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## Operating & Installation Instructions

# Hydraulic Out / Hydraulic Down 72k 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 20529

## HYDRAULIC OUT / HYDRAULIC DOWN OUTRIGGER 72k ft.lbs.

### DESCRIPTION

### LOCATION

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## OPERATING INSTRUCTIONS

### HYDRAULIC OUT / HYDRAULIC DOWN OUTRIGGER 72k 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.



## INSTALLATION INSTRUCTIONS

### HYDRAULIC OUT / HYDRAULIC DOWN OUTRIGGER 72k 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. 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.

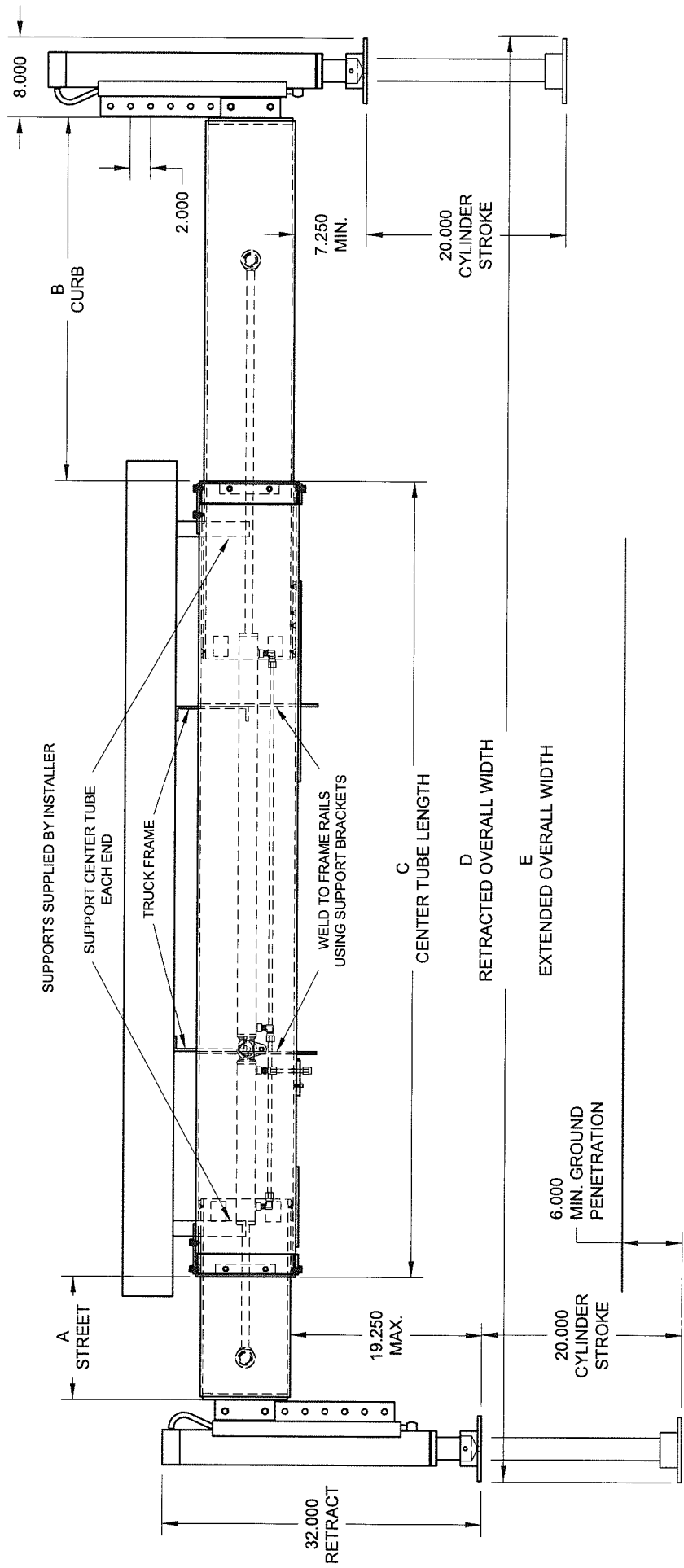
Place labels on the jack cylinder warning of crushing injury. Check the outrigger for operation. Especially note that the hydraulic lines for the jack cylinders do not get pinched when extending and retracting the power extend sections. The outrigger is ready for use!



