
CATALOG FOR PRESSURE CONTROL EQUIPMENT

Supplement 2

[Photo](#)

LIFTING ACCESSORIES FOR BLOWOUT PREVENTERS AND SNUBBING STACKS

This catalog supplement provides information on Lifting Plates and attachments to hoist Type U BOP's and other assembled BOP stacks. Included you will find illustrations, installation instructions, application information and BOP weights.

TRADEMARK



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Effective Date: July, 2009

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WOODCO USA presents this catalog to gain your attention and secure your business

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1.0 General

1.1 Purpose

WOODCO USA presents this catalog to provide useful information about WOODCO USA Blowout Preventer Lifting Equipment. It describes the application, designates the applicable specification and reference standard, indicates the material specification, and provides a quality statement.

1.2 Application

Lifting Plates and Flanges provide a safe and convenient way to lift individual Blowout Preventers to assemble stacks, and then lift entire stacks using these same Lifting Plates to make efficient installation of the stack to the wellhead.

1.3 Reference Standards

The design of the WOODCO USA Lifting Plates meets or exceeds requirements stipulated in API Spec 8A for Drilling and Production Hoisting Equipment. The design permits the use of standard shackles and lifting equipment currently available and commonly used. Lifting plates also meet or exceed requirements for lifting devices as stipulated in API Spec 17D, Subsea Wellhead and Christmas Tree Equipment.

API Spec 8A

API Spec 17D

ASTM A320 GR-L7

ASTM A194 GR-2H

1.4 Material

WOODCO USA manufactures Lifting Equipment from material selected and inspected for this purpose.

Users should specify any temperature service requirement below -20° C(-4° F).

1.5 Quality

WOODCO USA defines “Product Quality” as conformance to specified requirements. We select suppliers on the basis of their ability to provide materials, products and/or services which conform to WOODCO USA and industry specifications. All individual units of Lifting Equipment must pass inspections during and after production, and all individual units must pass a final magnetic particle examination.

WOODCO USA offers, as an option, load testing of Lifting Equipment to 1.5 times rated capacity.

Users may have confidence that units will always support the rated capacity.

Caution:

Users should never perform field welding on any portion of Lifting Equipment. Field welding may crack or otherwise degrade the properties of the material. For other cautions and recommendations for in-service field inspections, see API RP 8B.

2.0 User Information

2.1 How To Use

Operators may lift type “U” BOP’s separately or as assembled stacks. Lifting Plates have capacities rated to lift assembled stacks, but operators must assure the complete stack weight does not exceed the capacity of the lifting equipment, from the plates through all connections to the hoisting mechanism.

Each new Lifting Plate has a rated capacity marked on the plate. This rated capacity requires specific torque for specified bolts and nuts securing the Lifting Plate to the BOP. These bolt and nut grades and torques appear in Table 3 of this document. See page 8 of this catalog.

Use plates only in pairs with 4 studs and 4 nuts for each plate. See page 9 of this catalog.

Figure 3 on the next page provides an example of an assembled BOP stack. Use the catalog listed weight of each BOP added together, plus any allowance for Spools, Adapters, bolting and other accessory equipment, for an estimated total weight for lifting. A properly sized spreader bar must minimize the angular pull of lifting lines. Operators must never lift assemblies that weigh more than the rated capacity of lifting components or connecting links.

Operators should always avoid shock loading of any lifting equipment or attachment points on equipment used for lifting. Accidental shock loading requires careful inspection of all connecting points and linkages subjected to the shock.

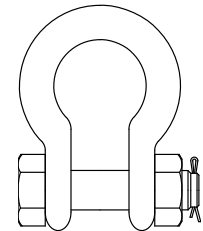
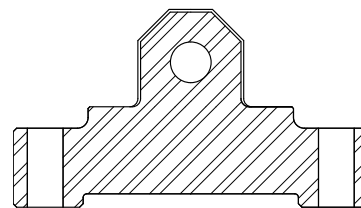
2.2 Other Lifting Options

WOODCO USA offers, other types of BOP Lifting Plates and Lifting Flanges for various applications. Different designs allow the location of the lifting point so that out of balance snubbing stacks with pressure equalizing loops hang perpendicular (see Figure 2 below).

