# **DR**<sup>®</sup> RAPIDFIRE™ LOG SPLITTER

# SAFETY & OPERATING INSTRUCTIONS





Serial No.	
Order No.	

Original	Language
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DR Power Equipment

Toll-free phone: 1-800-DR-OWNER (376-9637)

Fax: 1-802-877-1213

Website: www.DRpower.com



Read and understand this manual and all instructions before operating the DR RAPIDFIRE LOG SPLITTER.

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#### Conventions used in this manual



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

# A 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.

#### 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. An Order Number is used to check and maintain your order history and is located on the upper left portion of 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**

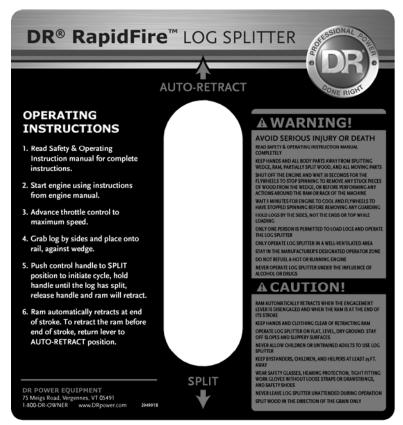
DR Power Equipment reserves the right to discontinue, change, and improve its products at any time without notice or obligation to the purchaser. The descriptions and specifications contained in this manual were in effect at printing. Equipment described within this manual may be optional. Some illustrations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

# **MARNING**

Read this Safety & Operating Instructions manual before you use the DR RAPIDFIRE 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 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 RAPIDFIRE 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.



#294991





#241821



#188871

WARNING: Check Oil Before Starting Engine

#137581

## **Protecting Yourself and Those Around You**

# **A** 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.
- 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.
- Keep bystanders at least 50 feet away from your work area at all times. Stop the engine when another person or pet approaches.

## Safety for Children and Pets

# **A** 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.

### Safety with Gasoline - Powered Machines

# **A** 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.
- 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 or repairs.
- 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.

## General Safety

# **A** 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:

- 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.
- 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 manufacturer's recommendation. 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.

#### 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 RAPIDFIRE 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.

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 RAPIDFIRE LOG SPLITTER in a safe manner. Contact us at www.DRpower.com or call 1-800-DR-OWNER (376-9637) for assistance.

## Chapter 2: Setting Up The DR RAPIDFIRE LOG SPLITTER

It may be helpful to familiarize yourself with the controls and features of your DR RAPIDFIRE LOG SPLITTER as shown in Figure 1 before beginning these procedures. If you have any questions at all, please feel free to contact us at www.DRpower.com.

#### **DR RAPIDFIRE LOG SPLITTER Controls and Features**

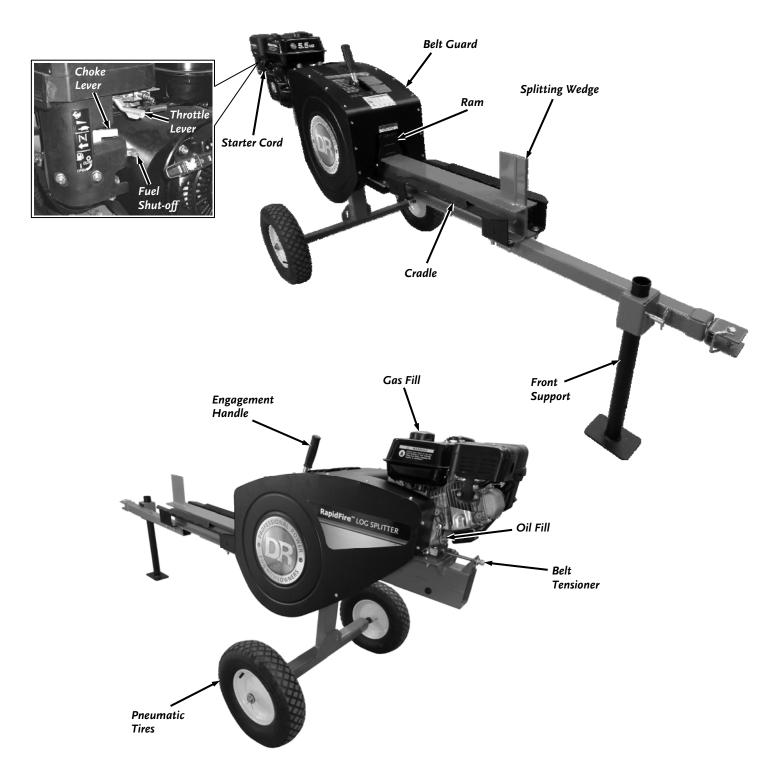


Figure 1

#### **Specifications**

	RapidFire Pro	RapidFire Pro-XL (manual start)	RapidFire Pro-XL (elec. start)
Engine	DR 5.5hp (see engine manual for specifications)	Subaru 6hp (see engine manual for specifications)	Subaru 6hp (see engine manual for specifications)
Wedge Height	6-1/4"	6-1/4"	6-1/4"
Log Capacity	Length 24 inches, Diameter 30 inches*	Length 24 inches, Diameter 30 inches*	Length 24 inches, Diameter 30 inches*
Cycle Time	3 seconds (approx.)	3 seconds (approx.)	3 seconds (approx.)
Tires	16"	16"	16"
Beam Height	25 inches	25 inches	25 inches
Overall Height	44 inches	44 inches	44 inches
Overall Length	94 inches	94 inches	94 inches
Width	37 inches	37 inches	37 inches
Splitter Weight w/ Tray	422 lbs. (191kg)	462 lbs. (210kg)	472 lbs. (214kg)
Splitter Weight w/out Tray	390 lbs. (177kg)	430 lbs. (195kg)	440 lbs. (200kg)
Flywheel Weight	55 lbs. (34kg)	74 lbs. (34kg)	74 lbs. (25kg)
Flywheel Diameter	17-1/4"	18-1/4"	18-1/4"
Flywheel Max RPM	400 RPM	400 RPM	400 RPM

<sup>\*</sup>The diameter listed is indicative of the maximum suggested size - a small log can be difficult to split when it contains knots or a particularly tough fiber. On the other hand, it may not be difficult to split logs with regular fibers even if its diameter exceeds the maximum indicated above.

