



# Wood Chipper

## Model CX551

### Operator's Manual



**THIS MANUAL MUST BE READ AND UNDERSTOOD BEFORE ANYONE OPERATES THIS MACHINE!**

*Manual# 990021  
Revised 08/2015*

# YOU MUST FILL OUT YOUR WARRANTY REGISTRATION TO ACTIVATE YOUR WARRANTY AND TO QUALIFY FOR PARTS AND SERVICE!!

To the Owner;

Thank-You for choosing a quality product from Pequea Machine, Inc. We strive to give you the best equipment and the best level of service of any company. With a little care and maintenance this machine will do your work for you for many years. In this manual, we make an effort to get you better acquainted with the machine so you can achieve maximum performance. We design and build all of our equipment with the end user in mind so we welcome any suggestions or ideas for improvement. Please note that it is within our rights to make changes or improvements to our equipment without updating the equipment that was manufactured before the change took place.

Please take a few minutes to fill out the area below. This information will be valuable to you when ordering parts or requesting service from your dealer.

Dealer Name: \_\_\_\_\_

Dealer Phone Number: \_\_\_\_\_

Service Manager/Technician: \_\_\_\_\_

Model# and Description: \_\_\_\_\_

Serial Number: \_\_\_\_\_

Date of Purchase: \_\_\_\_\_

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# INTRODUCTION

## Intended Use

Pequea Chippers are designed to chip natural, untreated wood only. Materials that are processed may contain chemicals or biproducts that could corrode the machine, damage the blades, or spontaneously combust. Pequea will not cover under warranty any chipper that has been used for anything besides natural wood.

## Serial Number

The chipper's serial number is located on the inside of the base. This number helps us to track changes and improvements and must be mentioned when ordering parts or requesting service. For your convenience, a space has been provided inside the front cover of this manual to record the serial number, model number, purchase date, and dealer name.



## Specifications

Specifications	CX350	CX550	CX551	CX951
Chip Opening	3 x 5.5 in. (7.5 x 14cm)	5.5 x 8 in. (14 x 20cm)	9 x 16 in (23 x 40.6cm)	
Drive System	PTO	PTO	PTO	
Engine	N/A	N/A	N/A	
Transport	3 Point Hitch			
HP Required	16	35+	80+	
Rotor/Drum Size	65 lbs.	165 lbs.	490 lbs.	
Knives	(2) 2.5 x 3.25 x 5/16 in.	(4) 2.5 x 3.25 x 5/16 in.	(2) 4.5 x 9 x 5/8 in.	
Knife Bolts	3/8" Recessed Head Hardened Bolts			5/8" Grade 8
Feed System	Manual		Hydraulic	
Hydraulic Requirement	N/A		6 GPM	8GPM
Feed Roller	N/A		12" (30.5cm)	15.5" (39.4cm)
Hopper Opening	25 x 18 in. (62.5 x 45cm)	28 x 28 in. (70 x 70cm)	28 x 42 in (70 x 106cm)	
Feed Height	38" (95cm)	41" (102.5cm)	21" (52.5cm)	29.5" (75cm)
Weight (lbs.)	375	650	775	2300

## SAFETY



***Do not operate this machine until this manual has been read and fully understood; serious injury or death can occur if these safety warnings are ignored!***



Never allow more than one person to operate this machine at a 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.



Wood is much harder than human flesh! If your hand is ever near the chipping or feeding area serious injury can occur. NEVER place your hands on the machine while it is chipping.



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 chipper.



DO NOT stand directly in front of the infeed hopper when loading material into the hopper; always load from the side of the hopper. This will not allow any part of your body to be pulled into the machine.



Do not go near any hydraulic leaks. Hydraulic oil is under extreme pressure and a small leak can easily penetrate the skin, causing serious injury and infection.



Always wear hearing protection, eyewear, gloves, and long pants when operating the chipper.



Never place your hands beyond the opening of the hopper while the chipper is running.



Never allow children, disabled, or untrained persons to operate the chipper.



Do not operate the chipper near bystanders, public roads, or anywhere that the debris may travel far enough to injure another person.



Never move the chipper while it is running



Shut off the tractor and allow the chipper to come to a complete stop before removing any debris.

