

# **CRYSTEEL'S**

# **TURBO**

## **TELESCOPIC HOIST**



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**DATE PURCHASED** \_\_\_\_\_  
**BODY SERIAL NUMBER** \_\_\_\_\_  
**HOIST SERIAL NUMBER** \_\_\_\_\_  
**CYLINDER SERIAL NUMBER** \_\_\_\_\_  
**DEALER** \_\_\_\_\_  
**ADDRESS** \_\_\_\_\_  
**PHONE** \_\_\_\_\_

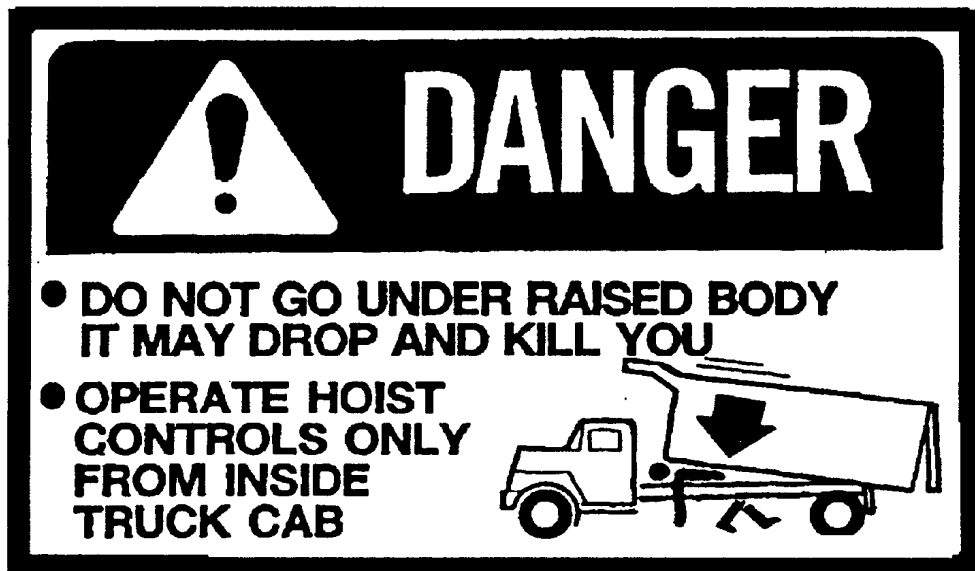
**FOREWORD**

The Crysteel Turbo Hoists are heavy duty, front mounted, telescopic hoists designed and intended for use under dump bodies. They are designed for single or tandem axle trucks with 9' to 24' bodies. The Turbo Hoist line provides hoists from model T5380 in NTEA class 60, to model T74191 in NTEA class 120.

This manual contains the information needed for the proper installation and operation of these hoists.

These instructions are for standard installations using a pump/valve in conjunction with a separate reservoir. Other hydraulic packages will come with additional instruction sheets. With proper installation, use, and regular maintenance, Crysteel's Turbo Hoists will give many years of trouble free service.

When ordering parts, be sure to give serial number of hoist, pump/valve, and cylinder. The serial number of the pump/valve is found on the plate on the pump/valve. 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 above. Order parts by number and description as given in the parts listing in this manual.



## **OPERATION AND USE**

1. Engage PTO from cab and adjust engine speed to fast idle.
2. The hoist should raise when the hoist control lever is pulled back, hold when the lever is in the center detent, and lower when the lever is pushed forward.
3. To raise the hoist, pull the control lever back. To hold the body in a raised position, place the control lever in its center detent position. To lower the hoist, push the control lever forward.
4. **ALWAYS** return the hoist control lever to its center detent position after each use.
5. **DO NOT LEAVE THE PTO IN GEAR WHILE TRANSPORTING. THIS CAN CAUSE SEVERE DAMAGE TO THE PTO OR HYDRAULIC PUMP/VALVE.**
6. 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.**
7. To use the body prop(s), raise the body high enough to swing the body prop arms to their free-standing, upright position. Slowly lower the body onto the props.
8. To store the body prop(s), raise the body, lower the prop arms to their storage position and lower the body.

## **SOME DO'S AND DON'TS FOR SAFE 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 could ruin the hydraulic pump, the PTO or the transmission.
8. Check all bolts and fittings regularly. Keep them tight.

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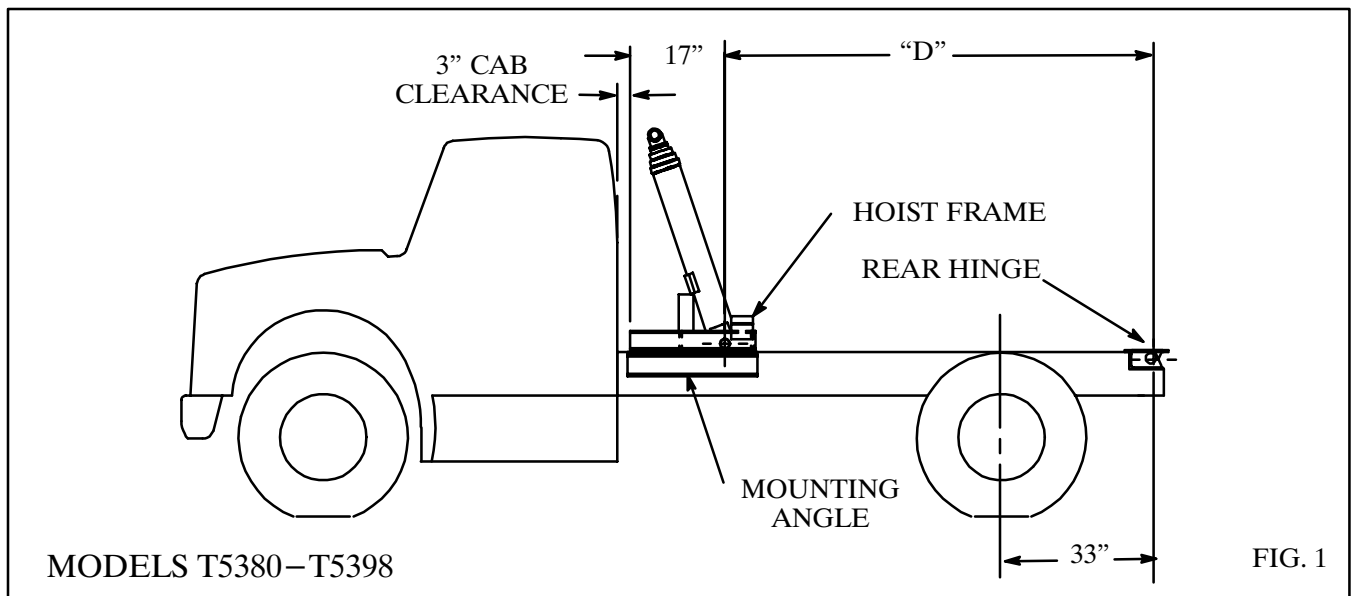
# INSTALLATION INSTRUCTIONS

## LOCATE HOIST FRAME AND REAR HINGE

The hoist frame and the rear hinge must be located relative to each other as shown in Fig. 1 and Fig. 2. These illustrations show the mounting distance “D”, with the actual number found in the corresponding tables. The mounting distance is measured from the center of the rear hinge pin to the center of the lower pin on the cylinder. The mounting distance must never be less than the number given in the OEM table on page 6 under the 60° dump angle column. Mounting the hoist with less distance than this will cause damage to the rear hinge, the cylinder, and VOID THE WARRANTY.

Place the hoist frame and rear hinge on the truck frame and determine the proper placement of both before doing any cutting or drilling.

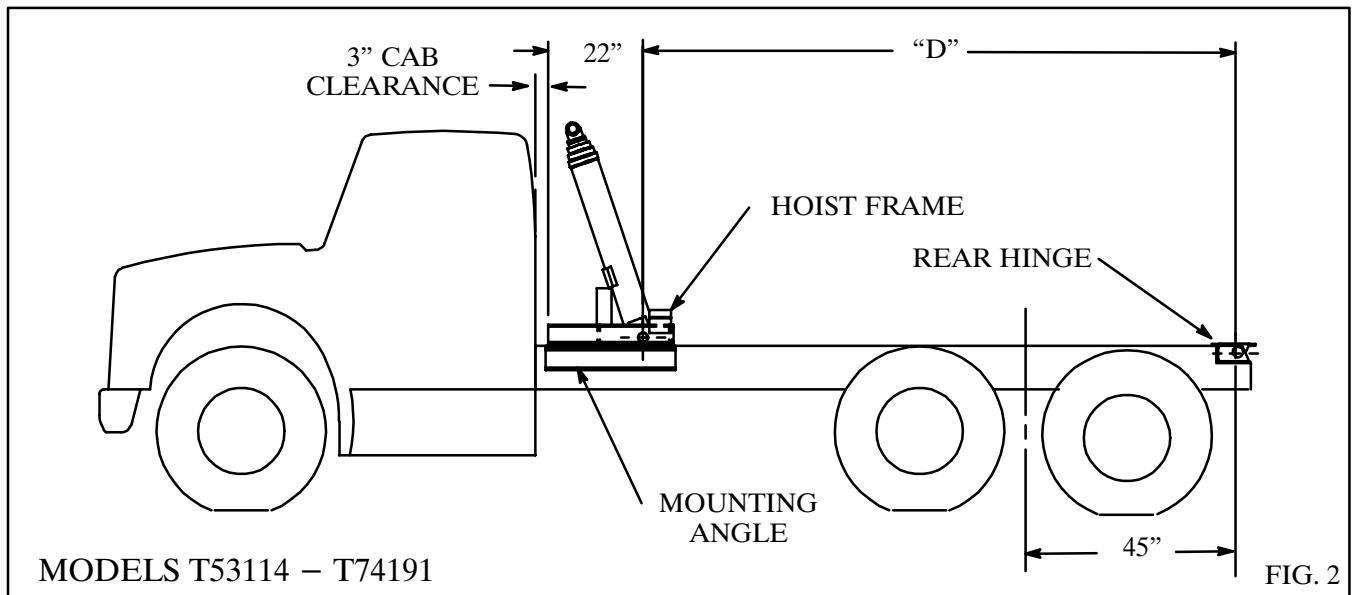
Place the hoist frame on the truck frame with the cylinder mounting holes to the rear and with at least 3” clearance from the cab of the truck as shown in Fig. 1 or 2. The front of the body will be even with the front of the hoist frame. If the body must be moved back to clear the transmission or vertical exhaust stack, move the hoist frame back the same amount so that they will be even in front.



