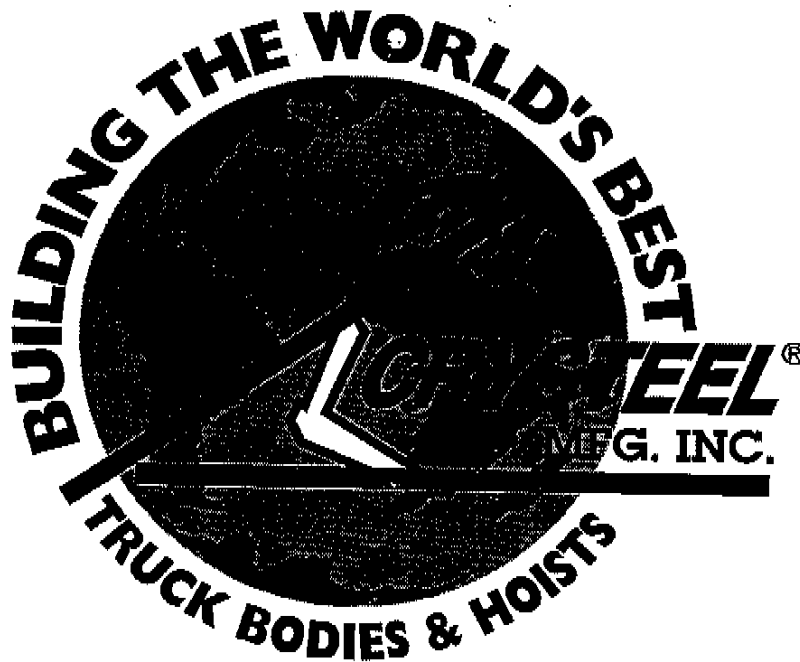


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CRYSTEEL'S LO-BOY LB400, LB500 & LB510 TRUCK HOIST



P.O. Box 178
52182 Ember Road
Lake Crystal, MN 56055

www.crysteel.com
crysteel@crysteel.com
(507) 726-2728 (800) 533-0494

1902 Route 57 South
Fulton, NY 13069

DATE PURCHASED _____
HOIST SERIAL NUMBER _____
CYLINDER SERIAL NUMBER _____
PUMP SERIAL NUMBER _____
DEALER _____
ADDRESS _____
PHONE _____

OPERATION AND USE

1. Engage PTO from cab and adjust engine speed to fast idle.
2. If the hydraulic hose connections are correct, the hoist should raise when the hoist control lever is pulled back, hold when the lever is in the detent, and lower when the lever is pushed forward.
3. Cycle the hoist several times to remove air from the cylinder and hydraulic lines.
4. It is advisable to run the PTO to "power down", or lower, the hoist because this will act as a hydraulic lock to hold the hoist in the lowered position. It is not necessary to do this, however, because the reservoir has sufficient capacity whether or not the hoist is powered down.
5. To make use of the hydraulic lock feature, place the hoist control lever in the center detent position after the hoist is powered down. This places the pressure on the valve, where it belongs, not on the pump.
6. *DO NOT LEAVE THE PTO IN GEAR WHILE TRANSPORTING. THIS WILL CAUSE SEVERE DAMAGE TO THE HYDRAULIC PUMP AND/OR PTO.*
7. The hydraulic system should be drained, flushed and refilled with proper hydraulic fluid at regular intervals. CAUTION: NEVER use hydraulic brake fluid in the hydraulic system.

SOME DO'S AND DON'T'S FOR SAFETY AND LONG SERVICE

1. Use the proper hydraulic fluid. KEEP IT CLEAN. Remember to change it regularly.
2. Lubricate all grease fittings at regular intervals.
3. ALWAYS carefully block up the body, using the body prop, before working under it.
4. Do not "race" the engine when unloading.
5. Do not load the hoist beyond its capacity.
6. DO NOT tamper with the hydraulic relief valve. This will void the warranty. It can cause severe damage to the hoist and cylinder.
7. Never leave the PTO in gear while transporting. It will ruin the hydraulic pump.
8. Check all bolts and set screws regularly. Keep them tight.

FOREWORD

Crysteel's LB400, LB500 and LB510 Hoists are designed and intended for use on single-axle trucks with cab-to-axle dimensions of 60 to 132 inches and body lengths of 8 to 14 feet.

This manual contains information necessary for the proper installation and operation of Crysteel's Model LB400, LB500 and LB510 Hoists. Study it carefully before attempting to mount or use the hoist. With proper installation and maintenance, the Crysteel Model LB400, LB500 or LB510 Hoist will give many years of trouble-free service.

When ordering parts, be sure to give the serial number of the hoist, pump, and cylinder. The serial number of the pump is found on the plate on the side of the pump. The serial number of the cylinder is stamped on the barrel of the cylinder near the base. For future reference, copy these numbers NOW in the space provided on page 1. Order parts by number and description as given in the parts listing in this manual.

KEEP THIS MANUAL IN A SAFE PLACE FOR FUTURE REFERENCE

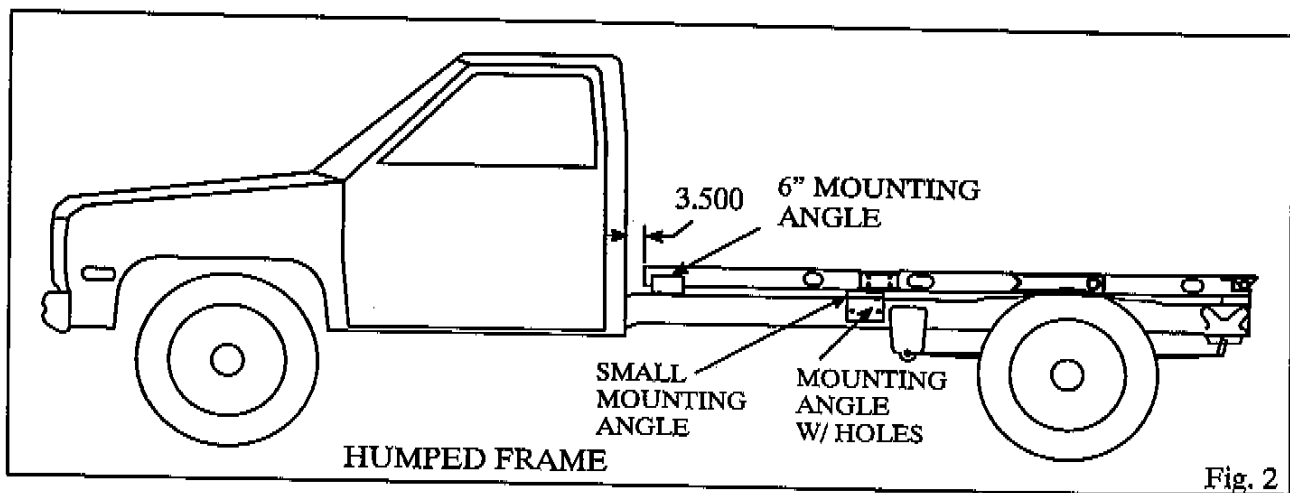
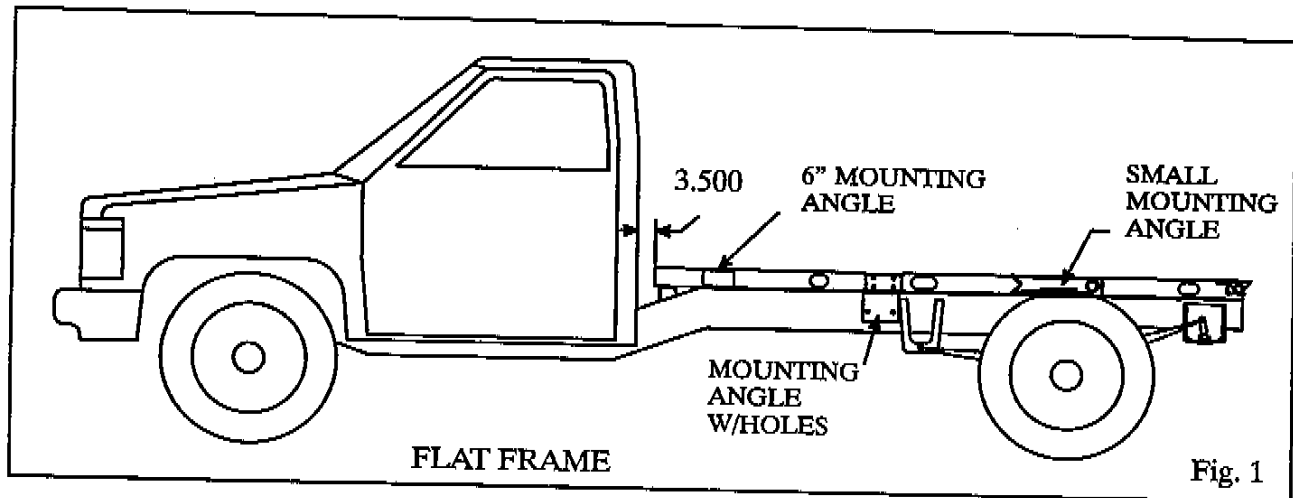
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MOUNT HOIST-SUBFRAME ASSEMBLY TO TRUCK

