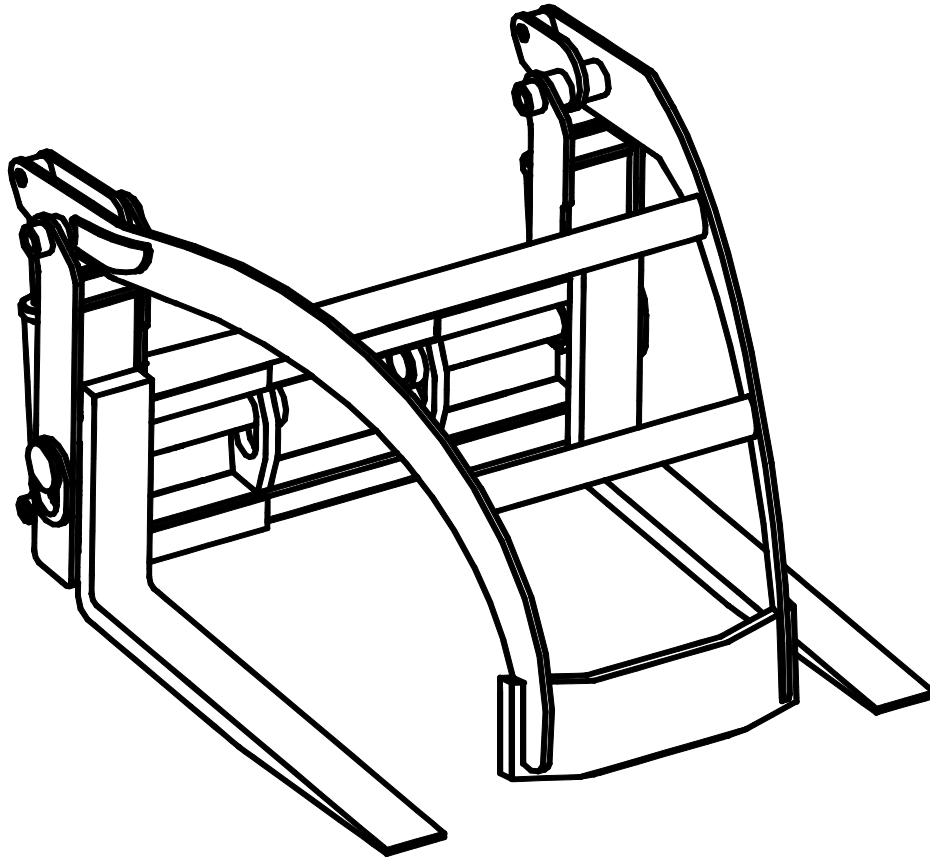


Operator's Information

ROCKLAND
LF-W LOG GRAPPLE
S/N 150861



- **Warranty**
- **Installation**
- **Operation**
- **Maintenance**
- **Parts**

Read and follow all safety instructions.
Return the Warranty Validation to Rockland®
within 10 days of installation to protect your
warranty.

\$10.00



WARRANTY

ACTIVATE YOUR WARRANTY!

There are multiple ways to activate your warranty. You can go to www.rocklandmfg.com and fill out our simple warranty activation form. Also see enclosed flyer (ACTIVATE YOUR WARRANTY!) for alternate ways. Either of the options must be completed withing ten days of installation to activate the warranty. Please don't forget this important step for prompt, hassle-free warranty service.

WARRANTY INFORMATION

Your Rockland product is guaranteed for two years or 4,000 hours against any failure due to defective material, design or workmanship. Call your dealer immediately if any problem occurs that might be covered by this warranty. **Do not attempt repairs or service without contacting your dealer first. Rockland is not responsible for any warranty work that is performed without our approval.**

PAINT

Rockland paints some quick ship products grey or black. On all other products, Rockland makes every effort to match the color of your machine. However, try as we might sometimes, due to paint lots and aging, we cannot guarantee a perfect match. Your understanding is appreciated.

FOR PARTS

Call your dealer if you need optional equipment, parts or service. Your dealer is prepared to provide parts and service whenever required. Have your attachment serial number ready to give to our parts department.

NEED MORE INFORMATION? Call the Rockland Hot Line at 800-458-3773. We will be glad to answer any questions. If there is something wrong or if you think we can do better, please tell us. Use the HOT LINE or e-mail us at service@rocklandmfg.com

ROCKLAND WEB SITE - www.rocklandmfg.com

It's all there - equipment guaranteed to increase machine productivity!

DEALER INSTALLATION RESPONSIBILITY

It is the Rockland dealer's responsibility to properly install this product on the machine for which it was ordered and to make certain that the installation is done in accordance with the instructions set forth by both Rockland and the manufacturer of the machine.

