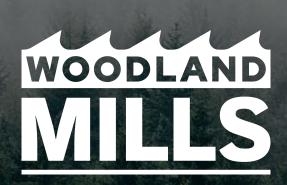
WC68 PTO WOOD CHIPPER



OPERATOR'S MANUAL



This page intentionally left blank.



TABLE OF CONTENTS

TABLE	OF CONTENTS	1
INTRO	DUCTION	3
	DED USE	
	Y GUIDELINES	
ROT	ATING DRIVELINES	5
PER	SONAL SAFETY	6
WOF	RK AREA	7
тос	L USE AND CARE	8
TECHN	ICAL SPECIFICATIONS	9
i. C	OVERALL DIMENSIONS—OPERATING STATE	10
ii. C	OVERALL DIMENSIONS—STORED STATE	11
iii. G	-POINT HITCH DIMENSIONS	12
COMPC	DNENT LISTS	13
TO-S	SCALE HARDWARE	14
	BOLTS & SCREWS	14
	WASHERS	16
	NUTS	17
ASSEM	BLY	18
1. 1	OOLS REQUIRED	18
2. l	JNPACKING	19
	A. UNBOXING THE CRATE	19
	B. LOWER HITCH	20
	C. CONNECTING ROD	23
	D. UPPER HITCH	24
3. I	NFEED CHUTE	25
	A. TOP PANEL	25
	B. SIDE PANELS AND BOTTOM PANEL	26
	C. EDGE BAR	27
	D. CONTROL ARM	29
	E. CONTROL ARM LINKAGE	31
4. E	DISCHARGE CHUTE	33
TRIMMI	NG THE PTO SHAFT	35
1. F	IND THE SHORTEST DISTANCE	35
2. 5	SEPARATE PTO HALVES	36
3. A	ATTACH THE PTO SHAFT	36
4. C	DETERMINE IF TRIMMING IS REQUIRED	36



5. TRIM THE PTO SHAFT	38
6. REASSEMBLE THE PTO SHAFT	38
OPERATION	39
1. PRE-START UP CHECKLIST	
2. START UP	40
3. INFEED ROLLER CONTROL	41
4. DISCHARGE CHUTE	
5. CHIPPING	44
6. STOPPING	44
	45
REPLACING BLADES	45
BLADE SHARPENING	47
SETTING THE BED PLATE GAP	48
ADJUSTING THE HYDRAULIC PUMP BELT TENSION	51
REPLACING THE HYDRAULIC PUMP BELT	52
ADJUSTING THE CONTROL ARM	53
GREASING	54
BEARINGS & OUTPUT SHAFT	54
PTO SHAFT	55
PTO SHAFT GUARD REPLACEMENT	56
STORAGE	58
TROUBLESHOOTING	59
REPLACEMENT PARTS ORDERING	60
EXPLODED ASSEMBLY VIEWS	61
COMPLETE ASSEMBLY	61
BASE	62
LOWER FLYWHEEL HOUSING	63
LOWER FLYWHEEL HOUSING BELT GUARD	64
FLYWHEEL	65
INFEED CHUTE	66
DISCHARGE CHUTE	67
HYDRAULIC LINES	68
CONTROL VALVES	69
PTO SHAFT	70
PARTS LIST	71
NOTES	75



INTRODUCTION

Congratulations on your purchase and welcome to Woodland Mills! This manual gives you the necessary information about your machine so you will be able to use it properly. The entire manual must be read and understood before you start using the machine. If any questions should arise that are not covered by this manual, please contact Woodland Mills Inc.

OWNER'S RECORD

Please take a moment to record the following information about your wood chipper. If you need to call for assistance, please be ready to provide your model and serial numbers. This information will allow us to help you more quickly when you call.

MODEL NUMBER

SERIAL NUMBER

DATE OF PURCHASE

This machine is designed for certain applications only. We strongly recommend that this machine is not modified and/or used for any application other than that for which it was designed. If you have any questions relative to a particular application, DO NOT use the machine until you have first contacted us to determine if it can or should be performed on the product.

For technical questions and replacement parts, please contact Woodland Mills Inc.

INTENDED USE

Woodland Mills wood chippers are designed for acreage owners to aid in chipping natural, untreated wood only. Materials that are processed may contain chemicals or by-products that could corrode the machine or damage it, resulting in safety concerns.



SAFETY GUIDELINES

****SAVE THESE INSTRUCTIONS****

- Do not operate this machine until this manual has been read and fully understood; serious injury or severe machine damage could occur if these safety warnings are ignored.
- Never allow more than one person to operate this machine at one time. If two people are working together it will increase the chance of your workmate engaging the machine or causing you to fall into the machine.
- If your hand is ever near the chipping or feeding area, serious injury could occur.
- Never place your hands or feet on or near the machine while it is engaged.
- Never place your hands or feet on or near the material while it is feeding.
- DO NOT wear loose clothing, jewelry, or anything that can catch a branch that is feeding into the wood chipper.
- DO NOT stand directly in front of the infeed chute when loading material into the hopper; always load from the side of the hopper. This will help prevent any part of your body from being pulled into the machine.
- Always wear safety hearing protection, eye wear, gloves, and long pants when operating the wood chipper.
- Never place your hands beyond the opening of the hopper while the wood chipper is running.
- Never allow children, disabled, or untrained persons to operate the wood chipper.
- Do not operate the wood chipper near bystanders, public roads, or anywhere that debris may travel far enough to injure another person.
- Never move the wood chipper while it is running.
- Shut off the tractor and allow the wood chipper to come to a complete stop before removing any debris.
- Never perform any maintenance or repair while the wood chipper is running.



ROTATING DRIVELINES

STAY CLEAR OF ROTATING DRIVELINES



- Entanglement in rotating driveline can cause serious injury or death.
- Keep tractor master shield and driveline shields in place at all times. Make sure rotating shields spin freely.
- Wear close-fitting clothing.
- Shut off the engine and be sure the PTO driveline has stopped before making adjustments, connections, or cleaning out PTO-driven equipment.
- Do not install any adapter device between the tractor and the primary implement PTO drive shaft that would allow a 1000 RPM tractor shaft to power a 540 RPM implement at speeds higher than 540 RPM.
- Do not install any adapter device that results in a portion of the rotating implement shaft, tractor shaft, or the adapter to be unguarded. The tractor master shield shall overlap the end of the splined shaft.



WARNING!

Read and understand all instructions. Failure to properly follow the instructions listed below may result in serious injury or death.



WARNING!

The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions or situations that could occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product but must be supplied by the operator.

PERSONAL SAFETY

- **Stay alert**, watch what you are doing and use common sense when operating a power tool. Do not use a power tool when you are tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating power tools may result in serious personal injury.
- **Dress properly.** Do not wear loose clothing, dangling objects, or jewelry. Keep your hair, clothing, and gloves away from moving parts. Loose clothes, jewelry, or long hair can be caught in moving parts. Air vents often cover moving parts and should be avoided.
- Use safety apparel and equipment. Use safety goggles or safety glasses with side shields that comply with current national standards, or when needed, a face shield. Use a dust mask in dusty work conditions. This applies to all persons in the work area. Also use non-skid safety shoes, a hardhat, gloves, dust collection systems, and hearing protection when appropriate.
- **Do not over reach.** Keep proper footing and balance at all times.
- **Remove adjusting keys or wrenches** before connecting to the power supply or turning on the tool. A wrench or key that is left attached to a rotating part of the tool may result in personal injury.
- Never remove or install blades, conduct any maintenance, or make any other adjustments while the tractor engine is running. Always shut the engine off, remove the ignition key, and disconnect the PTO shaft prior to carrying out any of the aforementioned procedures. Consult your tractor's manual for safe shutdown procedures to prevent accidental ignition.



WORK AREA

- Keep work area clean, free of clutter and well lit. Cluttered and dark work areas can cause accidents.
- Do not use your wood chipper where there is a risk of causing a fire or an explosion; e.g. in the presence of flammable liquids, gasses, or dust. Power tools create sparks which may ignite the dust or fumes.
- **Keep children and bystanders** away while operating a power tool. Distractions can cause you to lose control, therefore, visitors should remain a safe distance from the work area.
- Be aware of all power lines, electrical circuits, water pipes and other mechanical hazards in your work area, particularly those hazards below the work surface hidden from the operator's view that may be unintentionally contacted and cause personal harm or property damage.
- Be aware of your surroundings. Using power tools in confined work areas may put you dangerously close to cutting tools and rotating parts.



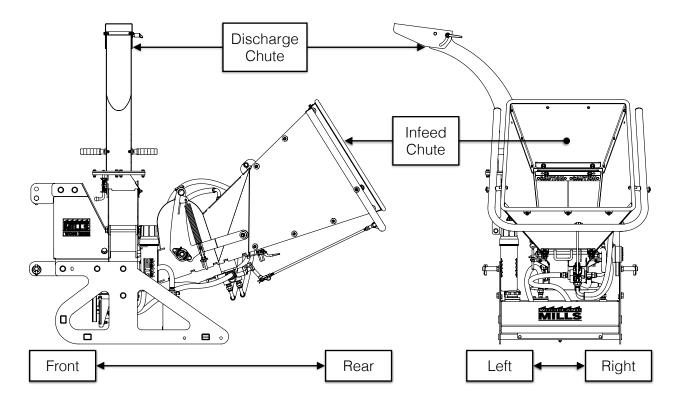
TOOL USE AND CARE

- Always be sure the operator is familiar with proper safety precautions and operation techniques before using machine.
- **Do not force the tool.** Tools do a better and safer job when used in the manner for which they are designed.
- **Turn off the tractor engine** and disconnect the PTO shaft before servicing, adjusting, installing accessories or attachments, or storing. Such preventive safety measures reduce the risk of starting the power tool accidentally.
- Storing the wood chipper. When the wood chipper is not in use, store it in a dry, secure place or keep it well covered and out of reach of children. Inspect the wood chipper for good working condition prior to storage and before re-use.
- Maintain your wood chipper. It is recommended that the general condition of the wood chipper be examined before it is used. Keep your wood chipper in good repair by adopting a program of conscientious repair and maintenance in accordance with the recommended procedures found in this manual. If abnormal vibration or noise occurs, turn the wood chipper off immediately and have the problem corrected before further use.
- Keep blades sharp and clean. Properly maintained wood chipper blades are less likely to bind and make feeding-in brush easier.
- **Cleaning and Lubrication.** Use only soap and a damp cloth to clean your wood chipper. Many household cleaners are harmful to plastic and rubber components on the wood chipper.
- Use only accessories that are recommended by the manufacturer for your model. Suitable accessories for another wood chipper may create an injury risk when used on this wood chipper.
- Always operate the machine with all safety devices and guards in place and in working order. DO NOT modify or make changes to safety devices. DO NOT operate the machine if any safety devices or guards are missing or inoperative.
- Never leave wood chipper running unattended.
- Never use the equipment to chip brush with trunks exceeding 6 in [152 mm] in diameter or for any purpose other than chipping brush as described in this manual.



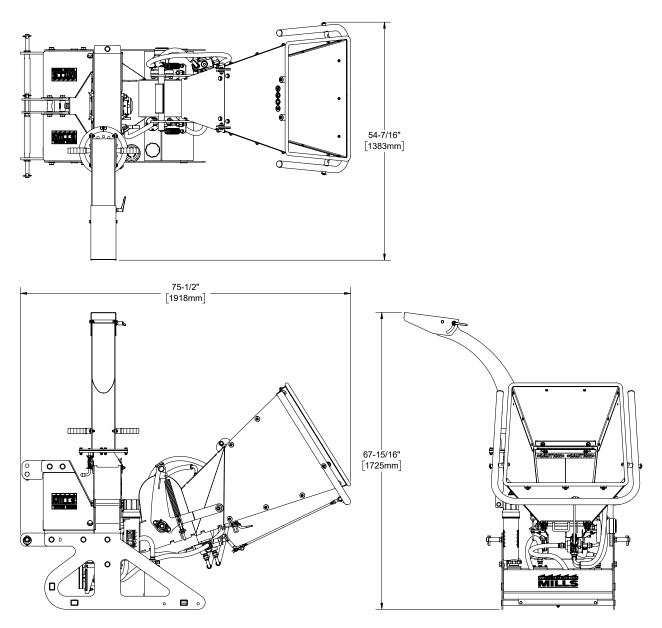
TECHNICAL SPECIFICATIONS

Component	WC68 Specification
Drive System	РТО
Transport	3-Point Hitch
Minimum HP Required (at PTO)	20 hp
In-Feed System	Hydraulic
Hydraulic Oil	ISO 32 (ISO 46 for warmer climates)
Hydraulic Tank Volume	5.3 gal [20 L]
Hydraulic Requirement (Tractor)	None. Self contained.
PTO Shear Bolt	M8 X 50 mm Hex Bolt - Class 8.8 (Grade 5)
Blade Quantity and Dimensions	Four (4); 8.62 X 2.72 X 5/16 in [219 X 69 X 8 mm]
Blade Hardware	M10 X 35 mm Flat Head, M10 Lock Nuts - Class 10.9
Infeed Roller Diameter	7-7/16 in [188 mm] at Tooth Tip
Infeed Chute Dimensions (W x H)	27-1/8 X 26-1/16 in [688 X 663 mm]
Product Weight	747 lb [339 kg]
Product Shipping Weight	842 lb [382 kg]





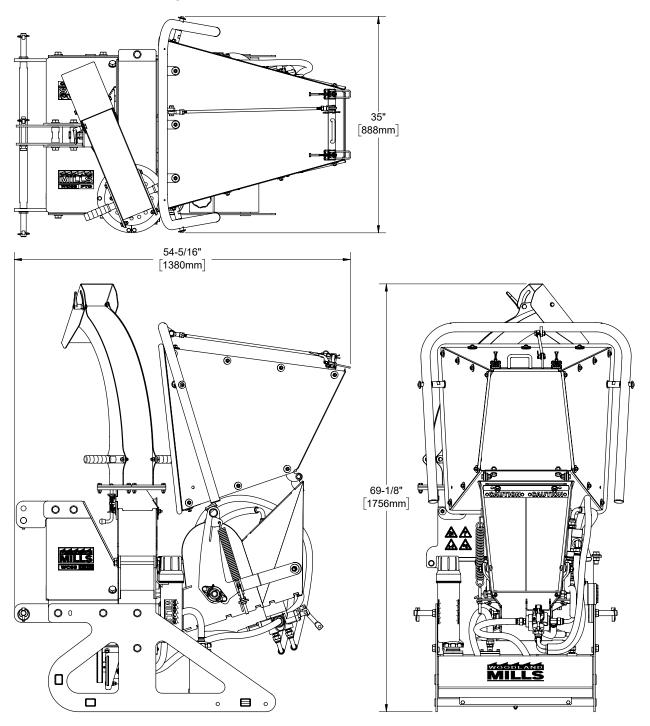
i. OVERALL DIMENSIONS—OPERATING STATE





ii. OVERALL DIMENSIONS-STORED STATE

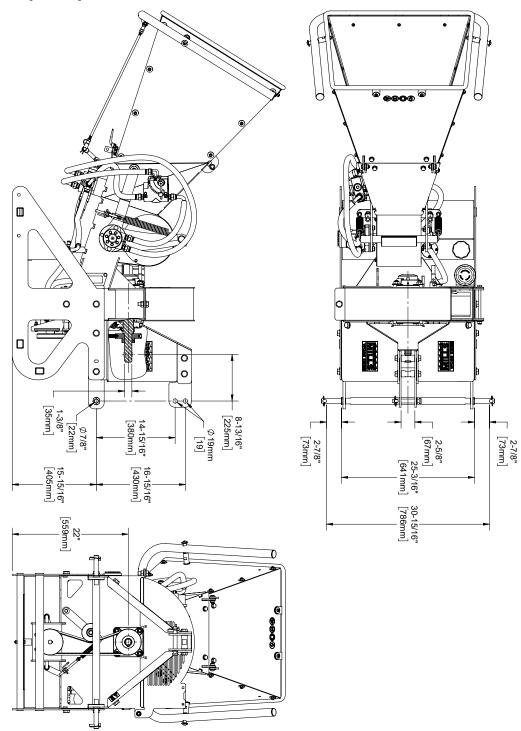
The discharge chute must be rotated so that it is angled towards the left side of the chipper in order to allow room for the infeed chute to be flipped upward when the machine is in its stored state. See section, *Storage*, for more information.





iii. 3-POINT HITCH DIMENSIONS

The WC68 wood chipper has a Category 1, 3-point hitch system that is designed to work with tractors rated at 20-50 PTO horsepower. Top link pin is $\frac{34}{19}$ [19 mm] diameter and the lift arm pins are $\frac{78}{12}$ [22 mm] diameter.