The subframe is normally mounted before attaching it to the body. See Fig. 1 and Fig. 3 for flat frame installations. See Fig. 2 and Fig. 4 for humped frame installations. Fig. 5 applies to all installations.

For 60" CA trucks subframes mark the truck frame for cutting 96" back from the truck cab. For 84" CA trucks mark the truck frame for cutting 120" back from the truck cab. This cut-off line should be a minimum of 2" behind the rear spring shackle and will position the subframe with 3 1/2" clearance from the truck cab to the front of the subframe rails. The body will also be mounted flush with the front of the subframe rails and thus have 3 1/2" clearance from the truck cab.



Make sure the marks for cutting the truck frame are accurate and even from side to side. Cut off the truck frame and grind the ends smooth. Place the subframe on the truck making sure it is located 3 1/2" back from the truck cab, centered side to side and square with the truck frame. The rear of the subframe rails should match the rear of the truck frame. Trucks with humped frames may need some temporary blocking. Now continue with the appropriate instructions below.

FLAT FRAME INSTALLATION

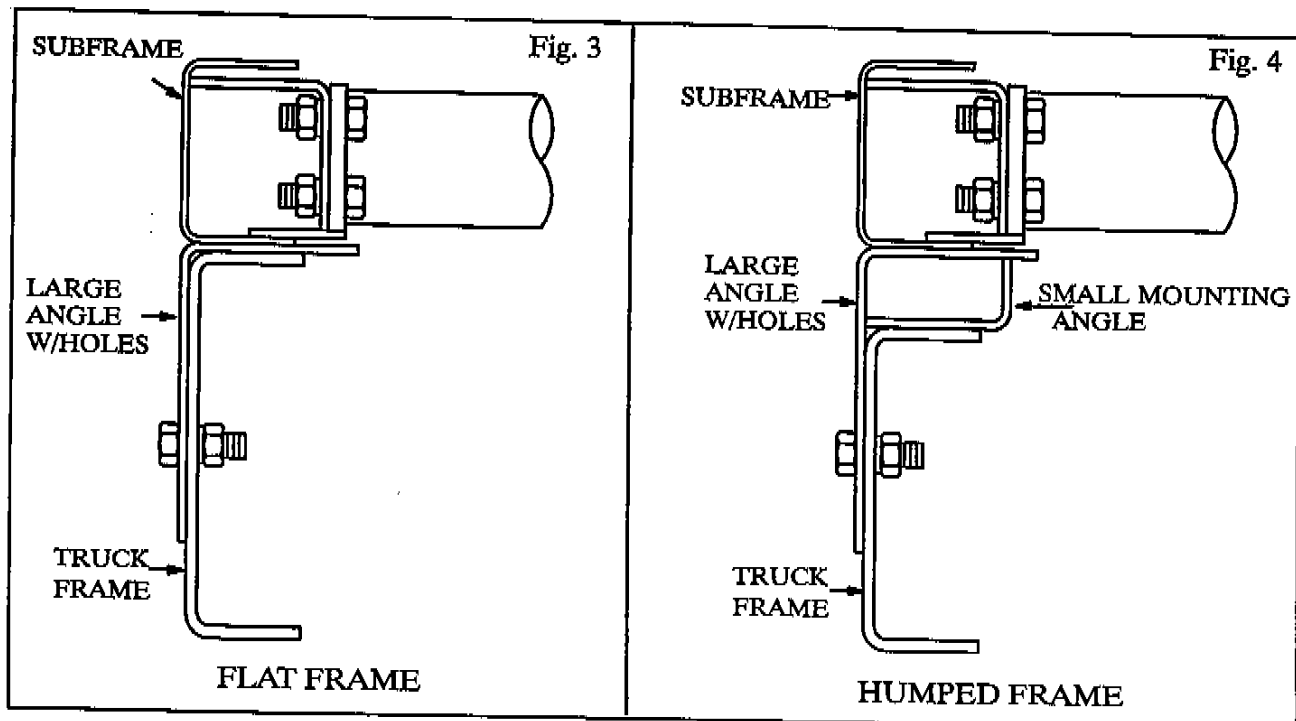
Use the mounting angles with holes in them positioned as shown in Fig.1 and Fig.3. Positioning them as directly under the hoist's lower mount as possible. Clamp them to the truck frame and the subframe. Position and clamp the 6" mounting angles as near the front of the subframe as possible, positioned with the long leg up. They will be welded to the subframe only. Use the smaller mounting angles as spacers under the subframe over the center of the axle. These angles will only be welded to the subframe. Mark the truck frame for drilling using the mounting angles as guides.

CAUTION: BE CAREFUL OF BRAKELINES, WIRING, ETC. INSIDE THE TRUCK FRAME WHEN DRILLING THE TRUCK FRAME.

Drill 17/32 holes through the truck frame and bolt the mounting angles to the truck frame with 1/2 x 2 cap screws and hex lock nuts. Make sure the subframe is correctly positioned front to back, centered side to side, and square with the truck frame. Check the distance between the hoist mounting angles. This should be 27 1/2". Weld the subframe to the bolted mounting angles. Weld the small angles over the center of the axle to the subframe only. Weld the 6" mounting angles to the subframe only, not the truck frame.

Place the rear hinge support plates against the rear of the truck frame and slide them up to the bottom of the rear hinge frame, see Fig. 5. Securely weld them to the truck frame, the subframe, and the rear hinge. Trim off any excess material below the truck frame.

When mounting this hoist on a truck with straight frame rails, use the flat subframe mounting plates instead of the subframe mounting support assemblies. Clamp them to the subframe and to the truck frame in line with the lower cross-tube of the hoist. Mark the truck frame for drilling using the mounting plate as guide.