## Adding Oil and Gasoline

Engine Oil	SAE 30: above 50 degrees F; 10w-30: 10-90 degrees F; 5w-30: 30 degrees F or below
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

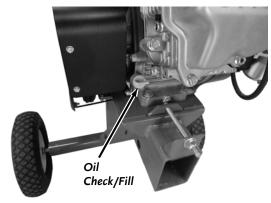


Figure 2

#### **NOTICE**

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

- 1. Position the machine so the Frame and Engine are level. Remove the Oil Fill/Dipstick (*Figure 2*) and clean the end of it with a rag.
- 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, but <u>DO NOT</u> screw it in to ensure an accurate reading and then remove it to check the oil level (clean the Dipstick with the clean rag after checking).

- 4. Continue adding a few ounces of oil at a time, rechecking the Dipstick until the oil reaches the fill 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 3*). 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.

## NOTICE

We highly recommend the use of fuel treatments in your fuel to prevent Carburetor fouling.

#### Check the Tire Pressure

#### **Tools Needed:**

- Tire Pressure Gauge
- Air Compressor
- 1. Remove the Valve Stem Protective Cap (*Figure 4*) and check the tire pressure with a Tire Pressure Gauge.
- 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.

# **M** WARNING

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

## Connect the Battery (electric start models)

1. Connect the Black Negative Terminal onto the negative Battery Lug (*Figure* 5).

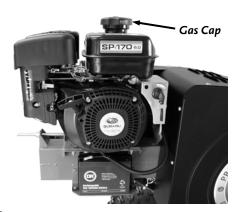


Figure 3



Negative Terminal Battery

Figure 5

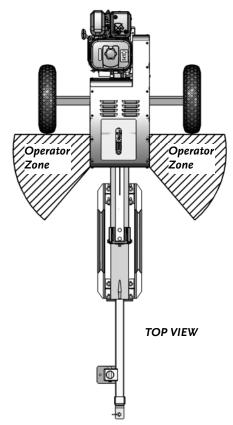


Figure 6

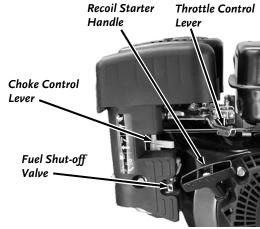


Figure 7

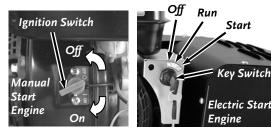


Figure 8

It may be helpful to better familiarize yourself with the features of your Log Splitter by reviewing *Figure 1* in Chapter 2 before beginning the steps outlined in this chapter.

## **M** WARNING

- Read and understand all instructions, safety precautions, and/or warnings listed in "Chapter 1 General Safety Rules" before operating this DR RAPIDFIRE 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 6. You must stay in the safe operating area at all times when the ram 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.
- 2. Make sure the fuel shut-off valve is in the "ON" position (*Figure 7*).
- 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 "Rabbit" position.
- 5. Manual Start: Turn the Ignition Switch to the "On" position (Figure 8).

  Grasp the recoil starter handle and slowly pull until you feel resistance (Figure 7). 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. <u>Electric Start:</u> Turn and hold the Key in the "Start" position until Engine starts then let the Key return to run position (*Figure 8*).
- 7. 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 7*).

**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, then advance the engine throttle control to maximum speed.

#### **Stopping the Engine**

- 1. Move the Throttle Lever to Idle "Turtle" position.
- 2. Manual Start: Turn the Ignition Switch to the "Off" position (Figure 8).
- 3. Electric Start: Turn the Key to the "Off" position.

#### **Splitting**

**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.

## **M** 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 9).
- Do not reach or step across the rail while the Log Splitter is running. This
  is a very UNSAFE method which could cause personal injury or even
  death.
- Shut off the engine and wait 30 seconds for the flywheels to stop spinning before removing any stuck pieces of wood from the wedge, or before performing any actions around the ram or rack of the machine.

## **A** 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 10).
- 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 11).
- As the log is being split, DO NOT reach forward and attempt to catch the split wood let it fall to the ground.
- Place the log on the Log Splitter. Grasp the log on the sides near the middle of the block (*Figure 12*). Center the log, side-to-side, on the rail of the Log Splitter, making sure that one end is against the Splitting Wedge.
- 2. With one hand on the Lever and the other hand clear of the machine, pull the Control Handle fully forward (towards the log) until the Log is split (*Figure 13*).
- 3. Release the Lever as soon as the Log is split to allow the Ram to return. Continuing to hold the Lever at the end of the stroke puts unnecessary stress on the Rack Teeth.

## **Splitting Tough Logs**

If the Ram stops before the end of the stroke while splitting a tough Log, quickly push the Lever back to prevent stress on the Belt(s). Letting the Ram return and operating the Lever again should split the Log.



Figure 13



Figure 9



Figure 10



Figure 11

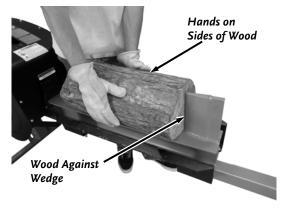


Figure 12

CONTACT US AT www.DRpower.com

#### **Chapter 4: Maintaining The DR RAPIDFIRE 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.

# **A** 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. Disconnect the Battery Terminals (Electric start only).

#### **Regular Maintenance Checklist**

PROCEDURE	BEFORE EACH USE	EVERY 2-1/2 HOURS	EVERY 25 HOURS	Every 100 Hours
Check Engine Oil Level	<b>A</b>			
Check General Equipment Condition	<b>A</b>			
Check Wedge for Sharpness	<b>A</b>			
Grease Surface of Slide Rail	<b>A</b>			
Check Belt(s)	<b>A</b>			
Grease Rack and Pinion		<b>*</b>		
Check Tire Pressure			<b>A</b>	
Clean Engine Exterior and Cooling			<b>A</b>	
Change Engine Oil	1 <sup>st</sup> time 5 hours		<b>A</b>	
Replace Air Filter			<b>A</b>	
Replace Spark Plug				<b>A</b>

<sup>\*</sup>Or 5 cord of wood



Figure 14

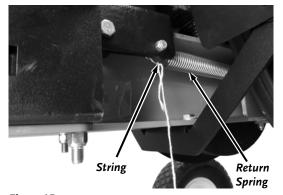


Figure 15

## **Engine Service**

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

#### Lubrication

All Bearings of your Splitter are sealed units and should have sufficient lubricant to last the life of your machine with normal use.

