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## Operating & Installation Instructions

# Hydraulic Out / Hydraulic Down 25k ft.lbs. Outrigger

### **!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.

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P/N 27111**

**HYDRAULIC OUT / HYDRAULIC DOWN  
25k ft.lbs. OUTRIGGER**

**DESCRIPTION**

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## OPERATING INSTRUCTIONS

### HYDRAULIC OUT / HYDRAULIC DOWN OUTRIGGER 25k 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.

The outrigger extension and jack cylinders are operated by a multiple bank directional control valve. 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 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.



## INSTALLATION INSTRUCTIONS

### HYDRAULIC OUT / HYDRAULIC DOWN OUTRIGGER 25k ft.lbs.

Read these instructions completely before starting installation.

This kit includes the outrigger center tube, with two power extend sections, two hydraulic jack cylinders, one four-spool directional valve, a diverter valve, and hose and fittings needed to connect these items. Hose for the pump to outrigger connection is not included.

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 4" to 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 for a hydraulic schematic of this installation. 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!**



**OUTRIGGERS CENTER TUBE  
DIMENSIONS TABLE**

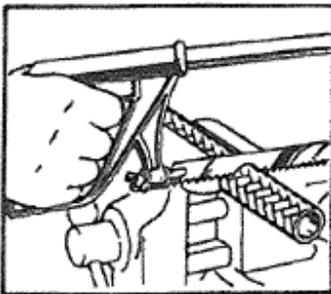
<i>Outrigger Model</i>	<i>Center Tube Size</i>
<i>Outrigger 10K</i>	<i>2.50" X 5.00" X 0.18" W</i>
<i>Outrigger 12K</i>	<i>2.50" X 5.00" X 0.18" W</i>
<i>Outrigger 18K</i>	<i>4.00" X 6.00" X 0.25" W</i>
<i>Outrigger 25K</i>	<i>5.00" X 7.00" X 0.18" W</i>
<i>Outrigger 40K</i>	<i>6.00" X 8.00" X 0.18" W</i>
<i>Outrigger 50K</i>	<i>7.00" X 9.00" X 0.18" W</i>
<i>Outrigger 72K</i>	<i>8.00" X 10.00" X 0.25" W</i>



# REUSABLE FITTINGS & HOSE INSTALATION PROCEDURES

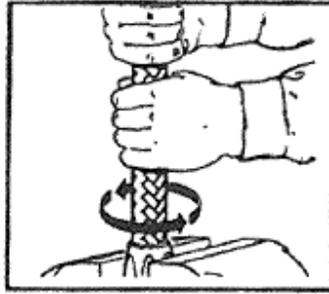
## Hose and Reusable Fittings

**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.

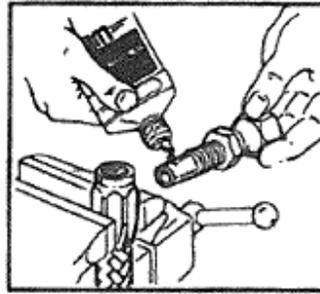


### Step 2

Put socket in vise.  
Screw hose counterclockwise into socket until it bottoms.  
Back off  $\frac{1}{4}$  turn.

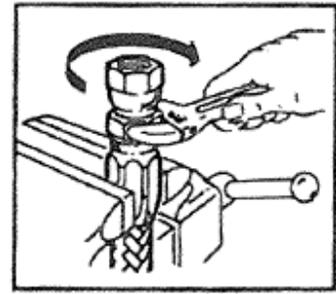
When assembling long lengths of hose, it may be preferred to put hose in vise just tight enough to prevent from turning, and screw socket into the hose counterclockwise until it bottoms.