<b>T5380–T5398 MOUNTING</b>					
<b>HOIST MODEL</b>	<b>BODY LENGTH</b>	<b>CA or CT DIM.</b>	<b>OVERHANG</b>	<b>DUMP ANGLE</b>	<b>“D” DIM</b>
T5380	9’	72” CA	6”	58°	85”
	10’	84” CA	6”	48°	97”
T5398	11’	96” CA	6”	53°	109”
	12’	102” CA	12”	50°	115”
	12’	96” CT	6”	47°	121”

Place the rear hinge on top of the frame and determine its proper location. The rear hinge must be located as close as possible behind the rear spring hanger. For single axle trucks, this will be approximately 33” behind the center of the rear axle, but not greater than 38”. For tandem axle trucks, this will be approximately 45” behind the center of the tandem, but not greater than 50”.

Using the mounting distance given for your particular model of Turbo Hoist (from Fig. 1 or Fig. 2 and the corresponding mounting tables), measure the mounting distance on your truck, after locating the hoist frame and rear hinge as discussed above. If you have a standard type installation these numbers should be similar. Before doing any cutting or drilling make sure the mounting distance, as measured from center of the rear hinge pin to the center of the lower cylinder pin, IS NOT LESS THAN the distance given in the OEM table (page 6) under the 60° dump angle column for your hoist model.



<b>T53114 – T74191 MOUNTING</b>					
<b>HOIST MODEL</b>	<b>BODY LENGTH</b>	<b>CT DIM.</b>	<b>OVERHANG</b>	<b>DUMP ANGLE</b>	<b>“D” DIM</b>
T53114	13'	108"	6"	52°	128"
T63113	14'	114"	12"	50°	134"
T63131 T73129	15'	126"	12"	52°	146"
T63148 T73147	16'	138"	12"	55°	158"
	17'	150"	12"	51°	170"
T74167	18'	162"	12"	54°	182"
	19'	174"	12"	50°	194"
T74191	20'	186"	12"	55°	206"
	21'	198"	12"	51°	218"
	22'	210"	12"	48°	230"
	23'	222"	12"	46°	242"
	24'	234"	12"	43°	254"

## MOUNTING DIMENSIONS FOR DIFFERENT DUMP ANGLES

These “D” dimensions are for non standard installations or as a reference for non–standard truck frames. More information for OEM installations is on page 27.

<b>“D” DIMENSION FOR OEM INSTALLATION</b>			
<b>HOIST MODEL</b>	<b>DUMP ANGLE</b>		
	<b>45°</b>	<b>50°</b>	<b>60°</b>
T5380	103”	94”	80”*
T5398	127”	115”	97”*
T53114/T63113	148”	134”	114”*
T63131/T73129	167”	151”	129”*
T63148/T73147	190”	172”	147”*
T74167	216”	196”	166”*
T74191	247”	224”	190”*

\*This is absolute minimum “D” dimension. Less than this will result in damage to cylinder and rear hinge and VOID THE WARRANTY. DUMP ANGLE MUST NEVER EXCEED 60 DEGREES!

### INSTALL HOIST FRAME

Make sure the hoist frame is correctly located (as determined by the previous instructions), centered, and square with the truck frame. If there are rivets or frame bolts in the way, holes can be drilled in the hoist frame to allow it to sit flat on the truck frame. The mounting angles do not have pre–drilled holes in them to allow the use of existing holes in the truck frame. Clamp the mounting angles against the outside of the truck frame and against the bottom of the hoist frame. Mark the location of the holes in the truck frame on the mounting angles. Remove the mounting angles and drill the holes in the locations marked.

Bolt the mounting angles to the truck frame using the existing holes. The mounting angles must be attached to the truck frame with a minimum of four (4) 5/8” grade 8 cap screws. If the existing holes are not evenly spread over the whole length, additional holes spaced approximately should be drilled as shown in Figure 3.

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

Drill 21/32” diameter holes in the mounting angles and truck frame and bolt the mounting angles in place using 5/8 x 2 grade 8 cap screws and hex lock nuts. Tighten the cap screws to 180 to 190 lb–ft. Securely weld the hoist frame to the mounting angles.

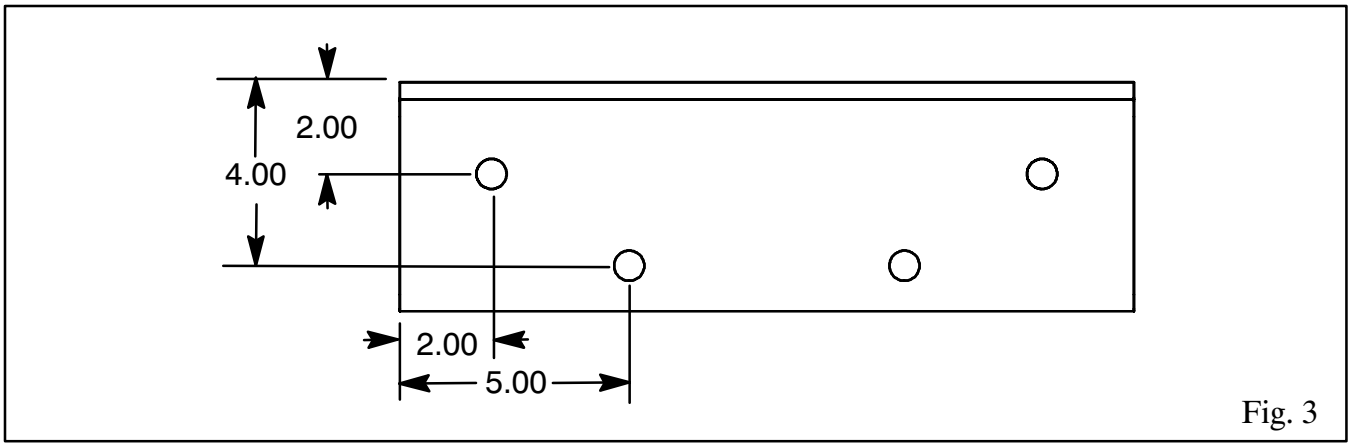


Fig. 3

### INSTALL REAR HINGE

If the body longbeams are notched at the front to clear the hoist, mount the rear hinge as shown in Fig.4, style A. If the front of longbeams are not notched, use Fig.4, style B. Notch the truck frame as shown in Fig. 4. Place the rear hinge on the truck frame. Make sure the rear hinge is correctly located, centered and square with the truck frame and the telescopic cylinder mount. Securely weld the rear hinge to the truck frame. Box the end of the truck frame with 1/4" thick plate (not supplied) and weld all around to the truck frame and rear hinge angle. Place the gussets in the corners formed by the truck frame rail and the rear hinge frame angle. Raise the front end of the gusset so it touches the top flange of the truck frame rail. Be sure that the gusset does not interfere with the rear hinge operation. Securely weld the gussets to the rear hinge, the truck frame rail and the top flange of the truck frame rail.

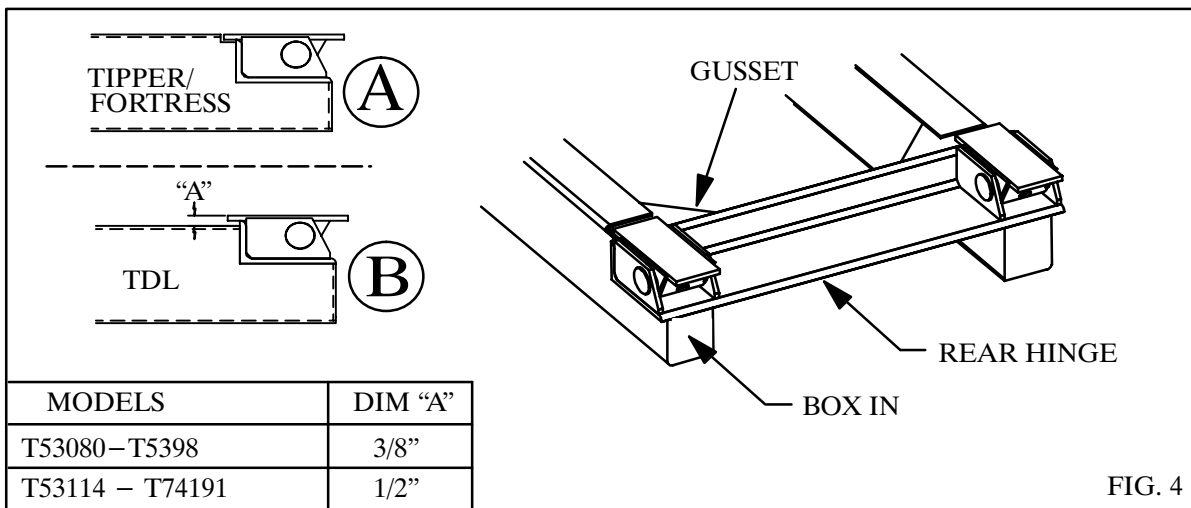


FIG. 4

### MOUNT PUMP/VALVE

The standard pump/valve is intended to be mounted directly to a two-gear PTO with a direct mount flange. This saves time and effort and simplifies the installation. The pump/valve has an SAE 'B' 4-bolt flange and a 13 tooth splined shaft. **NOTE:** This pump/valve will mount directly to Chelsea's output type "XK" or Muncie's output type "D". Crysteel recommends a PTO ratio of 100-120%. This assures a minimum pump operating speed of 600 RPM. The pump/valve is assembled with a counter-clockwise rotation when looking at the shaft end of the pump/valve.

