

# DR<sup>®</sup> 3-POINT HITCH SELF-FEEDING CHIPPER

## SAFETY & OPERATING INSTRUCTIONS



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

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

**Original Language**

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

**! DANGER**

Read and understand this manual and all instructions before operating or servicing this 3-Point Hitch DR SELF-FEEDING Chipper.

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### ***Conventions used in this manual***

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#### **DANGER**

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

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#### **WARNING**

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

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#### **CAUTION**

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

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#### **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.

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

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

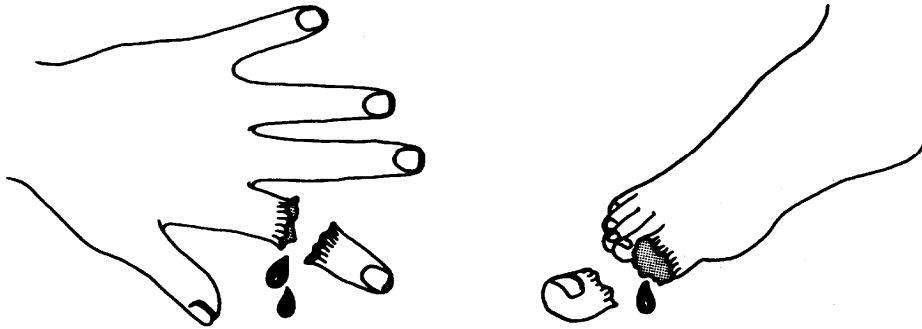
### ***Additional Information and Potential Changes***

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

## Chapter 1: General Safety Rules

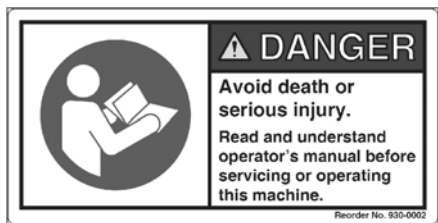
### WARNING

- Read this Safety & Operating Manual before you use the 3-Point Hitch DR SELF-FEEDING Chipper. Become familiar with the operation and service recommendations to ensure the best performance from your machine.
- Thoroughly inspect the area in which you will be working and remove all foreign objects. Look for Rope, Wire, ECT., and remove these objects before chipping. Inserting these objects into the chipper hopper could damage the machine and/or cause injury.
- This is a high-powered machine, with moving parts operating with high energy at high speeds. You must use proper clothing and safety gear when operating this machine to prevent or minimize the risk of severe injury. This machine can crush, grind, cut and sever parts of your body if they enter the inlet or discharge area of your chipper.

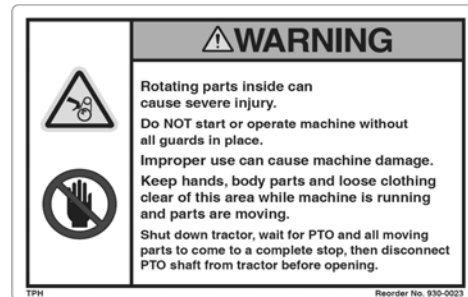


### Labels

Your 3-Point Hitch DR SELF-FEEDING 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 3-Point Hitch DR SELF-FEEDING Chipper as you assemble and before you operate the unit. Replace damaged or missing safety and operation labels immediately.



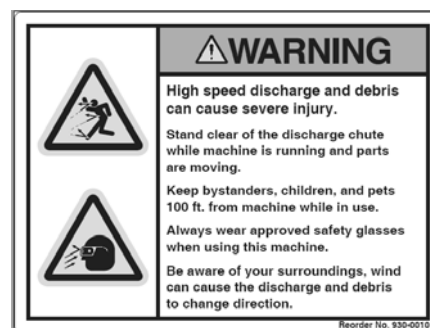
#241801



#248821



#241811



#241831

**⚠ WARNING**



Rotating knife and flywheel can cause severe injury.

Do NOT start or operate machine without all guards in place.

Shut down tractor, wait for PTO and all moving parts to come to a complete stop, then disconnect PTO shaft from tractor before opening.

TPH Reorder No. 930-0022

#248811

**⚠ WARNING ⚠**

Set Tractor Throttle at IDLE before engaging PTO with Chipper attached.

Increase Tractor Throttle to the RUN RPM's Required to obtain 540 PTO speed before chipping.

Reduce Tractor Throttle to IDLE before disengaging PTO.

Failure to follow these instructions may cause serious injury to the operator and will cause damage to the machine which will not be covered under warranty.

091-0458

#227391

**⚠ WARNING**



Rotating parts inside can cause severe injury.

Shut down tractor, wait for PTO and all moving parts to come to a complete stop, then disconnect PTO shaft from tractor before opening.

TPH No. 930-0024

#248831

**⚠ DANGER**



**Entanglement Hazard.**

Rotating drive shafts will cause serious injury or death.

Keep clothes, skin, hair, hands, etc. away from drive shaft.

Shut down tractor, wait for all moving parts to come to a complete stop, disconnect PTO shaft before performing any inspection, maintenance or repair to this machine.

TPH Reorder No. 091-0445

#248791

**⚠ WARNING**



Avoid serious injury and machine damage.

Do NOT operate this machine with tractors that have PTO speeds greater than 540 RPM.

Damage caused by running this machine at excessive speed will not be covered under warranty.






TPH Reorder No. 091-0385

#250581

**⚠ DANGER**

**Avoid death or serious injury.**

<p>Rotating cutting blades.</p> <p>Do NOT insert hands, body parts, or metal objects in the hopper or discharge chute while the machine is running and parts are moving.</p>	<p>Shut down tractor, wait for PTO and all moving parts to come to a complete stop, then disconnect PTO shaft from tractor before clearing obstruction.</p>	<p>Keep hands, all body parts, and loose clothing away from moving parts.</p> <p>Always wear approved safety glasses, hearing protection and gloves when using this machine.</p>	<p>Keep stones, nails, and other objects except branches out of the hopper.</p> <p>Keep bystanders, children and pets 100 ft. from machine while in use.</p>	<p>Do NOT operate machine without the hopper, blow back shield, discharge chute and all guards securely in place.</p> <p>Read and understand the operator's manual before servicing or operating this machine.</p>
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TPH Reorder No. 930-0025

#248841

## Protecting Yourself and Those Around You

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### **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 3-Point Hitch DR SELF-FEEDING 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 with your hands.
  - Keep bystanders 100 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 4). Never pass or stand on the discharge side of the machine when the engine is running or the flywheel is turning.
  - Never transport the Chipper with the PTO engaged and the Flywheel 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 3-point hitch DR SELF-FEEDING Chipper. This includes all shields and guards. Modifications to your machine could cause personal injuries and property damage and will void your warranty.
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## Safety for Children and Pets

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### **WARNING**

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

- Keep children and pets at least 100 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 3-Point Hitch DR SELF-FEEDING Chipper.
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## General Safety

### DANGER

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:

- This machine is designed to operate at 540 rpm only! Never operate the machine at a faster speed; doing so can cause serious injury to the operator or bystanders and could cause damage to the machine that is not covered under warranty.
- The DR 3-Point Hitch Chipper must be operated with the weight of the machine on the ground. Operating the machine while it is off the ground can result in injury to yourself or others, or can cause damage to the machine which is not covered under warranty.
- Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people, their property, and themselves.
- Your 3-Point Hitch DR SELF-FEEDING 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.
- Know how to stop the chipper quickly by disengaging the PTO and shutting down the tractor.
- 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.
- Whenever you leave the operating position or if you have to remove processed material, leaves, or debris from the machine, always disengage the PTO, shut down the tractor engine, remove the key, wait for all moving parts to come to a complete stop, disconnect the PTO shaft from the tractor, then wait 5 minutes before removing processed material, leaves, or debris from the machine.
- If the cutting mechanism strikes a foreign object or if your machine should start making an unusual noise or vibration, immediately disengage the PTO, shut down the tractor engine, remove the key, wait for all moving parts to come to a complete stop, disconnect the PTO shaft from the tractor, 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 4. Personal injury or damage to the machine could result.
- While using the 3-Point Hitch DR SELF-FEEDING 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.
- Your 3-Point Hitch DR SELF-FEEDING Chipper is driven by a PTO shaft that transfers power from your tractor. A PTO shaft is extremely dangerous and can cause serious injury or death. Read and understand all of the safety and operating instructions manual that came with your PTO shaft.

## ***Transportation Safety***

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### **! CAUTION**

- Before transporting, be certain the 3-Point Hitch DR SELF-FEEDING Chipper is correctly and securely attached to your tractor and the safety chains of the PTO are in place.
  - Make sure the 3-Point Hitch DR SELF-FEEDING Chipper is raised high enough to clear all obstacles during transportation.
  - Never transport the machine for long distances.
  - Never allow anyone to ride on the 3-Point Hitch DR SELF-FEEDING Chipper.
  - Never transport anything on the machine.
  - Never transport the 3-Point Hitch DR SELF-FEEDING Chipper with the PTO engaged.
  - Obey local, state, and federal regulations when transporting the machine on public roads and highways.
  - Allow for added length in driving situations, e.g., when turning, parking, and crossing intersections.
  - Adjust your transportation speed for terrain and conditions.
  - Use caution when backing or turning. Be aware of the large turning radius required with the 3-Point Hitch DR SELF-FEEDING Chipper attached to your tractor.
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## ***California Proposition 65***

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### **! WARNING**

California Proposition 65:

- This product contains or emits chemicals known to the State of California to cause cancer, birth defects, and other reproductive harm.
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## ***A Note to All Users***

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 3-Point Hitch DR SELF-FEEDING Chipper in a safe manner. Contact us at [www.DRpower.com](http://www.DRpower.com) or call 1-800-DR-OWNER (376-9637) for assistance.

## Chapter 2: Setting Up Your 3-POINT HITCH DR SELF-FEEDING CHIPPER

This chapter outlines unpacking 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 3-POINT HITCH DR SELF-FEEDING 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](http://www.DRpower.com) or call our Customer Service Representatives at our toll free number: 1-800-DR-OWNER (376-9637).