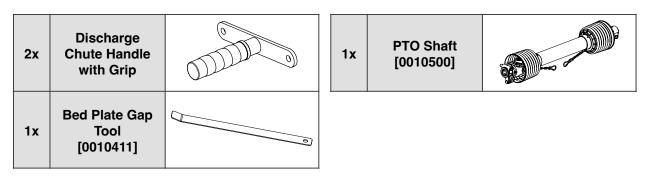


COMPONENT LISTS

Verify all component and hardware quantities are correct prior to assembling the wood chipper.

1x	Connecting Rod [0006864]	01	1x	Infeed Chute Bottom Panel Assembly	
2x	Lower Hitch Pin [0001738]		1x	Round Edge Bar [0006913]	
2x	Lower Hitch Arm [0006859]		1x	Control Arm [0009646]	
2x	Upper Hitch Plate [0007036]		2x	Control Arm Spacer [0008193]	000
2x	Upper Hitch Bushing [0009856]		1x	Linkage Rod Assembly	(C)
1x	Upper Hitch Pin [0001156]	D	1x	Clevis Pin 10 mm [0004749]	\bigcirc
3x	Linch Pin [0004705]		1x	Hairpin Cotter Pin [0004760]	
1x	Infeed Chute Top Panel Assembly		1x	Discharge Chute Nozzle [0010309]	a contraction
1x	Infeed Chute Right Side Panel [0006912]		1x	Discharge Chute Assembly	A CONTRACTOR
1x	Infeed Chute Left Side Panel [0006911]		2x	Discharge Chute Retainer [0002191]	



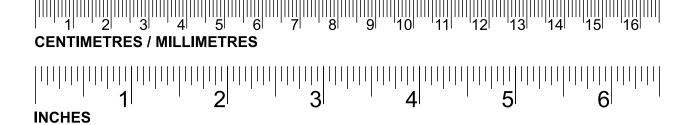


TO-SCALE HARDWARE

BOLTS & SCREWS

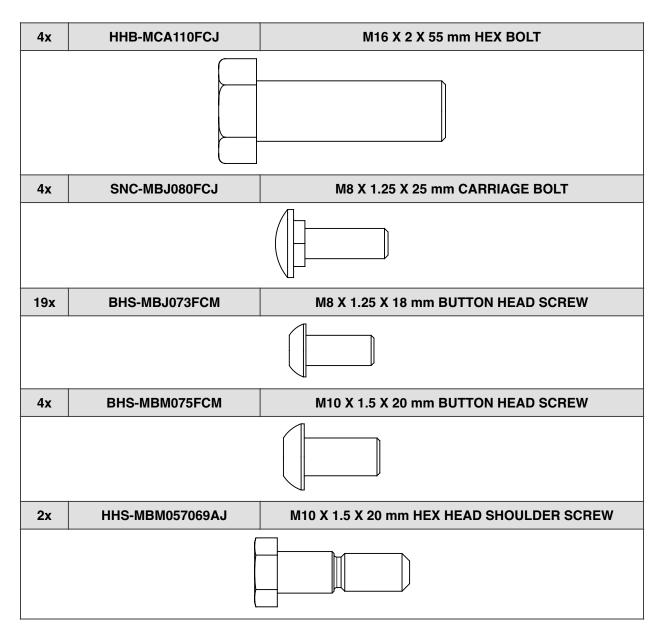
Hardware graphics are printed at 1:1 scale for ease of identification. Simply place the hardware over the image in the tables to verify it is the correct size.

4x	HHB-MBJ080FCJ	M8 X 1.25 X 25 mm HEX BOLT
6x	HHB-MBJ090FCJ	M8 X 1.25 X 35 mm HEX BOLT
1x	HHB-MBM090FCJ	M10 X 1.5 X 35 mm HEX BOLT
4x	HHB-MCA100FCJ	M16 X 2 X 45 mm HEX BOLT



Ruler scales are also provided below to double-check bolt and screw lengths when necessary.

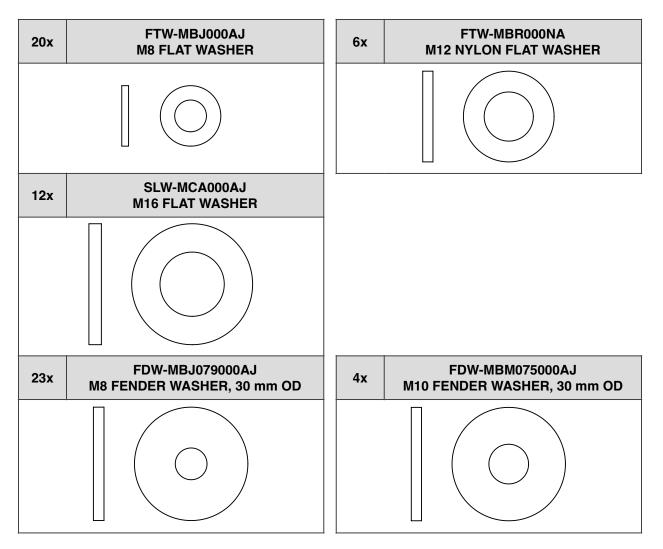
SCALES





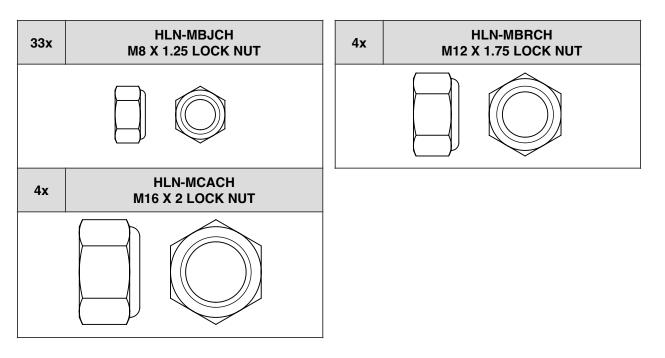


WASHERS





NUTS





ASSEMBLY

1. TOOLS REQUIRED

ΤοοΙ	Specification
Wrench/Socket	13 mm (2X)
Wrench/Socket	16 mm (2X)
Wrench/Socket	17 mm
Wrench/Socket	24 mm or Adjustable Wrench
Wrench	27 mm or Adjustable Wrench
Hex Key	Set of Metric Hex Keys (e.g. 2-10 mm)
Hacksaw*	Any metal-cutting saw (Sawzall, etc.)

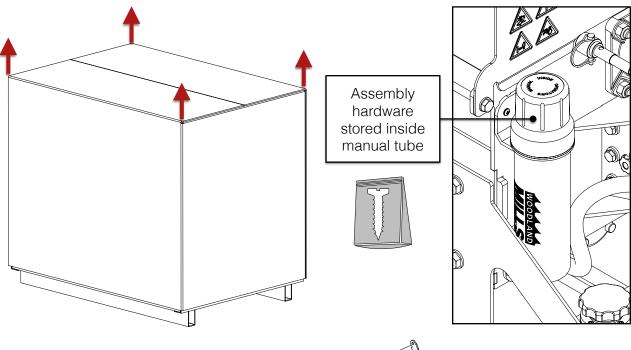
* Only if PTO shaft requires trimming. See *<u>Trimming the PTO Shaft</u>* section for more detail.



2. UNPACKING

A. UNBOXING THE CRATE

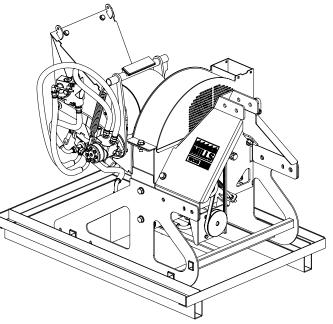
Unpack the contents of the crate by first cutting the nylon strapping and then remove the cardboard top and sides. Remove the four (4) M8 hex bolts and nuts located at each bottom corner of the crate and then lift it off the skid. Discard the top portion of the crate.



Remove all the loose components from the skid (infeed chute panels, control arm, edge bar, control arm linkage, discharge chute, discharge chute handles, PTO shaft) and set them to the side. Leave the wood chipper on the skid.

Hardware for assembly is stored inside the manual tube.

Note that the wood chipper is shipped dry (i.e. no hydraulic fluid). See the <u>**TECHNICAL SPECIFICATIONS**</u> section for the volume and type of oil required.





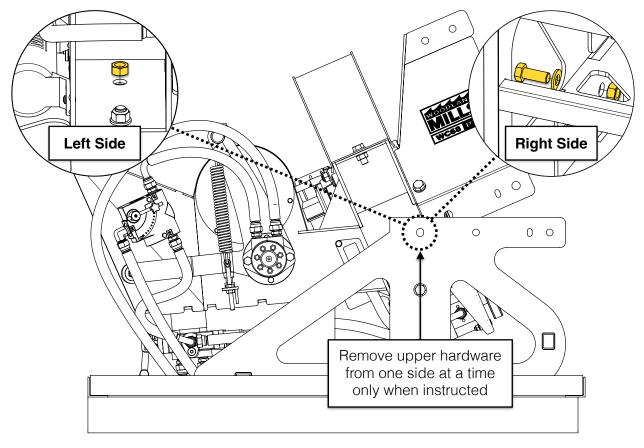
B. LOWER HITCH

Use the components and hardware listed in the table below to assemble the lower hitch arms to the chipper.

4x	M16 X 55 mm Hex Bolt	4x	M16 Lock Nut	
8x	M16 Flat Washer	2x	Lower Hitch Arm	

Before the lower hitch arms can be installed, there are temporary nuts securing the two (2) upper base bolts of the flywheel housing (one per side) that need to be removed. If both nuts are removed at the same time, the entire chassis could fall forward in the base and damage the machine as shown in the graphic below.

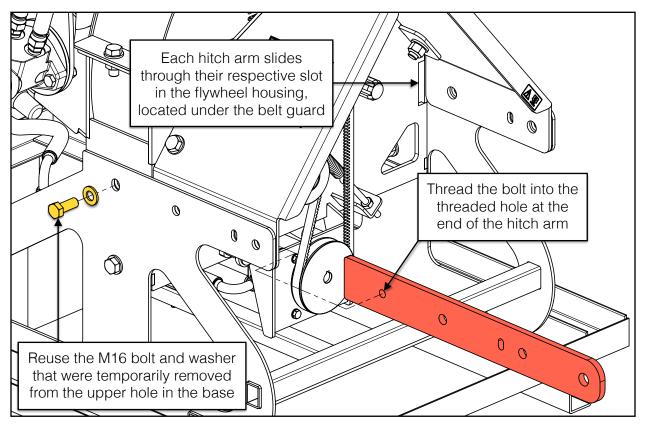
It is imperative that only one side's upper base hardware is removed at a time while the hitch arm for that side is installed. Remove each side's hardware only when instructed.



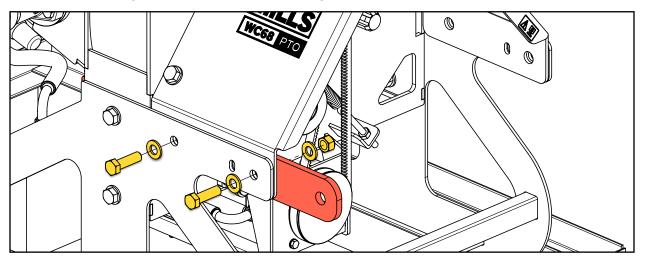


Remove the temporary nut from under the right-side of the flywheel housing and discard it.

Slide one (1) of the lower hitch arms into the rectangular slot on the right-side of the lower flywheel housing and reinstall the M16 X 40 mm bolt and M16 flat washer that were temporarily removed. Only snug the hardware, do not fully tighten until instructed in a later step



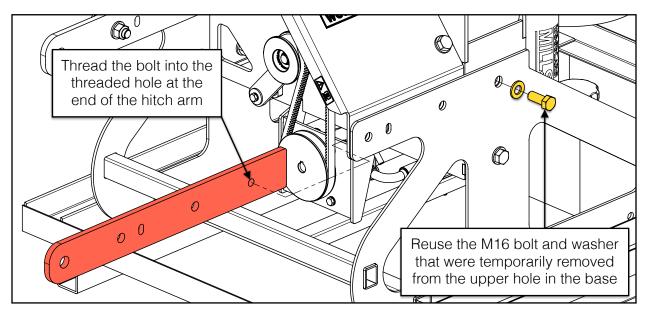
Use two (2) M16 X 55 mm bolts, four (4) M16 flat washers, and two (2) M16 lock nuts to secure the arm. Only snug the hardware, do not fully tighten them until instructed in a later step.



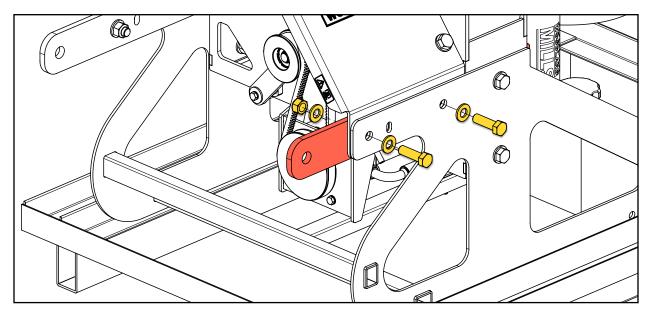


Now remove the temporary nut from under the left side of the flywheel housing and discard it.

Slide the other lower hitch arm into the rectangular slot on the left-side of the lower flywheel housing and reinstall the M16 X 40 mm bolt and M16 flat washer that were temporarily removed. Only snug the hardware, do not fully tighten until instructed in a later step.



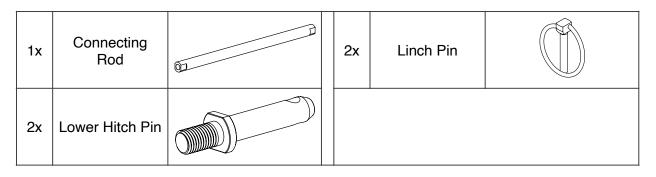
Use two (2) M16 X 55 mm bolts, four (4) M16 flat washers, and two (2) M16 lock nuts to secure the arm. Only snug the hardware, do not fully tighten them until instructed in a later step.



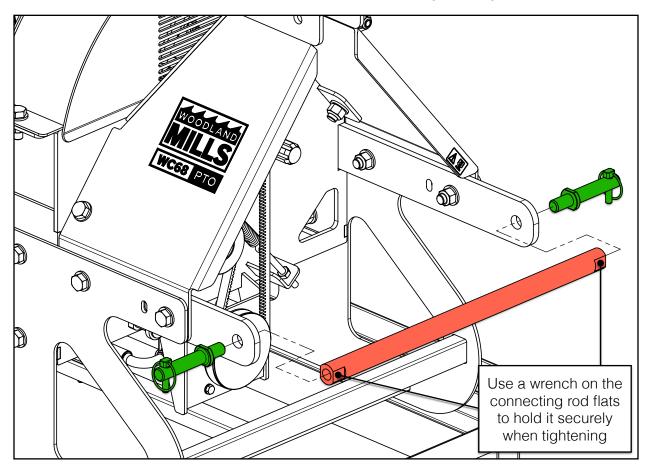


C. CONNECTING ROD

Using the components listed in the table below, assemble the connecting rod between the lower hitch arms.



Position the connecting rod between the two (2) lower hitch arms and then thread one (1) lower hitch pin into each end, securing it to the arms. The flats at both ends of the connecting rod will accommodate a $1-\frac{1}{8}$ in [28 mm] wrench to prevent it from rotating when tightened.



With the connecting rod tight, now fully tighten all the hardware for the lower hitch arms from the previous step.