OWNER'S INFORMATION

It is important that the owner and operator of this product be properly instructed by the dealer in the safe operation and proper maintenance of the product and the machine on which it is installed. One copy of this book is provided free of charge at the time of shipment. Additional copies are \$10.00 each.

INSTALLATION

1. Install your Rockland grapple on your machine in place of the factory bucket.
2. Use standard factory bucket pins and hardware or the coupler on your loader. Some loaders have Quick Coupler mounting pins that are different from bucket pins. If your loader is equipped with a Quick Coupler and the coupler is being removed, be sure you use mounting pins for the pin-on bucket.

NOTE: On some machines the link or lift arm pins cannot be installed without first removing the appropriate cylinder pin and swinging the cylinder out of the way.

NOTE: There are shipping supports welded between the clamp and frame. These supports are painted red for easy identification and must be removed before operation. Cut the support next to the weld and grind the weld flush with the structure surface.



CAUTION

Support the clamp tip and product frame so it does not move when supports are removed. Failure to support the frame and clamp tip during support removal can cause injury.

ROCKLAND® IS NOT LIABLE FOR:

Oil loss caused by leaks in the hydraulic system. Owners are responsible for maintaining the hydraulic system according to the manufacturer's instructions.

Damage or injuries resulting from the failure to maintain the hydraulic system, or as a result of operating the equipment or Rockland product at temperatures exceeding safe limits.

Damage to the Rockland product or the machine caused by the loss of oil resulting from poor workmanship or improper maintenance by either the owner, dealer, or their representatives.



WARNING

DON'T FORGET TO DO THIS!

Inspection after installation is extremely important! After the product is installed, it must be slowly cycled through every possible operating position and inspected for any possible interference between the Rockland product and the machine. Rockland is not liable for any damages caused as a result of failure to follow this important procedure.

3. Follow all installation and safety procedures set forth in your loader manual. Your machine must be equipped with a three-spool valve and lift arm piping. The attachment has the necessary piping and hydraulics, including jumper hoses, to connect to the lift arm piping.

HYDRAULIC HOSE & FITTING INSTALLATION

Proper jumper hose installation is the responsibility of the dealer. The routing must take into consideration all operating positions of the attachment. The attachment must be slowly cycled through all operating positions to make sure there are no pinch or chafe points and that the hoses don't drag on the ground.

NOTICE: The jumper hoses are long enough! In fact, they may be a bit too long for your installation, that's why we equip them with reusable fittings.

The hose type is printed on the side of the hose. Follow the procedures that apply to your hose type.

For Type T28A

1. Cut hose to length required using a fine-tooth hacksaw or cut-off machine. Clean hose bore. (See Fig. 1)

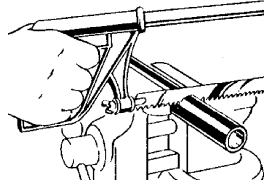


Fig. 1

2. Liberally lubricate hose cover with Aeroquip hose assembly lube. Place socket in vise and turn hose into socket counterclockwise until it bottoms. **NOTE:** When assembling long lengths of hose, it may be preferable to put hose in vise just tight enough to prevent from turning, and screw socket onto the hose counterclockwise until it bottoms. (See Fig. 2)

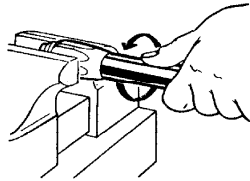


Fig. 2

3. Lubricate nipple threads and inside of hose liberally. Use heavy oil or Aeroquip 222070 hose assembly lube. (See Fig. 3)

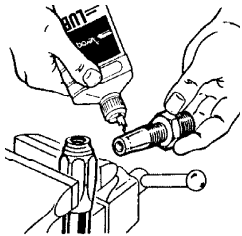


Fig. 3

4. Screw nipple clockwise into socket and hose. Leave 1/32" to 1/16" clearance between nipple hex and socket. (See Fig. 4)

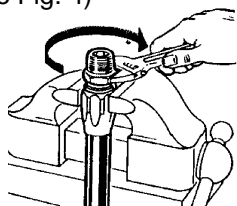


Fig. 4

Disassemble in reverse order.

