



**BLUFF**  
MANUFACTURING, INC.

## **PORTABLE STEEL YARD RAMP**

### **Owner's Manual**

February 2009

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**DO NOT SHIP YARD RAMP  
ON UNDERCARRIAGE WHEELS  
OR ON THE TOP  
SHIP AND RECEIVE UNIT ONLY  
ON THE SIDE**

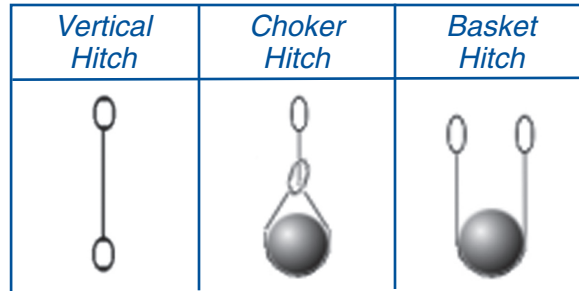
***SERVICE YOU CAN STAND ON***

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1400 Everman Parkway • Suite 120 • Fort Worth, TX 76140

## INSTRUCTIONS FOR UNLOADING YARD RAMPS FROM FLATBED TRAILERS

If an overhead crane of sufficient capacity is not available, use a forklift with a minimum capacity rating of 8,000 pounds to unload catalog listed yard ramps. Customers who purchase custom size yard ramps which exceed the catalog sizes in width, length or rated capacity should seek a recommendation from Bluff Manufacturing for forklift capacity due to additional weight.

A nylon sling of at least 48" in length is recommended. The sling may be of the "2 eye" or "endless" configuration. A minimum capacity rating of 10,000 pounds for the basket method of lifting is recommended.



Push both forks of the forklift as close together as possible in the center of the forklift. Position forklift forks above the ramp. Feed the sling through the side mounted lifting lug and position one loop of the sling over each fork to within 24 inches of the forklift carriage, thus creating a basket lift. Lift the yard ramp until it clears the floor of the trailer by a few inches. Move away from the trailer and lower the ramp to the ground.

**Note:** If mast height of the forklift will not allow sling usage, position forks beneath the upper side of the ramp and above the grating. **Do not attempt to lift the yard ramp from the lower side of the unit.**

**Note:** Do not remove the safety wire that is restraining the undercarriage assembly prior to lowering the unit onto its wheels. Failure to follow this direction may result in damage to the undercarriage.

To lower the yard ramp onto its wheels, position the forklift on the underside of the yard ramp. Attach sling as described above; lift the yard ramp and place the front lip (the end with the chains) on a stack of three pallets, and lower the ramp so that the rear lip touches the ground. Tilt forks back fully and move slowly away from the yard ramp, lowering the forks at the same time. Continue moving and lowering the forks until the ramp is resting on its wheels. Remove the sling.

Additional information on slings and hitches can be supplied by sling providers.

*Continued on next page ...*

## YARD RAMP OPERATING INSTRUCTIONS

### **Balance**

Wheels are located near the balance point of the yard ramp with the heavy side on the approach (or low) end for ease of operation and to make the yard ramp trail properly when being towed. The balance will shift as the yard ramp is elevated.

### **Towing**



*Tow bar*



*Ramp Clamp*

Release hydraulic pressure (rotate pump release valve handle counterclockwise; refer to item 22 in schematic), and let yard ramp settle slowly to its lowest position. Leave pump release valve open while yard ramp is being towed to prevent damage to the hydraulic system.

Towing speed will be governed by prevailing conditions, but should not be such as to cause severe jostling. Towing speeds should not exceed 10 mph. Off road towing must be accompanied by appropriate suspension option. The ramp clamp is intended for short towing distances and precise positioning of yard ramp units. Tow bars are intended for longer distances. Over the road towing is limited by governing state and federal laws.

### **Raising**

Open pump vent plug/drain cock (item 34 on schematic) by making two complete turns counterclockwise. The vent plug/drain cock must be partially open while operating pump.

Close pump release valve (item 22 in schematic) by rotating handle clockwise or pushing handle toward mid-section of ramp.

