

HOUSTON, TEXAS WWW.LIFTMOORE.COM
PHONE: (713) 688-5533 • FAX: (713) 688-6324
FAX: (800) 824-5559 (USA & CANADA)

Operating & Installation Instructions

Hydraulic Out / Hydraulic Down 45k ft.lbs. Outriggers

(This manual is also used for HOHD-FXHD and FXHD-FXHD)

!ATTENTION!

KEEP THIS MANUAL WITH THE CRANE. OPERATION INSTRUCTIONS ARE CONTAINED IN A SEPARATE MANUAL. NEW OPERATORS SHOULD READ AND BE FAMILIAR WITH THE OPERATING INSTRUCTIONS BEFORE OPERATING THIS CRANE.

ORDER PARTS USING PART NUMBER, CRANE MODEL NUMBER AND CRANE SERIAL NUMBER TO ASSURE ACCURACY OF ORDERS.

TABLE OF CONTENTS

P/N 29856

HYDRAULIC OUT / HYDRAULIC DOWN 45k ft.lbs. OUTRIGGER

DESCRIPTION

LOCATION

TABLE OF CONTENTS	FORM 2775-0 / P.2
OPERATING INSTRUCTIONS	FORM 2775-0 / P.3
INSTALLATION INSTRUCTIONS	FORM 2775-0 / P.4
INSTALLATION PROCEDURES FOR FITTING & HOSES	FORM 2302-0 / P.5
INSTALLATION DRAWING	DRAWING 50857-0
OUTRIGGER ASSEMBLY DRAWING	DRAWING 29865-C
HYD JACK ASSEMBLY DRAWING	DRAWING 29847-E
HYDRAULIC SCHEMATIC (HOHD-HOHD)	DRAWING 50468-0
HYDRAULIC SCHEMATIC (HOHD-FXHD)	DRAWING 50500-A



HOUSTON, TEXAS
FAX: (800) 824-5559 (USA & Canada)
FAX: (713) 688-6324
PHONE: (713) 688-5533
www.liftmoore.com

OPERATING INSTRUCTIONS

HYDRAULIC OUT / HYDRAULIC DOWN OUTRIGGER 45k ft.lbs.

Always keep the truck as level as possible when operating the crane. Set the outriggers on firm ground that will not yield under load.

Check for overhead obstructions and especially for electrical wires. The crane must always be more than 10 Feet away from any electrical wires.

Set the truck's parking brake before operating either the outrigger or crane. Insert wheel chocks under the front wheels before setting up the outrigger.

Start the engine and set the pump to supply fluid to the crane and outrigger.

Set the diverter valve to send flow to the outrigger directional control valve.

A multiple bank directional control valve operates the outrigger extension and jack cylinders. First, move the directional control valve levers to extend the outriggers. Always fully extend the outriggers.

WARNING: The jack cylinders will crush anything underneath them. Check that everyone and everything is clear of the jacks before they are lowered.

Next, use the directional valve to extend the jack cylinders. Lower the jack until there is lifting of the truck bed. The higher the truck, the less the truck must tilt to counter-balance the crane and its load. Leave the truck wheels in contact with the ground.

Do not move the outrigger extension in or out without raising the jack cylinder off the ground. Doing this can damage the jack cylinder.

The outrigger is set and the crane is ready for use. After setting the jack cylinders, shift the diverter valve to supply hydraulic power to the crane. Do not change the diverter valve until crane operation has ceased.

NOTE: At no time should the tire on the opposite side from the lifting side be raised off of the ground. If this occurs and you are sure the load is within the rating of the crane's load radius chart, relocate the truck closer to the load.

Do not move the truck with the jack cylinders extended. Bending and breakage may occur. Retract the jack and power extend cylinders completely before moving the truck.

Do not operate the crane until you have read and understand the crane's operation as explained in the crane's owner/operator manual.

To store the outrigger, raise the outrigger jack so that the hydraulic cylinders are fully retracted. Then use the directional valve to retract the power extend sections.



HOUSTON, TEXAS
FAX: (800) 824-5559 (USA & Canada)
FAX: (713) 688-6324
PHONE: (713) 688-5533
www.liftmoore.com

INSTALLATION INSTRUCTIONS

HYDRAULIC OUT / HYDRAULIC DOWN OUTRIGGER 45k ft.lbs.

Read these instructions completely before starting installation.

A kit for an outrigger with hydraulic out-hydraulic down (HOHD-HOHD) includes an outrigger center tube with two power extend sections, two hydraulic jack cylinders, a four-spool directional valve, a diverter valve, hoses and fittings needed to connect these items. Hoses for the pump to outrigger connection are not included. Since this manual is not used exclusively for one outrigger, the number of extend sections and the directional valve will be different. A kit for an outrigger with one side fixed and hydraulic down (HOHD-FXHD) includes a three-spool directional valve instead of a four-spool directional valve. A two-spool directional valve is used for an outrigger with both sides fixed and hydraulic down (FXHD-FXHD).

Before mounting the outrigger center tube, orient the outrigger so that the longer power extend section is on the same side of the truck as the crane. Also, plan the hose routing to the jack cylinders. A gap must be left to allow these hoses to flex whenever the power extend sections of the outrigger are moved in or out from the body.

IMPORTANT: The outrigger center tube must be supported at the truck frame, at its outer end under the crane's structural support, and at the end opposite the crane. The center tube should not be supported by the body sheet metal.

After the center tube is mounted, position the hydraulic jack cylinders so that they will extend at least 6" below ground level when the truck is level. Stroke of the jack cylinders is 20 inches. Mount the jack cylinders to the power extend sections using the four 1/2-13 x 4.0" Grade 8 Cap Screws supplied.

Refer to drawing No. 50468 (two power extensions), No. 50500 (one power extension either side) for hydraulic schematic detail. Mount the diverter valve and directional control valves for convenient operation. The diverter valve is used to send hydraulic fluid *either* to the crane *or* to the outrigger. Installation of this valve will prevent inadvertent operation of the jack cylinders when the crane is being used.

Note the "In" and "Out" ports on the directional control valve. Connect the valve "In" port to the pump pressure port. Connect the "Out" port to return flow to the reservoir through a 10-micron filter.

Make up hoses as needed using the hose and reusable hose ends supplied. Hoses may be switched at the valve bank to coordinate the valve lever movement and cylinder direction.

Hydraulic flow to the outriggers should be limited to 2.5 GPM. At this flow rate the jack cylinder will move its 20" stroke in approximately 15 seconds. Higher flows may result in noisy operation.

Fill with hydraulic oil and bleed air out by fully extending the cylinders. We use Chevron AW Hydraulic Oil 46 or equivalent. When operating for the first time, it is best to extend all cylinders completely without stopping. This will evacuate the air from the cylinder's rod end and less air will be trapped in the rod end if this is done.

Place labels on the jack cylinder warning of crushing injury. Check the outrigger for operation. Especially note that the hydraulic lines for the jack cylinders do not get pinched when extending and retracting the power extend sections. The outrigger is ready for use!