For Type 2781

1. Cut hose to length required using a fine-tooth hacksaw or cut-off wheel. Clean hose bore. Hose must be stripped of its rubber cover before inserting in socket. Locate skiving point by putting hose end next to socket. Measure from hose end or socket to notch on socket. (See Fig. 5)

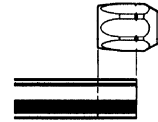


Fig. 5

2. Cut rubber cover around down to wire reinforcement. Slit lengthwise. Raise flap and pull off with pliers. Clean excess rubber off wire reinforcement with wire brush or soft wire wheel. Do not fray or flare wire reinforcement when brushing. (See Fig. 6)



Fig. 6

3. Put socket in vise. Screw hose into socket counterclockwise until it bottoms out. When assembling long lengths of hose, it may be preferred to put hose in vise just tight enough to prevent from turning and screw socket onto the hose counterclockwise until it bottoms. (See Fig. 2)

4. Lubricate nipple threads and inside of hose liberally. Use heavy oil or Aeroquip 222070 hose assembly lube. (See Fig. 3)

5. Screw nipple clockwise into socket and hose. Leave 1/32" to 1/16" clearance between nipple hex and socket. (See Fig. 4)

OPERATION

Read these instructions before operating your Rockland grapple. Provide copies to all operators.



CAUTION

DON'T attempt to operate your machine equipped with a Rockland product UNTIL YOU HAVE BEEN FULLY TRAINED ON SAFE OPERATION OF THE MACHINE ITSELF!

ALWAYS...

Always lubricate and thoroughly inspect the grapple DAILY. Inspect for hydraulic leaks and stress cracks. Repair any leaks or cracks immediately.

Always use both tines to pick up a load. Tines are meant to be used as a pair.

Always keep the tines off the ground as much as possible.

Always carry loads centered on the tines for a balanced, stable load.

Always travel in the carry position when loaded. Keep the grapple rolled back with the load as close as possible to the loader. Allow at least 12" of ground clearance.

Always travel with the clamp closed against the stops when empty. Traveling with the clamp partially open causes the clamp to bounce and accelerates pin and bushing wear.

Always prevent the clamp from hitting the ground when moving.

Always inspect forged tines regularly. Pay particular attention to the heel of the tine. The tine must be replaced whenever the tine has been worn to 90% of its original thickness, or if the angle between the face of the fork and the top of the fork exceeds 92°. If cracks are ever discovered in a tine, discard the tine. Do not attempt to repair by welding.

Always check for overhead obstructions:

- when **backing**
- when **turning**
- when **loading**
- when **unloading**

NEVER...

Never pry with one tine. Tines are not strong enough to be used as pry bars. Tines broken through misuse will not be covered by warranty.

Never try to pick up or carry loads not evenly centered on the tines. Unbalanced loads cause uneven stresses to tines, the grapple frame, and the loader lift arms.

Never use the side of the tines to push or position loads .

Never leave a load on the grapple when the machine is unattended.

Never jam the tine tips into the ground to stop the machine.

Never drive the loader around the yard with the forks raised higher than the carry position. This makes the machine unstable. Unstable machines can tip over.

Never operate the machine when anyone is near the forks or loader.

Never carry a load over people or allow anyone to work or walk close to the machine while it is being operated.

Never allow anyone to work under the forks unless the boom arm cylinders have been secured with supports to prevent them from being retracted.

NO RIDERS - EVER !



CAUTION

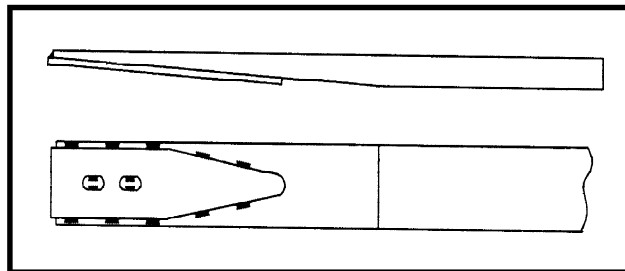
If the lift arms and grapple are at maximum height, and the grapple is dumped over, the clamp may contact the lift arm cross tube if it is closed.

OPERATION

TINES

Your tines may be adjusted to several different spacings. Always adjust the tines so that each tine is the same distance from the center of the grapple. The tine shaft should be coated lightly with grease if tines are frequently adjusted. The tines are mounted on shafts that float within the frame. The tine float feature permits the grapple to automatically compensate for uneven terrain and reduces stress on the backframe. To minimize tine wear, always operate the grapple with minimum boom arm down pressure.

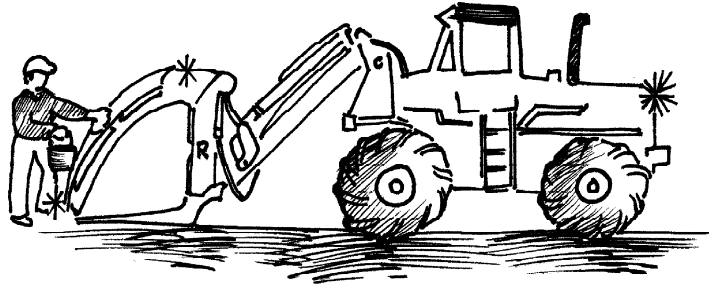
OPTIONAL TINE TIP WEAR PLATES *to protect your investment.*



If you are using your tines on an abrasive surface such as concrete or crushed stone, these wear plates will definitely prevent tine tip wear. They are made from 400 BHN quenched and tempered, high-strength, alloy plate. They install easily with a minimum amount of welding.