Inquire with WOODCO USA for your particular needs.

Figure 1

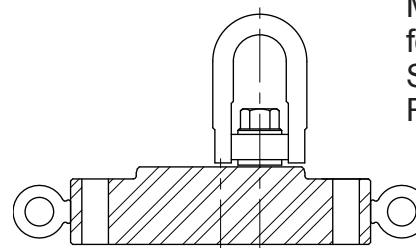
Lifting Flange



Shackle
(option)

Figure 2

Offset Lifting Flange



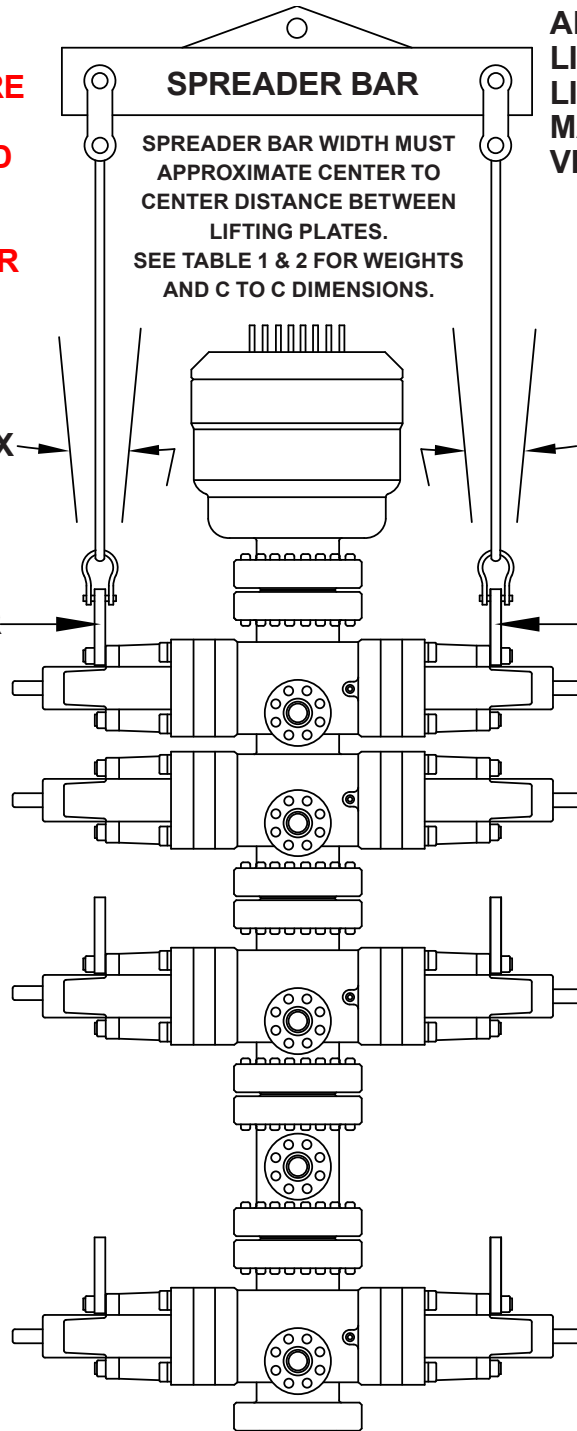
Manufactured
for use with
Safety Hoist
Ring (option)

Figure 3

STACK LIFT WORKSHEET
 (MODIFY AS NECESSARY TO APPROXIMATE YOUR STACK)

CAUTION:

**NEVER LIFT MORE
 TOTAL WEIGHT
 THAN THE RATED
 CAPACITY OF
 THE LIFTING
 COMPONENTS OR
 LINKS.**



**ALWAYS RIG LIFTING
 LINKAGE SO THAT
 LINES AND LINKAGES
 MAKE AN APPROXIMATE
 VERTICAL PULL.**

**SEE BOP
 WEIGHT
 TABLES 1 & 2.**

**ANNULAR
 WT# _____**

**DOUBLE RAM
 TYPE "U"
 WT# _____**

**SINGLE RAM
 TYPE "U"
 WT# _____**

**DRILLING SPOOL
 WT# _____**

**SINGLE RAM
 TYPE "U"
 WT# _____**

**ESTIMATED TOTAL
 STACK WT# _____**

TABLE 1
ANNULAR BOP WEIGHT TABLES*

HYDRIL GK ANNULAR BOP	
SIZE AND WORKING PRESSURE (PSI)	WEIGHT (LBS)
7-1/16" 3000	2,715
7-1/16" 5000	3,940
9" 3000	3,560
9" 5000	6,000
11" 3000	5,300
11" 5000	8,250
13-5/8" 3000	8,784
13-5/8" 5000	13,800
16-3/4" 2000	11,417
16-3/4" 3000	14,868
16-3/4" 5000	21,000
21-1/4" 5000	48,000

SHAFFER ANNULAR BOP BOLTED COVER (B) WEDGE COVER (W)	
SIZE AND WORKING PRESSURE (PSI)	WEIGHT (LBS)
7-1/16" 3000 (B)	2,950
7-1/16" 5000 (B)	3,300
7-1/16" 10000 (B)	10,600
11" 3000 (B)	6,200
11" 5000 (B)	9,400
11" 10000 (B)	23,000
13-5/8" 3000 (B)	9,425
13-5/8" 5000 (B)	13,650
13-5/8" 10000 (W)	32,500
16-3/4" 5000 (W)	22,900
18-3/4" 5000 (W)	36,100
21-1/4" 2000 (W)	10,900
21-1/4" 5000 (W)	44,500

CAMERON "D" ANNULAR BOP	
SIZE AND WORKING PRESSURE (PSI)	WEIGHT (LBS)
7-1/16" 3000	2,738
7-1/16" 5000	2,778
7-1/16" 10000	7,255
7-1/16" 15000	12,000
7-1/16" 20000	17,716
11" 3000	8,255
11" 5000	8,447
11" 10000	13,954
11" 15000	36,500
13-5/8" 3000	12,855
13-5/8" 5000	16,215
13-5/8" 10000	27,262
16-3/4" 3000	25,950
16-3/4" 5000	26,300
18-3/4" 10000	40,632

HYDRIL MSP-2000 ANNULAR BOP	
SIZE AND WORKING PRESSURE (PSI)	WEIGHT (LBS)
7-1/16" 3000	1,850
9" 2000	2,450
11" 2000	3,520
21-1/4" 2000	15,100

Note: These weight tables use published numbers taken from manufacturers' catalogs. WOODCO USA provides this information for reference only. Anyone making use of the information presented does so at his own risk and assumes any and all liability resulting from such use.

* Consult manufacturer for sizes and weights not shown, or any observed discrepancy.