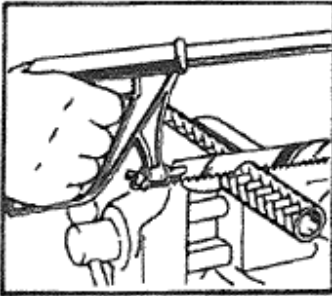


HOUSTON, TEXAS
FAX: (800) 824-5559 (USA & Canada)
FAX: (713) 688-6324
PHONE: (713) 688-5533
www.liftmoore.com

REUSABLE FITTINGS & HOSE INSTALATION PROCEDURES

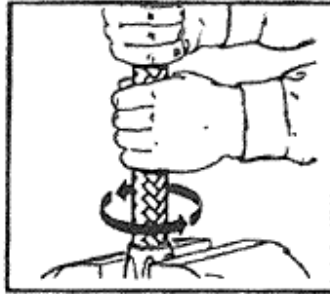
Hose and Reusable Fittings

Standard (mandrelless) reusable fittings with single wire braid, multiple textile braid, hydraulic and LPG hose.



Step 1

Cut hose square with fine-tooth hacksaw or cut-off wheel.



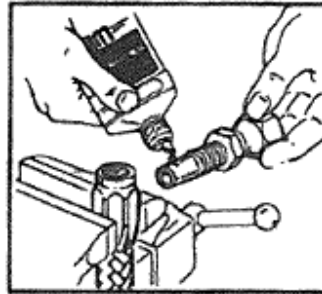
Step 2

Put socket in vise.
Screw hose counterclockwise into socket until it bottoms.

Back off $\frac{1}{4}$ turn.

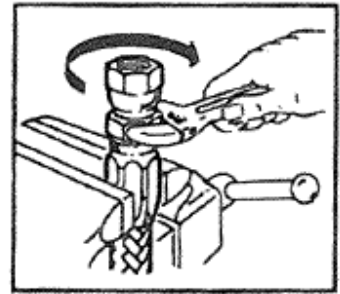
When assembling long lengths of hose, it may be preferred to put hose in vise just tight enough to prevent from turning, and screw socket into the hose counterclockwise until it bottoms.

Back off $\frac{1}{4}$ turn.



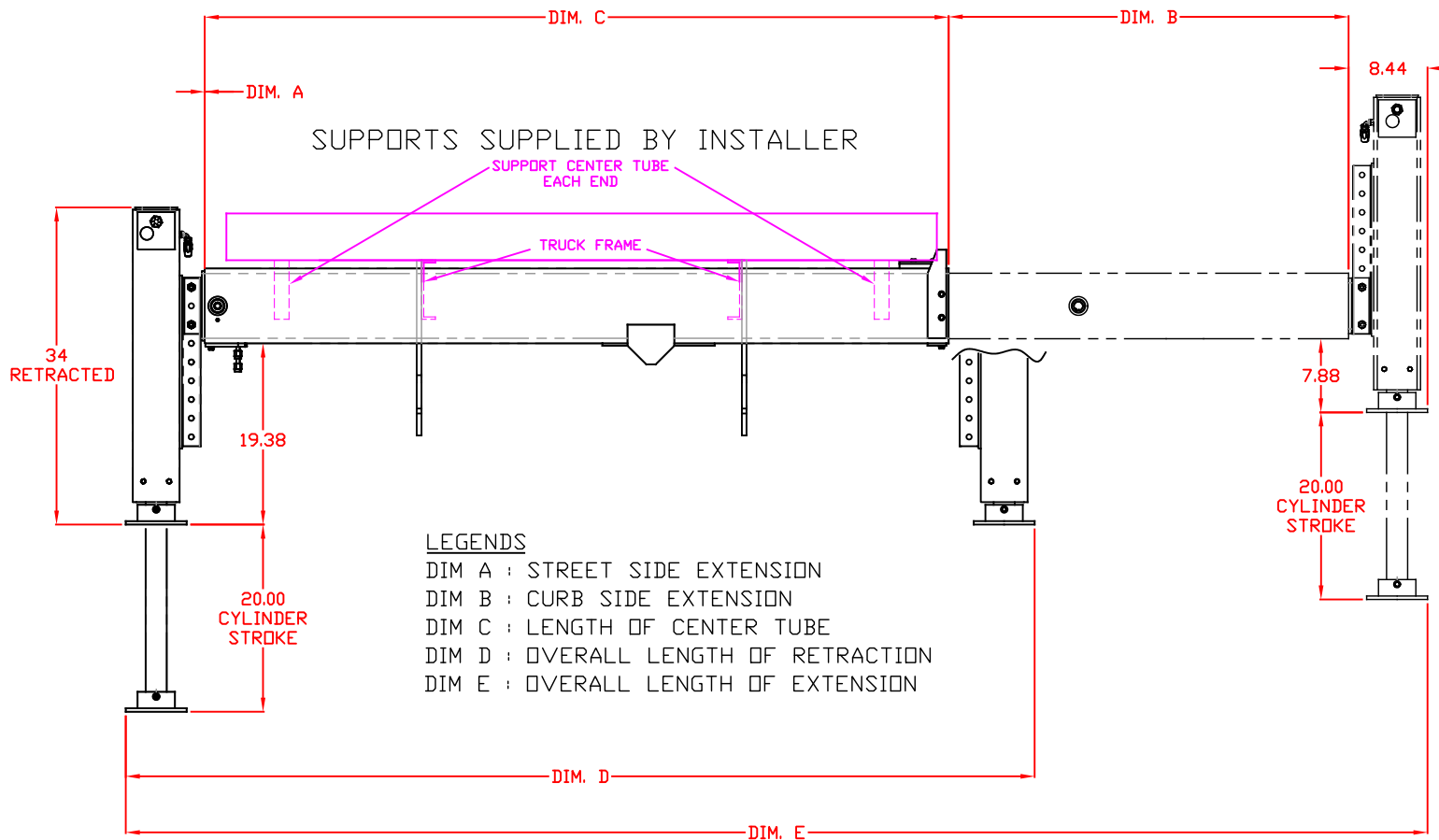
Step 3

Lubricate nipple and threads **LIBERALLY**. Use heavy oil or Aeroquip 222070 hose assembly lube.