### 3-POINT HITCH DR SELF-FEEDING CHIPPER Controls and Features

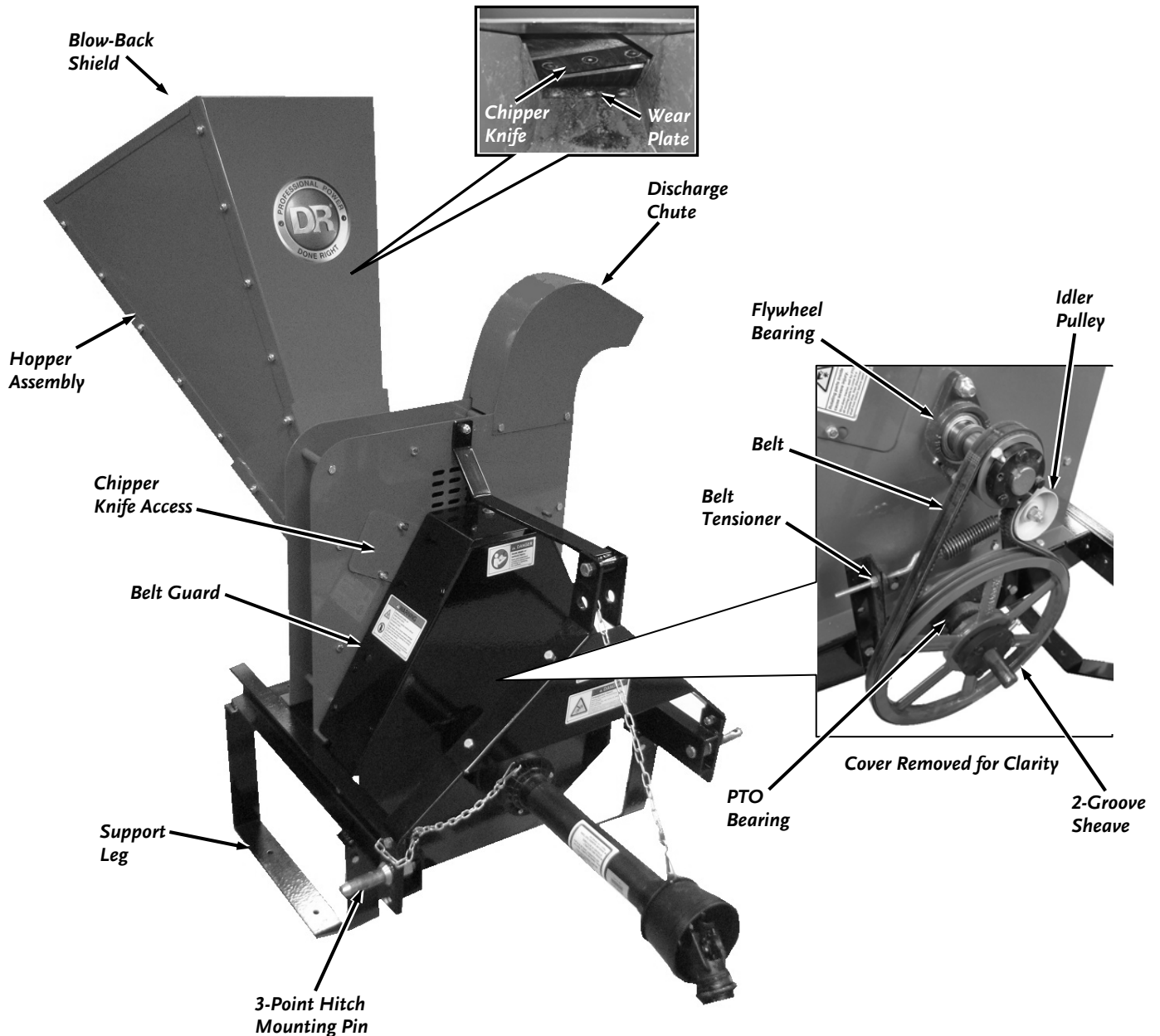


Figure 1



## Specifications

Tractor Horsepower	Category 1 – 65 HP Max.
Drive	Tractor PTO
PTO Speed	540 RPM
PTO Shaft Extension Sheave	14" – 2 Groove 3V
Chipping Capacity	4-3/4"
Rotor Speed	2,071 RPM
Rotor Pulley	3.65" DIA., 2 Groove 3V
Number of Chipper Knives	1
Chipper Knife Size	6-1/4" X 1-1/4" X 9/32"
Chipper Knife Material	Heat Treated Tool Steel
Adjustable Knife Wear Plate	Yes
Chipper Flywheel	17-3/4" DIA., 5/8" THK
Flywheel Weight	50 LBS.
Chipper Housing Material	12 GA Steel
Hopper Material	14 GA Steel
Belt	3V x 560/2 Groove
Belt Adjustment	Spring Loaded Idler Pulley
Hopper Opening at Top	17" X 27"
Chipper Weight w/PTO Shaft	295 lbs.
Shipping Dimensions	54" L x 46" W x 46" H
Shipping Weight	382 lbs

## Assembling the 3-POINT HITCH DR SELF-FEEDING CHIPPER

### Parts supplied (Figure 2):

- 3-POINT HITCH DR SELF-FEEDING CHIPPER
- Hopper Assembly
- PTO Shaft Assembly(with PTO Manual)
- Extended Top-Discharge Chute (if ordered, see Chapter 7 “Chipper Accessories”)
- Parts Box containing (Items below and **Figure 2**):
  - Discharge Chute
  - *Safety & Operation Instructions Manual*
  - Hardware Package (**Figure 3 and List below**)

### Hardware Package Parts:

Item #	Part #	Description	Qty
1	21154	Nylon Locknut, 5/16-18	1
2	35028	Flat Washer, 5/16"	8
3	16003	Knife Gap Gauge	1
4	14229	Key, 1/4" X 1/4" X 1-1/4"	1
5	19423	Set Screw, 3/8-16 X 3/8"	2
6	37576	Pin, Lift Arm (includes Pin, Hex Nut, Thin Hex Nut and Lock Washer)	2

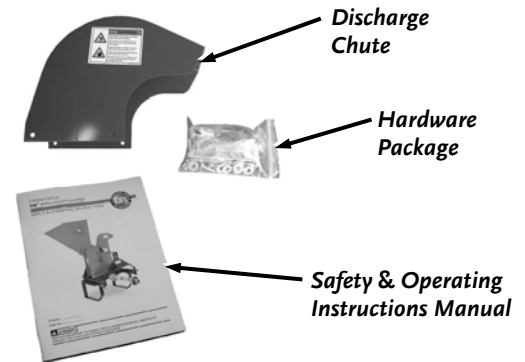


Figure 2

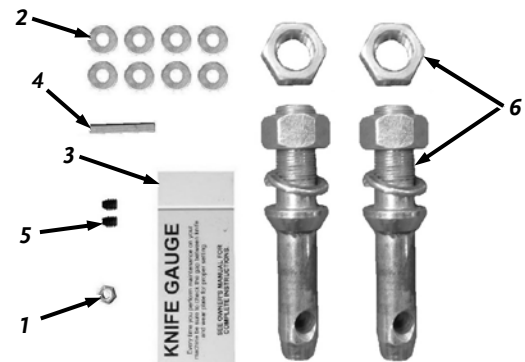


Figure 3

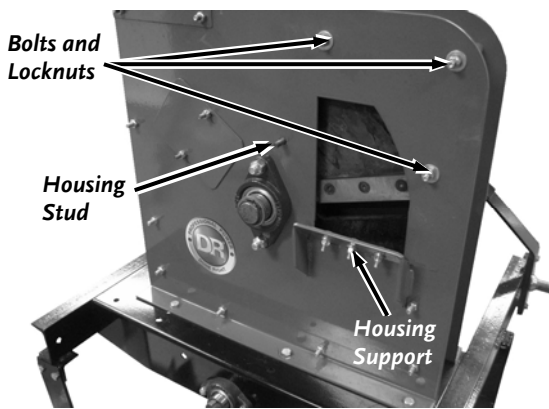


Figure 4

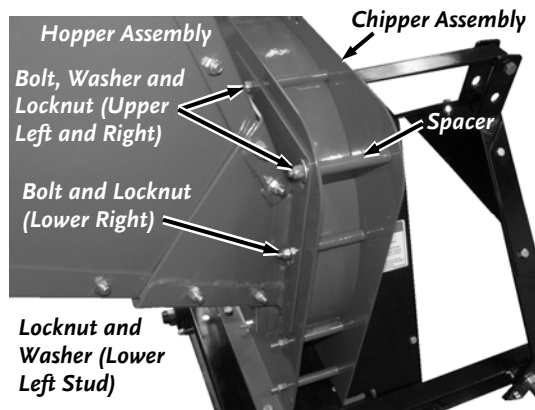


Figure 5

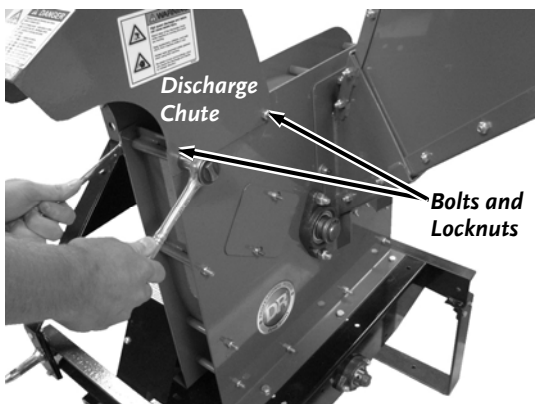


Figure 6

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

## Attaching the Discharge Chute

### Tools Needed:

- Two 1/2" Wrenches
1. Remove the two 5/16-18 x 4-1/4" Bolts and Locknuts at the top of the Chipper Assembly using two 1/2" Wrenches (**Figure 6**).
  2. Position the Discharge Chute with the discharge opening facing away from the Hopper as shown and secure with the two Bolts and Locknuts using two 1/2" Wrenches.

## Installing Lift Arm Pins

There are two styles of Pins we use for the Lift Arm Pins. One style has a shoulder and the other style does not. Installation methods for both styles are explained here so follow the steps that apply to the style you received.

### Tools Needed:

- Large Philips Screwdriver (or Shaft)
- Large Flat Head Screwdriver (or Pry Bar)
- Large Adjustable Wrench
- Tape Measure (needed to install pin with no shoulder only)

### PIN INSTALLATION (WITH SHOULDER)

1. Position the Lock Washer and the Hex Nut inside the plate and channel (**Figure 7**).
2. Insert the threaded end of the Lift Arm Pin through the pin plate of the frame and thread it through the Hex Nut as far as you can by hand.
3. Hold the Hex Nut in place by inserting a large Screwdriver or Pry Bar into the Channel and under the Nut.
4. While holding the Hex nut, insert a large Screwdriver or Shaft into the hole at the end of the Pin and turn the Pin clockwise until tight.
5. Install the thin Hex Nut at the threaded end of the Pin and tighten with an Adjustable Wrench (**Figure 8**).
6. Repeat steps 1 thru 5 for the other side.

**Note:** The orientation (pointing vertical or horizontal) of the hole at the end of the Pin is not important.

### PIN INSTALLATION (NO SHOULDER)

1. Position the Hex Nut inside the plate and channel (**Figure 9**).
2. Insert the threaded end of the Lift Arm Pin through the pin plate of the frame and thread it into the Hex Nut.
3. Push the Pin in so the Locknut rests against the Frame and screw the Pin in or out until the distance from the Pin Plate to the center of the hole in the end of the Pin is 2-3/16" (1.1875).
4. Install the Lock Washer and thin Hex Nut onto the threaded end of the Pin by hand (**Figure 10**).
5. Insert a large Screwdriver or Shaft into the hole at the end of the Pin and to ensure the Pin does not turn as you tighten the thin Hex Nut with an adjustable Wrench.
6. Repeat steps 1 thru 5 for the other side.

