

DR[®] SELF-FEEDING WOOD CHIPPER

SAFETY & OPERATING INSTRUCTIONS



Models:
Pro 475
Pro XL 575

Serial No. _____

Order No. _____

DR Power Equipment

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

Website: www.DRpower.com



Read and understand this manual and all instructions before operating or servicing this DR SELF-FEEDING WOOD CHIPPER.

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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.

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 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.

California Proposition 65

 **WARNING**
CANCER AND REPRODUCTIVE HARM - www.P65Warnings.ca.gov.

Chapter 1: General Safety Rules

! WARNING

Read this safety & operating Instructions manual before you use the DR® Chipper. 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 SELF-FEEDING WOOD CHIPPER carries prominent labels as reminders for its proper and safe use. Shown below are copies of all the safety and operation labels that appear on the equipment. Take a moment to study them and make a note of their location on your DR SELF-FEEDING WOOD CHIPPER as you assemble and before you operate the unit. Replace damaged or missing safety and operation labels immediately.



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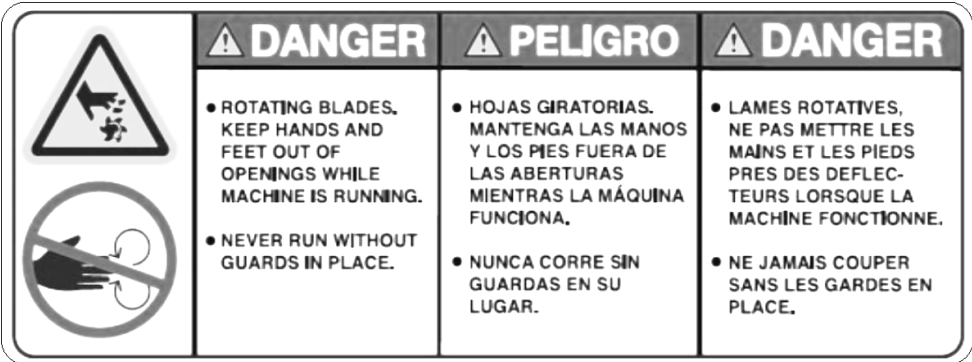
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Pictogram Descriptions



This label indicates proximity to machine openings with rotating blades inside.

SERIOUS INJURY OR DEATH will occur if hands, feet, or any part of your body are placed in the chipper hopper, discharge opening, or near or under any moving part while the machine is running.

Never run without guards in place.



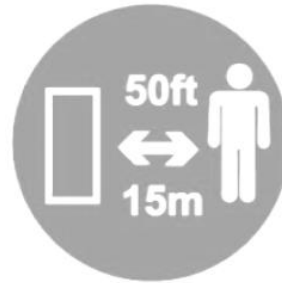
*Never reach into feed hoppers, discharge opening, or maintenance openings. **SERIOUS INJURY OR DEATH** may occur.*



Machine may discharge wood chips and debris at great speeds. Keep area of discharge clear of people, animals, buildings, glass, or anything else that will obstruct clear discharge, cause injury, or damage. Wind can also change discharge direction, so be aware.



Do Not Exceed 10 mph while towing the chipper. Never tow the chipper over roads.



Keep bystanders 50 feet away from your work area at all times. Wood chips exit the chipper at great speeds. To be safe, do not operate the machine near small children or pets, and never allow children to operate the chipper. Stop the engine when another person or pet approaches.



Use ear protectors or ear plugs rated for at least 20 dba to protect your hearing.



Always wear protective goggles or safety glasses with side shields while chipping to protect your eyes from possible thrown debris.



Read this safety & operating Instructions manual before you use the machine. Become familiar with the operation and service recommendations to ensure the best performance.

Protecting Yourself and Those Around You

WARNING

This is a high-powered machine, with moving parts operating with high energy at high speeds. 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:

- Always wear protective goggles or safety glasses with side shields while chipping to protect your eyes from possible thrown debris.
 - Avoid wearing loose clothing or jewelry, which can catch on moving parts or the material fed into the chipper hopper.
 - We recommend wearing gloves while chipping. Be sure your gloves fit properly and do not have loose cuffs or drawstrings.
 - Wear shoes with non-slip treads when using your chipper. If you have safety shoes, we recommend wearing them. Do not use the machine while barefoot or wearing open sandals.
 - Wear long pants while operating the DR SELF-FEEDING WOOD CHIPPER.
 - Use ear protectors or ear plugs rated for at least 20 dba to protect your hearing.
 - Never allow people who are unfamiliar with these instructions to use the chipper. Allow only responsible individuals who are familiar with these rules of safe operation to use your machine.
 - Never place your hands, feet, or any part of your body in the chipper hopper, discharge opening, or near or under any moving part while the machine is running. Keep area of discharge clear of people, animals, buildings, glass, or anything else that will obstruct clear discharge, cause injury, or damage. Wind can also change discharge direction, so be aware. If it becomes necessary to push material into the chipper hopper, use a small diameter stick, not your hands.
 - Keep bystanders 50 feet away from your work area at all times. Wood chips exit the chipper at great speeds. To be safe, do not operate the machine near small children or pets, and never allow children to operate the chipper. Stop the engine when another person or pet approaches.
 - Never use the machine without ensuring that all guards and shields are in place, including the chipper hopper, discharge chute and blowback shield.
 - Always operate the machine from the operator zone (see chapter 3). Never pass or stand on the discharge side of the machine when the engine is running or the flywheel is turning.
 - Never try to pick up, move, or transport the machine while the engine is running or the flywheel is turning.
 - Clear the area of objects such as wire and rope, etc. Inserting these objects into the chipper hopper could damage the flywheel and/or cause injury.
 - Never, under any conditions, remove, bend, cut, fit, weld, or otherwise alter standard parts on the DR SELF-FEEDING WOOD CHIPPER. This includes all shields and guards. Modifications to your machine could cause personal injuries and property damage and will void your warranty.
-

Safety for Children and Pets

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 chipping 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 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 DR SELF-FEEDING WOOD CHIPPER.
-

Safety with Gasoline - Powered Machines

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 the DR SELF-FEEDING WOOD CHIPPER in any enclosure. Never store the machine with 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 your hands and combustible substances away from the engine when it is hot and clean the engine area after each use.
 - To reduce fire hazard, keep the engine cooling fins and muffler area free of debris build-up such as leaves, grass, oil, grease or any other combustible material.
 - 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, except for adjustment. 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

WARNING

Operating this chipper 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 chipper:

- Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people, their property, and themselves.
 - Your DR SELF-FEEDING WOOD CHIPPER is a powerful tool, not a plaything. Exercise extreme caution at all times. The design of this machine is to chip wood. Do not use it for any other purpose.
 - Ensure you know the steps on how to stop the chipper properly (see chapter 3).
 - Operate this machine on a level surface only. Never operate your unit on a slippery, wet, muddy, or icy surface. Exercise caution to avoid slipping or falling.
 - Keep your face and body back from the chipper hopper to avoid accidental bounce back of any material.
 - When feeding material into the chipper hopper, be extremely careful that pieces of metal, rocks, or other foreign objects are not included. Personal injury or damage to the machine could result.
 - Never allow an accumulation of processed material to build up in the discharge area as this will prevent proper discharge and can result in kickback from the chipper hopper.
-

General Safety (continued)

WARNING

- Always stop the engine when moving the DR SELF-FEEDING WOOD CHIPPER.
- See manufacturer's instructions for proper operation and installation of accessories. Only use accessories approved by DR Power Equipment.
- If the cutting mechanism strikes a foreign object or if your machine should start making an unusual noise or vibration, shut down the engine, wait for all moving parts to come to a complete stop (the flywheel will continue rotating for a while after the engine is shut down), disconnect spark plug wire, keeping it away from the spark plug to prevent accidental starting, then wait 5 minutes before inspecting for clogging or damage. Vibration is generally a warning of trouble. Clean and repair and/or replace damaged parts.
- Never tamper with safety devices. Check their proper operation regularly.
- Stay alert for hidden hazards or traffic. Never carry passengers on your machine.
- Never overload or attempt to chip material beyond the manufacturer's recommendation; see chapter 3. PERSONAL INJURY or damage to the machine could result.
- While using the DR SELF-FEEDING WOOD CHIPPER, 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.
- 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 SELF-FEEDING WOOD CHIPPERs 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 local fire marshal or forest service 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 SELF-FEEDING WOOD CHIPPER 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 SELF-FEEDING WOOD CHIPPER

This chapter outlines assembly and a few simple steps you will need to follow to set up your new machine before you use it. It may be helpful to familiarize yourself with the controls and features of your DR SELF-FEEDING WOOD CHIPPER 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 or call our Customer Service Representatives at our toll free number: 1-800-DR-OWNER (376-9637).

DR SELF-FEEDING WOOD CHIPPER Controls and Features

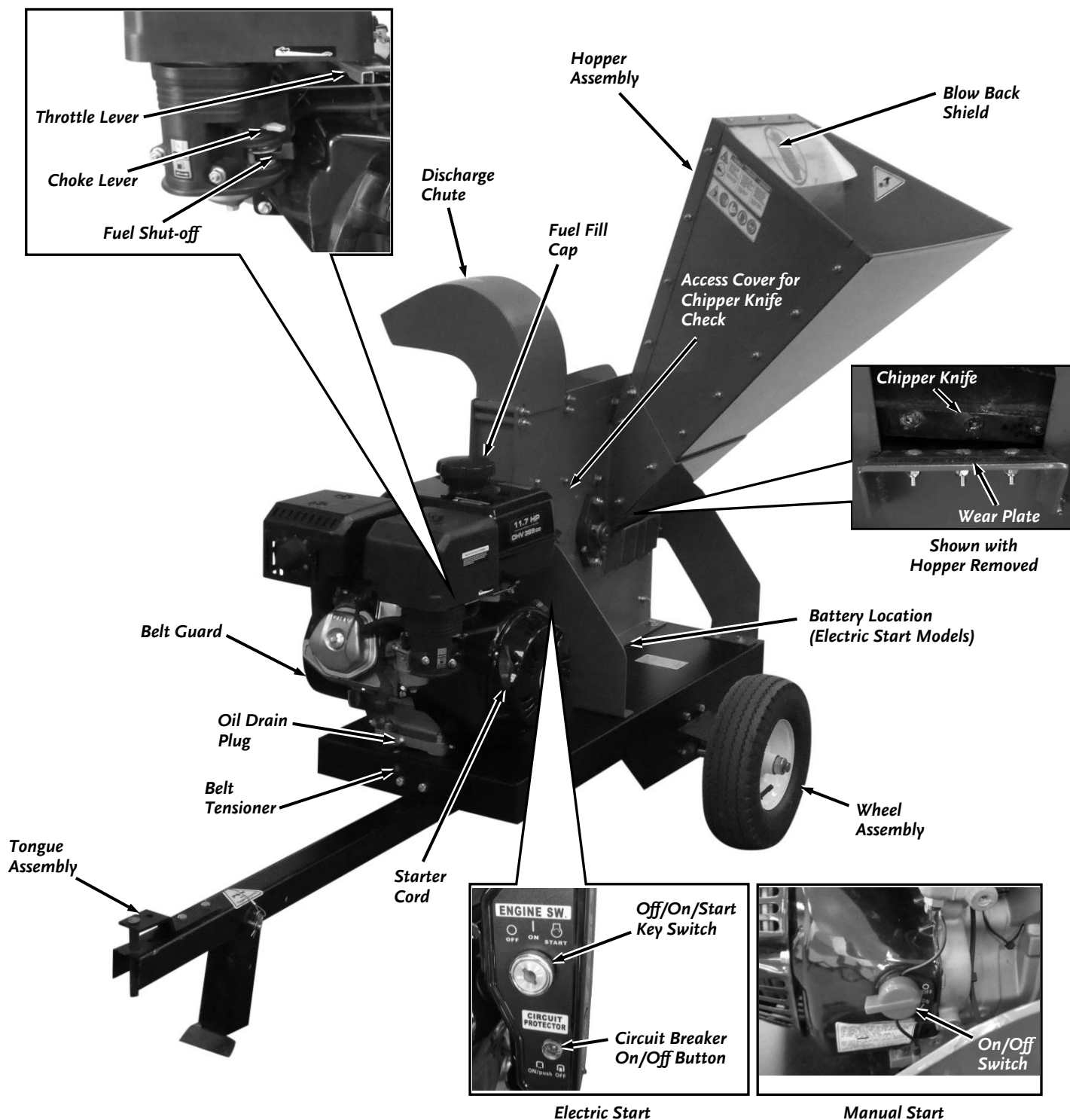


Figure 1

Specifications

Models	PRO-475 - Manual and Electric Start Models	PRO XL-575
Engine	DR 389cc	DR 420cc
HP	11.7	12.0
Oil Type	SAE 10W-30 for general use, see engine manual for other options	SAE 10W-30 for general use, see engine manual for other options
Oil Capacity	1.2 qt (1.1L)	1.2 qt (1.1L)
Fuel Capacity	1.7 ga (6.5 L)	1.7 ga (6.5 L)
Chipping Capacity	4-3/4" Diameter	5-3/4" Diameter
Number of Chipper Knives	1	1
Chipper Knife Size	6-1/4" x 1-1/4" x 9/32"	7-1/4" x 1-1/4" x 9/32"
Chipper Knife	Heat Treated Tool Steel	Heat Treated Tool Steel
Wear Plate	Adjustable	Adjustable
Chipper Flywheel	17-3/4" Diameter x 5/8" Thick	20" Diameter x 5/8" Thick
Flywheel Weight	50 Lbs	62.5 Lbs
Chipper Knife Tip Speed	128 mph	144 mph
Wheel Size	4.10/3.50-6 Pneu.	4.10/3.50-6 Pneu.
Axle	3/4" Diameter	3/4" Diameter
Hopper Opening	17" x 27"	19" x 30-1/2"

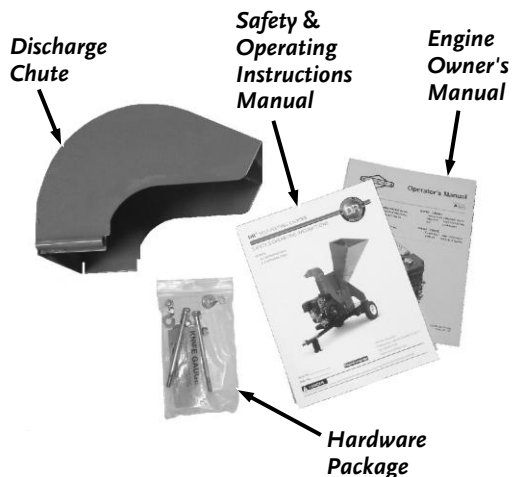


Figure 2

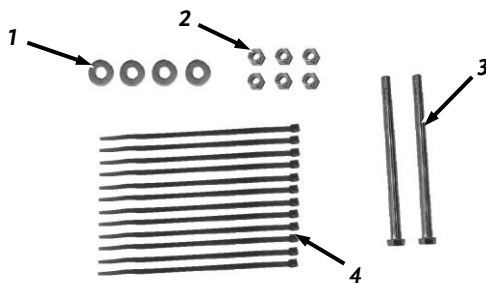


Figure 3

Assembly Parts Identification

Parts supplied in Shipping Crate:

- DR SELF-FEEDING WOOD CHIPPER
- Hopper Assembly
- Parts Box containing (**Figure 2**):
 - Discharge Chute
 - Safety & Operating Instructions Manual
 - Engine Owner's Manual
 - Hardware Package (*see Figure 3 and Table below*)

Hardware Package (Figure 3):

Item #	Part #	Description	Qty
1	112411	Flat Washer, 5/16"	4
2	110761	Nut, Nylon Lock, 5/16-18	6
3	189801	Bolt, 5/16-18 x 4-1/2", GR5	2
4	112141	Cable Tie	12

Compare the contents of the Shipping Crate and Hardware Package with the "Parts Supplied" list above. If you have any questions, please contact us at www.DRpower.com or call 1-800-DR-OWNER (376-9637) for assistance.

