

# DR<sup>®</sup> HORIZONTAL/VERTICAL LOG SPLITTER



## SAFETY & OPERATING INSTRUCTIONS

Models: 22-Ton  
28-Ton  
34-Ton



Serial No. \_\_\_\_\_

Order No. \_\_\_\_\_

**Original Language**

DR Power Equipment  
Toll-free phone: 1-800-DR-OWNER (376-9637)  
Fax: 1-802-877-1213  
Website: [www.DRpower.com](http://www.DRpower.com)

### **WARNING**

Read and understand this manual and all instructions before operating the DR Horizontal/Vertical Log Splitter.

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## Conventions used in this manual

### **⚠ DANGER**

This indicates a hazardous situation, which, if not followed, **will** result in death or serious injury.

### **⚠ WARNING**

This indicates a hazardous situation, which, if not avoided, **could** result in death or serious injury.

### **⚠ CAUTION**

This indicates a hazardous situation, which, if not avoided, **could** result in minor or moderate injury.

### **NOTICE**

This information is important in the proper use of your machine. Failure to follow this instruction could result in damage to your machine or property.



Figure 1

### **Serial Number and Order Number**

A Serial Number is used to identify your machine and is located on the Serial Number Label on your machine (**Figure 1**). An Order Number is used to check and maintain your order history and is located on your packing slip. For your convenience and ready reference, enter the Serial Number and Order Number in the space provided on the front cover of this manual.

### **Additional Information and Potential Changes**

DR Power Equipment reserves the right to discontinue, change, and improve its products at any time without notice or obligation to the purchaser. The descriptions and specifications contained in this manual were in effect at printing. Equipment described within this manual may be optional. Some illustrations may not be applicable to your machine.

## Chapter 1: General Safety Rules

### **! WARNING**

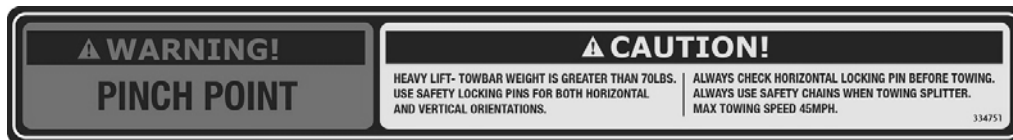
Read this Safety & Operating Instructions manual before you use the DR HORIZONTAL/VERTICAL LOG SPLITTER. Become familiar with the operation and service recommendations to ensure the best performance from your machine. If you have any questions or need assistance, please contact us at [www.DRpower.com](http://www.DRpower.com) or call toll-free 1-800-DR-OWNER (376-9637) and one of our Technical Support Representatives will be happy to help you.

### Labels

Your DR HORIZONTAL/VERTICAL LOG SPLITTER carries prominent labels as reminders for its proper and safe use. Shown below are copies of all the Safety and Information labels that appear on the equipment. Take a moment to study them and make a note of their location on your LOG SPLITTER as you set up and before you operate the unit. Replace damaged or missing safety and information labels immediately.



#33368



#33457

### California Proposition 65

### **! WARNING**

California Proposition 65:

- Engine exhaust and some of its constituents are known to the state of California to cause cancer, birth defects, and other reproductive harm.
- This product contains or emits chemicals known to the state of California to cause cancer, birth defects, and other reproductive harm.

## Protecting Yourself and Those Around You

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### **DANGER**

- This machine was built to be operated according to the safe operation practices in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. This machine is capable of amputating hands and feet and throwing debris. Failure to observe the following safety instructions could result in serious injury or death.
  - Many accidents occur when more than one person operates the machine. No helper is allowed to assist with splitter controls or handling the logs.
- 

### **WARNING**

Operating this Log Splitter safely is necessary to prevent or minimize the risk of death or serious injury. Unsafe operation can create a number of hazards for you. Always take the following precautions when operating this Log Splitter:

- Always wear protective goggles or safety glasses with side shields while using the Log Splitter to protect your eyes from possible thrown debris.
  - Avoid wearing loose clothing or jewelry, which can catch on moving parts.
  - We recommend wearing gloves while using the Log Splitter. Be sure your gloves fit properly and do not have loose cuffs or drawstrings.
  - Wear shoes with non-slip treads when using your Log Splitter. If you have safety shoes, we recommend wearing them. Do not use the machine while barefoot or wearing open toed sandals.
  - Wear long pants while operating the Log Splitter.
  - Use ear protectors or ear plugs rated for at least 20 dba to protect your hearing.
- 

## Safety for Children and Pets

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### **WARNING**

Tragic accidents can occur if the operator is not alert to the presence of children and pets. Children are often attracted to the machine and the splitting activity. *Never* assume that children will remain where you last saw them. Always follow these precautions:

- Keep children and pets at least 50 feet from the working area and ensure they are under the watchful care of a responsible adult.
  - Be alert and turn the machine off if children or pets enter the work area.
  - Never allow children to operate the Log Splitter.
- 

## Hydraulic Safety

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### **WARNING**

High fluid pressures are developed in hydraulic machines. Pressurized hydraulic fluid escaping through a pin hole opening can puncture skin and cause severe blood poisoning. Therefore, the following Instructions should be heeded at all times.

- Do not operate the unit with frayed, kinked, cracked or damaged hoses, fittings, or tubing. Stop the engine, wait 5 minutes and relieve hydraulic system pressure by cycling the valve control lever from forward to reverse several times and returning to neutral while engine is not running before changing or adjusting fittings, hoses, tubing, or other system components.
  - Do not change any Log Splitter relief valve settings. They are set at the factory for best Splitter performance and safety.
  - Do not check for leaks with your hand. Leaks can be located by passing cardboard or wood over the suspected area: Look for discoloration. If injured by escaping fluid, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.
  - Always wear safety glasses to protect your eyes from hydraulic fluid.
  - NEVER remove the cap from the hydraulic tank or reservoir while the log splitter is running. The tank could contain hot oil under pressure which could result in serious injury.
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## Safety with Gasoline - Powered Machines

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### **WARNING**

Gasoline is a highly flammable liquid. Gasoline also gives off flammable vapor that can be easily ignited and cause a fire or explosion. Never overlook the hazards of gasoline. Always follow these precautions:

- Never run the engine in an enclosed area or without proper ventilation as the exhaust from the engine contains carbon monoxide, which is an odorless, tasteless, and deadly poisonous gas.
  - Store all fuel and oil in containers specifically designed and approved for this purpose and keep away from heat and open flame, and out of the reach of children.
  - Replace rubber fuel lines and grommets when worn or damaged and after 5 years of use.
  - Fill the gasoline tank outdoors with the engine off and allow the engine to cool completely. Don't handle gasoline if you or anyone nearby is smoking, or if you're near anything that could cause it to ignite or explode. Reinstall the fuel tank cap and fuel container cap securely and Never remove gas cap while the engine is hot or running.
  - If you spill gasoline, do not attempt to start the engine. Move the machine away from the area of the spill and avoid creating any source of ignition until the gas vapors have dissipated. Wipe up any spilled fuel to prevent a fire hazard and properly dispose of the waste.
  - Allow the engine to cool completely before storing in any enclosure. Never store a machine that has gas in the tank, or a fuel container, near an open flame or spark such as a water heater, space heater, clothes dryer or furnace.
  - Never make adjustments or repairs with the engine running. Shut down the engine, disconnect the spark plug wire, keeping it away from the spark plug to prevent accidental starting, wait 5 minutes before making adjustments, repairs or refueling.
  - Never tamper with the engine's governor setting. The governor controls the maximum safe operation speed and protects the engine. Over-speeding the engine is dangerous and will cause damage to the engine and to the other moving parts of the machine. If required, see your authorized dealer for engine governor adjustments.
  - Keep combustible substances away from the engine when it is hot.
  - Never cover the machine while the muffler is still hot.
  - Do not operate the engine with the air cleaner or the carburetor air intake cover removed. Removal of such parts could create a fire hazard. Do not use flammable solutions to clean the air filter.
  - The muffler and engine become very hot and can cause a severe burn; do not touch.
- 

## Towing

### **WARNING**

- ALWAYS check before towing to make certain your Splitter is correctly and securely attached to the towing vehicle. Be sure that the ball hitch you are using is the proper size for the hitch coupler on the machine. Be sure the safety chains are properly hooked to the vehicle leaving enough slack for turning.
  - Always use a Class I, 2" ball with this log splitter and replace the ball or coupler if damaged.
  - Always confirm coupler tightness each time before towing and after towing 50 miles.
  - ALWAYS use accessory lights and devices when transporting on a road or highway to warn operators of other vehicles. Check your local government regulations for DOT information.
  - ALWAYS allow for added length of the Splitter when turning, parking, crossing intersections, and in all driving situations.
  - ALWAYS be careful when backing up. You could jackknife your Splitter if care is not taken.
  - NEVER exceed 45 mph. when towing your Splitter. Obey all state and local regulations when towing on state and local roads and highways. Adjust your speed for terrain and conditions, as needed. Be extra cautious when towing over rough terrain, especially over a railroad crossing.
  - NEVER allow anyone to sit or ride on your Splitter.
  - NEVER carry any cargo or wood on your Splitter.
  - Do travel slowly over rough terrain, on hillsides, and around curves to prevent tipping.
  - Do not tow the Splitter near the edge of a ditch or excavation.
  - ALWAYS turn the fuel shut off valve on the engine to the "OFF" position before towing the log splitter. Failure to do so may result in flooding the engine.
-

## General Safety

### **WARNING**

This is a high-powered machine, with moving parts operating with high energy. You must operate the machine safely. Unsafe operation can create a number of hazards for you, as well as anyone else in the nearby area. Always take the following precautions when using this machine:

- Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people, their property, and themselves.
- Your Log Splitter is a powerful tool, not a plaything. Exercise extreme caution at all times. The machine is designed to split logs. Do not use it for any other purpose.
- Know how to stop the Log Splitter quickly; see “stopping the engine” in chapter 3.
- Never operate your unit on a slippery, wet, muddy, or icy surface. Exercise caution to avoid slipping or falling.
- See manufacturer’s instructions for proper operation and installation of accessories. Only use accessories approved by DR Power Equipment.
- Never use the machine without ensuring that all guards and shields are in place.
- Never, under any conditions, remove, bend, cut, fit, weld, or otherwise alter standard parts on the Log Splitter. This includes all shields and guards. Modifications to your machine could cause personal injuries and property damage and will void your warranty.
- Allow only one person to operate the Log Splitter at any time. The adult who loads and stabilizes the log must be the person who operates the control handle.
- If the machine should start making an unusual noise or vibration, shut down the engine, disconnect the spark plug wire, keeping it away from the spark plug to prevent accidental starting, wait 5 minutes for machine to cool down, then inspect for damage. Vibration is generally a warning of trouble. Check for damaged parts and clean, repair and replace as necessary.
- Never tamper with safety devices. Check their proper operation regularly.
- Before performing any maintenance or inspection procedure on the Log Splitter shut down the engine, disconnect the spark plug wire keeping it away from the spark plug to prevent accidental starting, wait 5 minutes for machine to cool down.
- Never allow people who are unfamiliar with these instructions to use the Log Splitter. Allow only responsible individuals who are familiar with these rules of safe operation to use your machine.
- Never overload or attempt to split logs beyond the recommendations listed in this manual. Personal injury or damage to the machine could result.
- While using the Log Splitter, don't hurry or take things for granted. When in doubt about the equipment or your surroundings, stop the machine and take the time to look things over.
- Never operate the machine when under the influence of alcohol, drugs, or medication.
- Use the machine only in daylight.
- Stay alert for hidden hazards or traffic.
- Keep all nuts and bolts tight and keep the equipment in good operating condition.
- Never leave this machine unattended with the engine running.

### **A Note to All Users**

Under California law, and the laws of some other states, you are not permitted to operate an internal combustion engine using hydrocarbon fuels without an engine spark arrester. This also applies to operation on US Forest Lands. All DR HORIZONTAL/VERTICAL LOG SPLITTERS shipped to California, New Mexico and Washington State are provided with spark arresters. Failure of the owner or operator to maintain this equipment in compliance with state regulations is a misdemeanor under California law and may be in violation of other state and/or federal regulations. Contact your State Park Association or the appropriate state organization for specific information in your area. If the engine is equipped with a spark arrester, clean and inspect it regularly according to manufacturer’s instructions. Replace if damaged.

No list of warnings and cautions can be all-inclusive. If situations occur that are not covered by this manual, the operator must apply common sense and operate this DR HORIZONTAL/VERTICAL LOG SPLITTER in a safe manner. Contact us at [www.DRpower.com](http://www.DRpower.com) or call 1-800-DR-OWNER (376-9637) for assistance.

## Chapter 2: Assembly and Setting Up The DR HORIZONTAL/VERTICAL LOG SPLITTER

It may be helpful to familiarize yourself with the controls and features of your DR HORIZONTAL/VERTICAL LOG SPLITTER as shown in Figure 2 before beginning these procedures. If you have any questions at all, please feel free to contact us at [www.DRpower.com](http://www.DRpower.com).