**CAUTION:** Do not over-tighten, as it is unnecessary and will damage the valve seat.

Install pump handle, stored on side of the yard ramp, onto the pump actuator pin (item 13 in schematic) which is accessible through an opening in the grating. Actuate pump handle with long strokes parallel to yard ramp until lip of yard ramp is higher than the level on which it is to rest. Return pump handle to holder. **NOTE:** Numerous cycles of the handle are required to prime the system after shipment or following extended periods without use.

**WARNING:** To avoid injury and equipment damage, do not continue pressurizing cylinders after they reach maximum height.

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## **YARD RAMP OPERATING INSTRUCTIONS (continued)**

### ***Positioning***

Position the yard ramp so that the front lip is over the surface on which it is to rest with the stop plates resting against the end of trailer or face of dock. Slowly open the pump release valve (item 22 in schematic) by turning the lever counterclockwise to lower the ramp. Downward movement of the yard ramp can be stopped at any point and its lip height held at that level by closing the pump release valve. After the yard ramp has settled into place and stopped moving, open the pump release valve completely and leave in open position until ready to raise the yard ramp again.

**DO NOT LOAD YARD RAMP WITH THE PUMP RELEASE VALVE CLOSED.  
DO NOT BACK TRUCKS UP TO AND UNDER LIP OF YARD RAMP.**

Always move the yard ramp to the truck.

### ***Securing***

For safety, always secure the yard ramp in place utilizing the two safety chains located on the front of the yard ramp. Chains should be looped around a sturdy part of the carrier, platform, or dock on which the yard ramp is resting, using the grab hooks to complete the loop. The chains should be as tight and as horizontal as possible, but allow for change in vehicle height caused by shifting loads.

### ***Using***

Vehicles traversing the yard ramp should always maintain a slow, steady speed, preferably in low gear. They should not stop or change gears while on the yard ramp, as this may cause excessive wear and damage to the vehicle tires.

Forklift trucks should ascend and descend with their forks tilted back and raised enough to avoid contact with the yard ramp deck.