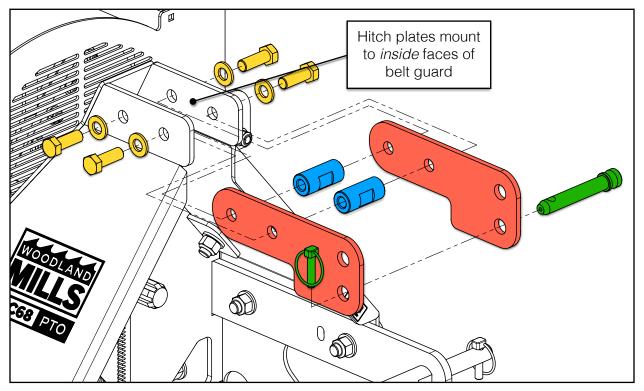


D. UPPER HITCH

Using the hardware and components listed in the table below, assemble the upper hitch plates to the belt guard.

4x	M16 X 45 mm Hex Bolt	2x	Upper Hitch Plate	
4x	M16 Flat Washer	1x	Upper Hitch Pin	M
2x	Upper Hitch Bushing	1x	Linch Pin	

Assemble the plates to the belt guard using four (4) M16 X 45 mm hex bolts, four (4) M16 flat washers, and two (2) hitch bushings. The upper hitch plates mount to the *inner faces* of the belt guard with the bushings between them.



When tightening the hardware, hold the bushings still with an adjustable or 15/16 in [24 mm] wrench and turn the hex bolts with a second wrench or ratchet. Fully tighten all the hardware.



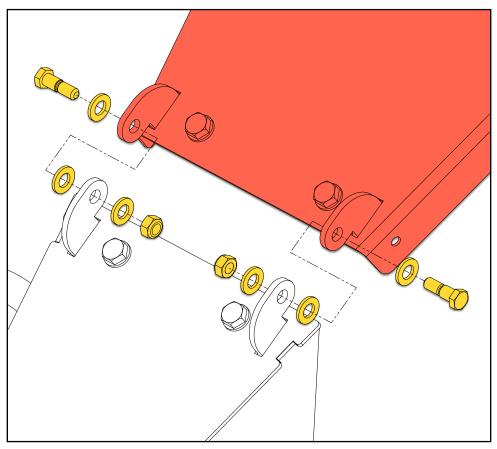
3. INFEED CHUTE

A. TOP PANEL

Assemble the infeed chute top panel to the lower flywheel housing using the components and hardware listed in the table below. Note that the infeed chute top panel and hinge bracket come pre-assembled.

2x	M10 X 15 X 20 mm Shoulder Bolt	6x	M12 Nylon Flat Washer	
2x	M10 Lock Nut	1x	Infeed Chute Top Panel	Co Co

Fasten the top panel to the lower flywheel housing using two (2) M10 X 15 X 20 mm shoulder screws, six (6) M12 nylon flat washers, and two (2) M10 lock nuts to form the hinge. Tighten the hardware enough so that the hinge moves with some effort but not too tight that the nylon washers are crushed.



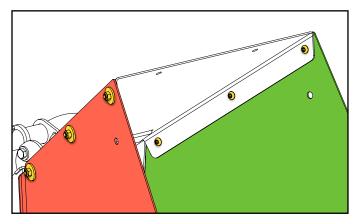


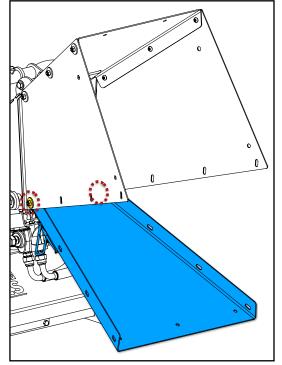
B. SIDE PANELS AND BOTTOM PANEL

With the top panel bolted to the hinge, assemble each side panel to the sides of the top panel using the M8 X 18 mm button head screws, M8 lock nuts, and M8 fender washers. Use a hex key for the screws and a socket/wrench for the lock nuts.

8x	M8 X 18 mm Button Head Screw	1x	Infeed Chute Right Side Panel	
8x	M8 Lock Nut	1x	Infeed Chute Left Side Panel	
8x	M8 X 30 mm Fender Washer	1x	Infeed Chute Bottom Panel	

Install three (3) screws per side along the top edge. Do not fully tighten the screws. Be sure to assemble the screws with the heads on the inside of the chute pointing outwards. Next, install the bottom panel using only the first bolt per side as shown below (right). This will allow it to swing up to join the side panels in the coming steps. Note that the infeed chute bottom panel and latches come pre-assembled.







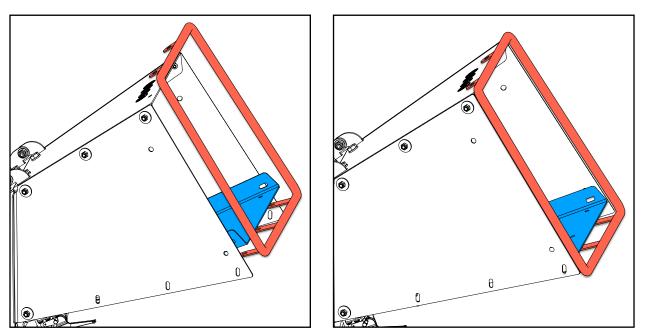
C. EDGE BAR

Assemble the round edge bar to the infeed chute using the hardware listed below.

11x	M8 X 18 mm Button Head Screw	11x	M8 X 30 mm Fender Washer	
11x	M8 Lock Nut	1x	Infeed Chute Round Edge Bar	

The round edge bar is designed to add additional strength to the infeed panels as well as act as a rounded edge, eliminating branches from getting caught on the edge of the infeed panels.

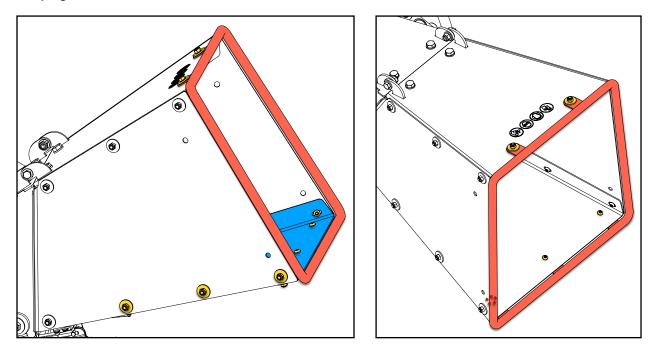
Swing the bottom panel up and fit the top and bottom tabs of the round edge bar over the outside faces of the top and bottom panels as shown below.





With the edge bar in place, assemble the panels to the edge bar. Use a hex key for the button head screws and a socket/wrench for the lock nuts. Install the remaining eleven (11) M8 X 18 mm button head screws, M8 lock nuts, and M8 X 30 mm fender washers as shown below to secure the panels and edge bar in place.

Fully tighten *all* the infeed chute screws.





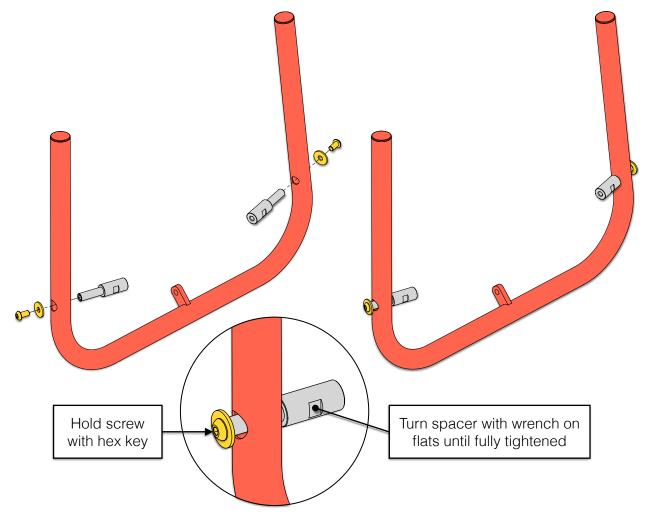
D. CONTROL ARM

The large red infeed control arm is attached to the infeed chute using the hardware below.

4x	M10 X 20 mm Button Head Screw	2x	Control Arm Spacer	
4x	M10 X 30 mm Fender Washer	1x	Control Arm	

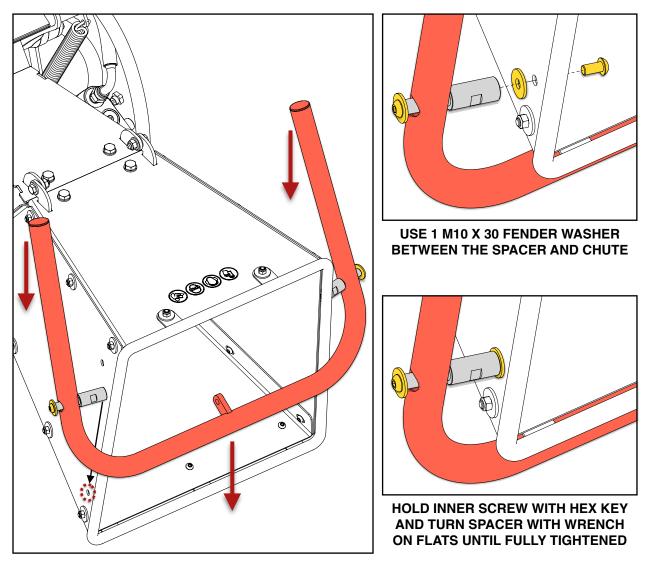
Insert the control arm spacers into the holes in the control arm and secure each with one (1) M10 X 20 button head screw and one (1) M10 X 30 mm fender washer

When tightening the hardware, hold button head screw still with a 6 mm hex key and turn the spacer with a ³/₄ in [19 mm] wrench using the flats milled into each side. Fully tighten all the hardware. The spacers will sit loose in the control arm once fully tightened—this is normal.





While holding the control arm by the spacers, slide it down over the top of the infeed chute until the spacers are aligned with the holes in the side panels (below left).



With the spacers aligned with the holes in the infeed chute side panels, place one (1) M10 X 30 mm fender washer between the spacer and side panel, and then secure it with one (1) M10 X 20 mm button head screw from inside the infeed chute. Repeat for the other side.

When tightening the two (2) inner button head screws, hold the button head screw inside the infeed chute still with a 6 mm hex key and turn the spacer with a ³/₄ in [19 mm] wrench. Fully tighten the hardware on both sides.

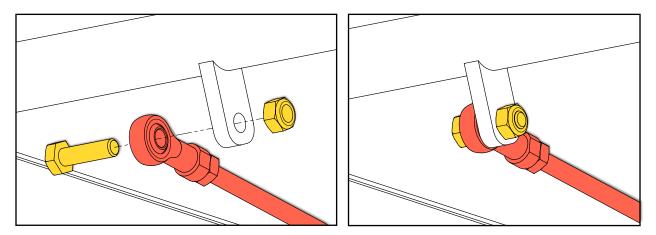


E. CONTROL ARM LINKAGE

With the control arm fastened to the infeed chute, the linkage assembly can now be connected between it and the hydraulic directional control valve.

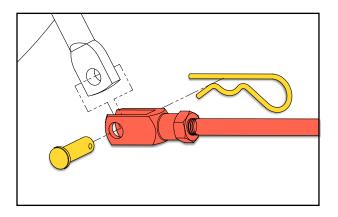
1x	M10 X 35 mm Hex Bolt	1x	Control Arm Linkage Assembly	()))))))))))))))))))
1x	M10 Lock Nut	1x	10 mm Clevis Pin	\bigcirc
		1x	Hairpin Cotter Pin	

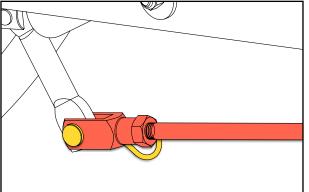
Fasten the rod end bearing to the red control arm with the M10 X 35 mm hex bolt and M10 lock nut as shown below.



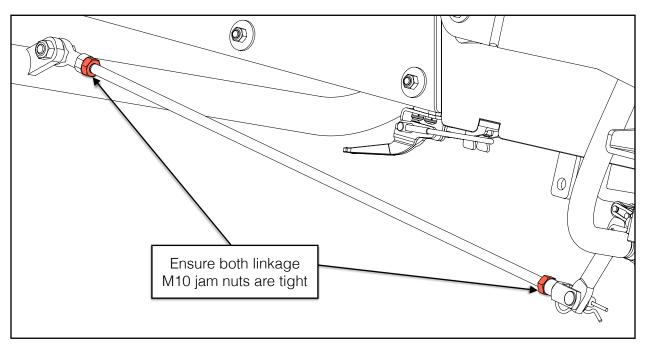


On the opposite end of the linkage, secure the clevis rod end to the the hydraulic directional control valve actuator using the clevis pin and hairpin cotter pin.





Once the linkage has been assembled, ensure both M10 jam nuts are tight.



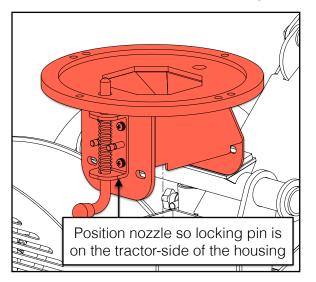


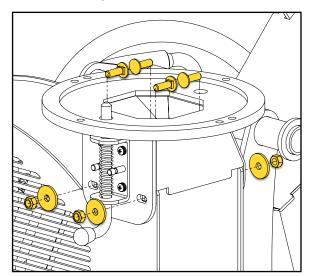
4. DISCHARGE CHUTE

The discharge chute comes partially assembled. With the components and hardware listed below, assemble the discharge chute to the upper flywheel housing.

4x	M8 X 25 mm Carriage Bolt	4x	M8 X 30 mm Fender Washer	
6x	M8 X 35 mm Hex Head Bolt	1x	Nozzle	e e e e e e e e e e e e e e e e e e e
4x	M8 X 25 mm Hex Head Bolt	1x	Discharge Chute Assembly	No.
14x	M8 Lock Nut	2x	Retainer	
20x	M8 Flat Washer	2x	Handle with Grip	Co Maria

Slide the nozzle over the upper flywheel housing exhaust. Secure it to the housing using the four (4) M8 X 25 mm carriage bolts, M8 fender washers, and M8 lock nuts. The carriage bolts are assembled from inside the housing, pointing outward. Fully tighten all the hardware.



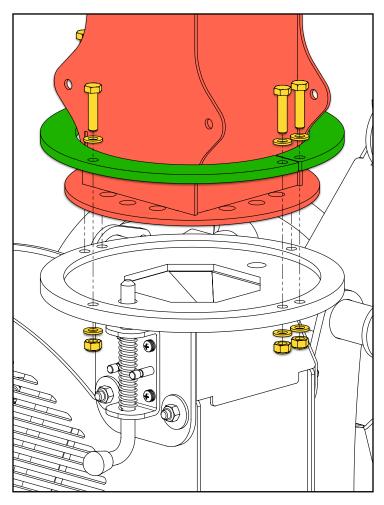




Set the discharge chute into the recess in the top of the nozzle.

Secure the chute to the nozzle using the two (2) retainers with six (6) M8 X 35 mm hex bolts, twelve (12) M8 flat washers, and six (6) M8 lock nuts.

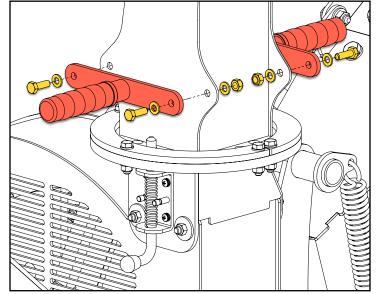
Fully tighten all the hardware.



Assemble the handles—one on each side of the discharge chute.

Secure each handle to the chute using two M8 X 25 mm hex bolts, four (4) M8 flat washers, and two (2) M8 lock nuts.

Fully tighten all the hardware.





