

HOUSTON, TEXAS [www.liftmoore.com](http://www.liftmoore.com)  
PHONE: (713) 688-5533 • FAX: (713) 688-6324  
FAX: (800) 824-5559 (USA & CANADA)

## **Operating & Installation Instructions**

# **Hydraulic Out / Hydraulic Down 50k ft.lbs. Outriggers**

### **!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 20528**

**HYDRAULIC OUT / HYDRAULIC DOWN OUTRIGGER  
50k ft.lbs.**

**DESCRIPTION**

**LOCATION**

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## OPERATING INSTRUCTIONS

### HYDRAULIC OUT / HYDRAULIC DOWN OUTRIGGER 50k 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 more than 6 inches 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.



## INSTALLATION INSTRUCTIONS

### HYDRAULIC OUT / HYDRAULIC DOWN OUTRIGGER 50k ft.lbs

Read these instructions completely before starting installation.

This kit includes the outrigger center tube, 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 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 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.

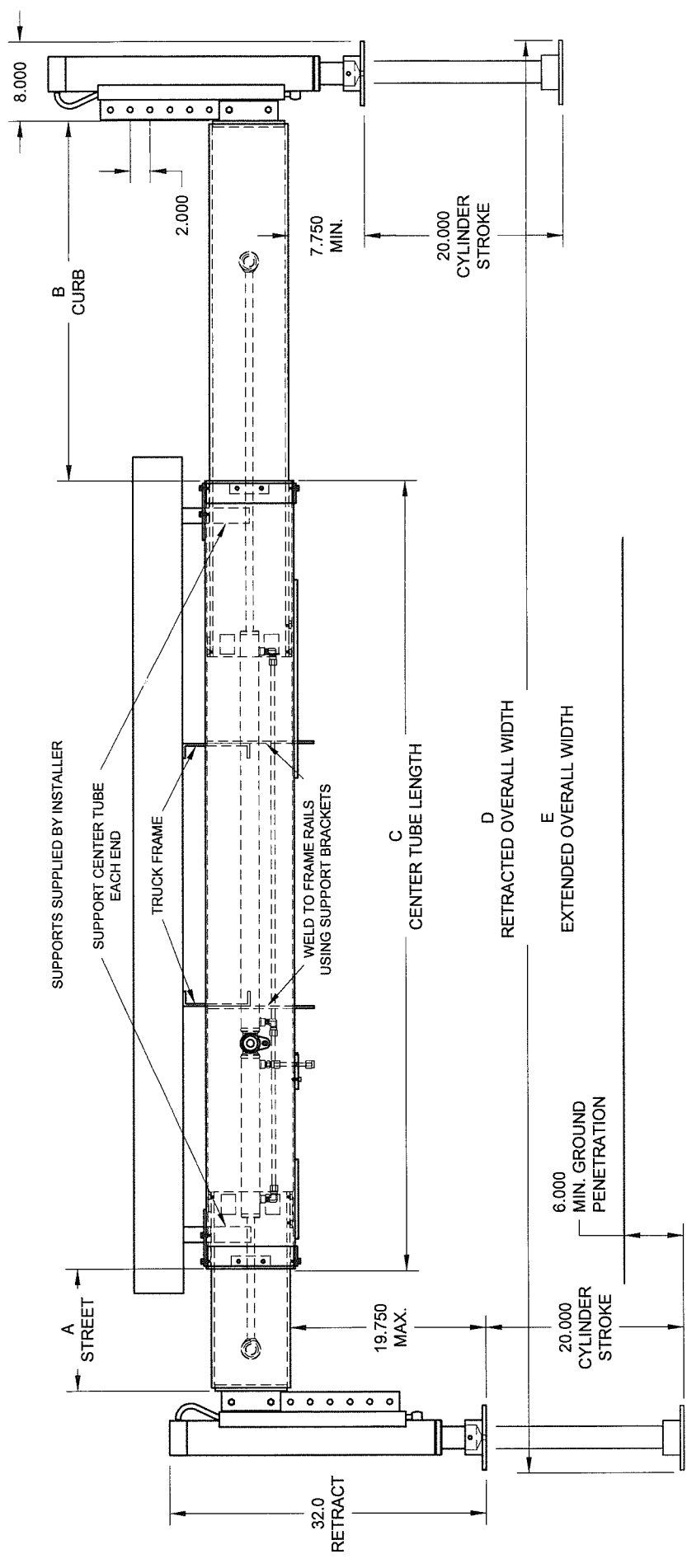
Place labels on the jack cylinder warning of crushing injury. Check the outrigger for operation. Especially note that the hydraulic lines for the jack cylinders do not get pinched when extending and retracting the power extend sections. The outrigger is ready for use!