## 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 38624	36CHOHD-12SHOHD	12"	36"	79.5"	96"	144"
MODEL 38229	20CHOHD-20SHOHD	20"	20"	79.5"	97"	137"
MODEL 38847	42CHOHD-SFXHD	0"	42"	79.5"	96"	138"
MODEL 38918	42CHOHD-SFXHD	0"	42"	79.5"	96"	138"



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DRWN BY: JC  
 DATE: 9/08/08

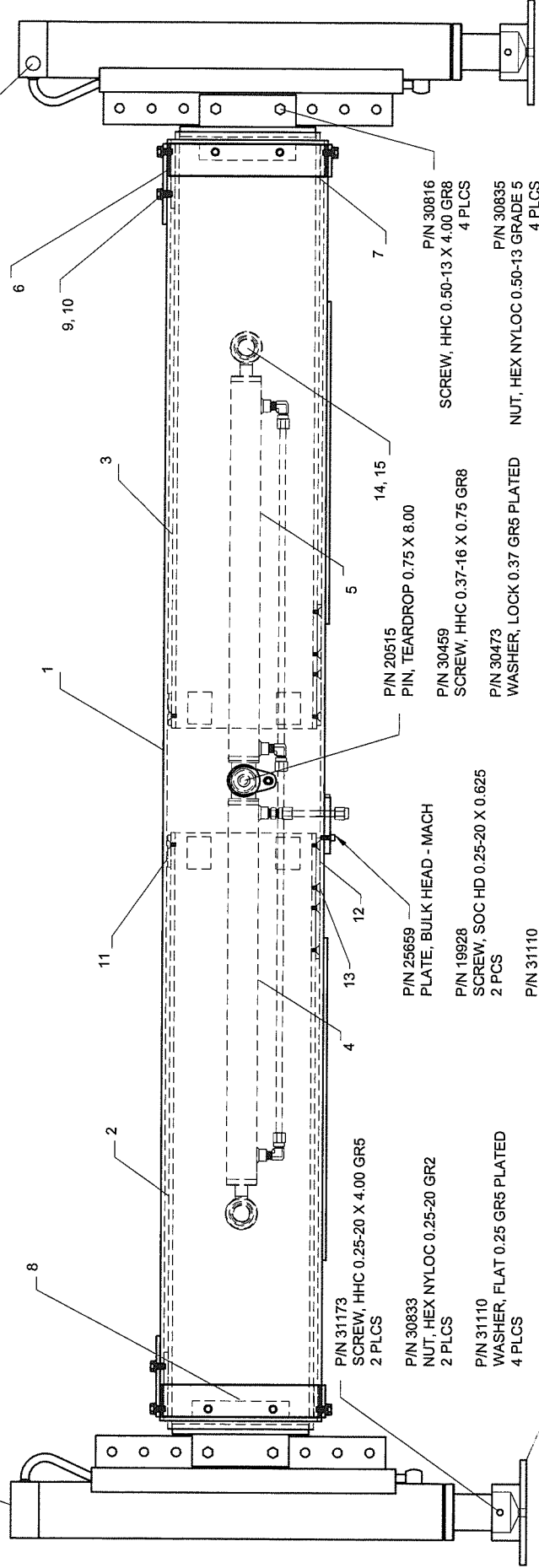
OUTRIGGER 72K HOHD INST

DRAWING NO.

50511-C

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 25669  
PLATE, BULK HEAD - MACH  
2 PCS

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 20515  
PIN, TEARDROP 0.75 X 8.00

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

P/N 30473  
WASHER, LOCK 0.37 GR5 PLATED

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

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

\*SEE INSTALLATION DRAWING FOR OUTRIGGER MODEL  
NUMBER DESCRIPTION

ITEM	DESCRIPTION	OUTRIGGER			
		38624 QTY	39229 QTY	38847 QTY	38918 QTY
1	CENTER OUTR.	19814	20590	22193	22193
2	STREET SIDE OUTR.	19808	20592	NONE	NONE
3	CURB SIDE OUTR.	19811	20591	22191	22191
4	STREET CYL. ASSEMBLY	18304	25660	NONE	NONE
5	CURB CYL. ASSEMBLY	18306	18305	22196	22196
6	TOP SPACER	20519	20519	20519	20519
7	BOTTOM SPACER	20398	20398	20398	20398
8	SIDE SPACER	20520	20520	20520	20520
9	SCREW	30459	30459	30459	30459
10	LOCK WASHER	32367	32367	32367	32367
11	SMALL NYLON PAD	20396	20396	20396	20396
12	LARGE NYLON PAD	19715	19715	19715	19715
13	SCREW	33614	33614	33614	33614
14	CS, 1.00 DIA X 6.25	20518	20518	20518	20518
15	RING, SNAP 1" INTERNAL CS	30692	30692	30692	30692