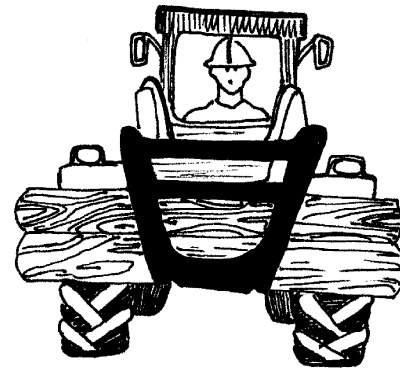
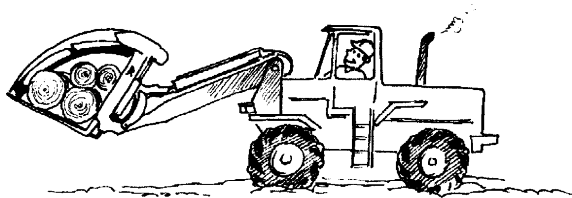
OPERATION

Do a daily walk around...



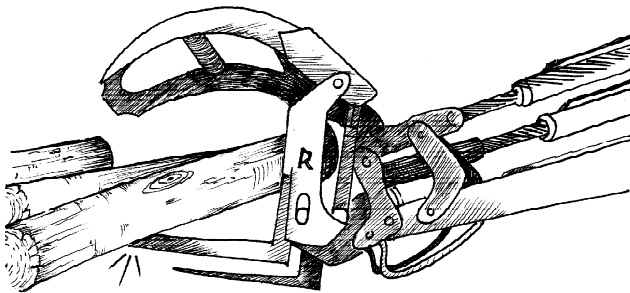
Take time to lubricate and inspect your machine and grapple daily...Handling material is tough work. Look for worn hoses, leaking or loose hydraulic fittings, broken parts, or cracked welds. If you notice any problems, repair them immediately. **Timely, minor maintenance prevents untimely, major expense.**

Carry your load like this.

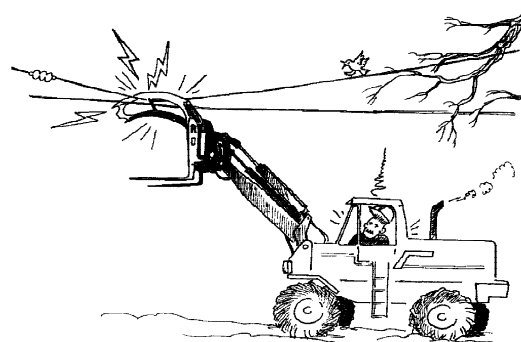


Keep load centered on the tines for a balanced, stable load.

Don't pry...



Don't try to pick up or pry loads with one tine. Tines are designed to be used in pairs! They **can** be broken!

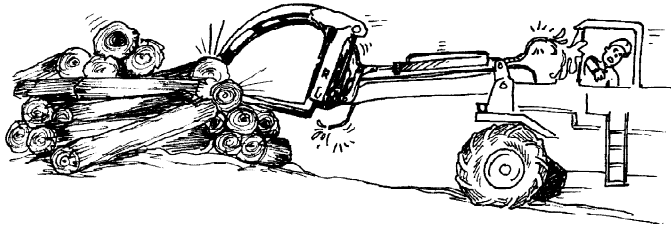


REMEMBER...Don't travel with the grapple in the full raised position.

OPERATION

Did you know...

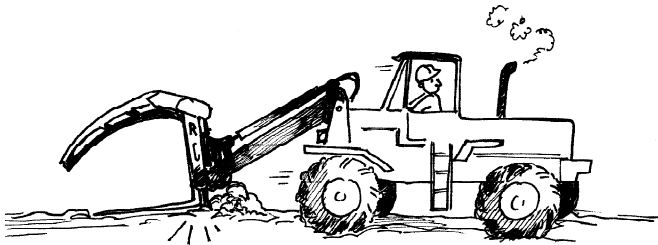
If you ram the clamp into an obstruction, it creates excessive hydraulic pressure?



The hoses on your Rockland grapple meet or exceed the burst pressure specifications of most wheel loader manufacturers. Rockland hoses have a burst pressure rating in excess of 8,000 pounds per square inch. If you ram the clamp into an immovable object, you can create pressures in excess of 12,000 psi. in the clamp cylinders.