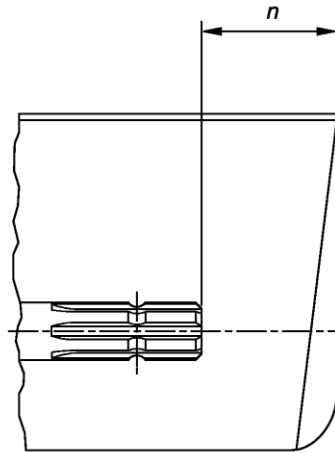


Never perform any maintenance or repair while the chipper is running.

## Stay Clear of Rotating Drivelines



TS1644-UN-22AUG95



H96219-UN-29APR10

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 turn freely.

Wear close fitting clothing. Stop the engine and be sure that PTO driveline is 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 will 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 and the added adaptor device as outlined in the table.

PTO Type	Diameter	Splines	$n \pm 5 \text{ mm (0.20 in.)}$
1	35 mm (1.378 in.)	6	85 mm (3.35 in.)
2	35 mm (1.378 in.)	21	85 mm (3.35 in.)
3	45 mm (1.772 in.)	20	100 mm (4.00 in.)

## INSPECTION AND SET-UP

- Follow the instructions in the lubrication section of this manual to make sure the chipper is greased properly. The initial grease is applied at the factory, but a routine maintenance schedule is the user's responsibility.
- Check all bolts and nuts to make sure everything is tight. All hardware is checked at the factory, but sometimes it will vibrate loose during shipment. Also check all fasteners periodically between uses. A wood chipper produces high vibration levels which can cause hardware to loosen.
- Check the position of the knives in relation to the chip anvil. The recommended setting is 1/32" between the anvil and the closest knife. You may notice the rotor has a slight wobble which will cause some of the knives to run closer than others. This is normal. See page 9 for instructions on adjusting the anvil
- Check the length of the PTO shaft. Some tractor 3-point hitch arms are shorter and require a shorter PTO shaft. To determine whether your shaft needs to be cut down to fit you will need to connect the 3-point arms to the chipper, connect the PTO shaft to both the tractor and chipper, and slowly raise the 3-point hitch. Watch closely to make sure that the PTO shaft does not fully retract. If it does, you will need to remove it and cut it down accordingly. If the PTO shaft is not fitted properly it can "bottom out" and cause damage to the PTO shaft or the chipper.
- Check the chip chute locking device to make sure it locks the chute securely into position when the handle is in the locked position. This adjustment is also made at the factory but needs to be readjusted after the chute is "worn in".

## OPERATION

### Startup

- Place tractor transmission in neutral and set the parking brake, then turn the tractor engine off.
- Connect the 3pt. hitch linkages to the chipper and secure them with safety snap pins.
- Adjust the top link so that the chipper sits level.
- Connect the pto shaft to the tractor. Be sure that the balls are set in the ball groove of the tractor pto shaft. Make sure that the pto safety chains are attached to both the tractor and the chipper to keep the protective PTO shield from rotating.
- Make sure the feed drive control bar on the chipper is in the 'neutral' position and connect the hydraulic hoses to the tractor.
- Start 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 you engage the PTO you could damage the drive belts 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 around 540 rpm's and engage the hydraulics.
- With the chipper now running at full speed you may begin chipping. Start by feeding small diameter branches until you get better acquainted with the machine and its operation, then you may begin feeding larger pieces.

### Chipping Tips

- Feed the blunt end of the branch in first.
- Trim the side limbs that won't fit into the hopper before you feed the chipper.
- Feed the material into the hopper from the side of hopper so that debris doesn't fly back at you. Never stand directly in front of the hopper when feeding the chipper.
- If you have a lot of dry material try to mix in some green (fresh) limbs with the dry. The moisture in the green wood will lubricate and cool the knives. Chipping only dry wood will cause the knives to heat up. A hot knife will lose its edge much quicker.



## OPERATION

### Chip chute adjustments

To position the chip chute, pull the spring loaded pin (Figure 2) upward and rotate it to lock it the retracted position (Figure 3). The chute conveniently rotates a full 360 degrees. Rotate it to the desired position. Pull the pin upward again and rotate it until it can fully extend and the chute can now rotate freely. Be sure the pin is locked in place, fully extended, before transporting or the chipper!