- IMPORTANT FIRST STEP! -

Setting the Gap between Knife and Wear Plate

BEFORE you begin assembling the Chipper, you must set the clearance between the Knife and Wear Plate to 1/16" (**Figure 4**) by using the Knife Gap Gauge. First remove the Knife Gap Gauge that has been installed temporarily under the Wear Plate as described below.

Tools Needed:

- Gap Gauge (provided with Chipper)
 - 7/16" Wrench
1. Loosen the three Locknuts on the Carriage Bolts enough to remove the Knife Gap Gauge (**Figure 5**).
 2. Use a stick to rotate the Flywheel so the Knife is positioned next to the Wear Plate (**Figure 6**).
 3. Position the Knife Gap Gauge as shown and push the Wear Plate against it so the Gauge is touching both the Knife and Wear Plate. Tighten the outside Locknut, check the gap, tighten the inside Locknut and then the center Locknut.
 4. Slide the Knife Gap Gauge in between the Knife and Wear Plate as shown to check the gap at the entire length of the Wear Plate.
 - If the Knife Gap Gauge slides freely with no resistance and a lot of extra space, readjust the Wear Plate as described in the previous steps.
 - If the Knife Gap Gauge will not slide down between the Knife and Wear Plate, readjust the Wear Plate as described in the previous steps.
 - If the Knife Gauge slides in between the Knife and Wear Plate with some resistance felt against them both or slides in between with no noticeable space, then the Wear plate is properly adjusted. Ensure the Locknuts are tight and continue to the next step.
 5. When adjustment is finished, rotate the Flywheel with a long stick to ensure that it is rotating freely.
 6. Continue to page 12 for instructions on assembling the Chipper.

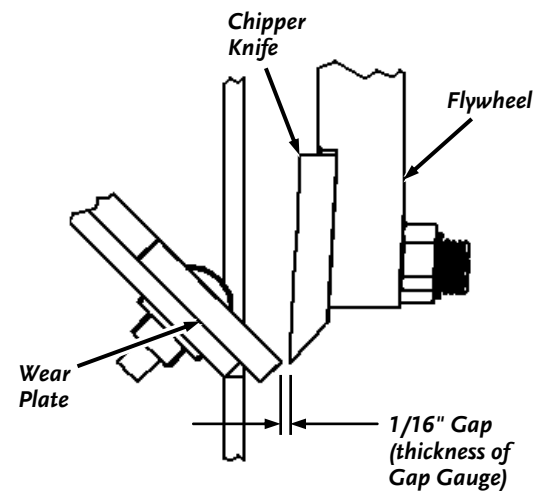


Figure 4

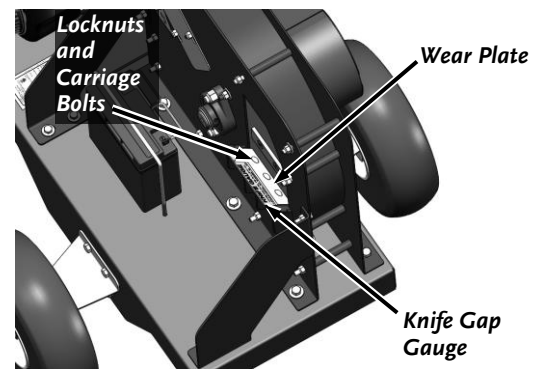


Figure 5

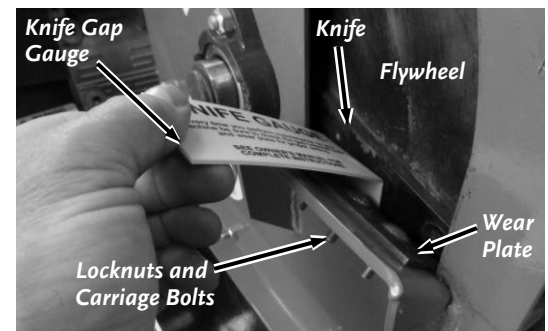


Figure 6

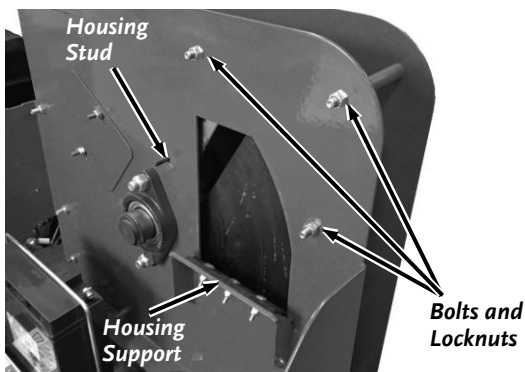


Figure 7a: Pro-475

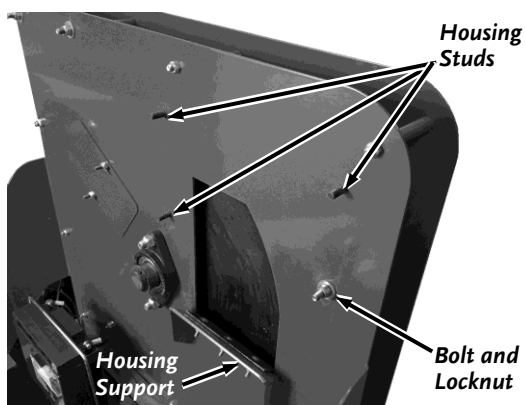


Figure 7b: Pro XL-575

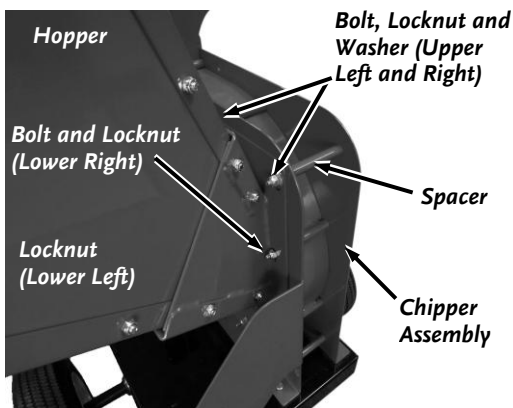


Figure 8a: Pro-475

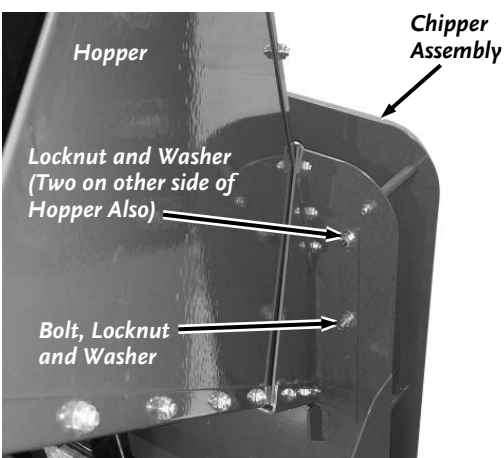


Figure 8b: Pro XL-575

Attaching the Hopper Assembly

Note: We recommend that you have someone help you lift the Hopper in place and support it until it is secured to the Chipper.

Tools Needed:

- Two 1/2" Wrenches

For Pro-475 Models:

1. Remove and discard the three Shipping Nuts from the Housing Bolts, but leave the Housing Bolts in place (**Figure 7a**).
2. Position the Hopper Assembly onto the Housing Support and Stud (**Figure 8a**) and secure the upper Bolts to the Hopper Assembly with two 5/16-18 Locknuts and Washers.
3. Secure the lower right Bolt to the Hopper Assembly with a 5/16-18 Locknut (no Washer).
4. Install a 5/16-18 Locknut and Flat Washer to the lower Housing Stud.

For Pro XL-575 Models:

1. Remove and discard the Shipping Nut from the Housing Bolt, but leave the Housing Bolt in place (**Figure 7b**).
2. Position the Hopper Assembly onto the Housing Support and the three Housing Studs (**Figure 8b**) and secure the Bolt to the Hopper Assembly with a 5/16-18 Locknut and Washer.
3. Install three 5/16-18 Locknuts and Flat Washers to the three Studs.

Attaching the Discharge Chute

Tools Needed:

- Two 1/2" Wrenches

Note: You may need to loosen surrounding hardware near the Discharge Chute mounting holes to make it easier to insert the Discharge Chute between the Housing Plates (**Figure 9**). Tighten all hardware when finished.

1. Position the Discharge Chute facing away from the Hopper as shown and secure with two 4-1/2" long 5/16-18 Bolts and Locknuts.

Positioning the Support Leg from Towing to Operating Position

1. Pull the Hitch Clip from the Pin and pull the Pin from the Support Leg and Tow Bar (**Figure 10**).
2. Rotate the Support Leg to the down (operating) position, align the holes in the Tow Bar and Leg, reinstall the Pin and secure with the Hitch Clip (**Figure 11**).

Connecting the Battery Cable (Electric Start)

We ship the electric-start DR SELF-FEEDING WOOD CHIPPER with the negative terminal battery cable disconnected. This prevents the battery from discharging during shipment. Before using your electric start DR SELF-FEEDING WOOD CHIPPER, you must connect the battery cable.

Tools Needed:

- 5/16" Wrench
- Phillips Head Screwdriver

1. Connect the Negative Battery Cable onto the Negative Terminal Lug of the Battery with the existing Bolt, Washer and Nut using a 5/16" Wrench and a Phillips Head Screwdriver (**Figure 12**).

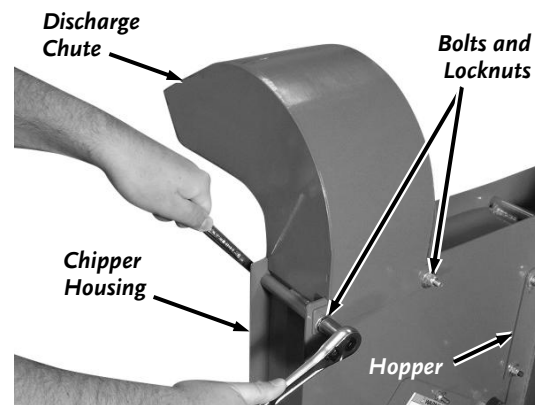


Figure 9

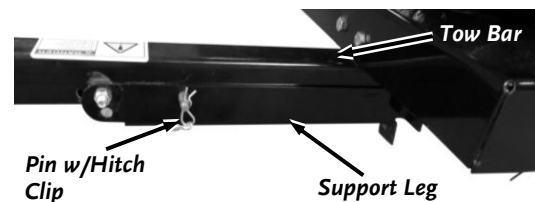


Figure 10

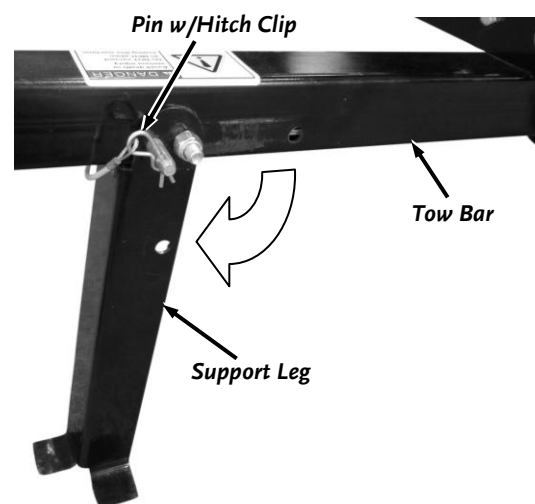


Figure 11

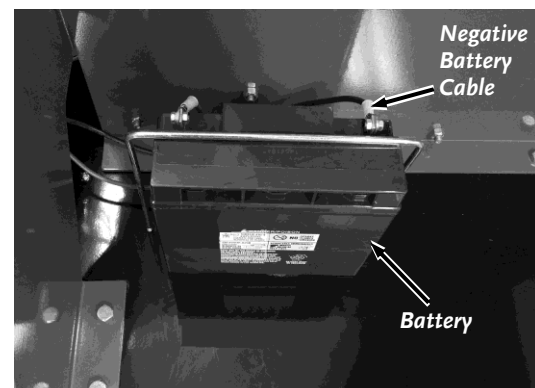


Figure 12

Adding Engine Oil and Gasoline

Engine Capacities (all engines)	
Engine Oil	SAE 10W-30, 1.2 qt (1.1 L)
Fuel Tank	Unleaded gasoline, 1.7 US gallons (6.5 L)

NOTICE

- You must add oil before starting the engine. This machine is shipped without oil. Traces of oil may be in the reservoir from factory testing, but you must add oil before starting the engine. Fill the reservoir slowly checking the dipstick frequently to avoid overfilling.
- To get an accurate reading when checking the oil level:
 - The machine should be on a level surface with the Engine level.
 - To ensure an accurate oil level reading, the dipstick **should not** be screwed in.

Tip: To avoid confusion, we recommend leaving the caps on the gas and oil fills until you are ready to pour either gasoline or oil into the correct fill.

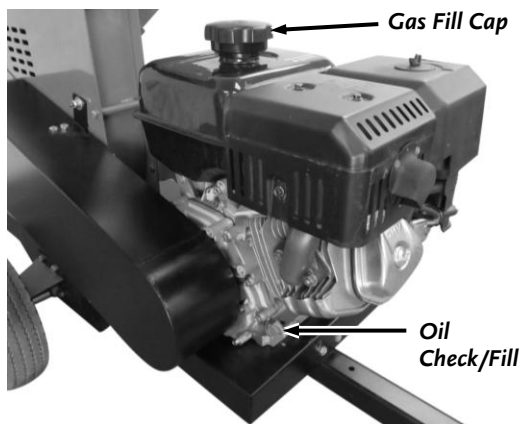


Figure 13

Adding Oil

- Place the machine on a level surface and remove the Dipstick (clean the end of the Dipstick with a rag) (**Figure 13**).
- Machines are shipped with no oil. Add 1/2 of the oil and allow it to settle.
- Insert the Dipstick, but do not screw in, to ensure an accurate reading and then remove it to check the oil level (**Figure 14**).
- If the oil level is low, 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.
- Install the Dipstick completely when finished.

Adding Gas

- 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 13**). Be careful not to overfill and reinstall 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.

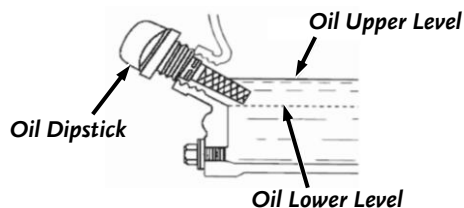


Figure 14

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 15**).
 2. If the pressure is too low, add air through the Valve Stem with an air hose.

WARNING

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

3. Replace the Valve Stem Protective Cap when finished.

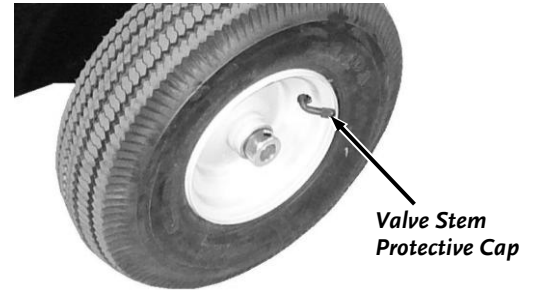


Figure 15

Chapter 3: Operating Your DR SELF-FEEDING WOOD CHIPPER

DANGER

- The design of this machine is for chipping wood. Never use this machine for any other purpose as it could cause serious injury.
- Contact with internal rotating parts will cause serious personal injury. Never put hands, face, feet, or clothing into chipper hopper or discharge opening or near the discharge area at any time.
- Before performing any maintenance procedure or inspection, shut down the engine, wait for all moving parts to come to a complete stop (The flywheel will continue rotating for a while after the engine is shut down), disconnect spark plug wire, keeping it away from the spark plug to prevent accidental starting, disconnect the negative battery cable, then wait 5 minutes before proceeding.
- Use only a wooden stick to clear jammed material.