TABLE 2
RAM TYPE U BOP DIMENSIONS AND WEIGHTS*

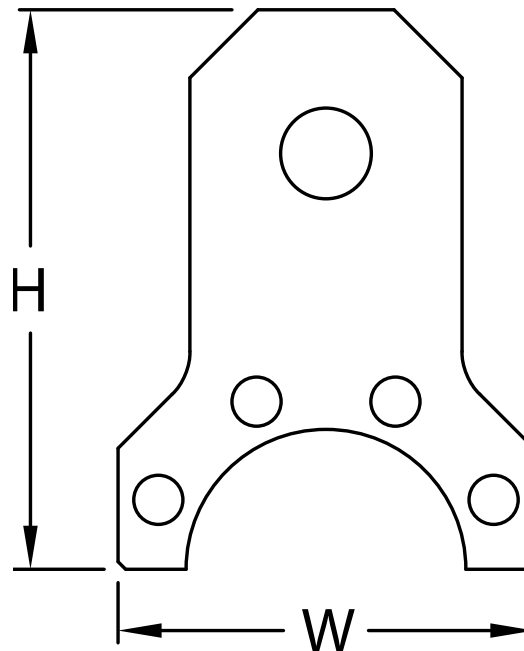
TYPE "U" BOP							
SIZE AND WORKING PRESSURE (PSI)	WEIGHT (LBS)		LIFT PLATES CENTER TO CENTER	LIFT PLATE NUMBER	LIFT PLATE CAPACITY (2 COMBINED TONS)	STUD PART NO.	NUT PART NO.
	SINGLE	DOUBLE					
7-1/16" 3000	2,600	5,000		1	20	9491-01	2340-3
7-1/16" 5000	2,800	5,200	52-1/4"	1	20	9491-01	2340-3
7-1/16" 10000	3,550	6,400		1	20	9491-01	2340-3
7-1/16" 15000	3,800	6,750	52-1/4"	1	20	9491-01	2340-3
11" 5000	5,600	10,200	69-1/4"	2	35	9491-02	2340-5
11" 10000	6,400	11,300	69-1/4"	2	35	9491-02	2340-5
11" 15000 MOD.79	10,300	18,400	86-1/2"	3	55	9491-07	2340-7
13-5/8" 3000	7,200	14,300	81-1/2"	3	55	9491-06	2340-7
13-5/8" 5000	7,700	14,800	81-1/4"	3	55	9491-06	2340-7
13-5/8" 10000	10,300	18,400	83-1/2"	3	55	9491-06	2340-7
16-3/4" 5000 MOD. B	13,750	26,940	96"	3	55	9491-03	2340-7
16-3/4" 10000	23,300	43,500	102-1/4"	3	55	9491-03	2340-7
20-3/4" 3000	13,650	25,550	105-1/2"	3	55	9491-06	2340-7
21-1/4" 2000	13,250	25,150	105-1/2"	3	55	9491-04	2340-7
21-1/4" 5000	30,000	58,000	121"	4	100	9491-08	2340-11
21-1/4" 10000	34,650	65,500	121"	4	100	9491-08	2340-11

* Consult manufacturer for sizes and weights not shown, or any observed discrepancy.

Note: Lift Plates for Type "U" BOP's sold as pairs, identified by Lift Plate Number. Studs and Nuts sold separately, identified by part number and sized for the BOP identified in the first column of this table.

Note: These weight tables use published numbers taken from manufacturers' catalogs. WOODCO USA provides this information for reference only. Anyone making use of the information presented does so at his own risk and assumes any and all liability resulting from such use.

TABLE 3
RAM TYPE U BOP LIFTING PLATE DIMENSIONS



DESCRIPTION	CAPACITY EA. (TONS) ¹	H (INCHES)	W (INCHES)	WEIGHT EA. PR ² (LBS)	B7/L7 STUD DIAMETER ³ (INCHES)	TIGHTENING TORQUE ⁴ (FT.LBS.)
PLATE #1	20	14-1/2	8-3/8	43	1	474
PLATE #2	35	16	11-3/8	52	1-1/4	953
PLATE #3	55	18-1/2	13-7/8	108	1-1/2	1,677
PLATE #4	100	23-1/4	21-1/4	260	2	4,061

1 Lifting Plates always used in pairs, double capacity each for BOP or BOP stack lifting.

2 Lifting Plates always used in pairs, double weight each for weight of pair.

3 L7 Stud with 1 2H Hex Nut.

4 Torque Value assume the use of API RP 5A3 / ISO 13678 thread compound.

Note: Lift Plates sold as pairs, identified by Lift Plate Number. Studs and Nuts sold separately, identified by part number and sized for the BOP as identified in the first column of Table 2.

Lift Plates listed above fit the most common Ram Type U BOP's in service today. All Manufacturers continually strive to improve their existing products and introduce new products to satisfy customer needs. UL and UM BOP types have entered the market and WOODCO USA also offers Lifting Plates, and Safety Hoist Rings, to fit these newer models.

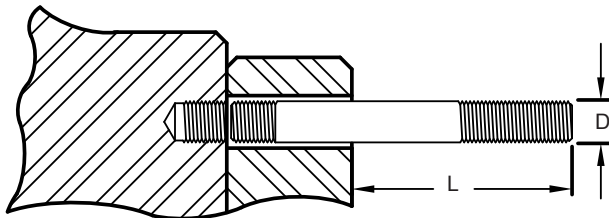
2.3 Proper installation of replacement Tap End Studs, and Lifting Plates.