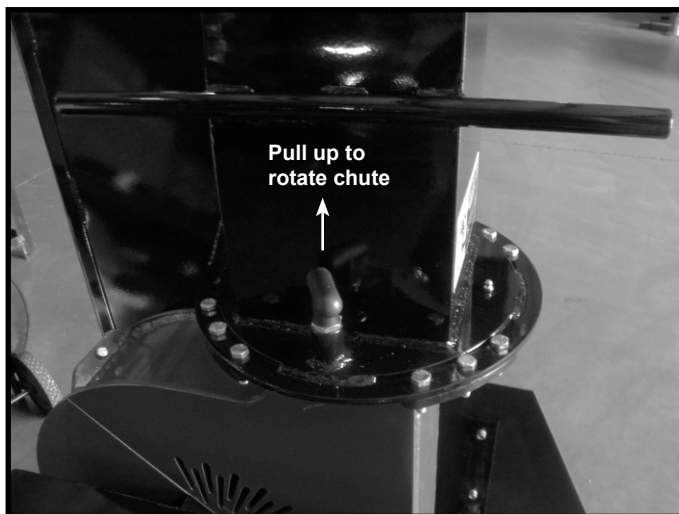


Figure 2

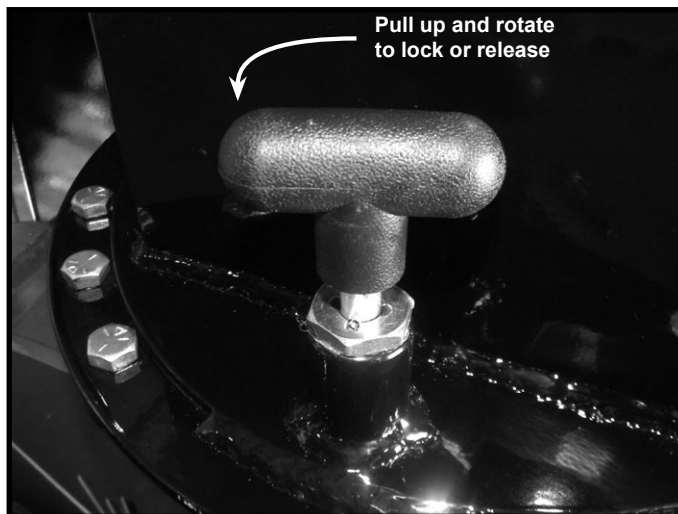


Figure 3

### Deflector

The chip deflector easily adjusts to regulate the distance that the chips are thrown. Loosen the two clamp knobs and adjust as desired. (Figure 3 & 4)



Figure 3



Figure 4

## OPERATION

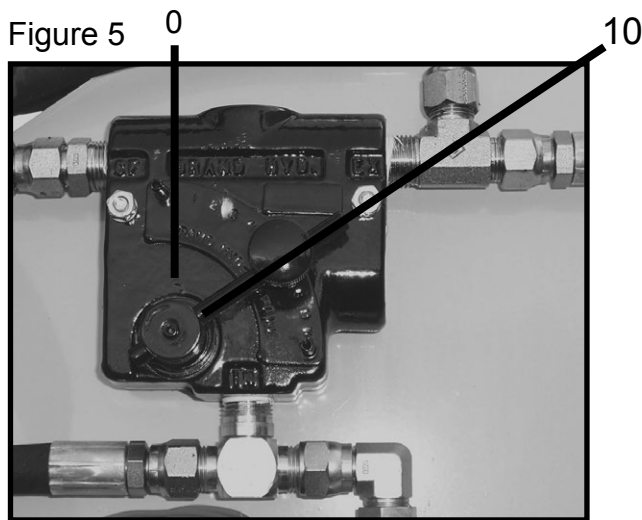
### Feeding Material

The flow control valve (Figure 5) will control the speed of the material being fed into the chipper. The tractor's hydraulic pressure and will also contribute to the speed of the feed.

To adjust the speed of the feed system, find a small branch and feed it into the chipper at with the feed adjusted to 3 or 4 and keep adjusting up until the chips are 3/8 to 1/2 inch thick. The feed setting "0" will completely stop the flow of oil to the motor, stopping the feed roller

The hydraulic system on the chipper requires at least 6 GPM to operate the chipper at full capacity. If the tractor has too much flow the oil in the tractor could overheat, causing the hydraulic fluid to lose it's viscosity. In this situation a self contained hydraulic kit should be installed. This option is available from Pequea. Contact your local dealer/distributor for pricing and availability.