**IMPORTANT:** Before mounting the pump/valve, check the rotation of the PTO and make sure it matches the rotation of the pump. If it is opposite, the pump rotation will have to be reversed. To reverse the pump rotation, follow the pump reversing procedure on page 8. Make sure the pump/valve has plenty of clearance and that the hoses are kept clear of hot mufflers and exhaust pipes.

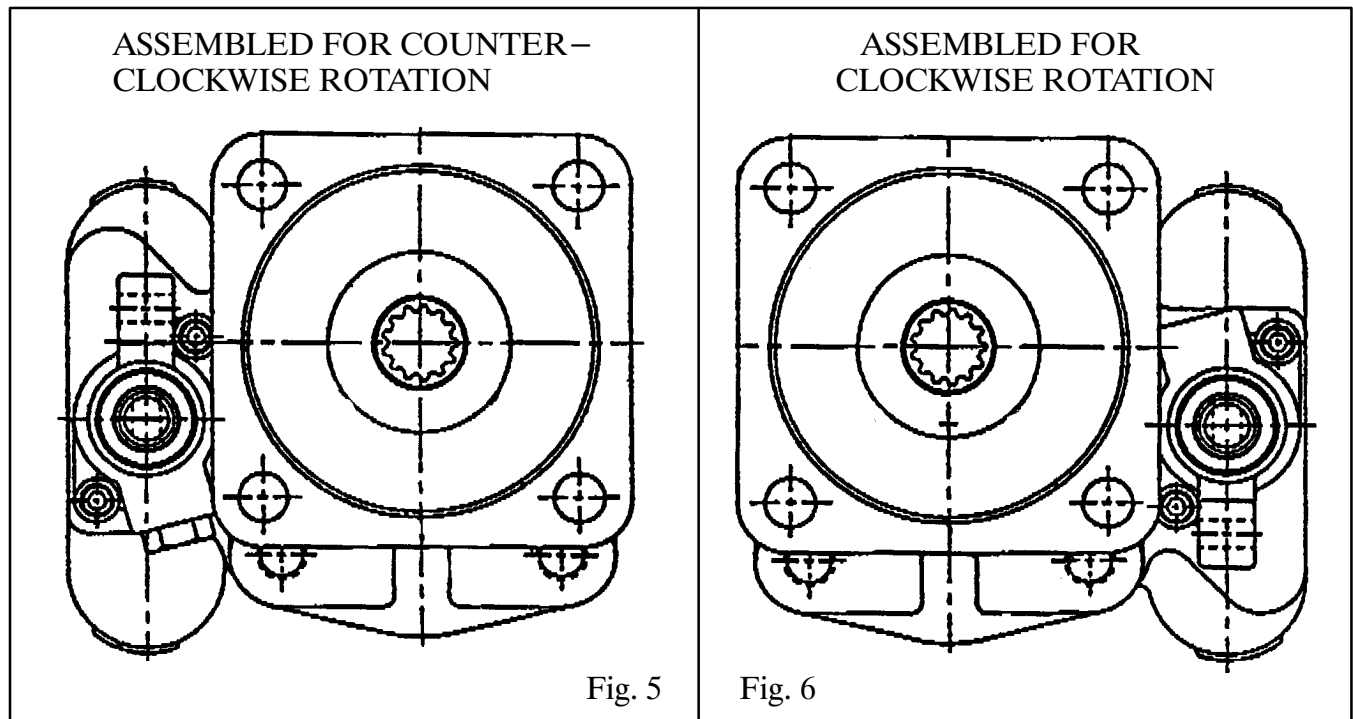


**IMPORTANT:** The C102D pump/valve supplied for the T63113 through T74191 can be mounted directly to a PTO but MUST be supported externally to the transmission. Long mounting studs and extra nuts are provided with each unit for this purpose.

## REVERSING PUMP/VALVE ROTATION

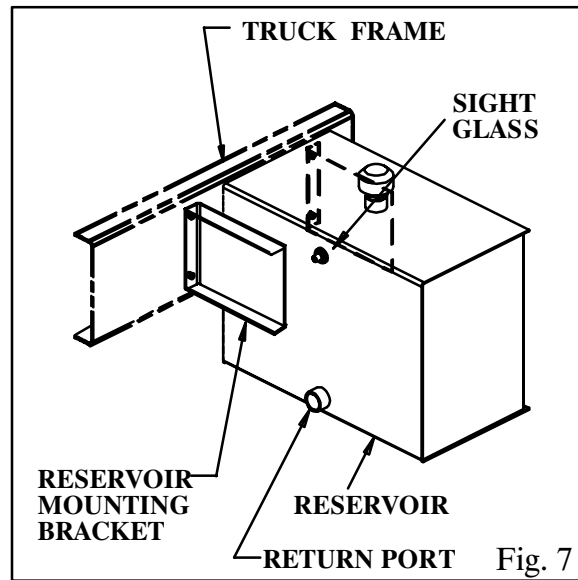
The pump/valve is assembled with a counter-clockwise rotation when looking at the shaft end of the pump/valve. (Looking at the shaft end of the pump/valve with the drive shaft on top and the idler gear on the bottom, the valve spool will be on the left side. See Fig. 5.) If the pump needs to rotate in the opposite direction, then follow these steps to reverse the pump:

1. Remove the four 9/16–12 capscrews holding the pump together.
2. CAREFULLY remove the valve body assembly from the pump.
3. CAREFULLY remove the gear housing. Rotate the housing 180° and replace it. The drive shaft gear bore becomes the idler gear bore.
4. Rotate the valve body 180° from its original position and replace it.
5. Replace the four 9/16–12 capscrews and torque to 2400in–lbs.
6. To verify that the pump is now assembled for clockwise rotation, look at the shaft end of the pump with the drive shaft on the top and the idler gear on the bottom, the valve spool will be on the right side. (See Fig. 6.)
7. Fill the suction port with hydraulic oil and rotate shaft to fill the gears with oil.



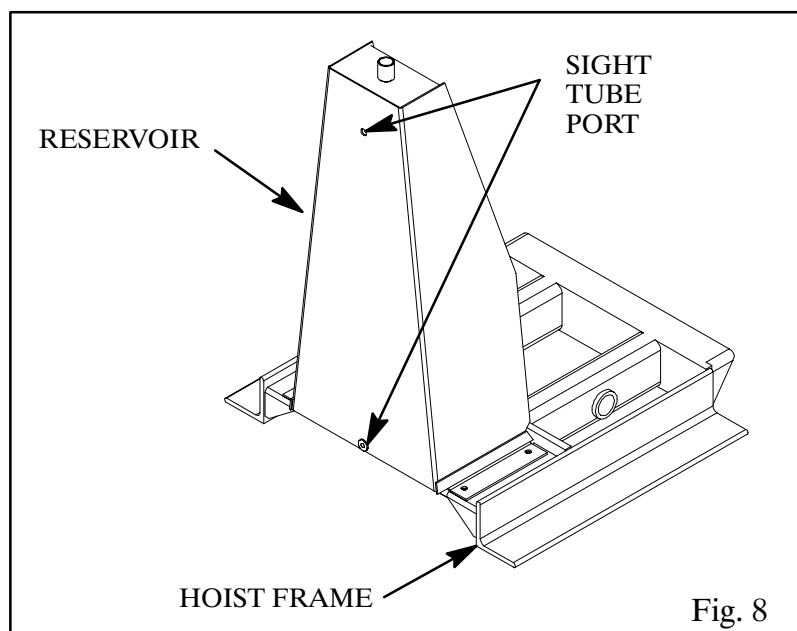
## MOUNT RESERVOIR – SIDE MOUNTED

To mount the reservoir, determine which side of the truck to mount the reservoir. There are four ports on the side mounted reservoir – a fill tube on the top, a suction port on the bottom (2" NPT), a return port near the bottom on one side (1 1/4 NPT) and one smaller port near the top on one side for a sight glass. Clamp the reservoir mounting brackets to the sides of the reservoir and place the reservoir against the outside of the truck frame. (See Fig. 7.) Mark the truck frame for drilling using the mounting brackets as guides. Drill 17/32" holes in the truck frame (See caution note on page 6) and bolt the mounting brackets in place using 1/2 x 2 grade 8 cap screws, and hex lock nuts. Securely weld the reservoir to the reservoir mounting brackets. Install the sight glass in the port provided.