These pressures are created instantly!

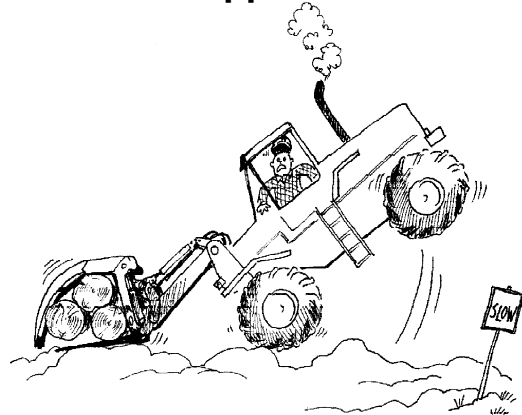
For Minimum Tine Life...



Always place the grapple tines on the ground as far away from the pile as possible, using as much down pressure as possible. Then head for the pile as fast as possible, creating as much abrasion on the bottom of the tines as possible!

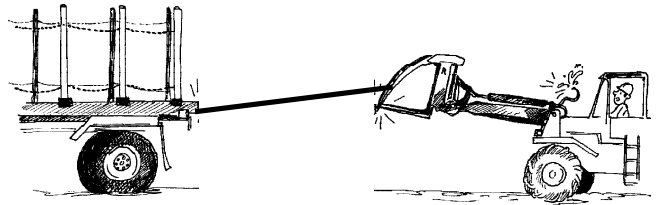
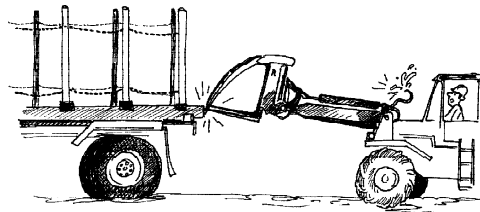
If you do this continuously with the grapple, you may be able to wear out your tines in 30 to 45 hours! There is **NO WARRANTY** on worn tines.

If this ever happens...



You are misusing the machine and the Grapple. Keep the wheels on the ground always. Remember, if the ground is uneven, you must reduce your load because machine stability is adversely affected.

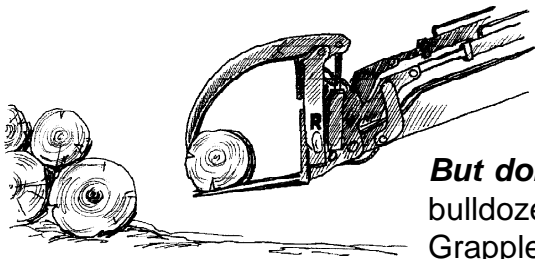
The clamp is designed to secure loads. Don't do this!



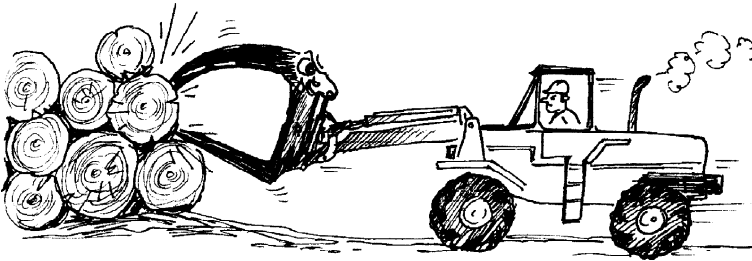
The grapple clamp is not designed to push or pull trucks or trailers. If it were, the entire grapple would have to weigh more! Pushing or pulling the clamp with the full force of the wheel loader creates excessive hydraulic force and can damage the loader's linkage or hydraulic system, or the grapple's clamp.

Something has to give!

OPERATION



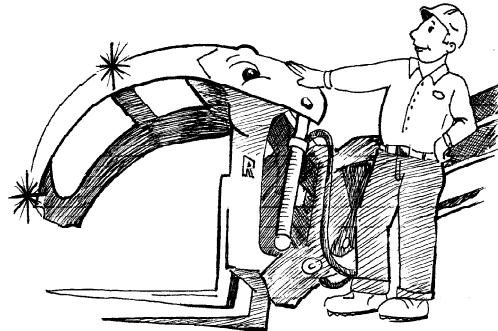
But don't jam the clamp into a pile of material as if it were a bulldozer. The clamp is not designed to withstand abuse like this. Grapples are an expensive tool designed to handle a specific material. Don't misuse your grapple and waste your investment!



Remember . . .
Grapples are a tool
and must be used properly to
avoid personal injury or
damage.

REMEMBER...

Your Rockland Grapple is a Tool---Treat it with the respect it deserves. It will repay your efforts many times over. Smart operators are safe operators.