**Note:** The orientation (pointing vertical or horizontal) of the hole at the end of the Pin is not important.

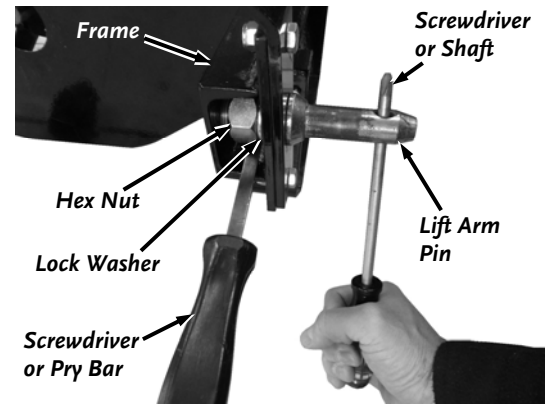


Figure 7

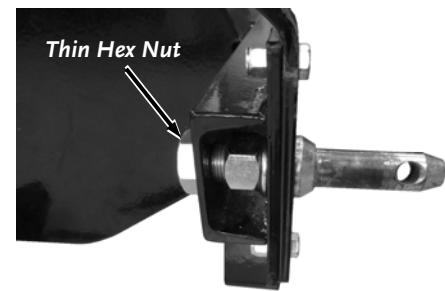


Figure 8

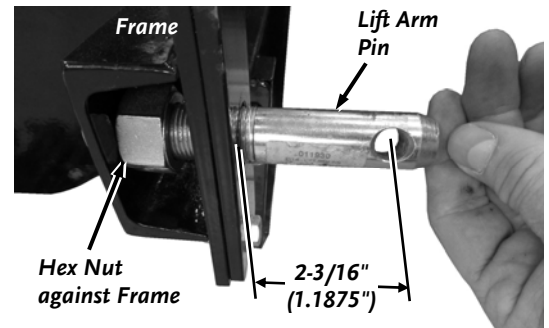


Figure 9

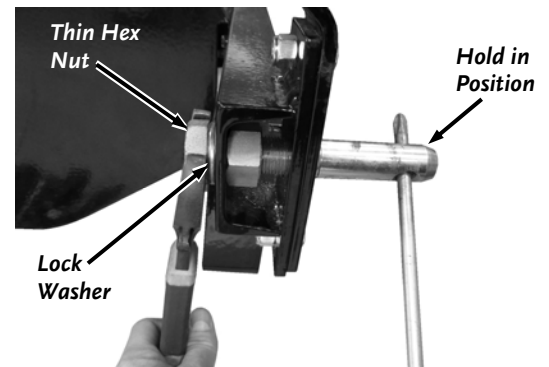


Figure 10

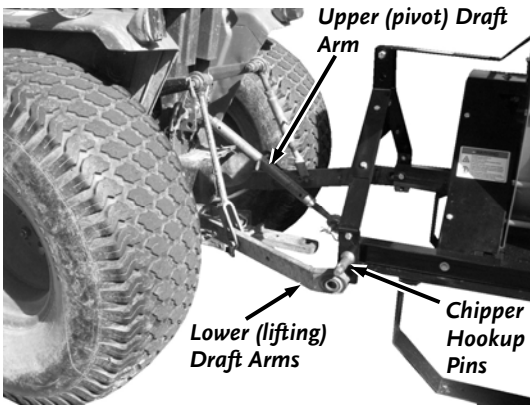


Figure 11

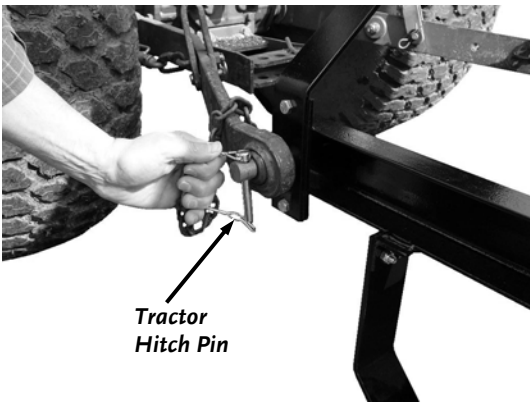


Figure 12

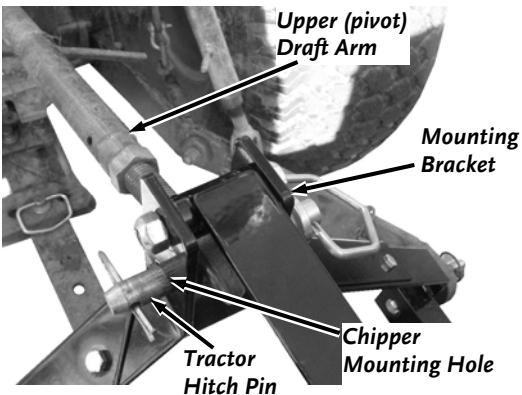


Figure 13

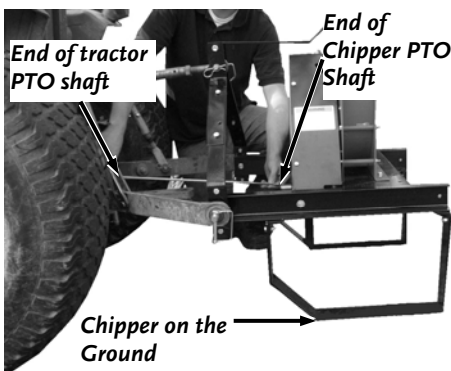


Figure 14

## Attaching the 3-POINT HITCH DR SELF-FEEDING CHIPPER

### **! WARNING**

Before performing the following procedure, be sure your tractor engine is off, brake is set, and the key removed for safety.

**Note:** The PTO Driveshaft provided with your new machine is sized to fit a standard category 1 PTO (1-3/8" DIA. x 6" Spline).

The PTO shaft on the tractor that is to use this machine must rotate clockwise when viewing the PTO from the rear of the tractor. If the PTO rotates counterclockwise, you must have your tractor modified by installing a gearbox to reverse the direction of rotation.

The length of the PTO Driveshaft that is included with your new machine may need to be modified. See the procedure for checking the PTO Shaft length needed and modification instructions in this chapter.

1. Back the Tractor to the Chipper and position the Lower Draft Arms near the Chipper Hookup Pins (**Figure 11**).
2. Slide the Lower Draft Arms onto the Chipper Hookup Pins and secure with Tractor Hitch Pins (**Figure 12**).
3. Position the Upper Draft Arm inside the Mounting Bracket and align with the Mounting Bracket Holes (**Figure 13**).
4. Insert the Tractor Hitch Pin to secure the Upper Draft Arm to the Chipper.

### Calculating length of PTO Shaft needed

The PTO Shaft provided with your Chipper is 27" overall compressed length and will work for most applications without modifications. Before you install the PTO Shaft it is good practice to run through the following dimension checks to calculate optimum PTO Shaft length to determine if modifications are needed.

Without the PTO Shaft installed, use the table below to record the dimensions as outlined in the following steps.

SHAFT TO SHAFT MEASUREMENTS	
ON GROUND	_____ Inches
SHAFTS LEVEL	_____ Inches
FULLY RAISED	_____ Inches

1. Lower the Chipper all the way onto the ground in the operating position. Measure from the end of the Tractor PTO Shaft to the end of the Chipper PTO Shaft and record this dimension in the "ON GROUND" row of the table above (**Figure 14**).

2. Raise the Chipper up until the Tractor PTO Shaft and Chipper PTO Shaft are parallel with each other. Measure from the end of the Tractor PTO Shaft to the end of the Chipper PTO Shaft and record this dimension in the "SHAFTS LEVEL" row of the table above (Figure 15).
3. Raise the Chipper up as far as it will go. Measure from the end of the Tractor PTO Shaft to the end of the Chipper PTO Shaft and record this dimension in the "FULLY RAISED" row of the table above (Figure 16).

**Note:** If your longest measurement exceeds 32" you will require a longer PTO Shaft. Do not proceed with installation until you have a longer PTO Shaft. If you have any questions, please visit us at [www.DRpower.com](http://www.DRpower.com) or call 1-800-DR-OWNER (376-9637).

4. Take the shortest recorded measurement you wrote in the table and add 2".
5. Take that number and subtract it from 27" (overall compressed length of the supplied PTO Shaft).
6. This final number is the length that you will need to cut off of the PTO Shaft for it to fit properly to your Tractor.

**EXAMPLE:** Let's assume the shortest center-to-center measurement in the table is 22".

- $22 + 2 = 24$  (step 4 above)
- $27 - 24 = 3$  (step 5 above)
- You would be required to cut 3" off both halves of the PTO Shaft and 3" off of the Guard.

**Note:** If you end up with 0" or a negative number, then no changes are needed until you reach a maximum long measurement of 32" as indicated on previous page.

If you have any questions, please visit us at [www.DRpower.com](http://www.DRpower.com) or call 1-800-DR-OWNER (376-9637).

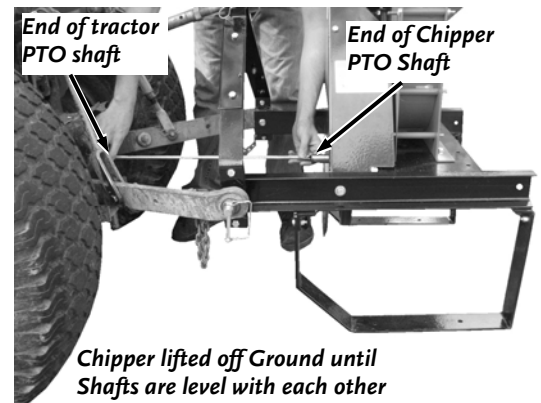


Figure 15

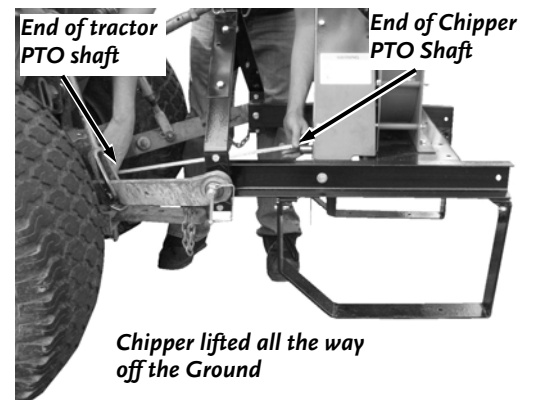


Figure 16

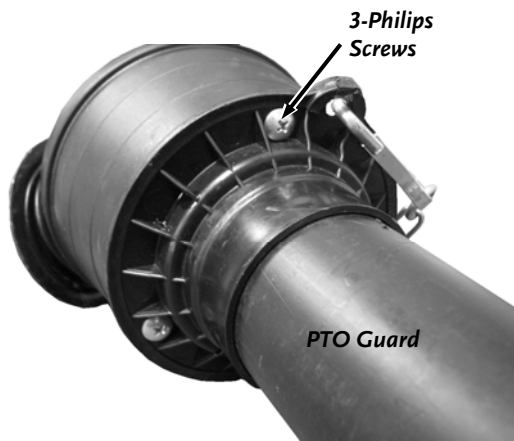


Figure 17

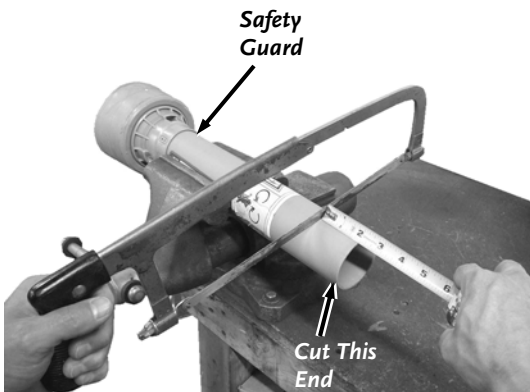


Figure 18

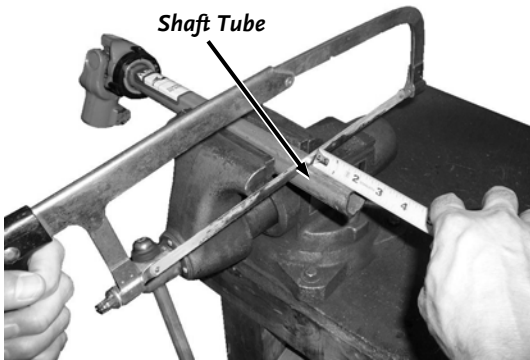


Figure 19

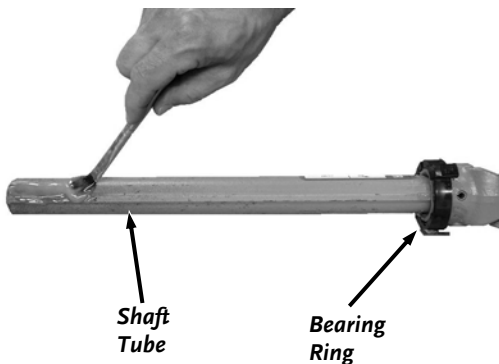


Figure 20

## Modifying the PTO Shaft-if required

The PTO Shaft included with your new DR Chipper may be too long for your tractor. To shorten the Driveshaft, proceed as follows:

### Tools and Supplies Needed:

- Hacksaw
- Bench Vise
- Tape Measure
- File
- General purpose Lithium Grease
- Philips Head Screw Driver

1. Separate the PTO Shaft Halves by pulling them apart.
2. Remove the 3 Philips Screws from the PTO shaft Halves (**Figure 17**). Remove the PTO Guard.
3. Measure and cut the ends of both Guards the required amount (**Figure 18**).

**NOTE:** If you put the Guards in a vise to hold them, be careful not to clamp it too tight because it could crack the plastic.

4. Measure and cut each Shaft Tubes to the required length using the hacksaw (**Figure 19**).
5. File or sand any burrs from the Shaft ends.
6. Grease both Shaft Tubes and under the Bearing Rings of each Shaft (**Figure 20**).
7. Re-install the PTO Guard and tighten the 3- Philips Screws.
8. Slide the two PTO Shaft Halves together.

**NOTE:** When inserting one half of the PTO Shaft to the other you must line up the splines correctly (two pointed splines and one flat spline).

See the following section to attach the PTO Shaft to the Tractor and Chipper.

## Attaching the PTO Shaft to the Tractor and Chipper

1. Insert the Key into the 3-Point Hitch Drive Shaft of the Chipper (**Figure 21**).
2. Align the Key Slot of the PTO Shaft with the Key in the Shaft and slide it onto the Shaft.

### NOTICE

You must install the 1/4" X 1/4" X 1-1/4" key supplied in the hardware package where the PTO shaft attaches to the chipper. Failure to do so will result in damage to the machine and is not covered under warranty.

**NOTE:** Do not allow the 3-Point Hitch Shaft to extend more than 1/4" into the U-Joint. This will allow proper clearance to prevent hitting the Grease Fitting.

