



Top Dresser/Material Handler

Model FX650

Operator's Manual



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

Manual# 990037
Revised 12/2008

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 topdresser 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 topdresser 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 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

Contained in this manual is information pertaining to the operation, adjustment and maintenance of the Pequea FX650. Proper care and operation will assure you many years of reliable, accurate performance. Be sure to have all operators read this manual carefully before operation.

A complete line of Pequea replacement parts is available through your dealer. These parts have been inspected at Pequea and are manufactured by the same high quality standards as your topdresser, to insure an accurate fit.

Because Pequea continually strives to improve our products, we reserve the right to make changes and improvements wherever it is practical, without obligation to make those same changes or improvements to the equipment sold previously

Serial Number

The serial number consists of five numerical digits and can be found on a small yellow sticker located on the left front corner of the topdresser hopper. Always refer to this number when ordering parts or requesting service from your dealer. A space has been provided inside the front cover of this manual to record the serial number for quick reference.

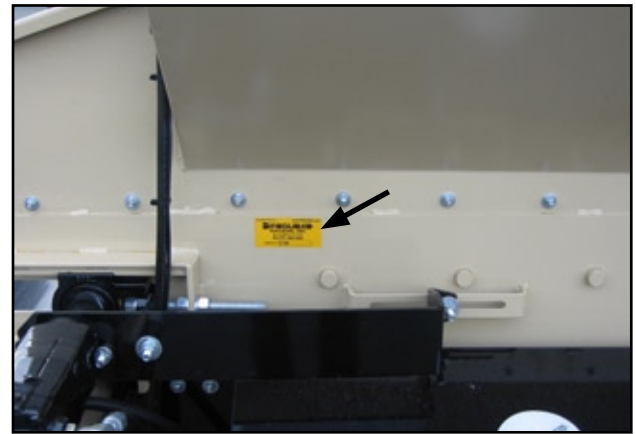


Figure 1

Specifications

Model	FX650 Material Handler/Spreader
Drive:	Tractor Hydraulic (8-12 GPM @ 1800 psi req'd)
Hopper Capacity:	6 Cubic Yards Struck Level
Hopper Dimension:	31" x 120" at Bottom and flares to 72" x 120" at Top
Hopper Construction:	11 Gauge Painted Steel
Frame Construction:	5" x 2" x .187 Structural Tubing
Loading Height:	80"
Overall Width: (Includes Tires)	90"
Overall Length:	18' 4"
Tire Size:	(4) 33/15.50 x 16.50 Turf Tire
Rear Delivery:	Twin Spinner Attachment -15' to 40' Spread Width
Front Conveyor:	12' Conveyor RH Delivery: 72" Unloading Height
Adjustment:	Independent manual control of belt and spinner speed.
Metering Gate:	Full manual adjustment from 0" to 15" (Optional Hydraulic)
Conveyor Belt:	Textured Belt w/ center tracking groove
Hitch:	Heavy-duty Adjustable Clevis.
Top Dressing Speed:	4 to 9 mph depending on conditions
Transport Speed:	Up to 19 mph empty
Empty Weight:	3,500 lbs.
<i>* Specifications subject to change without notice. *</i>	

SAFETY



Do not clean, lubricate, or make any adjustments to the topdresser while it is in motion.



Do not engage the spinners until everyone is clear of the machine and its spreading radius.



Ensure that all tools and foreign objects have been removed from the machine before starting.



Keep hands, feet, clothing, and jewelry away from all moving parts.



Do not attempt to pull material from any part of the topdresser while it is in operation.



Replace all shields after lubrication or repairs.



Never allow riders on the topdresser.



Park on level ground and block the wheels to prevent topdresser from rolling.

Pequea Machine, Inc. assumes no liability for injuries sustained because of failure to read this manual or from carelessness by the operator. Always refer to this manual for guidance or contact your dealer.

HITCHING



Check tires to make sure they are inflated to the correct pressure. Recommended pressure is written on the sidewall of the tire.