No lubrication is required between the Carriage Bearing and the Frame. This area must be kept free of lubricant to ensure proper operation of the Splitter (*Figure 14*).

#### **Greasing the Rack and Pinion**

#### Tools and Supplies needed:

- All Purpose Grease
- Rubber Gloves
- 1. Tie a String on the end loop of the return Spring and carefully (due to spring tension) remove the Spring from the Locknuts and hold the string as you let the Spring retract back under the Belt Guard (*Figure 15*). Repeat for the Spring on the other side of the Frame.
- 2. Pull the Carriage assembly out until it is near the Wedge.

- 3. Grease the Rack Teeth with All Purpose Grease (Figure 16).
- 4. Push the Carriage assembly back into starting position, reconnect both Return Springs and cut the strings off.

#### **Changing Engine Oil**

One of the easiest methods to remove oil from this Engine is to use a siphon style Oil Extractor. If you do not have one you can purchase it from us at www.DRpower.com.

#### Tools and Supplies needed:

- Oil Extractor
- · Clean Container for used Oil
- 1. Remove the Oil Fill/Dipstick (Figure 17).
- 2. Siphon the Oil as described in the Oil Extractor instructions.
- 3. Add oil as described in "Adding Oil and Gasoline" in Chapter 2.

#### **Rail Maintenance**

Between each use of the LOG SPLITTER, we recommend applying a rust preventative (Fluid Film or equivalent) to any bare metal areas on the top of the rail (*Figure 18*). This will assure the longest possible service life of the Wear Plate.

### **Carriage Wear Plate Replacement**

#### Tools and Supplies needed:

- Two 7/16" Wrench
- Two 9/16" Wrenches
- 3/4" Wrench
- Philips Head Screwdriver
- Dead Blow Hammer
- String
- Thread-Locking Fluid
- 1. Remove the Return Springs as described in step 1 of "Greasing The Rack and Pinion" on page 12 (*Figure 15*).
- 2. Pull the Carriage out all the way so it rests against the Wedge for support (*Figure 19*).

Note: In the next step position the Wrench on the right hand side of the Splitter so that the force from loosening the Bolts pulls the Ram into the Wedge for support. The Dead Blow Hammer should be used because the Bolts are very tight and the extra shock of hitting the Hammer against the Wrench loosening the Bolts easier. The Dead Blow Hammer should also be used to tighten the Bolts when reassembled.

3. Remove the two Bolts that secure the Rack to the Wedge using a 3/4" Wrench and Dead Blow Hammer (*Figure 19*).

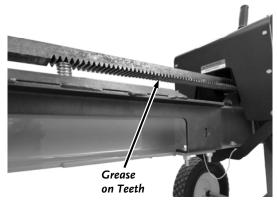


Figure 16

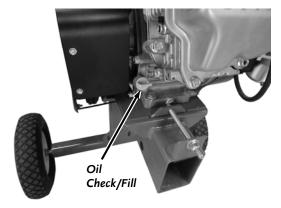


Figure 17

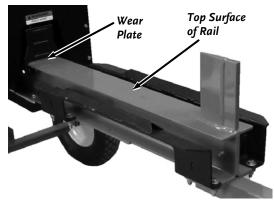


Figure 18

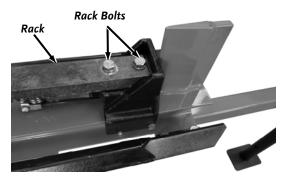


Figure 19

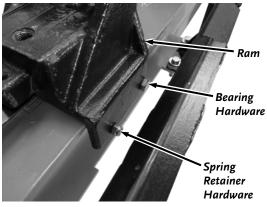


Figure 20

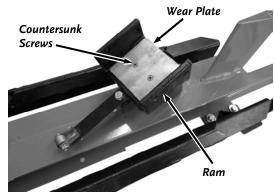


Figure 21

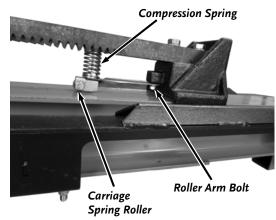


Figure 22

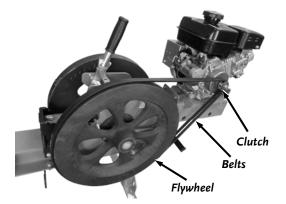


Figure 23

- 4. Remove the Spring retainer Hardware on both sides of the Ram using two 7/16" Wrenches (*Figure 20*).
- 5. Remove the Locknut and Bearing (on the inside) from the Bearing Bolt on both sides of the Ram using two 9/16" Wrenches. The Bolts remain in place for now.
- 6. Lift the Rack up and slide the Ram under it towards the back of the machine locating it between the Log Cradle and the Belt Guard so the Bearing Bolts can be removed from the Ram.
- 7. Lift the Ram from the Frame and turn it over to gain access to the Wear Plate Hardware (*Figure 21*).
- 8. Remove the two Screws that secure the Wear Plate using a Philips Head Screwdriver and remove the Wear Plate.
- 9. Position the new Wear Plate making sure it is not sticking out on either side of the Ram. Add Thread-Locking Fluid to the threads of the two Screws and secure the Wear Plate with the Screws using a Philips Head Screwdriver.
- 10. Reassemble in the reverse order.

# Aligning the Carriage Spring Roller (When it is noticeably pushed to one side)

An adjustment of the Carriage Spring Roller is required if the measurement from the center of the Roller to the edge of the Frame on both sides is not the same.