TRIMMING THE PTO SHAFT

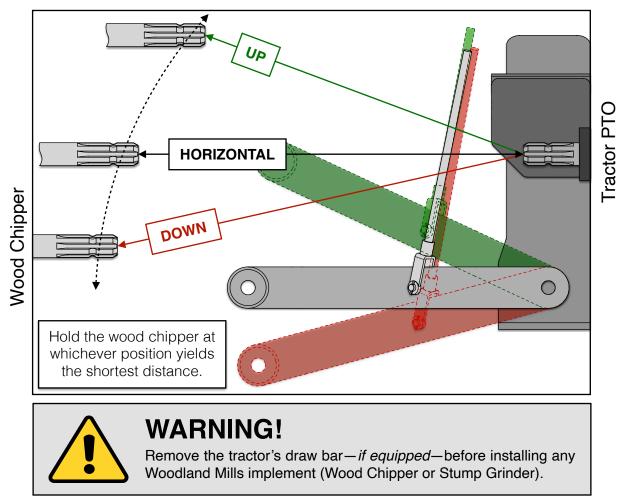
The PTO shaft may need to be trimmed depending on the tractor size and configuration. Follow the 6 steps below to ensure the PTO shaft is fitted correctly, and trimmed if necessary.

1. FIND THE SHORTEST DISTANCE

- 1. Attach the wood chipper to the tractor's 3-point hitch. Do not install the PTO shaft yet.
- 2. Measure the distance between the splined shafts on the tractor PTO and the wood chipper with the 3-point hitch in the following positions:
 - i. All the way Down
 - ii. In-Line / Horizontal
 - iii. All the way Up

Whichever position yields the *shortest* distance, *hold the wood chipper at that position for the next step*.

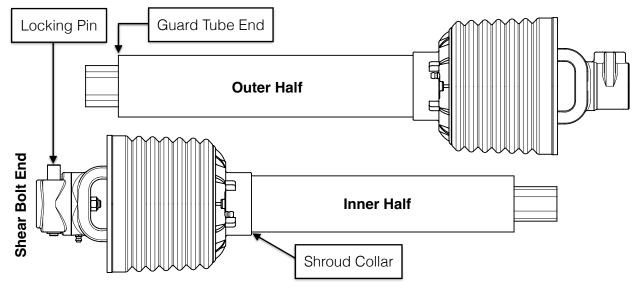
Note: if the wood chipper shaft cannot be positioned in-line or below the tractor PTO due to the size of the tractor relative to the wood chipper, take two (2) measurements instead: 1 at the lowest and 1 at the highest 3-point hitch position.





2. SEPARATE PTO HALVES

Pull the PTO shaft apart until it is two separate halves: inner and outer.



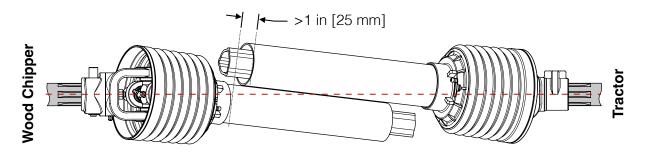
3. ATTACH THE PTO SHAFT

Attach the shear bolt end to the wood chipper and the outer half to the tractor as separate pieces.

4. DETERMINE IF TRIMMING IS REQUIRED

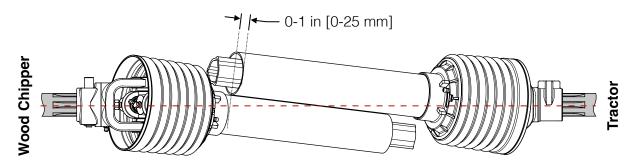
Hold the shafts parallel. Use tape or tie the shaft halves together with string if necessary to get proper measurements. Three possible scenarios can exist.

Scenario 1. If the distance between the shroud collar and the guard tube end is greater than 1 in [25 mm], the PTO shaft does not require trimming. Remove the PTO shaft from the tractor and wood chipper and proceed to Step 6.

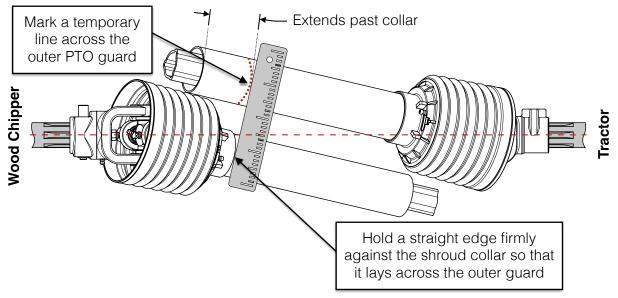




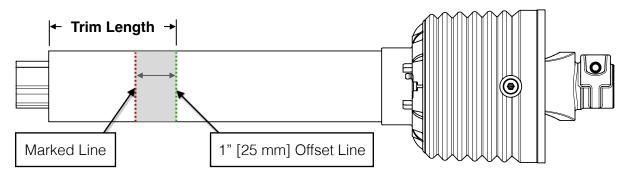
Scenario 2. If the distance between the shroud collar and the guard tube end is *between 0 and* 1 in [25 mm], the PTO shaft requires a 1 in [25 mm] trim. Proceed to Step 5 using 1 in [25 mm] as the "Trim Length".



Scenario 3. If the guard tube end extends past the shroud collar, hold a straight edge firmly against the shroud collar so that it lays across the outer guard. Mark the position on the outer guard.



Measure 1 in [25 mm] past the marked line to the guard tube end to determine the trim length. This is the "**Trim Length**" by which the PTO shaft needs to be trimmed. Proceed to Step 5.

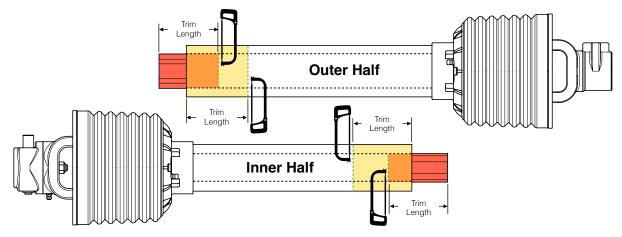


0010298-M-EN: Rev C



5. TRIM THE PTO SHAFT

Remove both halves of the PTO shaft from the tractor and wood chipper. Trim **both** outer plastic guards and **both** inner triangular steel shafts by the "**Trim Length**". Trim the plastic guards first, taking care not to cut into the triangular shafts inside. Then trim **both** triangular steel shafts by the "**Trim Length**". File burrs as necessary.



6. REASSEMBLE THE PTO SHAFT

- 1. Slide the halves back together, ensuring they telescope in-and-out freely.
- 2. Slide the shear bolt end onto the wood chipper. Install the other end on the tractor.
- 3. Raise and lower the 3-point hitch, ensuring there is a 1 in [25 mm] minimum gap between the shroud collar and guard tube end throughout the entire lifting range.



OPERATION

1. PRE-START UP CHECKLIST

i. Fill the hydraulic tank with hydraulic oil per the table below:

Model	Car			
Model	Gallons (gal)	Litres (L)	Hydraulic Oil	
WC46	4.5	17		
₩C68	5	18.9		
WC88	5	18.9	ISO 32, ISO 46,	
TF46 PRO	3.2	12	AW 32, AW 46	
TF68 PRO	5	18.9		
TF810 PRO	5	18.9		

ii. Attach the wood chipper to your tractor and take the appropriate measurements to trim the PTO shaft. Refer to the <u>**TRIMMING THE PTO SHAFT**</u> section of the operator's manual for detailed instructions.

Note: Failure to do so may result in severe damage to the implement and is <u>not</u> covered under warranty.

- iii. Ensure the bed plate gap is set to within 1/16-1/8 in [1.5-3 mm] between it and the blades. Refer to <u>SETTING THE BED PLATE GAP</u> in the operator's manual for detailed instructions.
- iv. The wood chipper has three (3) bearings fitted with Zerk fittings for greasing. The PTO shaft is equipped with seven (7) Zerk fittings. The PTO shaft and all bearings come pregreased and do not require greasing on initial start-up. Refer to the <u>GREASING</u> <u>BEARINGS AND PTO SHAFT</u> section of this operator's manual for detailed maintenance instructions.
- v. Check the bolts on each of the four flywheel blades ensuring the torque is set to 40 ft•lb [54 N•m].

2. START UP

The following steps in the sub-section below (*a*. through *i*.) are a summarization of the steps necessary to safely and properly operate the wood chipper. Please follow the references to other sections that provide further detail into the step being performed.

- a. Place the tractor transmission in neutral, set the parking brake, then turn the tractor engine off.
- b. Connect the 3-point hitch linkages to the wood chipper and secure them with linch pins.
- c. Adjust the top link of the 3-point hitch so that the wood chipper sits level.
- d. Connect the PTO shaft to the tractor with the shear bolt end of the PTO on the wood chipper. Make sure the PTO safety chains are attached to both the tractor and the wood chipper to keep the protective PTO safety cover from rotating.
- e. Rotate the discharge chute towards a safe direction and lock it in place with the springloaded latch and indexing holes. Adjust the chip deflector to the desired position based on how far they should be thrown.
- f. Push the red control arm all the way in until it stops, then pull it out one click to ensure the infeed roller is in the neutral position.
- g. Start the tractor engine and hold the engine RPM's at a strong idle. Engage the PTO slowly. If the tractor is running at a high speed when the PTO is engaged, you could damage the hydraulic pump belt or break the shear bolt on the PTO shaft. After the rotor is spinning freely increase the tractor RPM's until the PTO speed is 540 RPM. Most tractor tachometers commonly indicate this with a line and/or text.
- h. **Push** the red control arm away from the operator <u>at the top of the arm</u> until it stops (forward position). This will start the infeed roller rotating. Set the infeed roller control to the desired speed.
- i. With the wood chipper now running and the infeed roller rotating, it is safe to begin chipping. Start by feeding smaller diameter branches until better acquainted with the machine and its operation. Once comfortable, begin feeding in larger pieces. Adjust the infeed roller control as necessary to regulate the infeed rate of the branches.



WARNING!

To avoid serious injury or death, do not chip brush containing embedded foreign objects such as nails, wire, metal fragments, etc. The operator and any assistants must always stay clear of the infeed chute of the wood chipper whenever it is running.



3. INFEED ROLLER CONTROL

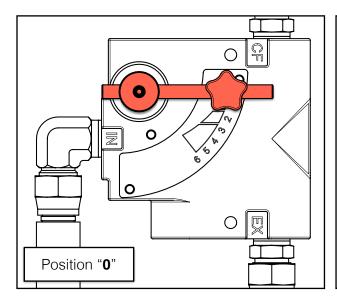
The valve that controls the wood chipper's infeed roller speed is located to the right of the infeed chute.

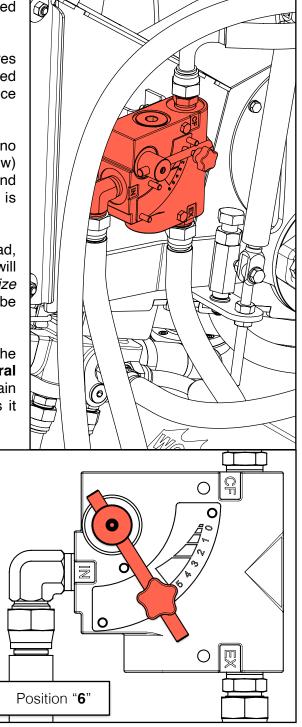
Rotating the valve arm as shown in the pictures below will increase or decrease the roller speed without load and will create a pulsating action once loaded with a branch.

The number "**0**" (left image below) represents no infeed roller rotation while "**6**" (right image below) represents full speed. To maximize productivity and performance, chipping at full infeed speed is recommended.

If the tractor is unable to keep up with the workload, rotating the valve arm throughout its range will create a pulsating action—*dependent on branch size and workload*—that will allow larger material to be chipped when horsepower is limited.

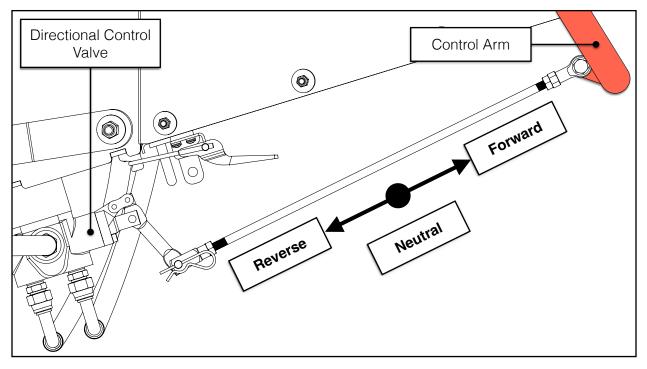
This pulsating action can also be created using the red control arm by switching the chipper into **neutral** —which allows the tractor and flywheel to regain speed—and then switching back into **forward** as it works through larger material.







The infeed roller can be set to three (3) different rotation settings—*forward*, *neutral* and *reverse*—by pushing or pulling the red control arm. The *forward* position pulls branches into the wood chipper; *neutral* stops the roller from rotating; and *reverse* pushes the branches back out the wood chipper towards the operator. The diagram below illustrates the 3 positions:



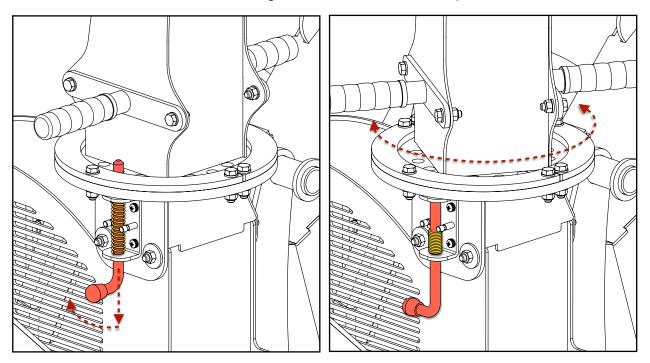
To change the speed of the infeed roller, place the red control arm in the *neutral* position. This stops the infeed roller from rotating. The speed control valve can now be moved to the desired position/speed. Reengage the infeed roller via the control arm.

See maintenance section, <u>ADJUSTING THE CONTROL ARM</u>, if the control arm feels too loose or stiff, or if it falls into neutral or reverse unexpectedly.

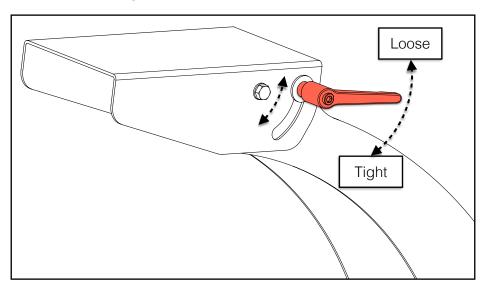


4. DISCHARGE CHUTE

To rotate the discharge chute, push down on the spring-loaded locking pin all the way and twist it 90° to temporarily lock it in the open position. The discharge chute is now free to rotate a full 360°. Using the handles, rotate it to the desired position and then twist the locking pin back 90° so that it extends into the closest locking hole to secure the chute in position.



The chip deflector easily adjusts to regulate the distance the chips are thrown. Rotate the handle counterclockwise to loosen the deflector, adjust the deflector to the desired angle, then re-tighten the handle by rotating it clockwise to secure the deflector.



5. CHIPPING

Keep your face and body away from the feed opening. Do not over reach. Keep proper balance and footing at all times. The wood chipper is designed to chip a variety of materials into a more readily decomposing or handled condition. The following guidelines can be used to help you get started. Please read and follow all safety instructions in this manual. Failure to operate the wood chipper in accordance with the safety instructions **MAY RESULT IN PERSONAL INJURY!**

- Ensure the wood chipper is at full operating speed before starting to chip material.
- Select limbs up to 6 in [152 mm] in diameter. Trim side branches that cannot be bent enough to feed into the wood chipper infeed chute. Hold small diameter branches in a bundle and feed simultaneously.
- Feed brush from the side of the infeed chute rather than from the front. Step aside to avoid being hit by brush moving into the wood chipper.
- Never lean into the infeed chute or extend any parts of your body inside the infer chute to push objects further into the wood chipper. Use another stick or branch.
- Do not use hand tools to push brush into the wood chipper. They can go through the wood chipper and cause injury or damage to the wood chipper.
- Place branches, butt end first, into the wood chipper infeed chute until it contacts the infeed roller. Once the infeed roller makes contact with the branches, it will pull the material inwards.
- **NOTE**: The wood chipper blades dull with use and require periodic sharpening and sometimes replacing. Refer to the section under service and maintenance, "Sharpening Wood Chipper Blades," for further instructions.

6. STOPPING

Do not leave the wood chipper unattended or attempt any inspection/service unless the PTO is disengaged and the tractor engine is turned off. Allow time for the wood chipper to come to a complete stop. To stop the wood chipper, follow the steps below:

- 1. Move the tractor throttle to the SLOW/IDLE position.
- 2. Disengage the PTO lever and turn off the tractor engine.
- 3. Allow time for the wood chipper to come to a complete stop.