HUMPED FRAME INSTALLATION

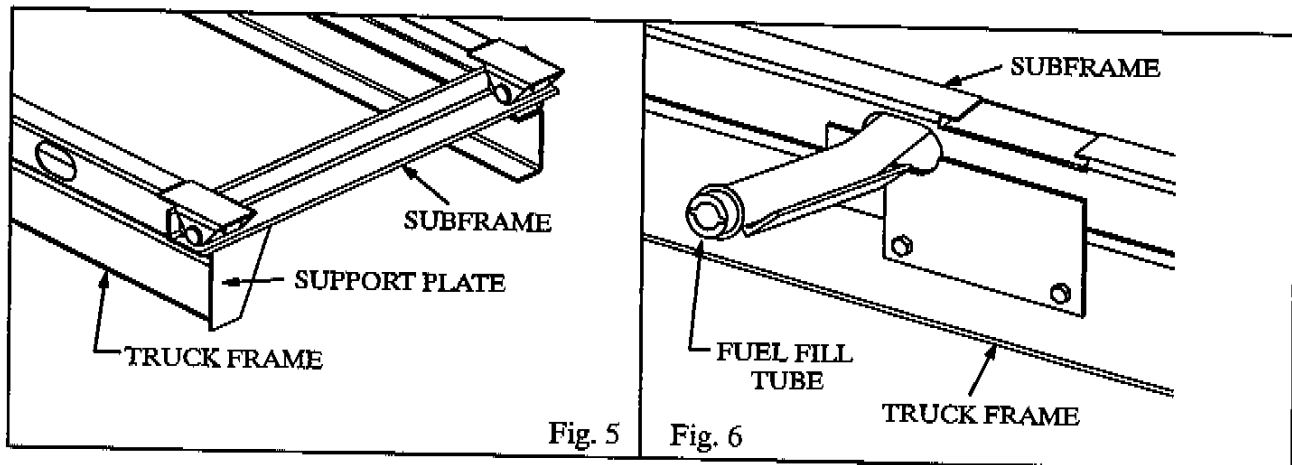
Use the mounting angles with holes in them and the small mounting angles to assemble mounting supports as shown in Fig. 2 and Fig. 4. Weld these two securely together before positioning them as directly under the hoist's lower mount as possible. Clamp them to the truck frame and the subframe. Position and clamp the 6 inch mounting angles as near the front of the subframe as possible, positioned with the long leg up, these will support the front of the subframe rail. Mark the truck frame for drilling the mounting angles as guides.

CAUTION: BE CAREFUL OF BRAKELINES, WIRING, ETC. INSIDE THE TRUCK FRAME WHEN DRILLING THE TRUCK.

Drill $17/32$ holes through the truck frame and bolt the mounting angles to the truck frame with $1/2 \times 2$ cap screws and hex lock nuts. Make sure the subframe is correctly positioned front to back, centered side to side, and square with the truck frame. Check the distance between the hoist mounting angles. This should be $27 \frac{1}{2}$ ". Weld the subframe to the bolted mounting angles. Weld the front mounting angles to the subframe rails only.

On trucks with a humped frame, there is a gap between the truck frame and the subframe under the rear hinge. If desired, for esthetic reasons, this gap may be filled. Be sure to weld the filler to only the subframe, never to the truck frame.

Place the rear hinge support plates against the rear of the truck frame and slide them up to the bottom of the rear hinge frame, see Fig. 5. Securely weld them to the truck frame, the subframe and the rear hinge. Trim off any excess material below the truck frame.



SUPPORT FUEL FILL TUBE

There are holes in the left (driver's side) subframe rail for routing the fuel tank fill tube to the outside of the truck frame. On Dodge trucks, the fill tube will pass between the subframe and the truck frame. On Chevrolet and GMC trucks, route the fill tube through one of the holes in the subframe. On Ford trucks, the fill tube passes through holes in the truck frame. After the body has been installed, construct a support for the fuel tank fill tube. Construct the support so that it does not interfere with any portion of the body or hoist operation. (See Fig. 6.)

HYDRAULIC PUMPS

Crysteel offers three different hydraulic systems for use with the Model LB400, LB500 and LB510 Hoists. Mounting instructions can be found on the page shown:

Standard Gear Pump with Remote Reservoir/Valve	Page 6
Electric Pump—Single Acting	Page 8
Electric Pump—Double Acting	Page 8

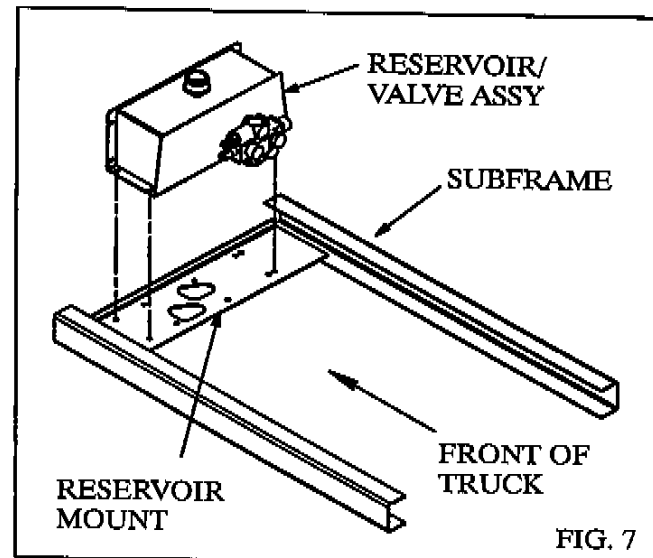
MOUNT GEAR PUMP

The gear pump has an SAE 'A' mounting configuration, a 9 tooth splined shaft and a two-bolt mounting flange, and is assembled for counterclockwise rotation. *NOTE:* This pump will mount directly to Chelsea's output type 'XE' or Muncie's output type 'R'. Crysteel Manufacturing recommends a PTO ratio of 100–120%. This assures a minimum pump operating speed of 600 RPM. **CHECK THE ROTATION OF THE PTO!** If it is opposite of the engine, then the pump can be used as it is. If the PTO rotation is the same as the engine, then the pump will need to be reversed. (See instructions included with the pump.) Bolt the gear pump to the PTO output flange using 3/8 x 1" cap screws and lock washers.

Gear pumps are also available to fit the Muncie and Chelsea PTOs used on the Ford F100 automatic transmission.

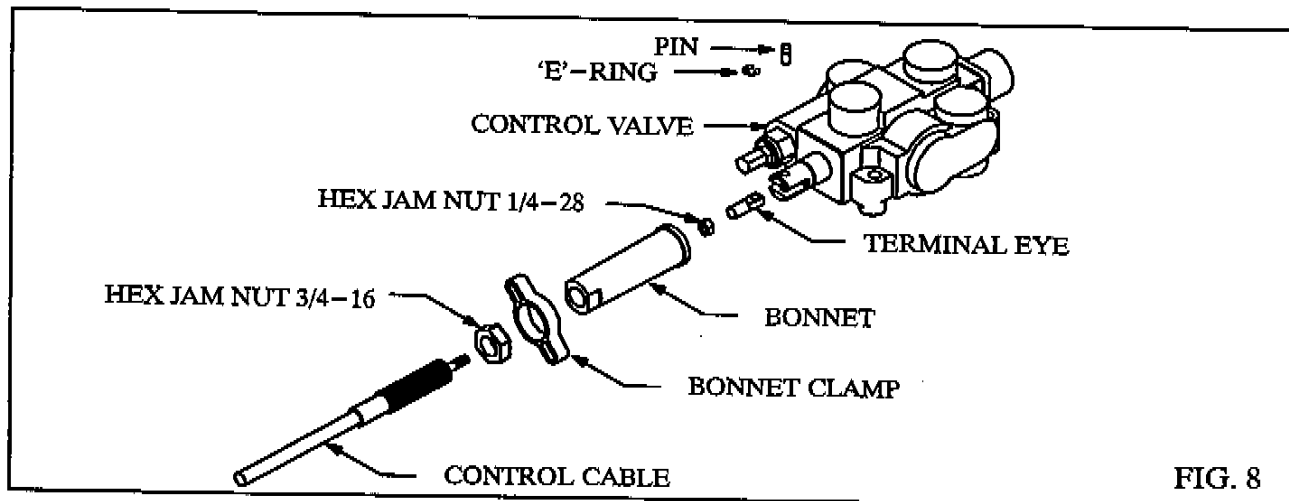
MOUNT RESERVOIR/VALVE ASSEMBLY

The reservoir/valve assembly is intended to be mounted just behind the cab, between the longbeams of the body with the control valve to the back side of the reservoir. Bolt the reservoir/valve assembly to this mounting bracket using 3/8 x 1" cap screws, flat washers and hex lock nuts.