#### Tools and Supplies needed:

- 1/2" Wrench
- Tape Measure
- 1. Remove the Return Springs as described in step 1 of "Greasing The Rack and Pinion" on page 12 (*Figure 15*).
- 2. Pull the Carriage out approximately half way and loosen the Roller Arm Bolt with a 1/2" Wrench (*Figure 22*).
- 3. Align the Roller to be equal distance from each side of the Frame edge using a Tape Measure.

**Note:** Adjust the Compression Spring if needed so it is in the center of the Rack Teeth.

- 4. Tighten the Roller arm Bolt.
- 5. Install the Springs and remove the string.

## Replacing the Centrifugal Clutch (If slipping excessively)

#### **Tools and Supplies needed:**

- 1/2" Wrench
- Dead Blow Hammer
- 1. Remove Belt Guard as described in "Changing and Adjusting Belt(s)" (page 16).
- 2. Remove the Belt(s) by rolling them off the Flywheels as you slowly rotate the Flywheels (*Figure 23*).

3. Remove the Bolt, Lock Washer and large Flat Washer from the Clutch with a 1/2" Wrench and remove the Clutch from the Engine Shaft (*Figure 24*).

**Note:** To remove and replace the Clutch hardware, use a dead blow hammer to hit the Wrench to enable you to create torque and prevent movement of the Engine Shaft.

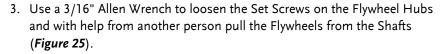
- 4. Install the new Clutch and secure with the Bolt, Lock Washer and large Flat Washer with a 1/2" Wrench.
- 5. Install the Belt(s) and Belt cover.

# Replacing the Linkage Bushings (To Fix excessive play in bushings) Tools and Supplies needed:

- 3/16" Allen Wrench
- Retaining-ring Pliers
- Hammer and long Punch
- 1. Remove Belt Cover as described in "Changing and Adjusting Belt(s)" (page 16).
- 2. Remove the Belt(s) by rolling them off the Flywheels as you slowly rotate the Flywheels (*Figure 23*).



The Flywheels weigh approximately 55 pounds each (Pro) and 74 pounds each (Pro-XL). Get another person to help with removal and use caution to prevent injury.



**Note:** There are Keys in the slots of the Flywheel Shafts and you must ensure they are in the slots when the Flywheels are reinstalled.

4. Use Retaining-ring Pliers to remove the Rings from one side of the Linkage Pins (*Figure 26*).

**Note:** Pay attention to the positioning of the Linkage for proper installation of the Linkage assembly (step 7) when finished.

- 5. Use a Hammer and long Punch to push the Pins out of the Frame and Linkage assembly. Pull the Linkage from the machine.
- Replace the used Bushings with new ones (*Figure 27*). You may need the
  punch and Hammer for removal and the Hammer to install some of the
  Bushings.

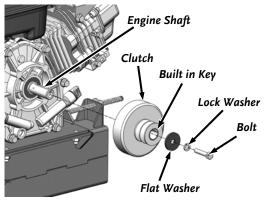


Figure 24

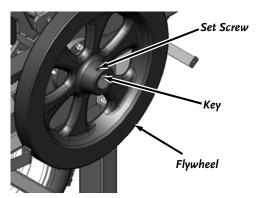


Figure 25

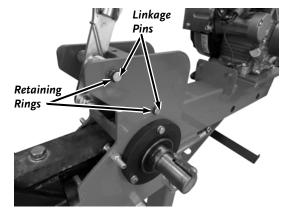


Figure 26

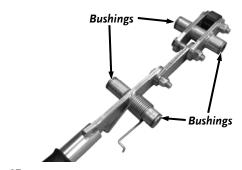


Figure 27

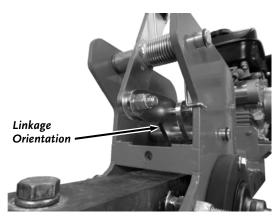


Figure 28

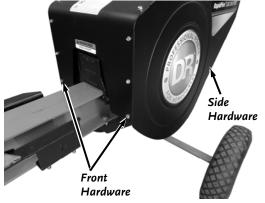


Figure 29

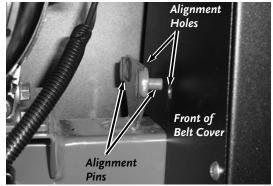


Figure 30

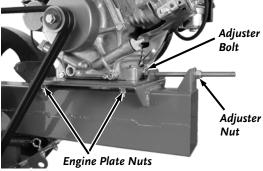


Figure 31

- 7. Position the linkage assembly into the Frame in the correct orientation (*Figure 28*) and install the Pivot Pins and Retaining Rings.
- 8. Assemble the Flywheels, Belts and Belt Cover in the reverse order of the steps above.

## Changing and Adjusting the Belt(s)

#### Tools and Supplies needed:

- Two 7/16" Wrenches
- 1/2" Wrench
- Two 9/16" Wrenches
- 1. Remove one Bolt and Locknut on the left side of the Belt Guard with two 7/16" Wrenches (*Figure 29*).
- 2. Remove the two lower sets of Bolts and Locknuts at the front of the Belt Guard with two 7/16" Wrenches.
- 3. Move the Belt Guard forward and lift it off the alignment pins to remove it from the machine (*Figure 30*).

**Note:** It will help to have someone position the Operator Handle forward to aid in removal and installation of the Belt Guard.

- 4. Loosen the four Locknuts that secure the Engine Mounting plate using a 1/2" Wrench (*Figure 31*).
- 5. Hold the Tensioner Bolt head with a 9/16" Wrench and loosen the Tensioner Nut with a 9/16" Wrench until the Engine can be moved forward enough to remove the Belt(s).
- 6. Install new Belt(s) onto the Clutch and Flywheel.
- Adjust the Belt Tensioner by holding the Bolt head with one 9/16" Wrench while turning the Locknut with another 9/16" Wrench until there is 1/2" of slack in the Belt(s) (Figure 32).