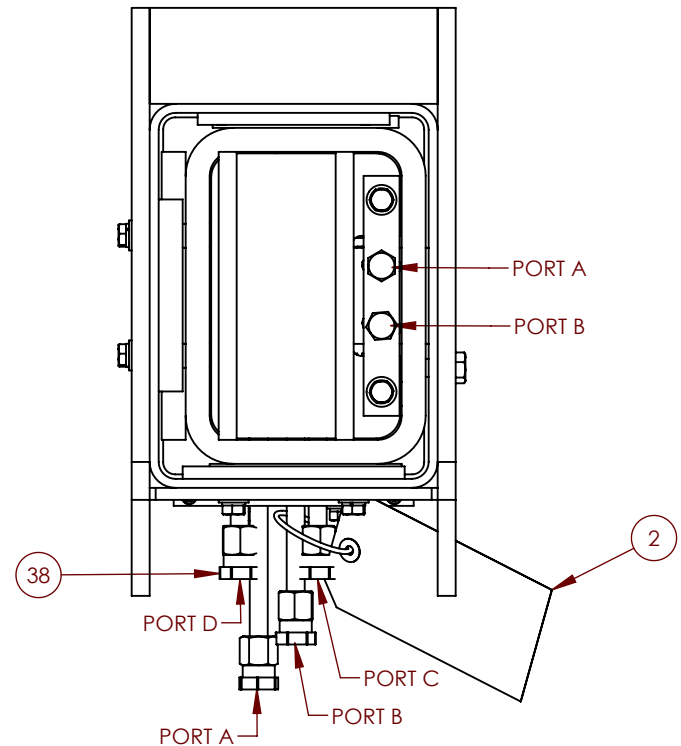
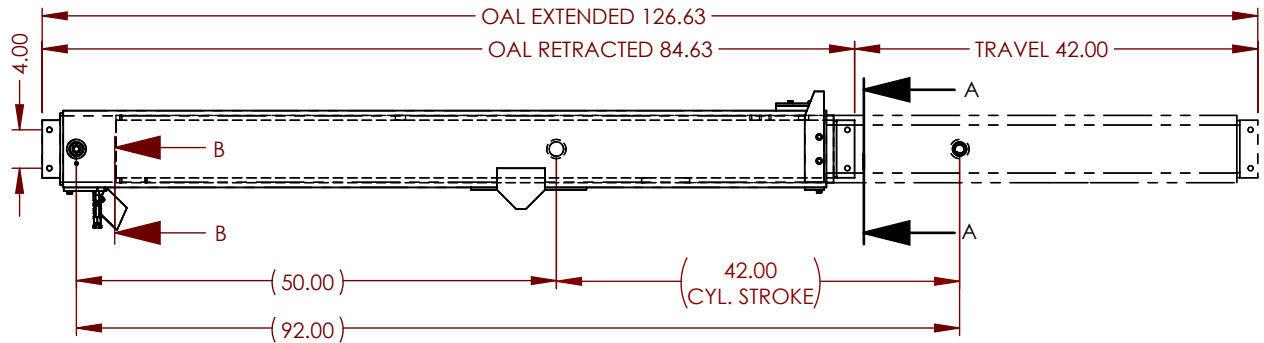
Step 4

Screw nipple clockwise into socket and hose. Leave $\frac{1}{32}$ " to $\frac{1}{16}$ " clearance between nipple hex and socket.



#	DESCRIPTION	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E
39492	OUTRIGGER, 45K 42CHDHD-SFXHD	0"	42.00"	79.50"	97.13"	139.13"

ITEM	PART NUMBER	DESCRIPTION	QTY
1	29795	OUTRIG, CEN 45K 42CMOHO-SFX WD	1
2	26044	DECAL, HYDRAULIC INSPECTION	1
3	29804	OUTRIG, CURB 45K 42CHOHD WELD	1
4	29817	CYLINDER ASSY HYD OUTRIG 42"	1
5	25611	HOSES, CARRIER	1
6	29815	PLATE, MOUNTING 45K MACH	1
7	26582	SCREW, SOC HD 0.25-20 X 0.37SS	4
8	29866	HOSE, ASSY HYD 125.00"	2
9	34069	SCREW, HHC 0.25-20 X 0.50 SS	3
10	29870	PLATE, BULKHEAD 4MJ WELD	1
11	28699	SCREW, HHC 0.25-20 X 0.75 SS	6
12	28690	WASHER, LOCK 0.25 316 SS	15
13	29814	PAD, NYLON 0.26X3.50X 15.5	1
14	25612	CLAMP, HOSE SUPPORT 1.00" ID	4
15	28697	SCREW, MH FH 0.25-20 X 0.75 SS	3
16	28703	NUT, HEX NYLOC 0.25-20 SS	5
17	32970	ADAPTER, 4MJ-6MJ	2
18	15789	CLAMP, HALVES 2 STL HYD TUBE	4
19	28701	SCREW, SOC FH 0.25-20 X 1.50 SS	2
20	29867	TUBE ASSY HYD JACK INNER OUT	1
21	29868	TUBE ASSY HYD JACK INNER IN	1
22	33352	WASHER, FLAT 0.25 SAE SS GR304	8
23	29813	CS, 2.00D X 0.50 DOM X 1.600	1
24	21196	CS, 1.00 DIA X 4.62	1
25	28704	RING, SNAP 1" INTERNAL SS	2
26	33952	PAD, NYLON 0.25 X 3.87 X 2 CSK	1
27	33950	PAD, NYLON 0.26 X 4 X 3.62 CSK	1
28	28698	SCREW, SOC FH 0.25-20 X 0.50 SS	6
29	25599	SPACER, CURB TUBE 40K FRONT MA	1
30	32196	PIN, TEARDROP 0.75 X 6.00	1
31	34068	SCREW, HHC 0.37-16 X 0.75 SS	1
32	32367	WASHER, LOCK 0.37 SS GRADE 304	1
33	34565	CLAMP, BULK HEAD 45K ASSY	1
34	29949	PLATE, BOOM END SUPPORT 6"-4HO	1
35	28833	SCREW, HHC 0.25-20 X 1.25 SS	4
36	16820	PLATE, SPACER BOOM END .50-2HO	1
37	25621	PAD, NYLON 0.26 X 3.87 X 2 TAP	1
38	29691	PLUG, 6MJ PLASTIC	4
39	23512	ADAPTER, CAPNUT #4	2
40	29950	PLATE, SPACER BOOM END .25-4HO	1
41	28705	SCREW, HHC 0.25-20 X 1.00 SS	2
42	29299	WASHER, LOCK 0.25 STAR SS	4



SECTION A-A

SCALE 1 : 4

UNLESS SPECIFIED MACHINED PART MINIMUM 250 RMS ALL WELDS TO BE MINIMUM 1/4" DIM. TOLERANCES .XXX ± .005 .XX ± .030 .X ± .100 FRAC. ± 1/16 XX° ± .5°	THIRD ANGLE PROJECTION		
	CHECKED	JE	11/19/2021
	ENG APPR:	DP	11/19/2021
	MTRL: SHEET 1 - 4		

LIFTMOORE INC.

OUTRIG ASSY 45K 42HOHD-SFXHD

NYLATRAC - STAINLESS STEEL

DRAWN AT 11/19/2021 DWG. NO.

WEIGHT: 409.08 Lbs

29865

REV
C

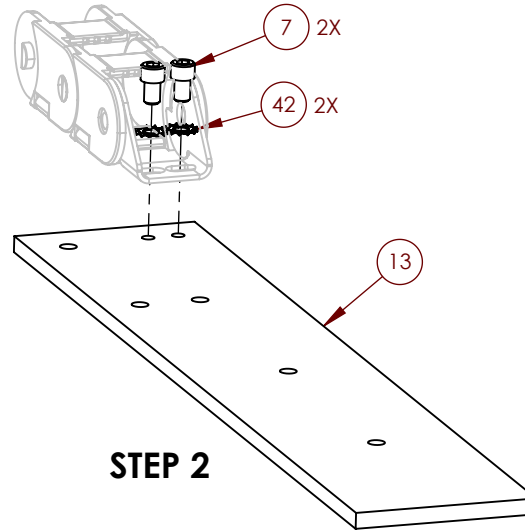
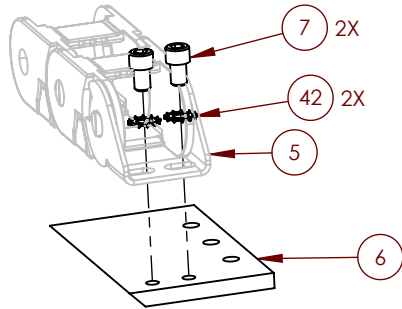
DESC: CHANGE HYD. LINE CLAMP PLATE