Sometimes when the brush is wet or if there are a lot of small twigs and branches the feed roller can slip because of the wet wood or of the small sized material. In this situation it is best to grab the control bar and switch from forward to reverse several times. You can even reverse the material and rotate it a different way so that the roller grabs a different part of the branch.



Hydraulic Flow Control

Figure 6



Forward ← Neutral → Reverse

Shown above (Figure 6) is the control bar that operates the feed roller. This control bar has three positions, forward, neutral, & reverse. The feeding position is to the rear of the machine so that in an emergency the operator can just push the control bar and it will either stop or reverse the feed roller. Always keep the control bar in the neutral position whenever you are not feeding the chipper to eliminate the chance of accidentally feeding something into the machine.

## MAINTENANCE & SERVICE

### Belt tension

The belt tension is relatively maintenance free. The spring loaded idler will keep constant pressure on the belts during use. However, there is a slight adjustment by tightening or loosening the eye bolt, increasing or decreasing the spring tension.

### Replacing the belts

Follow these steps to replace the drive belts. The CX551 chipper uses (3) BX-58 belts.

- Remove the idler springs to release the tension on the belts.
- Remove the bolts that attach the front bearing and loosen the set screws in this bearing.
- Slide the bearing out far enough to lift the shaft out of the access slot. You may need to remove the PTO shaft.
- Replace the belts and bolt the bearing back into position. Tighten the set screws in the bearing and reinstall the idler springs. Be sure to put the safety shield back on.



Figure 7



Figure 8

Shield has been removed to show detail. All shields must be on at all times during operation!!

## MAINTENANCE & SERVICE

### Knives

The performance of the chipper will depend largely on the condition of the knives. If the knives are dull or damaged you will create a lot of unnecessary stress on the whole machine. The knives are reversible and can easily be reversed or replaced by removing the two 3/8 bolts. (Figure 9) We recommend that the knives be resharpened by a precision sharpening service to retain the proper angle. The angle of the cutting edge should be 45 degrees. It is good to keep an extra set of knives on hand to use while the other set is being sharpened.

### Anvil

The depth of your anvil will also affect the performance of your chipper. The anvil is also reversible. Follow these steps to adjust the anvil. (Figure 10)

- Loosen the two 1/2" bolts that clamp the anvil in position.
- Open the top of the rotor housing so you can watch the distance between the knives and anvil.
- Move the anvil to within 1/32" of the closest knife using the 3/8" adjustment rods. The knife depth may vary a little as you turn the rotor. This is normal.
- Retighten the bolts to secure the anvil.