INSTALL REMOTE VALVE CONTROL

Temporarily assemble the valve control head to the pedestal using 5/16 x 2 1/4" machine screws and hex nuts. Place this assembly on the floor of the cab. Make sure there is enough room to operate the valve control and the gear shift lever and to adjust the seat. Check below the floor for obstructions and cable routing. Relocate the valve control if necessary. Mark the floor using the pedestal as a template and drill 5/16" holes for the mounting screws and a 3/4" hole for the control cable. Assemble the control cable to the valve control head and assemble the valve control head and cover to the pedestal using 5/16 x 2 1/4" machine screws and hex lock nuts. Insert the control cable through the hole in the floor and mount the pedestal to the floor using 5/16 x 1/2 machine screws and hex lock nuts. Make sure the valve control lever is in its center detent position. Keep the control cable away from hot exhaust pipes and rotating drive shafts. The control cable should not have any sharp bends or kinks in it (these will make the control harder to operate). Install the 3/4" hex jam nut onto the valve end of the control cable and turn it past the threads. Insert the end of the cable through the bonnet clamp. Install the bonnet onto the control cable and turn it past the threads also. Install the 1/4" hex jam nut and terminal eye on the core rod of the cable. Lock the terminal eye to the core rod of the cable using the hex jam nut. Place the terminal eye in the slot of the valve spool; insert the short pin through the valve spool and terminal eye and secure it in place with the 'E' ring.



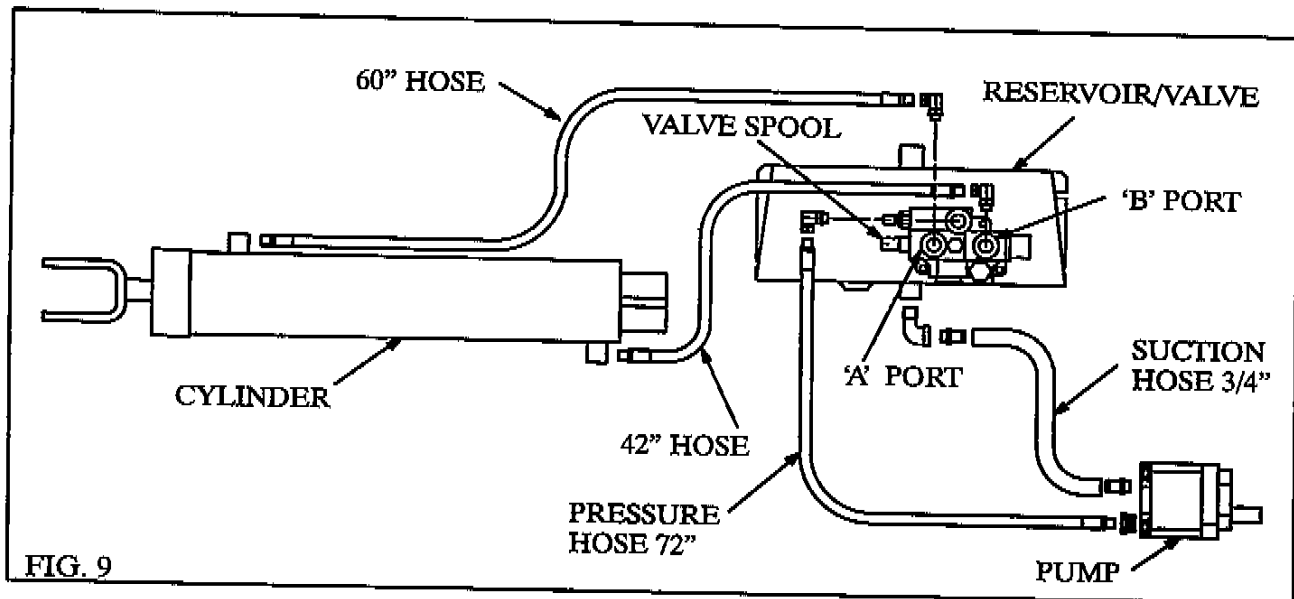
Thread the bonnet onto the end of the cable so it firmly touches the end of the valve. (Do not over- or under-tighten the bonnet as either would move the valve spool out of its neutral position.) Remove two cap screws from opposite corners of the seal retainer plate. Slide the bonnet clamp onto the bonnet and secure it to the valve using the 1/4 x 1 1/4" cap screws, lock washers and flat washers. Lock the bonnet to the cable using the 3/4" hex jam nut. See Fig. 8.

INSTALL HOSES

Study Fig. 9 very carefully before connecting the hoses. Install a 3/4" 90° street elbow and a 3/4" hose barb in the suction port on the bottom of the reservoir. Install a 1 1/16 ORB x 3/4" hose barb in the suction port of the pump and install a 3/4" ID suction hose. Secure the suction hose in place using hose clamps. Install a 7/8 ORB x 3/8 NPT 90° adapter in the 'IN' port of the control valve and a 7/8 ORB x 3/8 NPT adapter in the pressure port of the pump. Connect a 72" long 3/8" hose between the pump and the valve.

Install straight adapters in both cylinder ports. Install 90° swivel adapters in the work ports of the control valve. Connect the shorter 3/8" hose from the 'B' port on the control valve to the base end port on the cylinder; connect the longer 3/8" hose from the 'A' port to the rod end port. This will raise the hoist when the control lever is pulled back and lower it when pushed forward.

NOTE: The 'A' port is the 'power-down' port and has a pressure of only 500–1000 PSI; the 'B' port has full system pressure.



ELECTRIC PUMP MOUNTING – GENERAL

The electric pump is intended to be mounted just behind the cab, between the longbeams of the body. Bolt the pump to the bracket provided using the 3/8 x 1 cap screws, flat washers and hex lock nuts.

Connect the large terminal on the starter solenoid to the positive terminal on the battery, using a No. 0 Gauge or heavier cable. Install a heavy duty ground cable from the negative terminal of the battery directly to the truck frame using a No. 0 Gauge or heavier cable. The light cable normally used for grounding the engine to the frame is not heavy enough.

Install the electric pump control inside the cab and route the cable out of the cab through a hole in the back of the cab. Connect the control to the pump using the instructions with the pump.

ELECTRIC PUMP INSTALLATION – SINGLE–ACTING

Install a 3/8 NPT x 3/4–16 JIC male elbow in the power port on the pump and install a 1/4 NPT x 3/4–16 JIC male elbow in the port on the top of the reservoir. Connect the shorter hose from the power port on the pump to the base end port on the cylinder; connect the longer hose from the port on the top of the reservoir to the rod end port on the cylinder.

ELECTRIC PUMP INSTALLATION – DOUBLE–ACTING

Install 9/16 ORB x 3/4 JIC 90° swivel adapters in both work ports on the electric pump. If needed, for good hose routing, install 3/4 JIC x 3/4 JIC 90° swivel adapters to both of these adapters. Connect the shorter 3/8 ID hose with 3/4 JIC fittings from the ‘C1’ port on the pump to the base end port on the cylinder. Connect the longer 3/8” ID hose with 3/4 JIC fittings from the ‘C2’ port to the rod end port.

NOTE: The ‘C2’ port is the power down port and has only 500 PSI maximum pressure.