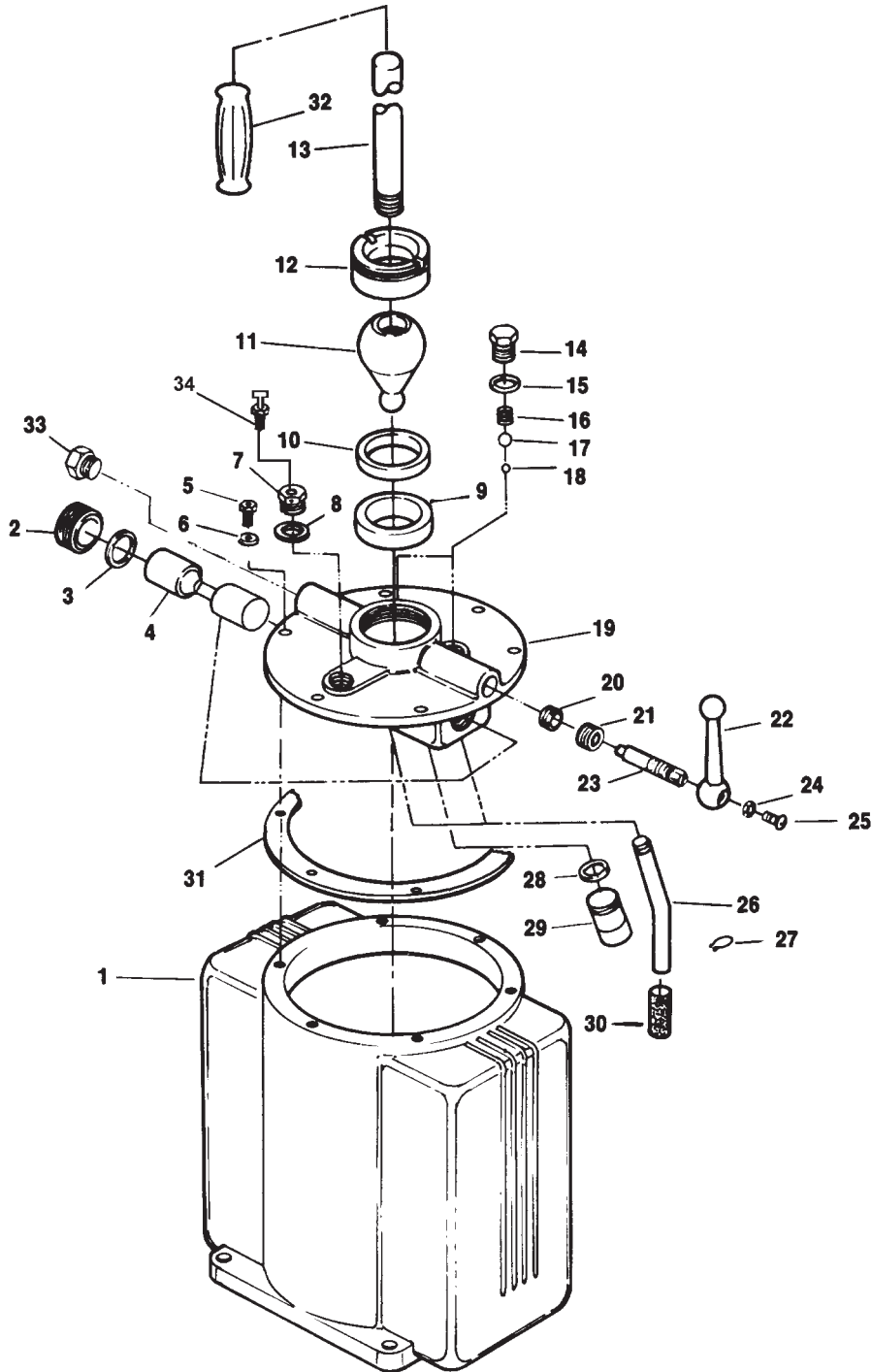
### ***Storage***

When finished using yard ramp:

- 1.** Release the safety chains and place them securely on deck of yard ramp.
- 2.** Close pump release valve (item 22).
- 3.** Insert pump handle and actuate pump until lip of yard ramp is clear of supporting surface.
- 4.** Roll yard ramp away from platform, dock, or vehicle. Trucks may be driven away from the yard ramp but not before steps 1 through 3 above have been performed.
- 5.** Open pump release valve (item 22) slowly.
- 6.** Lower yard ramp to stored position.
- 7.** Close pump release valve (item 22) and vent plug/drain cock (item 34).
- 8.** Replace pump handle into holder on the side of the yard ramp.

*Continued on next page ...*

## YARD RAMP PUMP SCHEMATIC



TO PROTECT YOUR WARRANTY, USE ONLY ENERPAC HYDRAULIC OIL.

## YARD RAMP PUMP PARTS LIST

For hydraulic pump repair parts, contact:

<b>Enerpac</b> 13000 W. Silver Spring Drive Butler, Wisconsin 53007 USA	Phone: (414) 781-6600 Fax: (414) 781-1049 End user: (800) 433-2766 (US) End user: (800) 426-4129 (Canada)
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Bluff Manufacturing does not sell or price pump replacement parts.  
 Bluff Manufacturing uses the Enerpac P-50 pump on all yard ramps.

## REPAIR PARTS LIST

Item No.	P-25	P-50	Quantity	Description
1	P6005	P6005	1	Reservoir
2	P6006	P6006	2	Plug
3	*	*	2	Gasket
4	P6351-1	P6051-1	1	Piston
5	<i>Standard hardware</i>	<i>Standard hardware</i>	6	Cap Screw 1/4-20 UNCx5/8 Lg.
6	<i>Standard hardware</i>	<i>Standard hardware</i>	6	Lock Washer 1/4 bolt
7	CA365024SR	CA365024SR	1	Vent Plug (incl. Item 8)
8	*	*	1	Gasket
9	P60306	P60306	1	Seat
10	*	*	1	Packing
11	P60234-1SR	P60234-1SR	1	Rocker Arm (incl. Item 9,10,12)
12	P60307	P60307	1	Cap
13	A1016070	A1016070	1	Handle
14	W12185SR	W12185SR	2	Plug (incl. Item 15)
15	*	*	2	Gasket
16	*	*	2	Spring
17	*	*	2	Ball
18	*	*	2	Ball
19	P97264SR	141264SR	1	Pump Head Assembly
20	*	*	4	Packing
21	P6011	P6011	1	Nut
22	P6012SR	P6012SR	1	Lever (incl. Item 24,25)
23	P6010	P6010	1	Release Valve Spindle
24	P45139	P45139	1	Washer
25	P45138	P45138	1	Screw
26	P60268	P60268	2	Oil Tube
27	A8061049	A8061049	2	Retaining Ring
28	*	*	1	Gasket
29	P181190W	P181190W	1	Relief Valve
30	A8018018	A8018018	2	Screen
31	*	*	1	Reservoir Gasket
32	CJ46550	CJ46550	1	Grip
33	A8069006	A8069006	1	Pipe Plug
34	CA561024	CA561024	1	Drain Cock