Torque the wheel bolts to 120 ft. lbs. and recheck periodically thereafter.



Perform a visual check of all hardware. Vibrations from normal use can cause bolts to loosen, especially on new machinery. (See exception below in Figure 2. This nut should never be tightened. This attaches a floating belt scraper/cleaner to keep the inside of the belt clean. There are two of these slots on each side of the box frame.)



Equip the topdresser with an SMV (Slow Moving Vehicle) emblem if it will be transported on public roads.



Figure 2



Figure 3

Align the hole in the tractor/tow vehicle draw bar with the hole in the topdresser tongue. Insert an approved hitch pin and lock in place with a safety clip (Figure 3).

Connect the hydraulic hoses to the vehicle hydraulic ports.

Remove the weight from the jack and swing it up in a horizontal position and lock it to provide maximum ground clearance.

LOADING

Always load the topdresser on a level surface and only when hitched to the tow vehicle. Be sure to engage the parking brake of the tow vehicle.

Never exceed the maximum weight load as shown on each tire. To calculate your maximum weight limit, multiply the tire rating times the number of tires and subtract the empty weight of the topdresser.

Avoid keeping the topdresser loaded for long periods of time. Some materials are acidic, and although the sides are galvanized, some parts of the spreader may begin to rust and deteriorate.



When storing the loaded topdresser outside, be sure to keep the load covered. Some materials, when saturated with rain will become very heavy and exceed the maximum load rating of the topdresser.



Do not allow the topdresser to be stored outside in freezing conditions. If the material becomes wet it will freeze and expand and could cause damage to the topdresser sides.

TRANSPORTING

The FX650 Topdresser is not designed to travel at highway speeds. Attempting to travel at highway speeds may cause damage to the tires, wheel bearings, and may impair your ability to drive safely. See imprint on the sidewall of the tire for maximum speed rating and do not exceed this speed at any time.

Slow down when turning to avoid instability and loss of control.

Do not travel on the road at night. Your topdresser is not equipped with lights.

Follow all local regulations for moving equipment on public roads.

GENERAL OPERATION

Brake Controller

Plug the wire harness (Figure 4) into the female plug on the front of the machine (Figure 5). Connect the alligator clamps to a 12 Volt DC battery. This wire harness controls all the electric/hydraulic functions and the electric wheel brakes. The brake controller should be adjusted to match the weight of the load each time the unit is used.



Figure 4

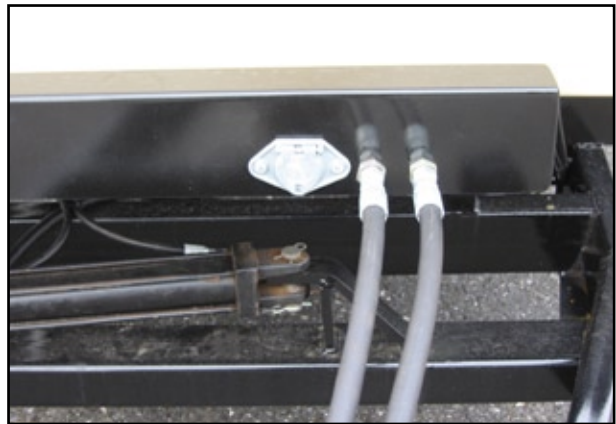


Figure 5

Spinner Paddle Adjustment

The spinner discs have a series of holes so the angle of the paddle can be changed. Material density, weight, and moisture content will all have an effect on the spread pattern. If the outside of the spread radius is too heavy move the inner end of the paddle to the right to create a harder angle. If there is too much material landing on the inside of the spread radius move the inner end of the paddle to the left to decrease the angle.