Cowboys belong in the saddle
---Not in the cab!

MAINTENANCE

THE REAL SECRET to years of peak performance and dependable service is the daily inspection and maintenance of your Rockland grapple.



CAUTION

Owners are responsible for the daily inspection of their equipment. Check for hydraulic leaks and possible structural failures during the inspection. Serious damage to your Rockland product and the machine on which it is mounted, or injuries may result if you don't perform routine inspections and any needed maintenance.

- Lubricate grapple pivot pins and tine shaft.
- Inspect tines and grapple daily for stress cracks and wear.
- Replace worn parts as needed with Rockland original parts.
- Replace worn tines with new ones. Tines are heat-treated to improve strength and wear life. Tines are not to be repaired by welding.
- Stress cracks - Immediately contact Rockland at 800-458-3773 upon discovering stress cracks. If stress cracks are ignored and allowed to grow before Rockland is informed then some costs of repair may not be covered by Rockland and serious injury or damage may result.
- Inspect mounting brackets for wear. Replace bushings and pins when play increases.

SAVE YOUR CYLINDER!

Take care of cylinder seals because they will take care of you! Seals are wear items and must be periodically replaced. If you don't replace cylinder seals promptly, you may dramatically shorten the life of the machine's pump and control valves.

New seals have sharp edges that wipe the oil off the rod. Over time, they become rounded and let more and more oil remain on the rod which attracts more and more dirt every time the rod is extended. When cylinder rods have enough oil on them to attract and hold dirt particles, those particles eventually work their way into the cylinder and the hydraulic oil. Once the dirt gets in the oil, it can mess up a valve by getting between the valve spools and the valve body and will damage the finely machined surfaces that are essential for proper operation. When seals are worn to the extent that there is an obvious amount of fluid on the rod, it's time for replacement.

Keep your oil clean - follow all procedures recommended by the machine manufacturer and remember the importance of replacing your cylinder seals at the first sign of too much oil on cylinder rods.

PAY ATTENTION TO LUBRICATION!

If you do not properly lubricate the rodeye of the cylinder, it is likely to seize on the pin. When the rodeye does not pivot freely on the pin, it puts side loads on the cylinder rod as the cylinder is extended and retracted. Side loads will cause premature seal wear, and they are frequently caused by lack of proper lubrication.



WARNING

Do not operate a machine that is not working properly or is in need of maintenance.

MAINTENANCE

CARTRIDGE REPLACEMENT!

1. Remove old cartridge.
2. Install new cartridge, torque to 75 ft. lbs.

CYLINDER STOP MAINTENANCE

Prevent Cylinder Damage:

There are stops that prevent the cylinder(s) piston from full extension and retraction. Regular inspection of the stop surfaces is required and shims or weld build-up may be required to prevent cylinder damage.

To Check Extended Cylinder Stops:

Extend the cylinder so it is on the stop. Measure from the center of the rodeye pin to the center on the lug pin. This dimension should be at least 1/4" less than the cylinder extended length shown on the hydraulic cylinder parts page. If not 1/4" less, shim or weld build-up the stop surfaces accordingly.

To Check Retracted Cylinder Stops:

Retract the cylinder so it is on the stop. Measure from the center of the rodeye pin to the center of the lug pin. This dimension must be at least 1/4" more than the cylinder retracted length shown on the hydraulic cylinder parts page. If not 1/4" more, shim or weld build-up the stop surfaces accordingly.

CYLINDER STOP MAINTENANCE

Prevent Cylinder Damage:

There are stops that prevent the cylinder (s) piston from full extension and retraction. Regular inspection of the stop surfaces is required and shims or weld build-up may be required to prevent cylinder damage.