**Note:** The Belt on the Pro model Splitter should have between 3/4" to 1" of slack for proper adjustment.

8. Tighten the Engine Plate Nuts and install the Belt Guard.

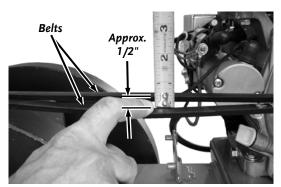


Figure 32

#### Replacing the Wheels

#### Tools and Supplies needed:

- Needle Nose Pliers
- Jack

# **A** 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 until a Wheel is just off the ground.
- 2. Remove the Cotter Pin by straightening the ends and pulling it from the hole in the Axle with Needle Nose Pliers (*Figure 33*).
- 3. Remove the large Flat Washer and pull the Wheel Assembly from the Axle.
- 4. Install the new/repaired Wheel Assembly with the Valve Stem facing out and install the large Flat Washer and Cotter pin.
- 5. Bend the ends of the Cotter Pin over with Needle Nose Pliers to secure.
- 6. Lower the Splitter to the ground.

## Replacing the Battery

#### **Tools Needed:**

- Two 7/16" Wrenches
- 1. Disconnect the Battery Terminals (Figure 34).
- 2. Remove the Bolts and Locknuts that secure the Battery Clamp using two 7/16" Wrenches.
- 3. Remove the Clamp and the old Battery.
- 4. Install the new Battery.
- 5. Install the Battery Clamp and secure with the Bolts and Locknuts using two 7/16" Wrenches.
- 6. Attach the Battery Terminals. Black Wire to negative black Terminal and Red Wire to positive red Terminal.

# Wheel Assembly Large Flat Washer Cotter Pin

Figure 33

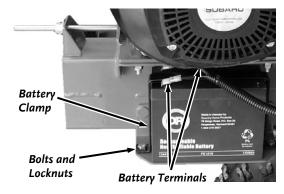


Figure 34

## Battery Care (electric start models)

Proper care can extend the life of a Battery. Follow these recommendations to ensure your Battery's best performance and long life:

- Do not allow the Battery charge to get too low. If the machine is not used, charge the Battery every 4 6 weeks. Operate the engine for at least 45 minutes to maintain proper Battery charge.
- Store an unused Battery in a dry environment with temperatures between +40°F (+5°C) and +95°F (+35°C). Make sure the storage temperatures will never be outside of these limits. The lower the storage temperature is within the specified temperature, the better as the battery will discharge more slowly at low temperatures.
- Do not charge an already charged Battery. In theory, you cannot overcharge our Battery with a trickle charger; however, when a Battery is fully charged and the charger is still on, it generates heat that could be harmful to the Battery. A fully charged Battery will read 12V-13.2V with a voltmeter.
- Do not continue to crank your Engine when the Battery charge is low.

#### **Charging the Battery**

Operate the Engine for at least 45 minutes to maintain proper Battery charge. If the Battery loses its charge, you will need to use a trickle charger (like the DR Battery Charger) to recharge it. The Charger should have an output of 12 volts DC at no more than 2 amps.

#### **NOTICE**

When you are finished charging the battery, disconnect the charger from the outlet first, then disconnect the battery charger wires from the battery. If you leave the battery charger wires connected to the battery, the battery will discharge itself back into the charger.

- At 1 amp the Battery may need to be charged for as long as 48 hours.
- At 2 amps, the Battery may need to be charged for as long as 24 hours.

**NOTE:** Using the Recoil Starter and then running the Engine will not recharge a dead or significantly discharged Battery.

To connect a Battery Charger to your DR RAPIDFIRE LOG SPLITTER, follow the steps listed below.

- 1. Attach the Black (-) alligator clipped wire from the Charger Adapter to the Negative (-) terminal of the Battery, then attach the Red (+) alligator clipped wire to the Positive (+) Battery terminal.
- 2. Plug the Charger into a standard wall outlet.
  - Typically, the Battery takes between 6 and 8 hours to fully charge. Do not leave the charger on the battery longer than 24 hours for a 2 amp charger, or 48 hours for a 1 amp charger as you could potentially damage the battery..
  - You can charge the Battery many times. The Battery lasts longer if you charge it before it is fully drained. Keep it fully charged and at room temperature when not using your DR RAPIDFIRE LOG SPLITTER.
  - If the Battery does not hold its charge for very long under normal conditions or it simply won't hold a charge, then replace it. You can purchase replacement Batteries directly from us. To install your new Battery, follow the directions on the previous page.

## Disposing of the Battery Responsibly

The Battery is a sealed lead-acid Battery. Recycle or dispose of it in an environmentally sound way.

- Do not dispose of a lead-acid Battery in a fire; the Battery may explode or leak.
- Do not dispose of a lead-acid Battery in your regular, household trash. Law in most areas prohibits incinerating, disposing in a landfill, or mixing a sealed lead-acid Battery with household trash.

## Recycling a Used Battery

Please dispose of your used Batteries responsibly by recycling them. Call your local Solid Waste Management District or your local waste handler to locate the collection site nearest you. Some collection sites recycle Batteries year-round; others collect them periodically.

You can also visit the Web site of Earth 911 for more information [www.earth911.org]. Enter the search term 'battery' and your zip code in the search function at the top of the page. The site lists recycling centers located near you.

For a fee, you can recycle your Batteries with the International Metals Reclamation Company. Visit them at www.inmetco.com and click Services; or contact them at:

INMETCO, One INMETCO Drive, Ellwood City, PA 16117, (724) 758-2800; fax (724) 758-2845

To learn more about hazardous waste recycling, visit the Web site for Battery Council International [www.batterycouncil.org] or for the Environmental Protection Agency [www.epa.gov].

## **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 or call toll-free 1-800-DR-OWNER (376-9637) for support.



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.