3. Secure the PTO Shaft with the two Set Screws from the Hardware Package.

**NOTE:** If you plan to leave the Chipper attached to the Tractor for extended periods, apply thread lock to the Set Screws to help secure them in place.

4. Pull the Locking Ring while sliding the PTO shaft onto the Tractor PTO Spline (**Figure 22**).
5. Release the Locking Ring and continue sliding the PTO Shaft on until the Locking Ring releases and locks into the detent in the Tractor PTO Spline.
6. Secure the PTO Shaft Safety Chains to stationary parts of the Chipper Frame and Tractor to stop the Guard from turning (**Figure 23**).

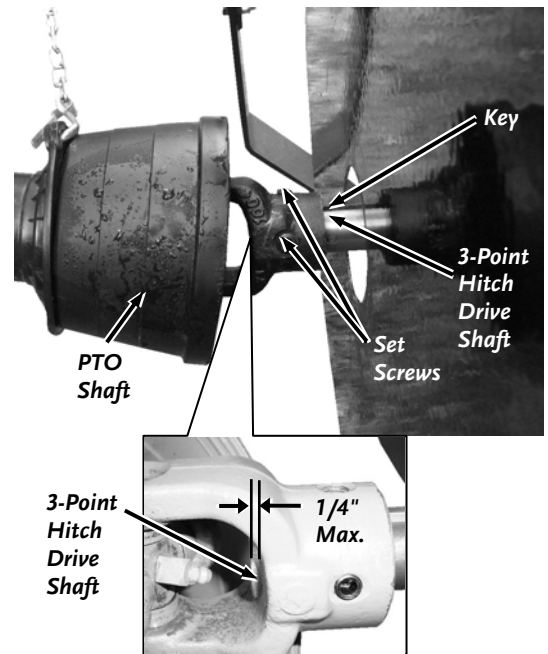


Figure 21

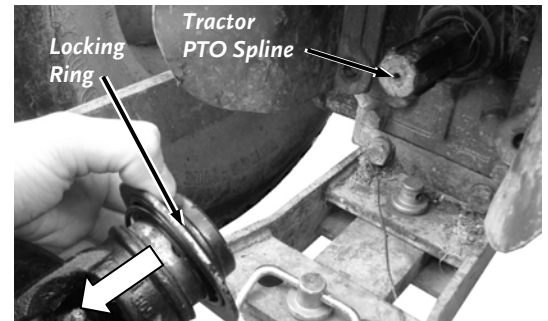


Figure 22

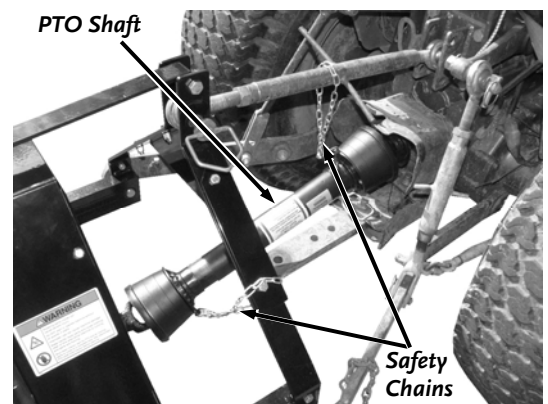


Figure 23

## Chapter 3: Operating Your 3-POINT HITCH DR SELF-FEEDING CHIPPER

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This chapter covers the procedures for starting and stopping your new 3-POINT HITCH DR SELF-FEEDING CHIPPER and discusses basic operation features.

### DANGER

- This machine is designed to operate at 540 rpm only! Never operate the machine at a faster speed; doing so can cause serious injury to the operator or bystanders and could cause damage to the machine that is not covered under warranty.
  - The DR 3-Point Hitch Chipper must be operated with the weight of the machine on the ground. Operating the machine while it is off the ground can result in injury to yourself or others, and can cause damage to the machine which is not covered under warranty.
  - 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 or PTO shaft at any time.
  - Disengage PTO, shut down the tractor engine, remove the key, wait for all moving parts to come to a complete stop, disconnect the PTO shaft from the tractor, then wait 5 minutes before moving or performing maintenance/inspection on the chipper. Use only a wooden stick to clear jammed material.
  - Never operate the machine without the hopper or discharge chute or PTO shaft properly installed.
- 

### **Starting the Chipper**

**NOTE:** Some tractors may require the use of an Over Running Clutch. Consult your local dealer for more information.

1. Ensure that the Chipper is lowered to the ground and all Guards are in place and properly secured before using.
2. Remove any debris buildup from the machine before every use of the Chipper.
3. Set Tractor throttle at IDLE before engaging PTO with Chipper attached.
4. Increase Tractor throttle to the RUN RPM's required to obtain 540 PTO speed before chipping.
5. Reduce Tractor throttle to IDLE before disengaging PTO.

**NOTE:** Check the Drive Belt, if necessary, after an initial break-in period of one (1) hour (see Chapter 5 "Maintaining the 3-POINT HITCH DR SELF-FEEDING 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 5 for info on accessing the Chipper Knife.
- Always operate the Tractor PTO at 540 RPM when chipping.
- Only operate the DR SELF-FEEDING CHIPPER from the Operator Zones shown in **(Figure 24)**.
- Keep proper balance and footing while operating the DR SELF-FEEDING CHIPPER.
- ALWAYS disengage the PTO when leaving the Operating Zones or when moving the machine.
- Never move the Chipper while the PTO is turning.

## Processing Material

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”. The Chipper can chip branches ranging in size up to 4-1/2" in diameter. Cut your materials into manageable lengths before feeding them into the Chipper Hopper.

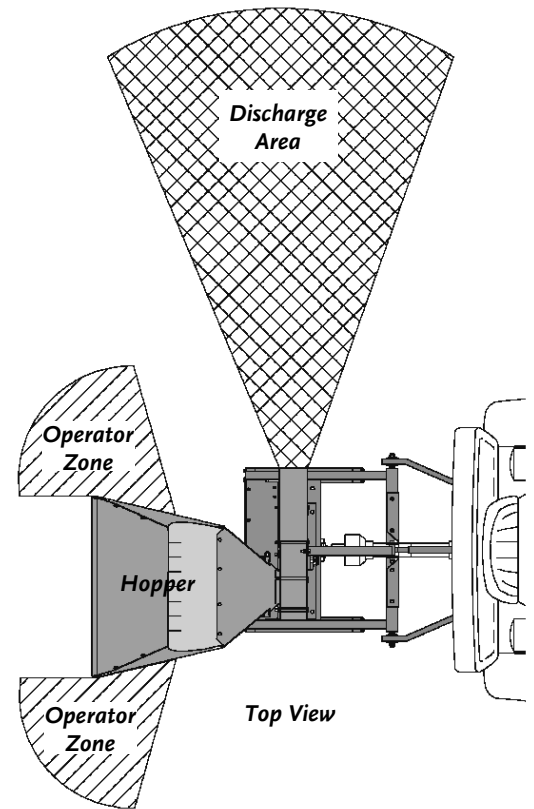


Figure 24

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

## ! WARNING

The chipper hopper must be securely bolted to your DR SELF-FEEDING 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. Disengage PTO and turn off the tractor engine immediately if the machine becomes jammed to prevent damage to the drive system.

- Your DR SELF-FEEDING CHIPPER can process dry or green wood up to 4.75" 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 CHIPPER finishes processing material in the Hopper before disengaging the PTO and shutting the Tractor 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.
- 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.

---

**NOTICE**

Never throw remaining stubs or knots into the chipper hopper; damage will result.

---

## To Free a Jammed Flywheel

### WARNING

Disengage PTO, shut down the tractor engine, remove the key, wait for all moving parts to come to a complete stop, disconnect the PTO shaft from the tractor, then wait 5 minutes before moving or performing maintenance/inspection on the chipper.

### 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.

#### Tools Needed:

- Two 1/2" Wrenches

#### Disassemble:

1. Disconnect the PTO Shaft.
2. Remove any material left in the Chipper Hopper.
3. Remove the two Bolts and Locknuts that secure the Discharge Chute to the Chipper Basic Assembly with two 1/2" wrenches 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 branch.
5. With a wooden stick, loosen and remove any material left in the Chipping Chamber and make sure the Flywheel turns freely with the stick.

#### Reassemble:

1. Position the Discharge Chute onto the Chipper Basic Assembly and secure with two Bolts and Locknuts using two 1/2" wrenches.
2. Reconnect the PTO Shaft, start the Tractor engine and engage the PTO; allowing the remaining material in the Chipping Chamber to discharge.
3. If the Chipping Chamber doesn't clear and the flywheel is still jammed, repeat above process.

**NOTE:** Be certain the Flywheel turns freely before trying to process more material into the Chipper Hopper.

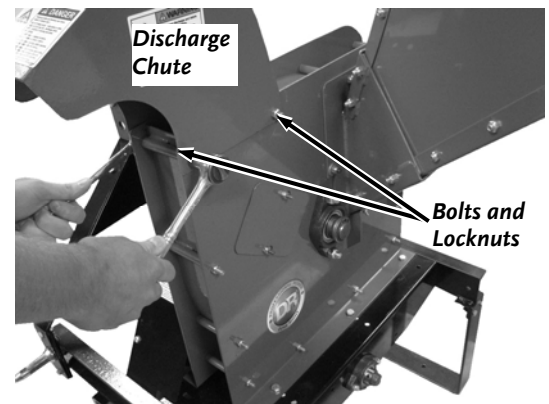


Figure 25

## Chapter 4: Maintaining Your 3-POINT HITCH DR SELF-FEEDING CHIPPER

This chapter covers regular maintenance procedures that will ensure the best performance and long life of your 3-POINT HITCH DR SELF-FEEDING CHIPPER.

Maintenance Kits and Accessories are available through our website at [www.DRpower.com](http://www.DRpower.com).

### **WARNING**

Disengage PTO, shut down the tractor engine, remove the key, wait for all moving parts to come to a complete stop, disconnect the PTO shaft from the tractor, then wait 5 minutes before moving or performing maintenance/inspection 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. See the Owners Manual that came with the Tractor and with the PTO Shaft for Specific Tractor and PTO Shaft maintenance.

Procedure	Before Each Use	Every 8-10 Hours	Every 18-20 Hours	Every 40 Hours
Check General Equipment Condition	▲			
Check that the Flywheel turns freely (with a long stick only)	▲			
Visually inspect Knife for damage	▲			
Check Knife and Wear Plate for Sharpness		▲		
Check Knife and Wear Plate Attachment Screws		▲		
Check Flywheel Bearing Collar Set Screws		▲		
Check Knife to Wear Plate Gap		▲		
Lubricate Flywheel Bearings		▲		
Lubricate PTO Shaft Grease Fittings		▲		
Lubricate PTO Sheave Bearings		▲		
Check Belt Tension and Condition	1 <sup>st</sup> time 1 hour	▲		
Lubricate PTO Shaft Spline ends and center overlap			▲	
Inspect or replace Drive Belt				▲

## Grease Fittings

Your SELF-FEEDING CHIPPER was greased at the Factory. The operator needs to periodically lubricate the four Bearings of the Chipper Assembly and the PTO Shaft.

### **⚠ WARNING**

Disengage PTO, shut down the tractor engine, remove the key, wait for all moving parts to come to a complete stop, disconnect the pto shaft from the tractor, then wait 5 minutes before performing any maintenance procedure or inspection on the chipper.

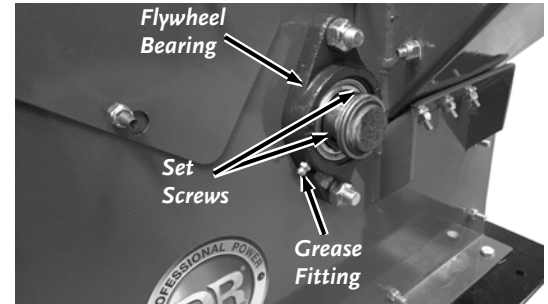
#### Tools and Supplies needed:

- Flexible hose grease gun
  - Lithium grease
  - Clean cloth
  - 1/8" Allen Wrench
  - Thread Lock
1. Remove the Belt Guard (see "Removing, Replacing and Adjusting the Drive Belt" in this Chapter).
  2. Wipe all dirt, etc., from the grease fittings with a clean cloth.

