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Operating & Installation Instructions

Hydraulic Out / Hydraulic Down 40k 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.

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P/N 20527**

**HYDRAULIC OUT / HYDRAULIC DOWN
40k ft.lbs. OUTRIGGER**

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OPERATING INSTRUCTIONS

HYDRAULIC OUT / HYDRAULIC DOWN OUTRIGGER 40k 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 40k 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!



**OUTRIGGERS CENTER TUBE
DIMENSIONS TABLE**

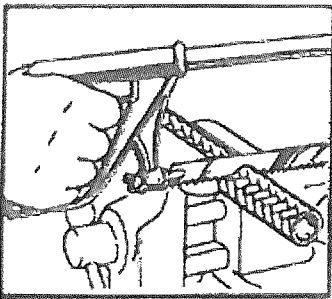
<i>Outrigger Model</i>	<i>Center Tube Size</i>
<i>Outrigger 10K</i>	<i>2.50'' X 5.00''X 0.18'' W</i>
<i>Outrigger 12K</i>	<i>2.50'' X 5.00''X 0.18'' W</i>
<i>Outrigger 18K</i>	<i>4.00'' X 6.00''X 0.25'' W</i>
<i>Outrigger 25K</i>	<i>5.00'' X 7.00''X 0.18'' W</i>
<i>Outrigger 40K</i>	<i>6.00'' X 8.00''X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

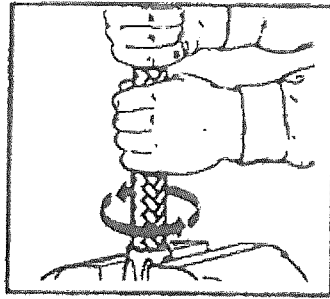
Hose and Reusable Fittings

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



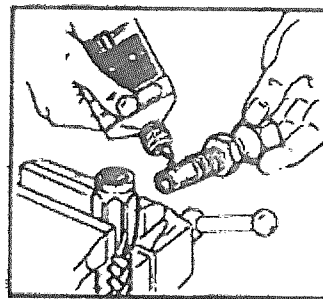
Step 1

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



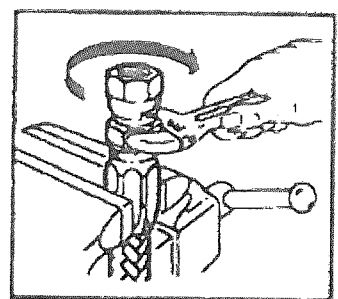
Step 2

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.