**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 36K</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>





MODEL	DESCRIPTION	DIMENSION A	DIMENSION B	DIMENSION C	DIMENSION D	DIMENSION E
MODEL 38591	36CHOHD-12SHOHD	12"	36"	79.5"	96"	144"
MODEL 39230	20CHOHD-20SHOHD	20"	20"	79.5"	97"	137"
MODEL 38673	DESCRIPTION 36CHOHD-SFXHD	0"	36"	79.5"	96"	132"
MODEL 38711	DESCRIPTION 36CHOHD-12SHOHD	12"	36"	79.5"	96"	144"
MODEL 38933	DESCRIPTION 20CHOHD-20SHOHD	20"	20"	79.5"	97"	137"
MODEL 38986	DESCRIPTION 36CHOHD-12SHOHD	12"	36"	79.5"	96"	144"

DRAWING NO. 50515-D

OUTRIGGER 50K HOHD INST

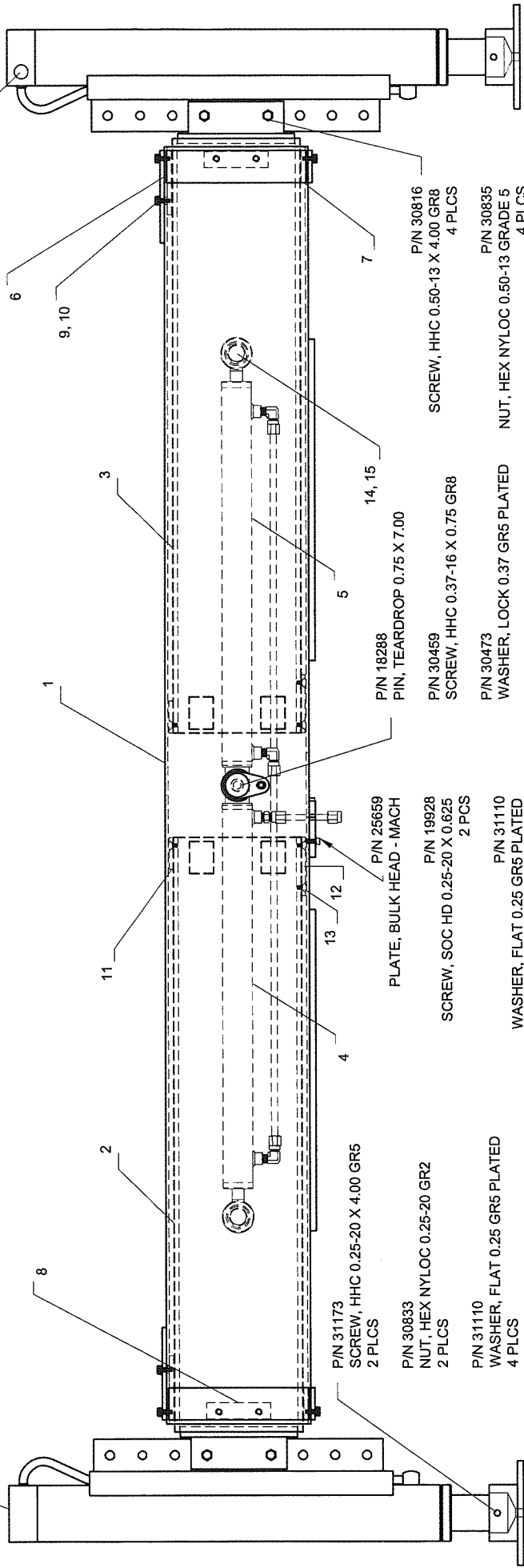
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DATE: 10/21/09