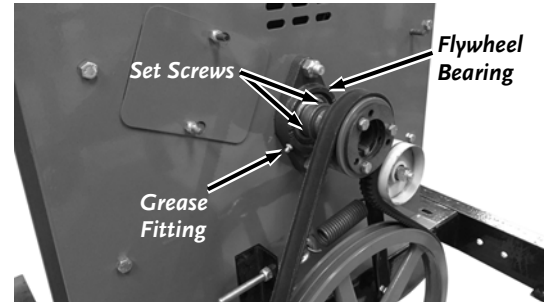
### **NOTICE**

Over lubrication can damage the bearings.

3. Apply no more than three pumps of quality general-purpose lithium grease with a hand-pumped grease gun to each Flywheel Bearing Grease Fitting (**Figure 26**), each PTO Bearing Grease Fitting (**Figure 27**), and the two U-Joint Grease Fittings (**Figure 28**).
4. Check the Bearing Set Screws for tightness. If they are not tight then remove them, apply Thread Lock to the threads, then reinstall and tighten the Set Screws.
5. Replace the Belt Guard.

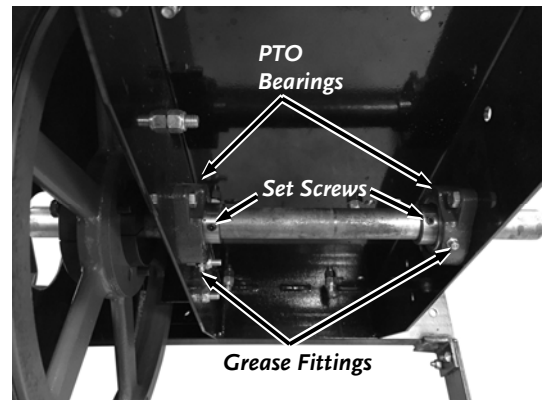


**Hopper Side Flywheel Bearing**

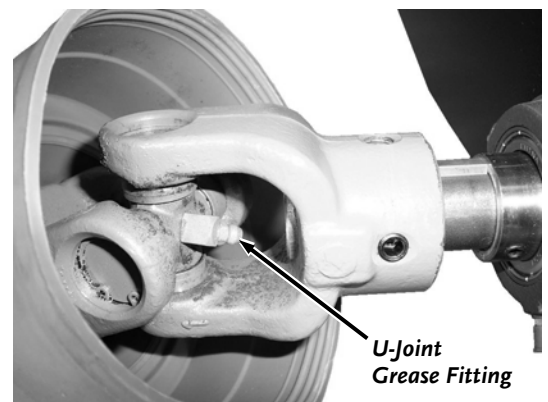


**Belt Side Flywheel Bearing**

**Figure 26**



**Figure 27**



**Figure 28**

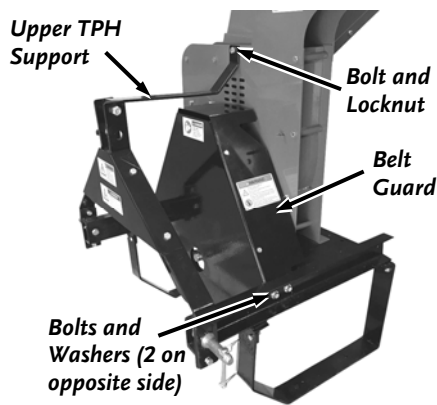


Figure 29

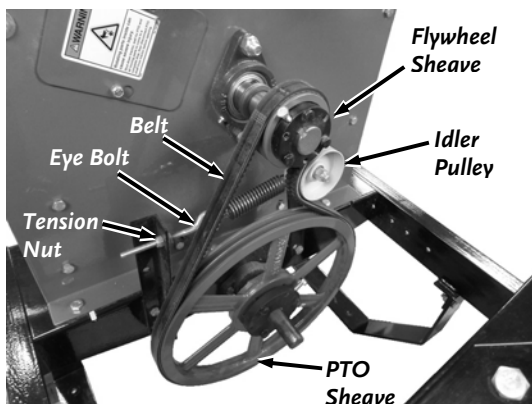


Figure 30

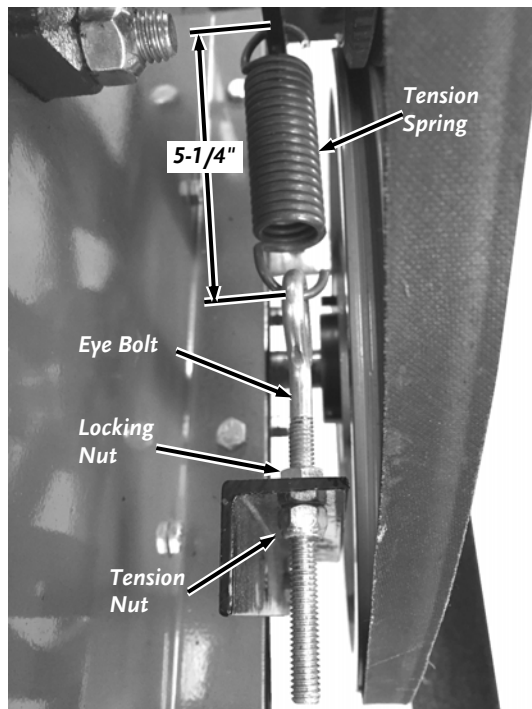


Figure 31

## Removing, Replacing and Adjusting the Drive Belt

### **! WARNING**

Disengage PTO, shut down the tractor engine, remove the key, wait for all moving parts to come to a complete stop, disconnect the PTO shaft from the tractor, then wait 5 minutes before performing any maintenance procedure or inspection on the chipper.

#### Tools Needed:

- Tape Measure
- Two 9/16" Wrenches
- 1/2" Wrench
- 7/16" Wrench
- 1/8" Allen Wrench
- Straightedge

#### Removing the Belt

1. Use two 9/16" Wrenches to remove the Bolt and Locknut securing the Upper TPH Support to the Chipper Housing (**Figure 29**). Rotate the Upper TPH Support up and out of the way.
2. Use a 1/2" Wrench to remove the four Bolts, Lock Washers, and Flat Washers securing the Belt Guard to the Frame.
3. Remove the Belt Guard.
4. Use a 1/2" Wrench to Loosen the Tension Nut until the Belt can be easily removed (**Figure 30**).

#### Installing and Adjusting the Belt

### **NOTICE**

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

1. Install the new Belt onto the Sheaves and Idler Pulley as shown (**Figure 30**).
2. Use a 1/2" Wrench to Tighten the Tension Nut until the distance between the Tension Spring Hooks is 5-1/4" (**Figure 31**).

**Note:** Loosen the Locking Nut as needed to get the spring to the proper tension.

3. Tighten the Locking Nut to secure when the proper adjustment is made.

4. Check the alignment of the Sheaves by placing a Straightedge flat against the front face of the PTO Sheave (**Figure 32**).
5. Check the gap from the Straightedge to the Belt near the Flywheel Sheave and near the PTO Sheave. 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:

- a) Use a 7/16" Wrench to loosen the Bushing Key Bolt (**Figure 33**).
- b) Use a 7/16" Wrench to remove the three Bushing Retaining Bolts.

**Note:** Place a block of wood into the PTO Sheave Spokes to help hold the belt to loosening the Sheave Bolts.

- c) Reinstall the three Bolts in the Threaded Holes adjacent to the Holes that the Bolts were removed from.
- d) Slowly tighten the Bolts evenly and alternately (1/4 to 1/2 turn) until the Sheave pushes away from the Bushing Flange and the Bushing can be moved on the Flywheel Shaft.
- e) Remove the three Bolts and reinsert them into the original Retaining Bolt holes.
- f) Move the Sheave Bushing in or out on the Flywheel Shaft as needed to take up the difference that you measured for the gaps between the Straightedge and Belt.

**Note:** Prior to retightening the Bushing Retaining Bolts, The un-tightened Sheave will need to be approximately 1/8" past the original straightedge to allow for compression of the Bushing during the tightening process.

- g) Slowly tighten the Bushing Retaining Bolts evenly and alternately (1/4 to 1/2 turn).

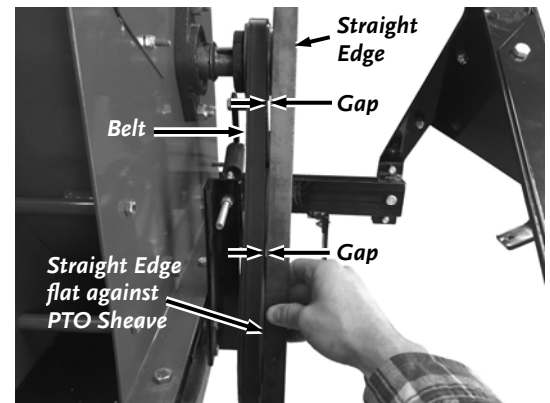
**Note:** The Bolts should be fairly tight but the Bolt Head does not rest fully against the Bushing Face. There should be a gap even when the Bolts are tight.

- h) Recheck the alignment after tightening the Bolts, and then retighten the Bushing Key Bolt.

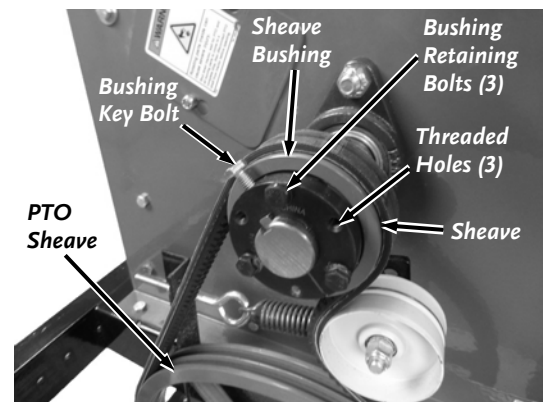
**Note:** Make sure that the Belt or Sheave is not hitting the Frame.

**Note:** The belt on your DR 3-POINT HITCH CHIPPER is tensioned with a spring-loaded idler arm and pulley that is set at the factory. As the Belt stretches from use, the Belt tension may need to be adjusted.

6. Reinstall the Belt Guard (**Figure 29**).
7. Secure the Upper TPH Support.



**Figure 32**



**Figure 33**

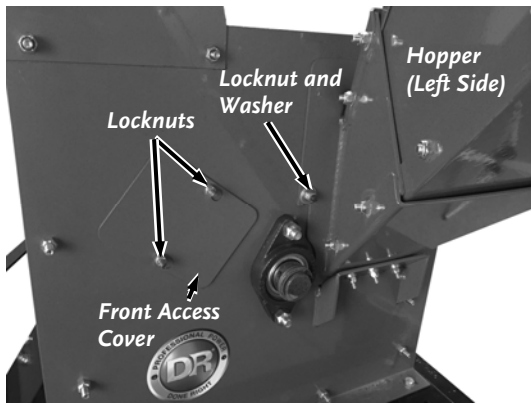


Figure 34

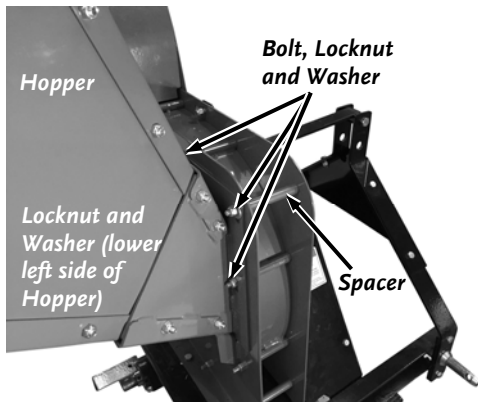


Figure 35

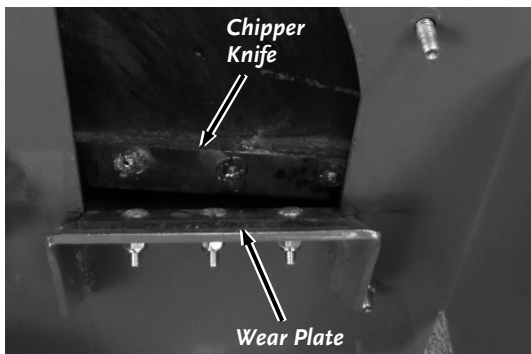


Figure 36

## 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 Chipper.

#### Tools Needed:

- 7/16" Wrench

1. Loosen the Locknuts that secure the Front Access Cover with a 7/16" Wrench (**Figure 34**). 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 using a 7/16" Wrench.