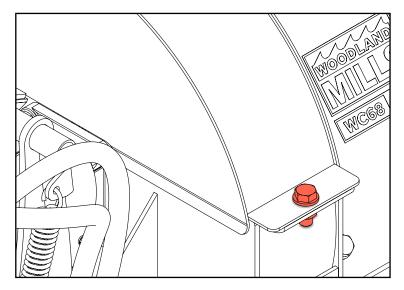
NOTE: The flywheel continues to spin for some time after the engine or tractor has been turned off. The flywheel has stopped spinning when noise and/or machine vibration are no longer detectable. The PTO shaft will also no longer be spinning.



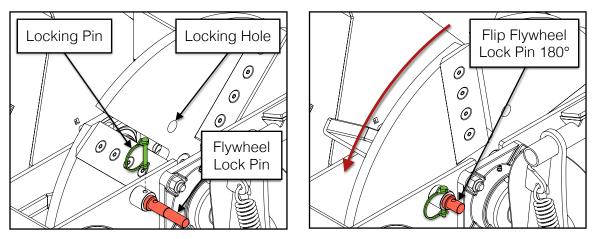
MAINTENANCE REPLACING BLADES

Follow these steps when replacing blades. The WC68 wood chipper uses four (4) reversible hardened steel blades. Each blade is 8.62 X 2.72 X 5/16" [219 X 69 X 8 mm] in size.

- 1. If installed, disconnect the PTO shaft from the tractor for safety.
- Open the upper flywheel housing using a 24 mm socket/wrench by removing the M16 X 40 mm bolt and flat washer securing the upper and lower housings together.



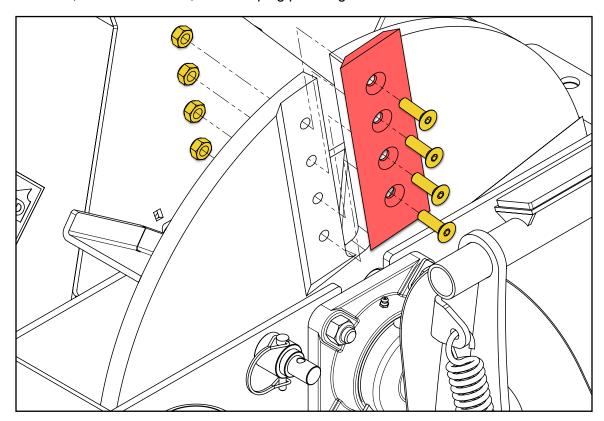
3. With the flywheel exposed, manually rotate it so that one of the four (4) locking holes in the flywheel (near the front of the blade) approximately lines up with the flywheel lock pin at the rear of the housing. Remove the round locking pin from the flywheel lock pin and flip the flywheel lock pin around 180°, passing it through the housing and into the locking hole in the flywheel. Reinstall the smaller locking pin to the flywheel lock pin.



Upper flywheel housing removed from images for clarity.



4. Remove the four (4) M10 X 35 mm flat head bolts and M10 lock nuts that fasten the blade to the flywheel using a 6 mm hex key on the bolts and a 17 mm socket/wrench on the lock nuts. Take care not to drop the hardware into the lower flywheel housing. However, should this occur, a telescoping pen magnet can be used to retrieve them.



- 5. Repeat Steps 3 & 4 above to remove the remaining three blades. If this is the first time the blades have been removed following either the original wood chipper purchase or a recent blade sharpening, the blades can be reversed to utilize the other cutting edge. Or, the entire blade can be removed and sharpened or it can be replaced with a new blade. Torque the M10 X 35 mm flat head bolts to 40-45 ft•lb [54-60 N•m] when installing blades. Always replace the M10 lock nuts with a new set when changing or reversing blades. Refer to section, *Blade Sharpening* for blade sharpening instructions
- Once the blades have been reversed or new blades installed, proceed to section, <u>Setting the Bed Plate Gap</u>, to properly set the spacing between the blades and bed plate.



BLADE SHARPENING

The wood chipper blades will dull, making chipping difficult and cause your tractor to labour. It is recommended to sharpen the blades every 25-50 hours of operation. The WC68 wood chipper uses four (4) hardened steel blades. The blades are reversible and can be sharpened on both sides. Follow the below steps to sharpen the blades.

- 1. Follow the steps from the previous section, *<u>Replacing Blades</u>*, to safely remove the blades from the flywheel.
- 2. Hand-grind the angled edges of the blade at 33° (see diagram below) using a whetstone or have them sharpened by a professional. A pedestal style bench grinder will likely yield poor results if not used properly. If sharpened quickly or aggressively on a bench grinder, the blade edge can get too hot and change colour, thus removing the heat treating-properties from the steel. Use short grinding times and cool frequently with water. Remove an equal and consistent amount of material from each blade to maintain proper balance when reassembled to the flywheel.



Blade Profile

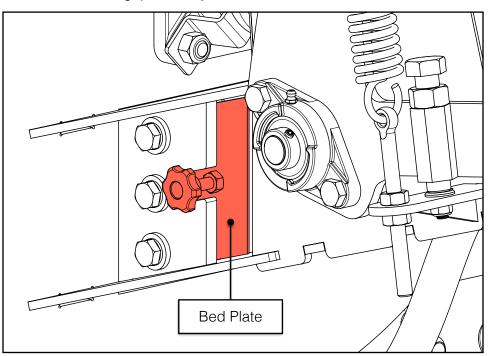
- 3. Reinstall the sharpened blades on the flywheel and torque the M10 X 35 mm flat head bolts to 40-45 ft•lb [54-60 N•m]. Always replace the lock nuts with new hardware when changing or reversing the blades.
- Once the blades have been sharpened, proceed to the next section, <u>Setting the Bed</u> <u>Plate Gap</u>, to properly set the spacing between the newly sharpened blades and the bed plate.



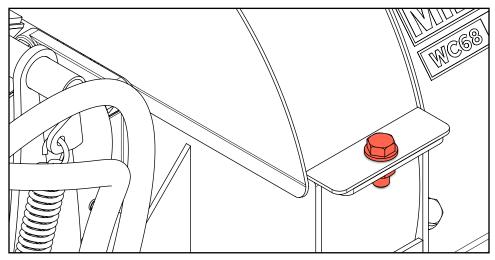
SETTING THE BED PLATE GAP

The bed plate (also known as the *anvil plate*) is located on the left side of the flywheel housing (when facing the infeed chute). For ideal chipping performance, use the bed plate gap tool to set the gap between the bed plate and the blades.

Follow the steps below to set the gap correctly.

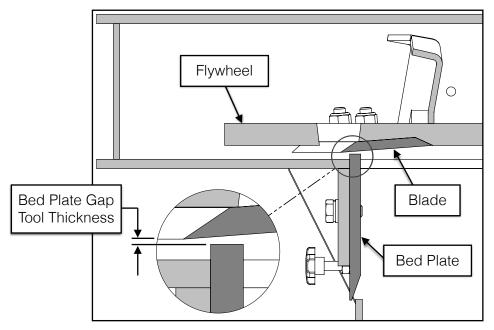


- 1. If installed, disconnect the PTO shaft from the tractor for safety.
- Open the upper flywheel housing using a 24 mm socket/wrench by removing the M16 X 40 mm bolt and flat washer securing the upper and lower housings together.

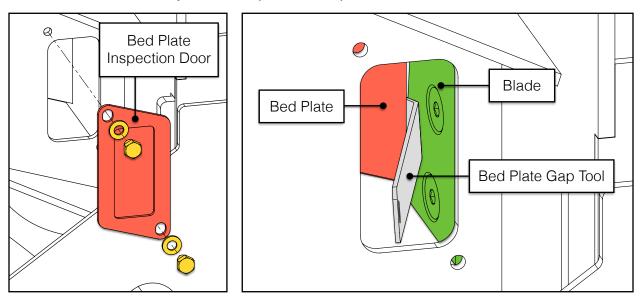




- 3. Remove the two (2) M8 X 10 mm hex bolts securing the bed plate inspection door located on the right-side of the lower indeed housing. With the bed plate inspection door removed, a clear view of the bed plate and its relationship to the blades can be seen. Use a flashlight for better viewing if necessary.
- 4. Rotate the flywheel so that the first blade is aligned with the bed plate. Take note of the gap between the two and continue to check the remaining blades relative to the bed plate, noting which blade is closest. Position this closest blade at the bed plate as this is the blade that will be used to set the proper gap with the provided tool.



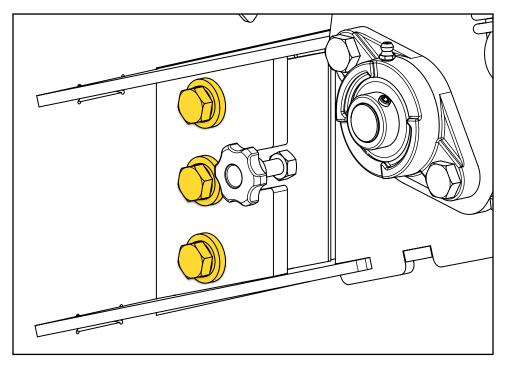
Place the bed plate gap tool between the bed plate and blade. Verify that the gap is consistent vertically from the top of the bed plate to the bottom.





5. Loosen the three (3) M10 X 25 mm hex bolts securing the bed plate to the lower flywheel housing so the bed plate is free to slide in and out. This movement will increase or decrease the gap between the bed plate and the cutting edge of the blade.

Slide the bed plate by gripping the knob and adjust its position so that it touches the bed plate gap tool. Ensure the gap is uniform along the entire edge of the blade.



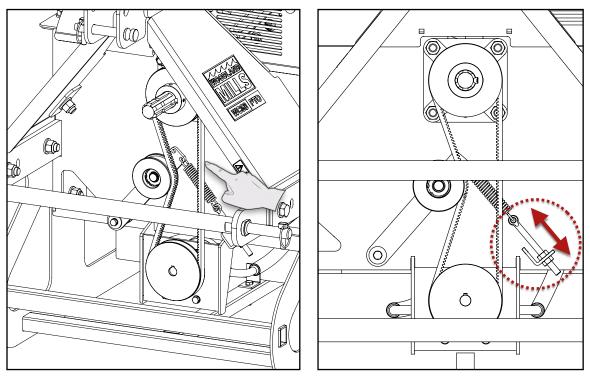
- 6. Snug the three (3) M10 X 25 mm bed plate hex bolts once the gap has been set correctly for the blade closest to the bed plate.
- 7. Rotate the flywheel by hand and check the gap at each blade. Again, the bed plate gap tool should fit between the bed plate and the blade from the top of the bed plate to the bottom.
- 8. Once the bed plate gap is set, torque the three (3) M10 X 25 mm bed plate hex bolts to 40 ft•lb [54 N•m].
- 9. Close the upper flywheel housing and secure it to the lower housing by reinstalling the M16 X 40 mm bolt and flat washer.
- 10. Reinstall the bed plate inspection door and torque the two (2) M8 X 10 mm hex bolts to 225 in•lb [25 N•m].



ADJUSTING THE HYDRAULIC PUMP BELT TENSION

Check the condition and tension of the hydraulic pump belt after every 30 hours of operation. The belt is self-tensioning via an extension spring. The amount of tension can be adjusted by following these steps:

- 1. If installed, disconnect the PTO shaft from the wood chipper for safety and to allow rotation of the belt and pulleys.
- 2. Check the belt tension by pressing on it with your finger (see "*Checking Belt Tension*" below). There should not be any free slack in the belt. It should be under firm tension.
- 3. If the belt requires more tension, the eyebolt connected to the spring can be adjusted by moving the M8 hex nuts (see "*Adjusting Belt Tension*" below). This will stretch the spring and increase the belt tension until the proper tension is achieved.



Checking Belt Tension

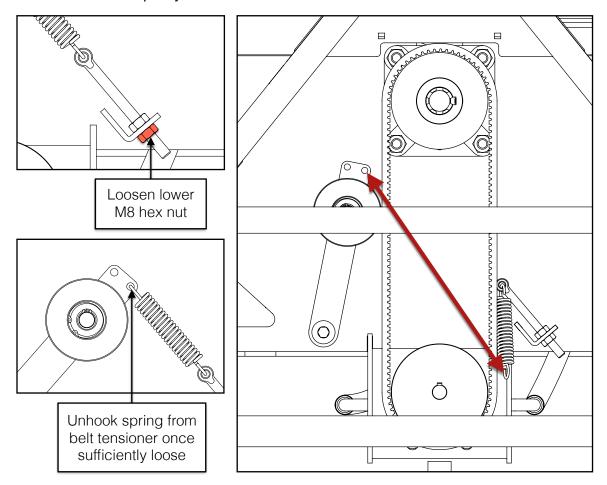
Adjusting Belt Tension



REPLACING THE HYDRAULIC PUMP BELT

Check the condition and tension of the hydraulic pump belt after every 30 hours of operation. If the infeed roller is not rotating, or it is rotating slowly, the belt could be slipping. A squealing noise may also be heard. In either case, these conditions can occur due to a worn belt or improper belt tension (see the previous section, *Adjusting the Hydraulic Pump Belt Tension*). To replace a worn belt, follow the steps below:

- 1. If installed, disconnect the PTO shaft from the wood chipper for safety.
- Loosen the lower M8 hex nut that secures the eyebolt to the steel bracket until sufficient tension has been removed from the spring allowing it to be unhooked from the belt tensioner. The belt tensioner can now be swung up out of the way allowing for removal of the belt from the pulleys.

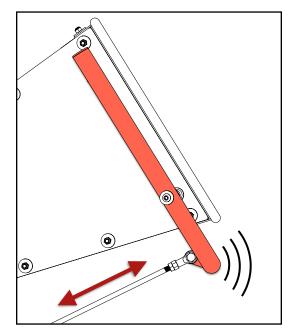


 Install the new belt around the pulleys first and then reinstall the spring. Re-tension the spring by tightening the lower M8 hex nut on the eyebolt. Refer to the previous section, <u>Adjusting the Hydraulic Pump Belt Tension</u> for instructions on how to properly retension the belt.

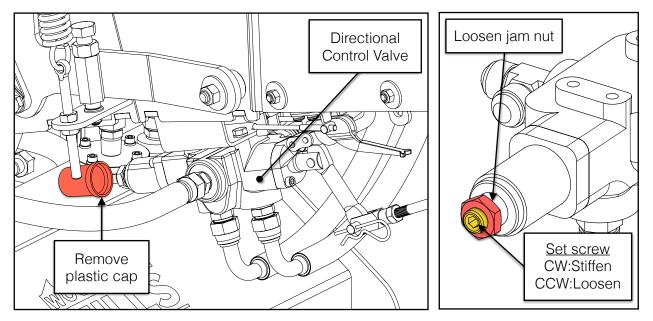


ADJUSTING THE CONTROL ARM

If the movement of the red control arm feels too stiff or too loose, or if it falls into neutral or reverse unexpectedly, it can be adjusted via the directional control valve.



Unscrew the plastic cap from the back of the directional control valve (located under the infeed chute), exposing the jam nut and set screw.



Loosen the jam nut with a 22 mm [$\frac{7}{8}$ in] wrench. Use a 6 mm hex key and turn the set screw *clockwise to stiffen* the movement of the arm, *counter-clockwise to loosen* it. Tighten the jam nut and replace the cap after the control arm movement feels satisfactory.

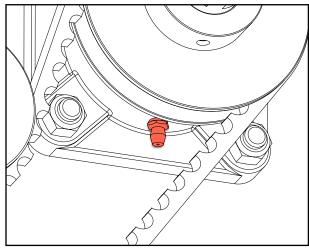


GREASING BEARINGS & OUTPUT SHAFT

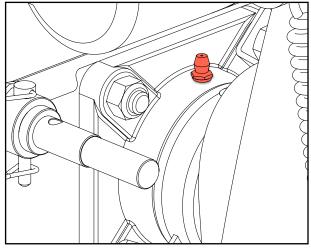
The wood chipper has three (3) grease points with Zerk fittings: two (2) flywheel bearings and one (1) infeed roller bearing. Check each grease point prior to use and add grease as needed.