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P/N 17621  
CYLINDER, 3.0 X 20.0 x 2.25 JS  
2 PLCS

P/N 31591  
VALVE, P.O. CHECK CARTRIDGE



P/N 31173  
SCREW, HHC 0.25-20 X 4.00 GR5  
2 PLCS

P/N 30833  
NUT, HEX NYLOC 0.25-20 GR2  
2 PLCS

P/N 31110  
WASHER, FLAT 0.25 GR5 PLATED  
4 PLCS

P/N 17931  
BASE, JACK HYD. 25K OUTRIGGER  
2 PLCS

P/N 25659  
PLATE, BULK HEAD - MACH

P/N 19928  
SCREW, SOC HD 0.25-20 X 0.625  
2 PCS

P/N 31110  
WASHER, FLAT 0.25 GR5 PLATED  
2 PCS

P/N 18288  
PIN, TEARDROP 0.75 X 7.00

P/N 30459  
SCREW, HHC 0.37-16 X 0.75 GR8

P/N 30473  
WASHER, LOCK 0.37 GR5 PLATED

P/N 19323  
WASHER, FLAT 0.50 SAE GR8  
8 PLCS

P/N 30816  
SCREW, HHC 0.50-13 X 4.00 GR8  
4 PLCS

P/N 30835  
NUT, HEX NYLOC 0.50-13 GRADE 5  
4 PLCS

\*SEE INSTALLATION DRAWING FOR OUTRIGGER MODEL NUMBER DESCRIPTION

ITEM	DESCRIPTION	OUTRIGGER															
		38591 QTY	39230 QTY	38673 QTY	38711 QTY	38933 QTY	38986 QTY	19351	20204	19351	20204	19351	20208	19351	20208	19351	20208
1	CENTER OUTR.	19351	20204	20381	19351	20204	19351	19351	20208	19351	20208	19351	20208	19351	20208	19351	20208
2	STREET SIDE OUTR.	19355	20208	NONE	19355	NONE	19355	19355	20208	19355	20208	19355	20208	19355	20208	19355	20208
3	CURB SIDE OUTR.	19359	20206	19359	19359	19359	19359	19359	20206	19359	20206	19359	20206	19359	20206	19359	20206
4	STREET CYL. ASSEMBLY	18304	25660	NONE	18304	NONE	18304	18304	25660	18304	25660	18304	25660	18304	25660	18304	25660
5	CURB CYL. ASSEMBLY	18306	18305	18306	18306	18306	18306	18306	18305	18306	18305	18306	18305	18306	18305	18306	18305
6	TOP SPACER	18639	2	18639	2	18639	2	18639	2	18639	2	18639	2	18639	2	18639	2
7	BOTTOM SPACER	33951	2	33951	2	33951	2	33951	2	33951	2	33951	2	33951	2	33951	2
8	SIDE SPACER	16820	2	16820	2	16820	2	16820	2	16820	2	16820	2	16820	2	16820	2
9	SCREW	30457	16	30457	16	30457	16	30457	16	30457	16	30457	16	30457	16	30457	16
10	LOCK WASHER	30889	16	30889	16	30889	16	30889	16	30889	16	30889	16	30889	16	30889	16
11	TOP NYLON PAD	33952	2	33952	2	33952	2	33952	2	33952	2	33952	2	33952	2	33952	2
12	BOTTOM NYLON PAD	33950	2	33950	2	33950	2	33950	2	33950	2	33950	2	33950	2	33950	2
13	SCREW	33614	12	33614	12	33614	12	33614	12	33614	12	33614	12	33614	12	33614	12
14	CS, 1.00 DIA X 5.25	18046	2	18046	2	18046	2	18046	2	18046	2	18046	2	18046	2	18046	2
15	RING, SNAP 1" INTERNAL CS	30692	4	30692	4	30692	4	30692	4	30692	4	30692	4	30692	4	30692	4