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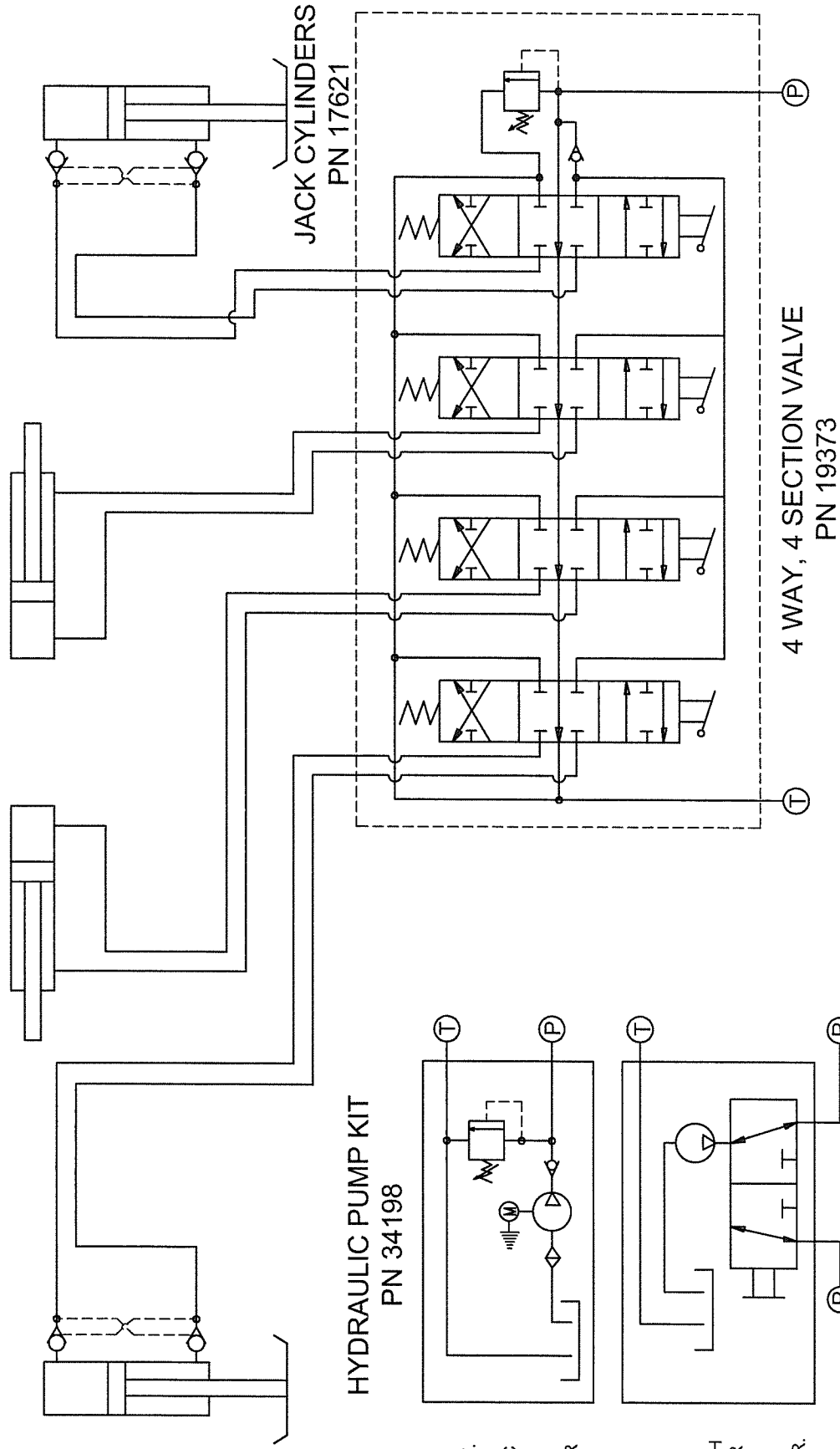
**OUTRIGGER 72K HOHD**  
PARTS LIST

DRAWING NO.