ADD HYDRAULIC OIL

Use a quality hydraulic fluid of 150 SSU @ 100°F which contains corrosion and oxidation inhibitors and a foam depressant. This is approximately the equivalent of SAE 10W or lighter weight oil. Dexron automatic transmission fluid should be used in the electric pumps. Fill the hydraulic reservoir using the following table.

Standard Gear Pump w/Valve Tank	10 Qts.
Electric – Single Acting	7 Qts.
Electric – Double Acting	7 Qts.

KEEP THE OIL CLEAN. USE CLEAN CONTAINERS, FUNNELS AND OTHER EQUIPMENT!

POWER HOIST DOWN

Before mounting the body, the hoist must be completely closed to make certain that the hoist gives full lift height and performance. Make sure the lift angles are straight up and down.

For hydraulic systems with the direct mount gear pump, start the truck engine, engage the PTO and power down the hoist to “bottom–out” the hydraulic cylinder and the hoist frame. Place the hoist valve control in the “hold” position. Both the hoist frame and the hydraulic cylinder are now completely closed.

For hydraulic systems with the single–acting electric pump, press and hold the ‘DOWN’ push–button on the control while pushing the hoist frame closed. Release the ‘DOWN’ push–button. Both the hoist frame and the hydraulic cylinder are now completely closed.

For hydraulic systems with the double–acting electric pump, press and hold the ‘DOWN’ push–button on the control to “bottom–out” the hydraulic cylinder and the hoist frame. Release the ‘DOWN’ push–button. Both the hoist frame and the hydraulic cylinder are now completely closed.

INSTALL TIPPER BODY ON TRUCK

Place the Tipper body on the truck with the front of the body even with the front of the subframe. Align the body longbeams to the subframe rails. Securely weld the rear hinge brackets and the hoist lift brackets to the longbeams. Raise the body, block it in a raised position and securely weld the hoist lift brackets to the fill plates on the inside of the longbeams.

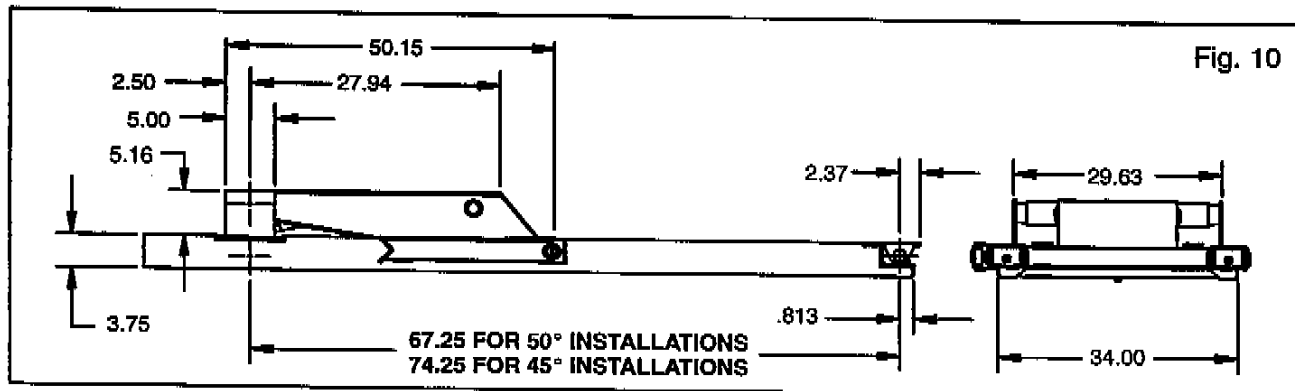
DO NOT WORK UNDER A RAISED BODY UNLESS THE BODY IS SECURELY BLOCKED OR PROPPED IN THE RAISED POSITION.

If the body and subframe have been assembled at the factory, finish welding the hoist lift brackets to the fill plates on the inside of the longbeams.

INSTALL BODY ON TRUCK

The LB400, LB500 and LB510 hoists require 6-inch longbeams on the body. Carefully measure the location of the hoist lift plate. Mark this location on the inside of the longbeams and box in the inside of the longbeams. This will provide a flat surface for welding the body and hoist together. Place the body on the truck with 3 1/2 inches of clearance behind the cab. Make sure there is sufficient clearance between the body and the reservoir/valve assembly. Relocate the reservoir/valve assembly if necessary. Carefully align the body longbeams to the subframe rails. Securely weld the rear hinge bracket to the longbeams. Securely weld the hoist lift plates to the boxed-in sections of the longbeams. (See Fig. 10.)

DO NOT WORK UNDER A RAISED BODY UNLESS THE BODY IS SECURELY BLOCKED OR PROPPED IN THE RAISED POSITION.



INSTALL BODY PROP BRACKET ON BODY LONGBEAM

The body prop is designed and intended to support an EMPTY truck body in the raised position. Using the body prop permits service work to be performed safely beneath a raised body. It is mounted on the outside of the subframe on the driver's side.

1. Raise the body to the desired height and brace it securely before beginning installation.
2. Raise the prop arm to a free standing position by allowing the prop arm to rest against the rear flange of the prop pivot.
3. Place the longbeam bracket assy in the body prop saddle. Raise or lower the body as needed to position the bracket on the outside of the longbeam where it will not interfere with the body prop when it is in the stored position and the body is down. Securely weld this bracket to the body. (See Fig. 11.)
4. To operate the body prop, raise the body to the desired height, shut off all power, raise the prop arm to a free standing position. Lower the body slowly until the longbeam bracket contacts the prop arm saddle. **DO NOT POWER HOIST DOWN!**
5. To place the body prop in the storage position, raise the body to clear the body prop saddle, lower the body prop to the storage position and lower the body.

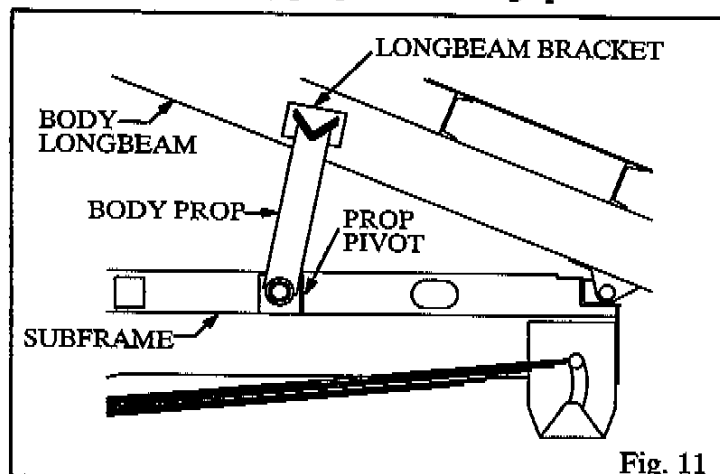


Fig. 11

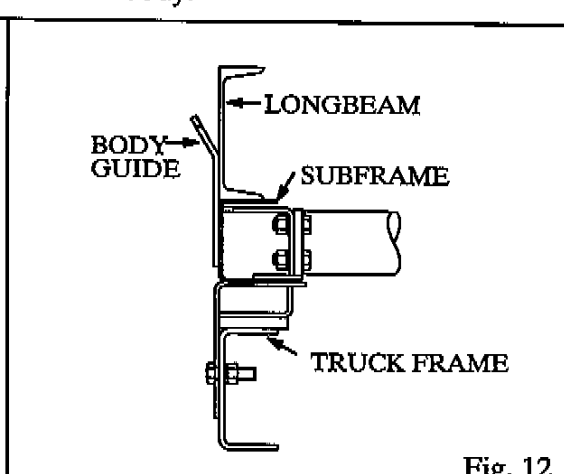


Fig. 12

INSTALL BODY GUIDES

Two body guides have been included and should be mounted near the front of the subframe. Clamp the body guides to the outside of the subframe as shown in Fig. 12. The body guide should be tight against the outside of the longbeams of the body. Securely weld the body guides to the subframe.