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



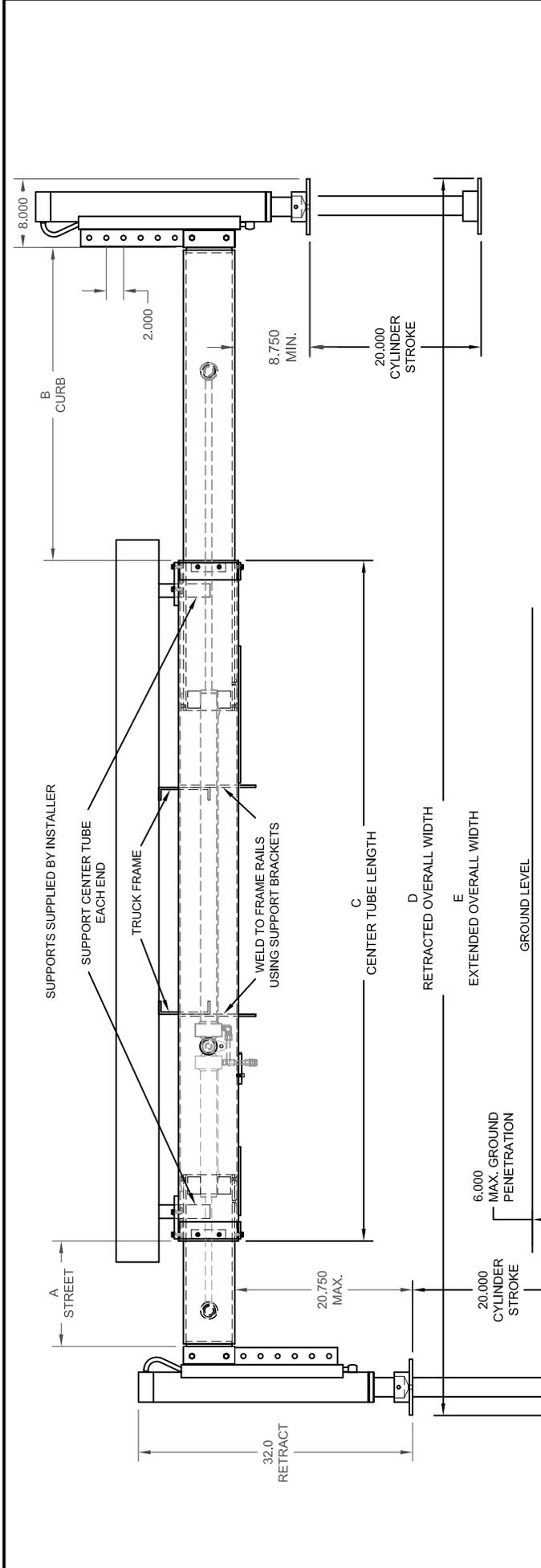
### Step 3

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

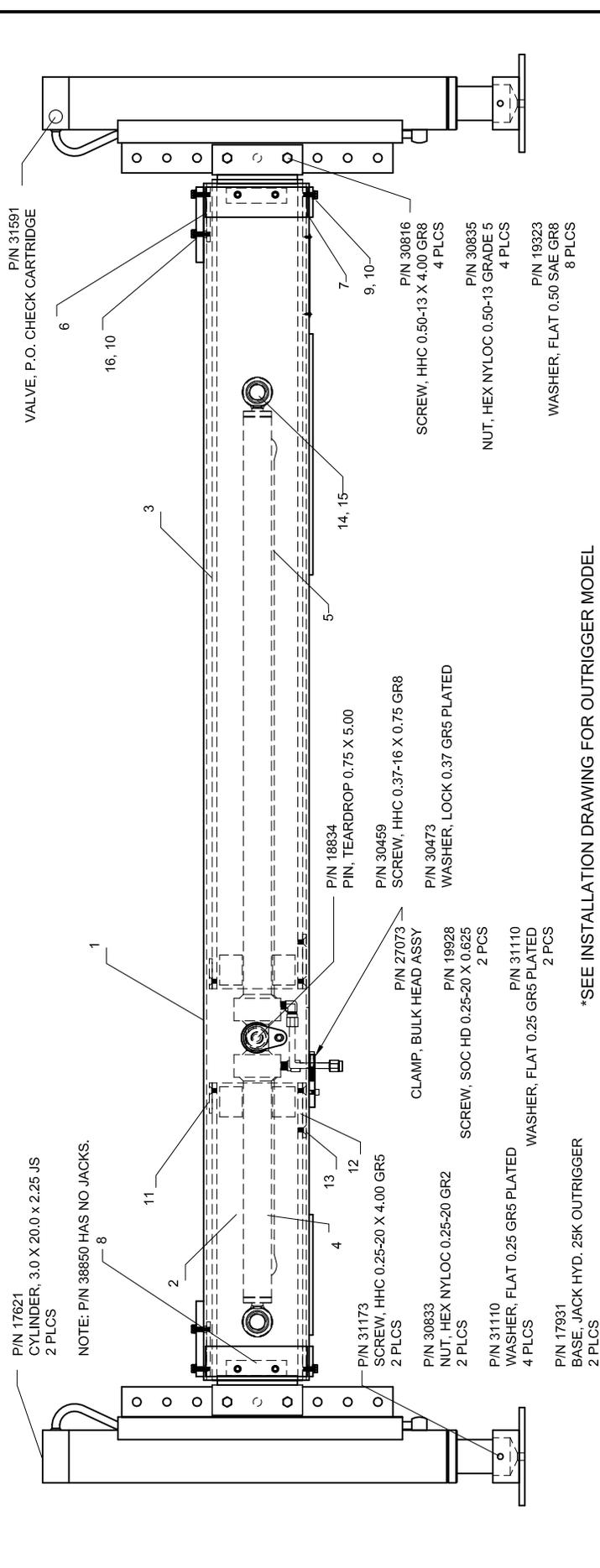


### Step 4

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



MODEL	DESCRIPTION	DIMENSION A	DIMENSION B	DIMENSION C	DIMENSION D	DIMENSION E
MODEL 39119	12CHOHD-36SHOHD	36"	12"	79.5"	96.5"	144.5"
MODEL 39276	36CHOHD-12SHOHD	12"	36"	79.5"	96.5"	144.5"
MODEL 38607	20CHOHD-20SHOHD	20"	20"	79.5"	96.75"	136.75"
MODEL 39223	20CHOHD-20SHOHD	20"	20"	79.5"	96.75"	136.75"
MODEL 38640	36CHOHD-12SHOHD	12"	36"	79.5"	96.5"	144.5"
MODEL 39278	36CHOHD-SFXHD	0"	36"	79.5"	96.25"	132.25"
MODEL 38850	36CHONJ-SFXNJ	0"	36"	79.5"	79.75"	115.75"
MODEL 39277	36CHOHD-12SHOHD	12"	36"	79.5"	96.5"	144.5"
MODEL 38969	36CHOHD-SFXHD	0"	36"	79.5"	96.25"	132.25"
MODEL 39192	36CHOHD-11SHOHD	12"	36"	79.5"	96.5"	144.5"
MODEL 39305	CFXHD-36SHOHD	36"	0"	79.5"	96.25"	132.25"
MODEL 39356	36CHOHD-12SHOHD	12"	36"	79.5"	96.5"	144.5"
MODEL 39412	36CHOHD-12SHOHD	12"	36"	79.5"	96.5"	144.5"