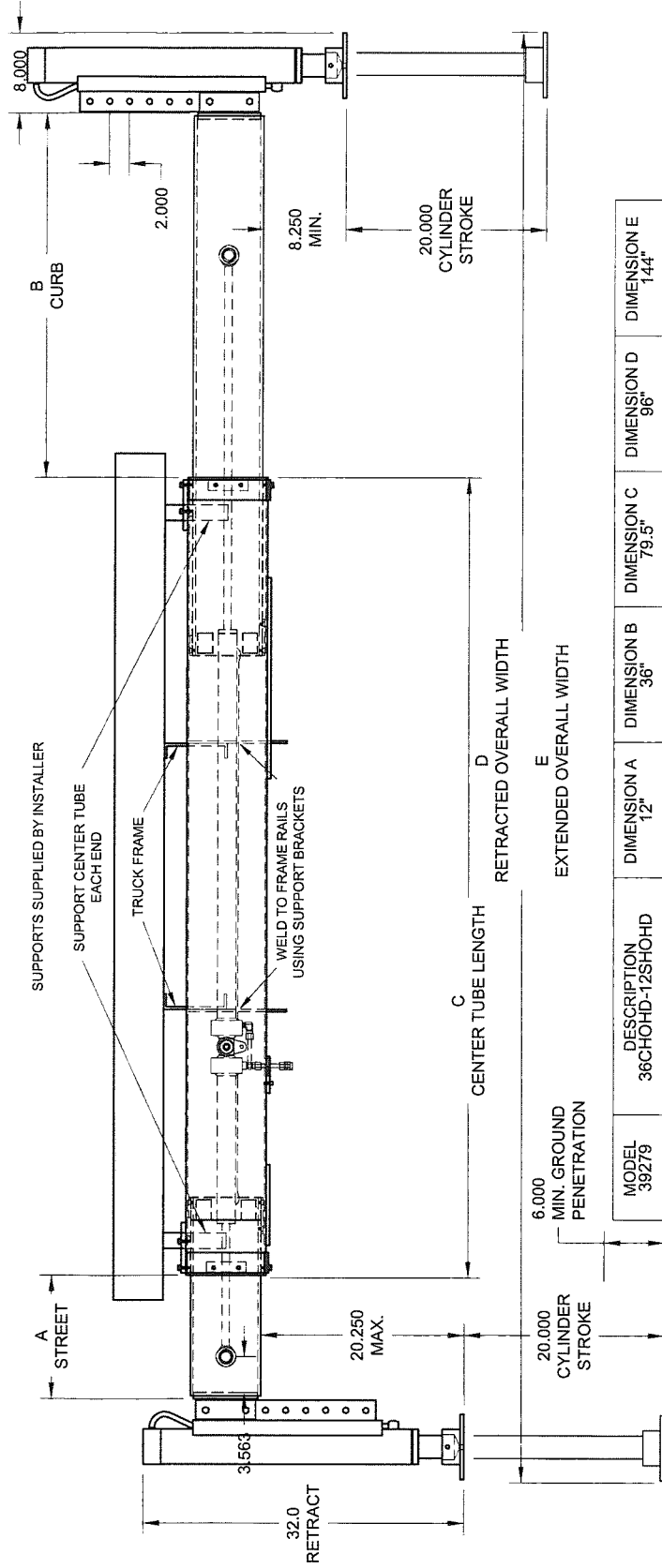
Step 3

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 39279	36CHOHD-12SHOHD	12"	36"	79.5"	96"	144"
MODEL 39280	36CHOHD-12SHOHD	12"	36"	79.5"	96"	144"
MODEL 39281	36CHOHD-SFXHD	0"	36"	79.5"	96"	132"
MODEL 39226	20CHOHD-20SHOHD	20"	20"	79.5"	96.5"	136.5"
MODEL 38633	36CHOHD-12SHOHD	12"	36"	79.5"	96"	144"
MODEL 38641	36CHOHD-12SHOHD	12"	36"	79.5"	96"	144"
MODEL 39227	20CHOHD-20SHOHD	20"	20"	79.5"	96.5"	136.5"
MODEL 38845	DESCRIPTION CFXHD-36SHOHD	36"	0"	79.5"	96"	132"
MODEL 38943	DESCRIPTION 36CHOHD-SFXHD	0"	36"	79.5"	96"	132"
MODEL 38982	DESCRIPTION 36CHOHD-SFXHD	0"	36"	79.5"	96"	132"
MODEL 39160/39290	DESCRIPTION 12CHOHD-36SHOHD	36"	12"	79.5"	96"	144"
MODEL 39191	DESCRIPTION 36CHOHD-11SHOHD	12"	36"	79.5"	96"	144"



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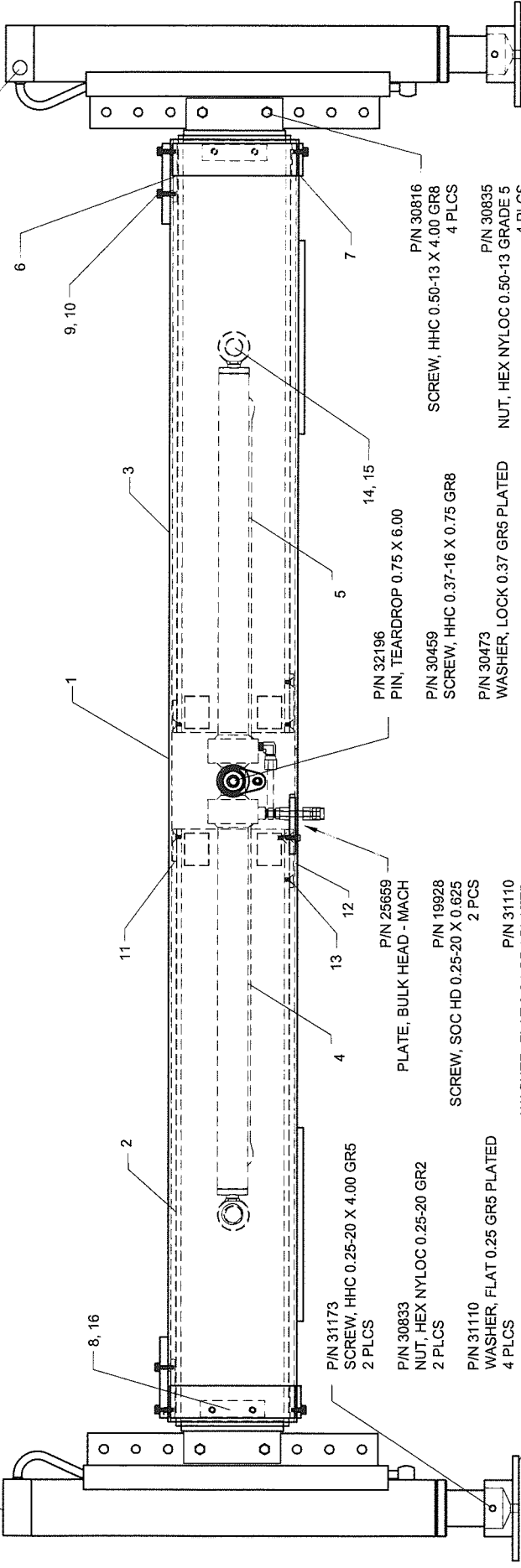
OUTRIGGER 40K HOHD INST