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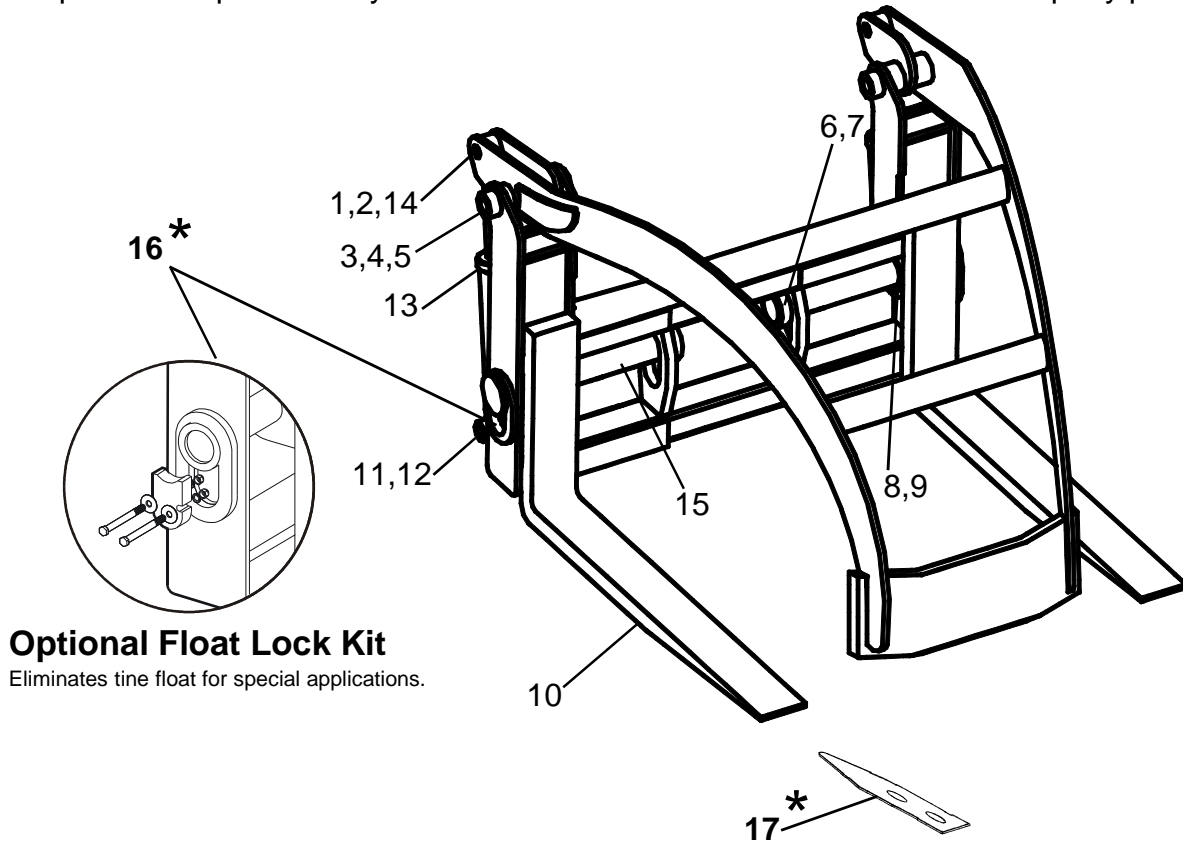
Extend the cylinder so it is on the stop. Measure from the center of the rodeye pin to the center on the lug pin. This dimension should be at least 3/8" less than the cylinder extended length shown on the hydraulic cylinder parts page. If not 3/8" less, shim or weld build-up the stop surfaces accordingly.

To Check Retracted Cylinder Stops:

Retract the cylinder so it is on the stop. Measure from the center of the rodeye pin to the center of the lug pin. This dimension must be at least 3/8" more than the cylinder retracted length shown on the hydraulic cylinder parts page. If not 3/8" more, shim or weld build-up the stop surfaces accordingly.

LOG GRAPPLE PARTS

Order replacement parts from your dealer. Product serial number must accompany parts orders.



Optional Float Lock Kit

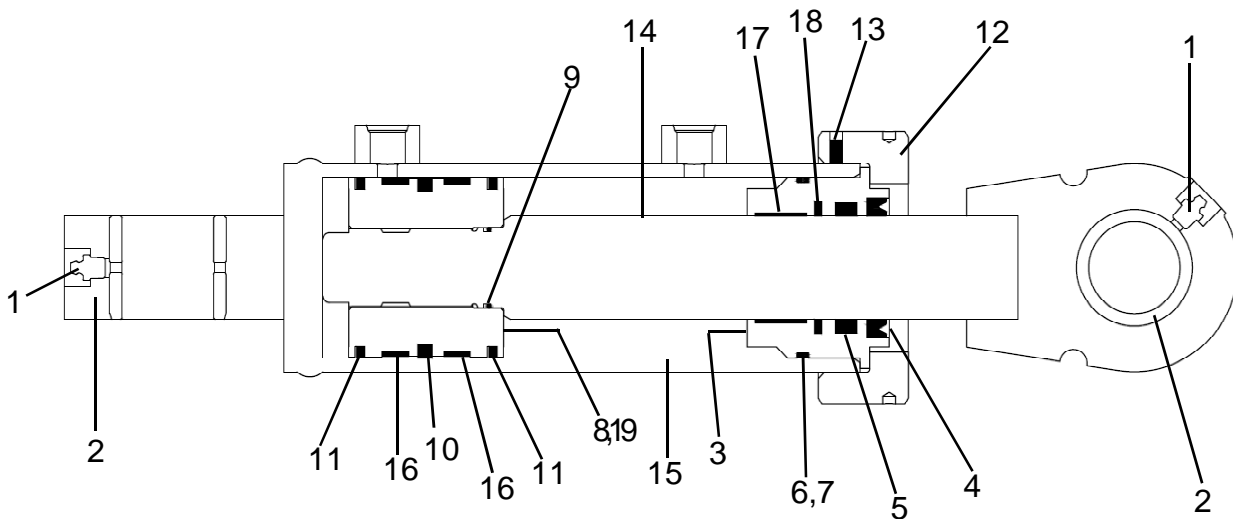
Eliminates tine float for special applications.