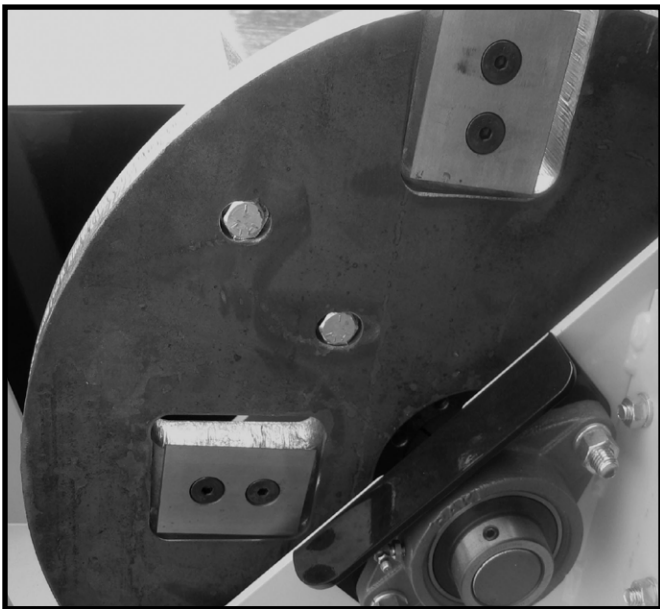


Figure 9

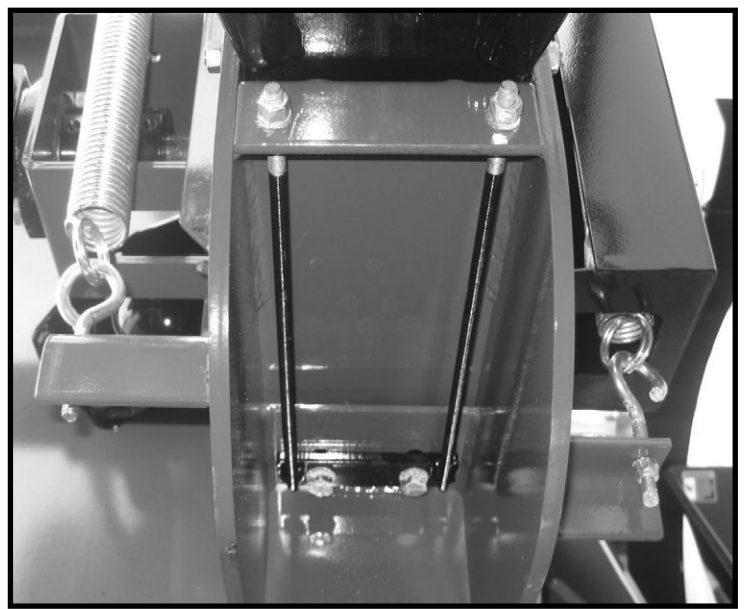


Figure 10

## LUBRICATION

### Bearings

The WC1105 chipper has four bearings. Figures 9 & 10 show the bearings on the input shaft where the PTO shaft attaches. These bearings should be greased lightly every 8 hours of use. Be sure to wipe all the dirt off of the fitting before greasing.



Figure 11

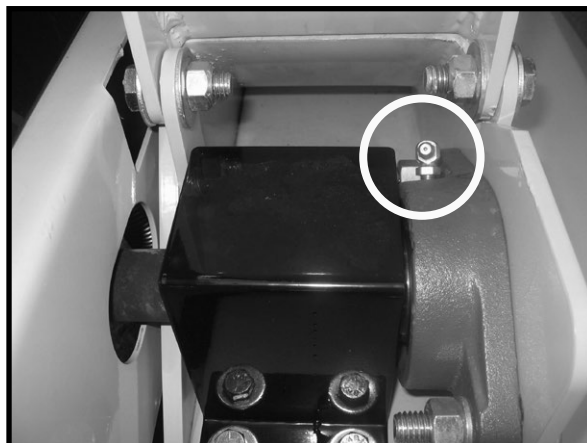


Figure 12

Figures 11 & 12 show the rotor shaft bearings. These should also be greased lightly every 8 hours. When greasing a sealed bearing, be careful that you do not overgrease or the grease will push the rubber seal away and expose the bearing to dirt and moisture.



Figure 13



Figure 14

Shields have been removed to show detail. All shields must be on at all times during operation.

There are grease fittings for the chipper chute adjustment. These should be greased as needed if the chute begins to require extra force to rotate.

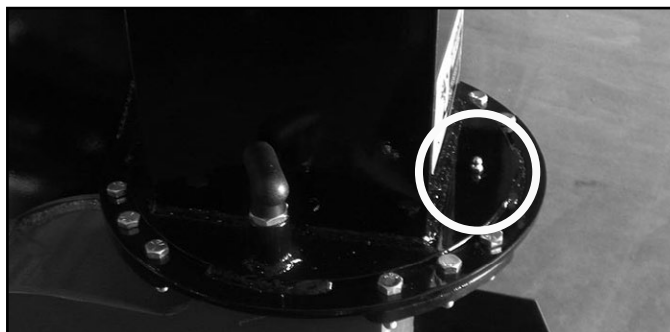


Figure 15

## LUBRICATION

There are two feed roller bearings. The picture below points out the location of these bearings. These bearings should be greased lightly every 20 hours of use.

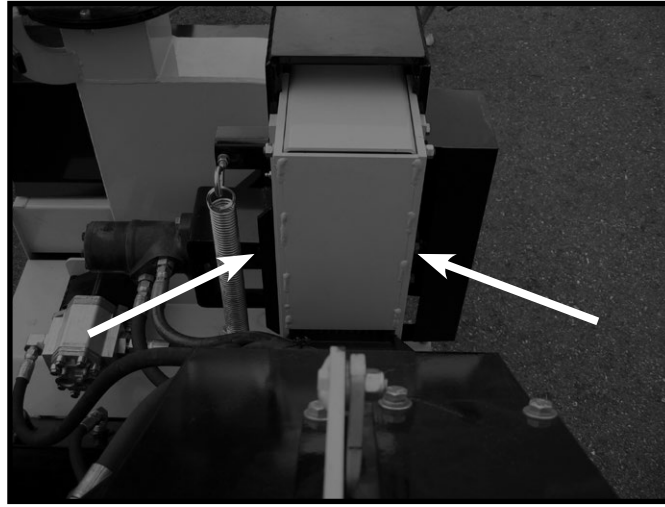


Figure 16

### Feed Roller Slide

The feed roller slide should always be wet with grease. Grease the feed slides every 10 hours (this might be excessive but too much grease won't damage the feed slide); the right feed slide grease fittings can be accessed through the holes in the shield shown in Figure 17