Also, periodically brush grease onto the wood chipper's output shaft for ease of PTO shaft assembly & removal, to prevent rust buildup, and to prevent the two shafts from seizing together.

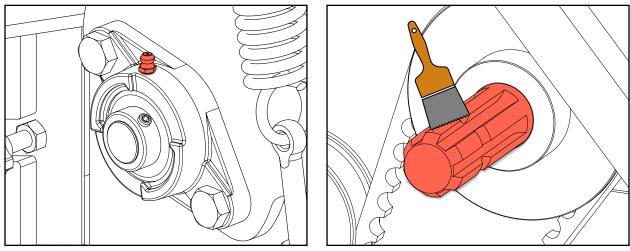
Warning: These 3 grease points come pre-greased from the factory. <u>Do not add grease</u> <u>to the Zerk fittings on a new wood chipper</u>. Over-greasing can damage the bearing seals.



Front Flywheel Shaft Bearing



Rear Flywheel Shaft Bearing



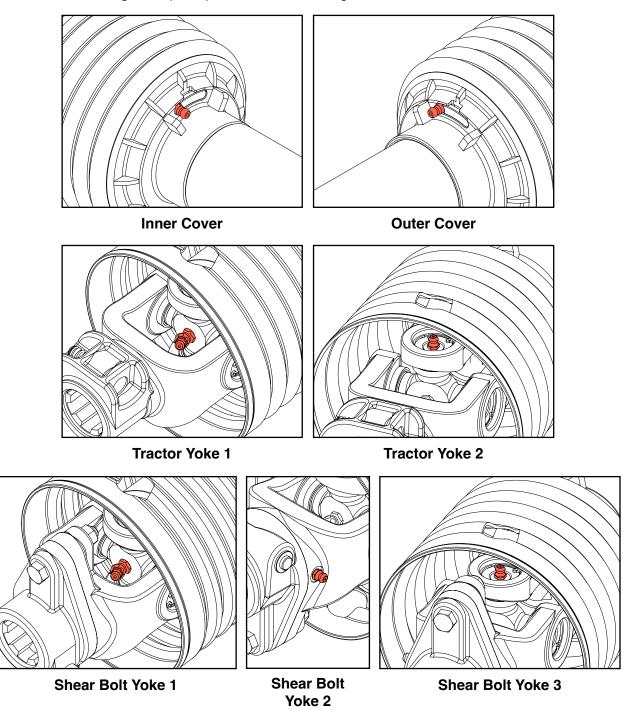
Infeed Roller Bearing

Output Shaft



PTO SHAFT

The PTO shaft has seven (7) grease points that are accessible from the outside: one (1) on each of the inner and outer guards, two (2) on the tractor yoke, and three (3) on the shear pin yoke. Check each grease point prior to use and add grease as needed.

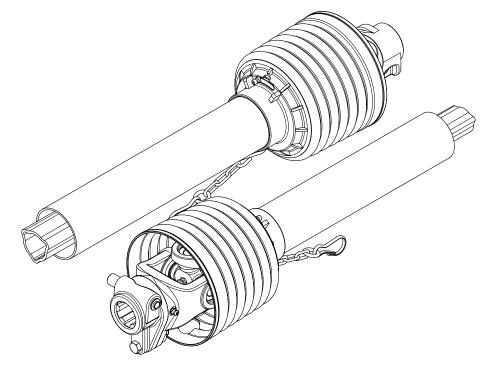




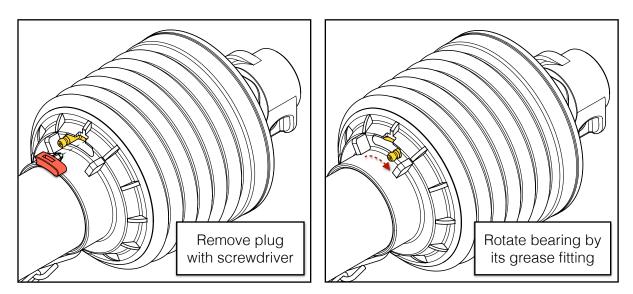
PTO SHAFT GUARD REPLACEMENT

If the PTO shaft guards are damaged or the guard bearings require replacement due to wear, follow the instructions below to replace them.

1. Separate the PTO shaft into its two halves by pulling it apart.

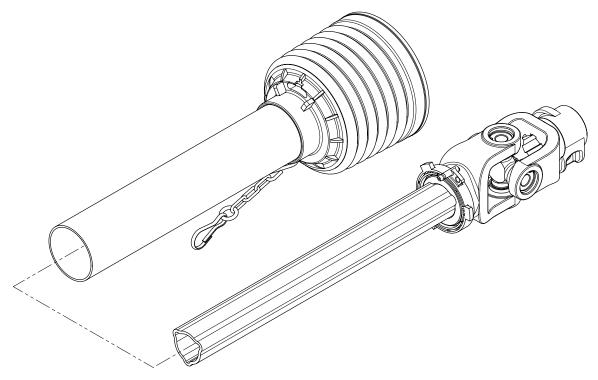


- 2. Use a slotted screwdriver to remove the red bearing plug from the shroud.
- 3. Rotate the guard bearing by its grease fitting until it stops at the opposite side of the slot.

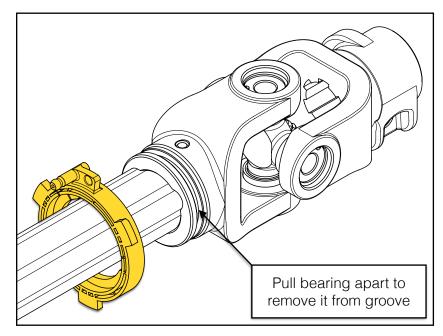




4. Slide the guard assembly off the shaft.



5. Stretch the guard bearing apart at its split and pull it out of the groove in the yoke collar.



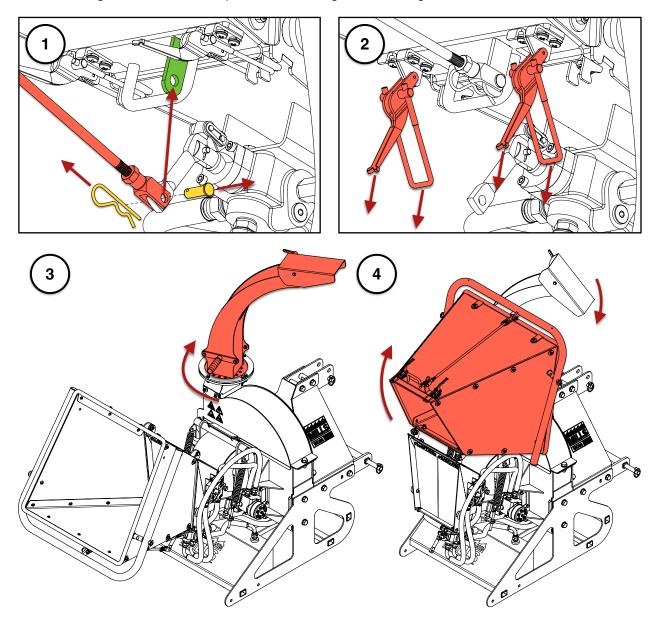
- 6. Replace either the guard bearing or the entire guard assembly as the situation dictates.
- 7. Repeat the process for the other half of the PTO shaft (if necessary).
- 8. Reassemble the guards and PTO shaft in the reverse order.



STORAGE

When the wood chipper is not in use, it can be stored to utilize a smaller footprint to save space. Follow these steps to put the wood chipper in its storage state:

- 1. Disconnect the control bar linkage from the directional control valve and reconnect it to the tab on the underside of the infeed chute bottom panel.
- 2. Disengage the two (2) latches on the underside of the infeed chute bottom panel.
- 3. Rotate the discharge chute so that it is angled towards the left side of the machine.
- 4. Swing the infeed chute up until it is resting on the swingarm. Tilt the deflector down.





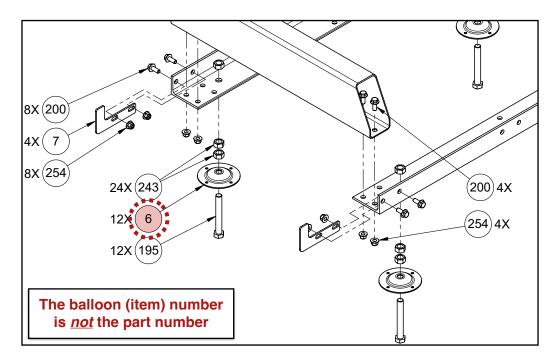
TROUBLESHOOTING

Problem/Issue	Possible Causes	Resolution Options
Brush is feeding too slowly	 Infeed roller control set too low. PTO RPM below 540. Blades are dull. Improper bed plate gap. 	 Increase infeed roller control to a higher value. Refer to page 41. Adjust tractor RPMs to 540 at output. Reverse, sharpen, or replace blades. Refer to page 45 & page 47. Re-set bed plate gap. Refer to page 48.
Brush exiting discharge chute is stringy	 Blades are dull. Brush is excessively sappy. 	 Reverse, sharpen, or replace blades. Refer to <u>page 45</u> & <u>page 47</u>. Clean blades and bed plate.
Excessive clogging	 Blades are dull. Improper bed plate gap. PTO RPM below 540. 	 Reverse, sharpen, or replace blades. Refer to page 45 & page 47. Re-set bed plate gap. Refer to page 48. Clean blades and bed plate. Adjust tractor RPMs to 540 at output.
Hydraulic pump belt slipping or squeaking	 Belt tension not set properly. Belt is old/worn. 	 Adjust belt tension. Refer to <u>page 51</u>. Replace belt. Refer to <u>page 52</u>.
Excessive noise coming from flywheel bearings	 Bearings not sufficiently lubricated. Bearings are worn. 	 Grease bearings. Refer to <u>page 54</u>. Replace bearings. Please contact Woodland Mills for bearing replacement instructions.
Red control arm falls into neutral or reverse	 Directional control valve not adjusted properly. 	 Adjust directional control valve set screw. Refer to page 53.



REPLACEMENT PARTS ORDERING

When ordering replacement parts, first locate the balloon number(s) from the appropriate *exploded assembly view* as shown in the example below:



Next, turn to the *Parts List* section and locate the balloon number in the "Item" column:

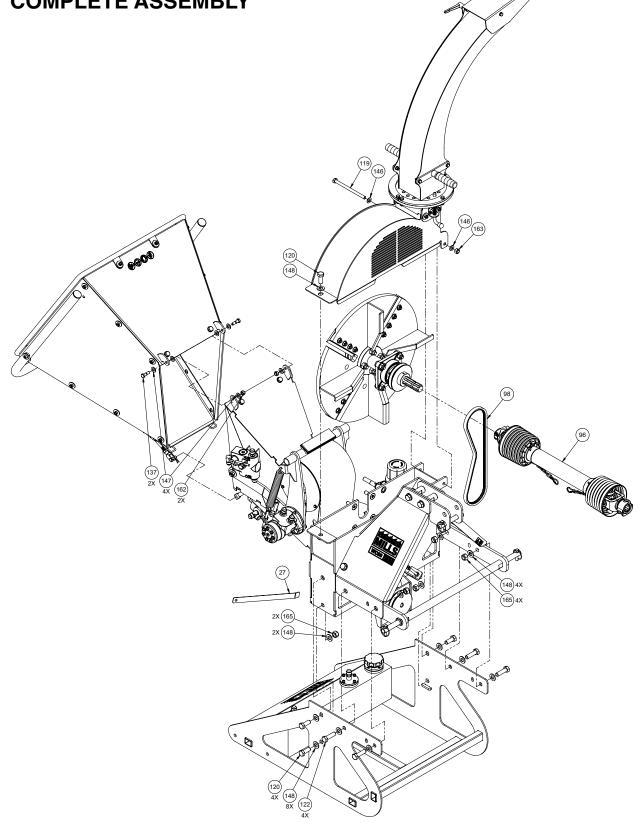
PARTS LIST				
	Quantity			
Item	14 hp	9.5 hp	Part No.	Description
1	4	4	0001073	TRACK RAIL, 58.5 mm TALL
2	2	2	0001075	LOG BUNK, END
- 3	2	2	0001080	LOG BUNK, MID
4	1	1	0001084	LOG BUNK, CENTER
	2	2	0001072	REINFORCEMENT PLATE, 90 X 200 mm
6		12	0001071	LEVELLING FOOT BASE
7	4	4	0001055	CARRIAGE STOP
8	1	1	0001062	LOG CLAMP SHAFT AND BRACKET WELDMENT

Record the part number (e.g. 0001071, HHB-MBM080FCJ, etc.) in the "Part No." column.

Contact Woodland Mills through the website or via phone/email. If possible, include the invoice or sales number from the purchased product so an associated account can be located. If the account has multiple addresses on file, please indicate to which address the replacement part(s) will be shipped.