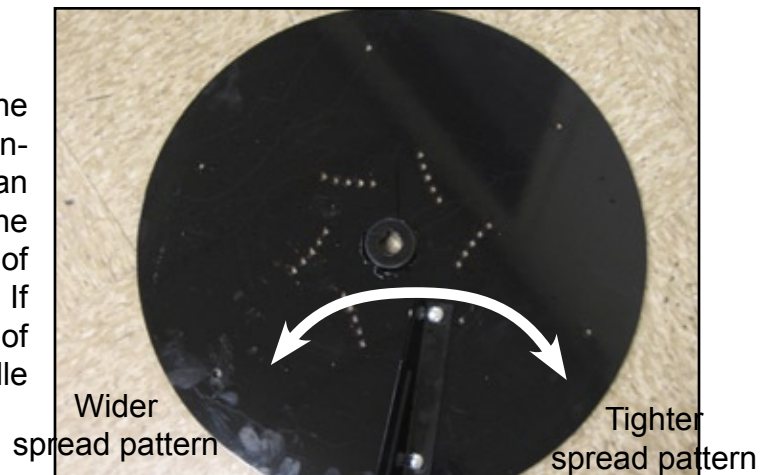


Figure 6

GENERAL OPERATION



The side conveyor must be lowered before placing in transport position to avoid coming in contact with the cross conveyor and causing damage.

Control Box

The handheld wireless remote control box (Figure 7) controls all functions including apron belt (web) cross conveyor, side conveyor, spinners, metering gate, variable speed controls, etc. Each switch and knob is labeled with its function. The control box operates on two “D” cell batteries. There is also a tether cable included that enables you to connect the control box directly to the electrical box on the unit.



Figure 7

The central three-position switch toggles between topdress, side conveyor, and cross conveyor and determines the operation mode.

- The “topdress” mode will activate only the web (apron belt) and the spinners.
- The side conveyor mode will be used when the operator is using smaller topdressers and is refilling them with material from the FX650. All functions are active in this mode.
- The “cross conveyor” mode is used for row mulching and will deliver the material out the left side of the unit. The web speed, spinner/conveyor speed, front gate and cross conveyor functions will be active in this mode.

OPERATION

Topdressing

NOTE: A number of factors will determine how the material is spread. While this manual will attempt to provide basic starting adjustments, the most effective operation will be determined from experience.

- Rear Gate Opening - For most materials begin with the gate open approximately 1-1/2". Adjust to greater or lesser opening to increase or decrease material flow. The gate opening adjusts from closed to 16". The rear gate (Figure 8) is operated manually. To change the setting pull back the spring loaded locking pin and turn the metering disc until the gate is at the desired location. Turn the handle clockwise to raise the gate and counter-clockwise to lower it.
- Spinner Speed - Normal speed of dual spinners creates up to a 35' spread pattern of most material. Reducing the spinner speed causes the spread pattern to be narrower, but with greater depth.
- Floor Belt Speed - Faster belt speeds increase the volume of material to the spinners, thereby increasing distribution. Belt speed varies from 0 to 120 feet per minute.
- Ground Speed - Optimum ground speed for topdressing is approximately 6 MPH. This speed will vary according to application rate, type of material being spread, and weather conditions. Dampness affects the rate at which some materials spread. Vary speed accordingly from 2 to 8 MPH



Figure 8

LUBRICATION

Grease Fittings

The FX650 is designed to require minimal lubrication and maintenance. However, the importance of sufficient and proper lubrication cannot be over emphasized as it is the best insurance against unnecessary repairs and will greatly increase the life and performance of the machine.

The operator should become familiar with all lubrication points and establish a systematic routine to ensure complete and quick lubrication of the machine.

Lubricate all the grease fittings once a month or every 100 loads, whichever comes first. Be careful not to over grease the sealed bearings as too much grease could push out the seal and allow dirt or sand to contaminate the bearing. One half of a stroke from a manual grease pump should be sufficient. Be sure to wipe all the dust and chaff away from the grease fitting before greasing. If it is not clean you might force some dirt into the bearing.