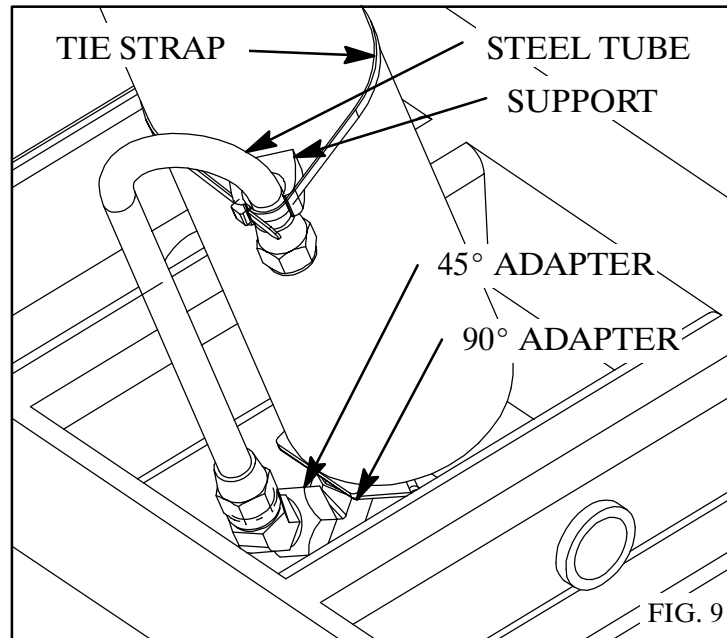
## MOUNT RESERVOIR – DOGHOUSE

Place the doghouse mounted reservoir on the mounting brackets in the hoist frame with the flat side of the reservoir to the front, as shown in Fig. 8. Bolt in place using 1/2 x 2 cap screws, and hex lock nuts. Install the sight glass or oil level tube with elbows in the port(s) provided.



## INSTALL CYLINDER AND CYLINDER HOSE

Install the cylinder in the hoist frame with the cylinder port towards the cab. The cylinder port is located on the side of the outer barrel for non-self-bleeding and in the base casting for self-bleeding versions. Secure the cylinder to the hoist frame using the longer cylinder pin supplied and bolt the pin in place with a 1/2" cap screw and hex lock nut. Securely brace the cylinder to prevent it from hitting the cab, and with it tilted slightly forward to aid in mounting the body. Install grease fittings in the top and bottom bushings of the cylinder.



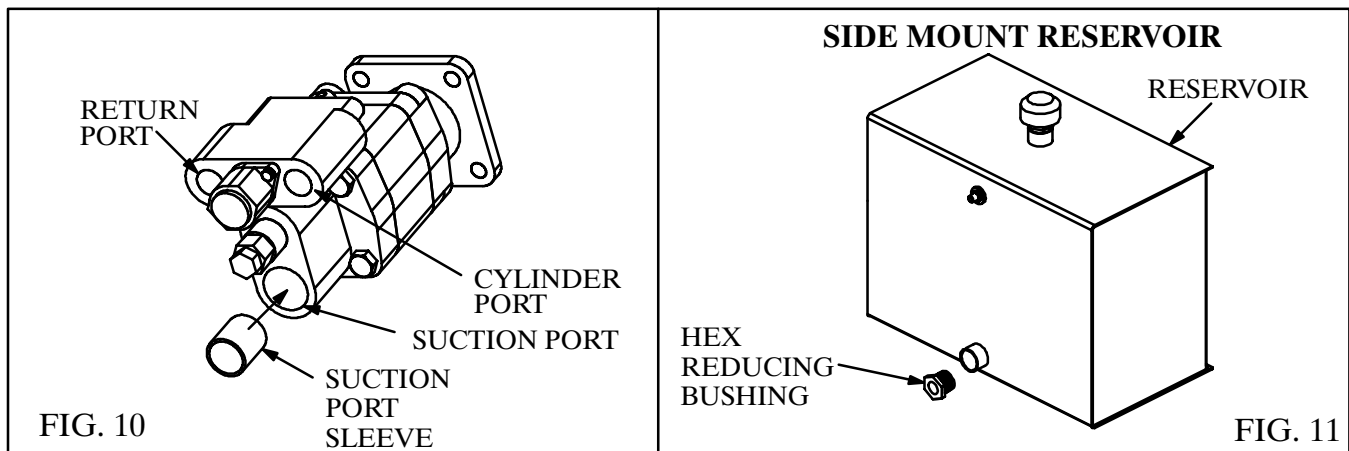
For cylinders with the self-bleeding feature (port in the base end, no bleed valve hole), a steel tube assembly needs to be installed to get the port up on the side of the cylinder. (On some trucks, there may be a crossmember near the bottom of the cylinder which would interfere with the hose routing.) To do this, install a 90° adapter in the cylinder port, install a 45° adapter on it and install the steel tube assembly. Secure the steel tube assembly to the cylinder using the support and tie strap. ( See Fig. 9. ) The steel tube is shown turned to the drivers side. If the pump/valve is located on the passenger side, turn the steel tube to that side. Install a male JIC x female pipe adapter in the steel tube for connecting the hose.

For cylinders without the self-bleeding feature (port on the side, bleed valve hole), install a male ORB x female pipe swivel adapter in the port. For the T53 series hoists, install a male ORB x female pipe swivel adapter in the work port on the pump/valve. Connect a 72" long hose from the work port on the pump/valve to the port on the cylinder.

## INSTALL RETURN AND SUCTION HOSES

A return line hose must be installed for long pump life. A suction port sleeve has been installed in the suction port on the pump/valve. (See Fig. 10.) This sleeve prevents the oil from recirculating inside the pump/valve and directs the oil flow out the return port. Operating this pump/valve without installing the return line will cause the pump/valve to fail.

For T53 series, install a 1 1/4 x 1 hex reducing bushing in the return port on the side mount reservoir, a 1 1/2 x 1 hex reducing bushing in the return port on the doghouse reservoir. Install a swivel adapter in the return port on the control valve. Install a 72" long hose from the return port on the pump/valve to the return port on the reservoir.



Install hose barbs in the bottom of the reservoir and the suction port on the back of the pump/valve. Connect the two hose barbs with the suction hose provided and secure it with hose clamps.

If the the cylinder has a 1/8" NPT plug at the top of the cylinder, replace it with the bleed valve assembly supplied. Be sure that the bleed valve points towards the rear of the truck. If the cylinder does not have this pipe plug, it has a self-bleeding feature which automatically removes any air from the cylinder whenever it is cycled.

## INSTALL VALVE CONTROL

Place the control pedestal assembly on the floor of the cab in a convenient location next to the drivers seat. Mark the floor using the pedestal as a template and drill 1/4 inch holes for the mounting screws and a 3/4 inch hole for the control cable. (Check below the floor for obstructions and cable routing before drilling.)

Insert the control cable through the hole in the bottom of the pedestal and attach it to the valve control. Bolt the valve control to the pedestal using 1/4 x 1/2 slotted screws. Install the cover on the side of the pedestal using #10 x 3/8 self-tapping screws. Mount the pedestal to the floor using 5/16 x 3/4 self tapping screws. Connect the other end of the cable to the control valve using the parts and instructions in the valve connection kit. NOTE: The two spool seal retaining plates found on the 10 and 15 GPM pump/valves (used with the T53 series hoists) must remain installed on the pump/valve. If they are removed, oil can be pumped past the spool into the control cable and into the cab of the truck.

## 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. Initially fill the reservoir with the quantities given below. After bleeding the air from the cylinder, refill the reservoir to the sight glass level with the body down. **DO NOT OVERFILL THE RESERVOIR!**

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

With normal use and working conditions the hydraulic oil should be changed annually. The breather cap should be cleaned every time the hydraulic oil is changed. With heavy use or very dusty working conditions the hydraulic oil should be changed more often.

SIDE MOUNTED RESERVOIR			AFTER BLEEDING THE AIR FROM THE CYLINDER REFILL TO THE SIGHT GLASS WITH BODY DOWN.
MODEL	RES. SIZE	INITIAL FILL	
T53xxx	16 GAL.	12 GAL.	
T63xxx	28 GAL.	21 GAL.	
T7xxxx	40 GAL.	30 GAL.	
DOGHOUSE RESERVOIR			
MODEL	RES. SIZE	INITIAL FILL	
T53xxx	9.5 GAL.	7.5 GAL.	
T63xxx	22 GAL.	16 GAL.	
T7xxxx	25.5 GAL.	18 GAL.	

NOTE: If the pump does not pump oil, pressurize the reservoir and engage the pump with the engine at slow idle. Once the pump is working, release the pressure and install the breather cap.

## MOUNT BODY

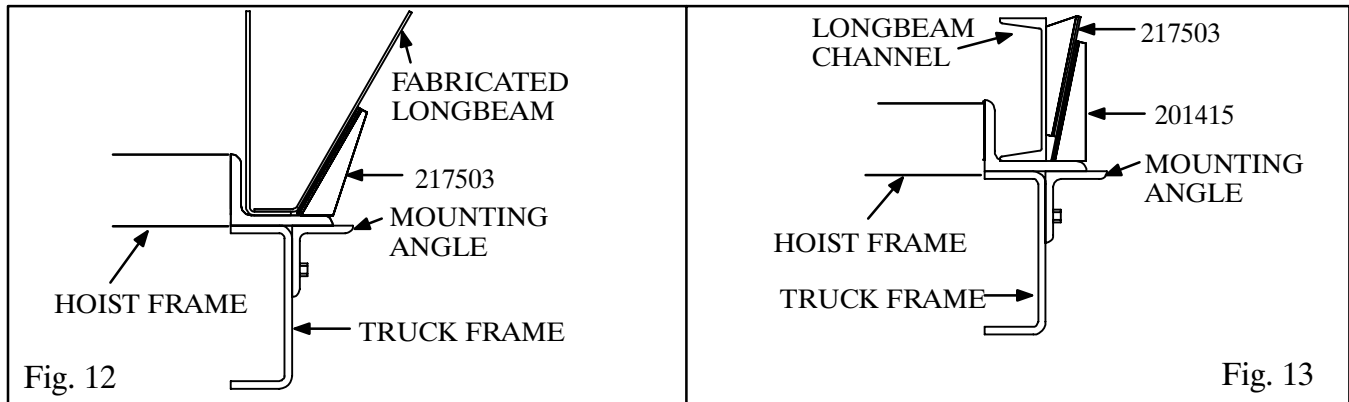
It is recommended that the body be painted before it is mounted on the truck. Remove the top cover of the doghouse. Place the rivet strip mounting pads on the truck frame between the hoist frame and rear hinge. Space them evenly with one over the front spring shackle or over the center tandem pivot. Place the body on the truck with 2" of cab clearance. Attach the body to the cylinder using the shorter cylinder pin and bolt. Slide the body back until the body longbeams are even with the front of the hoist frame. Make sure the body is centered over the truck frame in front and in back. Securely weld the longbeams to the rear hinge, and weld rivet strips (if needed) to the longbeams.