## VISUAL inspection of the Wear Plate (every 8-10 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 Chipper and make chipping difficult for the operator.

### 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.

#### Tools Needed:

- Two 1/2" Wrenches

1. Use a 1/2" Wrench to loosen the Locknut and Washer securing the lower left side of the Hopper (**Figure 34**).
2. Use two 1/2" Wrenches to remove the Locknut and Flat Washer from the three Bolts securing the top and right side of the Hopper. The Bolts can be left in place and make sure the Spacer stays in the location shown.
3. Remove the Hopper from the Chipper Assembly.
4. Use a stick to rotate the Flywheel until the Knife is next to the Wear Plate.
5. Closely inspect the Chipper Knife and Wear Plate for nicks or dull (rounded) edges (**Figure 36**).
6. If necessary, repair or replace the Chipper Knife and/or Wear Plate per the following procedures. If the Knife and Wear plate do not need maintenance or adjustment, reinstall the Hopper.



## 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. Remove the Belt Cover (see “Removing, Replacing and Adjusting the Drive Belt” in this Chapter) and Shredder Hopper (see “VISUAL inspection of the Wear Plate (every 8-10 hours)” in this Chapter).
2. Loosen the Locknuts that secure the rear Access Cover with a 7/16" Wrench (**Figure 37**). Move the Cover over to align the larger portion of the hole with the Locknuts and remove the Cover.
3. Rotate the Flywheel using a stick until the three countersunk Allen Screws (**Figure 38**) and Locknuts (**Figure 39**) attaching the Knife to the Flywheel are visible through the Access Openings.
4. Clean out the Allen Screws with an Awl or Sharp Tool (**Figure 38**).
5. Insert a 3/16" Allen Wrench into the head of a screw.
6. While holding the Allen Wrench, remove the Locknut using a 1/2" socket (**Figure 39**).
7. Repeat Steps 5 and 6 for the remaining two Allen Screws.
8. 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.

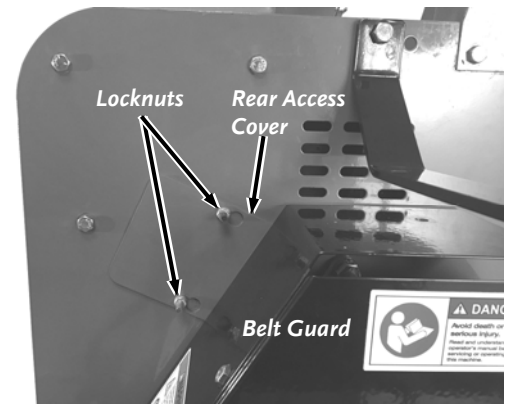


Figure 37

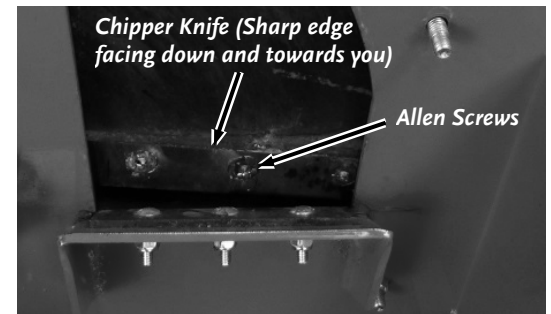


Figure 38

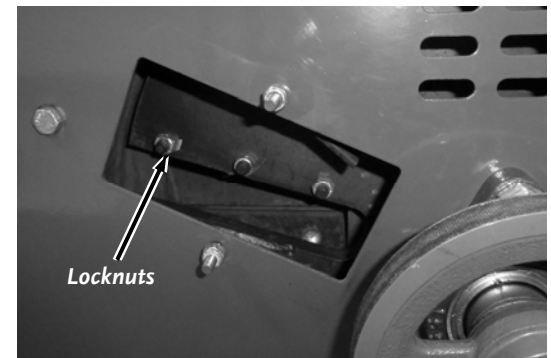


Figure 39

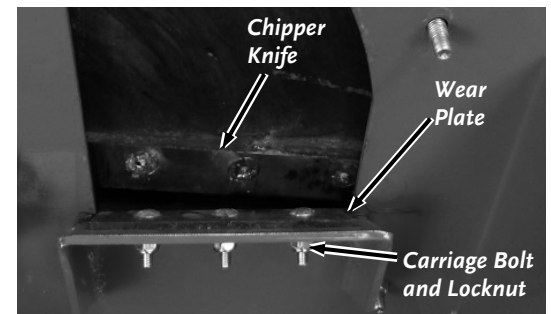


Figure 40

### **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.

9. Install a new or sharpened Knife as shown with the Knife edge facing down and towards you (**Figure 38**) 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.
10. 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.
11. Double-check that all three Locknuts on the Allen Screws are tight.
12. 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 with a 7/16" Wrench and then remove the Wear Plate (**Figure 40**).
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).

## 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.

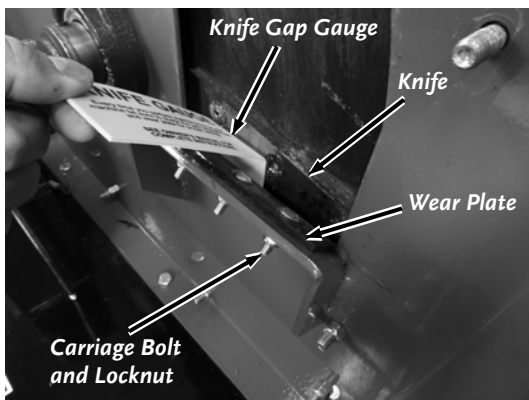


Figure 41

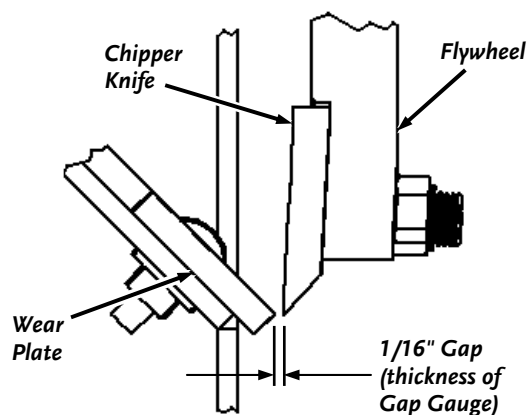


Figure 42

### 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 41**).
    - 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 42** 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 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 43**).
- 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 1.579" measurement between the short side bevel edge and the Knife Top Edge (**Figure 44 "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 1.485" (**Figure 44 "Sharpened Knife"**), or if you are unable to remove dents or gouges with these guidelines, replace the Knife.

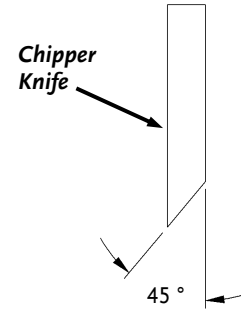


Figure 43

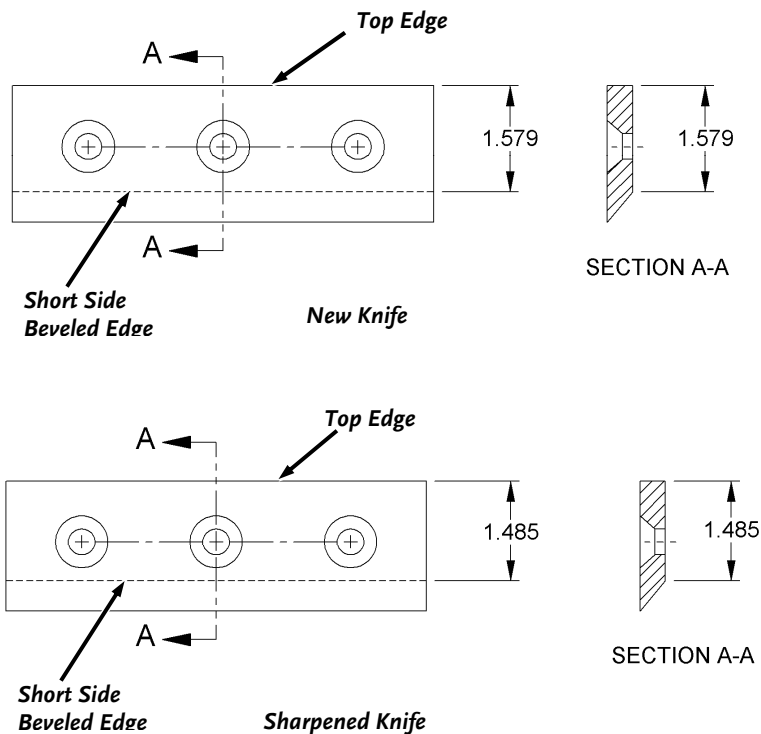


Figure 44

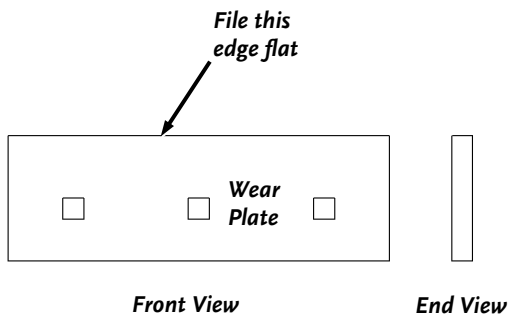


Figure 45

## 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

Secure the Wear Plate in a vise.

File the edge of the Wear Plate to take out any nicks and to square rounded edges (**Figure 45**).

**NOTE:** If the Wear Plate is filed enough times that the proper gap between the Knife and Wear Plate can not be set with the Gap Gauge, You will need to replace the Wear Plate.

## End of Season and Storage

### **⚠ WARNING**

- Disengage PTO, shut down the tractor engine, remove the key, wait for all moving parts to come to a complete stop, disconnect the PTO shaft from the tractor, then wait 5 minutes before performing any maintenance procedure or inspection on the chipper.
- When not in use, your DR Rapid-Feed Chipper should be stored out of the reach of children.

**NOTE:** Please refer to the Safety and Operation Manual that came with the PTO Shaft for specific PTO Shaft procedures.

- Lubricate PTO Shaft Grease Fittings.
- Lubricate two Flywheel Bearings.
- Lubricate two PTO Sheave Bearings.
- Check the Drive Belt for wear. Replace as needed.
- Release Drive Belt from Tensioner to relieve Belt stress.
- Check the Chipper Knife and Wear Plate for nicks and wear. Sharpen or replace as needed.
- Check the general condition of the machine, e.g.; nuts, bolts, welds, etc. Replace parts or tighten Hardware as needed.
- Clean any debris from the Hopper and Discharge Chute.
- Store in a dry covered area to protect from moisture.

## Chapter 5: Troubleshooting

Most problems are easy to fix. Consult the Troubleshooting Table below for common problems and their solutions. If you continue to experience problems, contact us at [www.DRpower.com](http://www.DRpower.com) or call DR Power Equipment for support.

### **WARNING**

Disengage PTO, shut down the tractor engine, remove the key, wait for all moving parts to come to a complete stop, disconnect the PTO shaft from the tractor, then wait 5 minutes before performing any maintenance procedure or inspection on the chipper.

