

**RIGGING HARDWARE
ASME B30.26**

Addresses detachable lifting hardware for lifting purposes

- Shackles
- Adjustable Hardware (Turnbuckles, Eye nuts, Swivel Hoist Rings and Eyebolts)
- Compression Hardware (Wire Rope Clips and Wedge Sockets)
- Rings, Links and Swivels
- Rigging Blocks





Screw pin anchor style

Screw Pin Anchor/Chain Shackles allow quick and easy removal of the screw pin and can be useful in applications where the shackle is frequently removed, but not so much in applications where the pin is subject to torque or twisting or cyclically loaded.

How tight does the pin need to be?

The pin must be tightened hand tight or until pin head is fully seated against the body of the shackle. It may be necessary to tighten an additional 1/8 turn to ensure **proper engagement**. Do not back the pin off the body of the shackle.



Screw pin shackles continued...

MOUSE TAIL SHACKLE IF IT REMAINS IN PLACE FOR ANY EXTENDED PERIOD OF TIME. THIS WILL PREVENT PIN FROM BACKING OUT



Bolt & Nut Cotter Anchor style

Provide the most secure pin arrangement and will resist axial loading and torsional loading, but should only be used in applications where shackle is infrequently or never removed.



Round pin chain Anchor style

Allow easy removal of pin by removing cotter pin and perform well where pin is subject to torque or twisting, but not so much in applications where pin is subject to an axial load. **Do not use for Rigging!**

SHACKLES

One of the safest and easiest ways to attach to a load. They provide a positive attachment for slings, hoists or cranes to connect to load.

DO NOT SIDE LOAD ROUND PIN SHACKLES

ANGLE OF SIDE LOAD

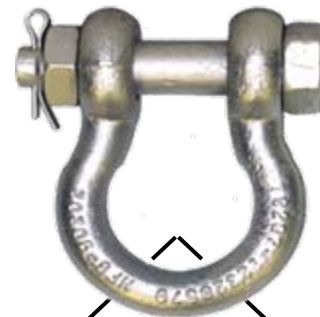
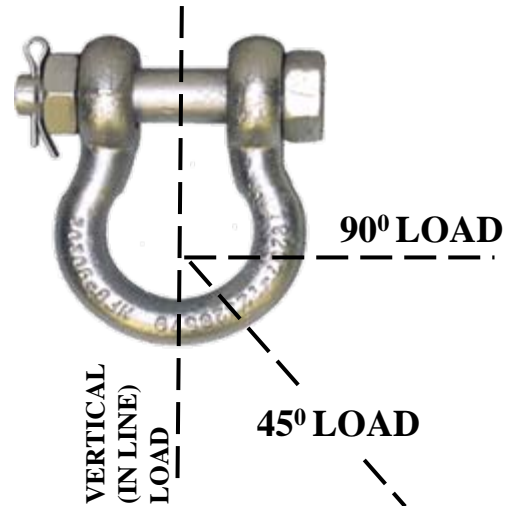
0°	VERTICAL OR IN LINE	100% WLL
45°	70% WLL
90°	50% WLL

SYMMETRICAL LOADING

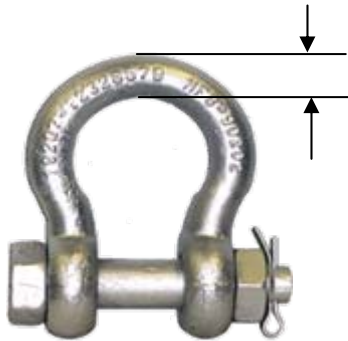
Shackles symmetrically loaded with two legs at maximum angle of 120° can be used to full working load limit.

CAUTION: Round pin anchor shackles and round pin chain shackles that only use cotter pins for retainers must not be used for overhead lifting. The retainers are not designed to withstand the load applied on them in a rigging application.

BOLT NUT COTTER TYPE SHACKLE



DO NOT EXCEED 120° INCLUDED ANGLE WHEN USING MULTIPLE SLING LEGS



The bow diameter is how a shackle is specified and marked.

The WLL of shackles diameters do not match up with working load limits of chain diameters. You need to look at the WLL of the shackle if you are matching them up with an equal WLL chain size.

SAME DIAMETER SHACKLES CAN HAVE DIFFERENT RATINGS

Size Diameter (in.)	Working Load Limits (tons)	
	CM	Crosby*
3/16	1/2	1/3
1/4	3/4	1/2
5/16	1	3/4
3/8	1-1/2	1
7/16	2	1-1/2
1/2	3	2
5/8	4-1/2	3-1/4
3/4	6-1/2	4-3/4
7/8	8-1/2	6-1/2
1	10	8-1/2
1-1/8	12	9-1/2
1-1/4	14	12
1-3/8	17	13-1/2
1-1/2	20	17
1-5/8	24	Not Available
1-3/4	30	25

REQUIRED SHACKLE MARKINGS

Shackle Body Markings: ASME B30.26

- name or trademark of manufacturer
- rated load
- size (diameter of body)



Below are markings you will find on a 1" dia. Shackle:

Carbon

WLL 8 ½ T XXX CM CE 26mm USA 1"

Marking on Round Pin, Screw Pin, and Bolt, Nut & Cotter Gov't / Industrial Shackle

Super Carbon

WLL 10T XXX CM CE 26mm USA 1"

Marking on Round Pin, Screw Pin and Bolt, Nut & Cotter Super Shackle

Alloy

WLL 12 ½ T ALLOY CM CE 26mm USA 1"

Marking on Round Pin, Screw Pin, and Bolt, Nut & Cotter Alloy Shackle



MIDLAND FORGE TRADEMARK

ALWAYS USE MARKING ON SHACKLE BODY TO IDENTIFY W.L.L.

- DO NOT USE DIAMETER TO DETERMINE W.L.L.
- SHACKLES CAN BE MADE FROM
 - CARBON
 - SUPER CARBON
 - ALLOY

ALL HAVE DIFFERENT W.L.L. LIMITS

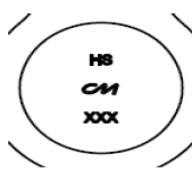
REQUIRED SHACKLE MARKINGS

SHACKLE PIN IDENTIFICATION: ASME B30.26

- name or trademark of manufacturer
- grade, material type or load rating



END OF SCREW PIN



END OF ROUND PIN



END OF HEX HEAD

Legend

HS = High Strength
 CM = Columbus McKinnon Logo
 XXX = Trace Code

NOTE:

ALL CM SHACKLES, REGARDLESS OF TYPE, HAVE HIGH STRENGTH PINS. (Alloy quenched and tempered)



← MANUFACTURE

← TRACE CODE

← "HS" High Strength

The pin or bolt of the shackle is what is embossed with "HS"
 The body is not marked "HS"

This meets the requirements of Federal Specification RRC-271D

ASME B30.26**DISCARD SHACKLES IF:**

- Any parts worn more than 10% of original dimensions
- Bent, twisted, distorted, stretched, elongated, cracked, or broken load bearing components.
- Excessive pitting or corrosion, nicks or gouges
- Indication of heat damage
- Missing or illegible manufacture's name or trademark or rated load identification
- Body spread
- Makeshift or sub standard pins not supplied by original manufacturer.
- Any field modification is evident