## **Troubleshooting Table**

Sумртом	Po	SSIBLE CAUSE
The engine won't start.	$\Rightarrow$	Is the ignition switch in the "On" position?
(Please refer to the		Is the fuel shut-off valve on?
engine owner's manual for engine-specific	$\Rightarrow$	Are you using fresh, clean gas? If the gas is old, change it. Use a fuel stabilizer if you keep gas longer than 30 days.
procedures.)	$\Rightarrow$	Is the spark plug clean? If the spark plug is dirty or cracked, change it. If it's oily, leave it out, hold a rag over the plug hole and pull the recoil cord several times to blow out any oil in the cylinder, then wipe off the plug and reinsert it.
	$\Rightarrow$	If your engine still won't start, contact us at www.DRpower.com for assistance.
The engine lacks power	$\Rightarrow$	Check that the Throttle Lever is in the "Run" position and the Choke is off.
or is not running smoothly.	$\Rightarrow$	Is the air filter clean? If it's dirty, change it following the procedure in the engine manufacturer's owner's manual.
(Please refer to the engine owner's manual	$\Rightarrow$	Is the spark plug clean? If it's fouled or cracked, change it. If it's oily, leave it out, hold a rag over the plug hole and pull your recoil cord several times to blow out any oil in the cylinder, then wipe off the plug and reinsert it.
for engine-specific procedures.)	$\Rightarrow$	Are you using fresh, clean unleaded gas? If it's old, change it. Use a fuel stabilizer if you keep gas longer than 30 days.
	$\Rightarrow$	Does your engine have the right amount of clean oil? If it's dirty, change it following the procedure in the engine manufacturer's owner's manual.
	$\Rightarrow$	Check the oil level and adjust as needed.
	$\Rightarrow$	If your engine still lacks power, contact us at www.DRpower.com for assistance.
Engine smokes.	$\Rightarrow$	The choke may still be on; Move the choke lever to the open position.
(Please refer to the	$\Rightarrow$	Check the oil level and adjust as needed.
engine owner's manual	$\Rightarrow$	Check the air filter and clean or replace if needed.
for engine-specific procedures.)	$\Rightarrow$	You may be using the wrong oil—too light for the temperature. Refer to your Engine Owner's Manual for detailed information.
	$\Rightarrow$	Clean the cooling fins if they're dirty.
	$\Rightarrow$	If the engine still smokes, contact us at www.DRpower.com for assistance.
Rack catching on tail tube (at end of stroke).	$\Rightarrow$	Check for wood chips or debris between ram bushing plate and beam. Clean beam of built up/caked on debris.
Rack returning very slow	$\Rightarrow$	Check rack lift bearing for alignment or damage.
or not returning	$\Rightarrow$	Return spring is unhooked or damaged. Reconnect or replace as needed.
properly.	$\Rightarrow$	Machine wedge end too low. Must be almost level or wedge end slightly higher.
Operator Lever snapping out of gear or not	$\Rightarrow$	Lever not all the way forward when rack comes under full load. Push lever quicker and more forcefully into the full forward position.
staying in gear.	$\Rightarrow$	Stop bolt may be bent or not adjusted properly; contact us at www.DRpower.com for assistance.
	$\Rightarrow$	Ram has been overloaded at lower part of face. Check rack gear for straightness.

## Troubleshooting Table (Continued)

# **MARNING**

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.

SYMPTOM	POSSIBLE CAUSE
Rack slamming back too fast.	<ul> <li>⇒ Wedge end of machine too high. Must be almost level with ram end or just slightly higher.</li> <li>⇒ Springs not operating properly. Fix or replace as needed.</li> </ul>
Machine does not seem to have full splitting power.	⇒ The belt(s) may be too loose and slipping. Adjust or replace belt(s) as needed.
Operator Lever not engaging rack with pinion gear.	<ul> <li>⇒ Clean wood chips or other debris from under rack.</li> <li>⇒ Clean accumulated dirt from frame where carriage assembly rests against rubber bumpers.</li> </ul>

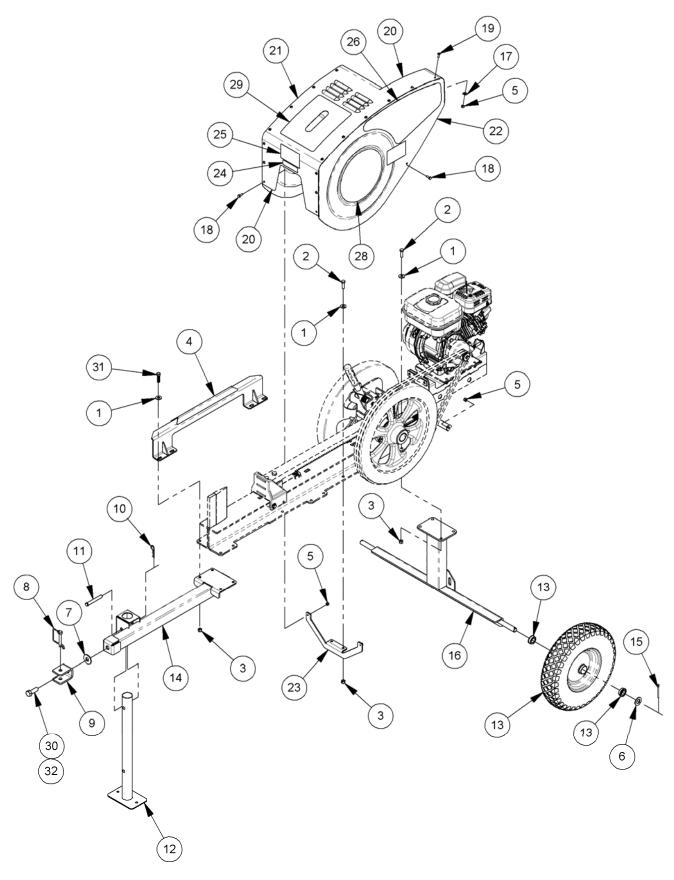
## **Chapter 6: Parts Lists and Schematic Diagrams**