### DR HORIZONTAL/VERTICAL LOG SPLITTER Controls and Features

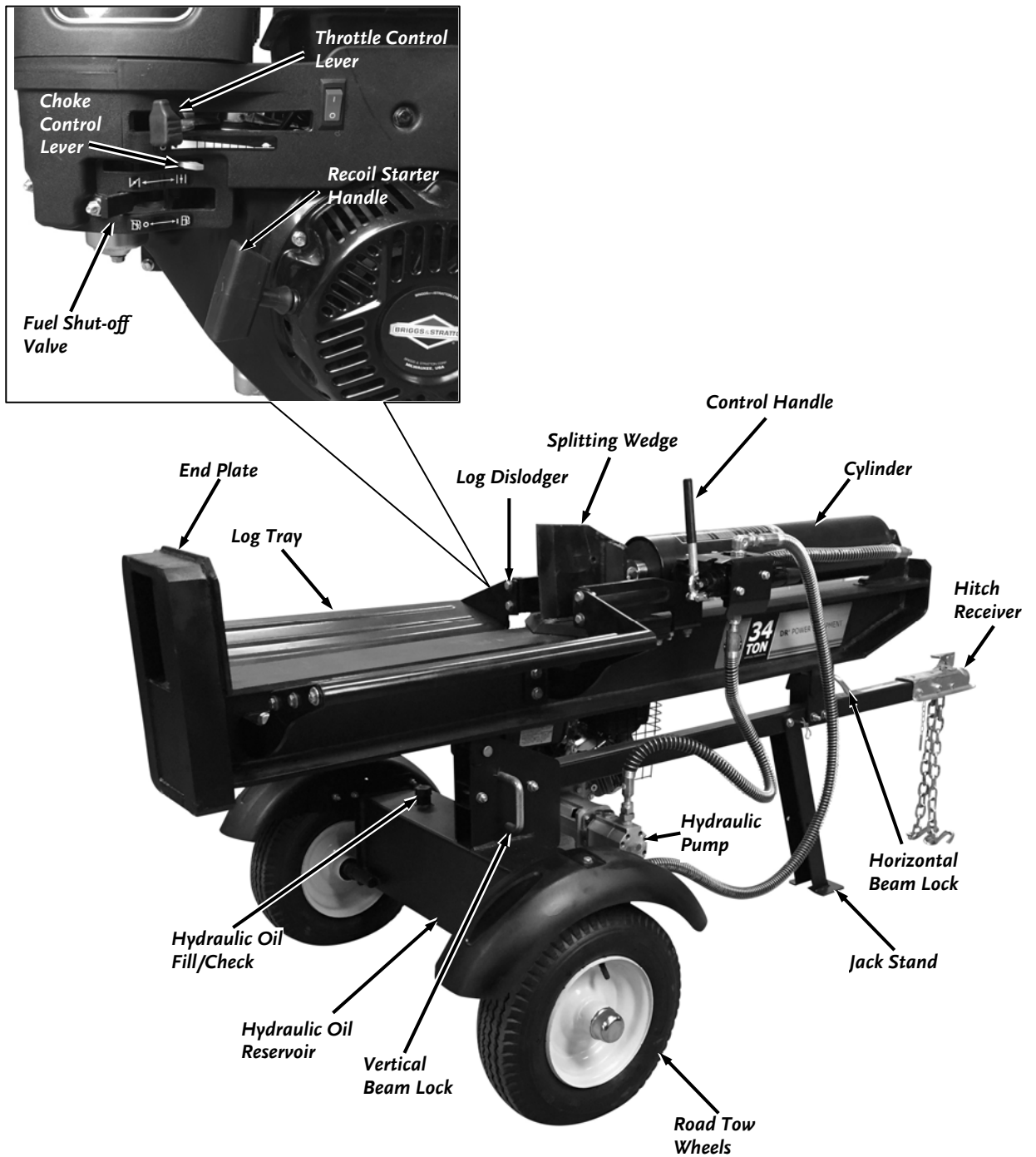


Figure 2

## Specifications

<b>Model</b>		22 Ton	28 Ton	34 Ton
<b>Engine</b>		See engine manual	See engine manual	See engine manual
<b>Pump</b>		Two-Stage, 10gpm	Two-Stage, 10gpm	Two-Stage, 15 gpm
<b>Cylinder (Bore x Stroke)</b>		4 in. x 24 in.	4.5 in. x 24 in.	5 in. x 24 in.
<b>Maximum Splitting Force</b>		22 Tons*	28 Tons*	34 Tons*
<b>Hydraulic Pressure</b>		3400 psi*	3450 psi*	3500 psi*
<b>Maximum Log Length</b>		25 in.	25 in.	25 in.
<b>Wedge Height</b>		8 in.	8 in.	8 in.
<b>Cycle Time</b>	<b>Forward</b>	8 Seconds*	8 Seconds*	7 Seconds*
	<b>Reverse</b>	5 Seconds*	5 Seconds*	4 Seconds*
<b>Wheels</b>		16 x 4.8 x 8 in.	16 x 4.8 x 8 in.	16 x 4.8 x 8 in.
<b>Hydraulic Capacity</b>		Approx. 4 Gallons	Approx. 4 Gallons	Approx. 5 Gallons
<b>Height (Horizontal / Vertical Position)</b>		41.5 / 71 in.	41.5 / 71 in.	41.5 / 71 in.
<b>Length (Horizontal / Vertical Position)</b>		87 / 84 in.	87 / 84 in.	87 / 84 in.
<b>Width</b>		41 in.	41 in.	41 in.
<b>Net Weight</b>		474 lbs	512 lbs	549 lbs

\*Tonnage and cycle times may vary dependent upon mechanical and environmental conditions.



## Assembly

### **! WARNING**

Due to the weight / size of the log splitter, it's recommended that two or more adults be present to assist with assembling.

#### Tools and Supplies Needed:

- Two 13mm Wrenches
- Two 14mm Wrenches
- 16mm Wrench
- 17mm Wrench
- 18mm Wrench
- 19mm Wrench
- 27mm Wrench
- 1/2" Wrench
- Adjustable Wrench
- Needle Nose Pliers
- 3mm Allen Wrench
- Flat Head Screwdriver
- Soft Faced Hammer
- Thread Locking Compound

#### Installing the Fenders

##### Parts Supplied in Hardware Kit #1 (Figure 3):

Item #	Part #	Description	Qty
1	33703	Bolt, Hex, M8 X 25	8
2	30247	Washer, Flat, M8	16
3	30246	Nut, Nylon Lock, M8	8
4	33689	Support, Fender	2

Compare the contents of the Hardware Kit #1 with the "Parts Supplied" list above. If you have any questions please contact us at [www.DRpower.com](http://www.DRpower.com) or call 1-800-DR-OWNER (376-9637) for assistance.

**Note:** When installing the Bolts, Washers, and Locknuts, install the Washers so that one Washer is against the head of the Bolt, and the other Washer is against the Locknut.

1. Loosely secure the top of the Fender to the Fender Support with a M8 x 25 Bolt, two Flat Washers, and a Locknut (Figure 4).
2. Loosely secure the Fender with the Fender Support to the Reservoir Assembly as shown using three M8 x 25 Bolts, six Flat Washers, and three Locknuts.
3. Use two 13mm Wrenches to tighten the Hardware.
4. Repeat these steps for the other Fender

#### Installing the Wheels

##### Parts Supplied in Hardware Kit #2 (Figure 5):

Item #	Part #	Description	Qty
1	33714	Hub Cap	2
2	25310	Nut, Castle, 1-14	2
3	33755	Pin, Cotter	2

Compare the contents of the Hardware Kit #2 with the "Parts Supplied" list above. If you have any questions please contact us at [www.DRpower.com](http://www.DRpower.com) or call 1-800-DR-OWNER (376-9637) for assistance.

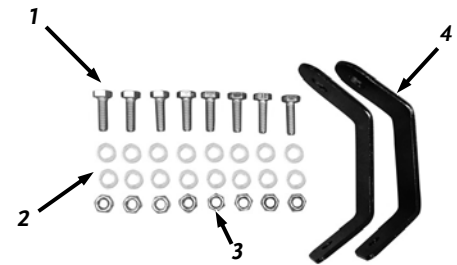


Figure 3

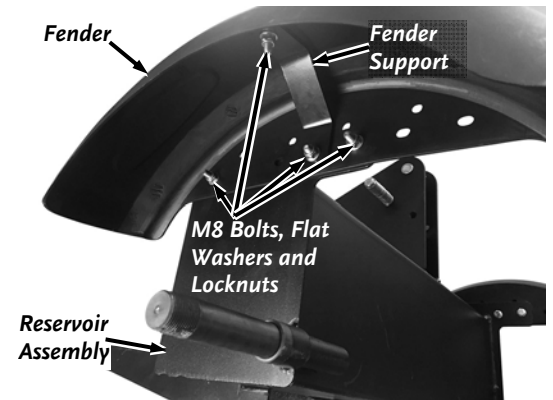


Figure 4



Figure 5

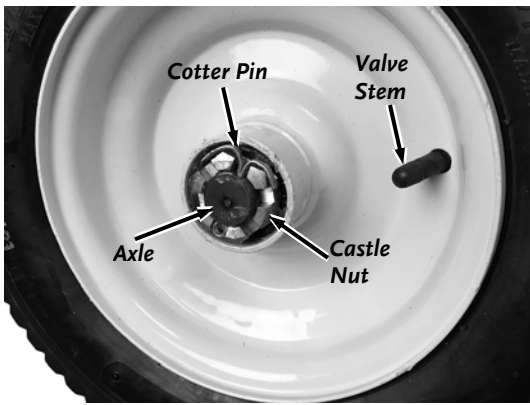


Figure 6

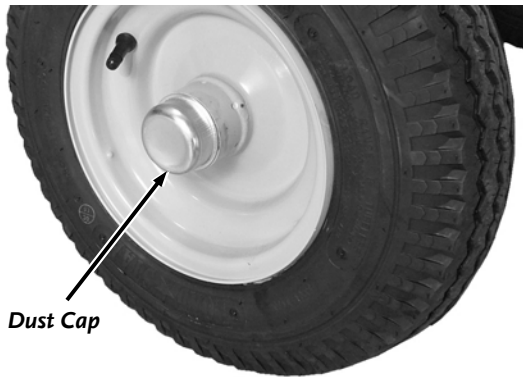


Figure 7

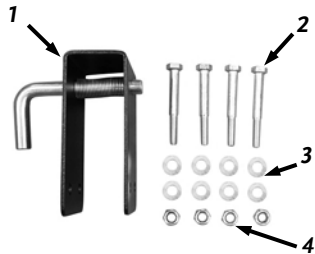


Figure 8

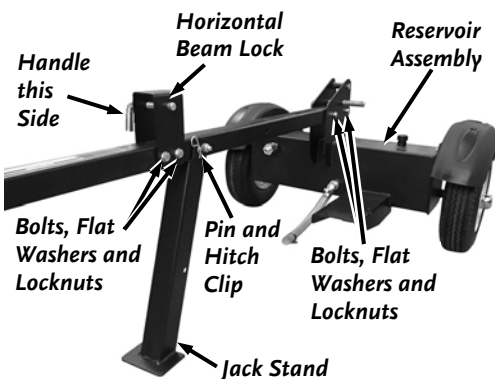


Figure 9

1. Remove the plastic shipping caps from the Wheels. Make sure the bearing remains seated when removing the cap. If the bearing comes out with the cap, reinsert it into the hub.
2. Block the reservoir assembly up off the ground and position a wheel onto the axle (valve stem facing out) (**Figure 6**).
3. Screw the Castle Nut onto the Axle and tighten it with an Adjustable Wrench to seat the Bearing.
4. Back the Castle Nut off and then snug it up to the Bearing lightly.
5. Insert a Cotter Pin through the slots of the Castle Nut and into the hole in the Axle.
6. Bend the ends of the cotter pin with Needle Nose Pliers so they are tight against the Castle Nut.
7. Tap the Dust Cap onto the wheel using a Soft Faced Hammer (**Figure 7**).
8. Repeat these steps for the other Wheel.

### Installing the Tow Bar

#### Parts Supplied in Hardware Kit #3 (**Figure 8**):

Item #	Part #	Description	Qty
1	33712	Horizontal Beam Lock	1
2	33705	Bolt, Hex, M10 X 80	4
3	30250	Washer, Flat, M10	8
4	30249	Nut, Nylon Lock, M10	4

Compare the contents of the Hardware Kit #3 with the “Parts Supplied” list above. If you have any questions please contact us at [www.DRpower.com](http://www.DRpower.com) or call 1-800-DR-OWNER (376-9637) for assistance.

**Note:** When installing the Bolts, Washers, and Locknuts, install the Washers so that one Washer is against the head of the Bolt, and the other Washer is against the Locknut.

1. Remove the Pin and Hitch Clip that locks the Jack Stand in place (**Figure 9**). Rotate the Jack Stand down and secure it with the Pin and Hitch Clip.
2. Secure the Rear of the Tow Bar to the Reservoir Assembly using two M10 x 80 Bolts, four Flat Washers, and two Locknuts. Tighten the Hardware using a 16mm Wrench for the Bolt and a 17mm Wrench for the Locknut.

**Note:** In the next step, the Horizontal Beam Lock must be installed with the handle on the RIGHT SIDE as shown in **Figure 9**. The slot in the beam bracket will only latch properly to the handle if it is installed as shown.

3. Install the Horizontal Beam Lock onto the Tow Bar as shown using two M10 x 80 Bolts, four Flat Washers, and two Locknuts. Tighten the Hardware using a 16mm Wrench for the Bolt and a 17mm Wrench for the Locknut.

## Installing the Pump Assembly

### Parts Supplied in Hardware Kit #4 (Figure 10):

Item #	Part #	Description	Qty
1	33739	Two Stage Pump Assembly (22 and 28 Ton)	1
	33740	Two Stage Pump Assembly (34 Ton)	1
2	13286	Bolt, Hex, 5/16-24	4
3	30247	Washer, Lock, M8	4
4	11243	Washer, Flat, M8	4
5	35476	O-Ring, 11mm X 2mm	2

Compare the contents of the Hardware Kit #4 with the "Parts Supplied" list above. If you have any questions please contact us at [www.DRpower.com](http://www.DRpower.com) or call 1-800-DR-OWNER (376-9637) for assistance.