INSTALL GREASE ZERKS AND LUBRICATE HOIST

Install grease zerks on the hoist and lubricate the hoist in the following locations:

- Upper Crosstube 2 Fittings
- Lower Crosstube 2 Fittings
- Cylinder Base Pivot 1 Fitting
- Rear Hinge (already installed) 2 Fittings
- Body Prop (already installed) 1 Fitting

Lubricate all fittings at regular intervals, at least each time the truck chassis is lubricated. There are extremely high forces on the bearings surfaces within the hoist frame. It pays to be generous in lubricating the hoist to insure proper operation and long life.

The center hinge and the cylinder crosshead do not need to be greased. These pivot points are equipped with self lubricating composite bearings that do not need lubrication.

ONE OF THE MOST COMMON REASONS FOR HOIST PROBLEMS IS FAILURE BY THE OPERATOR TO LUBRICATE THE HOIST.

INSTALL DECALS

After the body and hoist have been installed and painted, install the decals in the following locations:

1. Decal 400640 Mount in the cab above the valve control.
2. Decal 400719 Mount on the body longbeam near the body prop. (one on each side)
3. Decal 400661 Mount on the body prop arm.
4. Decal 401576 Mount on the outside of the body longbeams near the front of the body.
(one on each side).
5. Decal 400643 Mount on the body longbeam on the drivers side.
6. Decal 401577 Mount in the cab in a prominent location.
7. Decal 400642 Mount in the cab in a prominent location.

See the illustrations on the following page for decal identification. (See Fig. 13.)


! OPERATION OF BODY PROP !

1. Raise body to full height and shut off all power.
2. Raise prop to upright position.
3. Lower body slowly until body bracket contacts prop.
4. **DO NOT POWER HOIST DOWN.**

400719

! DANGER !

- DO NOT GO UNDER RAISED BODY IT MAY DROP AND KILL YOU
- OPERATE HOIST CONTROLS ONLY FROM INSIDE TRUCK CAB



401576

! CAUTION !


- BODY MUST BE BRACED BEFORE SERVICING HOIST OR WORKING IN AREA WITH BODY IN RAISED POSITION
- LUBRICATE HOIST GREASE FITTINGS OFTEN - AT LEAST EACH TIME TRUCK IS SERVICED
- TRUCK MUST BE LEVEL FOR DUMPING
- DO NOT OVERLOAD

CRYSTEEL MFG., INC.

400643

! DANGER !

- DO NOT GO UNDER RAISED BODY IT MAY DROP AND KILL YOU
- OPERATE HOIST CONTROLS ONLY FROM INSIDE TRUCK CAB



401577

! CAUTION !

- BODY MUST BE BRACED BEFORE SERVICING HOIST OR WORKING IN AREA WITH BODY IN RAISED POSITION
- LUBRICATE HOIST GREASE FITTINGS OFTEN - AT LEAST EACH TIME TRUCK IS SERVICED
- TRUCK MUST BE LEVEL FOR DUMPING
- DO NOT OVERLOAD

CRYSTEEL MFG., INC.

400642

DOUBLE ACTING VALVE
OUT - RAISE; CENTER - HOLD; IN - LOWER
TO USE HYDRAULIC LOCK-DOWN

CONTINUE POWER DOWN UNTIL RELIEF VALVE BY-PASSES; THEN SET IN "HOLD" POSITION.

400640

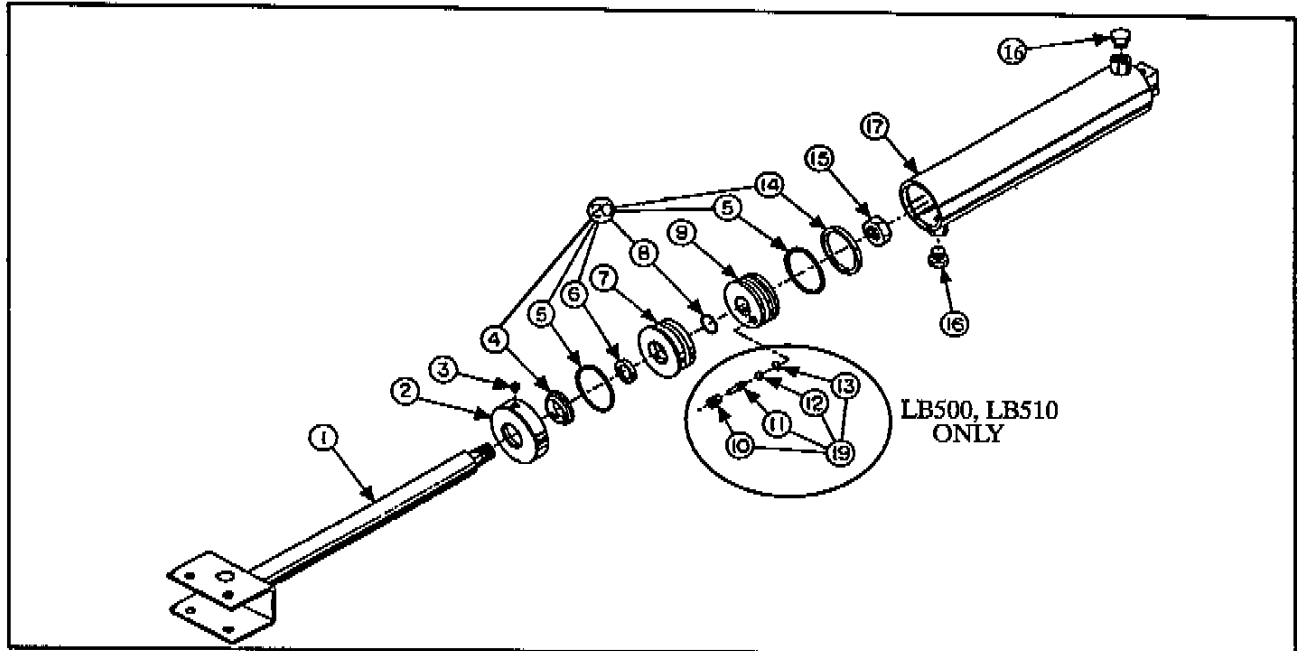
! CAUTION !

UNLOAD BODY BEFORE USING BODY PROP.