### *Troubleshooting Table*

<b>SYMPTOM</b>	<b>POSSIBLE CAUSE/FIX</b>
<i>Flywheel won't turn.</i>	<ul style="list-style-type: none"><li>⇒ The Flywheel may be jammed. Immediately disengage the PTO and stop the tractor engine. Remove any built-up debris from the Chipper Hopper Inlet and Discharge Chute.</li><li>⇒ Check the Drive Pulley alignment and adjust if necessary.</li><li>⇒ Replace the Drive Belt or reinstall if the Belt has come off the pulleys.</li><li>⇒ Turn the Flywheel with a wooden stick to be sure it turns freely. If the Flywheel still won't turn, call <b>1-800-DR-OWNER (376-9637)</b> for assistance.</li></ul>
<i>The Belt frays or rolls over the Drive Pulley.</i>	<ul style="list-style-type: none"><li>⇒ The Drive Pulley groove may have a nick in it. File off any nicks on the Pulley.</li><li>⇒ Check the Drive Belt for wear and hard spots.</li><li>⇒ The Drive Belt may be stretched; replace it. See page 27.</li><li>⇒ The Pulleys may be misaligned. See Chapter 5.</li><li>⇒ If the Drive Belt still rolls off the Drive Pulley, call <b>1-800-DR-OWNER (376-9637)</b> for assistance.</li></ul>
<i>Chipping action seems too slow or flywheel stalls.</i>	<ul style="list-style-type: none"><li>⇒ The PTO speed is too slow causing the belt to slip. Run the PTO at 540 RPM.</li><li>⇒ Check for loose or damaged Drive Belt; replace as needed. See Chapter 5.</li><li>⇒ Check for a dull or damaged Knife; sharpen or replace the Knife. See Chapter 5.</li></ul>

## Troubleshooting Table (continued)

SYMPTOM	POSSIBLE CAUSE/FIX
<p>- Belt burns.</p> <p>- Flywheel won't turn.</p>	<p>⇒ Immediately disengage the PTO and shut off the tractor.</p> <p>⇒ Turn the Flywheel with a wooden stick to be sure it turns freely.</p> <p>⇒ Check for a loose Drive Belt. See Chapter 5.</p> <p>⇒ Remove any built-up debris from the Chipper Hopper Inlet and Discharge Chute.</p>
<p>The machine has excessive vibration.</p>	<p>⇒ Check for a dull or damaged Knife; sharpen or replace the Knife. See Chapter 5.</p> <p>⇒ The Knife is not properly seated on the flywheel. Loosen the Knife mounting screws, reset the Knife and tighten the screws. Also, check the Knife to Wear Plate Gap. See Chapter 5.</p> <p>⇒ If the machine still exhibits excessive vibration, contact us at <b>www.DRpower.com</b> or call <b>1(800) DR-OWNER (376-9637)</b> for assistance.</p>
<p>When chipping, the log seems to vibrate excessively and "hammers" my hands.</p>	<p>⇒ The Knife is dull; sharpen or replace it. See Chapter 5.</p> <p>⇒ The gap between the Knife and Wear Plate is too great; adjust the Gap. See Chapter 5.</p> <p>⇒ Check PTO RPMs; run PTO at 540 RPM when chipping.</p>
<p>Chipper Knife is hitting the Wear Plate.</p>	<p>⇒ The gap between the Knife and the Wear Plate is set incorrectly; adjust the Knife to Wear Plate Gap. See Chapter 5.</p>
<p>PTO turns but the flywheel doesn't rotate.</p>	<p>⇒ Loose Drive Belt; Replace Belt. See Chapter 5.</p> <p>⇒ Remove any built-up debris from the Chipper Hopper Inlet and Discharge Chute.</p>

### **! WARNING**

Disengage PTO, shut down the tractor engine, remove the key, wait for all moving parts to come to a complete stop, disconnect the PTO shaft from the tractor, then wait 5 minutes before performing any maintenance procedure or inspection on the chipper.

### **Extended Top-Discharge Chute**

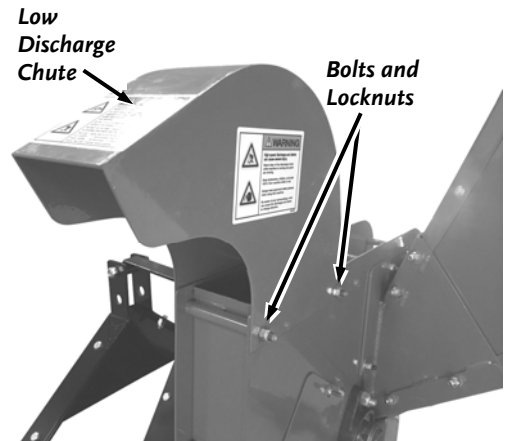
The Extended Top-Discharge Chute enables you to better control the direction of the discharged chips and allows you to direct them into a trailer or truck bed for transport.

#### **Tools Needed:**

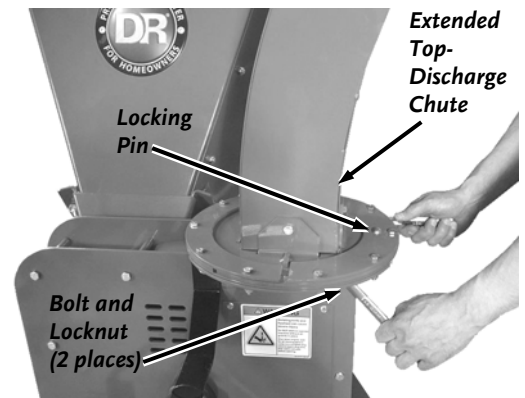
- Two 1/2" Wrenches

#### **INSTALLATION**

1. Remove the two Bolts and Locknuts from the Low Discharge Assembly with two 1/2" wrenches (**Figure 46**).
2. Remove the Low Discharge Chute from the Chipper.
3. Position the Extended Top-Discharge Chute onto the Chipper with the Locking pin on the outside (side furthest away from the hopper) (**Figure 47**).
4. Install the two Bolts and Locknuts and tighten with two 1/2" wrenches.



**Figure 46**



**Figure 47**

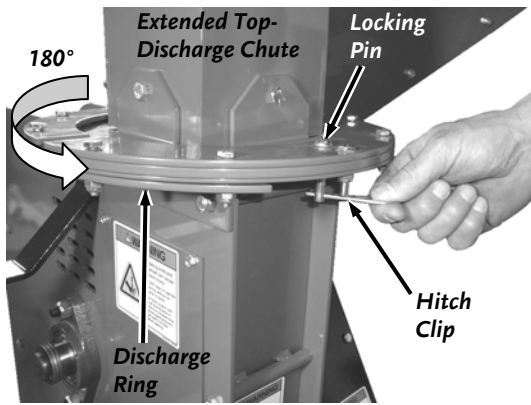


Figure 48

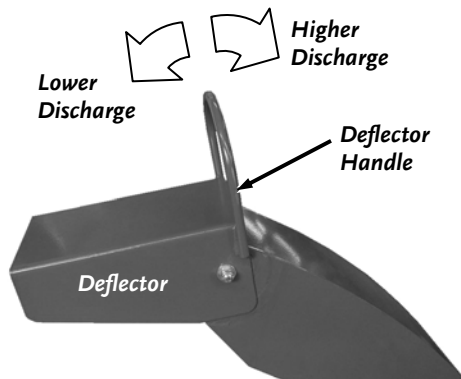


Figure 49

## OPERATION

### Adjusting the Extended Top-Discharge Chute Discharge Direction:

1. Pull the Hitch Clip and remove the Locking Pin (**Figure 48**).
2. Rotate the Extended Top-Discharge Chute to the direction desired.

**NOTE:** The Extended Top-Discharge Chute has a range of motion of 180° that spans the front and both sides of the Chipper. There are 11 different hole settings at 18° increments that you can use.

3. Line up the Locking Pin hole to the closest hole setting in the Discharge Ring.
4. Install the Locking Pin and secure it with the Hitch Clip.

### Adjusting the Deflector Direction:

1. Grab the Deflector Handle and rotate the Deflector to the desired discharge position (**Figure 49**).

## MAINTENANCE

### Tools and Supplies Needed:

- All Purpose Grease

### Lubricating the Extended Top-Discharge Chute:

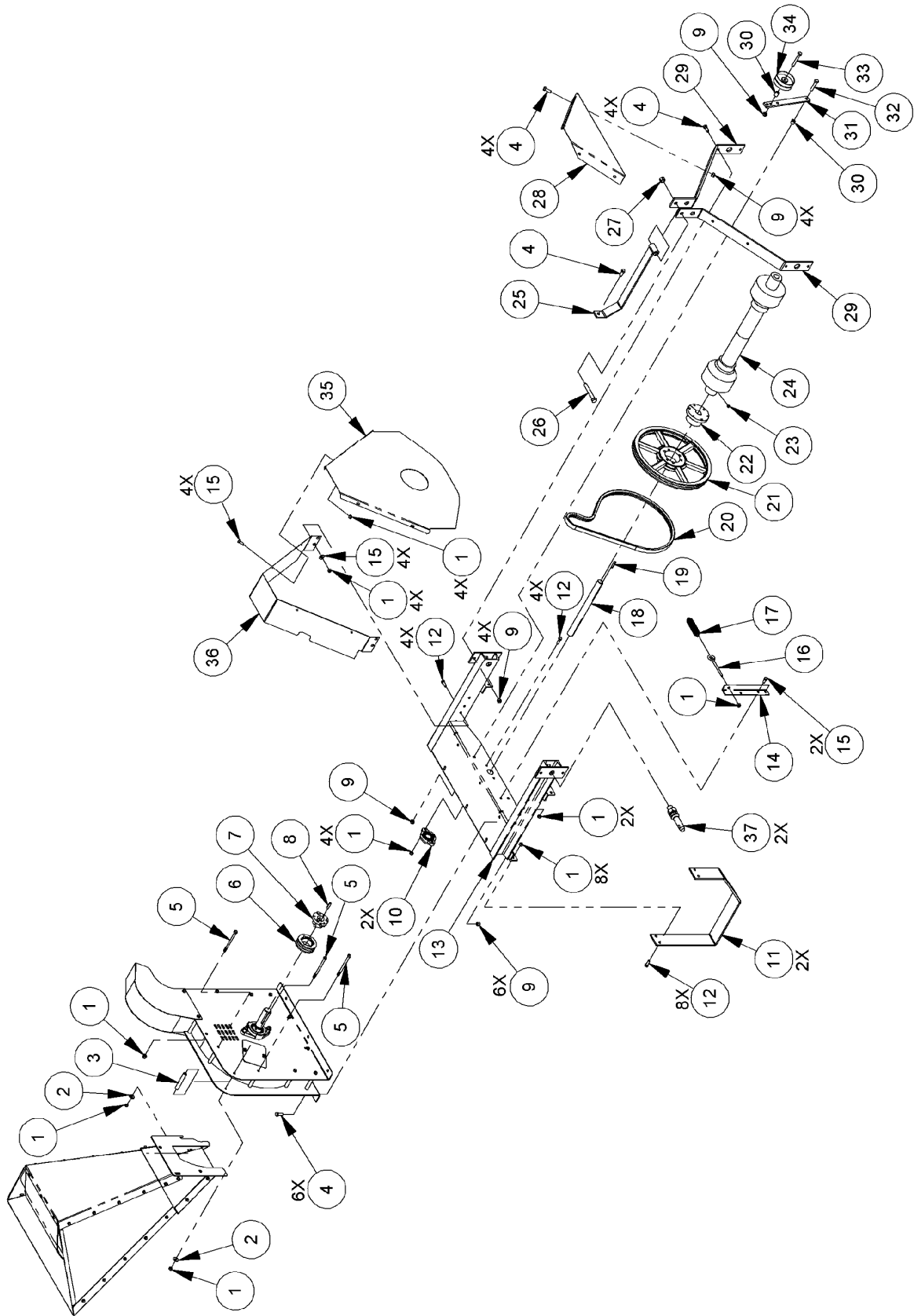
1. Pull the Hitch Clip and remove the Locking Pin from the Discharge Ring (**Figure 48**).
2. Apply some all-purpose grease in each hole of the Discharge Ring and Center Ring as you rotate the Chute.
3. Rotate the Extended Top-Discharge Chute for the full 180° of rotation for a few times to spread the grease inside the Discharge Ring.
4. Reposition the Extended Top-Discharge Chute to the desired angle and insert the Locking Pin and Hitch Clip.