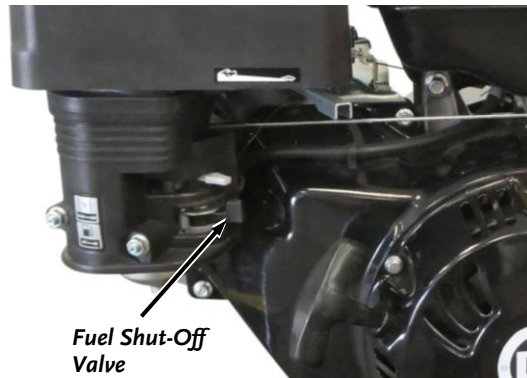


Figure 16

Before Starting the Engine

1. Check the oil level every time you use the DR SELF-FEEDING WOOD CHIPPER. Add oil if needed (see Chapter 2 section “Adding Engine Oil and Gasoline”).
2. Check the fuel level. Add fuel as needed (see Chapter 2 section “Adding Engine Oil and Gasoline”).
3. Ensure that the Fuel Shut-Off Valve is in the “ON” position (**Figure 16**).
4. Remove any debris buildup from the machine before every use of the Chipper.

Note: Check and re-tighten the Drive Belt, if necessary, after an initial break-in period of one (1) hour (see Chapter 4 “Maintaining the DR SELF-FEEDING WOOD CHIPPER”).

Operation Notes

- Visually check the Chipper Knife for damage before each use of the machine. See “VISUAL inspection of the Chipper Knife (before each use)” in Chapter 4 for info on accessing the Chipper Knife.
- At engine start-up, the engine of your DR SELF-FEEDING WOOD CHIPPER operates under no load until approximately 1000 RPM, at which speed the Centrifugal Clutch engages and begins driving the Rotor Assembly. Always operate the Engine at full speed when chipping.
- Only operate the DR SELF-FEEDING WOOD CHIPPER from the Operator Zones shown (**Figure 17**).
- Keep proper balance and footing while operating the DR SELF-FEEDING WOOD CHIPPER.
- ALWAYS stop the engine when leaving the Operating Zones or when moving the machine.
- Never move the Chipper while the engine is running or the Flywheel is turning.

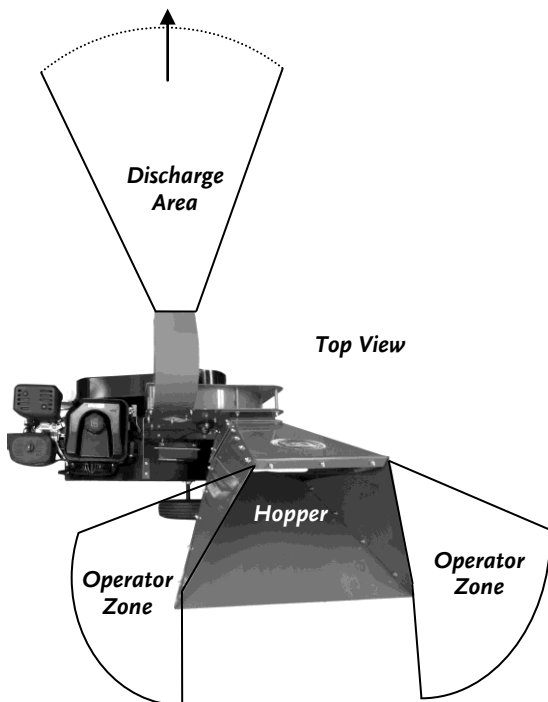


Figure 17

Processing Material

WARNING

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

The Chipper is designed to accept wood only. The Chipper Knife mounted on a revolving flywheel turns branches fed into the Chipper Hopper into “chips”. Cut your materials into manageable lengths before feeding them into the Chipper Hopper.

WARNING

The chipper hopper must be securely bolted to your DR SELF-FEEDING WOOD CHIPPER and the blowback shield in place before using the machine!

NOTICE

Use common sense when using the Machine. Learn to recognize the change in sounds when overloaded. Turn Off the Engine immediately if the machine becomes jammed to prevent damage to the Drive System

- Your DR SELF-FEEDING WOOD CHIPPER can process dry or green wood up to 4-3/4" (16.5) or 5-3/4" (21.0) in diameter.
- The Chipper will self-feed the wood once it contacts the knife edge so forcing the branches into the Hopper is not necessary if the knife is sharp.
- Green wood will process quicker and easier than dry wood.
- Softwood processes easier than hardwood.
- Your operator experience will teach you how different types of wood will chip and how fast you can process them.
- When chipping branches, sometimes a tail will develop at the end of a branch. To avoid this, rotate the branch while feeding it into the Chipper Hopper.
- Rotating the branch as you feed it into the machine will improve chipping performance.
- Use caution with small diameter green saplings and branches less than 2" in diameter. Chip these grouped or bundled together to provide support for each other. If the material is 2" or larger, feed only one at a time into the Chipper Hopper.
- Make sure the DR SELF-FEEDING WOOD CHIPPER finishes processing material in the Hopper before shutting the engine off.
- Do not force material into the Chipper. If the machine does not chip well, the Chipper Knife may need sharpening or replacement, or the gap between the Knife and the Wear Plate needs adjusting. See “Removing, Replacing and Adjusting the Chipper Knife and Wear Plate” in Chapter 5.

NOTICE

Never throw remaining Stubs or Knots into the Chipper Hopper; Damage will Result.

- Extremely hard knots will not process very well. Push any short stubs that have not self-fed through the Chipper, with the next branch to be chipped.
- Cut the material to be chipped into manageable lengths of no more than five or six feet long before chipping them.
- Overloading the Chipper Hopper will cause the rotor speed to decrease. If you hear the engine RPM decreasing, stop feeding material into the Chipper Hopper until the engine has returned to full speed.

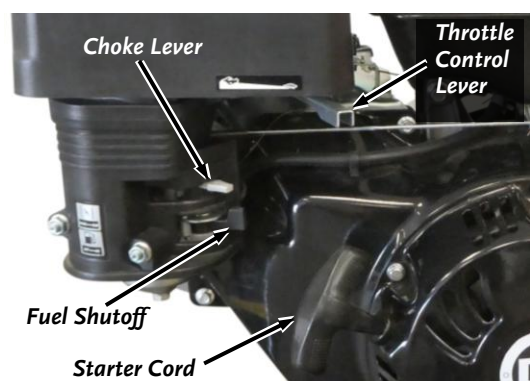


Figure 18

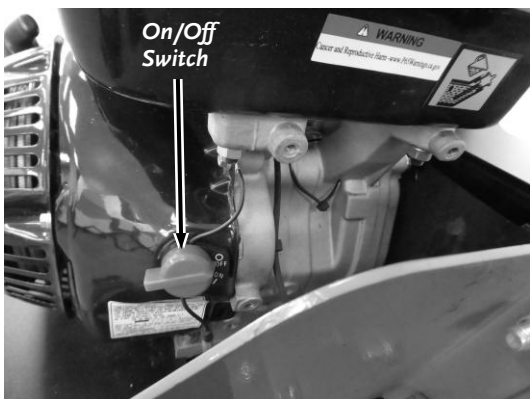


Figure 19a

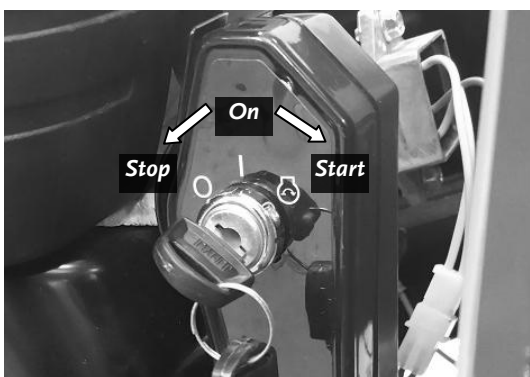


Figure 19b

Starting the Engine (Manual Start Model)

1. Ensure that the Fuel Shut-Off is in the “ON” position to the right (**Figure 18**).
2. Turn the On/Off Switch to the “ON” position (**Figure 19a**).
3. Move the Choke Control Lever to the “CLOSE” position to the left (leave in the OPEN position to the right if the engine is already warm).
4. Move the Throttle Control Lever to about half way between Slow (turtle) and Fast (rabbit) position.
5. Slowly pull the Starter Cord until you feel resistance, then pull quickly. The Cord will recoil back into position.
6. When the Choke is closed, the Engine will soon begin to run rough. Adjust the Choke to the right until the engine runs smoother. Continue this process until the engine runs well with the Choke Lever fully in the OPEN position.

Note: Ensure that the Choke Lever is always fully to the right “OPEN” position before operating the machine.

7. When the Engine is warmed up and running smoothly with the Choke in the “OPEN” position, move the Throttle Control Lever to the fast (rabbit) position for chipping.

Starting the Engine (Electric Start Model)

1. Ensure that the Fuel Shut-Off is in the “ON” position (**Figure 18**).
2. Move the Choke Control Lever to the “CLOSE” position to the left (leave in the OPEN position to the right if the engine is already warm).
3. Move the Throttle Control Lever to about half way between Slow (turtle) and Fast (rabbit) position.
4. Turn the Key to the “START” position until the engine starts and then release it (**Figure 19b**). The Key Switch will snap back to the “ON” position.
5. When the Choke is on, the Engine will soon begin to run rough. Adjust the Choke to the right until the engine runs smoother. Continue this process until the engine runs well with the Choke Lever fully in the OPEN position.

Note: Ensure that the Choke Lever is always fully to the right “OPEN” position before operating the machine.

6. When the Engine is warmed up and running smoothly with the Choke in the “OPEN” position, move the Throttle Control Lever to the fast (rabbit) position for chipping.

Stopping the Engine

1. Slowly move the Throttle Control Lever all the way to the slow position (turtle icon).
2. For manual start models, turn the On/Off Switch to the “OFF” position. For electric start models, turn the Key to the “OFF” position and remove the Key for safety.

Note: Close the Fuel Shut-Off when transporting or storing the DR SELF-FEEDING WOOD CHIPPER.

WARNING

Shut down the Engine (The flywheel will continue to rotate for a while after the engine is shut off), Wait 5 minutes for the engine to cool and all moving parts to come to a complete stop, remove spark plug wire and disconnect the negative battery cable before moving or working on the chipper.

Resetting the Circuit Breaker (Electric Start Model)

If the Engine will not turn over when the Key Switch is turned to the “START” position, the Circuit Breaker may have switched to the “OFF” position. Reset the Circuit Breaker as described below.

1. To reset the Circuit Breaker, press the Button in until the plunger stays pushed in to the “ON” position (**Figure 20**).

NOTICE

If the Circuit Breaker frequently switches to the “OFF” position, this may be an indication of an electrical overload and must be addressed immediately. See “Troubleshooting” section in Chapter 5 for common causes of Circuit Breaker overload.

Connecting the DR SELF-FEEDING WOOD CHIPPER to your Tractor

1. Lift the Chipper Tow Bar onto the Tractor Hitch and install the Hitch Pin and Hitch Clip to secure it (**Figure 21**).
2. Pull the Hitch Clip from the Pin and pull the Pin from the Support Leg and Tow Bar (**Figure 22**).
3. Rotate the Support Leg to the up (transport) position, align the holes in the Tow Bar and Leg, reinstall the Pin and secure with the Hitch Clip (**Figure 23**).

! DANGER

Avoid death or serious injury. Do not exceed 10 mph when towing the Chipper. Never tow the Chipper over roads.

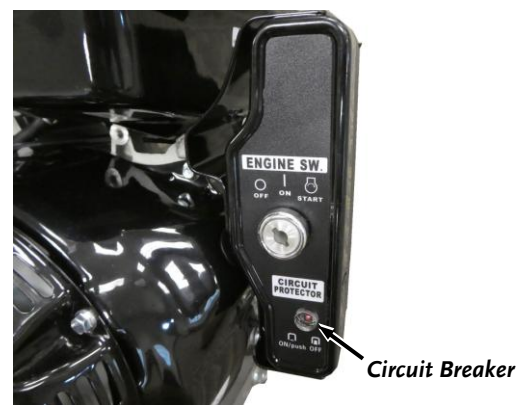


Figure 20

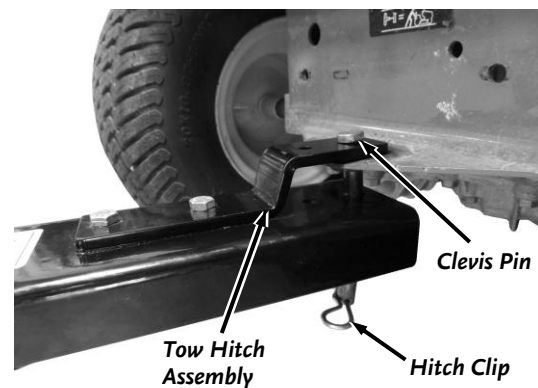


Figure 21

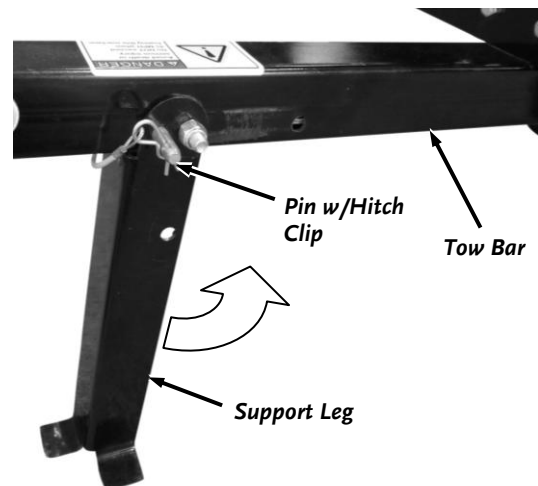


Figure 22

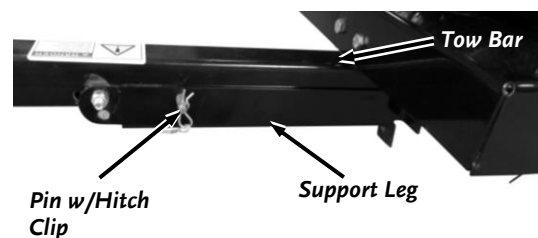


Figure 23

To Free a Jammed Flywheel

WARNING

Shut down the Engine (The flywheel will continue to rotate for a while after the engine is shut off), Wait 5 minutes for the engine to cool and all moving parts to come to a complete stop, remove spark plug wire and disconnect the negative battery cable before moving or working on the chipper.

Tools Needed:

- Two 1/2" Wrenches
- 5/16 Wrench
- Phillips Head screwdriver

NOTICE

Never pry against the Scroll Weldment when removing the Deflector or Discharge Chute or at any other time. This will cause Damage to the machine.