Remove the top four tap end studs that retain locking screw housing.

Install new (longer) tap end studs (see Table 3) making sure to lubricate and install the shorter thread end into the tapped hole in the BOP bonnet (make certain that the replacement stud screws into bonnet tapped hole a distance equal to the stud diameter)

Figure 5
Worksheet

PLACE NEW STUD IN HOLE AND TOUCH ENTRANCE TO TAPPED SURFACE.



L" EXTENSION BEFORE THREAD ENGAGEMENT _____

L" MINUS EXTENSION AFTER THREAD ENGAGEMENT _____

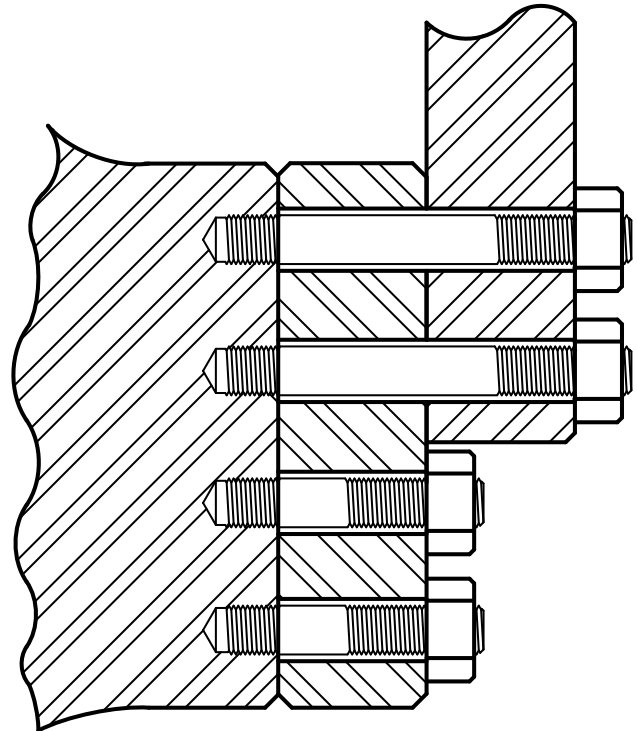
DIFFERENCE IN L _____ MUST EQUAL $D + 1/8" - 0"$

The new studs must engage an amount equal to their diameter. Use worksheet, Figure 2 above for convenience.

Install the Lifting Plate onto the longer tap end studs and secure the plate by tightening lubricated nuts (lubricate both threads and nut engagement faces) to the specified torque shown in Table 4.

Figure 6

Cross Section View of Installed Lifting Plate



The points of all studs should extend, approximately equal, beyond the engaged nuts, by at least 1/8"

All Lifting Plates manufactured by WOODCO USA receive 100% mag particle inspection.

WOODCO USA offers individual load testing of Lifting Plates at 1.5 x capacity at customer request and at additional cost.

2.4 Other Available Lifting Attachments

WOODCO USA offers other types of BOP Lifting Plates and Lifting Flanges for various applications. Different designs allow the location of the lifting point so that out of balance snubbing stacks with pressure equalizing loops hang perpendicular. Inquire with WOODCO USA for your particular needs.



**LIFTING FLANGE
FOR USE WITH
LIFTING SHACKLE.**

**TYPICAL CAPACITY
7-1/2 TO 200 TONS.**



**SAFETY HOIST RING FOR
ATTACHMENT TO SPOOLS
AND ADAPTERS.**

**TYPICALLY 2 USED
SPECIFY CAPACITY AND
THREAD REQUIRED**



**LIFTING FLANGE
WITH TEST PORT**



**FOUR BOLT LIFT PLATE
FOR SNUBBING BOP's
TYPICAL CAPACITY
18 TONS.**



**LIFTING HUB
FOR USE WITH
LIFTING SHACKLE.
TYPICAL CAPACITY
7-1/2 TO 200 TONS.**

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