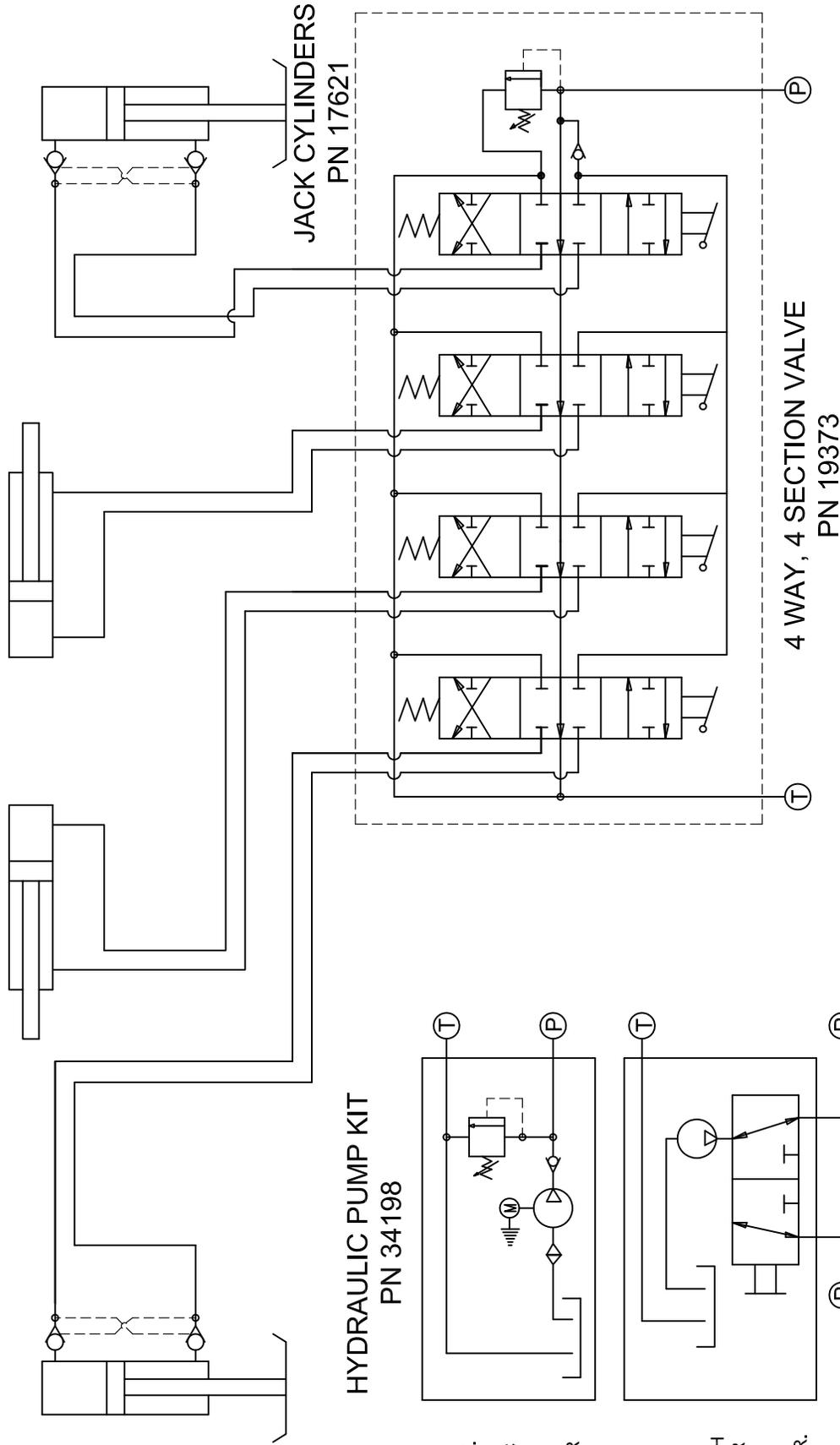


\*SEE INSTALLATION DRAWING FOR OUTRIGGER MODEL NUMBER DESCRIPTION

ITEM	DESCRIPTION	39276 QTY	39412 QTY	39277 QTY
1	CENTER OUTR.	18830		18830
2	STREET SIDE OUTR.	18831		18831
3	CURB SIDE OUTR.	18823		18823
4	STREET CYL. ASSEMBLY	26461		26461
5	CURB CYL. ASSEMBLY	26385		26385
6	TOP SPACER	33292	2	33292
7	BOTTOM SPACER	33951	2	33951
8	SIDE SPACER	16820	2	16820
9	SCREW, HHC 0.25-20 X 0.75	30457	8	30457
10	LOCK WASHER	30889	16	30889
11	TOP NYLON PAD	34033	2	34033
12	BOTTOM NYLON PAD	33950	2	33950
13	SCREW	33614	12	33614
14	CS, 1.00 DIA X 3.25	18835	2	18835
15	RING, SNAP 1" INTERNAL CS	30692	4	30692
16	SCREW, HHC 0.25-20 X 1.00	30810	8	30810