BY AT 11/19/2021 REV C

SOLIDWORKS

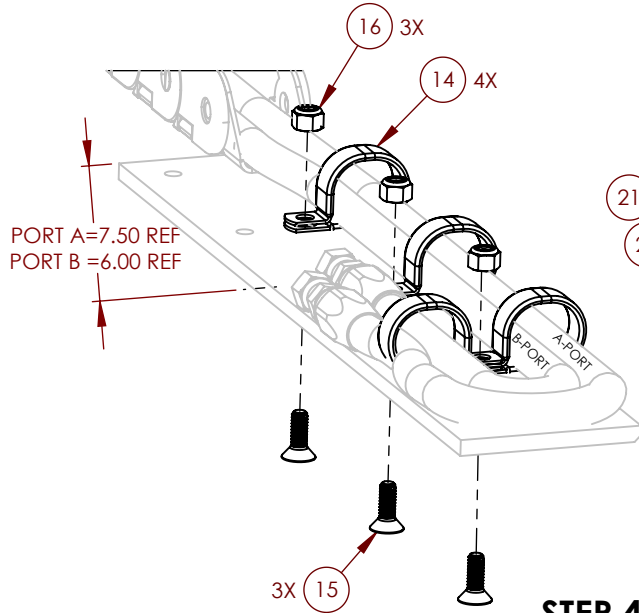
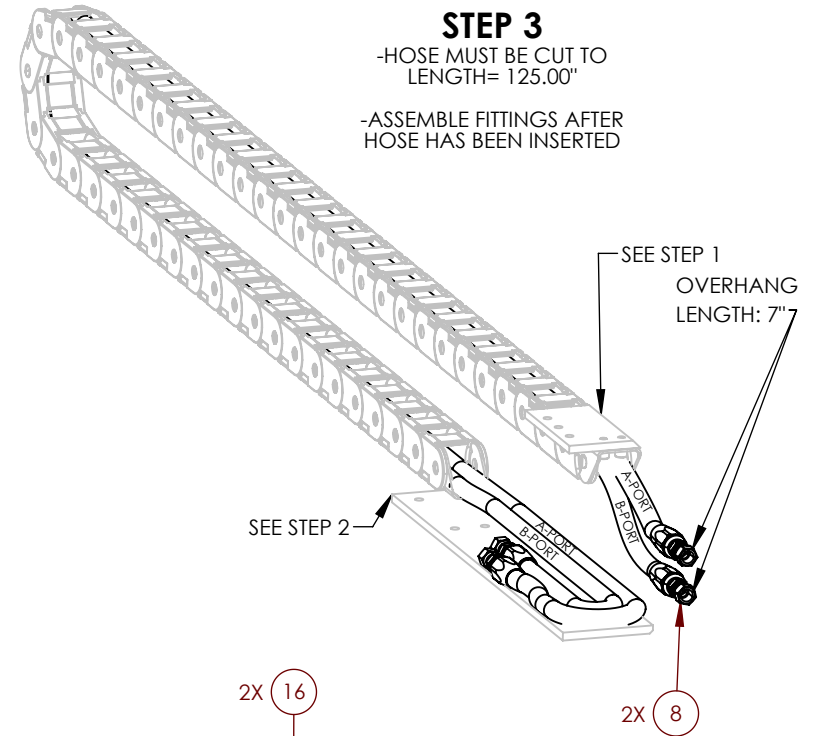
STEP 1

HOSE CARRIER SHOULD
HAVE 52 LINKS
NOT INCLUDING MOUNTING ENDS



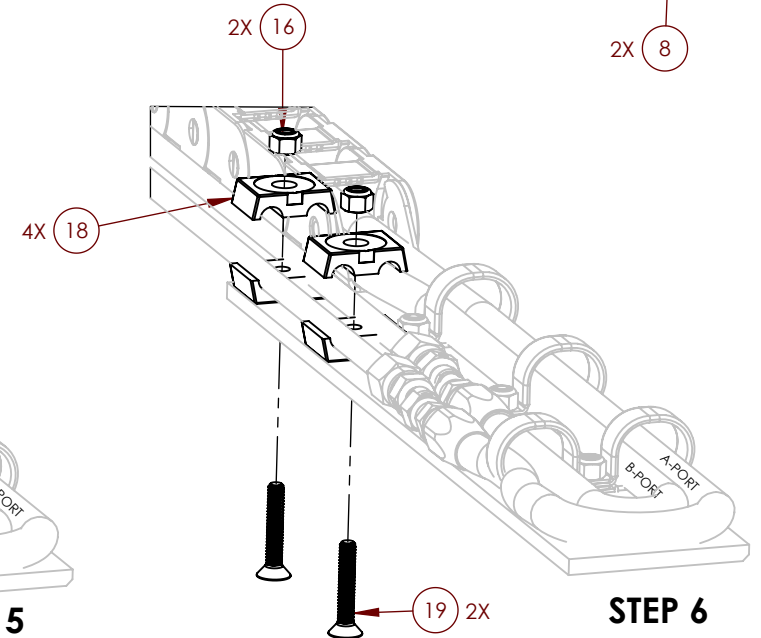
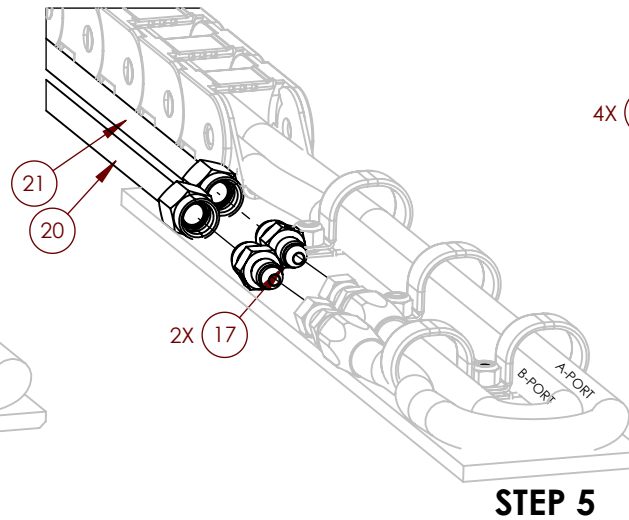
STEP 3