**Note:** The O-Rings (Item 5) in Hardware Kit #4 are to be used in the "Installing the Hydraulic Hoses" section in this Chapter. Set the O-Rings aside in a secure place until you reach this step.

1. Remove the Engine from its box and place it on a level service.
2. Slowly pull on the engine starter cord to position the key slot at the top of the shaft (Figure 11).
3. Using a soft face hammer, gently tap the Key (located in the Engine Box) into the Key Slot on the Engine Shaft.
4. The Coupling may have separated during shipping. Ensure that the two Coupling Halves are together with the Nylon Insert in the center (Figure 12).
5. Position the Pump Assembly, with the opening facing up, onto the Engine Shaft so that the key slides into the Coupling (Figure 13). Push the Pump Assembly onto the shaft until the Pump Mount is flush with the Engine. Temporarily install a 5/16-24 Bolt to hold the Pump against the Engine.
6. Use a 3mm Allen Wrench to remove one of the Set Screws on the Coupling. Apply thread lock to the Set Screw and reinstall it. Tighten the Set Screw to secure the Coupling. Repeat this step for the other Set Screw.

**Note:** If the Threaded Fitting on the Pump is already on top as shown in Figure 14, skip step 7 and continue to step 8.

7. Remove the Bolt installed in Step 5. Rotate the Pump Assembly so that the Threaded Fitting is on the top of the Pump (Figure 14).
8. Secure the Pump Assembly using four 5/16-24 Bolts, M8 Lock Washers, and M8 Flat Washers. Tighten the Hardware using a 1/2" Wrench.
9. Remove the plastic Shipping Cap From the bottom of the Pump.

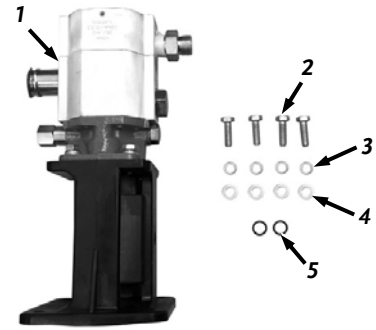


Figure 10

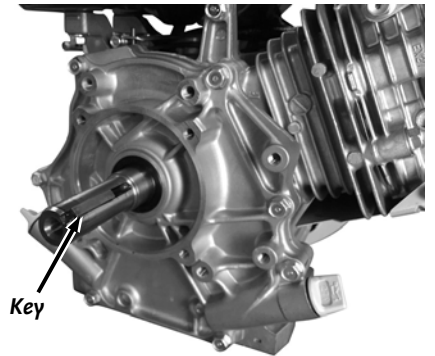


Figure 11

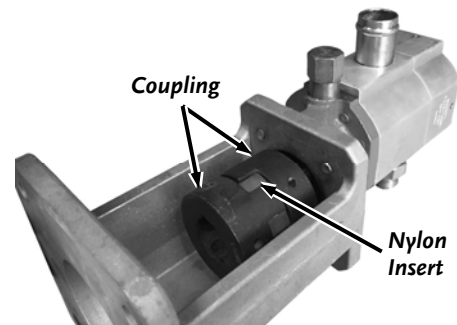


Figure 12

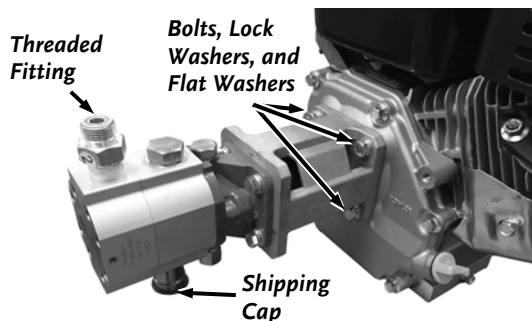


Figure 14

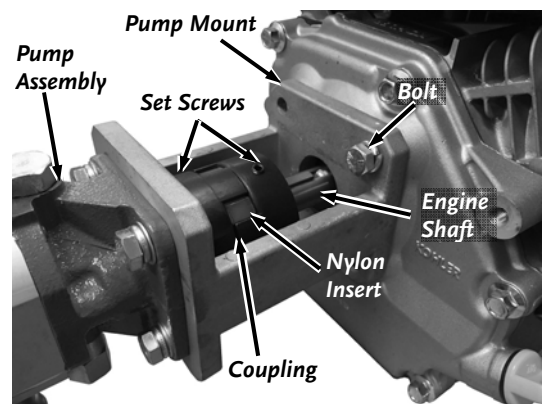


Figure 13

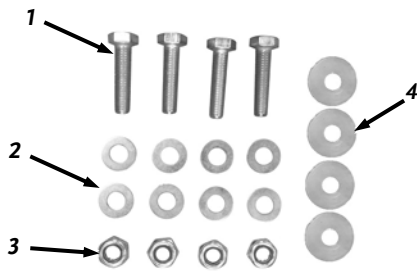


Figure 15

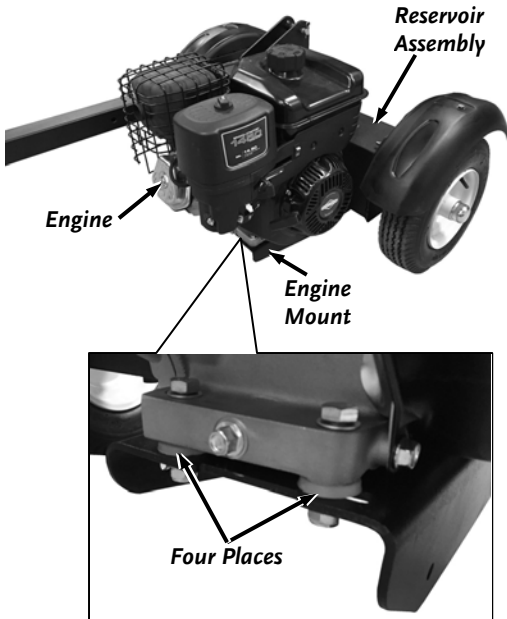


Figure 16

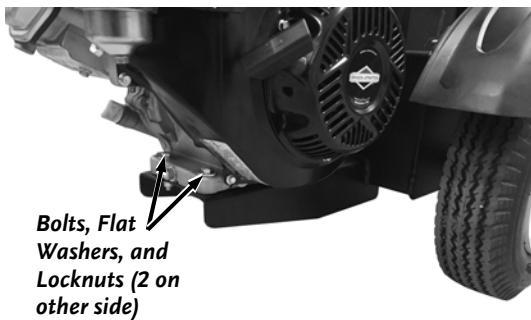


Figure 17

## Installing the Engine

### Parts Supplied in Hardware Kit #5 (Figure 15):

Item #	Part #	Description	Qty
1	33702	Bolt, Hex, M8 X 40 (22 and 28 Ton)	4
	36110	Bolt, Hex, M10 X 40 (34 Ton)	4
2	30247	Washer, Flat, M8 (22 and 28 Ton)	8
	30250	Washer, Flat, M10 (34 Ton)	8
3	30246	Nut, Nylon Lock, M8 (22 and 28 Ton)	4
	30249	Nut, Nylon Lock, M10 (34 Ton)	4
4	37768	Isolator, Vibration (22 and 28 Ton)	4
	37691	Isolator, Vibration (34 Ton)	4

Compare the contents of the Hardware Kit #5 with the “Parts Supplied” list above. If you have any questions please contact us at [www.DRpower.com](http://www.DRpower.com) or call 1-800-DR-OWNER (376-9637) for assistance.

**Note:** When installing the Bolts, Washers, and Locknuts, install the Washers so that one Washer is against the head of the Bolt, and the other Washer is against the Locknut.

1. Position the Engine with Pump Assembly onto the Engine Mount as Shown (Figure 16). Insert a Vibration Isolator between the Engine and Mount at the four mounting hole locations.

**Note:** The Kohler engines use M8 hardware and the Briggs and Stratton engines use M10. The Kohler engines mount to the smaller 4-hole pattern. The Briggs and Stratton engines mount to the larger 4-hole pattern.

2. Secure the engine with four bolts, eight flat washers, and four Locknuts (Figure 17). For the 22 Ton and 28 Ton models, tighten the hardware using two 13mm Wrenches. For the 34 Ton models, tighten the hardware using a 16mm Wrench on the Bolt and a 17mm Wrench on the Locknut.

## Installing the Beam Assembly

### **⚠ WARNING**

Take extra care when raising and lowering the beam as it is very heavy. Having a second person assist with raising or lowering the beam is recommended to prevent injury. Be sure to keep hands away from any possible pinch points.

1. Get help from another person to stand the beam upright on a flat level surface (**Figure 18**). Have the helper support the beam as you perform the following steps.
2. Remove the Pin and Hitch Clip from the Beam Support Bracket. Position the Reservoir Assembly so that the Beam Support Bracket is in between the Tabs on the Beam Assembly (**Figure 19**).
3. Slide the Pin through the aligned holes and secure with the Hitch Clip. You may need to have a helper lift up on the Tow Bar for the Holes to align.
4. Leave the beam in the upright position for the next steps.

## Installing the Hydraulic Hoses

**Note:** There are three hydraulic hoses listed below, each of them has one end fixed on the fitting by the manufacturer, the other end needs to be attached. The Hoses are labeled on the ends for easy installation.

1. Oil Suction Hose, labeled as ①, comes from the bottom of the Oil Reservoir (**Figure 20**). Loosen the Hose Clamp on the open end of this hose using a flat head Screwdriver and connect the hose to the fitting on the bottom of the Pump. Tighten the hose clamp.
2. Pump/Valve Connecting Hose, labeled as ②, comes from the bottom of the valve on the Beam Assembly (**Figure 21**). Apply some Hydraulic Fluid to the O-Ring (11mm X 2mm) from Hardware Kit #4 and place the O-Ring into the groove of the fitting on top of the Pump (**Figure 22**). Screw the open end of this hose onto the fitting on top of the pump using a 27mm Wrench (or adjustable wrench) (**Figure 20**).
3. Oil Return Hose labeled as ③, comes from the front of the valve on the Beam Assembly (**Figure 21**). Apply some Hydraulic Fluid to the O-Ring (11mm X 2mm) from Hardware Kit #4 and place the O-Ring into the groove at the end of Threaded Fitting on the Oil Reservoir (**Figure 22**). Screw the open end of this hose onto the Oil Reservoir using a 27mm Wrench (or adjustable wrench) to tighten the hose (**Figure 20**).

**Note:** Check all hydraulic hoses at both ends for tightness. Tighten as needed.

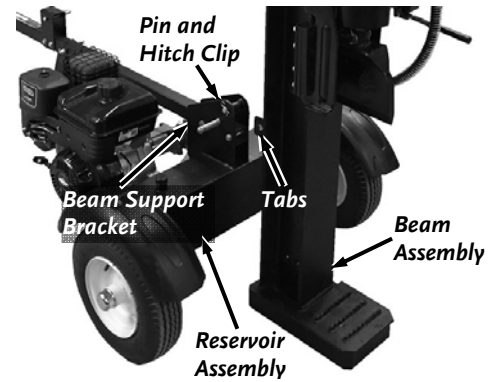


Figure 18

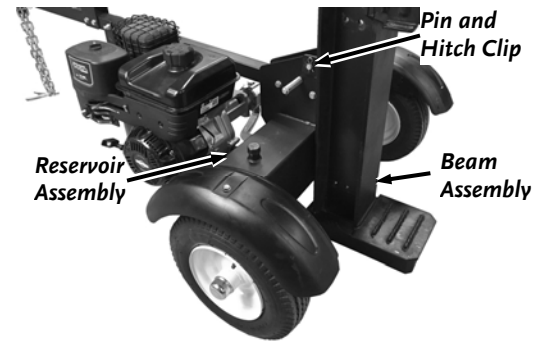


Figure 19

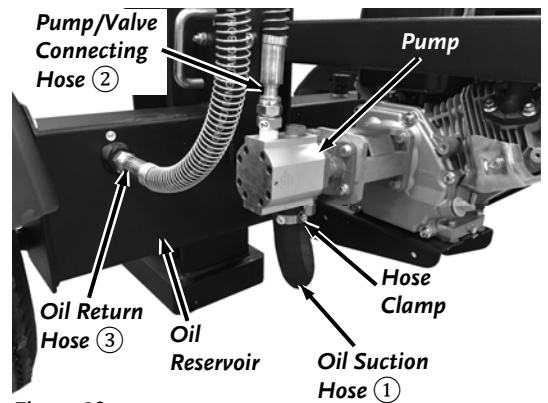


Figure 20

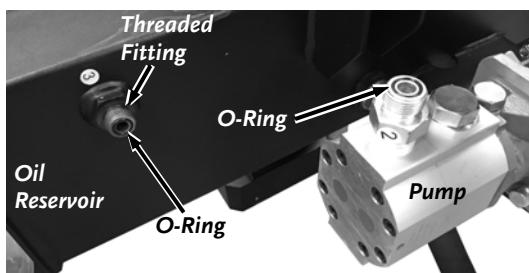


Figure 22

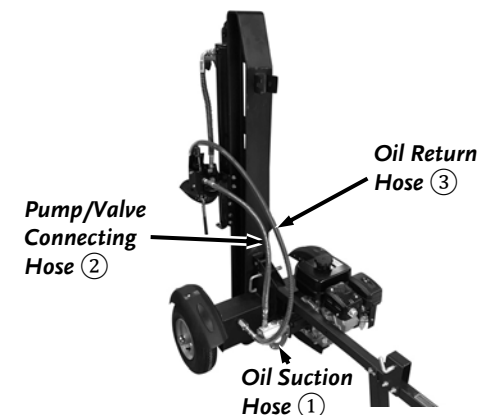


Figure 21

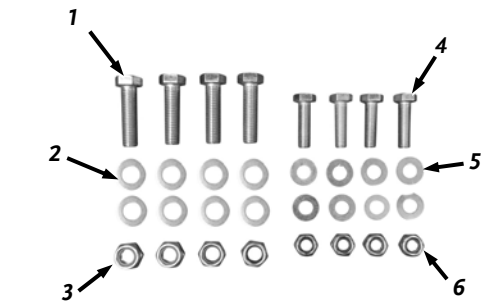


Figure 23

## Installing the Log Trays

### Parts Supplied in Hardware Kit #6 (Figure 23):

Item #	Part #	Description	Qty
1	33707	Bolt, Hex, M12 X 45	4
2	30252	Washer, Flat, M12	8
3	30253	Nut, Nylon Lock, M12	4
4	33708	Bolt, Hex, M10 X 30	4
5	30250	Washer, Flat, M10	8
6	30249	Nut, Nylon Lock, M10	4

Compare the contents of the Hardware Kit #6 with the “Parts Supplied” list above. If you have any questions please contact us at [www.DRpower.com](http://www.DRpower.com) or call 1-800-DR-OWNER (376-9637) for assistance.