## Parts List - TOW BAR AND AXLE ASSEMBLY

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

Ref#	Part#	Description	Ref#	Part#	Description
1	11239	Washer, Flat, 3/8", USS	17	11238	Washer, Flat, 1/4", USS
2	15043	Bolt, HHCS, 3/8-16 X 1-1/4", Gr5	18	11983	Bolt, HCS, 1/4-20 X 3/4", Gr2, ZP
3	11075	Nut, Nylon Lock, 3/8-16, ZP	19	18031	Bolt, BHCS, 1/4-20 X 5/8", ZP
4	29469	Cradle, Standard Acc	20	29463	Guard, Belt, Center
5	11073	Nut, Nylon Lock, 1/4-20, ZP	21	29466	Guard, Belt, Right
6	18064	Washer, .8" ID, 1.5" OD X .11"	22	29465	Guard, Belt, Left
7	15745	Washer, Flat, 5/8", USS	23	29453	Bracket, Cover
8	21155	Pin, Snap Safety, 3/8" X 2.75"	24	25044	Label, Warning, Pinch Point, 3.5" x1"
9	19295	Clevis Hitch	25	24182	Label, Warning, Rotating Parts
10	16003	Pin, Hitch Clip, 1/2" To 9/16", .12" Wire	26	27576	Label, Splitter, Rapidfire
11	21154	Pin, Clevis, 1/2" X 3.50" Lg., ZP	27	29523	Label, Serial #, Barcode
12	30416	Stand, Tube	28	18744	Label, Dr Logo, 10", Round
13	30433	Premium Knobby Wheel Assembly, 4.80	29	29499	Label, Warning, Cover, Belt
		4.00 8	30	19296	Bolt, HCS, 5/8-11 X 1.75", Gr5, ZP
14	30427	Towbar, Rapid Fire	31	11985	Bolt, HCS, 3/8-16 X 1-1/2", Gr5, ZP
15	18655	Pin, Cotter, 3/16" X 2.0"	32	10131	Nut, Nylon Lock, 5/8-11
16	30428	Axle			

## Schematic – TOW BAR AND AXLE ASSEMBLY

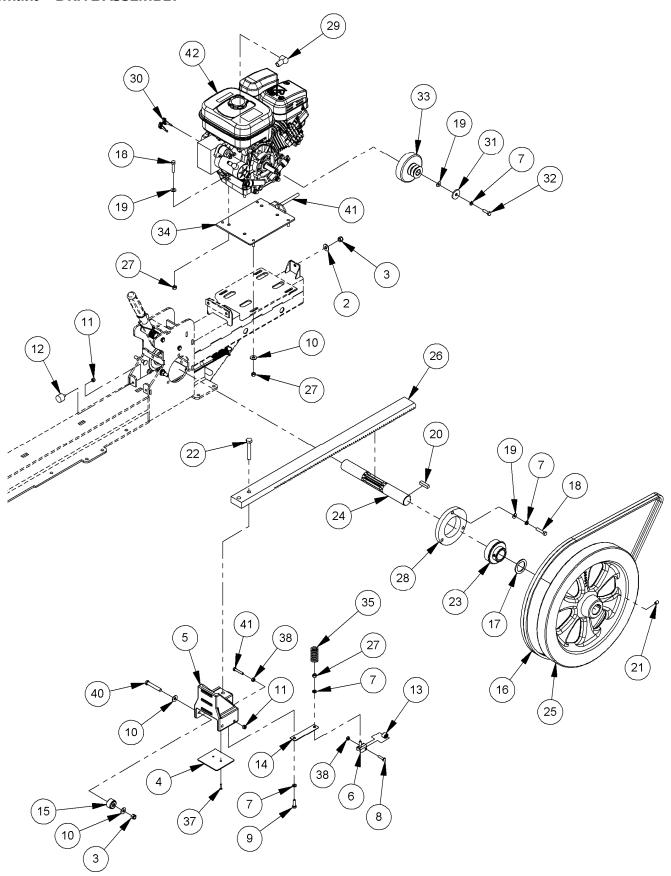


## Parts List – DRIVE ASSEMBLY

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

Ref#	Part#	<u>Description</u>	Ref#	Part#	Description
1	12683	Nut, 3/8-16, ZP	24	29454	Gear, Pinion
2	11239	Washer, Flat, 3/8" USS	25	29461	Flywheel, Spoke Design (Pro XL)
3	11075	Nut, Nylon Lock, 3/8-16, ZP		30410	Flywheel, 55lb (Pro)
4	30429	Wear, Plate, Carriage	26	29459	Gear, Rack
5	30411	Ram	27	11076	Nut, Nylon Lock, 5/16-18, ZP
6	29452	Cradle, Spring, Carriage	28	29455	Housing, Bearing
7	11243	Washer, Lock, Split, 5/16"	29	29487	Boot, Terminal, Red
8	11149	Bolt, HCS, 1/4-20 X 1.00", Gr5, ZP	30	27594	Key, Start Switch, 13.74, Sub
9	11158	Bolt, HCS, 5/16-18 X 1", ZP	31	16514	Washer, .385" ID, 1.39" OD, .15"t
10	11241	Washer, Flat, 5/16", USS, ZP	32	17882	Bolt, HCS, 5/16-24 X 1", Gr2 ZP
11	11073	Nut, Nylon Lock, 1/4-20, ZP	33	29462	Clutch, Centrifugal, Dual Sheave
12	29498	Cylinder, Bumper	34	29458	Plate, Engine Mount
13	29472	Bearing, Yoke, Roller, .750" Dia	35	29471	Spring, Extension, Carriage Return
14	29451	Spring, Carriage	36	12686	Bolt, HCS, 3/8-16 X 2", Gr5 ZP
15	29473	Bearing, Yoke, Roller, 1.125" Dia	37	31236	Bolt, Flathead, 10-24 X 5/8", ZP
16	29474	Belt, 4l730 (Pro XL)	38	11070	Nut, Hex, 1/4-20, ZP
	31237	Belt, 4l710 (Pro)	39	11985	Bolt, HCS, 3/8-16 X 1-1/2", Gr5, ZP
17	31239	Spacer, 1-1/4" ID X 2-1/8" OD X .125"	40	16484	Bolt, HCS, 3/8-16 X 2-1/2", ZP
18	13443	Bolt, HCS, 5/16-18 X 1-1/2", Gr5, ZP	41	10145	Bolt, HHCS, 1/4-20 X 1-1/2"
19	11238	Washer, Flat, 1/4" USS	42	27574	Engine, Subaru, 6hp, 50state, E/S,
20	29494	Key, Square, 3/8" X 3/8" X 1.5" L			w/label (Pro XL)
21	29493	Screw, Set, Cup Point, 3/8-16 X .5 L		29541	Engine, Subaru, 6hp, 50state, M/S, w/label (Pro XL)
22 23	29492 29456	Bolt, HCS, 1/2-20 X 3", ZP Bearing Insert, W/ Snap Ring		31226	Engine, DR 5.5hp (Pro)
23	27430	bearing macit, w/ anap ming	Not S	<u>Shown</u>	
				18887	Label, Hot Surface, R/C
				13758	Label, Warning Check Oil
					=