-HOSE MUST BE CUT TO
LENGTH= 125.00"
-ASSEMBLE FITTINGS AFTER
HOSE HAS BEEN INSERTED



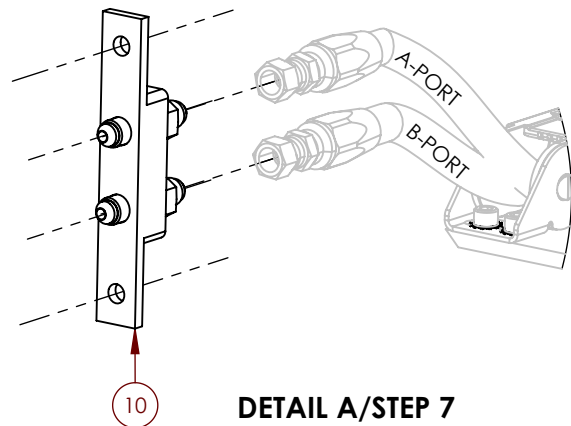
STEP 4

DIMENSIONS PROVIDED
FOR REFERENCE ONLY

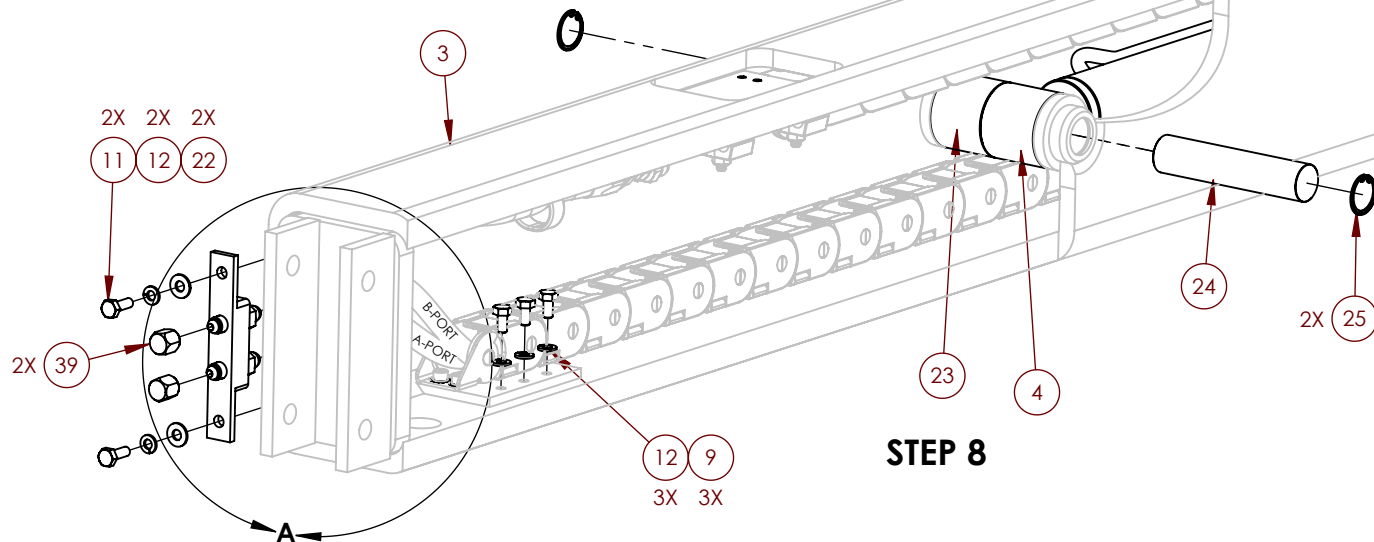


UNLESS SPECIFIED		PROPRIETARY & CONFIDENTIAL	
MACHINED PART		THE INFORMATION CONTAINED IN THIS	
MINIMUM 250 RMS		DRAWING IS THE SOLE PROPERTY OF	
ALL WELDS TO BE		LIFTMOORE INC. ANY REPRODUCTION	
MINIMUM 1/4"		IN PART OR AS A WHOLE WITHOUT THE	
DIM. TOLERANCES		WRITTEN PERMISSION OF LIFTMOORE	
.XXX ± .005		INC. IS PROHIBITED.	
.XX ± .030		THIRD ANGLE	
.X ± .100		PROJECTION	
FRAC. ± 1/16		CHECKED JE 11/19/2021	
XX° ± .5°		ENG APPR: DP 11/19/2021	

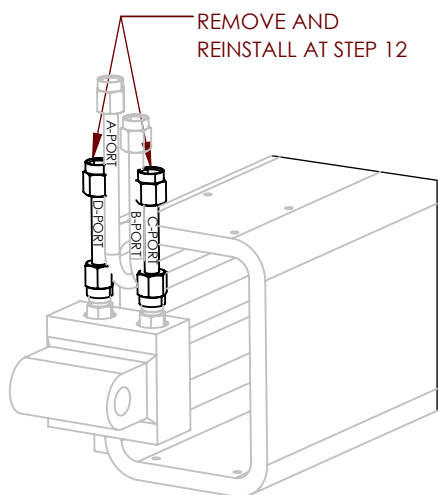
LIFTMOORE INC.			
OUTRIG ASSY 45K 42HOHD-SFXHD			
NYLATRAC - STAINLESS STEEL			
DRAWN	AT	11/19/2021	DWG. NO.
MTRL:	SHEET 2 - 4		
WEIGHT: 409.08 Lbs			
29865			REV C