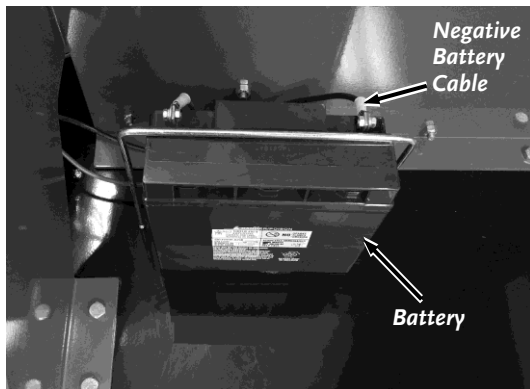


Figure 24

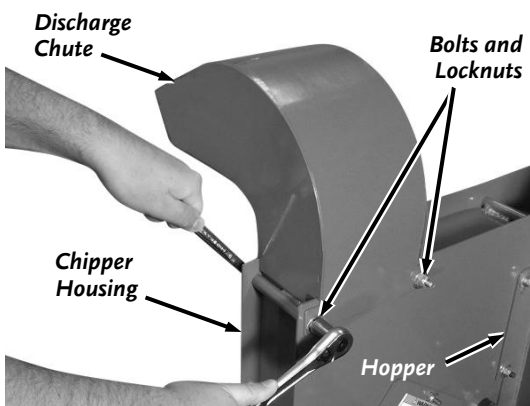


Figure 25

Disassemble:

1. Remove any material left in the Chipper Hopper.
2. Disconnect the negative terminal at the Battery (**Figure 24**).
3. Remove the two Bolts and Locknuts that secure the Discharge Chute to the Chipper Housing and then remove the Discharge Chute (**Figure 25**).
4. Check to see if the Discharge Chute or Discharge opening is clogged. If it is, clear it with a wooden stick.
5. With a wooden stick, loosen and remove any material left in the Chipper Housing and make sure the Flywheel turns freely with the stick.

Reassemble:

1. Position the Discharge Chute onto the Chipper Housing and secure with two Bolts and Locknuts.
2. Reconnect the battery negative terminal cable, the spark plug wire and start the Chipper engine; allowing the remaining material in the Chipper Housing to discharge.
3. If the Chipper Housing doesn't clear and the flywheel is still jammed, repeat above process.

Note: Be certain the Chipper Housing is clear before trying to process more material into the Chipper Hopper.

Chapter 4: Maintaining the DR SELF-FEEDING WOOD CHIPPER

This chapter covers regular maintenance procedures that will ensure the best performance and long life of your DR SELF-FEEDING WOOD CHIPPER. For engine maintenance, please refer to the Engine Owner's Manual that came with your machine. Service intervals listed in the checklist below supersede those listed in the Engine Owner's Manual.

Maintenance Kits and Accessories are available through our website at www.DRpower.com.

WARNING

Shut down the Engine (The flywheel will continue to rotate for a while after the engine is shut off), Wait 5 minutes for the engine to cool and all moving parts to come to a complete stop, remove spark plug wire and disconnect the negative battery cable before moving or working on the chipper.

Regular Maintenance Check List

Note: Consider that the service intervals shown are the maximum under normal operating conditions. Increase frequencies under extremely dirty or dusty conditions.

Procedure	Before Each Use	Every 25 Hours	Every 40 Hours
Check Engine Oil Level	▲		
Check General Equipment Condition	▲		
Check that the Flywheel turns freely (with a long stick only)	▲		
Visually inspect Knife for damage and sharpness	▲		
Clean Engine Exterior and Cooling Fins	▲		
Check the Tire Pressure	▲		
Inspect or replace Air Filter and Foam Pre-cleaner	▲		
Check Knife and Wear Plate for Sharpness		▲	
Change Engine Oil	1st time 5 hours	▲	
Check Belt Tension and Condition	1st time 1 hour	▲	
Inspect or replace Drive Belt		▲	
Inspect or replace Spark Plug		▲	
Check/adjust Knife to Wear Plate Gap		▲	
Check the Battery Voltage (electric start only)		▲	
Check Knife and Wear Plate Attachment Screws			▲
Check Flywheel Bearing Collar Set Screws			▲
Lubricate Flywheel Bearings			▲

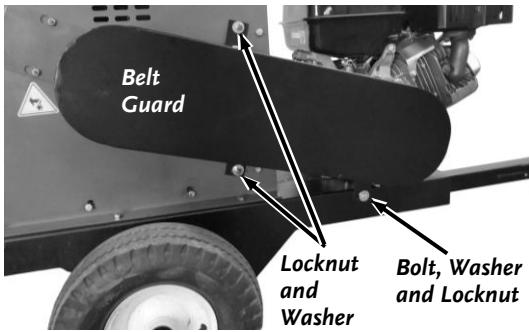


Figure 26

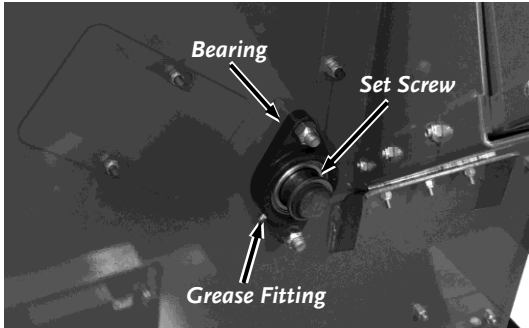


Figure 27

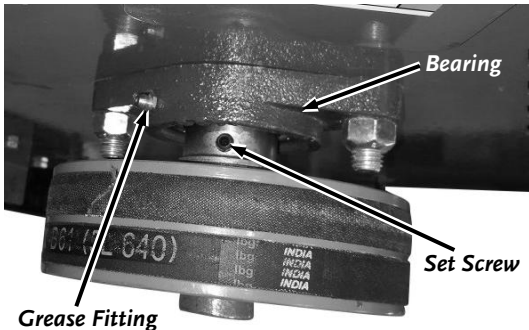


Figure 28

Grease Fittings

Your CHIPPER was greased at the Factory. The operator needs to periodically lubricate the two Bearings of the Chipper Assembly.

Tools and Supplies needed:

- Two 1/2" Wrenches
- Flexible hose grease gun
- Lithium grease
- Clean cloth
- 1/8" Allen Wrench
- Loctite® 243

1. Remove the Bolt, Washer and Locknut that attaches the lower area of the Guard to the Frame (**Figure 26**).
2. Remove the two Locknuts and Washers at the center of the Guard.
3. Remove the Guard.
4. Wipe all debris from the grease fitting on the Hopper side (**Figure 27**) and the Belt side (**Figure 28**) with a clean cloth.
5. Apply no more than three pumps of quality general-purpose lithium grease with a hand-pumped grease gun to each Bearing Grease Fitting.

NOTICE

Over lubrication can damage the bearings.

6. Check the Set Screws for tightness. If they are not tight, remove them, apply Loctite® to the threads, then reinstall and tighten the Set Screws.
7. Replace the Belt Guard when finished.

Removing and Replacing the Engine Oil

Tools and Supplies Needed

- 1.1 qt. SAE 10W-30
- 10mm (Pro 475), 12mm Wrench (Pro XL575)
- Suitable container for used oil
- Rags

Note: Drain the oil when the engine is warm. Warm oil drains quicker and more completely.

1. Position a suitable oil receptacle under the Engine Oil Drain Plug and remove the Engine Oil Check/Fill Dipstick (**Figure 29**).
2. Remove the Oil Drain Plug from the Engine Block. Allow the used oil to drain completely, and then replace the Oil Drain Plug.
3. Replace the engine oil (see “Adding Engine Oil and Gasoline” in Chapter 2 for instructions on adding oil).

Note: Be sure to use environmentally safe procedures when disposing of the used oil.

Removing, Replacing, and Adjusting the Drive Belt

NOTICE

Use only DR Belts on your machine. The belts have been thoroughly tested and proven for many hours of use.

Note: The 16.5 Model has one Belt and the 21.0 has two.

Tools Needed:

- Tape Measure
- 7/16" Wrench
- 1/2" Wrench
- Two 9/16" Wrenches
- Straightedge

REMOVING THE BELT

1. Remove the Bolt, Washer and Locknut that attaches the lower portion of the Guard to the Base (**Figure 30**).
2. Remove the two Locknuts and Washers at the center area of the Guard.
3. Remove the Guard.
4. Loosen the four Engine Bolts (two on the left side and two on the right side) (**Figure 31**).
5. Loosen the Bolt on the Belt Tensioner to create about a 1/2" gap, then slide the Engine away from you until the belt is loose enough to remove.

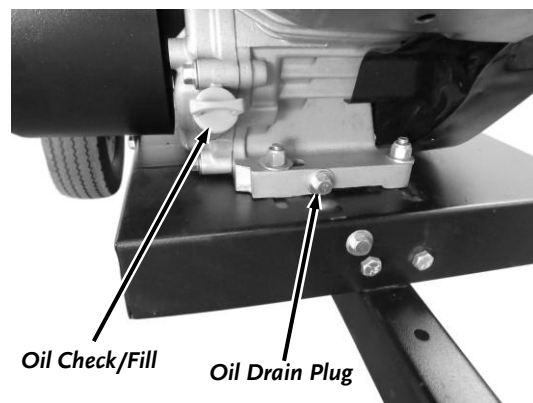


Figure 29

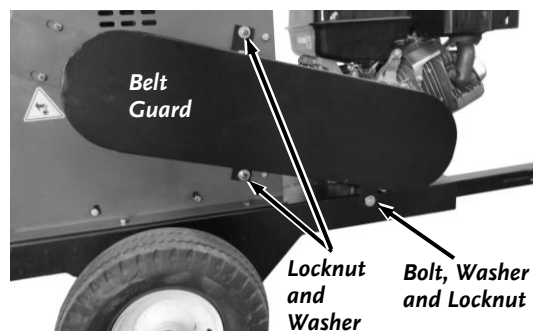


Figure 30

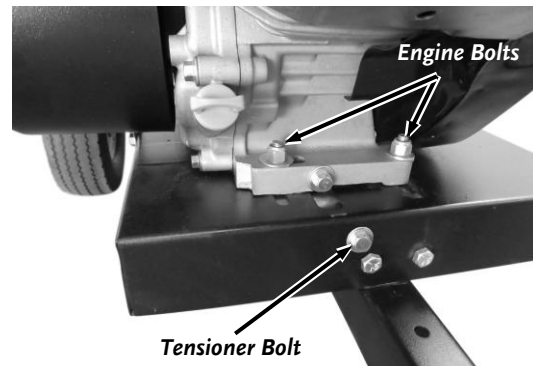


Figure 31

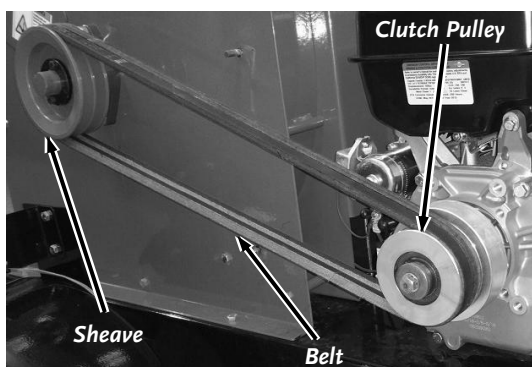


Figure 32

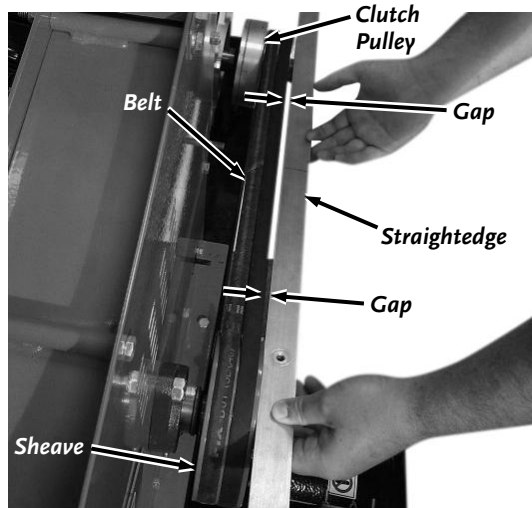


Figure 33

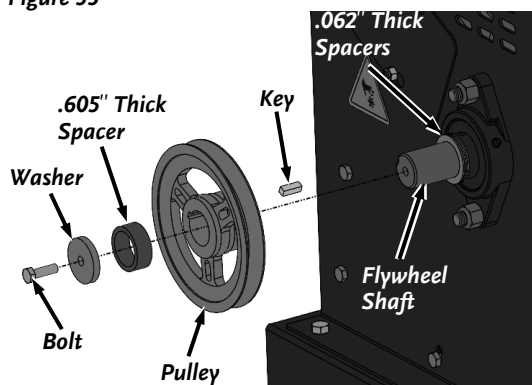


Figure 34a: Pro-475

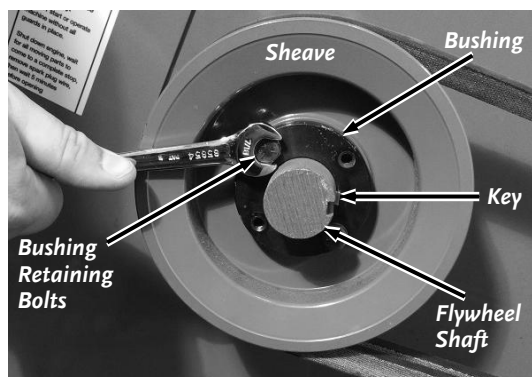


Figure 34b: Pro-XL 575

6. Remove the Belt (one Belt for Pro-475 or two for Pro XL-575) from the Clutch and Sheave (**Figure 32**).

INSTALLING AND ADJUSTING THE BELT

Note: The Belt Tensioning Adjusting Nut may need to be loosened more per the previous instructions "Removing the Belt" to enable you to install a new Belt.

1. Install the new Belt (one Belt for Pro-475 or two for Pro XL-575) onto the Sheave and Clutch.
2. Adjust the Belt Tensioner until the Belt is not sagging but not too tight (**Figure 32**).
3. Check the alignment of the Clutch with the Sheave by placing a Straightedge flat across the Sheave outer surface and position the other end of the above (not touching) the face of the Clutch Pulley (**Figure 33**).
4. Check the gap from the Straightedge to the Belt near the Sheave and near the Clutch. If the gap is the same, then no adjustment is needed. If the gap is not the same then adjustment is necessary, correct the alignment as follows:

Pro-475 Adjustment

Note: You must loosen the Belt Tensioning Bolt before performing this procedure.

- a) Remove the Pulley Bolt, Washer, and .605" Spacer (**Figure 34a**).
- b) Remove the Pulley and Key from the Shaft (four .062 Spacers stay on the Shaft).
- c) Add or remove .062 Spacers as needed depending on how much you need the Pulley to move in or out.

Note: Ensure that there is always at least two .062 Spacers installed. Never use only one. One can go on the outside of the Pulley if necessary.

- d) Install the Key, .605" Spacer, and Pulley.
- e) Add a patch of blue Loctite to the Bolt threads and secure the Pulley with the Bolt and Thick Washer.

Pro XL-575 Adjustment

Note: You must loosen the Belt Tensioning Bolt before performing this procedure.

- a) Remove the Bushing Retaining Bolts (**Figure 34b**).

Note: The Sheave Bushing has four holes. Two holes for securing the Sheave to the Bushing (threads are in the Sheave) and two holes for separating the Sheave from the Bushing (threads are in the Bushing).

- b) Reinstall the two Bolts into the Bushing Threaded Holes next to the two holes you just removed the Bolts from.
- c) Slowly tighten the Bolts evenly and alternately (1/4 to 1/2 turn) starting with the Bolt farthest from the Bushing Saw Slot (this acts as a Hub puller) until the Bushing releases from the Flywheel Shaft.
- d) When the Sheave is loose, remove the two Bolts and reinsert them into the original Retaining Bolt holes by hand.
- e) Using the Straightedge, align the Clutch and Sheave by moving the Sheave Bushing in or out on the Flywheel Shaft.