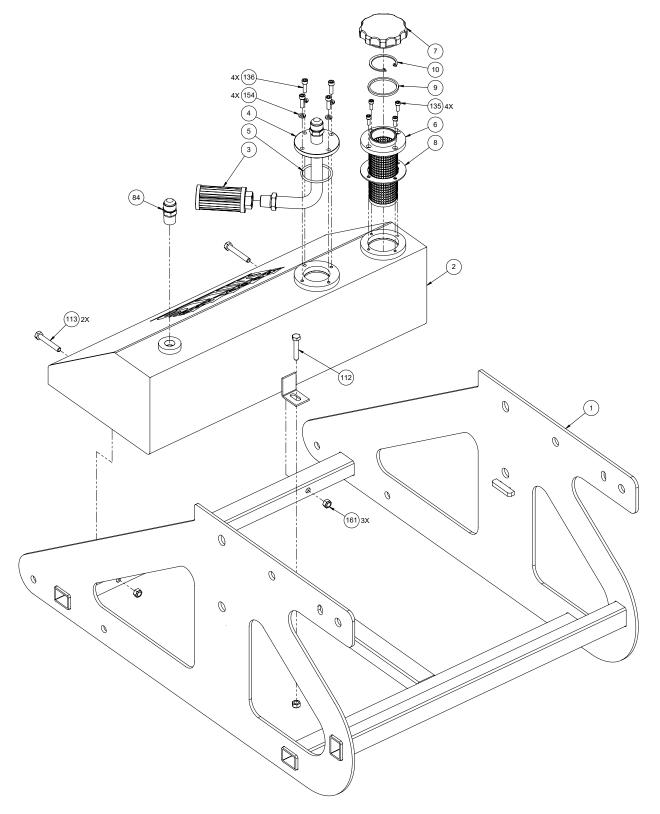


EXPLODED ASSEMBLY VIEWS COMPLETE ASSEMBLY

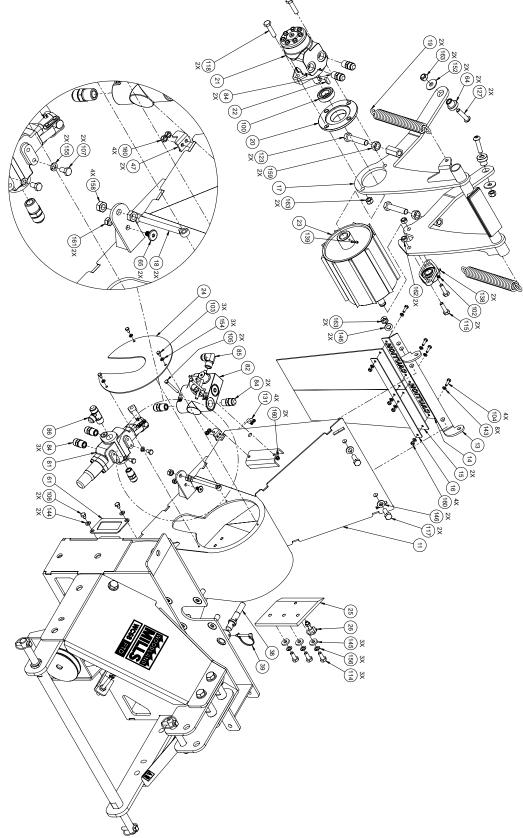




BASE

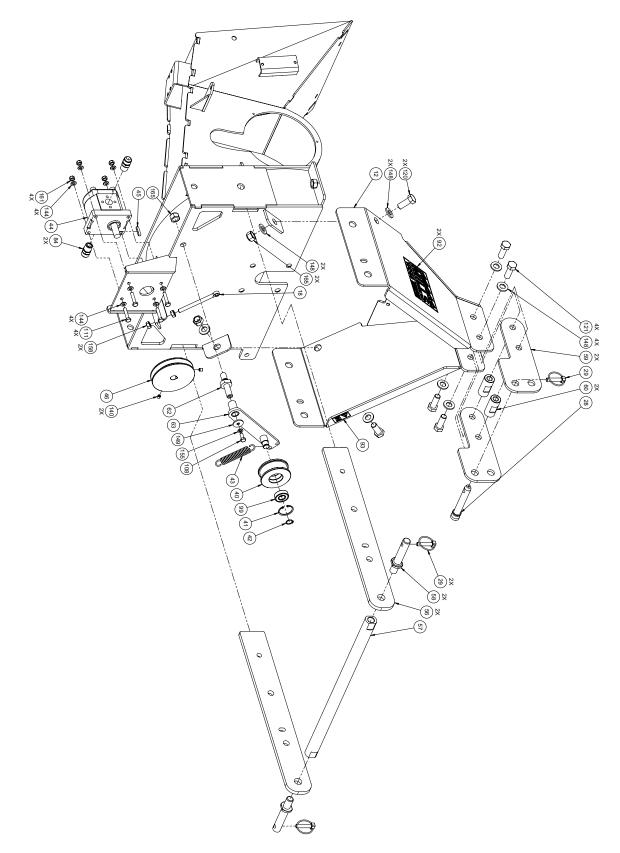


LOWER FLYWHEEL HOUSING



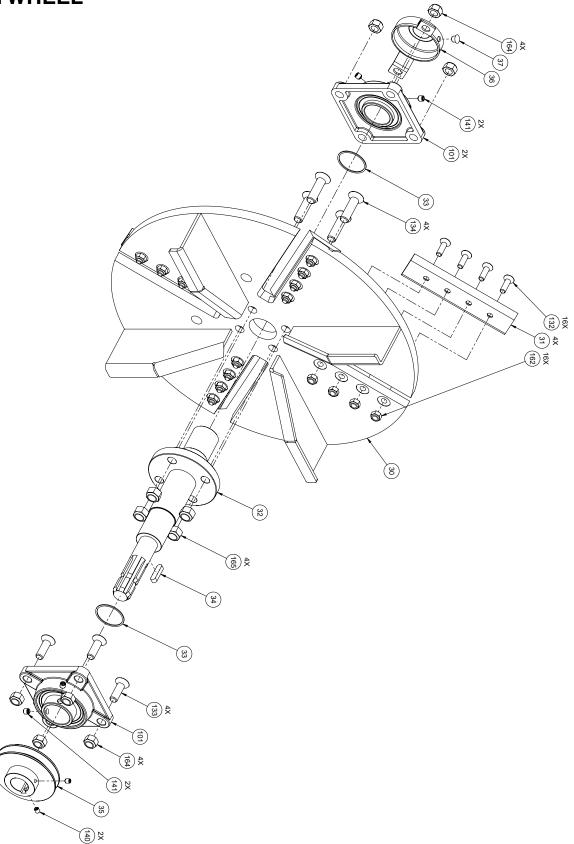


LOWER FLYWHEEL HOUSING BELT GUARD





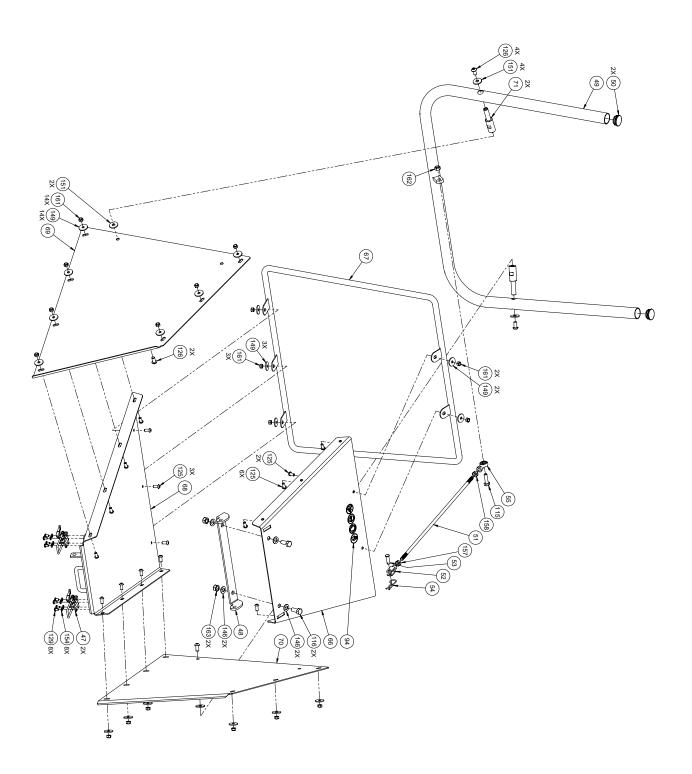
FLYWHEEL



0010298-M-EN: Rev C

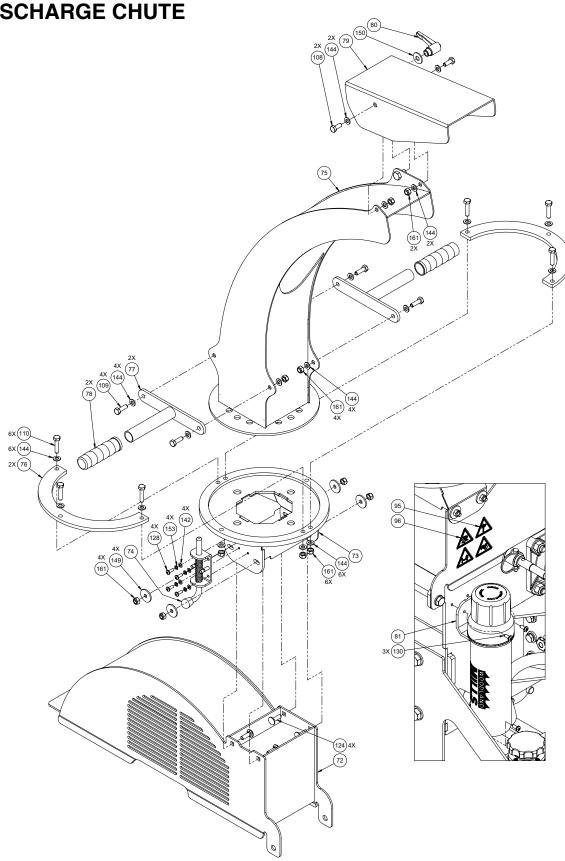


INFEED CHUTE



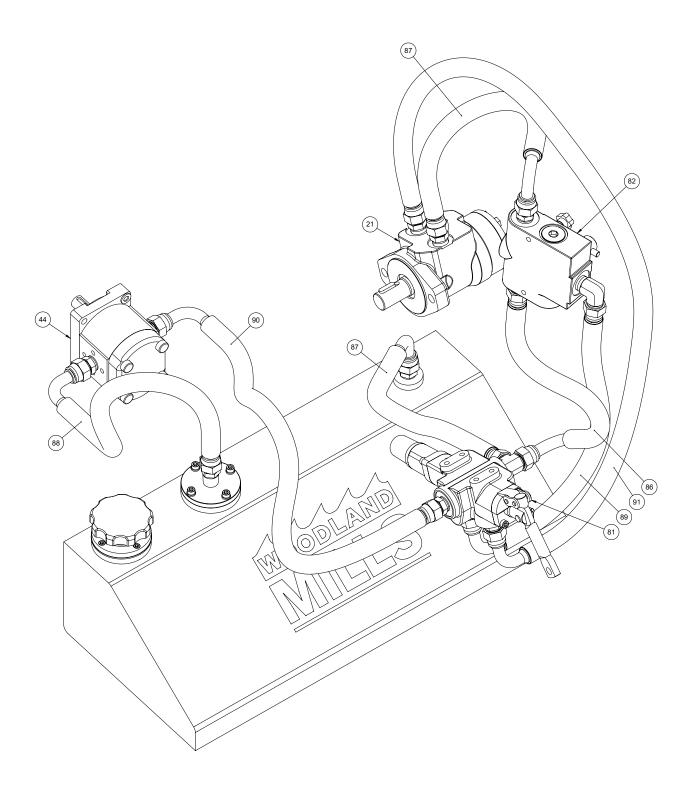


DISCHARGE CHUTE



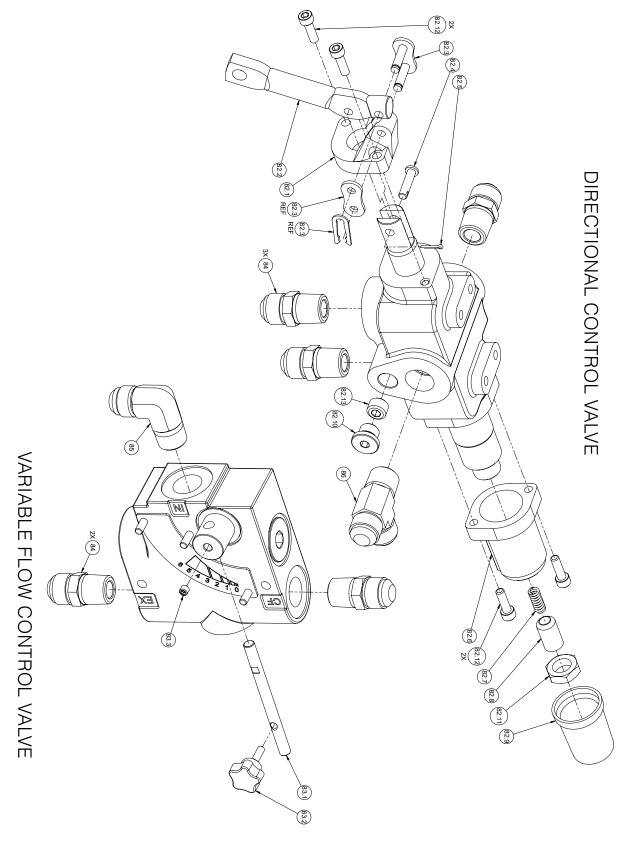


HYDRAULIC LINES



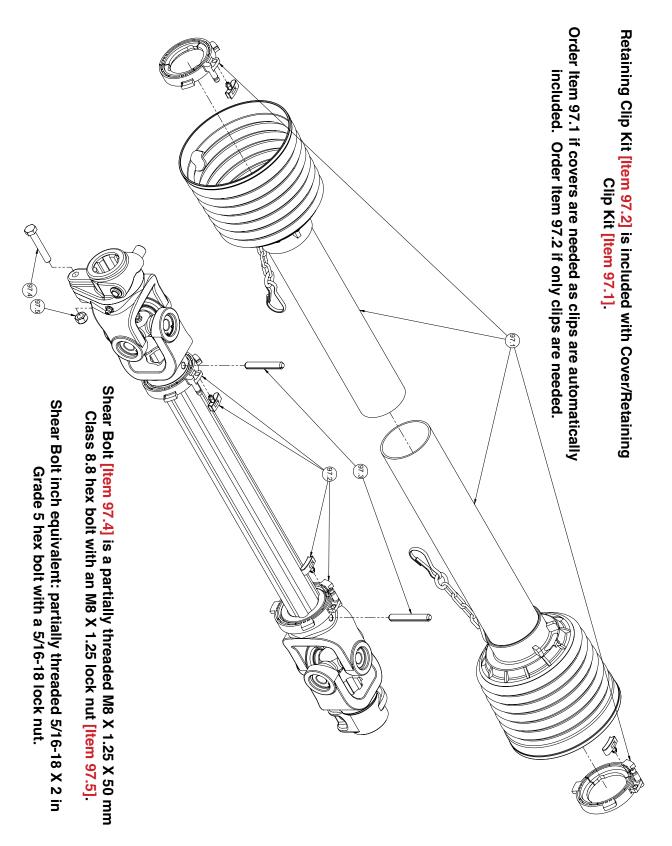


CONTROL VALVES





PTO SHAFT





PARTS LIST

Item	Qty	Part No.	Description
1	1	0007100	BASE
2	1	0001168	HYDRAULIC TANK, 20 L [5.3 gal]
3	1	0001752	HYDRAULIC INTAKE FILTER, 1/2 NPT
4	1	0001164	HYDRAULIC TANK INTAKE LINE
5	1	0004841	O-RING, 50 mm ID / 57 mm OD, 3.5 mm THK
6	1	0005188	OIL SCREEN, 50 mm DIA X 120 mm LG SCREEN
7	1	0005183	OIL SCREEN CAP, 85 mm DIA, M48 X 2 THD
8	1	0005187	GASKET, OIL SCREEN, 55 mm ID
9	1	0005186	GASKET, OIL SCREEN CAP, 48 mm ID
10	1	0005185	RETAINING RING, INTERNAL, 46 mm BORE (48.5 mm GROOVE)
11	1	0010300	LOWER FLYWHEEL HOUSING
12	1	0006862	BELT GUARD
13	1	0001208	INNER HINGE, INFEED CHUTE
14	1	0001196	CURTAIN BRACKET
15	2	0001197	CURTAIN
16	1	0001195	CURTAIN PLATE
17	1	0009647	SWINGARM
18	3	0006059	EYEBOLT, DIN444, M10 X 1.5, 120 mm LG
19	2	0001157	EXTENSION SPRING, HOOK ENDS, 33 mm OD, 5 mm DIA WIRE, 210 mm LG
20	1	0001179	HYDRAULIC MOTOR ADAPTER PLATE, 6205-2RS BEARING
21	1	0004861	HYDRAULIC MOTOR, CW, 154 cc [9.4 in3/rev], 2-HOLE 1/2 in NPT ALIGNED PORTS, 25 mm SFT
22	1	0004846	PARALLEL KEY, 8 X 7 mm, 25 mm LG
23	1	0001165	INFEED ROLLER
24	1	0001201	INFEED ROLLER COVER PLATE
25	1	0001186	BED PLATE, 150 X 120 X 9.4 mm
26	1	0001191	KNOB, MULTI-LOBE, 32 mm OD, M8 X 1.25, 30 mm LG, M8 WLD HEX NUT
27	1	0010411	BED PLATE GAP TOOL
28	1	0001156	HITCH PIN, UPPER, CAT 1, 3/4 in [19 mm] DIA, 3-1/2 in [90 mm] USEABLE LG
29	3	0004705	LINCH PIN, 10 mm DIA, 38 mm USABLE LG, 45 mm LG
30	1	0001210	FLYWHEEL
31	4	0001185	FLYWHEEL BLADE, 219 X 69 X 8 mm
32	1	0001209	FLYWHEEL SHAFT
33	2	0001158	SPACER, 50.6 ID X 56 OD X 1.5 mm LG
34	1	0004849	PARALLEL KEY, 10 X 8 mm, 40 mm LG
35	1	0001736	V-BELT PULLEY, 35 mm SHAFT, 125 mm DIA
36	1	0001184	FLYWHEEL SHAFT COVER, UCF210 BEARING
37	1	0001795	FLYWHEEL SHAFT COVER PLUG
38	1	0001796	FLYWHEEL LOCKING PIN
39	1	0004728	LOCKING PIN, ROUND, 1/4 in DIA, 1-3/8 in USABLE LG, 2 in LG
40	1	0001692	IDLER PULLEY, SINGLE BEARING, 25 mm WD, 80 mm DIA
41	1	0004816	RETAINING RING, INTERNAL, 40 mm BORE (42.5 mm GROOVE)
42	1	0004798	RETAINING RING, EXTERNAL, 17 mm SHAFT (16.2 mm GROOVE)
43	1	0001192	EXTENSION SPRING, HOOK ENDS, 21 mm OD, 3 mm DIA WIRE, 100 mm LG
44	1	0004869	HYDRAULIC GEAR PUMP, 10 mL/r, KEYED SHAFT
45	1	0004845	PARALLEL KEY, 6 X 6 mm, 32 mm LG
46	1	0010908	V-BELT PULLEY, 18 mm SHAFT, 125 mm DIA