\* Indicates items included in and available only as part of Repair Kit P50K1.

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## YARD RAMP MAINTENANCE

### **Lubrication**

Under normal conditions and environment, the yard ramp should be lubricated at six-month intervals.

Lubricate wheel hubs with waterproof automotive grease by using standard "zert" grease gun.

Pivot pins of wheel undercarriage may be oiled with SAE30 Motor Oil.

### **Tires**

#### **Solid Pneumatic-Profile Tires (Standard Equipment)**

1. These tires are virtually maintenance free.
2. Tires can develop flat spots if left standing under load for extended periods, especially in hot weather. This can be prevented by resting the yard ramp lip on a stable support and releasing the hydraulic pressure, thereby taking load off of the tires.

**Pneumatic Tires (Optional):** Maintain air pressure of 100 psi.

### **Hydraulics**

Inspect hydraulic system for evidence of damage and leaks. Check oil level in pump reservoir. See "Hydraulic System Notes" (starting on page 10) and refer to the Enerpac Owners Manual provided with yard ramp.

### **Structure**

Welded yard ramp structure should be inspected at least annually (or more often, according to usage) for evidence of damage, including, but not limited to, cracks/failures in materials or welds.

Steel work should be repainted as required.

### **Removing Wheels**

Pump yard ramp up to its maximum height. Lift lip of yard ramp with fork truck until wheels are off of the ground, and place supports up under lip to hold yard ramp securely in that position. Remove nut and washer from axle. Remove bolt axle to free wheel. Note the relative positions of the spacers and washers so they can be replaced in the same locations. When reinstalling the wheel, be sure not to over-tighten bolt axle. Over-tightening bolt axle will prevent the wheel from rolling freely. Too loose will result in bearing damage. Improper tightening will result in bearing damage.

### **Replacing Bearings (if applicable)**

Remove wheel per instructions above. Then remove seal and remove the bearing from the hub.

Replace with new bearing and seal if necessary. Lubricate thoroughly with grease zert after wheel and axle assembly has been installed.

### **Patching Pneumatic Tire**

Remove wheel per instructions. Disassemble rim from hub and remove bolts that join the two halves of the rim together. Remove flap and tube. Repair with automotive tire patch as required. Reverse above procedure to reassemble. Inflate tire to 100 psi.

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## **YARD RAMP MAINTENANCE (continued)**

### ***Troubleshooting***

#### **Yard ramp does not rise when pump is actuated.**

Possible reasons/solutions:

- 1.** Physical or mechanical damage to wheel undercarriage or hydraulic system.
- 2.** No oil in pump reservoir. Fill if required and check for leaks. Refer to Enerpac manual.
- 3.** Pump release valve not completely closed. If free end of handle is in contact with pump base when rotated clockwise, the valve may not be completely closed. Reposition handle on shaft.
- 4.** Pressure relief valve not properly adjusted. Pump handle will have normal resistance on power stroke, but yard ramp will not rise, or attempts to rise and then settles back. Readjust pressure relief valve.
- 5.** Oil leaks. Repair as required.
- 6.** Pump check valves clogged or out of adjustment. Pump handle has normal resistance and yard ramp rises on power stroke, but handle returns by itself and yard ramp drops. See accompanying drawing of hydraulic pump for location of check valves and clean, repair, or adjust as required.
- 7.** Load superimposed upon yard ramp. Hydraulic system, wheel structure, and wheels are designed to raise and support only the weight of the yard ramp.