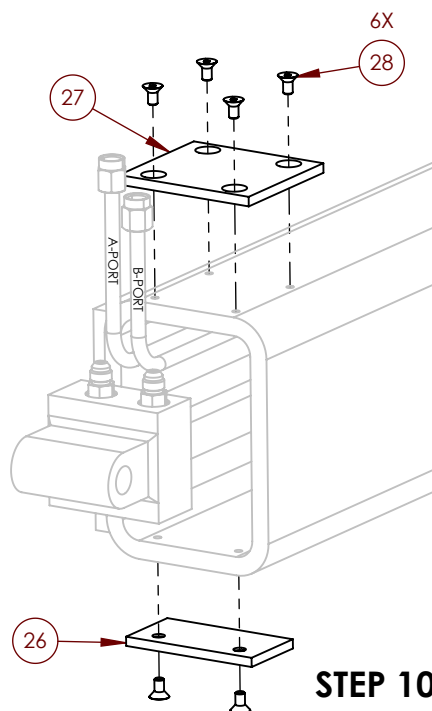
DETAIL A/STEP 7
SCALE 1:3



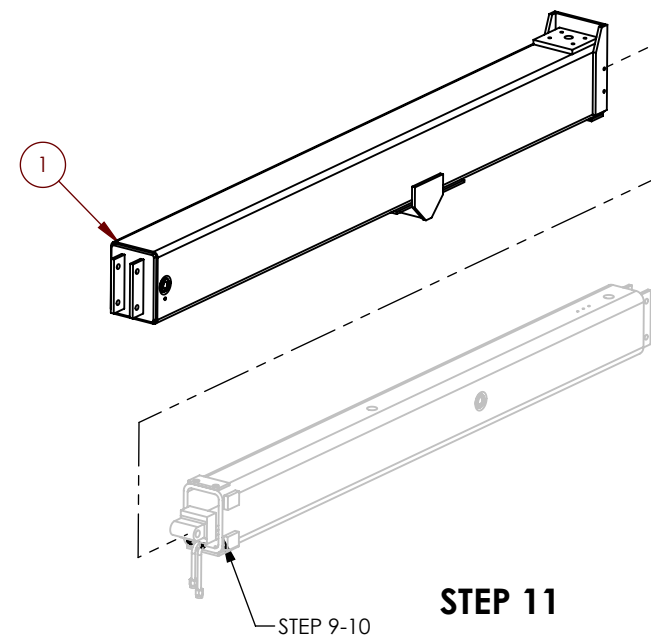
STEP 8



STEP 9

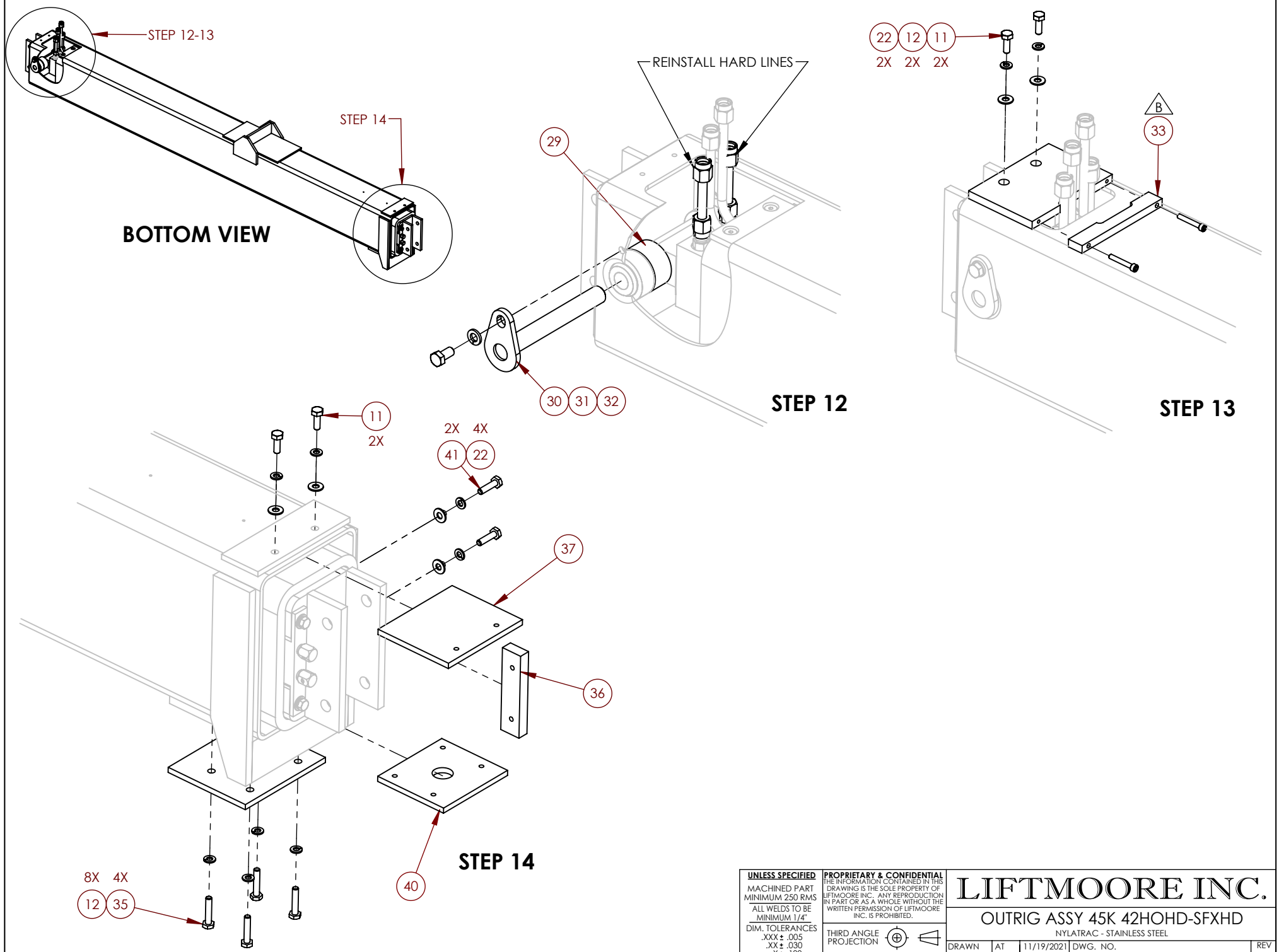


STEP 10




STEP 11

UNLESS SPECIFIED MACHINED PART MINIMUM 250 RMS ALL WELDS TO BE MINIMUM 1/4" DIM. TOLERANCES .XXX ± .005 .XX ± .030 .X ± .100 FRAC. ± 1/16 XX° ± .5°	PROPRIETARY & CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF LIFTMOORE INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF LIFTMOORE INC. IS PROHIBITED.		LIFTMOORE INC. OUTRIG ASSY 45K 42HOHD-SFXHD NYLATRAC - STAINLESS STEEL		REV C
	THIRD ANGLE PROJECTION		DRAWN AT 11/19/2021 MTRL: SHEET 3 - 4 WEIGHT: 409.08 Lbs	DWG. NO. 29865	