***Optional Tine Tip Wear Plates to protect your investment.** If you are using your tines on an abrasive surface such as concrete or crushed stone, these wear plates will prevent tine tip wear. They are made from 400 BHN quenched and tempered, high-strength, alloy plate. They install easily with a minimum amount of welding.

KEY NO.	PART NO.	QTY.	DESCRIPTION
1	2001	2	Cylinder Rodeye Pin
2	2002	2	Bolt, Lockwasher
3	2003	2	Bushing
4	2004	2	Pivot Pin
5	2005	2	Bolt, Locknut
6	2006	2	Pin Lock
7	2007	2	Bolt, Locknut
8	2008	4	Locking Collar
9	2009	4	Bolt, Nut, Lockwasher
10	2010	2	Tine
11	2011	2	Cylinder Lug Pin
12	2012	2	Bolt, Lockwasher
13	10-3193	2	Hydraulic Cylinder
14	2014	2	Locking Pin
15	2015	2	Tine Shaft
16	2016	1	Float Lock Kit (Optional)
17	2017	2	Tine Tip Wear Plate (Optional)

CYLINDER 10-3193 PARTS

Order replacement parts from your dealer. Product serial number must accompany parts orders.



Port Size
3/4"-16 SAE O-Ring

Cylinder Lengths
Retracted.....30"
Extended.....46"

KEY NO.	PART NO.	QTY.	DESCRIPTION
1	18-0001	2	Lube Fitting
2	18-4189	2	Bushing
3	18-4640	1	Head
4	18-0943	1	Rod Wiper
5	18-0944	1	Rod Seal
6	18-1309	1	Backup Ring
7	18-1310	1	Head O-Ring
8	18-4642	1	Piston - Torque to 750-850 ft. lbs.
9	18-4188	1	Rod O-Ring
10	18-4187	1	Piston Seal Assembly
11	18-4186	2	Piston Wear Ring
12	18-4641	1	Headcap - Torque to 1900 ft. lbs.
13	18-0013	1	Set Screw
14	18-4712	1	Rod Assembly (Includes #1,2)
15	18-4714	1	Tube Assembly (Includes #1,2)
16	18-4185	2	Piston Wear Ring
17	18-1061	1	Rod Bearing
18	18-0947	1	Buffer Ring
19	18-3336	1	Piston Set Screw - Torque to 35 ft. lbs.
*	18-4184	1	Service Kit (Includes #4,5,6,7,9,10,11,16,17,18)
*	10-3193	1	Hydraulic Cylinder

WELDING

- A. Disconnect the battery ground cable to prevent damage to the machine's electrical system.
- B. Existing welds should always be removed with a carbon arc, grinder or pneumatic chipper. Oxyacetylene torches should **not** be used because they produce a carburized surface. Carburization can cause weld cracks.
- C. If a carbon arc is used, the area should be ground clean to remove all carbon deposits.
- D. Remove any grease, oil, rust, paint or mill scale from all surfaces that are to be welded.
- E. Use AWS E-7018 low hydrogen rod for manual electrode welding. For semi-automatic gas shielded arc, use AWS E70T-1 wire or AWS E70T-2. Electrodes must be dry and stored according to the electrode manufacturer's recommended procedures.
- F. Preheat all areas being welded to 300°. Slowly heat from the opposite side of the plate being welded. Check temperature on weld side 3" from the center line of weld. Maintain a 300° temperature while welding. All welds must be allowed to slowly cool. Do **not** quench with water. In cold weather, do not permit drafts over welds that are cooling.
- G. Use stringer beads. Do **not** create wide beads because they cause severe shrinkage and may crack while cooling.
- H. Do **not** exceed 450° interpass temperature. Check the interpass temperature at the beginning of the most recent weld with a 450° thermal crayon. If it does not melt, continue welding.
- I. When a long continuous weld is required, do not start a weld at one end and continue to the opposite end. Run short beads always backstepping them to assure a quality weld.



ROCKLAND
Manufacturing Company
PO Box 5
Bedford, PA 15522