400661

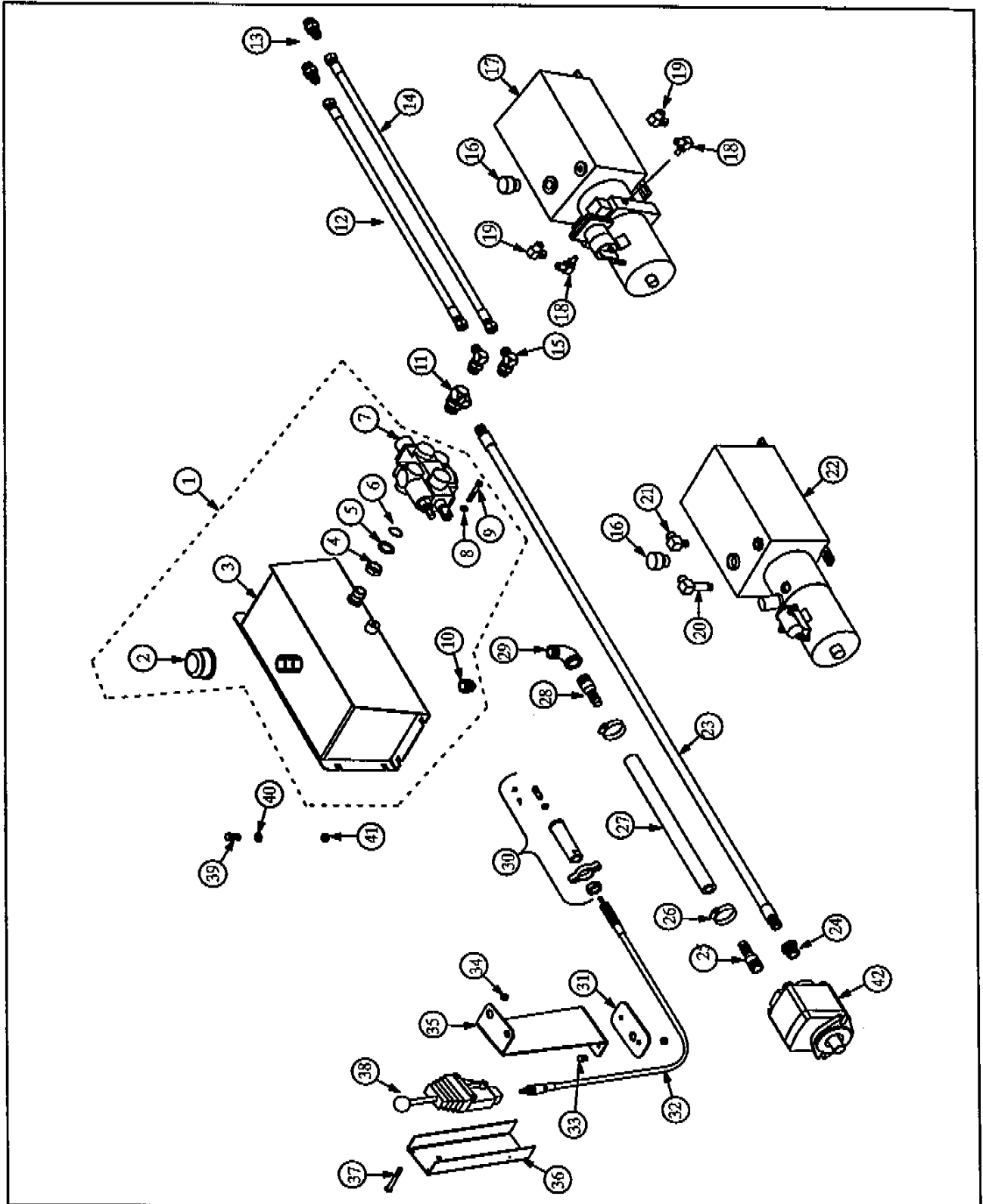
Fig. 13

CYLINDER PARTS LIST



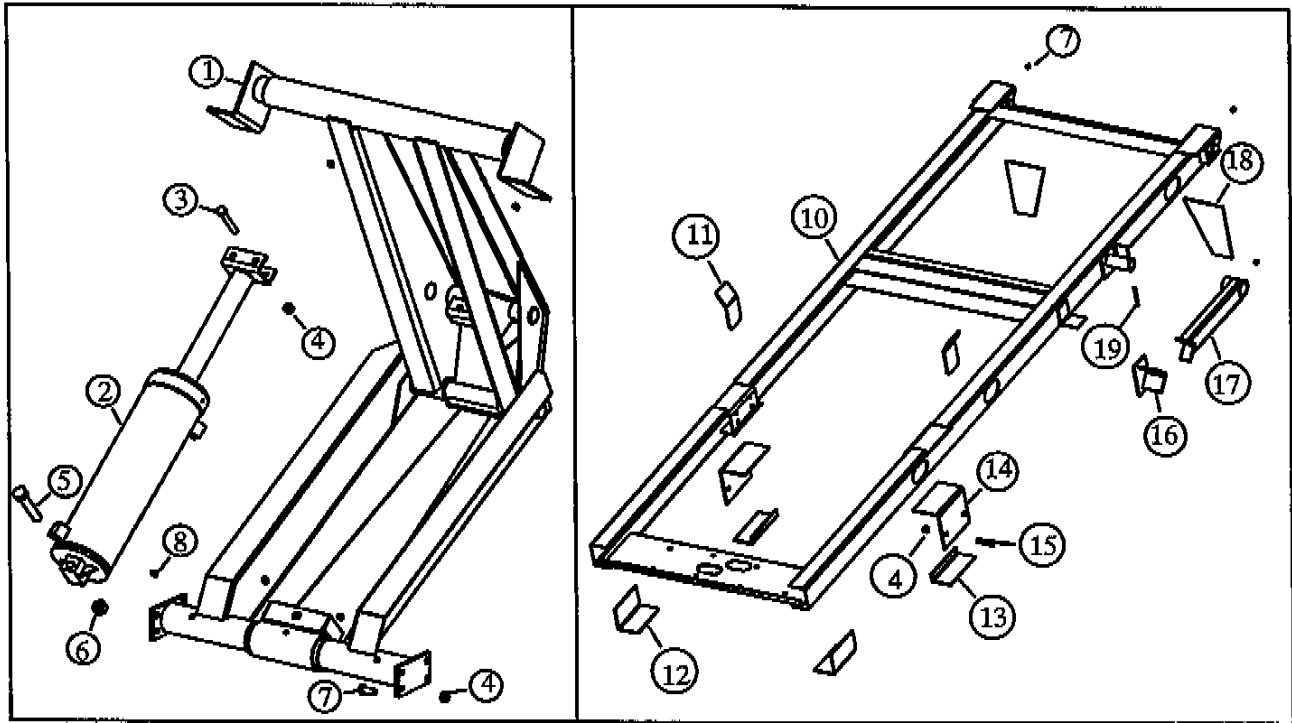
KEY	PART NO.			DESCRIPTION	QUANTITY
	LB400	LB500	LB510		
1.	105540	110306	110306	Shaft Assembly	1
2.	105541	104293	104297	Cap Assembly	1
3.	400149	400149	400149	Set Screw, 1/4-20 x 3/16 Nylon Tip	1
4.	401133	400913	400913	Wiper *	1
5.	400263	400254	400276	O-Ring *	2
6.	401132	400253	400253	Seal, Shaft *	1
7.	206279	202469	227775	Head	1
8.	401131	400255	400255	O-Ring *	1
9.	206755	202461	205139	Piston	1
10.	NONE	400978	400978	Bypass Valve Body +	1
11.	NONE	400979	400979	Bypass Valve Pin +	1
12.	NONE	400013	400013	Steel Ball 3/8 +	1
13.	NONE	401017	401017	O-Ring 1/16 x 7/16 +	1
14.	400262	400252	400277	Seal, Piston *	1
15.	NONE	401370	401370	Hex Jam Nut 1 1/2-12 Gr 8	1
16.	400404	400404	400404	Plug 9/16 ORB	2
17.	105539	110305	119107	Cylinder Tube Assembly	1
189.	NONE	105185	105185	Bypass Valve Kit(includes items with +)	1
20.	107958	107960	107961	Seal Kit (includes items with *)	1
21.	105528	110304	119106	Complete Cylinder Assembly	1