**Note:** When installing the Bolts, Washers, and Locknuts, install the Washers so that one Washer is against the head of the Bolt, and the other Washer is against the Locknut.

1. Tighten the Hardware of the loosely assembled Log Trays using a 16mm Wrench on the Bolts and a 17mm Wrench on the Locknuts (Figure 24).

### **! WARNING**

Take extra care when raising and lowering the beam as it is very heavy. Having a second person assist with raising or lowering the beam is recommended to prevent injury. Be sure to keep hands away from any possible pinch points.



Figure 24

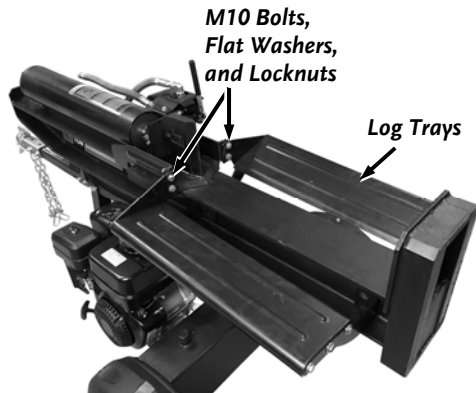


Figure 25

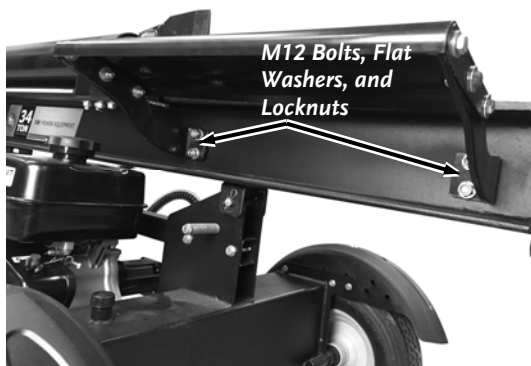


Figure 26

2. Get help from another person to lower the beam to the horizontal position. Refer to the “Beam Operating Positions” Section in Chapter 3 for detailed information on raising and lowering the Beam.
3. Position a Log Tray onto the Beam as shown and loosely secure the End Plate with two M10 x 30 Bolts, four M10 Flat Washers, and two M10 Locknuts (Figure 25). Repeat this step for the second Log Tray.
4. Loosely secure the bottom supports to the beam with four M12 x 45 Bolts, eight M12 Flat Washers, and four M12 Locknuts (Figure 26).
5. Tighten the M12 Hardware using an 18mm Wrench on the Bolt and a 19mm Wrench on the Locknut.
6. Tighten the M10 Hardware using a 16mm Wrench on the Bolt and a 17mm Wrench on the Locknut.

## Assembling the Control Handle

**Note:** The control handle is shipped hanging from the valve on the handle link

1. Remove the Pin and Hitch Clip from the Control Valve (**Figure 27**).
2. Rotate the Control Handle up into the operating position and secure with the Pin and Hitch Clip.

## SET UP

### Adding Gas and Oil

Engine Oil	See Engine Manual for specific Engine capacities and specifications
Fuel	Unleaded gasoline

**NOTE:** Use only the recommended high detergent engine oil. Other types of oil could cause problems operating your machine. Please refer to your Engine Owner's Manual for detailed oil information.

#### Supplies Needed:

- Clean Rag
- Engine Oil

1. Position the machine so the Engine is level. Remove the Oil Fill/Dipstick and clean the end of it with a rag (**Figure 28**).
2. **Machines are shipped with no oil.** Initially add 16 oz. of the oil recommended by the Engine Manufacturer. Wait one minute for the oil to settle.
3. Replace the Dipstick and screw it all the way in to ensure an accurate reading and then remove it to check the oil level. The Oil is at the proper level when it reaches the Full mark on the Dipstick (**Figure 29**). Clean the Dipstick with the clean rag after checking.
4. Continue adding a few ounces of oil at a time, rechecking the Dipstick until

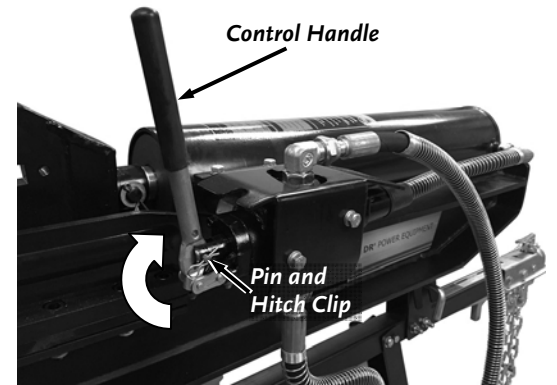


Figure 27

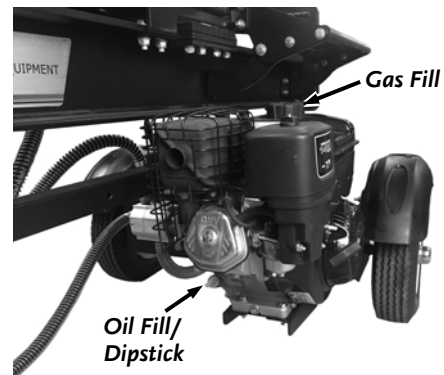


Figure 28

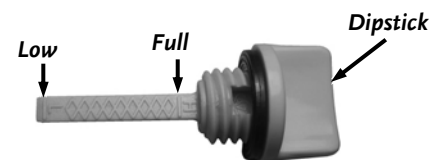


Figure 29

## NOTICE

The Engine must be level to get an accurate reading when adjusting the amount of oil. If the machine is not level, the oil level reading will not be accurate and may cause engine damage.

the oil reaches the Full mark. Be careful not to overfill.

5. Replace the Dipstick and screw all the way down when full.
6. Remove the Gas Fill Cap and fill the Gas Tank with fresh, unleaded gas (with a minimum of 85 Octane) to approximately 1" to 1-1/2" below the top of the fill neck to allow for fuel expansion (**Figure 28**). Be careful not to overfill. Install the Gas Fill Cap before starting the engine. See your Engine Owner's Manual for more detailed information.

**Note:** To refill the gas tank, turn the engine OFF and let the engine cool at least five minutes before removing the gas fill cap.

## Adding Hydraulic Fluid

### Supplies Needed:

- Paper Towels
- Hydraulic Fluid (see Figure 30)

**Note:** Use the following instructions only when adding Fluid for the first time. Refer to the “Checking the Hydraulic Fluid Level” section in Chapter 4 for information on maintaining the Hydraulic Fluid level.

### NOTICE

- You must add hydraulic fluid before using the splitter. This machine is shipped without hydraulic fluid in the hydraulic tank. When performing the following procedures, fill the hydraulic tank slowly, checking the level frequently to avoid overfilling.
- To get an accurate reading when checking the hydraulic fluid level:
  - The machine should be on a level surface.
  - The dipstick should be pushed in fully to ensure an accurate fluid level reading.
- After the initial fill, much of the fluid will be drawn into the cylinder and hoses. Make certain the fluid is at the Operating Level (Figure 32) to prevent damage to the hydraulic pump. **DO NOT OVERFILL.**

HYDRAULIC OIL ISO RECOMMENDATIONS

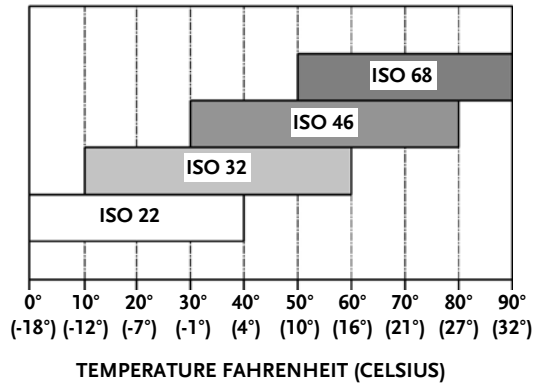


Figure 30



Figure 31

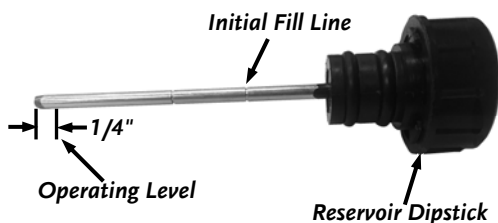


Figure 32

**Note:** The Hydraulic Oil should be selected based on the outside temperature range the Log Splitter will be used in. Refer to the chart provided to select the appropriate Hydraulic Oil (Figure 30).

1. Remove the Reservoir Dipstick, which is located next to the engine on top of the reservoir tank (Figure 31).
2. Slowly fill the Reservoir tank with the recommended Hydraulic Fluid until the fluid reaches the Initial Fill Line on the Dipstick (Figure 32). Be Careful not to overfill.
3. Replace the Dipstick in the Reservoir.
4. Make sure the Engine is in the “OFF” position (refer to Figure 37) and disconnect the spark plug wire from the spark plug. Prime the pump by pulling the recoil starter handle (refer to Figure 36) as far as it will go. Repeat approximately 10 times.
5. Reconnect the spark plug wire and start the engine, following instructions in Chapter 3.
6. Use the control handle to engage the wedge to the farthest extended position. Then retract the wedge.

**Note:** Do not refill the tank to the Initial Fill Line. The fluid level has dropped since the cylinder was cycled. Refilling to this line will overflow the tank. The proper level for operation is when the fluid is about 1/4" above the bottom of the Dipstick.

7. Stop the Engine and recheck the fluid level. Add fluid as needed so that the fluid Level is about 1/4" above the bottom of the dipstick (Figure 32).

**Note:** Failure to refill the tank to the Operating Level will void the splitter's warranty. Do not overfill. The proper level for operation is when the fluid is about 1/4" above the bottom of the Dipstick.

8. Restart the engine and extend and retract the wedge 12 complete cycles to remove any trapped air in the system (the system is “self-bleeding”).
9. Stop the Engine and refill the tank as needed so the fluid is about 1/4" above the bottom of the dipstick.



## Lubricating the Beam

### Supplies Needed:

- Fluid Film

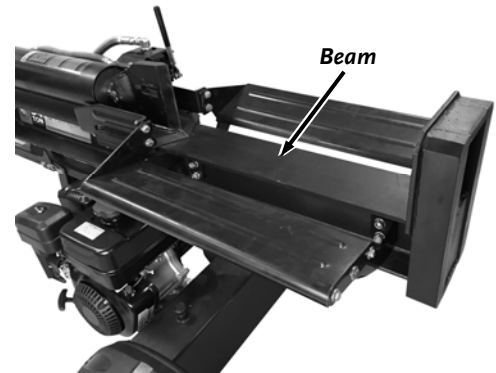
1. Lubricate the Beam area (where the splitting wedge will slide) with Fluid Film (*Figure 33*). Do not use Grease.

## Check the Tire Pressure

### Tools Needed:

- Tire Pressure Gauge
- Air Compressor

1. Remove the Valve Stem Protective Cap and check the tire pressure with a Tire Pressure Gauge (*Figure 34*).
2. Check what the manufacturers recommended pressure is that is stamped on the side of the Tire.
3. If the pressure is too low, add air through the Valve Stem with an air hose.
4. Replace the Valve Stem Protective Cap when finished.



*Figure 33*



*Figure 34*

---

### **! WARNING**

Do not over inflate the tires. Inflate to the manufacturers recommended pressure found on the tires.

---

## Chapter 3: Operating The DR HORIZONTAL/VERTICAL LOG SPLITTER

It may be helpful to better familiarize yourself with the features of your Log Splitter by reviewing **Figure 2** in Chapter 2 before beginning the steps outlined in this chapter.

