ring will fit flush against the workpiece.
  - F. Using the same procedure, weld the opposite side.
  - G. A thorough inspection of the weld should be performed. No cracks, pitting, inclusions, notches or undercuts are allowed. If doubt exists, use a suitable NDE method, such as magnetic particle or liquid penetrant to verify.
  - H. If repair is required, grind out the defect and re-weld using the original qualified procedure.

Working Load Limit (lbs.)	Dimensions (in.)			
	Coil Thread Size	Nut Diameter K	Trench Cover Hole Diameter L	Nut Thickness = Workpiece Thickness M
5,000	1" - 3.5	3	3-1/8	3/4
5,000	1" - 3.5	3	3-1/8	7/8
5,000	1" - 3.5	3	3-1/8	1
10,000	1-1/4" - 3.5	3	3-1/8	3/4
10,000	1-1/4" - 3.5	3	3-1/8	7/8
10,000	1-1/4" - 3.5	3	3-1/8	1
10,000	1-1/4" - 3.5	3	3-1/8	1-1/4
10,000	1-1/4" - 3.5	3	3-1/8	1-1/2
15,000	1-1/2" - 3.5	3-1/2	3-5/8	1
15,000	1-1/2" - 3.5	3-1/2	3-5/8	1-1/4
15,000	1-1/2" - 3.5	3-1/2	3-5/8	1-1/2

**NOTE: For welding to other grades of steel, a qualified weld procedure must be developed.**

**Figure 5**