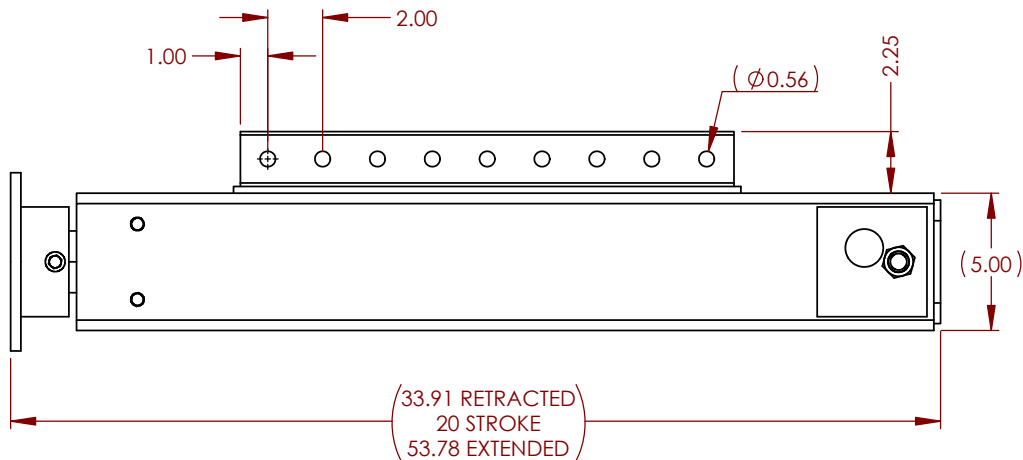


DESC: CHANGE HYD. LINE CLAMP PLATE

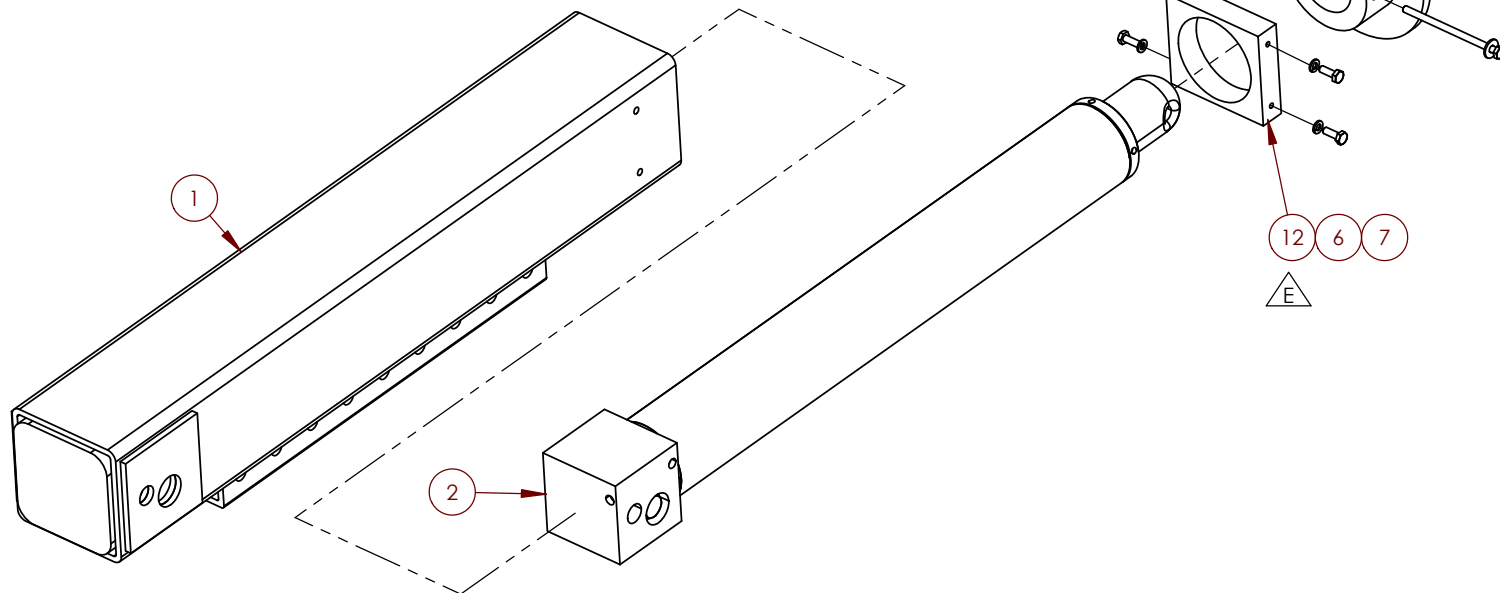
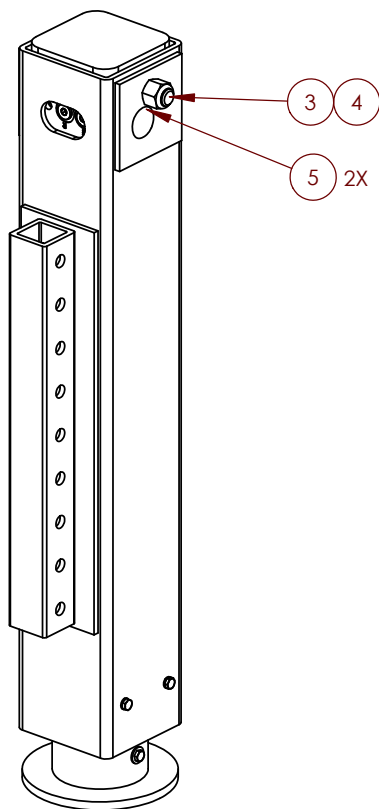
BY AT 11/19/2021 REV C

UNLESS SPECIFIED		PROPRIETARY & CONFIDENTIAL		LIFTMOORE INC.	
MACHINED PART		THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF LIFTMOORE INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF LIFTMOORE INC. IS PROHIBITED.			
MINIMUM 250 RMS		THIRD ANGLE PROJECTION		OUTRIG ASSY 45K 42HOHD-SFXHD	
ALL WELDS TO BE MINIMUM 1/4"				NYLATRAC - STAINLESS STEEL	
DIM. TOLERANCES				DRAWN AT 11/19/2021 DWG. NO.	
.XXX ± .005		CHECKED JE 11/19/2021		29865	
.XX ± .030		ENG APPR. DP 11/19/2021		MTRL: SHEET 4 - 4	
.X ± .100				WEIGHT: 409.08 Lbs	
FRAC. ± 1/16				REV	
XX° ± .5°				C	

SOLIDWORKS



ITEM	PART NUMBER	DESCRIPTION	QTY
1	29850	JACK, TUBE OUTER HYD WELD	1
2	29846	CYLINDER, 3.0 X 20.0 X 2.25 JS	1
3	33200	SCREW, HHC 0.75-10 X 6.50 GR8	1
4	30836	NUT, HEX NYLOC 0.75-10 GRADE 5	1
5	29976	PLUG, BOOM HOLE DIA. 1.25	2
6	30889	WASHER, LOCK 0.25 GR5 PLATED	4
7	28557	SCREW, HHC 0.25-20 X 0.75 GR8	4
8	34571	SCREW, HHC 0.25-20 X 4.50 GR8	1
9	31110	WASHER, FLAT 0.25 GR5 PLATED	2
10	34572	NUT, HEX NYLOC 0.25-20 GR8	1
11	17931	BASE, JACK HYD. 25K OUTRIGGER	1
12	34581	PLATE, CYLINDER MOUNT CENTER	1



UNLESS SPECIFIED
MACHINED PART
MINIMUM 250 RMS
ALL WELDS TO BE
MINIMUM 1/4"
DIM. TOLERANCES
.XXX ± .005
.XX ± .030
.X ± .100
FRAC. ± 1/16
XX° ± .5°

PROPRIETARY & CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS
DRAWING IS THE SOLE PROPERTY OF
LIFTMOORE INC. ANY REPRODUCTION
IN PART OR AS A WHOLE WITHOUT THE
WRITTEN PERMISSION OF LIFTMOORE
INC. IS PROHIBITED.

THIRD ANGLE
PROJECTION
CHECKED JE 12/09/2021
ENG APPR. DP 12/09/2021

LIFTMOORE INC.
JACK, HYDRAULIC 45K AH 34"-54"
DRAWN AT 12/08/2021 DWG. NO. 29847
MTRL: SHEET 1 - 1
WEIGHT: 125.211 Lbs
REV E