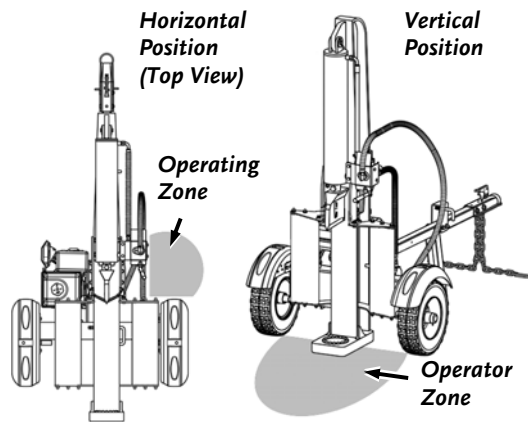


Figure 35

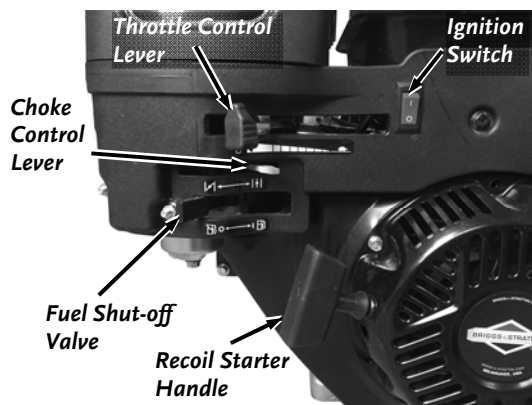


Figure 36

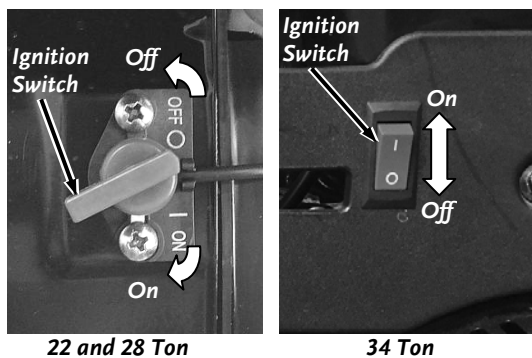




Figure 37

### **! WARNING**

- Read and understand all instructions, safety precautions, and/or warnings listed in “Chapter 1 General Safety Rules” before operating this DR HORIZONTAL/VERTICAL LOG SPLITTER. If any doubt or question arises about the correct or safe method of performing anything found in this manual, please contact our Customer Service Representatives at our toll free number: 1-800-DR-OWNER (376-9637).
- When operating the Log Splitter, make sure you are standing in the safe operating area (OPERATOR ZONE) as shown in **Figure 35**. You must stay in the safe operating area at all times when the wedge is in motion (whether extending or retracting). Never place any part of your body into a position that causes an unsafe operating condition.


### Starting the Engine

**Note:** See the Engine Manual for more detailed and specific information on operating the Engine.

1. Position your Log Splitter on flat, dry ground and chock the Wheels to prevent the Splitter from moving during use.
2. Make sure the fuel shut-off valve is in the “ON” position (**Figure 36**).
3. Move the choke control lever to the CHOKE  position to the left (should only be needed if the engine is cold).
4. Move the throttle control lever to the FAST  position.
5. Turn the Ignition Switch to the “On” position (**Figure 37**). Grasp the recoil starter handle and slowly pull until you feel resistance (**Figure 36**). Let the cord retract a little bit then pull the cord rapidly to start the engine. One or two pulls usually starts the engine.
6. Move the choke control lever (if used for cold engine) slowly back to the OPEN position (to the right) when the engine is running well (**Figure 36**).

**Note:** If the Log Splitter has not been running (cold engine), warm up the engine by running the engine at half throttle for 3 to 4 minutes before splitting, then advance the engine throttle control to maximum speed.

### Stopping the Engine

1. Move the Throttle Lever to Idle  position (**Figure 36**).
1. Turn the Ignition Switch to the “Off” position (**Figure 37**).

## Handling Wood

**Note:** All logs should be no longer than 24". Use the following photos for the correct and incorrect methods of splitting logs. Never split a log using an incorrect or unsafe method.

**Note:** The Following Warnings and Instructions apply when Splitting Wood in both the Horizontal and Vertical Positions.

### WARNING

- Do not place your hands on the ends of the log when loading the Log Splitter. This is a very UNSAFE method and could result in injury to your hands (**Figure 38**).
- Do not reach or step across the beam while the Log Splitter is running. This is a very UNSAFE method which could cause personal injury or even death.

### CAUTION

- Never attempt to split wood across the grain. The Log Splitter was not designed for cross-grain splitting. Doing so could damage the Log Splitter and may cause personal injury (**Figure 39**).
- Make sure both ends of the log you are splitting are cut as square as possible. This will prevent the log from sliding out of position while under pressure (**Figure 40**).

### WARNING

- When loading a log, always place your hands on the side of the log, not on the ends, and never use your foot to help stabilize a log (**Figure 41**). Failure to do so, may result in crushed or amputated fingers, toes, hand, or foot.
- When stabilizing log with left hand, remove your hand when the wedge just contacts the log or serious injury may occur.
- NEVER place hands or feet between the log and splitting wedge during forward or reverse stroke as this could result in serious injury or death. NEVER attempt to load the log splitter when the ram or wedge is in motion.
- Always keep fingers away from any cracks that open in the log while splitting. They can quickly close and pinch or amputate your fingers.
- Never attempt to remove partially split wood from the wedge with your hands. Fully retract the wedge to dislodge wood with log dislodger.



Figure 38

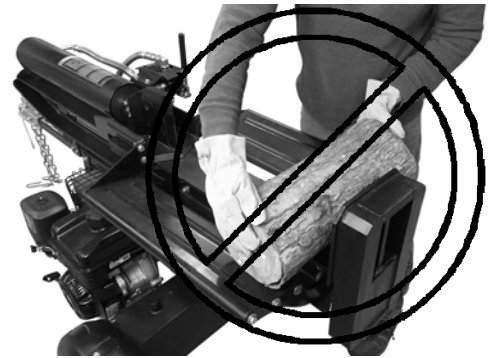


Figure 39



Figure 40

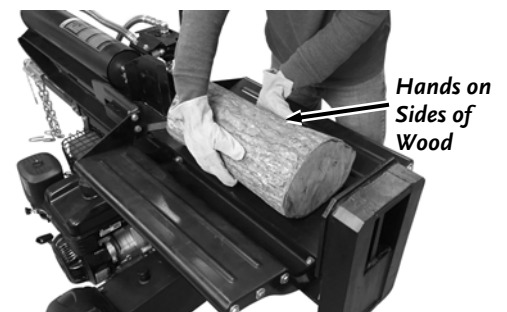


Figure 41

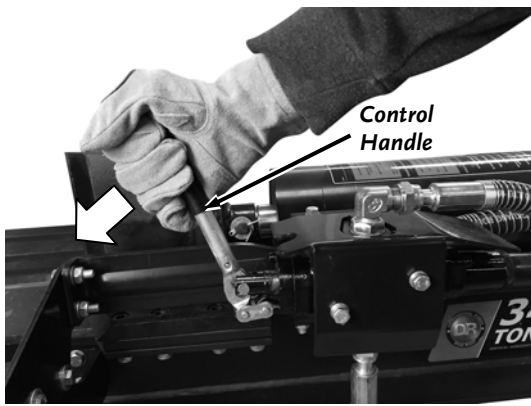


Figure 42

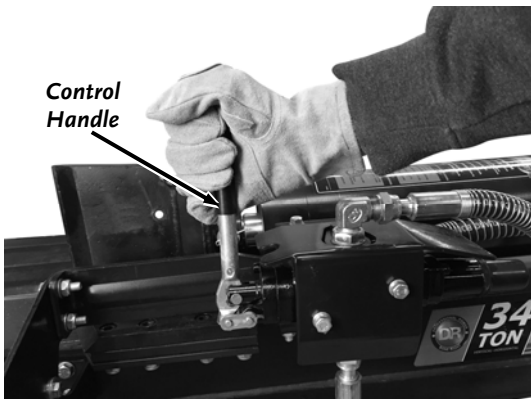


Figure 43

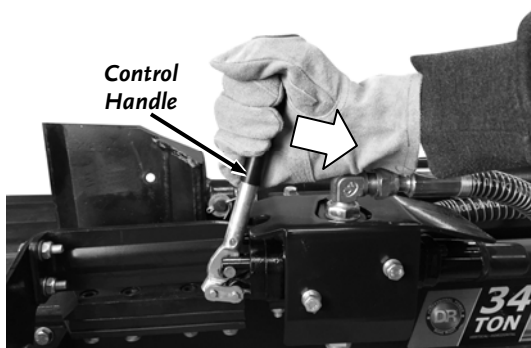


Figure 44



Figure 45

## Splitting Wood

The control handle has three positions:

**FORWARD** — Move the control handle forward to the FORWARD position to move wedge toward the log to split (**Figure 42**).

**Note:** The control handle will return to the NEUTRAL position as soon as the handle is released (from the FORWARD position only).

**NEUTRAL** — Release the control handle or move the lever to the NEUTRAL position to stop the wedge movement (**Figure 43**).

**REVERSE** — Move the control handle back to the REVERSE position to return the wedge toward the cylinder (**Figure 44**). The control handle returns to the NEUTRAL position automatically when fully retracted.

Do not hold the handle in the REVERSE position when fully retracted.

**Note:** To stop the wedge before it is fully retracted when in the REVERSE position, the handle must MANUALLY be put in the NEUTRAL position.

## ! WARNING

- If the control handle on your log splitter is not functioning properly, STOP USE IMMEDIATELY and contact an authorized service dealer.
- Do not attempt to service, repair or replace control valve. Contact an authorized service dealer.
- Do not attempt to adjust or modify the control valve or the hydraulic system from its original settings or manufacturer in any way.

## NOTICE

Never operate the Log Splitter unless the hydraulic fluid tank is at the proper level.

1. Start the engine as instructed in the “Starting the Engine” section in this chapter.
2. Place the log on the Log Splitter. Grasp the log on the sides near the middle of the log (**Figure 45**). Center the log, side-to-side, on the beam, making sure that one end is against the end plate.
3. Using only your hand, push the Control Lever Forward. If the log moves before it is contacted by the Wedge, release the Handle and reposition the log.
4. Hold the Control Lever, moving the Wedge towards the Log until the log is split or the cylinder rod stops at its maximum travel position. Stop the Log Splitter (forward movement), at any point in the splitting process, if you feel an unsafe splitting condition is occurring. As the log is being split, DO NOT reach forward and attempt to catch the split wood — let it fall.
5. Once the Wedge reaches its full forward travel, move the Control Lever to the Reverse Position and the Wedge will return to the retracted position.

## Beam Operating Positions

### **⚠ WARNING**

- Take extra care when raising and lowering the beam as it is fairly heavy. Having a second person assist with raising or lowering the beam is recommended.
- Be sure to keep hands away from any possible pinch points.
- Always use the log splitter in the vertical position when splitting heavy logs.

### Placing the Beam in the Vertical Position

1. Pull out on the Horizontal Beam Lock (**Figure 46**) and lift up on the Beam to rotate it to the vertical position (**Figure 47**).
2. To lock the beam in the vertical position, pull out on the vertical beam lock and rotate it to secure the beam (**Figure 48**).

### Placing the Beam in the Horizontal Position

1. Pull out on the vertical beam lock and rotate it down to the unlock position (**Figure 48**).
2. Pivot the Beam to the horizontal position (**Figure 49**).
3. The horizontal beam lock is self-locking. The spring loaded lock will snap into place when the beam is lowered into position.