Figure 17

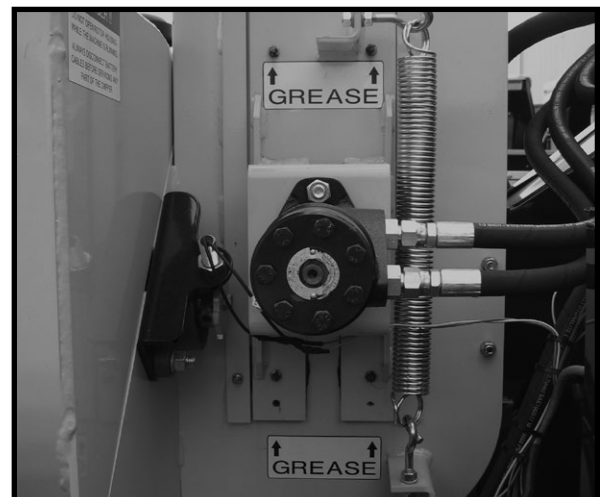


Figure 18

## WARRANTY

### **Pequea Machine's Limited Warranty**

Pequea Machine Company warrants to the original Purchaser all Machinery, Equipment, or Trailers manufactured by it, to be free from defects in material and workmanship under normal use and service. Its obligation under this Warranty shall be limited to replacement or repair of any parts thereof, free of charge to the original Purchaser, at its place of business, provided, however, that the part(s) to be replaced or repaired, shall within one (1) year after delivery to the original Purchaser, be demonstrated to be defective; which determination shall be made by the Company. The said components or parts must be returned through the Selling dealer or distributor directly to the Company with all transportation charges prepaid. Notice of defect shall be furnished in writing to the Seller and to the agent through whom the machinery was received, disclosing in full all known defects and failure in operation and use, and reasonable time shall be given to the Seller to remedy any such defects and failures. Failure to make such trial or give such notice shall be deemed an absolute acceptance by the Buyer and satisfaction in full of this Limited Warranty.

This Warranty does not cover, under any circumstances, any parts, components, or materials which, in the opinion of the Seller and Company, have been subjected to neglect, misuse, alteration, accident, or if repaired, with parts other than those manufactured by and obtained from Pequea Machine Company.

This Warranty does not cover components which are already covered by a separate Warranty provided by the supplier of said parts or components.

The Company's obligation under this Warranty is limited to repair or replacement, free of charge to the original Purchaser, of any part which in judgment of the Company is defective. This Warranty does not cover normal wear and tear.

THIS WARRANTY IS MADE EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR USE AND PURPOSE AND OF ALL OTHER OBLIGATIONS OR LIABILITIES ON ITS PART AND ANY IMPLIED WARRANTY. AND IT NEITHER ASSUMES NOR AUTHORIZES ANY OTHER LIABILITY IN CONNECTION WITH A SALE OF THIS MACHINE. THIS WARRANTY SHALL NOT APPLY TO THIS MACHINE OR TO ANY PART THEREOF WHICH HAS BEEN SUBJECT TO ACCIDENT, NEGLIGENCE, ALTERATION, ABUSE, OR MISUSE.

The Company makes no Warranty whatsoever in respect to accessories or parts not supplied by the Company. The term "original Purchaser" as used in this warranty, shall be deemed that person for whom the Machine, Equipment, or Trailer is originally supplied. This Warranty shall apply only within the boundaries of the continental United States.

Under this Warranty, the Company cannot guarantee that existing conditions beyond its control will not affect its ability to obtain materials or manufacture necessary replacement parts.

No one is authorized to alter, modify, or change the terms of this Warranty in any manner.

The Company warrants the Construction of the equipment sold herein and will replace at its expense for a period of (1) year from the date hereof, any parts which prove defective as determined under the terms of this Limited Warranty.

## NOTES

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