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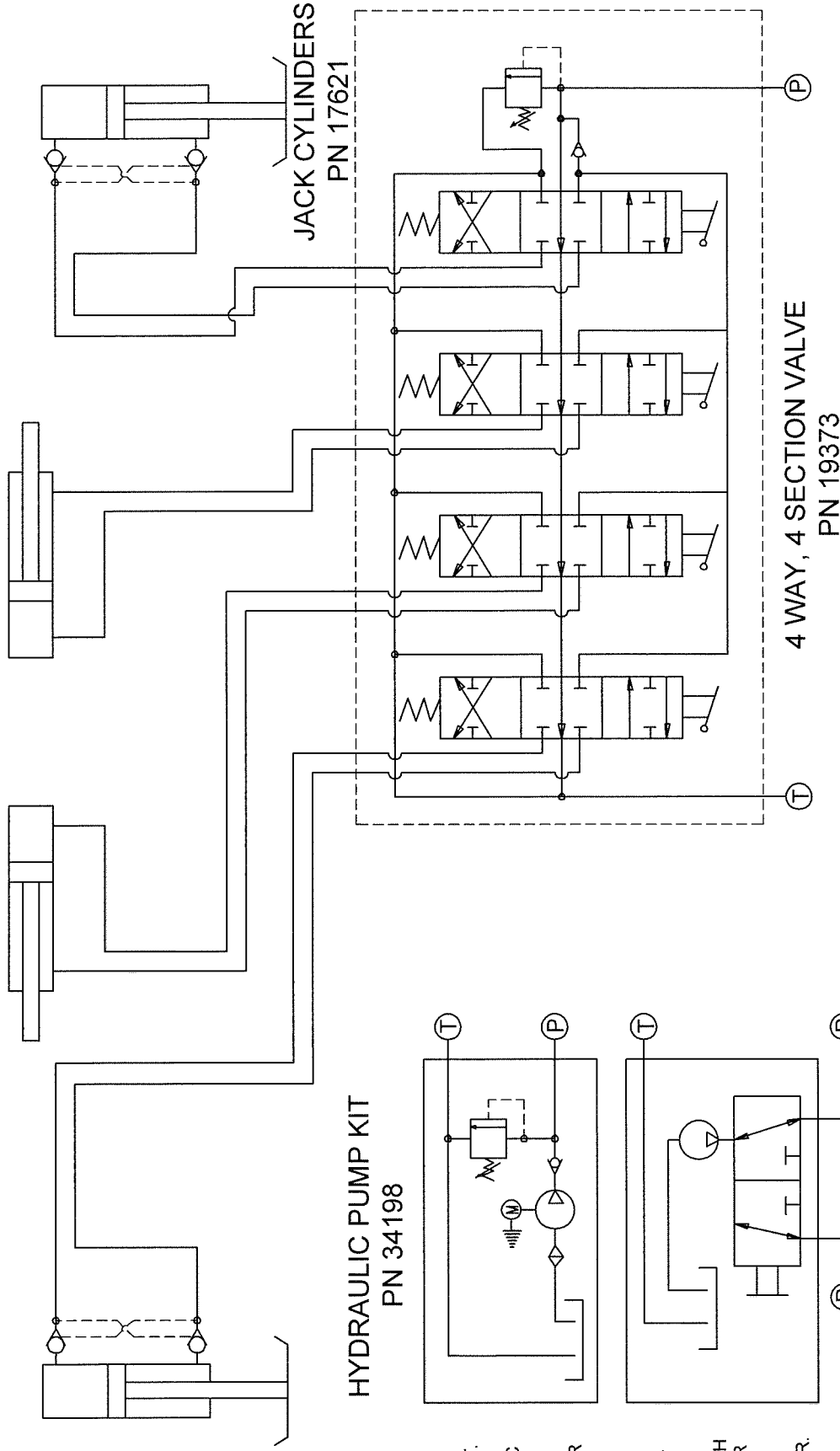
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OUTRIGGER 50K HOHD  
PARTS LIST