#### **Yard ramp does not lower when pump release valve is opened.**

Possible reasons/solutions:

- 1.** Physical or mechanical damage to wheel undercarriage or hydraulic system.
- 2.** Pump release valve handle is hitting pump base and not opening.
- 3.** Flow control valves clogged.
- 4.** Obstructed or inoperative vent in vented filler plug of pump.
- 5.** Oil reservoir overfilled, thereby leaving insufficient air cushion in non-vented reservoir.
- 6.** Hydraulic cylinder packing nuts too tight.
- 7.** Hydraulic cylinder pushrods bent or damaged.

#### **Yard ramp rises extremely slowly or is hard to pump.**

Possible reasons/solutions:

- 1.** Hydraulic hoses might be kinked or have an internal obstruction.
- 2.** Filter screen on pump suction might be obstructed.
- 3.** Wheel structure might be damaged.
- 4.** Pump check valve clogged or out of adjustment.
- 5.** Hydraulic cylinder packing nuts too tight.
- 6.** Pump release valve not completely closed. If free end of handle is in contact with pump base when rotated clockwise, the valve may not be completely closed. Reposition handle on shaft.
- 7.** Pump reservoir filled with oil of higher viscosity than specified.

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## **YARD RAMP MAINTENANCE**

### **Troubleshooting (continued)**

#### **Ramp settles.**

- 1.** Check for hydraulic leaks in system.
- 2.** If there are no leaks evident in the hydraulic system, it might be necessary to readjust the pump's internal pressure relief valve for a slightly higher pressure. This factory-preset valve is located inside the reservoir.

#### **Excessive oil leakage around pump.**

##### Possible reasons/solutions

- 1.** Reservoir overfilled (filled when yard ramp was not in fully lowered position) and excess oil was forced out of vent in filler plug, or out from around the filler plug when yard ramp was lowered.
- 2.** Yard ramp lowered too quickly, which can build up pressure in reservoir and force oil out through vent in filler plug or out from around the filler plug. Yard ramp should be lowered by slowly opening the pump release valve.
- 3.** Pump Piston packing leaking. Replace packing if necessary. Adjust packing nut.
- 4.** Pump release valve shaft packing leaking. Adjust nut or replace packing if necessary.
- 5.** Cracked pump body, probably caused by overfilled oil reservoir. Pump reservoir is NOT designed to contain oil under high pressure. The pressure of oil returning to the reservoir is relieved by air and excess oil escaping through the vented filler plug of a vented reservoir or by compressing the air cushion in a non-vented system. Restriction of the vent, insufficient air cushion, or a too rapid buildup of pressure caused by "dropping" the yard ramp can increase this pressure beyond that which the reservoir can contain.

#### **Broken or burst hydraulic hoses, cylinders, etc.**

Caused by operating vehicles on yard ramp with pump release valve closed. *Hydraulic system, wheel structure, and wheels are designed to raise and support only the weight of the yard ramp.*

#### **Bluff warranty on pumps is 90 days.**

Beyond this time frame, Enerpac should be contacted (see page 6) for warranty assistance.

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## HYDRAULIC SYSTEM NOTES

Prior to factory departure, all fittings and connections are inspected for tightness and leaks. However, it is important to recheck these connections prior to use, as they may loosen during shipment. All yard ramp hydraulic systems are factory filled to the proper level. If a leak has occurred during shipment, with the ramp resting on its wheels and in the fully lowered position, check the fluid level in the pump by removing the filler plug (item 14 in the schematic). If the fluid level is low (more than 1" below the filler hole), add Enerpac fluid.

### *Oil*

Enerpac strictly recommends use of Enerpac fluid. Use of anything else will VOID warranty. Enerpac oil type is identified as 1507.

### *Filling Oil Reservoir*

Reservoir in pump should be filled only when the yard ramp is in a fully lowered position (cylinders retracted, not extended) and the pump release valve is open. Remove filler plug (item 14 in schematic) on top of pump and fill reservoir with oil. Replace filler plug and tighten until snug. Filler plug furnished with pump has an integral vent with a check valve that will allow excess oil to escape if the reservoir is overfilled.

### *Bleeding Hydraulic System of Air*

Air becomes entrapped in the system only when hydraulic connections are disconnected, when the pump is operated with the oil low in the reservoir, or when there are leaks in the system.