Note: The Pulley will move slightly onto the Bushing when tightening the Bolts. You may need to compensate for this movement when positioning the Bushing on the Shaft.

- f) Slowly tighten the Bushing Retaining Bolts evenly and alternately (1/4 to 1/2 turn). The Bolts only need to be snug. Do not over tighten.
 - g) Recheck the alignment and adjust as needed.
5. Retighten the Tensioner Bolt if you loosened it for alignment.
 6. Place a Straightedge along the Belt (over the Clutch and Sheave) and push down firmly on the Belt to measure the deflection from the Straightedge to the Belt with a tape measure (**Figure 35**).
 7. The measurement should be approximately 3/8" with approximately 10 pounds of force applied to it.
 8. If the measurement is not correct, tighten or loosen the Tensioner Bolt as needed (**Figure 31**).
 9. Repeat steps 5 through 7 until the proper Belt tension is achieved.
 10. When the Belt is properly tensioned, ensure that the four Engine Bolts are completely tightened.
 11. Reinstall the Belt Guard.

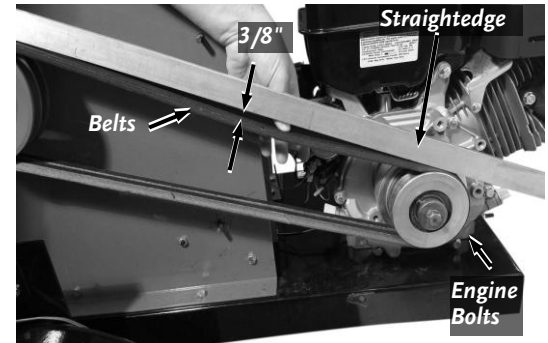


Figure 35

Note: Check and re-tighten the Drive Belt, if necessary, after an initial break-in period of one hour.

VISUAL inspection of the Chipper Knife (before each use)

NOTICE

Routinely check the chipper knife for sharpness. Using a dull knife will decrease performance and cause excessive vibration that will cause damage to the DR SELF-FEEDING WOOD CHIPPER.

Tools Needed:

- 7/16" Wrench
1. Loosen the Locknuts that secure the Front Access Cover (**Figure 36**). Move the Cover over to align the larger portion of the hole with the Locknuts and remove the Cover.
 2. Rotate the Flywheel with a long stick until the Knife is visible.
 3. If the Knife has visible nicks or damage it must be sharpened or replaced (see "Removing and Replacing the Chipper Knife" in this chapter).
 4. If the Knife does not appear to have any damage, replace the Access Cover and tighten the Locknuts.

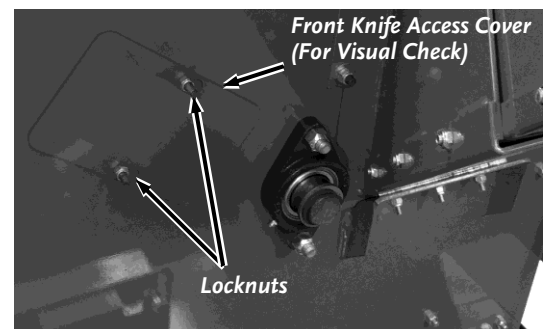


Figure 36

VISUAL Inspection of the Wear Plate (minimum every 25 hours)

NOTICE

Routinely check the wear plate for a sharp square edge. Using a rounded or chipped wear plate will decrease performance and cause excessive vibration that will cause damage to the DR SELF-FEEDING WOOD CHIPPER and make chipping difficult for the

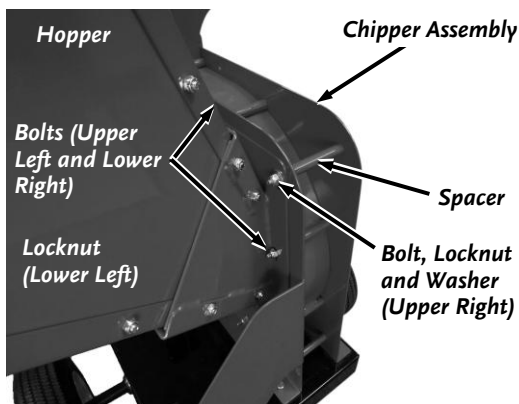


Figure 37a: Pro-475

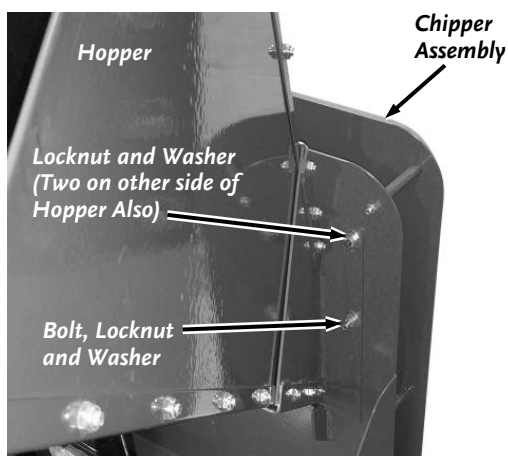


Figure 37b: Pro XL-575

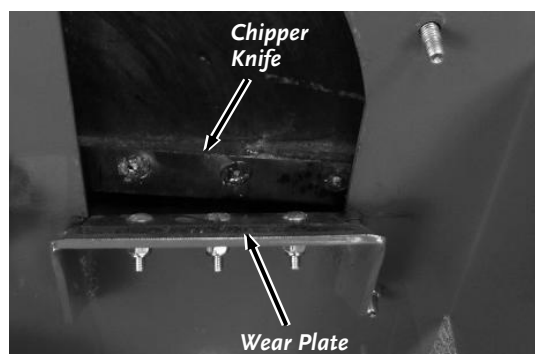


Figure 38

Tools Needed:

- Two 1/2" Wrenches

CAUTION

The hopper should be supported when the mounting hardware is removed. Removal of the hopper is difficult for one person. Two people are needed for the hopper removal process.

1. Remove the Hopper hardware as described below.

Pro-475

- a. Remove the Locknut and Washer from the upper right Bolt and lower left Stud of the Hopper (**Figure 37a**). The Bolt can be left in place and make sure the Spacer stays in the location shown.
- b. Remove the Bolt from the upper left and lower right of the Hopper.

Pro XL-575:

- a. Remove the Locknut and Washer from the Bolt on the lower right side of the Hopper (**Figure 37b**). The Bolt can be left in place.
- b. Remove the three Locknuts and Washers from the Studs at the upper right, upper left and lower left of the Hopper.

2. Remove the Hopper from the Chipper Assembly.

WARNING

Be careful and wear gloves when working near the chipper knife. The knife edge can cut you if you come in contact with it.

3. Use a stick to rotate the Flywheel until the Knife is next to the Wear Plate.
4. Closely inspect the Chipper Knife and Wear Plate for nicks or dull (rounded) edges (**Figure 38**).
5. If necessary, repair or replace the Chipper Knife and/or Wear Plate (see those sections in this chapter).
6. Check the Chipper Knife to Wear Plate gap (see that section in this chapter).

Removing and Replacing the Chipper Knife

Tools Needed:

- 7/16" Wrench
- 1/2" Socket with extension
- 3/16" Allen wrench
- Awl or Sharp Tool
- Gloves

1. Loosen the Locknuts that secure the rear Access Cover (**Figure 39**). Move the Cover over to align the larger portion of the hole with the Locknuts and remove the Cover.
2. Rotate the Flywheel using a stick until the three countersunk Allen Screws (**Figure 40**) and Locknuts (**Figure 41**) attaching the Knife to the Flywheel are visible through the Access Openings.
3. Clean out the heads of the Allen Screws with an Awl or Sharp Tool (**Figure 40**).
4. Insert a 3/16" Allen Wrench into the head of a screw.
5. While holding the Allen Wrench, remove the Locknut using a 1/2" socket (**Figure 41**).
6. Repeat Steps 5 and 6 for the remaining two Allen Screws.
7. Remove the dull or damaged Knife and visually inspect the Flywheel Slot and Knife mounting area and be sure they are clean and that the replacement Knife will be able to mount flush against the Flywheel.

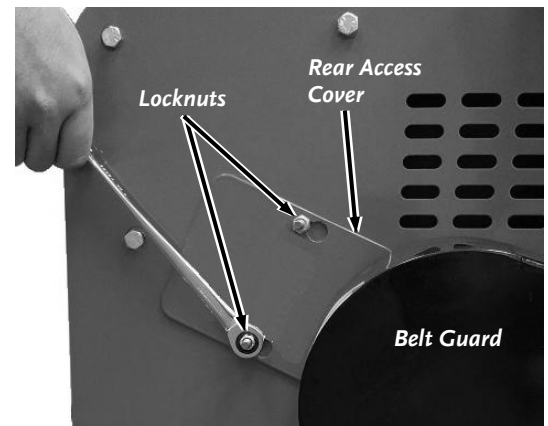


Figure 39

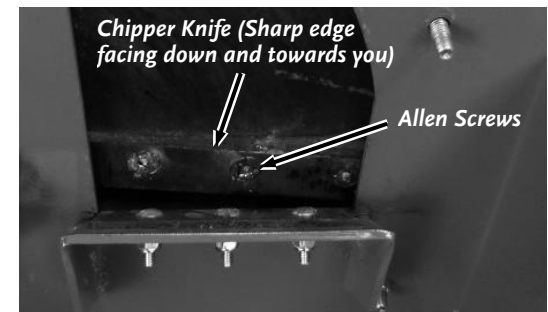


Figure 40

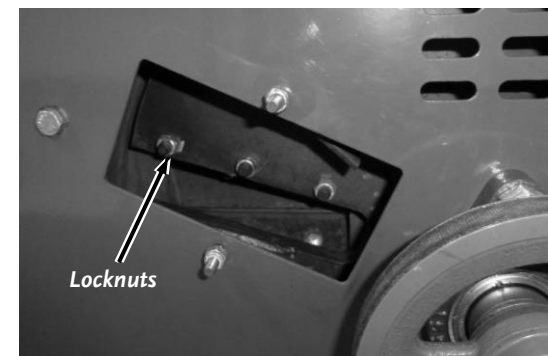


Figure 41

CAUTION

If the flywheel surface is not cleaned properly and the chipper knife is not mounted flush on the flywheel, the knife could crack when the hardware is tightened.

8. Install a new or sharpened Knife as shown with the Knife edge facing down and towards you (**Figure 40**) and finger tighten the Allen screws and Lock Nuts (use the new hardware supplied with a new Knife kit) to hold the Knife to the Flywheel.
9. Using a 3/16" Allen wrench and a 1/2" socket with extension, tighten the center Screw and Locknut, then tighten the outer Screw and Locknut, and finally tighten the inner Screw and Locknut.
10. Double-check that all three Locknuts on the Allen Screws are tight.
11. Check and if needed adjust the gap between the Knife and Wear Plate (See "Checking and Adjusting the Knife to Wear Plate Gap" in this Chapter).

Removing and Replacing the Wear Plate

Tools Needed:

- 7/16" Wrench

1. Remove the three Locknuts and Carriage Bolts that attach the Wear Plate to the Chipper Assembly and then remove the Wear Plate (**Figure 42**).
2. Install the new Wear Plate and secure with the three Carriage Bolts and Locknuts.
3. Check the Chipper Knife to Wear Plate gap (see that section in this chapter).

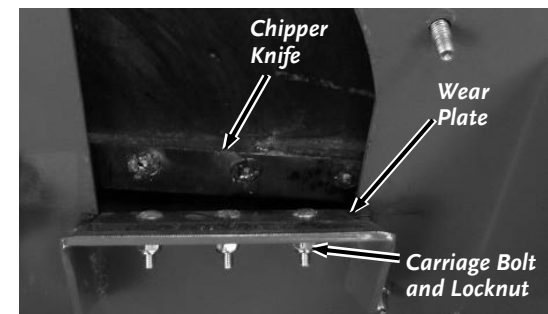


Figure 42

Checking and Adjusting the Knife to Wear Plate Gap

When you replace the Knife or Wear Plate you must check and set the clearance between the Knife and Wear Plate. Set this clearance or gap to 1/16" by using the Gap Tool that is supplied with the Chipper and with a new Knife kit. If the gap between the Wear Plate and the Knife is not set correctly, you will have excessive vibration when chipping and the Knife will seem to be dull. The Wear Plate should have a square edge and be free of dents or gouges. The Wear Plate can be hand sharpened (see steps in this Chapter).

NOTICE

Be careful not to overheat the Wear Plate during the sharpening process. This will change the characteristics of the steel and could cause damage to the machine. Replace the Wear Plate if it has been overheated.

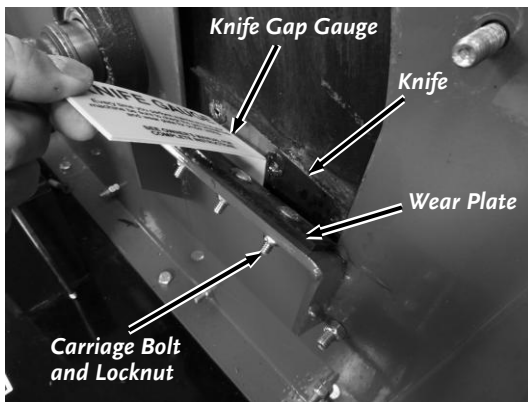


Figure 43

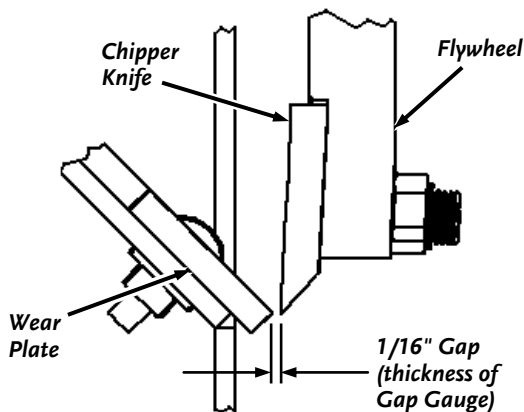


Figure 44

Tools Needed:

- 7/16" Wrench
- Gap Gauge (provided with Chipper and with new Knife Kits)

1. Remove the Hopper (See "Inspecting the Chipper Knife and Wear Plate" in this Chapter).
2. Use a stick to rotate the Flywheel until the Knife can be positioned next to the Wear Plate.
3. Slide the Knife Gauge in between the Knife and Wear Plate to check the clearance (**Figure 43**).
 - If the Knife Gauge slides freely, with no resistance and extra space, the Wear plate must be adjusted.
 - If the Knife Gauge will not slide down between the Knife and Wear Plate, the Wear Plate must be adjusted.
 - If the Knife Gauge slides in between the Knife and Wear Plate with some resistance felt against them both then the Wear plate is properly adjusted.
4. To adjust the Wear Plate Gap, loosen the three Nuts on the Carriage Bolts with a 7/16" Wrench just enough so the Wear Plate will move but still have a slight resistance. Now you can slide the Wear Plate up or down (in or out) to achieve the correct gap setting.

Note: See **Figure 44** for a more detailed look at the relationship of the Knife to Wear Plate.

5. Take the Gap Gauge and slide it between the Knife and Wear Plate. Adjust the Wear Plate against the Knife Gauge and tighten the Locknuts.
6. Check the adjustment using the Gap Gauge.
7. Install the Hopper and Access Cover when finished.
8. Re-connect the negative battery terminal wire (electric start only) and the spark plug wire.