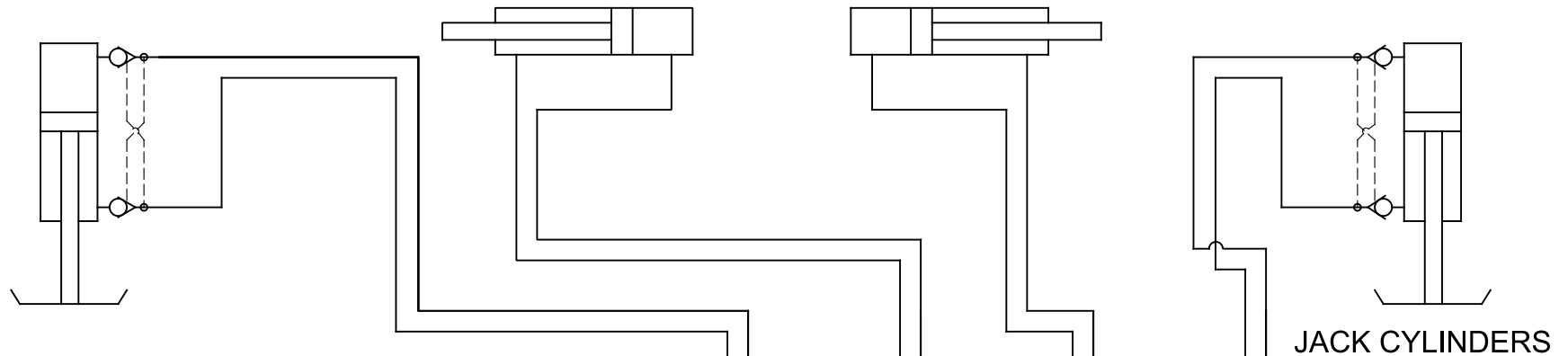
DESC: REMOVE CENTER TUBE AND HARDWARE, CHANGE CYLINDER FOOT

BY AT 12/08/2021 REV E

SOLIDWORKS

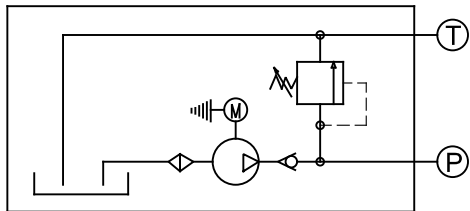
STREET SIDE

CURB SIDE

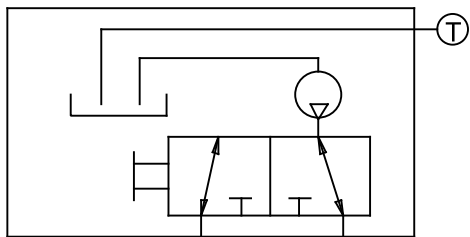


HYDRAULIC PUMP KIT
PN 34198

OPTION 2:
FOR ELECT.
CRANES;
HYDRAULIC
PUMP UNIT
WITH
RESERVOIR

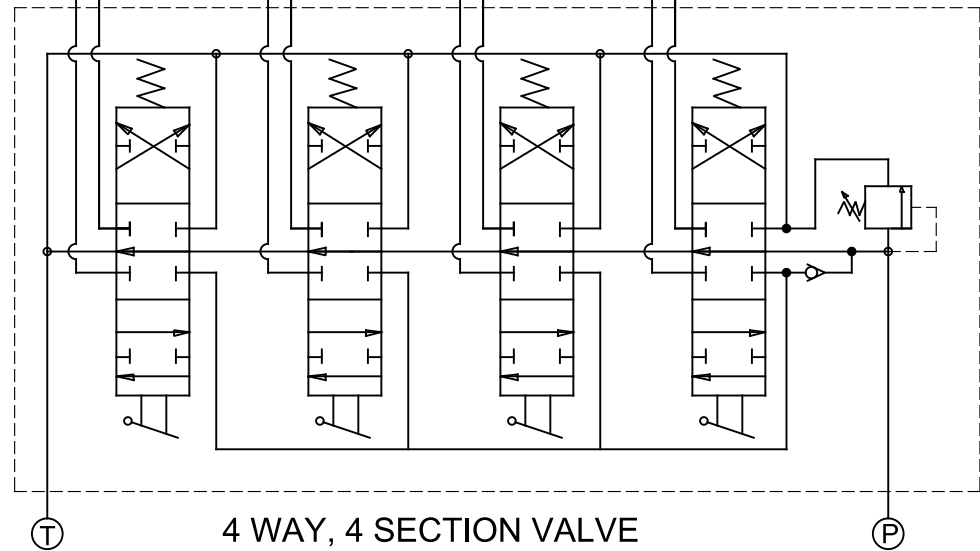


OPTION 1:
FOR HYDR.
CRANES;
DIVERTER
VALVE WITH
CUSTOMER
SUPPLIED
PUMP AND
RESERVOIR.



CRANE OUTRIGGER

3-WAY DIVERTER VALVE
PN 32332



4 WAY, 4 SECTION VALVE
PN 19373

NOTES: PLUMB "P" PORTS AND "T" PORTS BETWEEN
OUTRIGGER SYSTEM AND FLUID POWER SOURCE.



Houston TX
(713)-688-5533
www.liftmoore.com

DRWN BY: LEM
DATE: 2/1/00

SCHEM, HYD. OUTRIG HOHD

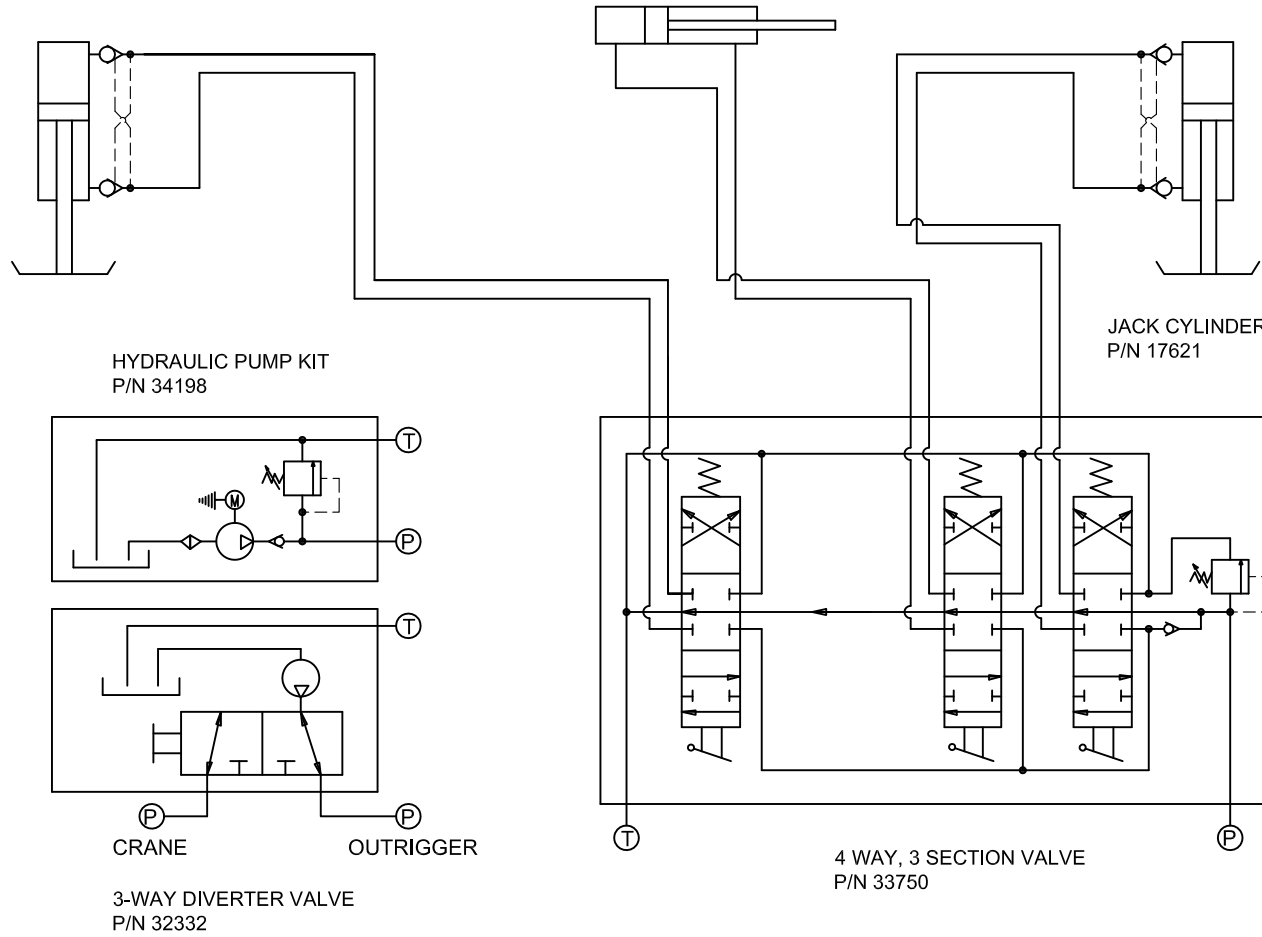
DRAWING NO.

50468-0

STREET SIDE

EITHER SIDE

CURB SIDE



NOTES: PLUMB "P" PORTS AND "T" PORTS BETWEEN
OUTRIGGER SYSTEM AND FLUID POWER SOURCE.



Houston TX
(713)-688-5533
www.liftmoore.com

DRWN BY: TV
DATE: 05/17/06

SCHEM, HYD. OUTRIG FXHD
ONE SIDE FIXED

DRAWING NO.
50500-A