## Schematic – DRIVE ASSEMBLY

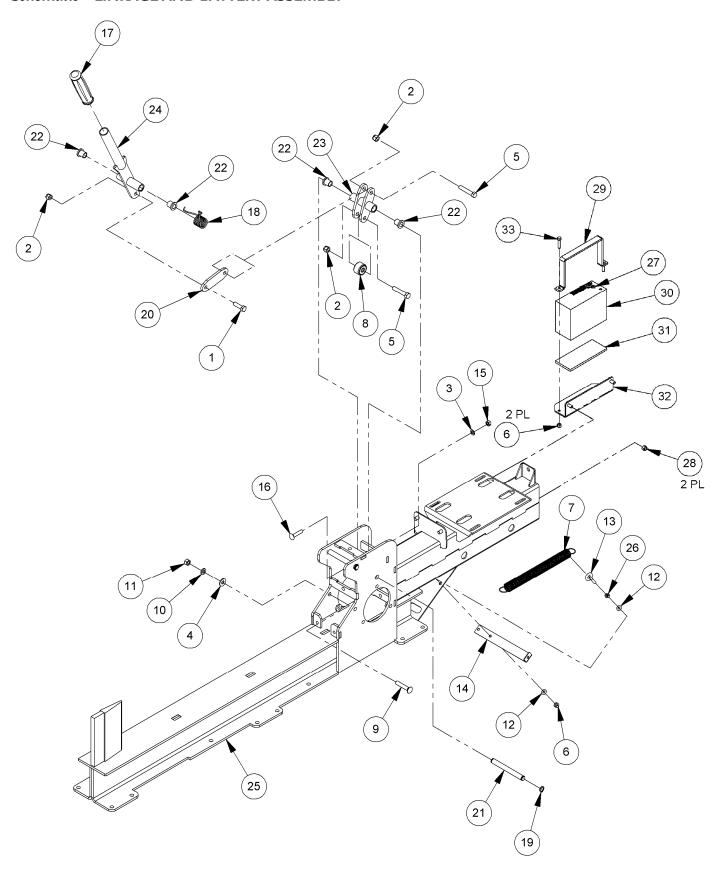


## Parts List – LINKAGE AND BATTERY ASSEMBLY

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

Ref#	Part#	Description	Ref#	Part#	Description
1	15043	Bolt, HHCS, 3/8-16 X 1-1/4", Gr5	18	27587	Spring, Return
2	11075	Nut, Nylon Lock, 3/8-16, ZP	19	18975	Retaining Ring, .468" ID
3	11243	Washer, Lock, Split, 5/16"	20	29479	Link, Engagement
4	11241	Washer, Flat, 5/16" USS, ZP	21	29477	Pin, Pivot, Engagement
5	12686	Bolt, HCS, 3/8-16 X 2", Gr5 ZP	22	29457	Bushing, Bronze
6	11073	Nut, Nylon Lock, 1/4-20, ZP	23	29448	Arm, Bearing
7	29471	Spring, Extension, Carriage Return	24	29450	Handle, Engagement
8	29473	Bearing, Yoke, Roller, 1.125" Dia	25	30431	Frame, Main
9	22913	Bolt, Carriage, 3/8-16 X 2", Gr5, ZP	26	11070	Nut, Hex, 1/4-20, ZP
10	18081	Washer, Lock, 3/8"	27	29507	Wire Harness
11	12683	Nut, 3/8-16, ZP	28	11076	Nut, Nylon Lock, 5/16-18
12	11237	Washer, Flat, 10-24 USS	29	24230	Strap, Battery
13	29478	Bolt, Eye, 1/4-20 X .875"	30	13447	Battery, 9 Ah 12V
14	27592	Bracket, Cover	31	28697	Pad, Battery, 2.5" X 6.125"
15	11069	Nut, Hex, 5/16-18, Gr2, ZP	32	25862	Bracket, Battery
16	10913	Bolt, Carr, 5/16-18 X 1-1/2", Gr2 ZP	33	11468	Bolt, HHCS, 1/4-20 X 1-1/4", Gr.2, ZP
17	16496	Grip, 1.00"			

## Schematic – LINKAGE AND BATTERY ASSEMBLY



## 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.

# **A** 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 that Engine is clean of debris.
  - 1 Check the general condition of the Log Splitter, e.g.; Nuts, Bolts, Welds, etc.
  - 1 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

# **A** 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.

- Change the Engine Oil.
- Clean or replace the Air Filter.
- Check the Wedge for nicks and wear. Sharpen if needed.
- Grease the Rack Teeth.
- Apply a rust preventative (Fluid Film or equivalent) to any bare metal areas on the top of the Rail.
- If your DR RAPIDFIRE 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.
- Remove the Spark Plug(s) and pour about 1 ounce of Motor Oil into the Cylinder hole. Replace the Plug(s) and crank the Engine over a couple of times using the Pull Cord, or the Electric Starter (for Electric Start Machines). This will coat the Piston and seat the Valves to prevent moisture buildup.
- 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). For Electric Start Model, store the machine in a dry environment with temperatures between +40°°F (5°C) and +95F (+35°C). Make sure the storage temperatures will never be outside of these limits. The lower the storage temperature is within the specified temperature, the better as the Battery will discharge more slowly at low temperatures. If it is necessary to store the Log Splitter outside make sure to disconnect the Battery and store it in an environment as listed above. Make sure the disconnected Battery terminals are not resting on any surface that may be prone to collecting water, snow or any other liquid as this may cause damage to the Terminals and to the Battery when reconnected.