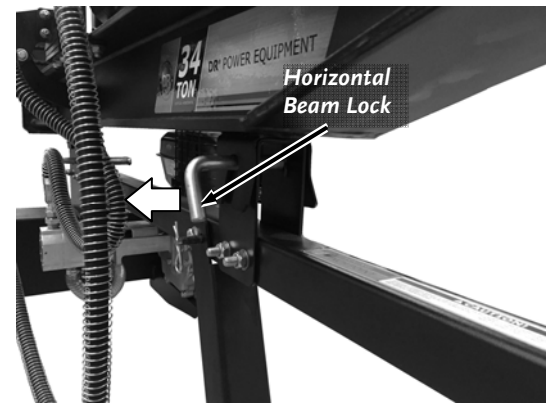


Figure 46

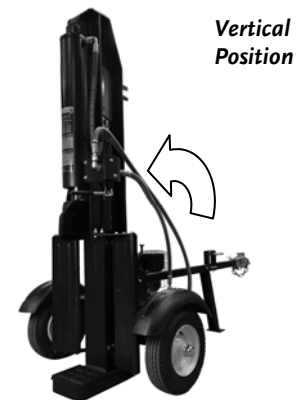


Figure 47

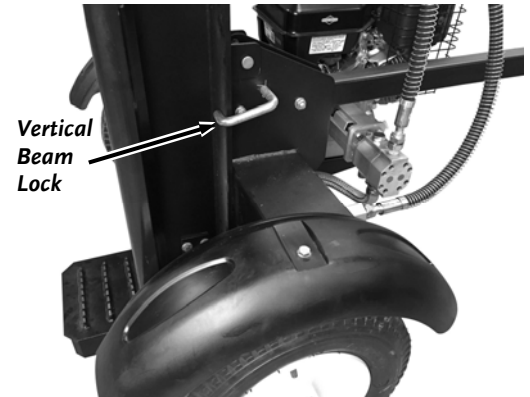


Figure 48

### **Horizontal Position**



Figure 49

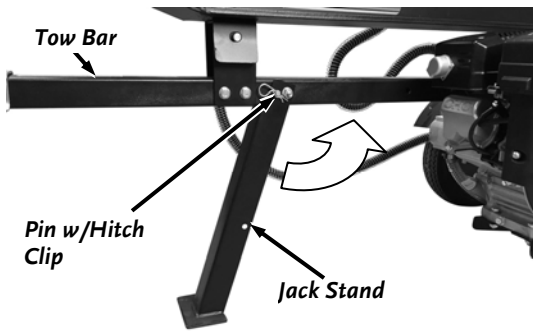


Figure 50

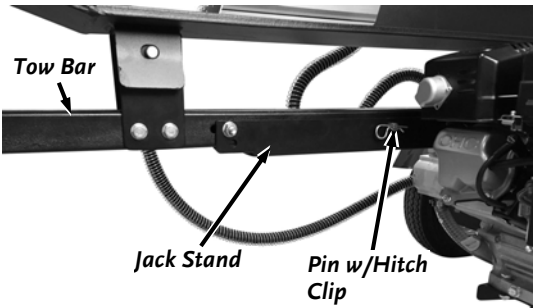


Figure 51

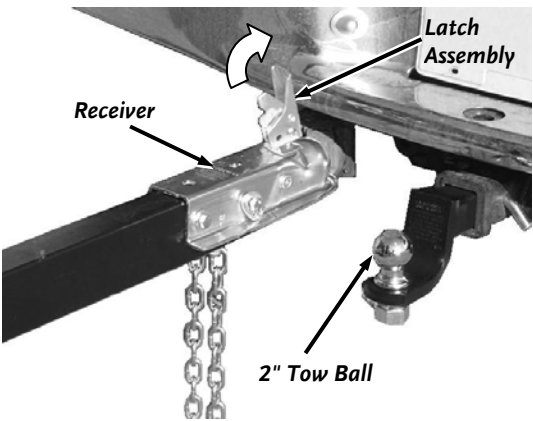


Figure 52

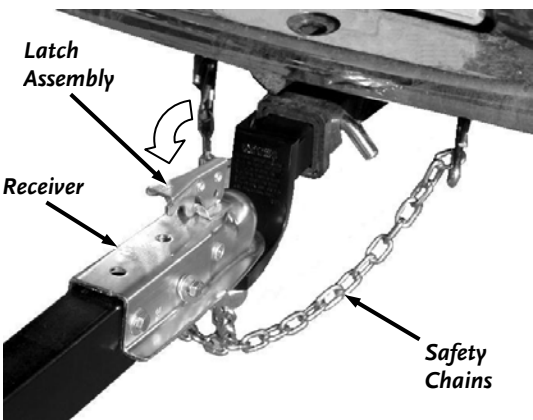


Figure 53

## Transporting the Log Splitter

1. Lower the beam to its horizontal position. Make certain the beam is locked securely with the horizontal beam lock.
  2. Change the Jack Stand to transporting position.
    - a) Remove the Pin and Hitch Clip from the Jack Stand (**Figure 50**).
    - b) With the help of another person, Support the Tow Bar and pivot the Jack Stand up to the transporting position (**Figure 51**).
    - c) Secure with the spring clip and clevis pin previously removed.
  3. Pull the Latch Assembly on the Receiver up and into the open position. Position the Receiver of the Log Splitter over and onto the tow vehicle's tow ball (must be a 2" tow ball) (**Figure 52**).
  4. Close the Latch Assembly on the Receiver to lock it onto the Tow Ball (**Figure 53**). Attach the towing Safety Chains to the tow vehicle ensuring there is enough slack for turning.
- Note:** When attaching the Safety Chains, Attach the left chain to the right anchor of the tow vehicle and the right chain to the left anchor of the tow vehicle so that that the Safety Chains cross each other under the Ball Hitch.
5. Insert the Locking Pin into the hole in the Latch Assembly.

### **! WARNING**

Making sure the Log Splitter is securely attached to the vehicle is the responsibility of the owner/operator. Failure to securely attach the Log Splitter can cause loss of control of the vehicle or the splitter being separated from the towing vehicle, resulting in serious injury or death.

### **! WARNING**

- NEVER move the log splitter while the engine is running. Shut off the engine if you are leaving the log splitter, even for a short period of time.
- ALWAYS be careful when moving or lifting the log splitter. Get assistance if it feels too heavy to move by yourself.
- Move the fuel shutoff to "OFF" before towing the Log Splitter.
- Do not tow faster than 45mph and check the local, state and federal requirements before towing on any public road.
- Use caution when backing up, using a spotter outside the vehicle is recommended.
- ALWAYS disconnect your log splitter from the towing vehicle before operating it.

## Hitch Coupler Adjustment Check

1. Place the proper size ball in the socket of the coupler and close the latch assembly (**Figure 54**). Verify that the locking trigger is properly engaged in its detent.
2. Pull on the ball and/or coupler, trying to remove the ball from the socket. If the ball moves more than 1/16" in the coupler's socket, the clamp requires adjustment. Follow the proper adjustment procedure in the following steps.

## Hitch Coupler Adjustment

1. With the proper size ball in the socket of the hitch coupler, close the latch of the coupler completely (**Figure 55**). Verify that the locking trigger is properly engaged in its detent.
2. Tighten the lock nut on the underside of the coupler until the spring between the nut and the clamp is fully compressed. Then back off the lock nut 1/2 turn or just enough that the latch is able to clamp and unclamp from the ball.

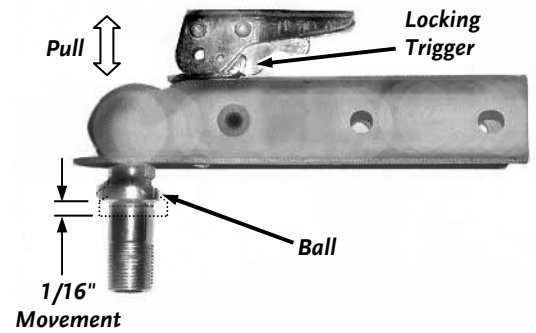


Figure 54

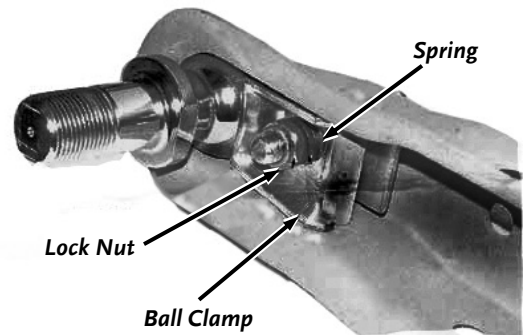


Figure 55

## Chapter 4: Maintaining the DR HORIZONTAL/VERTICAL LOG SPLITTER

Regular maintenance is the way to ensure the best performance and long life of your machine. Please refer to this manual and the engine manufacturer's owner's manual for maintenance procedures. Service intervals listed in the checklist below supersede those listed in the engine manufacturer's owner's manual.

### **! WARNING**

Before performing any maintenance procedure or inspection, stop the engine, wait five minutes to allow all parts to cool. Disconnect the spark plug wire, keeping it away from the spark plug.

### Regular Maintenance Checklist

PROCEDURE	BEFORE EACH USE	EVERY 25 HOURS	EVERY 50 HOURS	EVERY 100 HOURS
Check Engine Oil Level	▲			
Check General Equipment Condition	▲			
Perform Beam Maintenance	▲			
Check Hydraulic Fluid Level	▲			
Clean Engine Exterior and Cooling Fins	▲			
Check Tire Pressure		▲		
Change Engine Oil	1 <sup>st</sup> time 5 hours	▲		
Replace Air Filter		▲		
Change Hydraulic Fluid				▲
Replace Spark Plug				▲

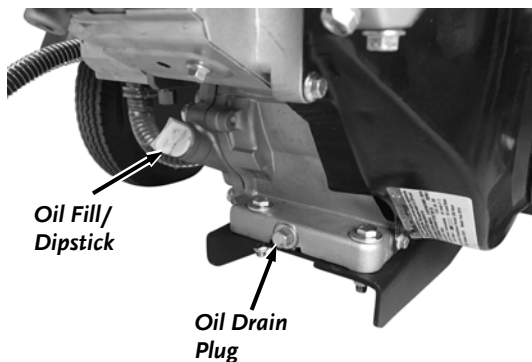


Figure 56

### Engine Service

Refer to the engine manufacturer's manual for engine maintenance.

### Changing Engine Oil

One of the easiest methods to remove oil from this Engine is to use a siphon style Oil Extractor. To purchase our Oil Extractor, go to [www.DRpower.com](http://www.DRpower.com).

#### Tools and Supplies needed:

- Approved Container for used Oil
- 12mm Wrench (B&S)
- 10mm Wrench (Kohler)

**Note:** When draining oil from the engine, shield the hoses from any oil that may run down the frame and drip onto the hoses. Thoroughly wipe any residual oil off the log splitter and hoses after completing service.

1. Place an approved Container under the Oil Drain Plug (**Figure 56**).
2. Remove the Oil Drain Plug with a 12mm Wrench (B&S) or a 10mm Wrench (Kohler) to drain the Oil into the Container.
3. Reinstall the Oil Drain Plug.
4. Add oil as described in the "Adding Oil and Gasoline" section in Chapter 2.

### Beam and Wedge Maintenance

Lubricate the top, sides and bottom of the beam and where it comes into contact with the splitting wedge with Fluid Film before each use (**Figure 57**). If the wedge becomes dull or nicked, it can be sharpened.

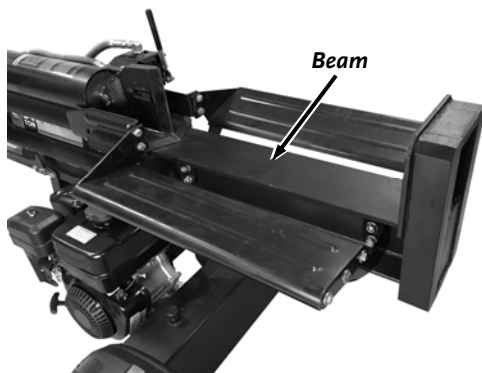


Figure 57



## Checking the Hydraulic Fluid Level

### NOTICE

Never run the Log Splitter unless the hydraulic fluid tank is at the proper level or you will cause damage to the Hydraulic Pump.

#### Tools and Supplies needed:

- Clean Rags
- Hydraulic Fluid

**Note:** To get an accurate reading when checking the Hydraulic Fluid Level, ensure that the machine is on a level surface.

1. Remove the Reservoir Dipstick from the Reservoir Tank and clean it with a Rag (**Figure 58**).
2. Replace the Dipstick and push it down all the way to ensure an accurate reading.
3. Remove the Dipstick and check the fluid level. The fluid is at the proper level when it is about 1/4" above the bottom of the dipstick (**Figure 59**).
4. Add fluid as needed until the fluid is at the proper level.

## Changing the Hydraulic Fluid

#### Tools and Supplies needed:

- Flat Head Screwdriver
- 27mm Wrench
- Spark plug socket and Ratchet
- Waste Fluid Container
- Hydraulic Fluid
- Clean Rags

#### 1. Drain the head end of the cylinder.

- a. Remove the spark plug wire and spark plug to help reduce the back pressure on the engine and to prevent it from starting.
- b. Position an approved Waste Fluid Container under the Oil Return Hose.
- c. Disconnect the Oil Return Hose from the Oil Reservoir using a 27mm Wrench (**Figure 60**). Position the Oil Return Hose into the waste fluid container
- d. Extend the cylinder by holding the hydraulic control valve handle forward and have someone pull on the engine's pull start cord until fluid from the Oil Return Hose stops flowing. Please properly dispose of the waste hydraulic fluid per local regulations.

#### 2. Drain the Hydraulic Tank.

- a. Position the Waste Fluid Container under the Oil Suction Hose (**Figure 60**).
- b. Use a Flat Head Screw Driver to loosen the Hose clamp securing the Oil Suction Hose to the bottom of the Pump.
- c. Remove the hose from the pump and place it in the waste fluid container.
- d. Slightly lower the front of the WOOD SPLITTER by folding the jack stand to completely drain the tank.
- e. Once the tank is completely drained, reconnect the Oil Suction Hose to the Pump and secure with the Hose Clamp.

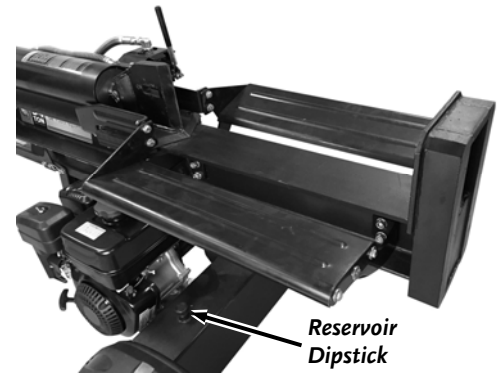


Figure 58

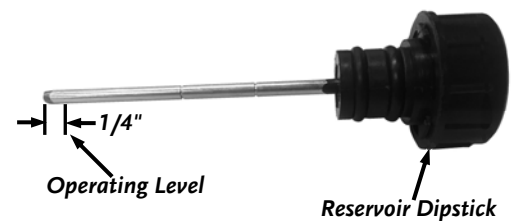


Figure 59

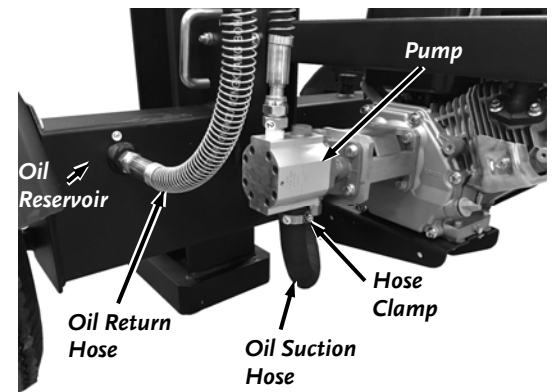


Figure 60

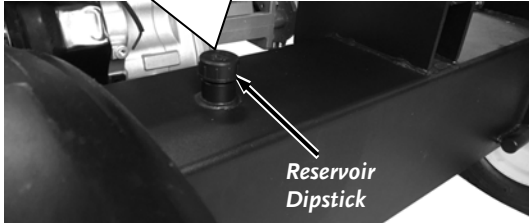
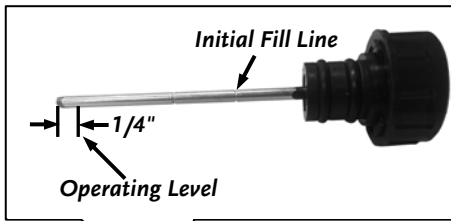


Figure 61



Figure 62

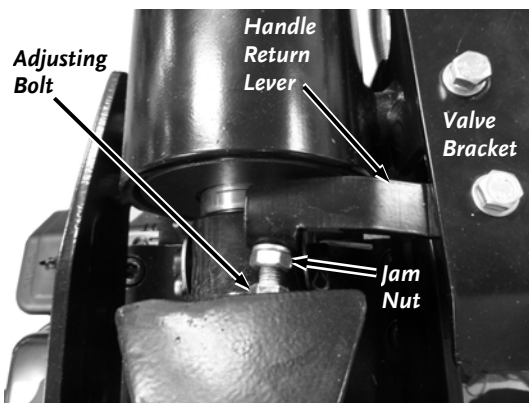


Figure 63

#### 4. Refill the Hydraulic Tank.

**Note:** Refer to **Figure 30** in the “Adding Hydraulic Fluid” section in Chapter 2 for recommended Hydraulic Fluid Types.