NOTICE

After any Knife or Wear Plate maintenance or adjustment, rotate the Chipper flywheel by using a wooden stick and watch and listen carefully for any unusual noises, clicking or vibration. If you detect any of these, inspect the machine for damage, or any loose parts. Repair or replace any damaged parts and tighten any loose parts before starting the DR SELF-FEEDING WOOD CHIPPER.

Chipper Knife Sharpening

- You should never attempt to sharpen the Chipper Knife freehand.
- It is extremely important to consistently maintain the 45-degree angle for proper performance (**Figure 45**).
- Excessive heat generated during the sharpening process will damage Knives and weaken the metal. Be sure not to overheat the Knife during sharpening because it will shorten the life of the Knife.
- Take the Chipper Knife to a machine shop for proper sharpening.
- How many times a Knife can be sharpened is determined by how much material needs to be taken off to sharpen or to compensate for dents or gouges.
- A new Chipper Knife has .970" measurement between the short side bevel edge and the Knife Top Edge (**Figure 46 "New Knife"**).
- The knife should never be sharpened to the extent that more than 3/32" is taken off this measurement.
- Once this measurement is below .876" (**Figure 46 "Sharpened Knife"**), or if you are unable to remove dents or gouges with these guidelines, replace the Knife.

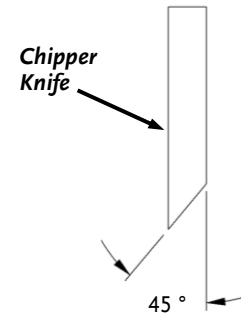


Figure 45

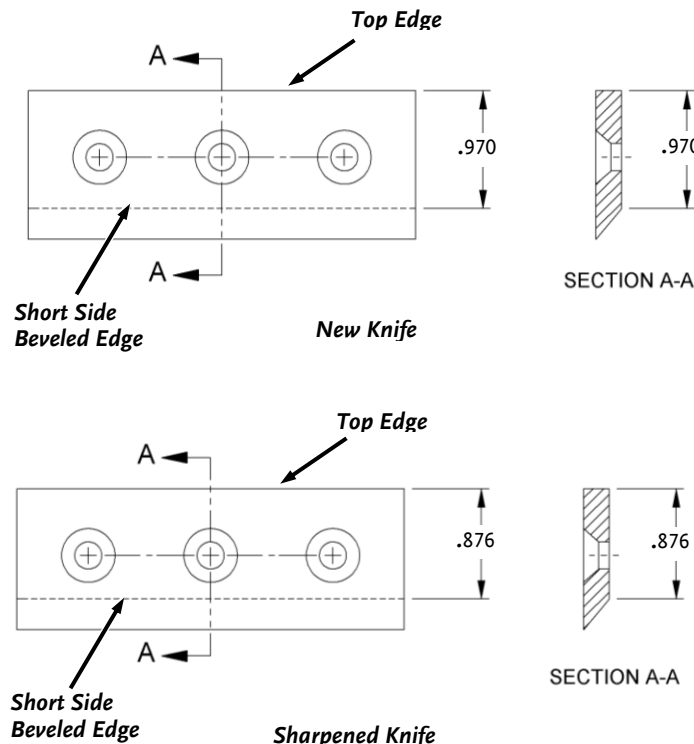


Figure 46

Wear Plate Sharpening

The Wear Plate edges become rounded and chipped during use and must be squared off to ensure efficient operation.

Tools Needed:

- Flat File

1. Secure the Wear Plate in a vise.
2. File the edge of the Wear Plate to take out any nicks and to square rounded edges (**Figure 47**).

Note: If the Wear Plate is filed enough times that the proper gap between the Knife and Wear Plate cannot be set with the Gap Gauge, you will need to replace the Wear Plate.

Removing and Replacing the Wheels

The Wheels on the DR SELF-FEEDING WOOD CHIPPER are pneumatic. They have pressed in bearings for easy transport. With use, tires or bearings may need replacing. The following procedures will explain the replacement procedures.

Tools Needed:

- 5/32" Allen wrench
- Fine Tooth File
- Jack

1. Jack up the side of the Chipper just until the Pneumatic Wheel is off the ground.
2. Loosen the Set Screw and remove the Locking Collar (**Figure 48**).
3. Remove the Pneumatic Wheel from the Axle.

Note: File off the Set Screw marks in the Axle if Wheel will not slide on.

4. Install the Pneumatic Wheel onto the Axle and against the Spacer with the Valve side out.
5. Install the Locking Collar onto the Axle against the Wheel and tighten the Set Screw.
6. Check the Pneumatic Wheels for proper air pressure (see Chapter 3).

WARNING

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

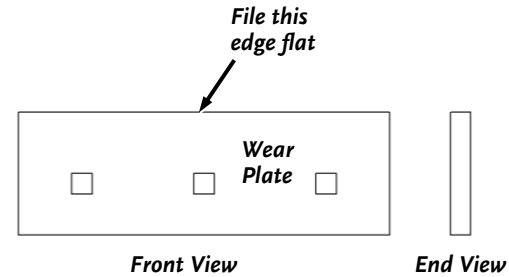


Figure 47

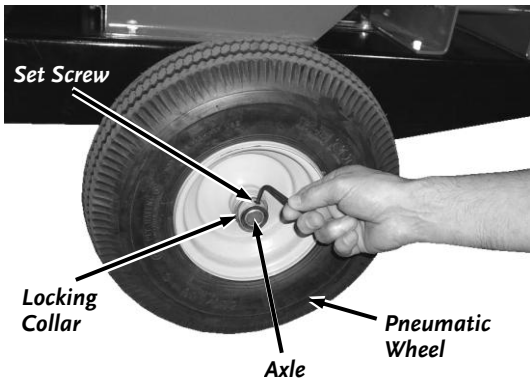


Figure 48

Removing and Replacing the Clutch

The design of the Clutch on your machine is for rugged, dependable service; however, it is important to understand the limitations of a Clutch. The Clutch provides load free starting of the Engine and provides slippage under excessive overloading of the driven application. These features help protect the Engine from damages such as broken crankshafts and starters. The Shoes and Springs on the Clutch are normal wear items. If you notice decreased performance of the Clutch, check and replace it if necessary.

The Clutch obtains its power from the Engine RPM. The lower the engagement speed, and the higher the maintained Engine speed, the more torque the Clutch can transfer to the driven unit. NEVER operate the DR SELF-FEEDING WOOD CHIPPER Engine at less than full RPM when chipping.

Note: *At engine start-up, the engine of your chipper operates under no load until approximately 1800 RPM, at which speed the centrifugal clutch engages and begins driving the rotor.*

NOTICE

- Do not 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. See your authorized dealer for any engine governor adjustments.
 - Become familiar with successful operating conditions and avoid those that can overload and damage the machine.
 - Do not overload or attempt to chip material beyond manufacturers recommendation. Personal injury or damage to the machine could result. Learn to recognize the sound of the machine during an overload condition. Only your operator experience will tell you how fast you can successfully feed material into the machine.
 - If overloading or any other cause jams the machine, stop the machine immediately. If you jam the machine and do not stop the engine, it can burn the drive belt and/or ruin the clutch. Clutch damage can be costly and it may not be covered under warranty. For this reason, it is important that you immediately shut off the machine if it becomes jammed.
 - The centrifugal clutch on this machine is permanently lubricated and does not require oil or grease. If, after long periods of use, the drum wobbles excessively, replace the clutch assembly. Always replace shoes and springs in sets. Whenever shoes are changed, replace all springs.
-

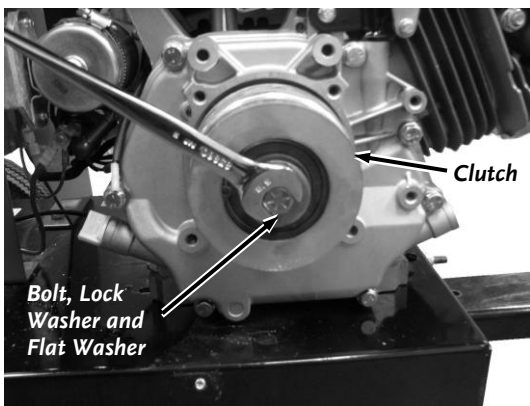


Figure 49

Replacing the Clutch

Note: If a Clutch part malfunctions, it could jeopardize the integrity of other Clutch components. If you have problems with the Clutch, a Clutch Kit is available, but we recommend replacing your Clutch as a complete assembly.

Tools and Supplies Needed:

- 5/8" Wrench or Air Wrench and Socket
- Anti-seize compound

1. Remove the Belt Guard and Belt (see "Removing and Replacing the Drive Belt" in this Chapter).

Note: You may need to use an Air Wrench to break the Clutch Bolt loose depending how tight it is on the Engine shaft.

2. Remove the Clutch Bolt, Lock Washer and Washer and then slide the Clutch from the Crankshaft (**Figure 49**).

3. Remove the Key from the keyway in the Engine Crankshaft and set it aside.
4. Clean the engine crankshaft and remove any burrs, then apply Anti-seize compound to the Crankshaft.
5. Install the Key in the keyway of the new Clutch hub, align the Key with the slot in the Engine Crankshaft, and slide the new Clutch Assembly onto the shaft.
6. Add a patch of blue Loctite to the Bolt threads and secure the Clutch with the Washer, Lock Washer and Clutch Bolt using a 5/8" Wrench.
7. Reinstall the Drive Belt and set the Drive Belt tension and alignment (see "Removing and Replacing the Drive Belt" in this Chapter).
8. Reinstall the Belt Guard (see "Removing and Replacing the Drive Belt" in this Chapter).

Battery Care (electric start only)

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 area that does not freeze.
- 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.

- 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.

To connect a battery charger to your DR SELF-FEEDING WOOD CHIPPER, follow the steps listed below.

1. Attach the black (-) battery charger wire to the battery negative (-) terminal and attach the red (+) battery charger wire to the battery positive (+) terminal.
2. Plug the battery charger into an outlet.

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.

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 Website of Earth 911 for more information (www.earth911.org). Once there, click the Municipal HHW link under Hazardous Household Waste, and enter your zip code. 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, then click Battery Recycling; or contact them at:

INMETCO

PO Box 720

245 Portersville Road

Ellwood City, PA 16117

(724) 758-2800; fax (724) 758-2845

To learn more about hazardous waste recycling, visit the Website for Battery Council International (www.batterycouncil.org) or for the Environmental Protection Agency (www.epa.gov).

NOTICE

Please dispose of used batteries responsibly, according to your local hazardous Materials regulations. Never throw away used batteries in your household trash.

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 DR Power Equipment for support.

WARNING

Shut down the Engine (The flywheel will continue to rotate for a while after the engine is shut off), Wait 5 minutes for the engine to cool and all moving parts to come to a complete stop, remove spark plug wire and disconnect the negative battery cable before moving or working on the chipper.

Troubleshooting Table

SYMPTOM	POSSIBLE CAUSE
<i>The engine won't start.</i> <i>(Please refer to the Engine Owner's manual for engine-specific procedures.)</i>	<ul style="list-style-type: none">⇒ Is the Engine Oil at the proper level? The Engine Oil shutoff will not allow the Engine to start if the Oil level is too low. Add Oil to the proper level.⇒ Is the Fuel Shut-Off Valve in the ON position?⇒ Is the spark plug wire attached?⇒ Have you checked all the items under the section called Electric Starting in Chapter 3?⇒ Check the wire connections, especially the large black ground wire where it connects to the battery and where it connects to the engine.⇒ Is your battery charged? Check the voltage yourself or at a service station. If it's low, charge it with a 12-volt, 1 to 2 Amp trickle charger. If you don't use your Chipper for at least 45 minutes at a time, the battery may need to be periodically charged. See the Battery Care section in Chapter 4.⇒ Is the Circuit Breaker in the "OFF" position indicating a circuit overload? Reset the Breaker. Engine still will not start, check the following list for most common issues.<ul style="list-style-type: none">• Ensure that the Battery Terminals are free of corrosion and are well secured.• Check that the Battery Terminals are connected to the proper polarity on the Battery; Positive to Positive and Negative to Negative.• Check for loose, corroded, and damaged Wiring.• Check Engine Starter for proper connection and operation.⇒ If your DR SELF-FEEDING WOOD CHIPPER still won't start, contact us at www.DRpower.com or call 1(800) DR-OWNER (376-9637) for assistance.
<i>The engine lacks power or is not running smoothly.</i> <i>(Please refer to the Engine Owner's Manual for engine-specific procedures.)</i>	<ul style="list-style-type: none">⇒ Check the Throttle Lever travel and adjustment. Is the Throttle Lever in the Run position?⇒ Is the Choke lever pushed all the way over to the RUN position? See Chapter 3.⇒ Is the air filter clean? If it's dirty, change it following the procedure in the Engine Owner's Manual.⇒ Is the spark plug clean? If it is fouled or cracked, change it. If it is oily, leave it out, hold a rag over the spark plug hole and engage the electric starter for a few seconds to blow out any oil in the cylinder, then wipe off the spark plug and reinsert it.⇒ Are you using fresh, clean unleaded gas? If it's old, change it. Use a fuel stabilizer if you keep gas longer than two weeks or so.⇒ Does your engine have the right amount of clean oil? If it's dirty, change it following the procedure in Chapter 4.⇒ If your engine still lacks power, contact us at www.DRpower.com or call 1(800) DR-OWNER (376-9637) for assistance.
<i>The machine's wheels track left or right while being towed.</i>	<ul style="list-style-type: none">⇒ Check the tire pressure. Do not over inflate the tires. Inflate to the manufacturers recommended pressure found on the tires.

Troubleshooting Table (continued)

WARNING

Shut down the Engine (The flywheel will continue to rotate for a while after the engine is shut off), Wait 5 minutes for the engine to cool and all moving parts to come to a complete stop, remove spark plug wire and disconnect the negative battery cable before moving or working on the chipper.

SYMPTOM	POSSIBLE CAUSE
<i>Engine smokes.</i>	<ul style="list-style-type: none"> ⇒ Check the oil level and adjust as needed. ⇒ You may be operating the machine on too great an incline. The machine should be level. ⇒ Check the air filter and clean or replace if needed. ⇒ You may be using the wrong oil - too light for the temperature. Refer to your Engine Owner's Manual for detailed information. ⇒ Clean the engine cooling fins and the carburetor housing if they're dirty. ⇒ If the engine still smokes, contact us at www.DRpower.com or call 1(800) DR-OWNER (376-9637) for assistance.
<i>Chipping action seems too slow or flywheel stalls.</i>	<ul style="list-style-type: none"> ⇒ The engine speed is too slow causing the belt to slip. Run the engine at full throttle. ⇒ Check for loose or damaged Drive Belt; tighten or replace. See Chapter 4. ⇒ Check for a dull or damaged Knife; sharpen or replace the Knife. See Chapter 4.
<i>The belt frays or rolls over the pulley.</i>	<ul style="list-style-type: none"> ⇒ The rotor Drive Pulley groove may be nicked. Check the Drive Belt for wear and hard spots. File off any nicks on the pulley. ⇒ The Drive Belt may be stretched; replace it. See Chapter 4. ⇒ The Pulleys may be misaligned. See Chapter 4.
<ul style="list-style-type: none"> - Clutch overheats. - Belt burns. - Flywheel won't turn. 	<ul style="list-style-type: none"> ⇒ Immediately stop the engine and disconnect the spark plug wire. ⇒ Turn the Flywheel with a wooden stick to be sure it turns freely. ⇒ Check for a loose Drive Belt. See Chapter 4. ⇒ Remove any built-up debris from the Chipper Hopper Inlet and Discharge Chute.
<i>The machine has excessive vibration.</i>	<ul style="list-style-type: none"> ⇒ Check for a dull or damaged Knife; sharpen or replace the Knife. See Chapter 4. ⇒ Check the Knife to Wear Plate Gap. See Chapter 4. ⇒ The Knife is not properly seated on the flywheel. Loosen the Knife mounting screws, reset the Knife and tighten the screws. ⇒ If the machine still exhibits excessive vibration, contact us at www.DRpower.com or call 1(800) DR-OWNER (376-9637) for assistance.
<i>When chipping, the log seems to vibrate excessively and "hammers" my hands.</i>	<ul style="list-style-type: none"> ⇒ The Knife is dull; sharpen or replace it. See Chapter 4. ⇒ The gap between the Knife and Wear Plate is too great; adjust the Gap. See Chapter 4. ⇒ Check Engine rpms; run Engine at full throttle when chipping.
<i>Material does not feed as well.</i>	<ul style="list-style-type: none"> ⇒ The Knife is dull; sharpen or replace it. See Chapter 4. ⇒ Check Engine rpms; run Engine at full throttle when chipping.
<i>Chipper Knife is hitting the Wear Plate.</i>	<ul style="list-style-type: none"> ⇒ The gap between the Knife and the Wear Plate is set incorrectly; adjust the Knife to Wear Plate Gap. See Chapter 4.
<i>Engine runs but the flywheel doesn't rotate.</i>	<ul style="list-style-type: none"> ⇒ The inner Shoes of the Clutch are worn. Replace worn or broken Clutch parts. See Chapter 5. ⇒ Loose Drive Belt; adjust the Drive Belt tension. See Chapter 4. ⇒ Remove any built-up debris from the Chipper Hopper Inlet and Discharge Chute.