There are two bearings on each end of the cross conveyer. These are sealed bearings and should only be greased lightly. The two on the left side (right side if when facing the front of the spreader) are on adjustment slides (Figure 9). The two on the right side are stationary (Figure 10).

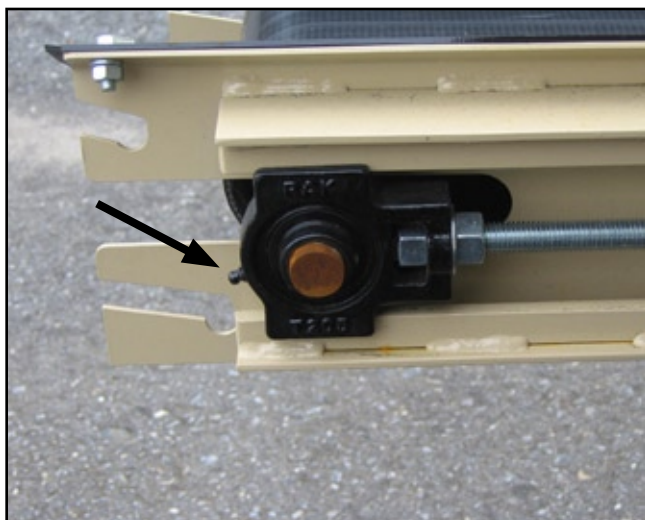


Figure 9

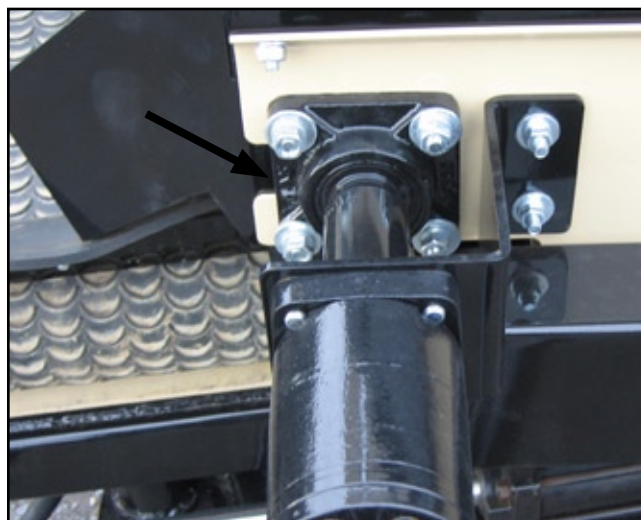


Figure 10

LUBRICATION

There are also two sealed bearings on each end of the web. The two on the front of the spreader are on adjustment slides (Figure 11). The two on the rear are stationary (Figure 12).