**58109-C**

STREET SIDE

CURB SIDE



JACK CYLINDERS  
PN 17621

HYDRAULIC PUMP KIT  
PN 34198

4 WAY, 4 SECTION VALVE  
PN 19373

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

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



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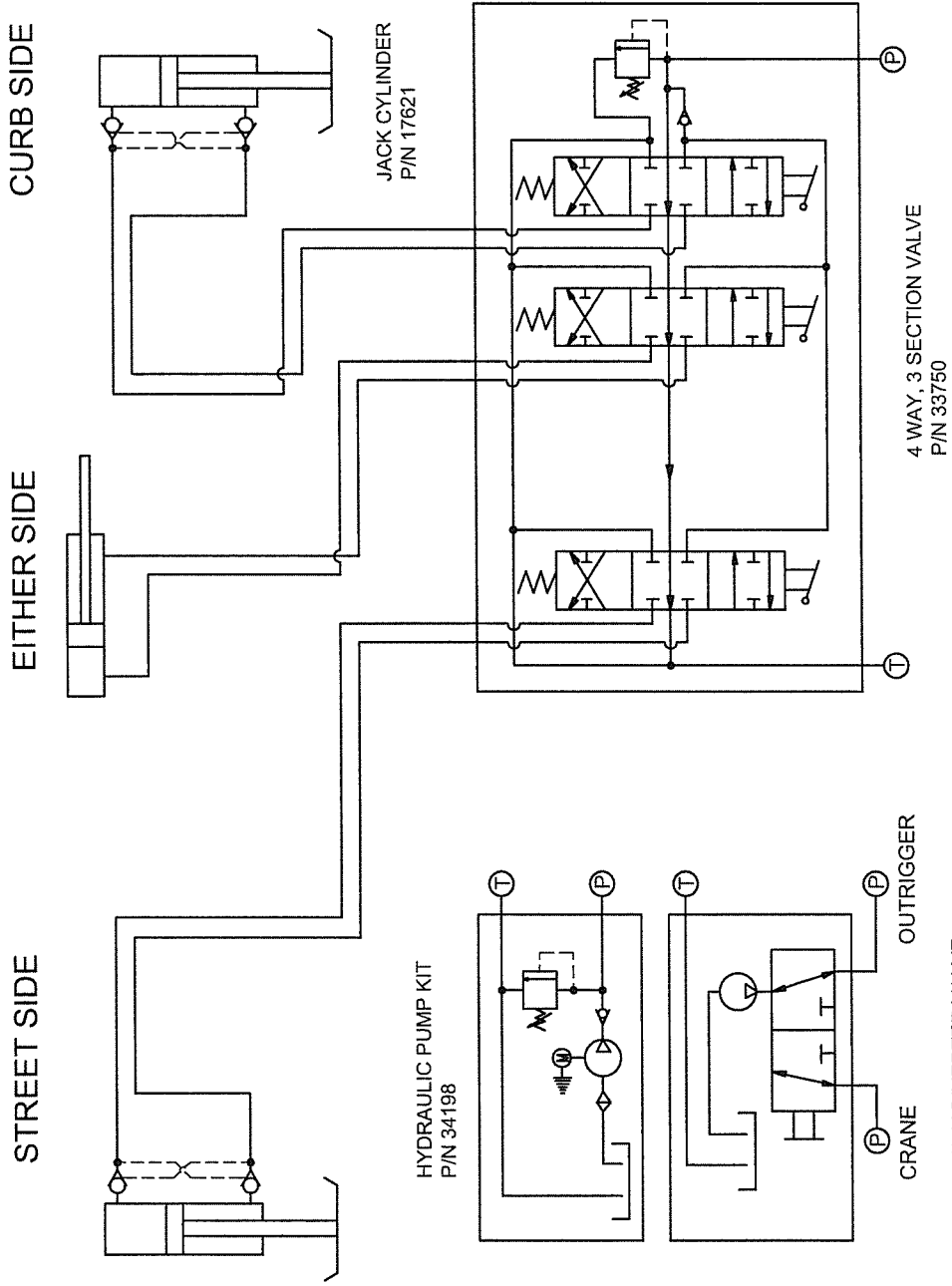
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DATE: 2/1/00

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  
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SCHEM, HYD. OUTRIG SFXHD  
ONE SIDE FIXED

DRAWING NO.  
50500-A