DRAWING NO.  
58108-C

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

CRANE  
OUTRIGGER

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



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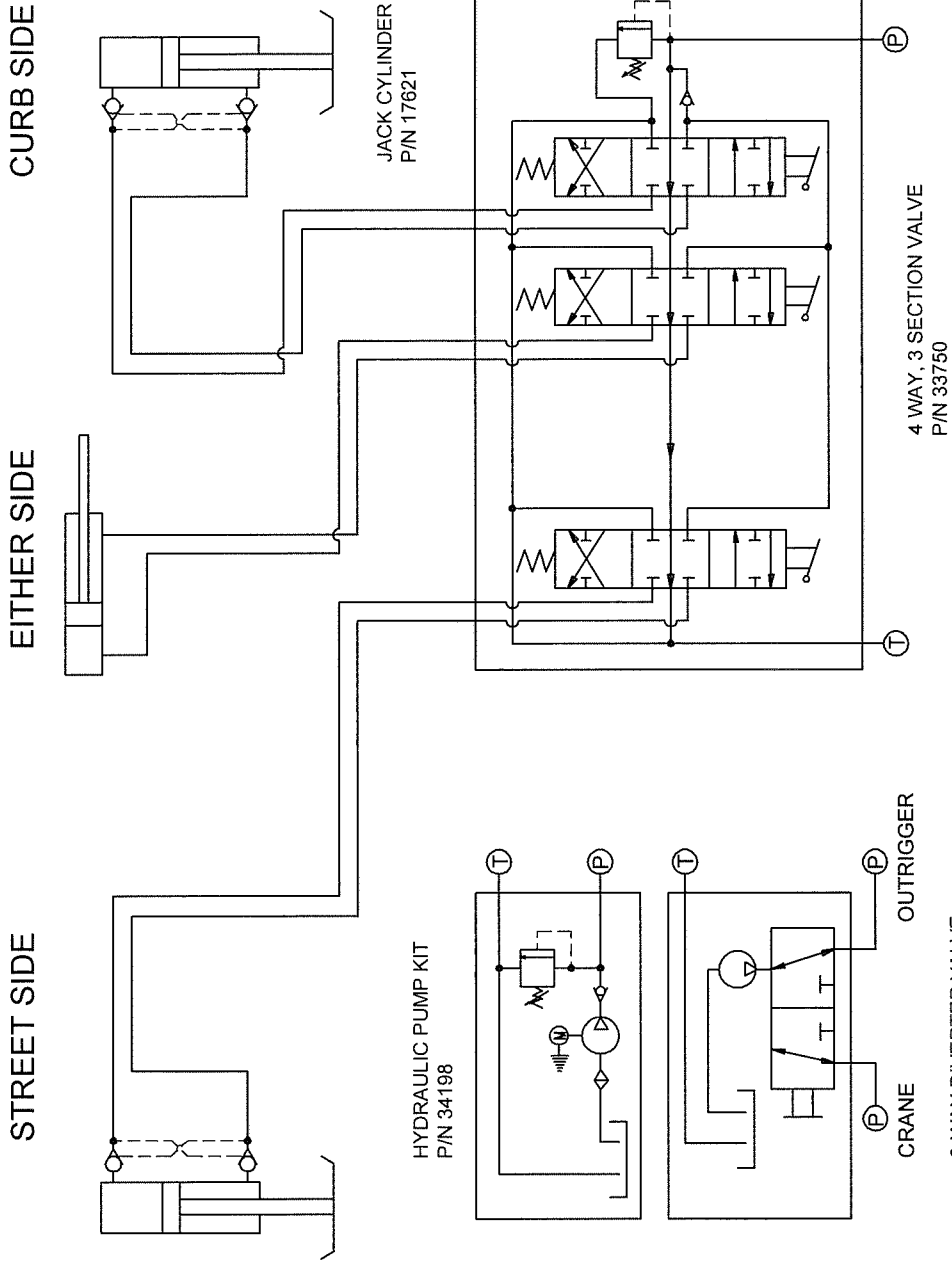
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DATE: 2/1/00

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.



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DRWN BY: TV  
DATE: 05/17/06

SCHEM, HYD. OUTRIG FXHD  
ONE SIDE FIXED

DRAWING NO.  
50500-A