

PORTABLE STEEL YARD RAMP

Owner's Manual

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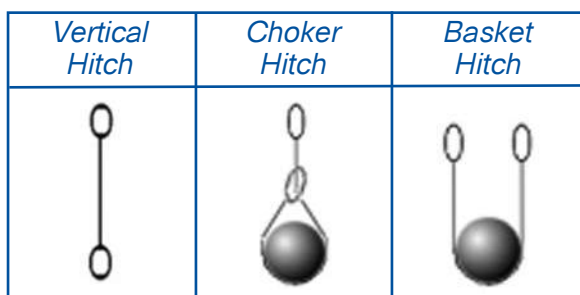
**DO NOT SHIP YARD RAMP
ON UNDERCARRIAGE WHEELS
OR ON ITS TOP**

**SHIP AND RECEIVE UNIT
ONLY ON ITS SIDE**

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.

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 4 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.

Moving

To move a standard Yard Ramp, use the following:

Yard Ramp with Ramp Clamps

Standard Forklift Truck with Forklift Tines - 5,000 lb capacity recommended

Yard Ramp with Tow Bar

Standard Forklift Truck with pin-style, good condition, hitch - 5,000 lb capacity recommended

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.

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

SINGLE ACTING HAND PUMP



Photo 1. Main components of a single acting hand pump

TO PROTECT YOUR WARRANTY, USE ONLY MAGISTER HYDRAULIC OIL.

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 Magister 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 Magister 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, Magister 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 Magister fluid.

Oil

The oil tank must be filled with new, filtered mineral based ISO 6743/4 fluid. Hydraulic oils at mineral or synthetic base with viscosity rate from 10 to 500 cST at temperature of 104 °F. Hydraulic fluid may change regarding working climate. Please do not use motor oil, diesel oil or water as fluid in the system.

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.

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.

BLUFF WARRANTY

Bluff Manufacturing warrants their products to be free from defects in material and workmanship for a period of one year from shipping date to original purchaser. Yard ramp pumps and EOD hydraulic power units are war-rantied for 90 days (not including hoses) from shipping date to original purchaser. Warranty eligibility requires all products are used and serviced in accordance with the company's recommendations, product selection guides, product manuals and installation instructions.

Bluff Manufacturing's obligation under this warranty shall be limited to the repair, by Bluff Manufacturing or a Bluff Manufacturing authorized technician, or exchange of any part of parts which may prove defective under normal service within the time limitations set forth above, and which our examination shall disclose to our satisfaction to be defective. Bluff Manufacturing requires the purchaser to send date stamped photographs for initial review of warranty claim products.

This limited warranty does not cover any defects, malfunction or failure caused by or resulting from improper or unauthorized service, maintenance, installation repair or use not in conformance or accordance with Bluff Manufacturing's recommendations, product selection guides, product manuals or installation instructions and the intended use and capacities or specifications or from abuse, neglect, accident, weather related issues or any other cause beyond the control of Bluff Manufacturing. This limited warranty is made only to the original purchaser, which shall be deemed to mean that person or organization to which the product is originally shipped or installed.

Bluff Manufacturing does not approve nor authorize any other person or entity to obligate Bluff Manufacturing to any other liability not described herein concerning the sale of its products.

Bluff Manufacturing shall not be liable for any incidental or consequential damages. And liability hereunder is expressly limited to repair or replacement of any part or parts which may prove defective within the time prescribed hereon.

This warranty is expressly in lieu of all other warranties, expressed or implied, including the warranties of merchantability and fitness for a particular purpose and all other obligations or liabilities on our part.

BLUFF RETURNED GOODS AUTHORIZATION (RGA)

Before returning any merchandise for any reason whatsoever, it is necessary to contact Bluff Manufacturing for approval. All requests must be submitted with a date stamped photograph of item to be returned. If approval is given, an RGA number will be given by Bluff Manufacturing. This RGA number must appear on all documents involving the returned goods.

Freight charges on all RGA's must be PREPAID on returns but not warranties.

RGA numbers will not be issued after ninety (90) days from date of shipment, except for warranty items, by Bluff Manufacturing or its designated representative.

A restocking charge of 25% will be made on all merchandise except as allowed under warranty claims.

Returns will not be allowed on any custom, special or worksheet required items and products in non-resalable condition.