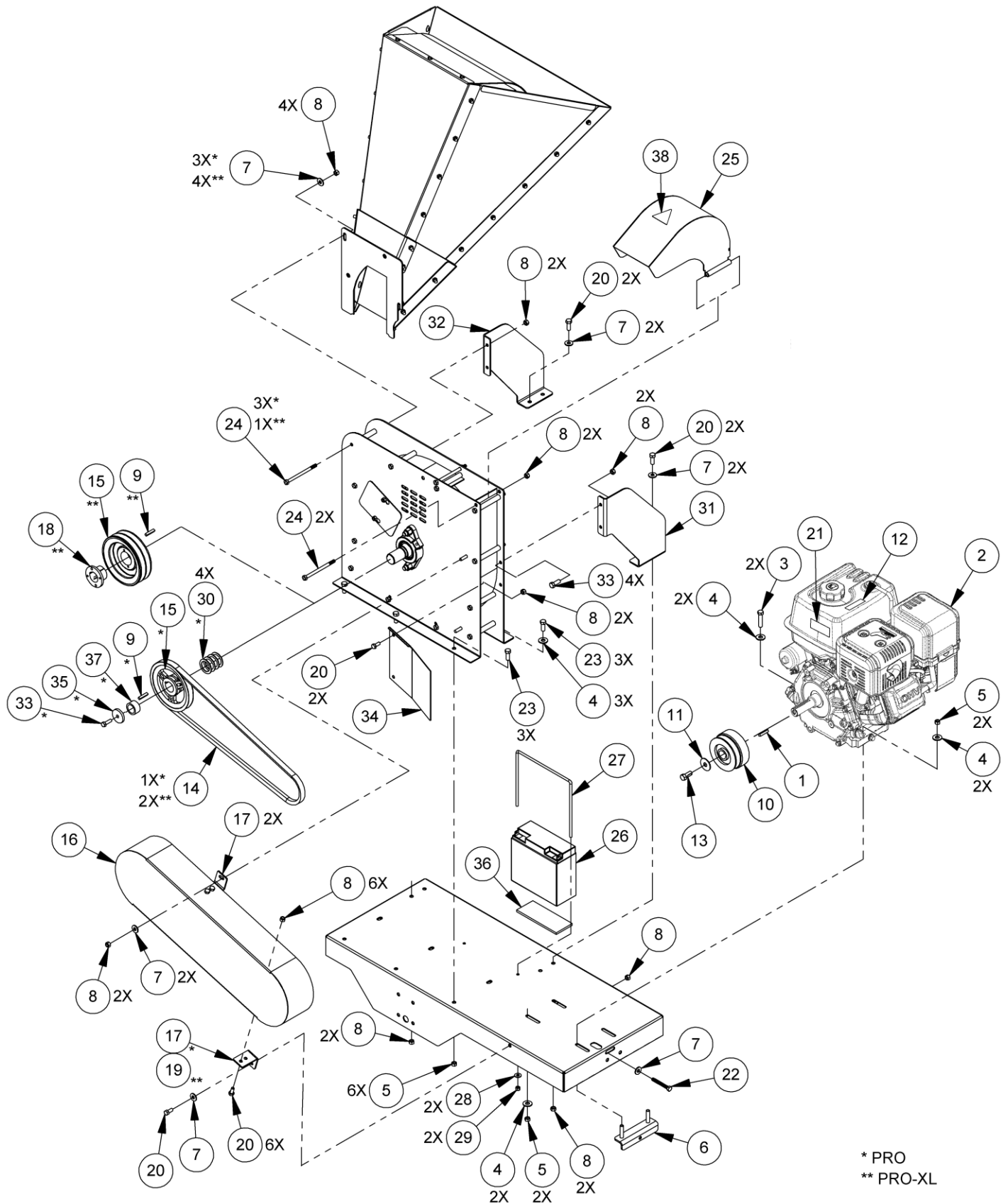
Chapter 6: Parts List and Schematic Diagrams

Parts List – Drive Assembly

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

Ref#	Part#	Description	Ref#	Part#	Description
1	164521	Key, Square, 1/4" X 2"	19	10000043436	Bracket, Belt Guard, Lower (Pro-XL)
2	A0001609579	Engine, DR 11.7HP, 389CC, M/S, R390, w/Labels (Pro)	20	123211	Bolt, HCS, 5/16-18 x 3/4"
	A0001609570	Engine, DR 11.7HP, 389CC, E/S, R390, w/Labels (Pro)	21	188871	Label, Hot
	A0001609606	Engine, DR 12.0HP, 420CC, E/S, G420FDA, w/Labels (Pro-XL)	22	10000037755	Bolt, Hex, 5/16-18 X 2-1/2", Tri, Ft
3	123341	Bolt, HCS, 3/8-16 x 1-3/4, Gr5	23	111521	Bolt, HCS, 3/8-16 x 1, Gr5
4	112391	Washer, Flat, 3/8	24	189801	Bolt, HCS, 5/16-18 x 4-1/2, Gr5
5	110751	Nut, Nylon Lock, 3/8-16	25	A0001609500	Discharge Weldment, w/Labels (Pro)
6	10000030715	Bracket, Belt Tensioner		A0001609520	Discharge Weldment, w/Labels (Pro-XL)
7	112411	Washer, Flat, 5/16"	26	104831	Battery, SLA 12V 17AH (Electric Start)
8	110761	Nut, Nylon Lock, 5/16-18	27	10000043546	Strap, Battery, Rod (Electric Start)
9	370701	Key, Square, 1/4" X .75"L (Pro)	28	112381	Washer, Flat, 1/4", SAE (Electric Start)
	A0000080596	Key, 0.25 X 0.184 X 1.25 (Pro-XL)	29	110731	Nut, Nylon Lock, 1/4-20 (Electric Start)
10	10000043566	Clutch, Centrifugal 1 in Bore 1800 RPM, 3 Spring (Pro)	30	10000046092	Spacer-1.265 ID X 1.75 X .062 (Pro)
	10000043555	Clutch, Centrifugal, 1 in Bore 1800 RPM, 2V (Pro-XL)	31	10000043521	Arm, Bolt On, LH (Pro)
11	228871	Washer, 385"ID, 1.5" OD, .25"L		10000043511	Arm, Bolt On, LH (Pro-XL)
12	137581	Label, Check Oil	32	10000043512	Arm, Bolt On, RH (Pro)
13	165131	Bolt, Hex, 3/8-24 X 1 1/4", GR8 w/Patch (Pro)		10000043445	Arm, Bolt On, RH (Pro-XL)
	144450	Bolt, HCS, 3/8-24 X 1-1/2", GR8, YZP (Pro-XL)	33	178821	Bolt, HCS, 5/16-24 X 1", GR2, ZP
14	10000043816	Belt, 5L550, (Pro)	34	10000043543	Guard, Inner Belt (Pro)
	10000043806	Belt, 5L640, (Pro-XL)		10000043524	Guard, Inner Belt (Pro-XL)
15	10000043860	Pulley, 5L 5.95 OD X 1.25 Bore (Pro)	35	10000045522	Washer, .344 ID X 1.62 X .25 (Pro)
	10000043851	Sheave Pulley, 5L 5.95 OD 2 Groove QD H (Pro-XL)	36	28697	Pad, Battery 2.5 x 6.125 (Electric Start)
16	10000043480	Belt Guard (Pro)	37	A0001834394	Spacer, 1.25" ID X 1.6" OD X .605" Long (Pro)
	10000043438	Belt Guard (Pro-XL)	38	10000042683	Label, Warning, Rotating Blade
17	10000043466	Bracket, Belt Guard	Not Shown		
18	10000043845	Sheave Bushing-QD H 1.25 Bore (Pro-XL)		10000046251	Wire, Ground 26 in (Electric Start)
				10000046229	Wire, Positive 26 in (Electric Start)

Schematic – Drive Assembly

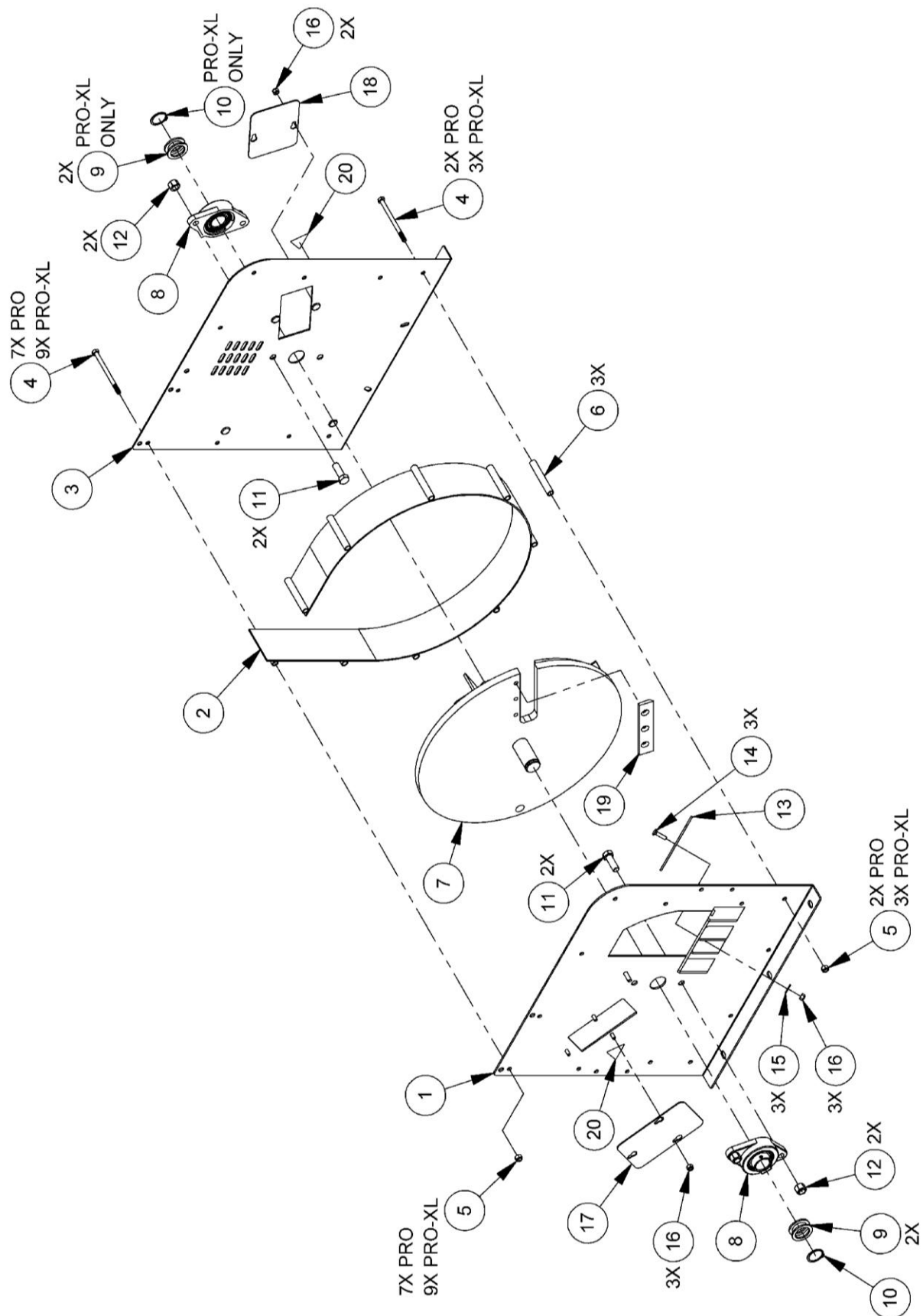


Parts List - Chipper Basic Assembly

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

Ref#	Part#	Description	Ref#	Part#	Description
1	A0001609506	Sideplate, Hopper, w/Labels (Pro)	11	229091	Bolt, HCS, 1/2-13 x 1-1/2, Gr5
	A0001609527	Sideplate, Hopper, w/Labels (Pro-XL)	12	110721	Nut, Lock, 1/2-13, Gripco
2	10000043428	Scroll (Pro)	13	10000043471	Plate, Wear (Pro)
	10000043369	Scroll (Pro-XL)		10000043453	Plate, Wear (Pro-XL)
3	A0001609504	Sideplate, Vent, w/Labels (Pro)	14	157471	Bolt, Carriage, 1/4-20 x 1
	A0001609526	Sideplate, Vent, w/Labels (Pro-XL)	15	112381	Washer, Flat, 1/4", SAE
4	189801	Bolt, HCS, 5/16-18 x 4-1/2, Gr5	16	110731	Nut, Nylon Lock, 1/4-20
5	110761	Nut, Lock, 5/16-18	17	10000043452	Plate, Access 3 Hole (Pro)
6	10000043464	Scroll Tube (Pro)		10000043409	Plate, Access 3 Hole (Pro-XL)
	10000043465	Scroll Tube (Pro-XL)	18	10000043472	Plate, Access, 2 Hole (Pro)
7	10000030955	Flywheel, Balanced w/Knife (Pro)		10000043385	Plate-Access, 2 Hole (Pro-XL)
	10000030956	Flywheel, Balanced w/ Knife (Pro-XL)	19	380491	Knife Kit, (Pro)
8	10000043547	Bearing, Flange, 1-1/4" Shaft		380501	Knife Kit, (Pro XL)
9	10000046092	Spacer-1.265 ID X 1.75 X .062	20	10000042683	Label, Warning Rotating Blade
10	10000043548	Ring, Retaining, 1-1/4 Shaft	Not Shown		
				197091	Gauge, Knife Gap