DRAWING NO.

50510-L

PIN 17621
CYLINDER, 3.0 X 20.0 X 2.25 JS
2 PLCS

PIN 31591
VALVE, P.O. CHECK CARTRIDGE



PIN 31173
SCREW, HHC 0.25-20 X 4.00 GR5
2 PLCS

PIN 30833
NUT, HEX NYLOC 0.25-20 GR2
2 PLCS

PIN 31110
WASHER, FLAT 0.25 GR5 PLATED
4 PLCS

PIN 17931
BASE, JACK HYD. 25K OUTRIGGER
2 PLCS

PIN 32196
PIN, TEARDROP 0.75 X 6.00

PIN 30459
SCREW, HHC 0.37-16 X 0.75 GR8

PIN 30473
WASHER, LOCK 0.37 GR5 PLATED

PIN 30835
NUT, HEX NYLOC 0.50-13 GRADE 5
4 PLCS

PIN 19323
WASHER, FLAT 0.50 SAE GR8
8 PLCS

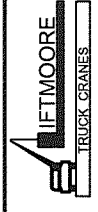
PIN 25659
PLATE, BULK HEAD - MACH

PIN 19928
SCREW, SOC HD 0.25-20 X 0.625
2 PCS

PIN 31110
WASHER, FLAT 0.25 GR5 PLATED
2 PCS

*SEE INSTALLATION DRAWING FOR OUTRIGGER MODEL NUMBER DESCRIPTION

ITEM	DESCRIPTION	OUTRIGGER															
		39279 QTY	39280 QTY	39281 QTY	38633 QTY	38641 QTY	38845 QTY	38943 QTY	38982 QTY	39160 QTY	39226 QTY	39227 QTY	39290 QTY	39225 QTY			
1	CENTER OUTR.	19319	19319	19654	19319	19319	38845	38943	38982	39160	39226	39227	39290	39225			
2	STREET SIDE OUTR.	19353	19353	NONE	19353	19353	22179	NONE	19654	25034	19888	19888	25034	24165			
3	CURB SIDE OUTR.	19357	19357	19357	19357	19357	NONE	19357	NONE	25035	19893	19893	25035	24169			
4	STREET CYL. ASSEMBLY	26461	26461	NONE	18304	18304	NONE	NONE	NONE	25036	19891	19891	25036	24167			
5	CURB CYL. ASSEMBLY	26385	26385	26385	18306	18306	18306	18306	18306	18306	25660	25660	26385	25660			
6	TOP SPACER	33292	2	33292	1	33292	33292	1	33292	33292	2	33292	2	33292			
7	BOTTOM SPACER	33951	2	33951	2	33951	33951	1	33951	33951	2	33951	2	33951			
8	SIDE SPACER	16820	2	16820	2	16820	16820	1	16820	16820	2	16820	2	16820			
9	SCREW	30810	8	30810	4	NONE	NONE	NONE	NONE	NONE	8	30810	8	30810			
10	LOCK WASHER	30889	16	30889	16	30889	30889	8	30889	30889	16	30889	16	30889			
11	TOP NYLON PAD	33952	2	33952	2	33952	33952	1	33952	33952	2	33952	2	33952			
12	BOTTOM NYLON PAD	33950	2	33950	2	33950	33950	1	33950	33950	2	33950	2	33950			
13	SCREW	33614	12	33614	6	33614	33614	6	33614	33614	12	33614	12	33614			
14	CS, 1.00 DIA X 4.25	18045	2	18045	2	18045	18045	1	18045	18045	2	18045	2	18045			
15	RING, SNAP 1" INTERNAL CS	30692	4	30692	4	30692	30692	2	30692	30692	4	30692	4	30692			
16	SCREW	30457	8	30457	8	30457	30457	8	30457	30457	16	30457	16	30457			