- a. Remove the Reservoir Dipstick and fill the tank with the recommended hydraulic fluid until it reaches the Initial Fill Line on the Dipstick (**Figure 61**).
- b. Replace the Dipstick when the fluid has reached the proper level.

#### 5. Drain and refill the piston end of the cylinder.

- a. Position the Oil Return Hose into the Waste Fluid Container.
- b. Hold the control handle in the reverse position and pull the engine pull start cord until the rod is fully retracted to drain the piston end of the cylinder.
- c. Inspect the O-Ring (11mm X 2mm) on the Oil Reservoir for damage (**Figure 62**). If the O-Ring is damaged or missing, replace it.
- d. Reconnect the Oil Return Hose to the Oil Reservoir.
- e. Extend the cylinder by holding the control valve handle forward and pulling on the engine’s pull start cord until the cylinder is completely extended. This step refills the piston end of the cylinder.
- f. Recheck the Fluid Level to ensure it is about 1/4" above the bottom of the dipstick. Add fluid if needed. Do not overfill.

**Note:** Do not refill to the Initial Fill line. This mark is only to be used in step 4. The proper level for operation is when the fluid is about 1/4" above the bottom of the dipstick.

#### 6. Start the engine and cycle the cylinder.

- a. Replace the spark plug and spark plug wire.
- b. Start the engine and cycle the cylinder several times.
- c. Retract the cylinder and shut off the engine.
- d. Recheck the Fluid Level to ensure it is about 1/4" above the bottom of the dipstick. Add fluid if needed. Do not overfill.

#### Adjusting the Handle Return Lever

A Handle Return Lever is attached to the Valve Bracket to manually stop the Wedge when it is fully retracted. The Lever may need to be adjusted if:

- The Wedge is not retracting fully.
- The Engine stalls and the Actuator Handle stays in the retract position with the Wedge is fully retracted.

#### Tools Needed:

- 13mm Wrench
- 14mm Wrench

1. Loosen the Jam Nut using a 14mm Wrench (**Figure 63**).
2. Adjust the Bolt using a 13mm Wrench.
  - Screw Bolt into the Return Lever if the Operator lever is being pushed forward before fully retracting.
  - Unscrew the Bolt from the Return Lever if the Operator lever is not being disengaged and the Engine is stalling.
3. When finished, hold the Bolt with the 13mm Wrench as you tighten the Jam Nut against the Lever using a 14mm Wrench. Test and readjust as needed.

## Replacing the Wheels

### Tools and Supplies needed:

- Channel Lock Pliers
- Clean Rags
- Adjustable Wrench
- Needle Nose Pliers
- Jack and Jack Stands
- Hammer and Wood Block

### CAUTION

The Splitter must be supported carefully so it does not tip over when jacking or it could cause Splitter damage or personal injury.

1. Jack the Splitter off the ground and secure with Jack Stands.
2. Remove the Dust Cap from the Wheel Assembly with Channel Lock Pliers (**Figure 64**).
3. Straighten the ends of the Cotter Pin with Needle Nose Pliers so the Cotter Pin can be pulled from the hole in the Axle (**Figure 65**).
4. Remove the Castle Nut with the Channel Lock Pliers.
5. Pull the Wheel assembly and Taper Bearing from The Axle (**Figure 66**).
6. Slide a Wheel Assembly onto the Axle Shaft with the Valve Stem facing out. The open side of the Wheel Hub with the loose Taper Bearing will be facing towards you.
7. Screw the Castle Nut onto the Axle and tighten it with an Adjustable Wrench to seat the Bearings (**Figure 65**).
8. Back the Castle Nut off and then snug it up to the Bearing lightly. Ensure the slots of the Castle Nut align with the hole in the Axle.
9. Insert a Cotter Pin through the slots of the Castle Nut and into the hole in the Axle.
10. Bend the ends of the Cotter Pin with Needle Nose Pliers to secure it.
11. Place the Dust Cap onto the Wheel Assembly and secure it by placing a piece of wood over it and lightly tapping with a Hammer until it is seated against the lip (**Figure 67**).
12. Jack the back of the Splitter up and remove the Jack Stands.
13. Lower the Splitter to the ground.
14. Check the Tire Pressure. Refer to the “Checking the Tire Pressure” section in Chapter 2.

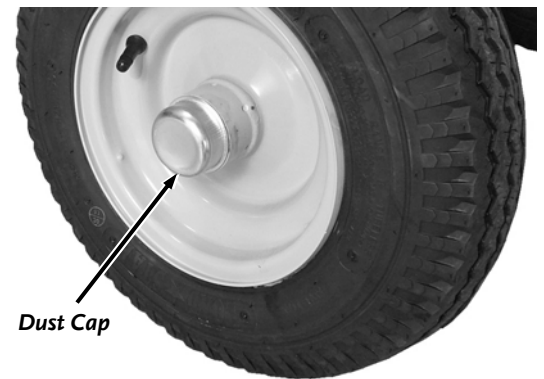


Figure 64

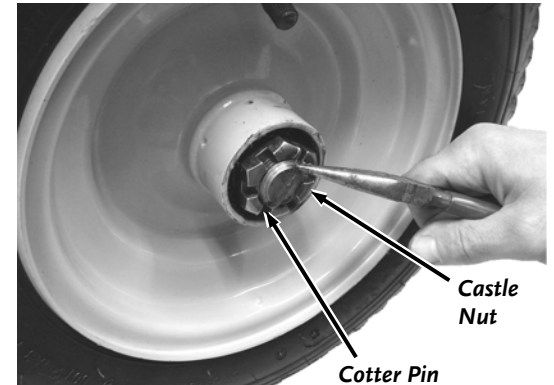


Figure 65

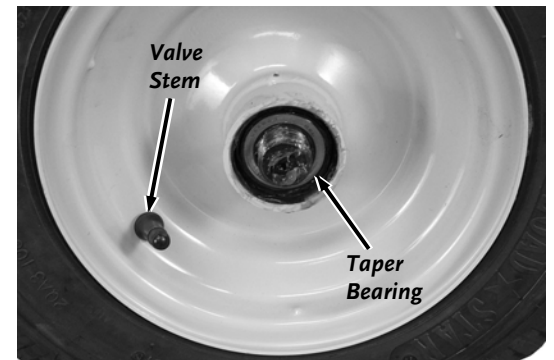


Figure 66

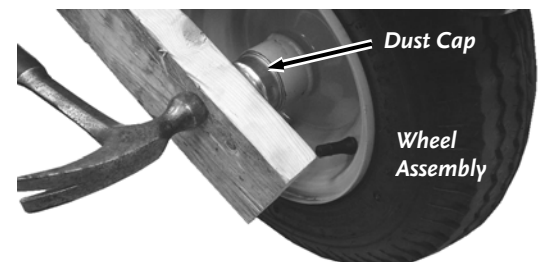


Figure 67

## Chapter 5: Troubleshooting

Most problems are easy to fix. Consult the Troubleshooting Table below for common problems and their solutions. If you continue to experience problems, contact us at [www.DRpower.com](http://www.DRpower.com) or call toll-free 1-800-DR-OWNER (376-9637) for support.

### **WARNING**

Before performing any maintenance procedure or inspection, stop the engine, wait five minutes to allow all parts to cool. Disconnect the spark plug wire, keeping it away from the spark plug.

### *Troubleshooting Table*

<b>SYMPTOM</b>	<b>POSSIBLE CAUSE</b>
<i>Cylinder rod will not move</i>	<ul style="list-style-type: none"> <li>⇒ Broken shaft; See authorized service dealer.</li> <li>⇒ Shipping plugs left in hydraulic hoses; Disconnect hydraulic hoses, remove shipping plugs, and reconnect hoses.</li> <li>⇒ Set screws in coupling not adjusted properly; See authorized service dealer.</li> <li>⇒ Loose pump coupling; Correct engine/pump alignment as necessary.</li> <li>⇒ Pump Coupling damaged; See authorized service dealer.</li> <li>⇒ Damaged relief valve; See authorized service dealer.</li> <li>⇒ Hydraulic lines blocked; Flush and clean hydraulic system.</li> <li>⇒ Incorrect oil level; Check oil level.</li> <li>⇒ Damaged control valve; See authorized service dealer.</li> <li>⇒ Blocked control valve; Flush and clean hydraulic system.</li> </ul>
<i>Slow cylinder shaft speed while extending and retracting</i>	<ul style="list-style-type: none"> <li>⇒ Pump Coupling damaged; See authorized service dealer.</li> <li>⇒ Excessive pump inlet vacuum; Make certain pump inlet hoses are clear, unblocked and not kinked. Use short, large diameter inlet hoses.</li> <li>⇒ Slow engine speed; See authorized service dealer.</li> <li>⇒ Damaged relief valve; See authorized service dealer.</li> <li>⇒ Incorrect oil level; Check oil level.</li> <li>⇒ Contaminated oil; Drain oil, clean reservoir and refill.</li> <li>⇒ Control valve leaking internally; See authorized service dealer.</li> <li>⇒ Internally damaged cylinder; See authorized service dealer.</li> </ul>
<i>Leaking at face of Cylinder or at fittings</i>	<ul style="list-style-type: none"> <li>⇒ Worn seals; See authorized service dealer.</li> <li>⇒ Scored cylinder; See authorized service dealer.</li> <li>⇒ Fittings are loose; tighten as needed.</li> </ul>
<i>Wood will not split or wood splits too slowly</i>	<ul style="list-style-type: none"> <li>⇒ Pump check valve leaking; See authorized service dealer.</li> <li>⇒ Excessive pump inlet vacuum; Make certain pump inlet hoses are clear, unblocked and not kinked.</li> <li>⇒ Incorrect oil level; Check oil level.</li> <li>⇒ Contaminated oil; Drain oil, clean reservoir and refill.</li> <li>⇒ Control valve leaking internally; See authorized service dealer.</li> <li>⇒ Overloaded cylinder; Do not attempt to split wood against the grain.</li> <li>⇒ Internally damaged cylinder; See authorized service dealer.</li> </ul>

## Troubleshooting Table (Continued)

### **WARNING**

Before performing any maintenance procedure or inspection, stop the engine, wait five minutes to allow all parts to cool. Disconnect the spark plug wire, keeping it away from the spark plug.

<b>SYMPTOM</b>	<b>POSSIBLE CAUSE</b>
<i>Leaking pump shaft seal</i>	<ul style="list-style-type: none"><li>⇒ Broken drive shaft; See authorized service dealer.</li><li>⇒ Engine/pump misalignment; Correct alignment as necessary.</li><li>⇒ Damaged shaft seal; See authorized service dealer.</li><li>⇒ Plugged oil breather; Make certain reservoir is properly vented.</li></ul>
<i>Wedge continues to move forward when control handle is released</i>	<ul style="list-style-type: none"><li>⇒ Damaged control valve; See authorized service dealer.</li></ul>
<i>Control handle does not return to neutral when released from forward position</i>	<ul style="list-style-type: none"><li>⇒ Hydraulic fluid too cold; Warm up engine.</li><li>⇒ Hydraulic fluid too thick; Replace hydraulic fluid.</li><li>⇒ Hydraulic fluid contaminated; Replace hydraulic fluid.</li><li>⇒ Damaged control valve; See authorized service dealer.</li></ul>



## Chapter 6: Parts Lists and Schematic Diagrams

### Parts List - DR HORIZONTAL/VERTICAL LOG SPLITTER

NOTE: Part numbers listed are available through DR Power Equipment.