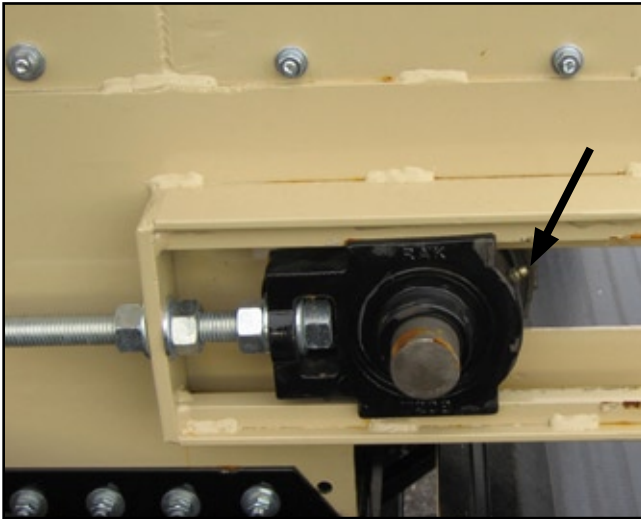


Figure 11

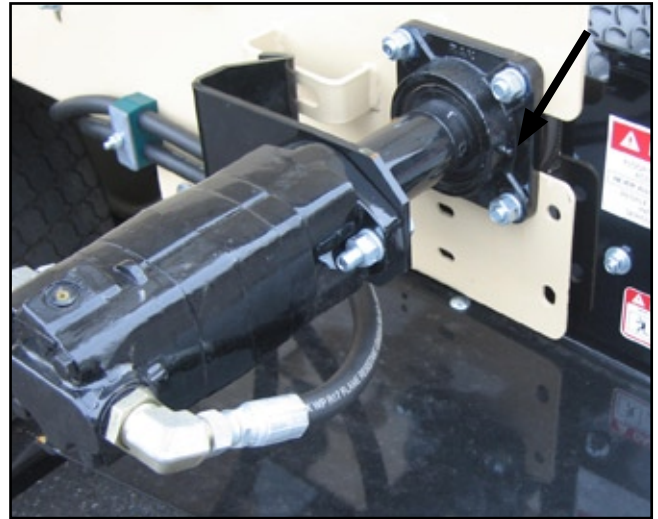


Figure 12

There are three bearings on the rear metering gate adjustment shaft (two shown). These are also sealed bearings and will require very little maintenance.



Figure 13

LUBRICATION

There are two sealed bearings on each end of the side conveyor. The two on the lower end of the conveyor are on adjustment slides (Figure 14). The two on the upper end are stationary (Figure 15).



Figure 14

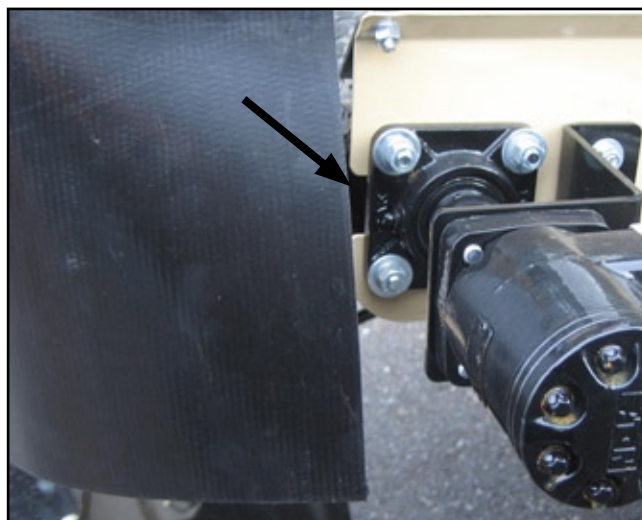


Figure 15

There is a grease fitting on each of the dual axle pivot points (Figure 16) and one on the side conveyor pivot housing (Figure 17). These are friction grease points and cannot be over greased. They should be kept visibly wet with grease at all times.



Figure 16



Figure 17

MAINTENANCE

General Maintenance

- Remove spread material buildup regularly
- Protect the machine from the weather when it is not in use. (Store indoors or cover with a tarp)
- Check the rubber belt scrapers to make sure they are down against the apron belt.
- Regularly check for loose or worn parts. Particularly check the common wear parts such as bearings, spinner paddles, rubber belting, etc.

Wheel/Tire Maintenance

- Check the wheel lug bolt torque once a month. Recommended torque is 120 ft. lbs.
- Check tire air pressure. Recommended pressure rating is printed on the sidewall of the tire.

Wheel Bearing Maintenance

Wheel bearings should be lubricated every 100 loads. Remove the dust cap, cotter pin and the spindle nut. Remove and clean the outer bearing and pack the cavity with new, clean grease. Reinsert bearing and tighten nut. Turn the wheel by hand. If it turns hard you may have to back the nut off 1/8 to 1/4 turn to allow it to turn freely.

MAINTENANCE

Conveyer Belt Maintenance

- Periodically check the apron belt and conveyer belts for proper tension and tracking.

The belts will need to be tightened up occasionally to take up the normal stretching of the belt. If it is not tightened properly the belt may slip under a heavy load. Follow the steps below to tighten the belt.