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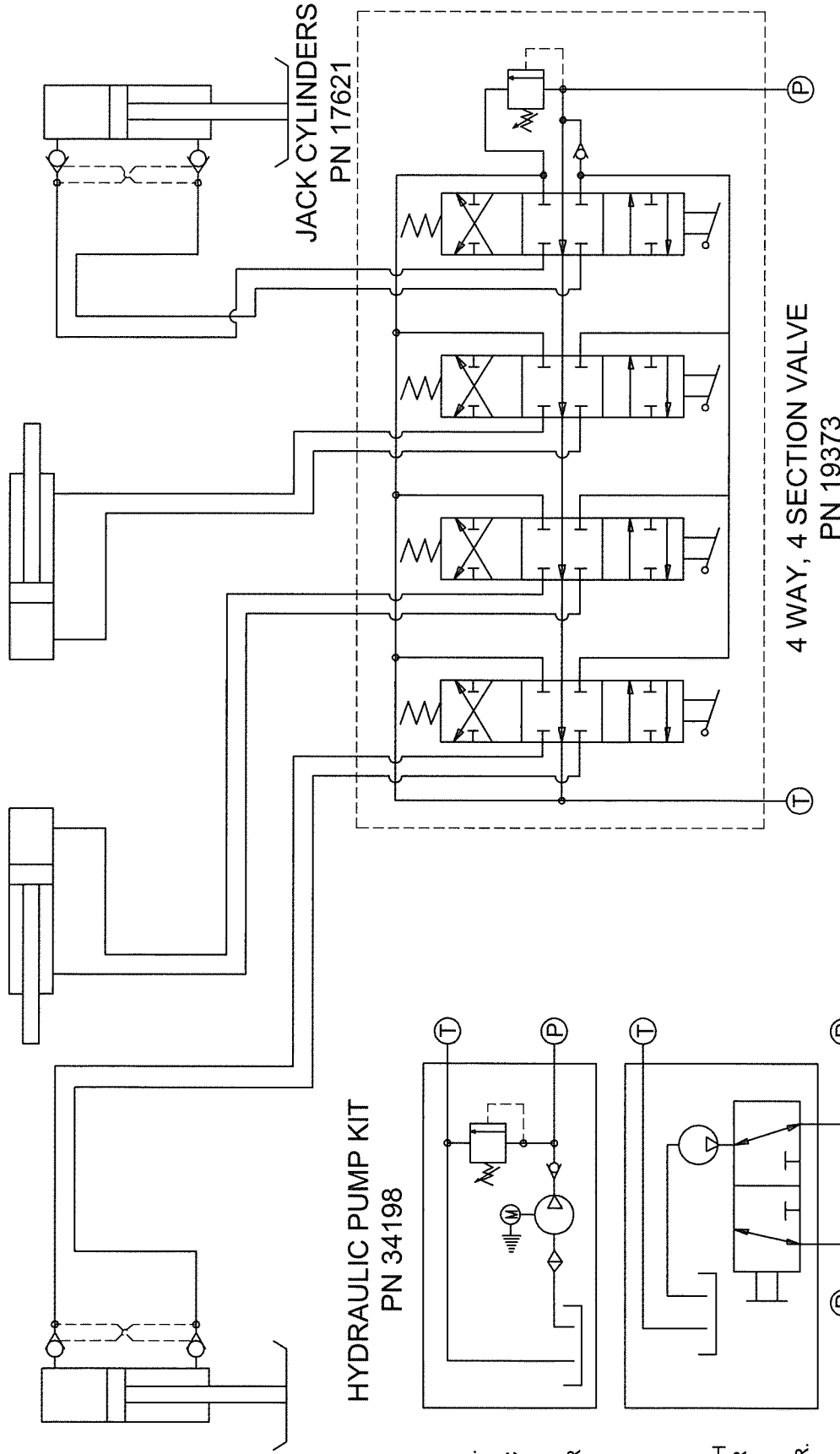
OUTRIGGER 40K HOHD
PARTS LIST

DRAWING NO.