STREET SIDE

CURB SIDE



HYDRAULIC PUMP KIT  
PN 34198

4 WAY, 4 SECTION VALVE  
PN 19373

JACK CYLINDERS  
PN 17621

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

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

3-WAY DIVERTER VALVE  
PN 32332

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



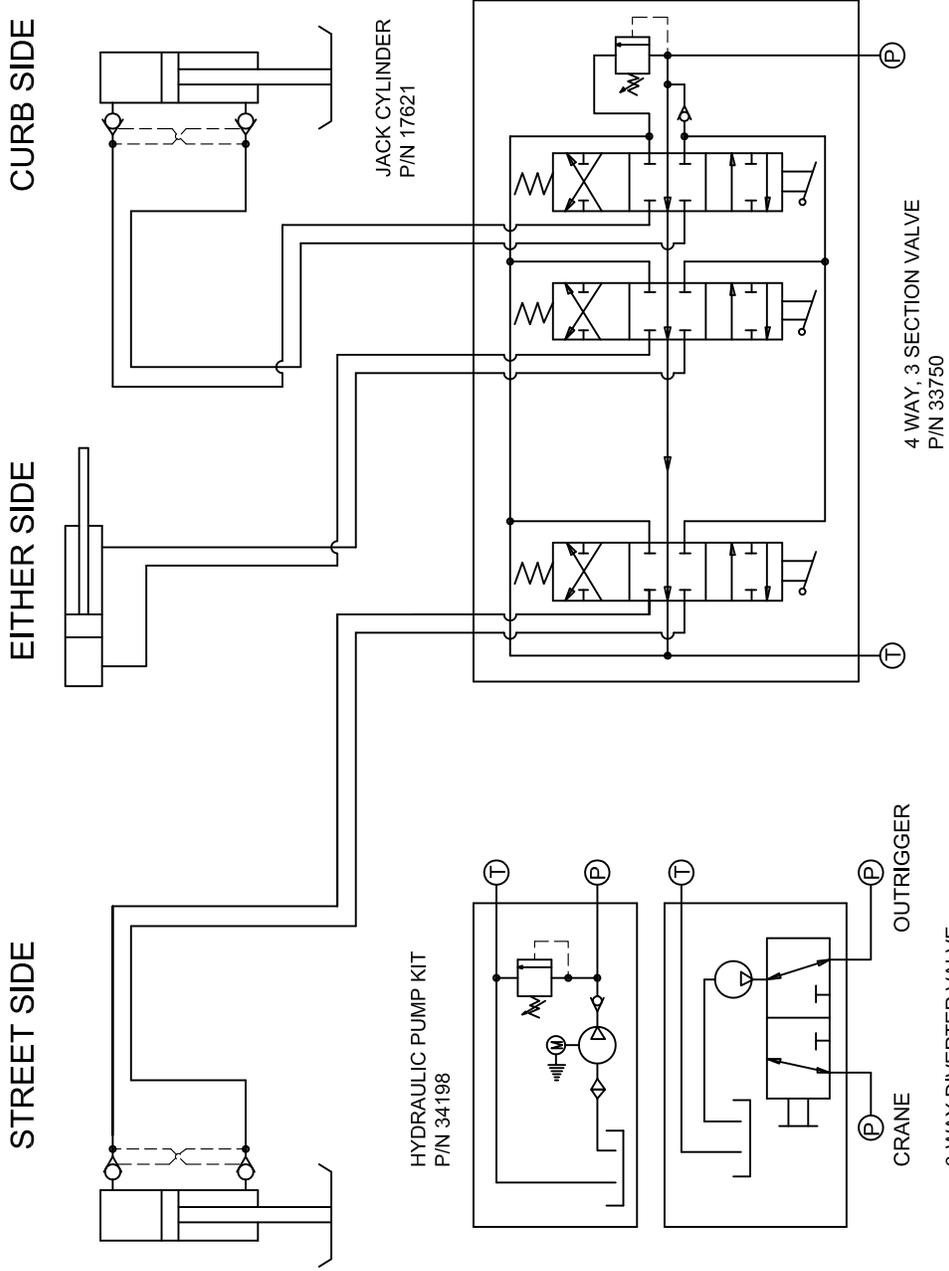
Houston TX  
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DRWN BY: LEM  
DATE: 2/1/00

SCHEM, HYD. OUTRIG HOHD

DRAWING NO.

50468-0



OPTION 2:  
FOR ELECTRIC CRANE;  
HYDRAULIC PUMP UNIT  
WITH RESERVOIR

OPTION 1:  
FOR HYDRAULIC CRANE;  
DIVERTER VALVE WITH  
CUSTOMER SUPPLIED  
PUMP AND RESERVOIR

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



Houston TX  
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DRWN BY: TV  
DATE: 05/17/06

SCHEM, HYD. OUTRIG FXHD  
ONE SIDE FIXED

DRAWING NO.  
50500-A