## INSTALL BODY GUIDES

The four body guides supplied with your hoist are of two types. Part number 217503 has an obtuse angle that allows it to match the angle of fabricated longbeams. Position this type as shown in Fig. 12 with wide end down, pushed against the longbeam, and centered over the hoist lower mounting angle. Weld securely to the mounting angles. **DO NOT** use the other body guides with fabricated longbeams.

Part number 201415 body guide is used with channel type longbeam and has a right angle that allows it to be positioned as shown in Fig. 13. Position this guide 1/4" away from the longbeam, centered over the lower mounting angle. Place the 217503 body guide inside of it as shown so that the flat sides of the guides fit together. Weld number 201415 to the lower mounting angle and 217503 to the longbeam.

There should be **NO SIDEPLAY** when the truck body is in the lowered position.



## BLEED TELESCOPIC CYLINDER

All of the air must be removed from the cylinder for smooth and safe operation of the hoist. For cylinders equipped with the self-bleeding feature, raise and lower the hoist two or three times to remove the air.

For cylinders without the self-bleeding feature, use the following procedure to bleed the air from the cylinder.

1. Engage the pump at a slow idle.
2. Raise the body to its full height. Shut off the truck engine.
3. Lower the body until only the largest stage is still extended.
4. Loosen the bleed valve on the cylinder to let the trapped air escape. When oil starts to come out, retighten the bleed valve.

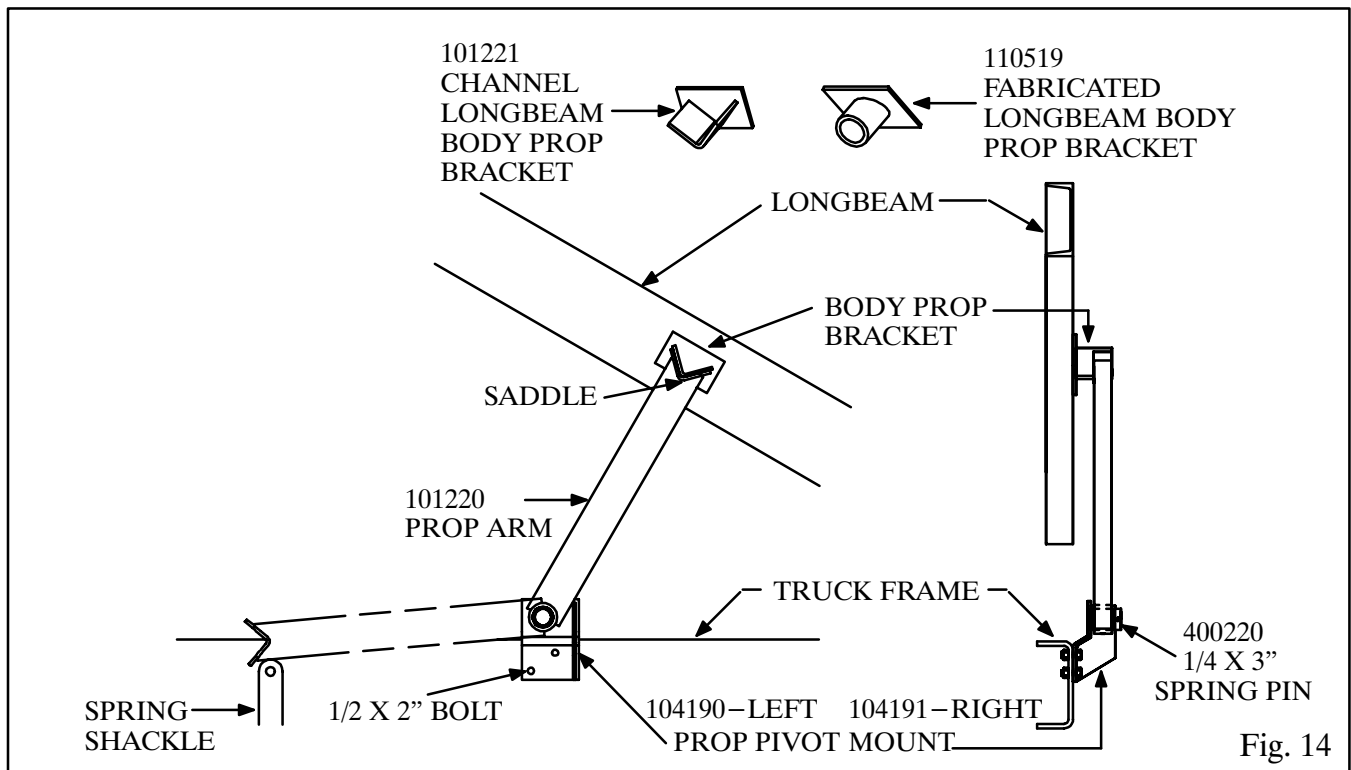
After bleeding the cylinder, check the oil level in the reservoir. There should be 2 or more inches of oil in the bottom of the reservoir when the body is raised to its full height. When the body is down, oil should be visible in the sight glass or at the top of the oil level tube.

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

## INSTALL BODY PROPS

The body prop is designed and intended to support an EMPTY truck body in the raised position. Use of the body prop permits service to be performed safely beneath a raised body. One body prop is included with Turbo Hoist models T5380 through T5398; two body props (one pair) are included with models T53114 through T74191. Be sure to install each prop on the correct side of the truck as explained below and shown in Fig. 14.

1. Raise the body to a 30° to 35° angle and brace it securely before beginning installation.
2. Assemble the prop arm to the prop pivot mount with a 1/4 x 3 roll pin. Clamp the prop pivot mount against the outside of the truck frame just behind the rear axle. Raise the body prop arm to a free standing position. Place the body prop bracket in the prop arm saddle. Reposition if needed to locate the prop bracket on the longbeam. It may be necessary to raise or lower the body to get the best location for the prop pivot mount. Using the prop pivot mount as a guide, mark the location of holes on the truck frame and drill 17/32 inch holes. Assemble the prop pivot mount to the frame using 1/2 x 2 grade 8 cap screws, and hex lock nuts. Raise the prop arm to a free standing position, place the body prop bracket in the saddle and securely weld the bracket to the longbeam.
3. When mounting two body props, repeat steps 1 and 2 for the other side. Use the body prop already mounted to assure that both body props hold the body at the same height. The left and right body props should pivot toward the front of the truck in the storage position.
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 body prop bracket contacts the prop arm saddle.
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.



## **INSTALL GREASE ZERKS AND LUBRICATE**

Install grease zerks in the body props. Lubricate all fittings at regular intervals, at least every 150 cycles or every two months. The grease fittings are located as follows:

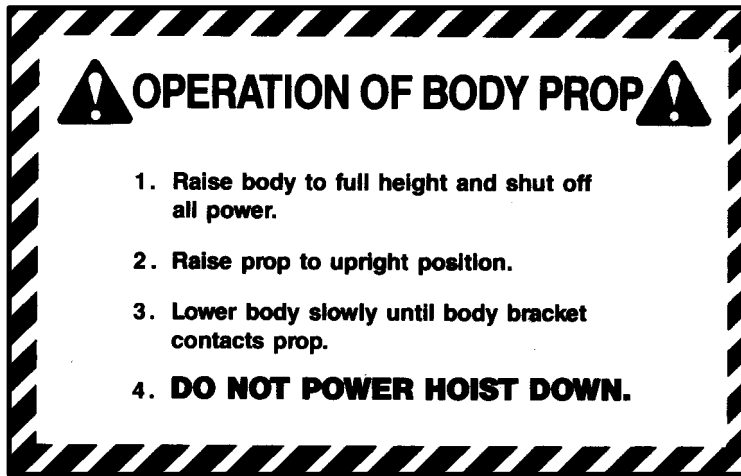
- A. Body Prop . . . . . 1 fitting per prop
- B. Rear Hinge . . . . . 2 fittings
- C. Latch Lever . . . . . 1 fitting
- D. Tailgate Latch Pivot . . . . . 2 fittings
- E. Tailgate Hinge Pivot . . . . . 2 fittings
- F. Cylinder Top Pivot . . . . . 1 fitting under doghouse cover
- G. Cylinder Bottom Pivot . . . . . 1 fitting

After the air has been bled out of the cylinder and the hoist greased, replace the top cover of the doghouse using 3/8 x 3/4 cap screws and lock washers.