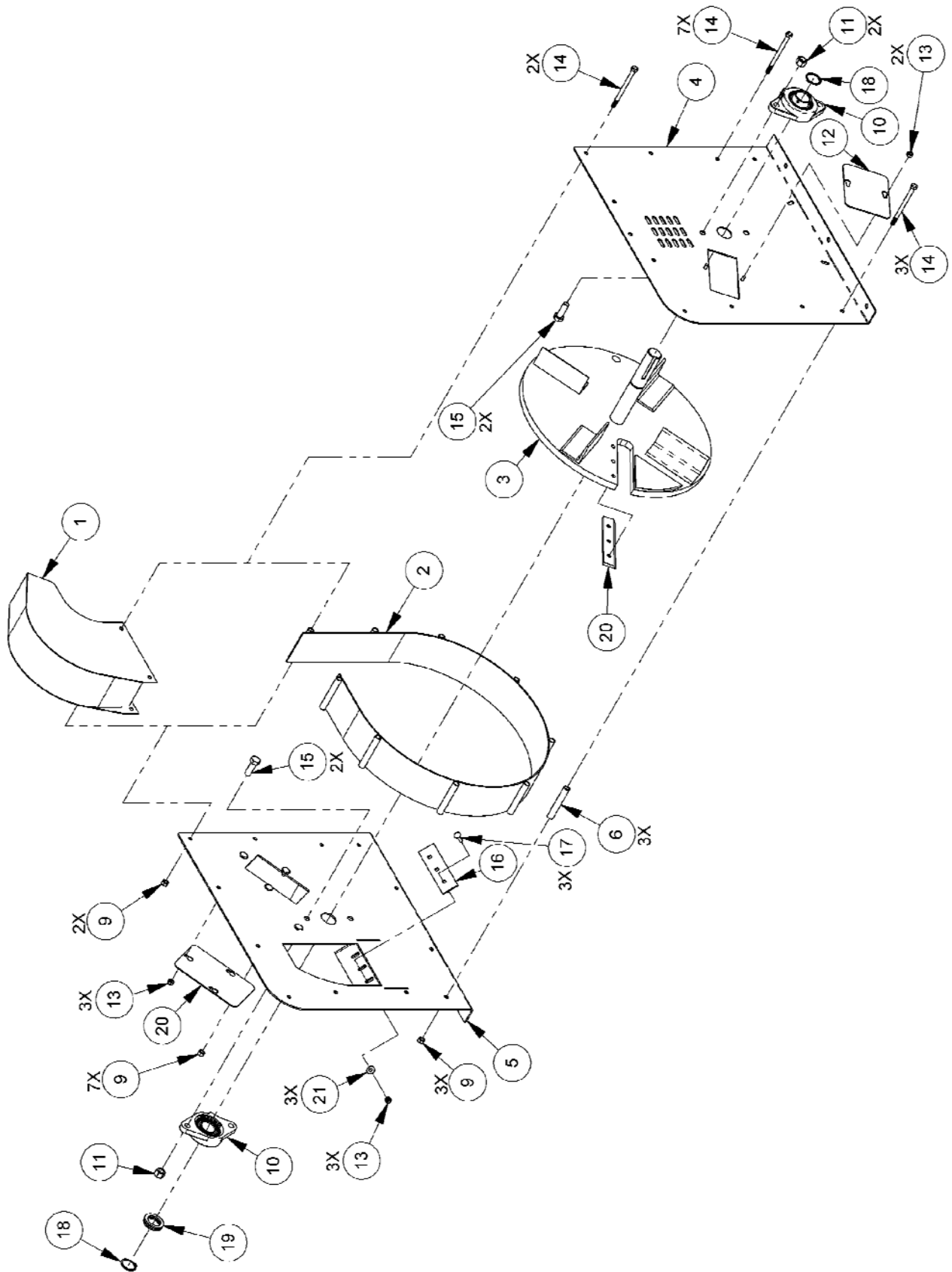


# Schematic – Frame and Drive Assembly





# Schematic – Chipper Basic Assembly

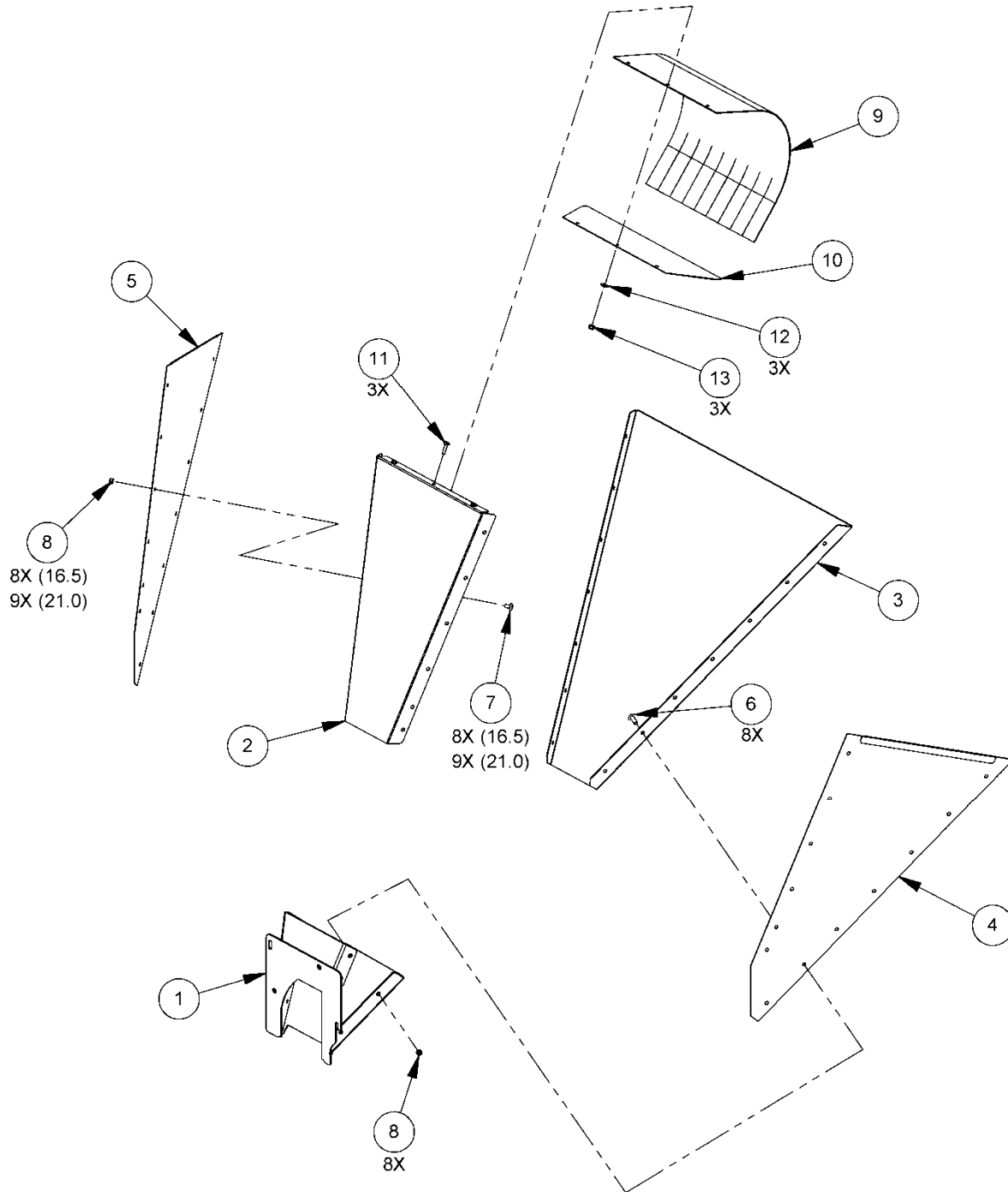


## Parts List – Hopper Assembly

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

<u>Ref#</u>	<u>Part#</u>	<u>Description</u>	<u>Ref#</u>	<u>Part#</u>	<u>Description</u>
1	37429	Hopper, Neck	9	37439	Shield, Blow Back
2	37409	Hopper, Top	10	37433	Support, Blow Back
3	37411	Hopper, Bottom	11	24161	Bolt, HCS, 1/4-20 x 1, Gr5
4	37413	Hopper, Side, LH	12	14339	Washer, Flat, 1/4
5	37415	Hopper, Side, RH	13	11073	Nut, Nylon Lock, 1/4-20
6	37274	Bolt, Philips Head, 5/16-18 x 3/4", Gr 5	<b><u>Not Shown</u></b>		
7	24162	Bolt, Philips Head, 5/16-18 x 1/2", Gr 5		34141	Label, DR Logo, Silver, 5.75"
8	18755	Nut, Nylon Lock, 5/16-18, LP		24184	Label, Danger, Safety

# Schematic – Hopper Assembly



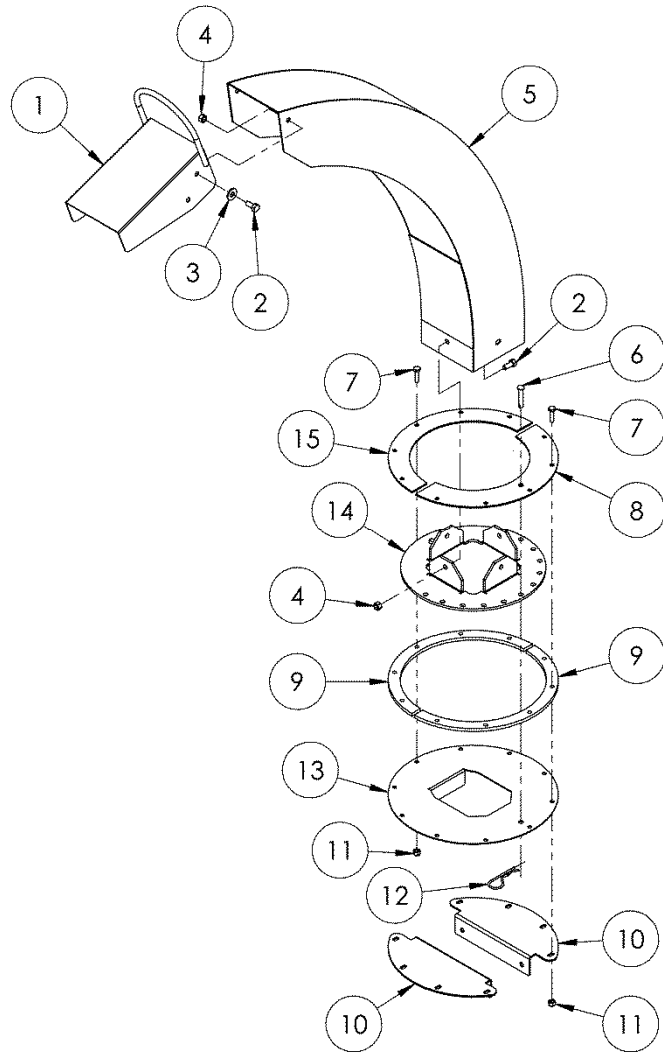
## Parts List – High Discharge Accessory

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

<u>Ref#</u>	<u>Part#</u>	<u>Description</u>	<u>Ref#</u>	<u>Part#</u>	<u>Description</u>
01	24266	Deflector Weldment	11	11073	Nut, Nylon Lock, 1/4-20
02	16679	Bolt, HCS, 5/16-18 x 3/4	12	18258	Hitch Clip
03	14515	Washer, Flat, 5/16	13	24263	Plate, Bottom
04	14313	Nut, Nylon Lock, 5/16-18	14	24264	Swivel Weldment
05	24265	High Discharge Weldment	15	24269	Swivel Top
06	24267	Pin, Locking	<b><u>Not Shown</u></b>		
07	24161	Bolt, HCS, 1/4-20 X 1, Gr5	24183		Label, Warning, High Speed Discharge
08	24268	Swivel Top, Pin Side	24181		Label, Danger, Rotating Knife & Flywheel
09	24270	Spacer, Swivel			
10	37483	Flange, Side, HD			



**Schematic – Extended Top Discharge Chute**



# 3-POINT HITCH DR<sup>®</sup> SELF-FEEDING™ CHIPPER



## 2-Year Limited Warranty

### Terms and Conditions

The 3-POINT HITCH DR<sup>®</sup> SELF-FEEDING™ 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 3-POINT HITCH DR<sup>®</sup> SELF-FEEDING™ 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 3-POINT HITCH DR<sup>®</sup> SELF-FEEDING™ 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 PTO Shaft, Drive Belt, Knife, and Wear Plate. 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 3-POINT HITCH DR<sup>®</sup> SELF-FEEDING™ 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 3-POINT HITCH DR SELF-FEEDING CHIPPER***

To help maintain your 3-POINT HITCH DR SELF-FEEDING CHIPPER for optimum performance, we recommend you follow this checklist each time you use your Chipper.

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### **⚠ WARNING**

Disengage PTO, shut down the tractor engine, remove the key, wait for all moving parts to come to a complete stop, disconnect the PTO shaft from the tractor, then wait 5 minutes before performing any maintenance procedure or inspection on the chipper.

---

- [ ] **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.



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