Item Qty Part No. Description 47 2 0001304 LATCH-STYLE TOGGLE CLAMP 48 1 0001207 OUTER HINGE, INFEED CHUTE 49 1 0009646 CONTROL ARM 50 2 0001781 PLASTIC END CAP, ROUND, 38 mm DIA 51 1 0010287 LINKAGE ROD, CONTROL ARM, 620 mm LG 52 1 0004834 CLEVIS ROD END, M10 X 1.5 THD, 10 mm ID, 10 mm JAW OPE 53 1 0004749 CLEVIS PIN, 10 mm DIA, 24 mm USABLE LG, 30 mm LG	NING
49 1 0009646 CONTROL ARM 50 2 0001781 PLASTIC END CAP, ROUND, 38 mm DIA 51 1 0010287 LINKAGE ROD, CONTROL ARM, 620 mm LG 52 1 0004834 CLEVIS ROD END, M10 X 1.5 THD, 10 mm ID, 10 mm JAW OPE	NING
50 2 0001781 PLASTIC END CAP, ROUND, 38 mm DIA 51 1 0010287 LINKAGE ROD, CONTROL ARM, 620 mm LG 52 1 0004834 CLEVIS ROD END, M10 X 1.5 THD, 10 mm ID, 10 mm JAW OPE	NING
51 1 0010287 LINKAGE ROD, CONTROL ARM, 620 mm LG 52 1 0004834 CLEVIS ROD END, M10 X 1.5 THD, 10 mm ID, 10 mm JAW OPE	NING
52 1 0004834 CLEVIS ROD END, M10 X 1.5 THD, 10 mm ID, 10 mm JAW OPE	NING
	NING
53 1 0004749 CLEVIS PIN, 10 mm DIA, 24 mm USABLE LG, 30 mm LG	
54 1 0004760 COTTER PIN, HAIRPIN, 10-16 mm CLEVIS, 3 mm WIRE DIA	
55 1 0004888 ROD END BEARING, 10 mm, M10 X 1.5 FEM THD	
56 2 0006859 3-POINT HITCH LOWER ARM	
57 1 0006864 CONNECTING ROD	
58 2 0001738 HITCH PIN, LOWER, CAT 1, M20 X 2.5, 7/8 in [22 mm] DIA, 3 in [[75 mm] USEABLE LG
59 2 0007036 3-POINT HITCH UPPER ARM	
60 2 0009856 UPPER HITCH BUSHING	
61 1 0007106 INSPECTION WINDOW COVER	
62 1 0010379 PIVOT PIN, BELT TENSIONER ARM, 16 mm DIA, 41 mm LG, M1	6 X 2 THD
63 1 0010376 BELT TENSIONER ARM	
64 2 0006493 SWINGARM PIVOT BUSHING, 10 mm SHOULDER	
65 2 0001733 STRIKE PLATE BOLT, 20 mm HEAD DIA, M8 X 1.25 THD	
66 1 0006914 INFEED CHUTE TOP PANEL	
67 1 0006913 ROUND EDGE BAR, INFEED CHUTE	
68 1 0006910 INFEED CHUTE BOTTOM PANEL	
69 1 0006912 INFEED CHUTE RIGHT SIDE PANEL	
70 1 0006911 INFEED CHUTE LEFT SIDE PANEL	
71 2 0008193 CONTROL ARM SPACER	
72 1 0010384 UPPER FLYWHEEL HOUSING	
73 1 0010309 DISCHARGE CHUTE NOZZLE, 281.5 mm DIA	
74 1 0001172 DISCHARGE CHUTE LOCK PIN ASSEMBLY, 12 mm DIA	
75 1 0002190 DISCHARGE CHUTE	
76 2 0002191 DISCHARGE CHUTE RETAINER PLATE, 281.5 mm DIA	
77 2 0001718 DISCHARGE CHUTE ROTATION HANDLE, 170 mm C-C	
78 2 0001030 HANDLE GRIP, GROOVED, 26 mm ID, 108 mm LG	
79 1 0002200 DISCHARGE CHUTE DEFLECTOR	
80 1 0001786 HANDLE, ADJUSTABLE POS, 78 X 54 mm, M10 X 1.5 FEM THD	
81 1 0001655 MANUAL TUBE	
82 1 0004872 DIRECTIONAL CONTROL VALVE, 1/2 NPT	
82.1 1 0005487 ACTUATOR MOUNT, DIRECTIONAL CONTROL VALVE	
82.2 1 0005486 ACTUATOR, 82 mm LG, DIRECTIONAL CONTROL VALVE	
82.3 1 0005477 MASTER LINK, NO. 60 CHAIN	
82.4 1 0005482 CLEVIS PIN, 6 mm DIA, 20 mm USABLE LG, 25 mm LG	
82.5 1 0005483 COTTER PIN, 2 mm DIA, 10 mm LG	
82.6 1 0005494 REAR COVER, DIRECTIONAL CONTROL VALVE	
82.7 1 0005481 COMPRESSION SPRING, CLOSED GROUND ENDS, 8 mm OD,	1.5 mm DIA WIRE, 23
82.8 1 0005489 ADJUSTMENT SCREW, M14 X 1.5, 25 mm LG, DIRECTIONAL C	ONTROL VALVE
82.9 1 0005488 CAP, DIRECTIONAL CONTROL VALVE	
82.10 1 0007182 PRESSURE RELEASE PLUG, DIRECTIONAL CONTROL VALVE	
82.11 1 THN-MBYCC HEX NUT, THIN, CLS 4, M14 X 1.5	
82.12 4 SHC-MBE075FCP SHCS, CLS 12.9, M6 X 1, 20 mm LG, FULL	



Item	Qty	Part No.	Description
82.13	1	FTS-MBY059GR	SET SCREW, FLAT TIP, GR 45H, M14 X 1.5, 10 mm LG
83	1	0004875	VARIABLE FLOW CONTROL VALVE, 1/2 in NPT, 0-16 gal/min
83.1	1	0007518	LEVER ARM. VARIABLE FLOW CONTROL VALVE
83.2	1	0007519	KNOB, MULTI-LOBE, 25 mm OD, M6 X 1, 20 mm LG
83.3	1	CPS-MBE051GR	SET SCREW, CUP POINT, GR 45H, M6 X 1, 6 mm LG
84	10	0005124	FITTING, ADAPTER, 1/2 in NPT MALE TO 7/8-14 UNF MALE
85	1	0005115	FITTING, ELBOW, 90°, 1/2 NPT TO 7/8-14 THD
86	1	0004911	FITTING, TEE, 1/2 NPT TO 7/8-14 (2X)
87	2	0003297	HYDRAULIC HOSE ASSEMBLY, STR AND ELB FITTINGS, 350 mm LG
88	2	0003298	HYDRAULIC HOSE ASSEMBLY, STR AND ELB FITTINGS, 500 mm LG
89	1	0003300	HYDRAULIC HOSE ASSEMBLY, STR AND ELB FITTINGS, 600 mm LG
90	1	0003301	HYDRAULIC HOSE ASSEMBLY, STR AND ELB FITTINGS, 800 mm LG
90	1	0003303	HYDRAULIC HOSE ASSEMBLY, STR AND ELB FITTINGS, 1450 mm LG
92	2	0010493	LABEL, WC68 W/ WOODLAND MILLS LOGO
	1	0010603	LABEL, PTO 540 RPM WARNING LABEL
93			LABEL, CHIPPER MANDATORY SYMBOLS
94	1	0010920	
95	1	0010921	LABEL, CHIPPER INFEED WARNING SYMBOLS
96	1	0010922	LABEL, CHIPPER DISCHARGE WARNING SYMBOLS
97	1	0010500	PTO SHAFT, SHEAR PIN, 4S-SERIES
97.1	1	0010540	GUARD KIT, PTO SHEAR BOLT, 4S-SERIES
97.2	1	0010541	GUARD BEARING KIT, PTO SHEAR BOLT, 4S-SERIES
97.3	1	0010542	TRIANGULAR YOKE PIN KIT, PTO SHEAR BOLT, 4S-SERIES
97.4	1	HHB-MBJ105PCJ	HEX HEAD BOLT, CLS 8.8, M8 X 1.25, 50 mm LG, 22 mm LG THD
97.5	1	HLN-MBJCH	LOCK NUT, CLS 8, M8 X 1.25
98	1	BX43	V-BELT, COGGED, BX43
99	1	6203-2RS	BALL BEARING, SEALED, 17 mm SFT, 40 mm HSG, 12 mm WD
100	1	6205-2RS	BALL BEARING, SEALED, 25 mm SFT, 52 mm HSG, 15 mm WD
101	2	UCF210	FLANGE BEARING, SQ, 4-BOLT, 50 mm SFT, 111 mm C-C
102	1	UCFL204	FLANGE BEARING, OVAL, 2-BOLT, 20 mm SFT, 90 mm C-C
103	3	HHB-MBE059FCJ	HEX HEAD BOLT, CLS 8.8, M6 X 1, 10 mm LG, FULL
104	4	HHB-MBE075FCJ	HEX HEAD BOLT, CLS 8.8, M6 X 1, 20 mm LG, FULL
105	2	HHB-MBE115PCJ	HEX HEAD BOLT, CLS 8.8, M6 X 1, 60 mm LG, 18 mm LG THD
106	2	HHB-MBJ059FCJ	HEX HEAD BOLT, CLS 8.8, M8 X 1.25, 10 mm LG, FULL
107	2	HHB-MBJ071FCJ	HEX HEAD BOLT, CLS 8.8, M8 X 1.25, 16 mm LG, FULL
108	3	HHB-MBJ075FCJ	HEX HEAD BOLT, CLS 8.8, M8 X 1.25, 20 mm LG, FULL
109	4	HHB-MBJ080FCJ	HEX HEAD BOLT, CLS 8.8, M8 X 1.25, 25 mm LG, FULL
110	6	HHB-MBJ090FCJ	HEX HEAD BOLT, CLS 8.8, M8 X 1.25, 35 mm LG, FULL
111	4	HHB-MBJ095FCJ	HEX HEAD BOLT, CLS 8.8, M8 X 1.25, 40 mm LG, FULL
112	1	HHB-MBJ100FCJ	HEX HEAD BOLT, CLS 8.8, M8 X 1.25, 45 mm LG, FULL
113	2	HHB-MBJ110PCJ	HEX HEAD BOLT, CLS 8.8, M8 X 1.25, 55 mm LG, 22 mm LG THD
114	3	HHB-MBM080FCJ	HEX HEAD BOLT, CLS 8.8, M10 X 1.5, 25 mm LG, FULL
115	3	HHB-MBM090FCJ	HEX HEAD BOLT, CLS 8.8, M10 X 1.5, 35 mm LG, FULL
116	2	HHB-MBR085FCJ	HEX HEAD BOLT, CLS 8.8, M12 X 1.75, 30 mm LG, FULL
117	2	HHB-MBR090FCJ	HEX HEAD BOLT, CLS 8.8, M12 X 1.75, 35 mm LG, FULL
118	2	HHB-MBR105FCJ	HEX HEAD BOLT, CLS 8.8, M12 X 1.75, 50 mm LG, FULL
119	1	HHB-MBR235PCJ	HEX HEAD BOLT, CLS 8.8, M12 X 1.75, 180 mm LG, 30 mm LG THD
120	7	HHB-MCA095FCJ	HEX HEAD BOLT, CLS 8.8, M16 X 2, 40 mm LG, FULL
121	4	HHB-MCA100FCJ	HEX HEAD BOLT, CLS 8.8, M16 X 2, 45 mm LG, FULL

WOODLAND MILLS

Item	Qty	Part No.	Description
122	4	HHB-MCA110FCJ	HEX HEAD BOLT, CLS 8.8, M16 X 2, 55 mm LG, FULL
123	2	HHB-MCA135PCJ	HEX HEAD BOLT, CLS 8.8, M16 X 2, 80 mm LG, 38 mm LG THD
124	4	SNC-MBJ080FCJ	CARRIAGE BOLT, SQ NECK, CLS 8.8, M8 X 1.25, 25 mm LG, FULL
125	19	BHS-MBJ073FCM	BUTTON HEAD SCREW, CLS 10.9, M8 X 1.25, 18 mm LG, FULL
126	4	BHS-MBM075FCM	BUTTON HEAD SCREW, CLS 10.9, M10 X 1.5, 20 mm LG, FULL
127	2	BHS-MBR105FCM	BUTTON HEAD SCREW, CLS 10.9, M12 X 1.75, 50 mm LG, FULL
128	4	PPH-MBA067FCE	SCREW, PPH, CLS 4.8, M5 X 0.8, 14 mm LG, FULL
129	8	PPH-MBE059FCE	SCREW, PPH, CLS 4.8, M6 X 1, 10 mm LG, FULL
130	3	PPH-MBE067FCE	SCREW, PPH, CLS 4.8, M6 X 1, 14 mm LG, FULL
131	4	PPH-MBE071FCE	SCREW, PPH, CLS 4.8, M6 X 1, 16 mm LG, FULL
132	16	HFH-MBM090FCM	SCREW, HFH, CLS 10.9, M10 X 1.5, 35 mm LG, FULL
133	4	HFH-MBW100FCM	SCREW, HFH, CLS 10.9, M14 X 2, 45 mm LG, FULL
134	4	HFH-MCA115FCM	SCREW, HFH, CLS 10.9, M16 X 2, 60 mm LG, FULL
135	4	SHC-MBA067FCP	SHCS, CLS 12.9, M5 X 0.8, 14 mm LG, FULL
100			
136	4	SHC-MBE075FCP	SHCS, CLS 12.9, M6 X 1, 20 mm LG, FULL
137	2	HHS-MBM057069AJ	SHLDR SCREW, HEX HEAD, ALLOY, 11 X 15 mm LG SHLDR, M10 X 1.5 X 20 mm LG
138	2	KCS-MBE051GR	SET SCREW, KNURLED CUP POINT, GR 45H, M6 X 1, 6 mm LG
139	1	KCS-MBE055GR	SET SCREW, KNURLED CUP POINT, GR 45H, M6 X 1, 8 mm LG
140	4	KCS-MBJ059GR	SET SCREW, KNURLED CUP POINT, GR 45H, M8 X 1.25, 10 mm LG
141	4	KCS-MBN059GR	SET SCREW, KNURLED CUP POINT, GR 45H, M10 X 1.25, 10 mm LG
142	4	FTW-MBA000AJ	FLAT WASHER, M5
143	8	FTW-MBE000AJ	FLAT WASHER, M6
144	34	FTW-MBJ000AJ	FLAT WASHER, M8
145	3	FTW-MBM165AJ	FLAT WASHER, DIN7349, M10, 4 mm THK
146	10	FTW-MBR000AJ	FLAT WASHER, M12
147	6	FTW-MBR000NA	FLAT WASHER, M12, NYLON
148	23	FTW-MCA000AJ	FLAT WASHER, M16
149	24	FDW-MBJ079000AJ	FENDER WASHER, M8, 30 mm OD
150	1	FDW-MBM075000AJ	FENDER WASHER, M10, 26 mm OD
151	4	FDW-MBM079000AJ	FENDER WASHER, M10, 30 mm OD
152	2	FDW-MBR086000AJ	FENDER WASHER, M12, 37 mm OD
153	4	SLW-MBAAJ	SPLIT LOCK WASHER, M5
154	15	SLW-MBEAJ	SPLIT LOCK WASHER, M6
155	3	SLW-MBJAJ	SPLIT LOCK WASHER, M8
156	3	SLW-MBMAJ	SPLIT LOCK WASHER, M10
157	1	HXN-MBNCH	HEX NUT, CLS 8, M10 X 1.25
158	7	HXN-MBMCH	HEX NUT, CLS 8, M10 X 1.5
159	2	HXN-MCACH	HEX NUT, CLS 8, M16 X 2
160	10	HLN-MBECH	LOCK NUT, CLS 8, M6 X 1
161	44	HLN-MBJCH	LOCK NUT, CLS 8, M8 X 1.25
162	21	HLN-MBMCH	LOCK NUT, CLS 8, M10 X 1.5
163	9	HLN-MBRCH	LOCK NUT, CLS 8, M12 X 1.75
164	8	HLN-MBWCH	LOCK NUT, CLS 8, M14 X 2
165	13	HLN-MCACH	LOCK NUT, CLS 8, M16 X 2
	-		, , , , ,



NOTES



This page intentionally left blank.

WOODLAND