58107-L

STREET SIDE

CURB SIDE



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



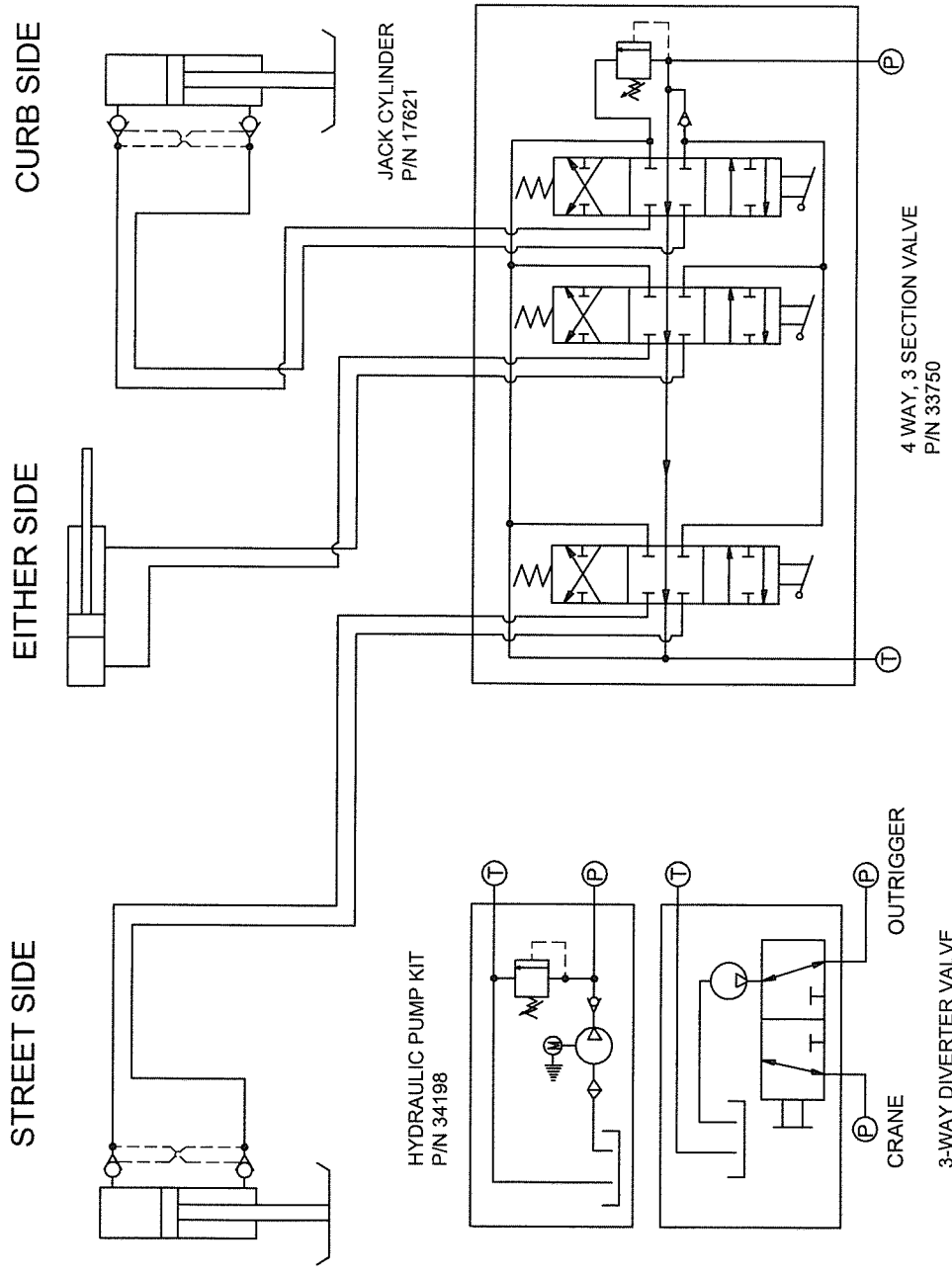
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DRWN BY: LEM
DATE: 2/1/00

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.



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SCHEM, HYD. OUTRIG FXHD
ONE SIDE FIXED

DRAWING NO.
50500-A