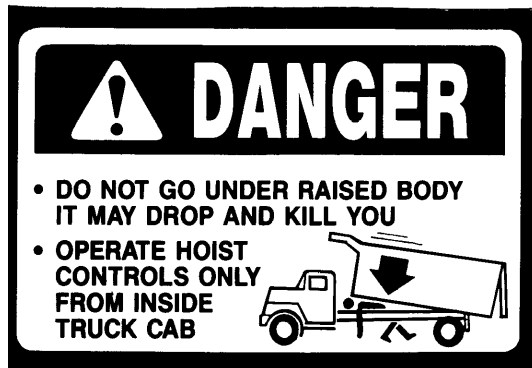
## **INSTALL LIGHTS, REFLECTORS AND DECALS**

Install the lights and wiring harness. Mount the amber reflectors near the front on the sides. Mount the red reflectors near the rear on the sides and on the tailgate near the sides. Slip the rubber hand grip over the end of the latch control lever. **MOUNT DECALS IN THE PROPER PLACES.** See Fig. 15 for decal identification and placement.





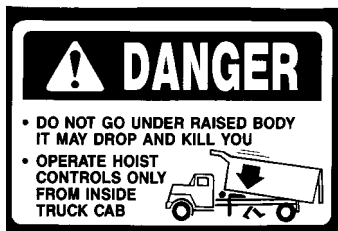
400719 – Mount on the body longbeam near the body prop



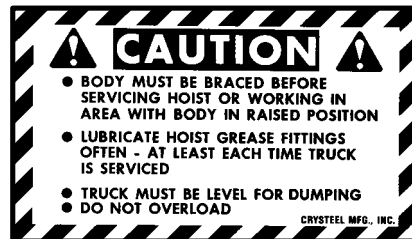
401576 – Mount on the outside of the body longbeams near the front of the body (one on each side).



400643 – Mount on the longbeam on the drivers side.



401577 – Mount in the cab in a prominent location

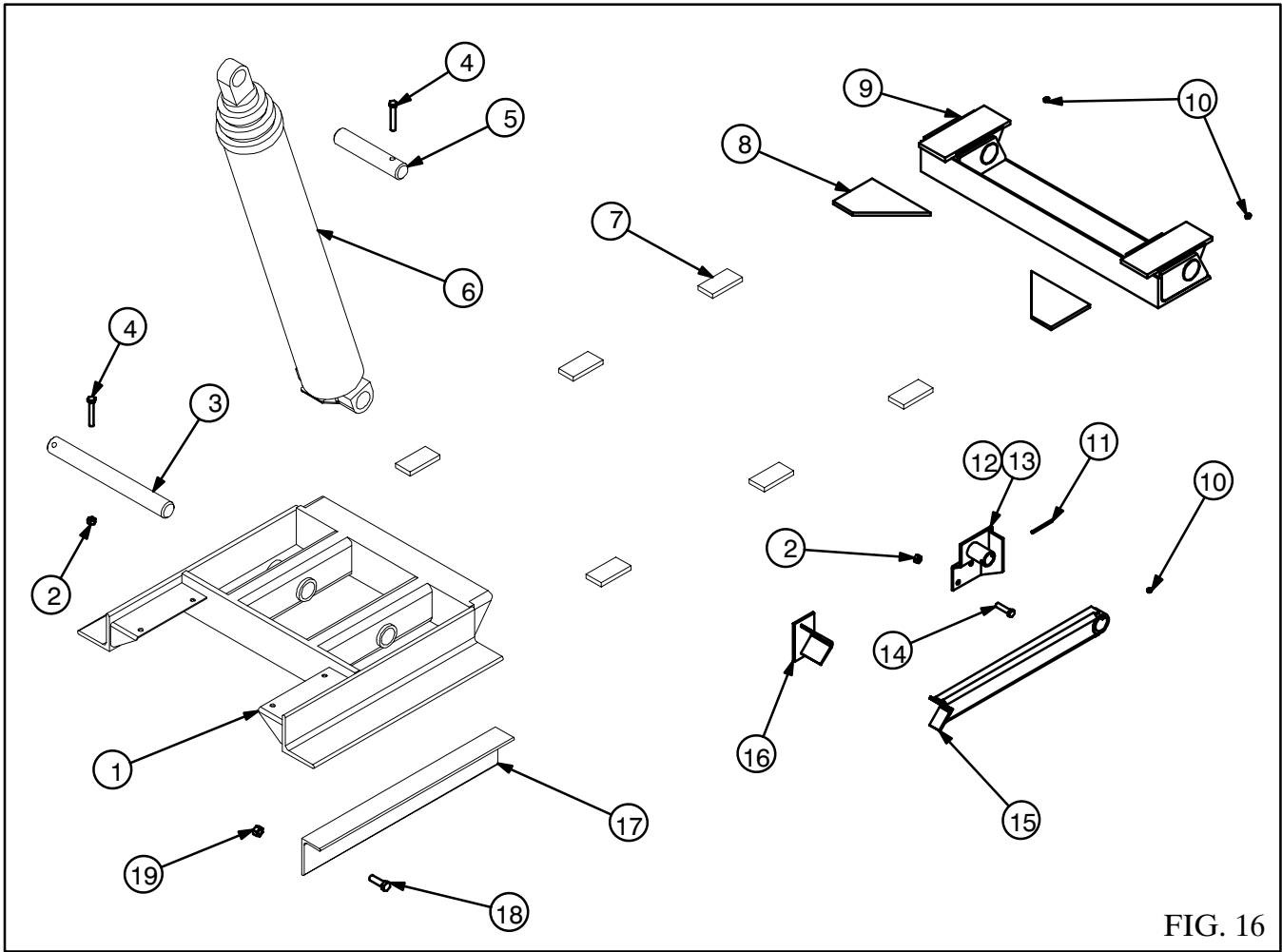


400642 – Mount in the cab in a prominent location



400661 – Mount on the body prop arm.

## TURBO HOIST PARTS



ITEM	DESCRIPTION	Model	Part No	QTY
1.	Assy Lower Mount with Reservoir Brackets	T5380-98	107349	1
	Assy Lower Mount without Reservoir Brackets	T5380-98	129277	1
	Assy Lower Mount with Reservoir Brackets	T53114	107337	1
	Assy Lower Mount without Reservoir Brackets	T53114	129278	1
	Assy Lower Mount with Reservoir Brackets	T63	127194	1
	Assy Lower Mount with Reservoir Brackets	T7x	149088	1
	Assy Lower Mount without Reservoir Brackets	T63	129284	1
	2.	Hex Lock Nut 1/2-13	All	401316
3.	Pin Lower Hoist Pivot 1 3/4 Dia x 12.12" Lg	T5380-98	208481	1
	Pin Lower Hoist Pivot 2 Dia x 14.63" Lg	T53114	208436	1
	Pin Lower Hoist Pivot 2 Dia x 18.25" Lg	T63-T7x	236875	1
4.	Cap Screw 1/2 X 3 1/4 Hex Hd	T5380-98	401140	1
	Cap Screw 1/2 X 3 3/4 Hex Hd	T53114- T7x	400138	1
5.	Pin Upper Hoist Pivot 1 3/4 Dia x 10.00" Lg	T5380-98	208482	1
	Pin Upper Hoist Pivot 2 Dia x 10.00" Lg	T53114- T7x	208437	1

6.	Assy Cylinder – Self–Bleeding	T5380	404851	1
		T5398	404852	1
		T53114	404853	1
		T63113	404854	1
		T63131	404855	1
		T63148	404856	1
		T73129	404857	1
		T73147	404858	1
		T74167	404859	1
		T74191	404860	1
6.	Assy Cylinder – Non–Self–Bleeding	T5380	403101	1
		T5398	403102	1
		T53114	403103	1
		T63113	405005	1
		T63131	405006	1
		T63148	405007	1
		T73129	403108	1
		T73147	403109	1
		T74167	403110	1
		T74191	403111	1
7.	Spacer, Longbeam 3/8 x 2 x 4	T5380–98	200892	1
		Spacer, Longbeam 1/2 x 2 x 4	T53114– T7x	200890
8.	Gusset Rear Hinge	All	208075	2
9.	Assy Rear Hinge	T5380–98	106060	1
		T53114– T7x	107037	1
10.	Grease Zerk 1/8 NPT	All	400103	4
11.	Spring Pin 1/4 X 3	T5380–98	400220	1
		T53114– T7x	400220	2
12.	Assy Prop Pivot – Left	All	104190	1
13.	Assy Prop Pivot – Right	T53114 – T7x	104191	1
14.	Cap Screw 1/2 X 2 Hex Hd	T5380–98	400105	2
		T53114– T7x	400105	4
18.	Assy Body Prop Arm	T5380–98	101220	1
		T53114– T7x	101220	2
16.	Assy Prop Bracket	T5380–98	125259	1
		T53114– T7x	125259	2
17.	Angle Mounting – 25.50” Lg	T5380–98	402326	2
		Angle Mounting – 30.50” Lg	T53114– T7x	402333
18.	Cap Screw 5/8 X 2 HH	All	402374	10
19.	Hex Lock Nut 5/8–11	All	401582	10
20.	Seal Kit	T53	403755	1
		T63	403756	1
		T73	403758	1
		T74	403759	1