After filling the reservoir, it may be necessary to bleed the system of entrapped air. The yard ramp must be in its fully lowered position. Loosen the hose connection at one cylinder and slowly operate the pump with pump release valve closed until no air is noticeable in the oil. Retighten the hose connection and refill the pump reservoir. Repeat the process for the other cylinder.

### *Pump Release Valve*

The hydraulic pump is equipped with an internal pressure relief valve, which is adjusted at the factory to hold the yard ramp elevated with no superimposed load thereon. If the yard ramp tends to settle, and there is no apparent leakage in the system, the relief valve may have to be readjusted for a slightly higher bypass pressure. Access for this adjustment is obtained by removing the base cover. Increase relief pressure by turning the adjustment screw (or nut) one quarter turn clockwise. Reassemble and test for proper operation. Repeat if necessary.

### *Pump Release Valve Handle*

If rotation is limited by the handle hitting the pump base and valve cannot be completely closed (or sufficiently opened), the handle can be repositioned on its shaft by removing the screw in the end of the shaft, sliding the handle off, and reassembling in the proper position. Be sure the packing nut around valve shaft is properly tightened.

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## **HYDRAULIC SYSTEM NOTES (continued)**

### ***Flow Control Valve***

A flow control valve at the hose connection to each cylinder allows oil to flow to the cylinder without restriction but retards the flow away from the cylinder. This provides a means of reducing the rate at which the yard ramp lowers when the pump release valve is opened. This slower lowering rate prevents damage to the yard ramp that can be caused by dropping it via quickly opening the pump release valve or by failure of a hydraulic component (i.e. hydraulic hose). Safety of operating personnel is greatly enhanced.

### ***Hydraulic Cylinder***

Push rod should have a light coat of oil on its surface but it should not be excessive nor should there be any runoff. If an excessive amount does appear, check the adjustment of the piston packing nut and correct as necessary. If there is doubt about packing nut adjustment, elevate the yard ramp by means of the pump and place supports under the lip so that the yard ramp is held in position. With the pump release valve closed and pressure on the system, slowly loosen the packing nut on one cylinder until oil flows out and then immediately retighten until the flow stops. **DO NOT OVER-TIGHTEN**. Check oil level in reservoir and fill if necessary. Raise and lower ramp several times in a normal manner and observe movement of cylinder pushrods for evidence of binding, which will occur if packing nut is too tight.

If leak continues, the cylinder should be removed and examined for a scored pushrod or faulty packing and wipers. Repair or replace as required. See accompanying drawing and parts lists for parts and packing kits.

### ***Removing Hydraulic Cylinder***

Pump yard ramp up to its maximum height. Then place supports under lip of yard ramp to hold it securely at near maximum height. Slowly release pressure in hydraulic system and let yard ramp slowly settle onto supports, then rotate pump release valve handle to fully open position. Remove retaining rings and washers from pivot pins at ends of cylinder and push out the pins. Remove cylinder, compress cylinder to expel hydraulic fluid back into system, disconnect hydraulic hose from cylinder, and seal end of hose to keep out foreign objects. Repair or replace cylinder as required, reconnect hydraulic hose, but do not tighten fitting, and reassemble into yard ramp. Be sure pump release valve is fully open, then with forklift truck, lift lip of yard ramp clear of supports, remove supports, and slowly lower lip of yard ramp to minimum height. Fill reservoir in pump. Close pump release valve and slowly actuate pump to force air out of the system. Tighten hydraulic hose fitting at cylinder when all of the air is out. Check level of fluid in pump reservoir and fill as required.

### ***Removing Hydraulic Pump***

Pump yard ramp up to its maximum height. Then place supports under lip of yard ramp to hold it securely at near maximum height. Slowly release pressure in hydraulic system and let yard ramp slowly settle onto supports, then rotate pump release valve handle to fully open position. Disconnect hydraulic hose from pump and seal end of hose to keep out foreign objects. Remove (4) mounting bolts and remove pump. Repair or replace pump as required, remount, and reconnect hydraulic hose. Be sure pump release valve is fully open, then with forklift, lift lip of yard ramp clear of supports, remove supports, and slowly lower lip of yard ramp to minimum height. Then bleed air from system according to specified procedure.