Ref#	Part#	Description	Ref#	Part#	Description
1	33727	Frame, Main (22 Ton)	27.2	33680	Coupling, Shaft, 1" Bore
	33728	Frame, Main (28 Ton)	28	33716	Set Screw, M6-1 X 10
	33729	Frame, Main (34 Ton)	29	33753	Spider, Coupling, Shaft
2	33756	Wedge	30	33730	Mount, Pump, Hyd (22 and 28 Ton)
2.1	36246	Bolt, SHCS, M12-1.75 X 45		33731	Mount, Pump, Hyd (34 Ton)
2.2	30252	Washer, Flat, M12, ZP	31	33701	Bolt, HCS, M8-1.25 X 20, CL 8.8, ZP
2.3	30253	Nut, Nylon Lock, M12 X 1.75, ZP	32	30247	Washer, M8
3	33700	Bolt, HCS, M16-2 X 69, CL 8.8, ZP	33	33743	Washer, Lock, M8
4	30254	Nut, Nylon Lock, M16-2	34	13286	Bolt, HCS, 5/16-24 X .75, Gr5, ZP
5	33682	Cylinder, Hydraulic (22 Ton)	35	30247	Washer, M8
	33683	Cylinder, Hydraulic (28 Ton)	36	11243	Washer, Lock, M8
	33684	Cylinder, Hydraulic (34 Ton)	37	33725	Key, Square, 3/16 X 1.75
6	33747	Pin, Cylinder Mount		33726	Key, Square, 1/4 X 2.165
7	33697	Washer, M20	38	33698	Engine, Kohler 6.5, MS (22 and 28 Ton)
8	33754	Pin, Cotter, 4 X 35mm		36394	Engine, 14.5 B&S, MS (34 Ton)
9	33715	Hyd Hose Assembly, Valve-Cylinder	39	33702	Bolt, HCS, M8-1.25 X 40, CL 8.8, ZP (22 and 28 Ton)
10	33749	Guard, Hose, Valve - Cylinder		36110	Bolt, HCS, M10 x 40 (34 Ton)
11	33691	Hyd Adapter	40	30247	Washer, M8 (22 and 28 Ton)
12	33750	Hyd Adapter		30250	Washer, M10 (34 Ton)
13	33742	Valve, Hyd, W/ Control Handle	41	30246	Nut, Nylon Lock, M8-1.25 (22 and 28 Ton)
13.1	36113	Pin, Clevis		30249	Nut, Nylon Lock, M10-1.5 (34 Ton)
13.2	36114	Clip, Hitch	42	37692	Reservoir Tank (22 and 28 Ton)
13.3	36249	Link, Connecting, #60 Roller Chain		37693	Reservoir Tank (34 Ton)
14	33678	Hyd Hose Assembly, Pump - Valve	43	33685	Dipstick
15	33695	Hyd Adapter	44	33744	O-Ring, 15 X 3.1mm
16	33751	Guard, Hose, Pump - Valve	45	33746	Plug, Drain,
17	36392	Hose, Hydraulic, 1/2"	46	33745	O-Ring, 20 X 2.4mm
18	33752	Guard, Hose, Valve - Tank	47	33693	Filter, Hyd, Intank
19	37768	Isolator, Vibration, Engine (22 and 28 Ton)	48	33736	Hyd Hose Assembly, Reservoir - Pump
	37691	Isolator, Vibration, Engine (34 Ton)	49	33713	Hose Clamp, 1"
20	36390	Fitting, Hyd, 90 Deg Elbow, 1/2" Hose	50	35476	O-Ring, 11mm X 2mm
21	38489	Bracket, Mount, Valve	51	35478	O-Ring, 19mm X 2.5mm
22	33701	Bolt, HCS, M8-1.25 X 20, CL 8.8, ZP	52	33689	Support, Fender,
23	33743	Washer, Lock, M8	53	33703	Bolt, HCS, M8-1.25 X 25, CL 8.8, ZP
24	30247	Washer, M8	54	30247	Washer, M8
25	33696	Hyd Adapter	55	30246	Nut, Nylon Lock, M8-1.25
26	33739	Hyd Pump (22 and 28 Ton)	56	33688	Fender,
	33740	Hyd Pump (34 Ton)	57	33762	Wheel
27	33681	Coupling, Shaft	58	25310	Nut, Slotted, 1-14, ZP
27.1	33679	Coupling, Shaft, 3/4" Bore			

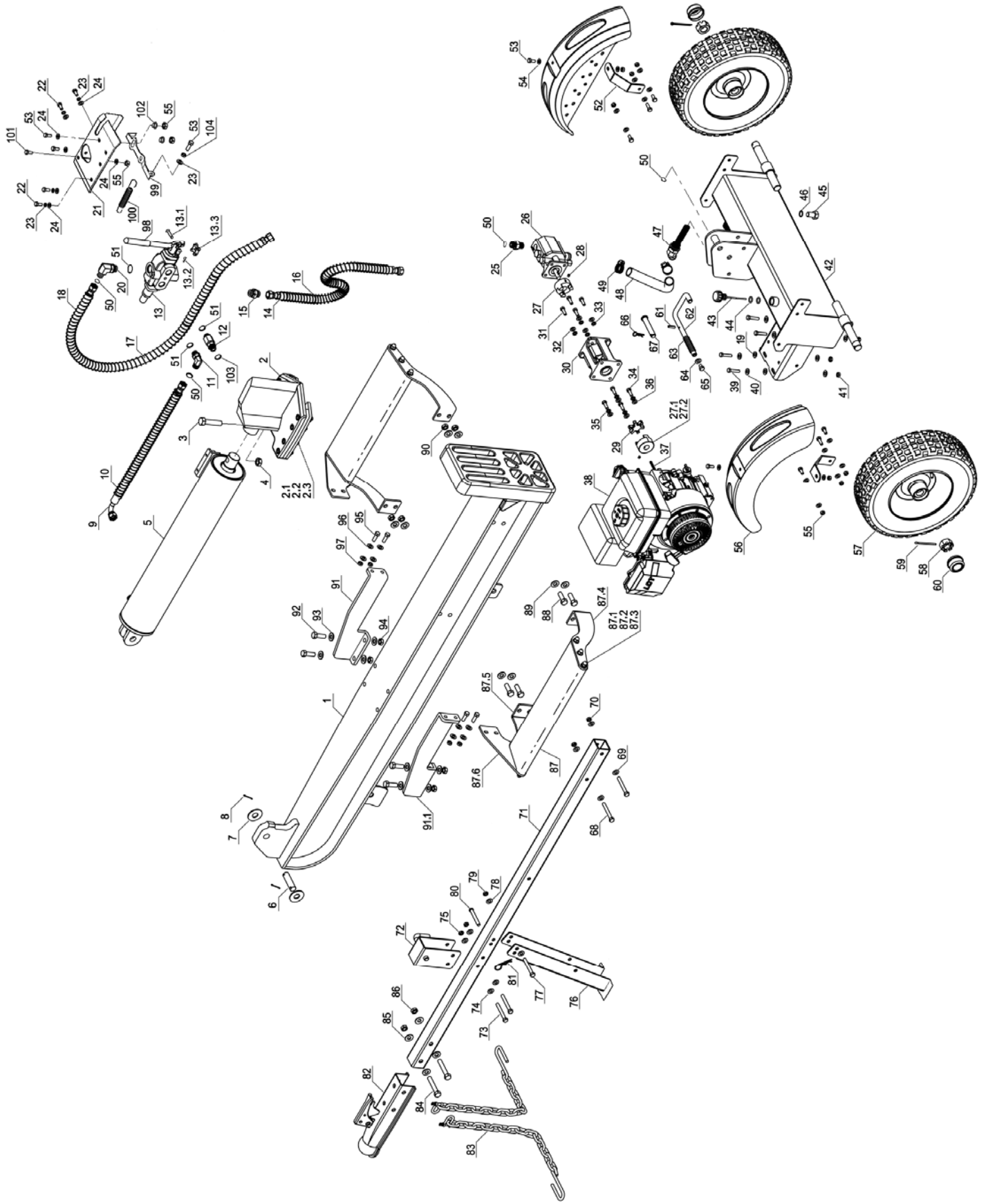
## Parts List – DR HORIZONTAL/VERTICAL LOG SPLITTER (continued)

**NOTE:** Part numbers listed are available through DR Power Equipment.

<u>Ref#</u>	<u>Part#</u>	<u>Description</u>	<u>Ref#</u>	<u>Part#</u>	<u>Description</u>
59	33755	Pin, Cotter, 4 X 50mm	87.1	36087	Bolt, HCS, M10 X 30, CL8.8, ZP
60	33714	Cap, Dust,	87.2	30250	Washer, M10
61	33748	Pin, Spring, 3 X 30mm	87.3	33343	Nut, Nylon Lock, Flanged, M10-1.5
62	33718	Lock, Safety, Vertical Position	87.4	33721	Support 1, Tray, Log
63	33757	Spring, Vertical Safety Lock,	87.5	33722	Support 2, Tray, Log
64	30250	Washer, M10	87.6	33723	Endplate, Tray, Log
65	33704	Bolt, HCS, M10-1.5 X 20, CL 8.8, ZP	88	33707	Bolt, HCS, M12-1.75 X 45, CL 8.8, ZP
66	33758	Pin, Hitch, 2.5mm	89	30252	Washer, M12
67	33676	Bolt, HCS, M8-1.25 X 20, CL 8.8, ZP	90	30253	Nut, Nylon Lock, M12-1.75
68	33705	Bolt, HCS, M10-1.5 X 80, CL 8.8, ZP	91	33686	Bracket, Retraction Stop, RH,
69	30250	Washer, M10	91.1	33687	Bracket, Retraction Stop, LH,
70	30249	Nut, Nylon Lock, M10-1.5	92	35599	Bolt, HCS, M12-1.75 X 35, CL 8.8, ZP
71	33737	Towbar	93	30252	Washer, M12
72	33712	Bracket, Horizontal Beam Lock,	94	30253	Nut, Nylon Lock, M12-1.75
73	33705	Bolt, HCS, M10-1.5 X 80, CL 8.8, ZP	95	33708	Bolt, HCS, M10-1.5 X 30, CL 8.8, ZP
74	30250	Washer, M10	96	30250	Washer, M10
75	30249	Nut, Nylon Lock, M10-1.5	97	30249	Nut, Nylon Lock, M10-1.5
76	33717	Stand, Jack,	98	38486	Handle, Actuation
77	33705	Bolt, HCS, M10-1.5 X 80, CL 8.8, ZP	99	38487	Lever, Return, Handle
78	30250	Washer, M10	100	38488	Spring, Return, Handle
79	30249	Nut, Nylon Lock, M10-1.5	101	38490	Bolt, HCS, W/ Hole, M8-1.25 X 20, CL 8.8, ZP
80	33677	Pin, Clevis, 10 X 70mm			
81	33759	Pin, Hitch, 3.0mm	102	38491	Bushing, 8mm ID
82	33711	Receiver, 2", Class Ii,	103	35477	O-Ring, 16mm X 2.5mm
83	33734	Chain, Safety, Pair	104	36103	Nut, Finish, M8 X 1.25, ZP
84	33706	Bolt, HCS, M12-1.75 X 80, CL 8.8, ZP	<b><u>Not Shown</u></b>		
85	30252	Washer, M12		33365	Label, 22 Ton Branding
86	30253	Nut, Nylon Lock, M12-1.75		33366	Label, 28 Ton Branding
87	37171	Tray, Log, WH1		33367	Label, 34 Ton Branding
				33368	Label, Operation
				33457	Label, Warning, Towbar



# Schematic – DR HORIZONTAL/VERTICAL LOG SPLITTER



**Notes:**

**Notes:**

## Daily Checklist for the DR LOG SPLITTER

To help maintain your DR LOG SPLITTER for optimum performance, we recommend you follow this checklist each time you use your Log Splitter.

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### WARNING

Before performing any maintenance procedure or inspection, stop the engine, wait five (5) minutes to allow all parts to cool. Disconnect the spark plug wire, keeping it away from the spark plug.

---

- [ ] Check the Engine Oil and Gas Tank level.
- [ ] Check the Hydraulic Oil Tank level..
- [ ] Check that Engine is clean of debris.
- [ ] Check the general condition of the Log Splitter, e.g.; Nuts, Bolts, Welds, etc.
- [ ] Check Tire Pressure and wear.
- [ ] Check the Frame for wear and damage.
- [ ] Check the Wedge for nicks and wear. Sharpen if needed.
- [ ] Apply a rust preventative (Fluid Film or equivalent) to any bare metal areas on the top of the Rail. This will assure the longest possible service life of the Wear Pads.

### End of Season and Storage

If the log splitter will not be used for more than 30 days, prepare it for storage as follows:

---

### WARNING

- Before storing the machine, stop the engine, wait ten minutes to allow all parts to cool. Disconnect the spark plug wire, keeping it away from the spark plug.
  - Never store the machine with fuel in the fuel tank inside of building where fumes may reach an open flame or spark, or where ignition sources are present such as hot water and space heaters, furnaces, clothes dryers, stoves, electric motors, etc.
- 

### NOTICE

The use of pressure washers or a garden hose to clean the splitter is not recommended. They may cause damage to the bearings or the engine. The use of water will result in a shortened life and reduce serviceability.

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- Refer to the Engine Operator's manual packed with your log splitter for information on the off-season storage of the engine.
- Check the Wedge for nicks and wear. Sharpen if needed.
- Apply a rust preventative (Fluid Film or equivalent) to any bare metal areas on the Wedge and on top of the Rail.
- If your DR HORIZONTAL/VERTICAL LOG SPLITTER will be idle for more than 30 days, we recommend using a gas stabilizer. This will prevent sediment from gumming up the Carburetor. If there is dirt or moisture in the gas or Tank, remove it by draining the Tank. Completely fill the Tank with fresh, unleaded gas and add the appropriate amount of stabilizer or gasoline additive. Run the Engine for a short time to allow the additive to circulate.
- Clean the exterior of the unit to remove all dirt, grease, and any other foreign material. Clean dirt and debris from the Cylinder Head Cooling Fins and Muffler area of the Engine. To prevent rust, touch up painted surfaces that have been scratched or chipped.
- Be sure all Nuts, Bolts, and Screws are securely fastened.
- If possible, store the Log Splitter in a dry, protected place. If it is necessary to store the Log Splitter outside, cover it with a protective material (especially the Engine). Do not store it next to corrosive materials, such as fertilizer.



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