1. Loosen nut (1) on both the right and left sides of the topdresser (left side shown).
2. Turn the adjustment nut (2) one full turn at a time. Be sure to tighten the tension the same amount on both sides of the topdresser.
3. Check the tension. Run the machine for several minutes to check for slippage if desired.
4. Retighten the locking nut (1).

NOTE: If belt is not tracking properly you can tighten one side more than the other to correct.

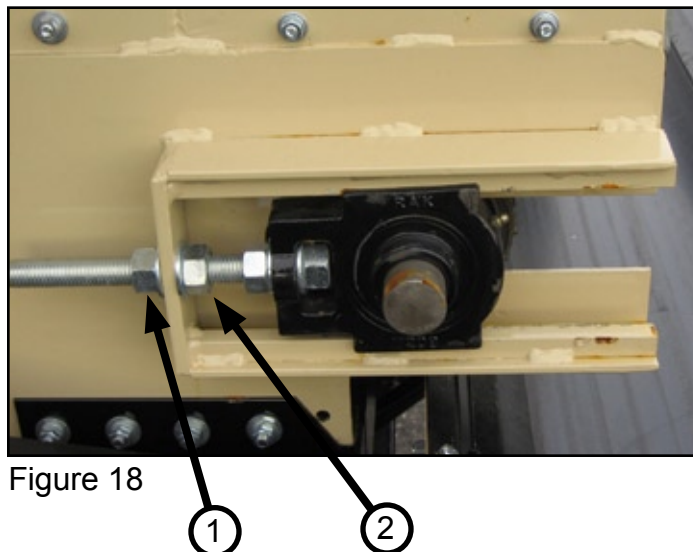


Figure 18

ATTACHMENTS & ACCESSORIES

Spinner Attachment

The spinner attachment is standard on all units but can easily be removed and replaced with either the brush attachment or a beater attachment. The FX650 can even be used without a rear attachment if the operator wants to move a large volume of material onto a pile.

To detach the spinner or other attachment, remove the locking pins from both sides of the spreader (Figure 19) and disconnect the hydraulic hoses (Figure 20). The exposed hydraulic hose ends should be locked together to avoid contaminating them with any foreign material.



Figure 19



Figure 20

Vibrator

The vibrator option can be installed on the spreader to shake the remaining material down onto the apron belt when the spreader is nearly empty. Some types of material will tend to hang up on the spreader sides and can result in an inconsistent spread pattern and/or promote material buildup which over time can rust or deteriorate the metal sides. **NOTE:** Never use the vibrator when the spreader is loaded full. The material could settle and pack so tightly in the box that it would the apron belt movement which could cause damage to the drive system.

Self Contained Hydraulics

The self contained hydraulics option should be installed when the tractor being used with the top-dresser does not have hydraulic outlets. A hydraulic pump is attached directly to the PTO output shaft on the tractor. The pump output pressure and volume is sufficient to power all of the hydraulic functions.

TROUBLESHOOTING

Problem	Possible Cause	Correction
Machine is engaged but top-dresser is not functioning	Material has jammed spinners	Disengage machine and remove material
	Rear metering gate is not open or is blocked	Open rear gate or remove foreign material
	Oil level is too low in tractor hydraulic reservoir	Add oil to reservoir
Spinners are turning, but material is not feeding	Belt is slipping or has broken	Retighten or replace belt
	Insufficient hydraulic flow from the tractor (must have at least 8 gpm)	Use a different tractor or install the optional self contained hydraulic kit (see pg. 14)
Belt and spinners are rotating in reverse	Hydraulic supply lines are reversed	Remove hydraulic lines and reattach in opposite ports
None of the hydraulic functions are operating	Dead batteries in the remote control box	Replace batteries or use tether cable
Vibration when spinners are running	Missing or bent spinner paddle(s)	Replace or repair paddle(s)

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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