Schematic – Chipper Basic Assembly

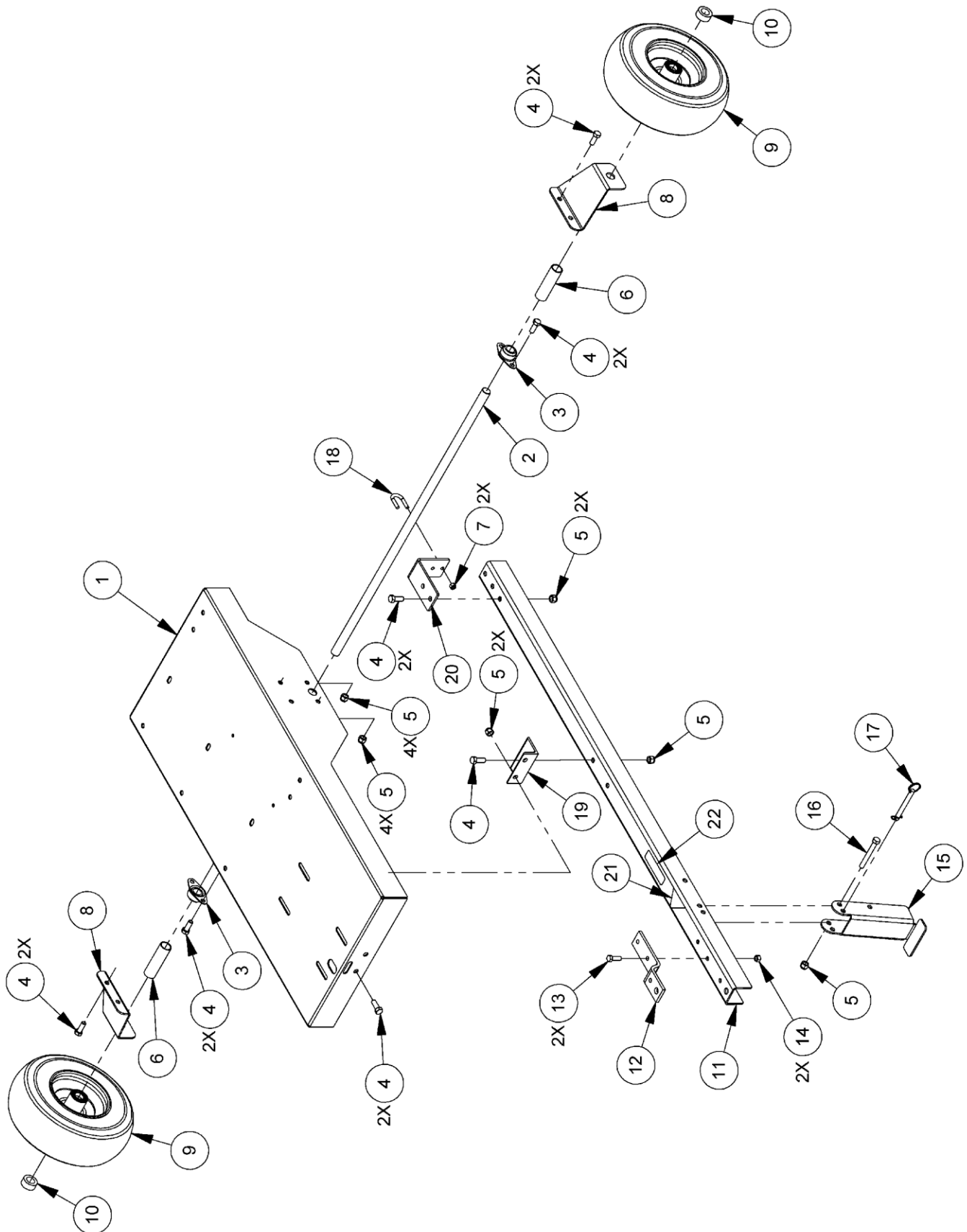


Parts List – Base and Wheels Assembly

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

Ref#	Part#	Description	Ref#	Part#	Description
1	10000043417	Base, Weldment (Pro)	12	10000043477	Hitch Plate, Bent
	10000043476	Base, Weldment (Pro-XL)	13	111581	Bolt, 5/16-18 x 1", HCS Gr5 PLTD
2	10000033736	Axle (Pro)	14	110761	Nut, Nylon Lock, 5/16-18
	10000033679	Axle (Pro-XL)	15	10000043479	Leg, Support, Yard Tow
3	10000046608	Bearing, Flange, Axle	16	129601	Bolt, HCS, 3/8-16 X 3", Gr5, PLTD
4	111521	Bolt, HCS, 3/8-16 x 1, Gr5	17	323971	Pin, Clevis 3/8 In X 2-3/4 in With Ring ZP (Pro)
5	110751	Nut, Nylon Lock, 3/8-16	18	10000045533	U Bolt
6	10000033833	Spacer, Wheel	19	10000043494	Bracket, Tow Bar, Front
7	110731	Nut, Nylon Lock, 1/4-20	20	10000043522	Bracket, Tow Bar, Rear
8	10000043571	Support, Axle	21	10000043333	Label, Warning, Tow Max 10mph
9	10000043534	Wheel & Tire, 4.10 3.50-6	22	250441	Label, Warning, Pinch Point, 3.5" X 1"
10	10000045531	Collar, Locking, 3/4" Shaft			
11	A0001609514	Tow Bar, Yard Tow, w/Labels			

Schematic – Base and Wheels Assembly

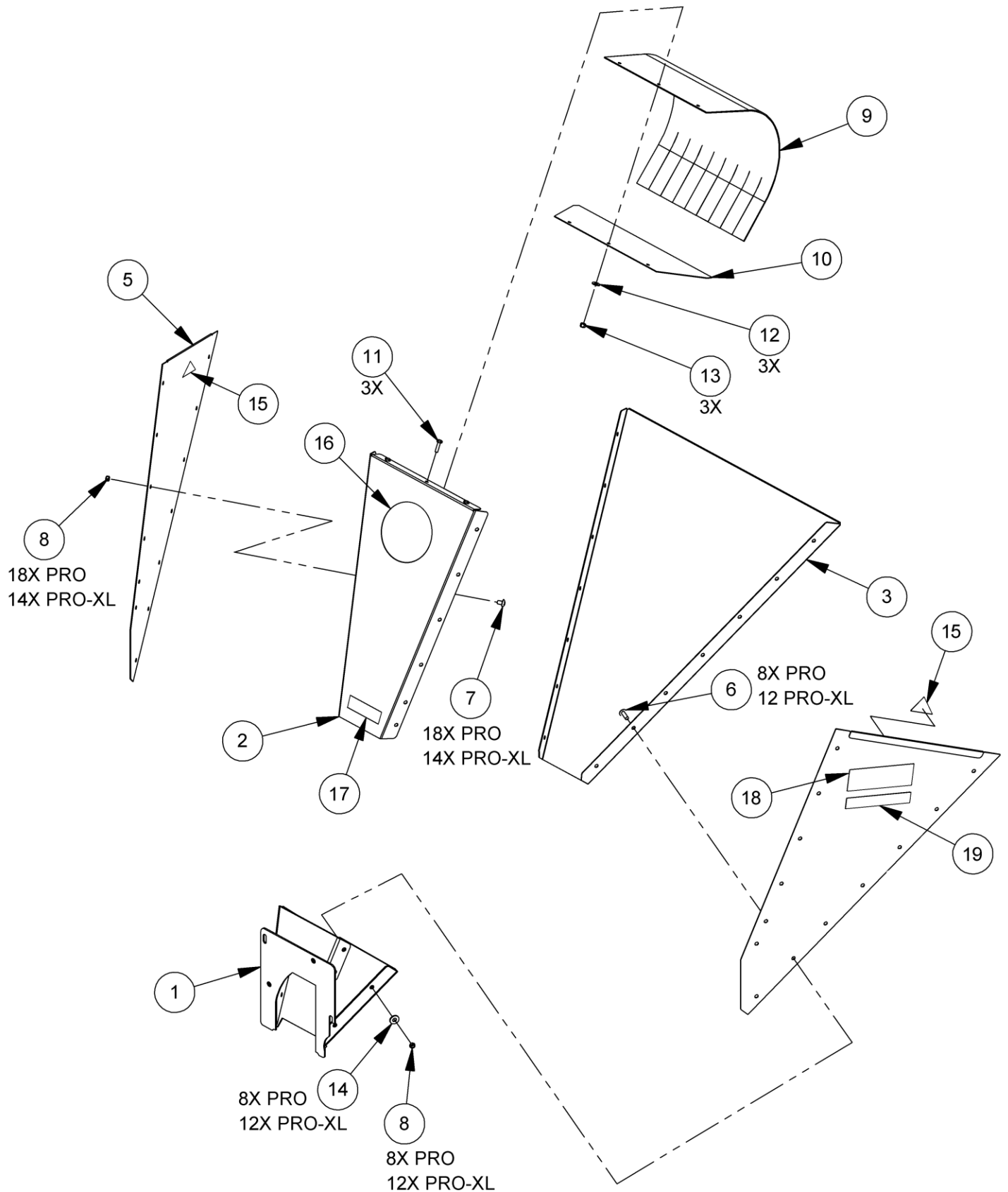


Parts List – Hopper Assembly

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

Ref#	Part#	Description	Ref#	Part#	Description
1	10000043419	Hopper Neck, (Pro)	10	10000043504	Support, Blow Back (Pro)
	10000043486	Hopper Neck, (Pro-XL)		10000043553	Support, Blow Back (Pro-XL)
2	A0001609494	Hopper, Top, w/Labels (Pro)	11	157301	Bolt, HCS, 1/4-20 x 3/4", GR5
	A0001609562	Hopper, Top, w/Labels (Pro-XL)	12	112381	Washer, Flat, 1/4", SAE
3	10000043490	Hopper, Bottom, (Pro)	13	110731	Nut, Nylon Lock, 1/4-20
	10000043454	Hopper, Bottom, (Pro-XL)	14	112411	Washer, Flat, 5/16"
4	A0001609509	Hopper, Side, LH, w/Labels (Pro)	15	10000042683	Label, Warning, Rotating Blade
	A0001609530	Hopper, Side, LH, w/Labels (Pro-XL)	16	A0000181455	Label, DR Logo, 5.5" Die Cut
5	A0001609511	Hopper, Side, RH, w/Labels (Pro)	17	A0000175249	Label, CP, PRO XL575
	A0001609531	Hopper, Side, RH, w/Labels (Pro-XL)		A0000175487	Label, CP PRO 475
6	10000043838	Screw, BHCS 5/16-18 X 3/4 GR5 ZP	18	10000042667	Label, Danger
7	10000043872	Screw, BHCS 5/16-18 X 1/2 GR5 ZP	19	10000042639	Label, Warning
8	187551	Nut, Nylon Lock, 5/16-18, LP			
9	10000043562	Shield, Blow Back (Pro)			
	10000043499	Shield, Blow Back (Pro-XL)			

Schematic – Hopper Assembly



Notes:

DR[®] SELF-FEEDING WOOD CHIPPER



2-Year Limited Warranty

Terms and Conditions

The DR[®] SELF-FEEDING WOOD CHIPPER is warranted for two (2) years against defects in materials or workmanship when put to ordinary and normal consumer use; ninety (90) days for any other use.

For the purposes of all the above warranties, "ordinary and normal consumer use" refers to non-commercial residential use and does not include misuse, accidents or damage due to inadequate maintenance.

DR[®] Power Equipment certifies that the DR[®] SELF-FEEDING WOOD CHIPPER is fit for ordinary purposes for which a product of this type is used. DR Power Equipment, however, limits the implied warranties of merchantability and fitness in duration to a period of two (2) years in consumer use, ninety (90) days for any other use.

The 2-Year Limited Warranty on the DR[®] SELF-FEEDING WOOD CHIPPER starts on the date the machine ships from our factory. The 2-Year Limited Warranty is applicable only to the original owner.

The warranty holder is responsible for the performance of the required maintenance as defined by the manufacturer's owner's manuals. The warranty holder is responsible for replacement of normally wearing parts such as the Drive Belt, Knife, Wear Plate, Tires, Air Filter and Spark Plug. Attachments and accessories to the machine are not covered by this warranty.

During the warranty period, the warranty holder is responsible for the machine transportation charges, if required. During the warranty period, warranty parts will be shipped by standard method at no charge to the warranty holder. Expedited shipping of warranty parts is the responsibility of the warranty holder.

SOME STATES DO NOT ALLOW LIMITATIONS ON THE LENGTH OF IMPLIED WARRANTIES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

DR Power Equipment shall not be liable under any circumstances for any **incidental or consequential damages or expenses** of any kind, including, but not limited to, cost of equipment rentals, loss of profit, or cost of hiring services to perform tasks normally performed by the DR[®] SELF-FEEDING WOOD CHIPPER.

SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU ALSO HAVE OTHER RIGHTS, WHICH VARY FROM STATE TO STATE.

Daily Checklist for the DR SELF-FEEDING WOOD CHIPPER

WARNING

Shut down the Engine (The flywheel will continue to rotate for a while after the engine is shut off), Wait 5 minutes for the engine to cool and all moving parts to come to a complete stop, remove spark plug wire and disconnect the negative battery cable before moving or working on the chipper.

To help maintain your DR SELF-FEEDING WOOD CHIPPER for optimum performance, we recommend you follow this checklist each time you use your Chipper.

- [] **OIL:** With the machine on a level surface, check the Engine oil level with the Dipstick and add more if necessary (only add oil to the level indicated on the Dipstick - DO NOT OVERFILL). Use SAE 30 high detergent motor oil.
- [] **GAS:** Fill the Fuel Tank with clean, fresh, unleaded gasoline.
- [] **ENGINE AIR COOLING SYSTEM:** It is very important to keep the Engine clean of debris. Remove leaves and other built-up materials from the Air Intake Screen before, during, and after using the Chipper. Regularly remove debris from the Cooling Fins. A dirty Engine retains heat and can cause damage to the internal Engine parts.
- [] **BELT:** Check the Belt for wear, proper alignment and tension.
- [] **KNIFE and WEAR PLATE:** Check the Knife and Wear Plate for tightness, nicks and wear.
- [] **GENERAL CONDITION:** Check the general condition of the machine, e.g.; nuts, bolts, welds, etc.
- [] **HOPPER:** Check that there is no material left in the hopper before starting the Chipper.
- [] **TIRES:** Check that there the proper amount of air in the Tires.

End of Season and Storage

WARNING

- Shut down the Engine (The flywheel will continue to rotate for a while after the engine is shut off), Wait 5 minutes for the engine to cool and all moving parts to come to a complete stop, remove spark plug wire and disconnect the negative battery cable before moving or working on the chipper.
 - Never store the DR SELF-FEEDING WOOD CHIPPER with fuel in the fuel tank inside a building where ignition sources are present, such as hot water and space heaters, clothes dryers and the like. If you are going to drain the fuel tank, do this outdoors. Allow the engine to cool before storing in any enclosure.
 - When not in use, your DR SELF-FEEDING WOOD CHIPPER should be stored out of the reach of children.
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Note: Please refer to the Engine Owner's Manual for engine-specific procedures.

- Change the oil (and oil filter, if applicable).
- If your DR SELF-FEEDING WOOD CHIPPER 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. Close the fuel Shut-Off Valve to prevent carburetor overflow and leakage.
- Remove the spark plug and pour about 1 ounce of motor oil into the cylinder hole. Reinstall the plug and engage the electric starter for a few seconds (for manual start pull on the starter cord a few times). This will coat the pistons and seat the valves to prevent moisture buildup.
- Clean or replace the air filter(s).
- Lubricate all grease fittings.
- Clean any dirt and debris from the cylinder head cooling fins, blower housing, debris screen and muffler area of the engine.
- If your engine has a fuel filter, replace it.
- Check the Drive Belt for wear.
- Check the Chipper Knife and Wear Plate for nicks and wear.
- For electric start models remove the battery or store your DR SELF-FEEDING WOOD CHIPPER in a dry environment where the temperature is between -10° F (-23° C) and +85° F (+23° C). Make sure the storage temperatures will never be outside these limits.
- Clean any debris from the Hopper and Discharge Chute.