# TURBO HYDRAULIC SYSTEM PARTS

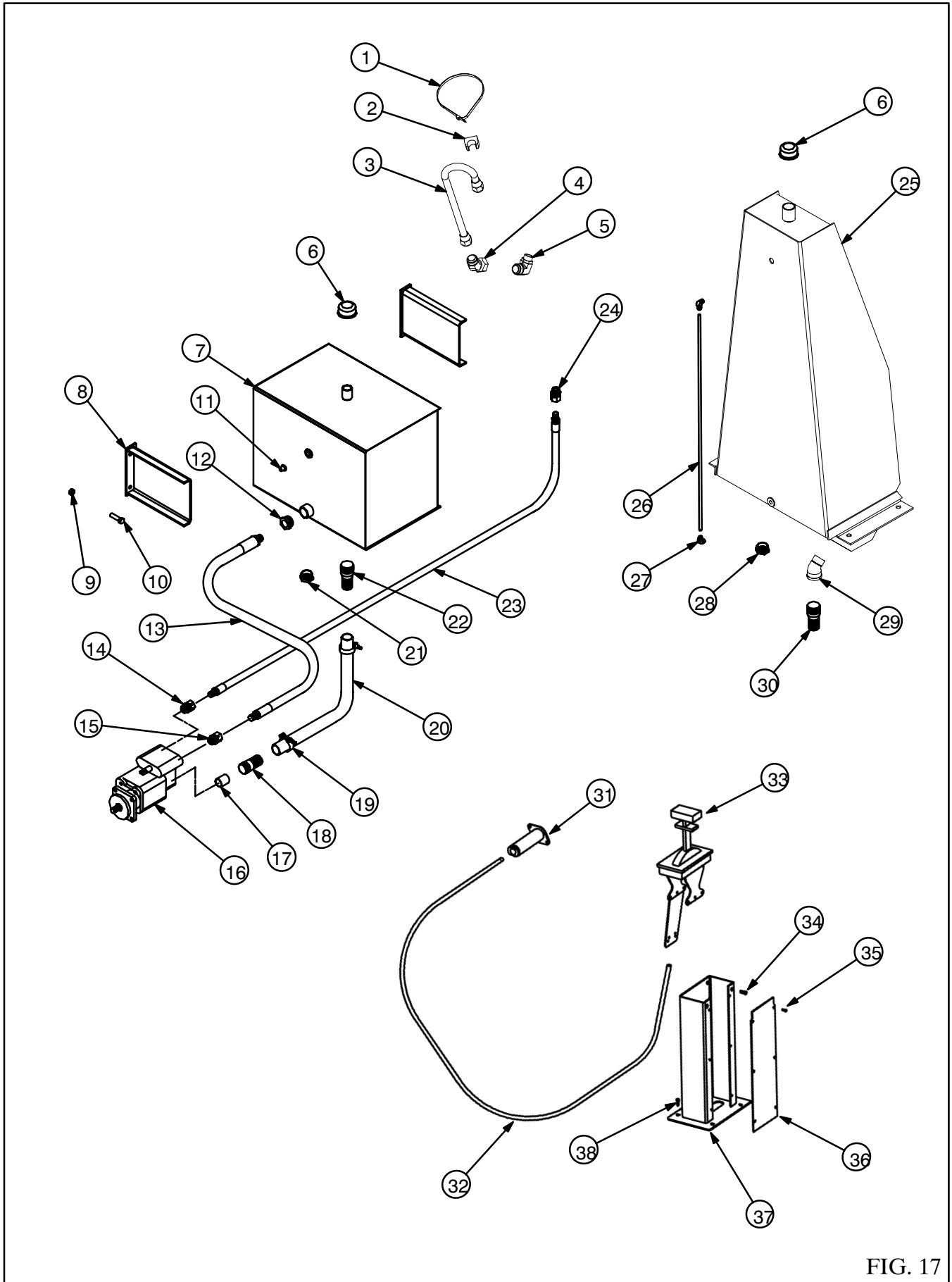
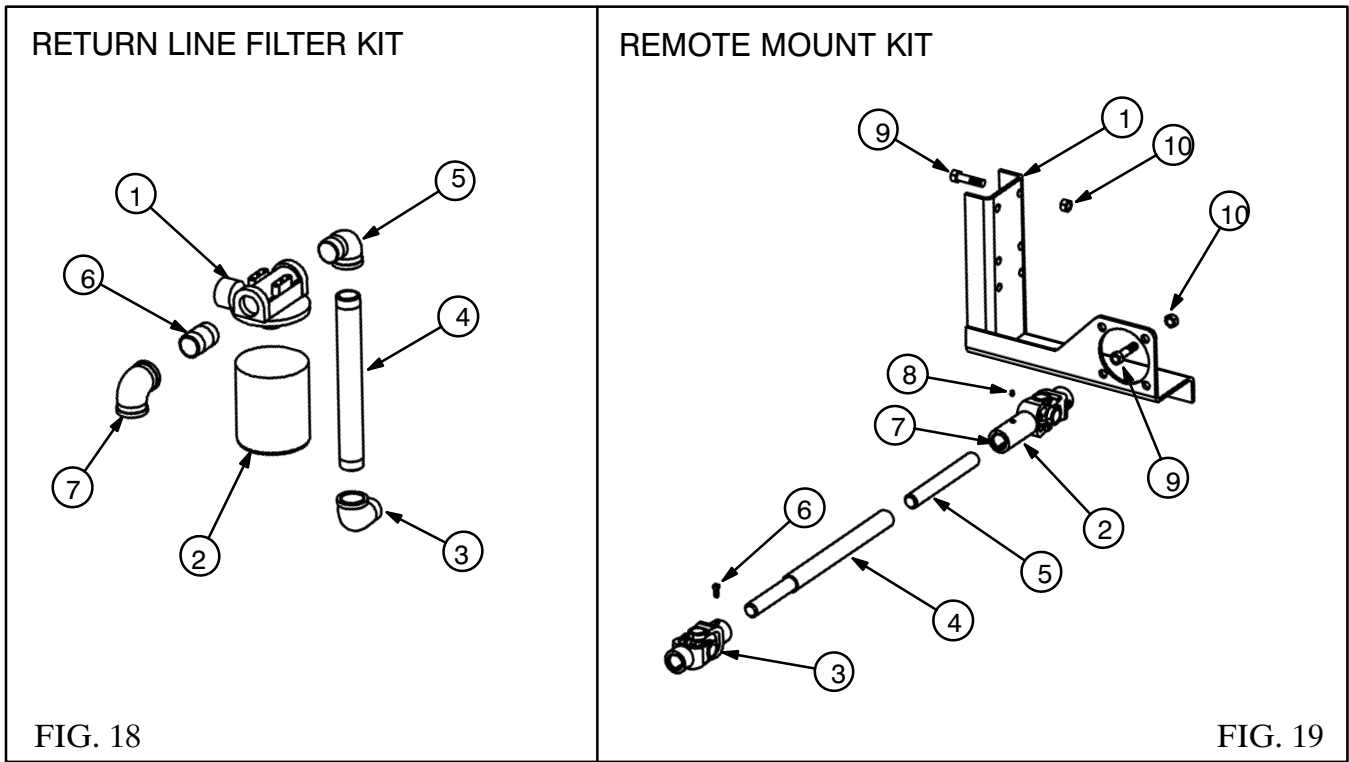


FIG. 17

ITEM	DESCRIPTION	MODEL	PART NO	QTY.
1.	Cable Tie	All	401542	1
2.	Support	All	260887	1
3.	Steel Tube U-12	T5380-T53114	404882	1
	Steel Tube U-20	T63113-T74191	404881	1
4.	Adapter 1 1/16 ORBM x 1 1/16 JICM 45°	T5380-T53114	404892	1
	Adapter 1 5/8 ORBM x 1 5/8 JICM 45°	T63113-T74191	403788	1
5.	Adapter 1 1/16 ORBM x 1 1/16 JICM 90°	T5380-T53114	403465	1
	Adapter 1 5/16 ORBM x 1 5/8 JICM 90°	T63113-T63148	404945	1
	Adapter 1 5/8 ORBM x 1 5/8 JICM 90°	T73129-T74191	403731	1
6.	Breather Cap	All	400764	1
7.	Reservoir Assy 16 Gal	T5380-T53114	113744	1
	Side Mount 28 Gal	T63113-T63148	113746	1
	40 Gal	T73129-T74191	115465	1
8.	Mounting Bracket	All	127123	2
9.	Hex Lock Nut 1/2-13	All	401316	4
10.	Cap Screw 1/2 x 2 Hex Hd	All	400105	4
11.	Sight Glass	All	401433	1
12.	Bushing Hex Reducing 1 1/4 x 1	T5380-T53114	404915	1
		T63113 & T74191	Not Req'd	1
13.	Hose 1 NPT x 72" Lg 1 1/4 NPT x 72" Lg	T5380-T53114	405200	1
		T63113 & T74191	405201	1
14.	Swivel Adapter 1 1/16 ORB x 3/4 NPT	T5380-T53114	401657	1
		T63113 & T74191	Not Req'd	1
15.	Swivel Adapter 1 1/16 ORB x 1 NPT 1 NPT x 1 1/4 NPT	T5380-T53114	405331	1
		T63113 & T74191	405332	1
16.	Pump / Valve SA 10 GPM 'G' Series	T5380	405196	1
	SA 15 GPM 'G' Series	T5398-T53114	405197	1
	SA 20 GPM 'C' Series	T63113-T63148	405198	1
	SA 25 GPM 'C' Series	T73129-T74191	405199	1
17.	Suction Port Sleeve	All	401540	1
18.	Hose Barb 1 1/4 NPT x 1 1/2	All	401725	1
19.	Hose Clamp	All	402163	2
20.	Suction Hose 1 1/2" ID x 72" Lg	All	401727	1
21.	Pipe Plug, Magnetic 3/4 NPT	All	400405	1
22.	Hose Barb 2 NPT x 1 1/2	All	401724	1
23.	Hose 3/4 NPT x 72" Lg 1 NPT x 72" Lg	T5380-T53114	401982	1
		T63113 & T74191	401993	1
24.	Self-Bleeding Adapter 1 1/16 JIC x 3/4 NPT 1 5/8 JIC x 1 NPT	T5380-T53114	404894	1
		T63113 & T74191	404895	1
	Non Self-Bleeding Adapter 1 1/16 ORB x 3/4 NPT 1 5/16 ORB x 1 NPT	T5380-T53114	401657	1
		T63113 - T74191	402467	1
25.	Reservoir Assy 9 Gal	T5380-T5398	107331	1
	Doghouse 22 Gal	T53114-T63148	107298	1
	25 Gal	T73129-T74191	107330	1