HYDRAULIC SYSTEM PARTS LIST



KEY	PART NO.	DESCRIPTION	QUANTITY
1.	125803	Reservoir/Valve Carton (includes items 2 through 10)	1
2.	400764	Breather Cap	1
3.	124998	Reservoir Assembly	1
4.	402094	Hex Jam Nut 7/8-14	1
5.	402095	Cone Washer 7/8	1
6.	402096	O-Ring .097 x .755	1
7.	402813	Control Valve, 12 GPM, DA	1
8.	400163	Lock Washer 1/4	1
9.	401546	Hex Hd Cap Screw 1/4-20 x 1 3/4 Gr 5	1
10.	400405	Magnetic Pipe Plug 3/4 NPT	1
11.	401200	Adapter 7/8 ORBM x 3/8 NPTF 90°	1
12.	402489	Hose 3/4 JIC x 42" SF/SF 4000 PSI	1
	402490	Hose 3/4 JIC x 48" SF/SF 4000 PSI	1
13.	402516	Adapter 9/16 ORBM x 3/4 JICM	2
	402789	Adapter 3/8 NPTM x 3/4 JICM	2
14.	402517	Hose 3/4 JIC x 60" SF/SF 4000 PSI	1
	403311	Hose 3/4 JIC x 66" SF/SF 4000 PSI	1
15.	402487	Adapter 3/4 ORBM x 3/4 JICM	2
16.	400776	Breather Cap, Electric Power Unit	1
17.	401066	Electric Power Unit Double-Acting, Push Button	1
18.	403447	Adapter 9/16 ORBM x 3/4 JICM 90°	2
19.	403448	Adapter 3/4 JICF x 3/4 JICM 90°	2
20.	402509	Adapter 3/4 JICM x 3/8 NPTM 90° Extra Long	1
21.	402510	Adapter 3/4 JICM x 1/4 NPTM 90°	1
22.	401223	Electric Power Unit Single-Acting, Push Button	1
23.	401444	Hose 3/8 NPT x 72" RM/RM 4000 PSI	1
24.	400478	Adapter 7/8 ORBM x 3/8 NPTF	1
25.	402146	Hose Barb 1 1/16 ORBM x 3/4	1
26.	401441	Hose Clamp #24 (1 1/16 to 2")	2
27.	210604	Suction Hose 3/4 ID x 72"	1
28.	401447	Hose Barb 3/4 NPTM x 3/4	1
29.	402144	Pipe Elbow 3/4 Street	1
30.	403171	Valve Connection Kit	1
31.	225127	Clamp Plate, Pedestal	1
32.	402419	Valve Control Cable - 84"	1
33.	402415	Machine Screw 5/16-18 x 1/2	2
34.	401240	Hex Lock Nut 5/16-18	5
35.	223143	Pedestal Bracket - Wescon	1
36.	223144	Pedestal Channel - Wescon	1
37.	402154	Machine Screw 5/16-18 x 2 1/2	3
38.	402120	Remote Valve Control w/ Center Detent	1
39.	400121	Hex Hd Cap Screw 3/8-16 x 1 Gr 5	6
40.	400164	Flat Washer 3/8	4
41.	402038	Hex Lock Nut 3/8-18	4
42.	402071	Gear Pump 4 GPM, SAE -A, 9 Tooth	1
	403768	Gear Pump 4 GPM, SAE -A, 11 Tooth	1
	403884	Gear Pump 4 GPM, SAE -A, 9 Tooth, (Ford Auto w/ Chelsea PTO)	1

FRAME & CYLINDER AND SUBFRAME PARTS LIST



KEY	PART NO.			DESCRIPTION	QUANTITY
	LB400	LB500	LB510		
1.	110458	110458	119802	Frame Assembly	1
2.	105528	110304	119106	Cylinder Assembly	1
3.	401140	401140	401140	Hex Hd Cap Screw 1/2-13 x 3 1/4 Gr 5	2
4.	401316	401316	401316	Hex Lock Nut 1/2-13	14
5.	401237	401237	401237	Hex Hd Cap Screw 3/4-10 x 4 Gr 8	1
6.	401226	401226	401226	Hex Lock Nut 3/4-10	1
7.	400153	400153	400153	Hex Hd Cap Screw 1/2-13 x 1 1/4 Gr 8	8
8.	400103	400103	400103	Grease Zerk 1/8 NPT	8
9.	105525	110457	119801	Frame & Cylinder Assembly	1
10.	110401	110401	110401	Subframe Assembly - 8° 50°	1
	110404	110404	110404	Subframe Assembly - 9° 50°	1
	110407	110407	110407	Subframe Assembly - 10° 50°	1
	110746	110746	110746	Subframe Assembly - 11° 50°	1
	109581	109581	109581	Subframe Assembly - 10° 45°	1
11.	222812	222812	222812	Body Guide	2
12.	222814	222814	222814	Angle Front Subframe Support	2
13.	201886	201886	201886	Angle Subframe Mount	2
14.	201887	201887	201887	Angle Subframe Mount Support	2
15.	400105	400105	400105	Hex Hd Cap Screw 1/2-13 x 2 Gr 8	4
16.	125259	125259	125259	Body Prop Longbeam Bracket Assembly	2
17.	110377	110377	110377	Body Prop Arm Assembly - 15°	1
18.	206768	206768	206768	Rear Hinge Support	2
19.	400220	400220	400220	Spring Pin 1/4 x 3	1

SPECIFICATIONS

NTEA Class	Hoist Model	Cylinder Bore—Stroke Shaft	Operating Pressure PSI	Power Down PSI	Mounting Height	Minimum Longbeam Height	Subframe Height	Approx. Weight Pounds	Body Length Feet
B/10	LB400	4"–15 1/4"–1 1/2"	3250	800	9"	5 1/4"	3 3/4"	425	8 to 12
C/20	LB500	5"–15 1/4"–2"	3250	800	9 1/2"	5 3/4"	3 3/4"	475	8 to 14
C/30	LB510	5 1/2"–15 1/4"–2"	3250	800	9 3/4"	6"	3 3/4"	525	8 to 14

LB400, LB500 AND LB510 HOIST CAPACITY CHARTS

CAUTION: The combined weights of truck, body, hoist and load must not exceed the Gross Vehicle Weight Rating (GVWR) of the truck.

N/R = Not Recommended

Capacities at 45° dump angle, water level load, includes body weight.

BODY LENGTH	8'	9'	10'	12'	14'
Rear Overhang	6	6 18	6 18 30	6 18 30	6 18 30
Hoist Model LB400	6.5	5.7 7.6	5.1 6.5 9.2	N/R 5.1 6.5	N/R N/R N/R
Hoist Model LB500	10.3	9.0 12.0	8.0 10.3 14.4	6.5 8.0 10.3	5.5 6.5 8.0
Hoist Model LB510	12.4	10.9 14.5	9.6 12.4 17.4	7.9 9.6 12.4	6.7 7.9 9.6
Cab to Axle	60	72 60	84 72 60	108 96 84	132 120 108

Capacities at 50° dump angle, water level load, 5" overhang and includes body weight.

		LB400	LB500	LB510
NTEA Performance Class		10	20	30
Hoist Capacity (in tons)	8'1"	5.7	9.0	10.8
	9'	5.1	8.0	9.6
	10'	4.5	7.1	8.6

NOTES

NOTES

SPECIALLY DESIGNED – WITH QUALITY IN MIND

WARRANTY

- Crysteel Manufacturing, Inc. warrants its products for a period of one year from date of purchase.
- The warranty provides that our products must perform satisfactorily or we will repair, replace or refund the purchase price at the option of the purchaser. Hydraulic pumps, valves, hoses and other purchased parts are covered by the warranties of their respective manufacturers.
- Any parts returned to Crysteel Manufacturing, Inc. shall be shipped pre-paid, and will be returned F.O.B. Lake Crystal, Minnesota.
- We will not assume responsibility for shipping, labor, travel, loss of use or downtime expenses.
- The warranty is void if the product has been obviously abused, or subjected to other than normal usage.
- We reserve the right to make improvements without notice or obligation regarding models previously sold.

! CAUTION !

- **BODY MUST BE BRACED BEFORE SERVICING HOIST OR WORKING IN AREA WITH BODY IN RAISED POSITION**
- **LUBRICATE HOIST GREASE FITTINGS OFTEN – AT LEAST EACH TIME TRUCK IS SERVICED**
- **TRUCK MUST BE LEVEL FOR DUMPING**
- **DO NOT OVERLOAD**

CRYSTEEL MFG, INC.

CRYSTEEL MANUFACTURING, INC.

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