26.	Tube 3/8 O.D.		402297	3.5'
27.	Elbow 3/8NPT x 3/8 Tube		402296	2
28.	Bushing Hex Reducing 1 1/2 x 1	T5380–T5398	404673	1
	Bushing Hex Reducing 1 1/2 x 1 1/4	T63113 & T74191	402149	1
29.	Pipe Elbow 1 1/2 NPT Street 45°	All	402224	1
30.	Hose Barb 1 1/2 NPT x 1 1/2	All	402148	1
31.	Valve Connection Kit ‘G’ Series ‘C’ Series	T5380–T53114	401561	1
		T63113 & T74191	402010	1
32.	Control Cable, Shifter – 7’	All	403250	1
33.	Shifter Control	All	401474	1
34.	Machine Screw 1/4 x 1/2	All	401527	4
35.	Self–Tapping Screw #10 x 3/8	All	400108	6
36.	Cover, Pedestal Side	All	211236	1
37.	Pedestal Assy, Shifter	All	108818	1
38.	Self–Tapping Screw 5/16 x 3/4	All	400112	4

## TURBO OPTIONAL KIT PARTS



Return Line Filter Kit		All	107127	1
1.	Filter Head w/ Indicator	All	400896	1
2.	Filter Element	All	401087	1
3.	Pipe Elbow 1 1/4 Street	All	401296	1
4.	Pipe 1 1/4 x 13" Lg	All	401592	2
5.	Pipe Nipple 1 1/4	All	401259	1
6.	Pipe Elbow 1 1/4 x 3/4 Reducing 90°	T53	401292	1
	1 1/4 x 1 Reducing 90°	T63 & T7x	401722	1
Remote Mount Kit		All	107126	1
1.	Pump Mounting Bracket	All	107130	1
2.	U-Joint, Slip 1" Rd x 13T Spline	All	401554	1
3.	U-Joint 1" Rd x 1" Rd	All	400584	1
4.	Drive Shaft Assy 29" Lg	All	100092	1
5.	Drive Shaft 1" Rd x 8" Lg	All	400605	1
6.	Set Screw 3/8 x 1/2 Sq Hd	All	400102	3
7.	Square Key 1/4 x 2	All	400224	2
8.	Grease Zerk 1/8 NPT	All	400103	3
9.	Cap Screw 1/2 x 2 Hex Hd	All	400105	4
10.	Hex Lock Nut 1/2-13	All	401316	4

## OEM INSTALLATIONS

In Fig. 20 the front of the body must line up with the front of the hoist frame, this puts the cylinder lower pivot, Dim “B” back from the front of the body. The upper pivot must be located 6” back from the front of the body and no lower than the dimension “H” given for the particular model being installed. Dimension “H” is referenced from the bottom of the body longbeam which rests upon the lower frame mounting angle, dimension “T” off the truck frame.

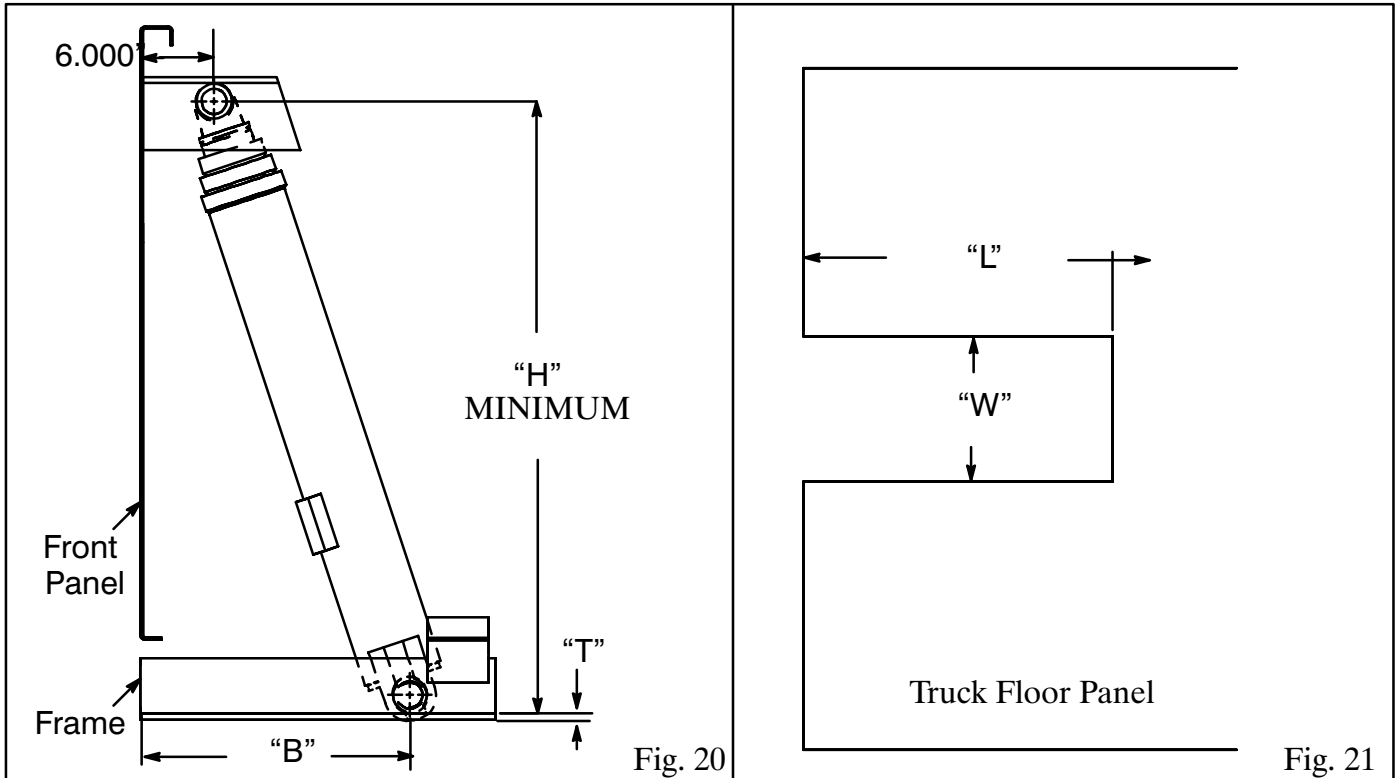


Fig. 21 shows the minimum opening in the body floor to give proper clearance for the cylinder when fully extended and allow clearance to the side for some body twisting. These dimensions allow the doghouse panels to be up to 1/4” thick when extended through the floor opening.

Crysteel has doghouse kits available for all models

MODEL	DIM “T”	DIM “H”	DIM “B”	DIM “L”	DIM “W”	CYLINDER WORKING DISPLACEMENT
<b>T5380</b>	3/8”	40 5/8”	17”	26 1/2”	15 3/16”	4.4 Gal.
<b>T5398</b>	3/8”	46 7/8”	17”	26 1/2”	15 3/16”	5.4 Gal.
<b>T53114</b>	1/2”	50 1/8”	22”	36”	18 3/16”	6.4 Gal.
<b>T63113</b>	1/2”	50 1/8”	22”	36”	18 3/16”	9.7 Gal.
<b>T63131</b>	1/2”	57 1/4”	22”	36”	18 3/16”	11.3 Gal.
<b>T63148</b>	1/2”	63 3/8”	22”	36”	18 3/16”	12.8 Gal.
<b>T73129</b>	1/2”	57 1/4”	22”	38”	20 3/16”	16.0 Gal.
<b>T73147</b>	1/2”	63 3/8”	22”	38”	20 3/16”	18.1 Gal.
<b>T74167</b>	1/2”	57 1/4”	22”	38”	20 3/16”	17.6 Gal.
<b>T74191</b>	1/2”	63 3/8”	22”	38”	20 3/16”	20.1 Gal.



# NOTES

## *SPECIALLY DESIGNED – WITH QUALITY IN MIND*

### **CUSTOMER SATISFACTION PLEDGE**

Crysteel's Customer Satisfaction Pledge is designed to be the most comprehensive warranty in the truck equipment industry. This pledge covers new products for a period of five (5) years, and is not restricted by vehicle mileage or when product is invoiced to our distributors. Our warranty begins when our product is put into service by the final customer.

This warranty covers our products for defective material and/or workmanship at a rate of 100 % for the first (3) years and at a rate of 50 % for years 4 and 5. This warranty covers:

- Crysteel Manufactured product
- OEM Products purchased by Crysteel as part of our product
- The repair of warranted product
- The replacement of warranted product
- Labor to replace warranted product
- Freight for replacement product
- Warranted product return freight (if required)

This warranty is limited to product supplied under the Crysteel Mfg. name and does not cover distributor modifications. Repair or replacement is at Crysteel's option. Primer warranty is limited to adherence to metal surfaces only and does not include the inside or understructure of dump bodies. Crysteel will not assume responsibility for travel, loss of use, downtime expenses or other incidental or consequential damages. This warranty is void if the product has been obviously abused or subjected to other than normal usage. There are no other warranties except as described above, and Crysteel makes no warranty of fitness for a particular purpose.

### **! 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.

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