

ivision of Hydro-Thermal Corporation PROVIDING SOLUTIONS WORLDWIDE

WIZARD DRUM TOOL CO.

PORTABLE FIBER DRUM DECHIMER

ELECTRIC PORTABLE FIBER DRUM DECHIMER **OPERATING and SERVICE MANUAL**



Serial No.



Portable Fiber Drum Dechimer Operating and Service Manual; Version 2.0, Rev D

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GENERAL WARNINGS AND PRECAUTIONS

ATTENTION

This section must be read thoroughly before operating any equipment supplied by WIZARD Drum Tool Co. Failure to do so may result in damage to equipment and/or severe injury to personnel.





- 1. To avoid serious injury or death from electrical shock, make certain the unit is properly grounded.
- 2. Do not operate any of the electrical units in wet areas.
- 3. Always use the correct voltage supply as indicated on the unit motor nameplate.
- 4. Do not use power cord if damaged or frayed.
- 1. In the event of a temporary power loss, there is the potential that the unit may be restarted automatically if the power switch is left in the "ON" position!
- 2. Keep all body parts away from the cutter wheel and roller whenever the power is on!
- 3. If the unit stalls due to blockage between the cutter wheel and the roller, always turn the unit off before attempting to dislodge any debris!
- 4. The chime of a cut drum may be sharp! Caution should be used when attempting to remove the lid from the drum. It is recommended that leather work gloves be worn when handling cut chimes.
- 5. Disconnect the power supply (electrical or air) before performing any maintenance on the unit!
- 6. Do not operate unit on flooring that is not level. The drum may tip over during operation.

The following applies to units purchased for use in non-explosive environments:



- 1. Do not use any of the units to remove the lids off drums which may contain explosive materials.
- 2. THE UNITS ARE NOT TO BE OPERATED IN EXPLOSIVE ENVIRONMENTS!
- 3. Extreme care must be taken so that the unit is not operated in any manner to potentially ignite the drum contents and/or any explosive material.

SECTION 1 -- GENERAL INFORMATION

PRODUCT DESCRIPTION

The Portable Fiber drum dechimer is an easy to use, light weight, electrically powered tool designed to remove the tops and/or bottoms of chimes from industrial fiber drums.

The unit requires minimal setup. The cutting mechanism has been designed to cut through most dents, eliminating the need to hammer or otherwise reshape the chime to its original contour. The cutting wheel is designed to cut under the chime on the fiber drum bottom (closed end) and also under the internal form on the top and bottom of the drum (see Fig. 1). There is only one simple adjustment for height, making it easy to use for both top and bottom chime.

The unit is designed for quick and easy repair using standard tools. Maintenance is minimized by keeping the total number of parts in the design to a minimum.

STANDARD POWER SOURCE



To avoid serious injury or potential death from electric shock, make sure the unit is properly grounded. Do not use the unit in wet areas.

The unit is powered by a low speed, high torque, totally enclosed, non-ventilated, 1/8 HP, 115 volt, single phase, 60 Hz (220 volt, single phase, 50 Hz also available), DC gear motor. The voltage is internally rectified for use with standard AC power.

CAUTION

The motor is designed for short, intermittent use. Continuous use for long periods of time will cause the motor to overheat and could possible damage it. If damage occurs to the motor, replace before attempting to operate the unit. Typical usage should not harm the motor.

CAUTION

To prevent damage to the power cord, always keep the cord away from the cutting mechanism. Replace the power cord if it becomes damaged or frayed before attempting to operate the unit.

SECTION 2 -- HOW TO USE YOUR FIBER DECHIMER

SET- UP

- Although the dechimer is designed to ride over most dented chimes, it may be necessary to straighten some dents. If so, a few pounds with a hammer or other tool to round the chime should suffice.
- 2. Turn the T-bar handle counterclockwise to open the cutting wheel away from the drive roller to give the unit proper clearance to mount on the drum.



Always grasp the unit handle securely during operation! Damage to the unit or personnel may result if the unit falls or severely dented drums during cutting.

Damage to the cutting wheel's blade edge may result from mounting the unit on a drum without opening the unit to give proper clearance.

PLACING THE UNIT ON THE DRUM

Note: The drum bottom (closed end) or the top may be opened in any order, however, the following sections describe the procedure to open the bottom first.

 Rotate the chime rollers in their lowest position by pulling the chime rollers out, rotating to their lowest position, and locking the rollers in place (see figure 1). Arrows on the chime rollers illustrate the movement.

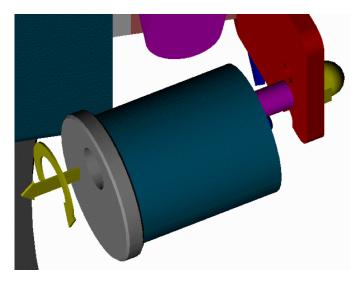


Figure 1: Chime Roller Adjustment.

 Place the unit on the drum (the cutter wheel should now be in its highest position, positioned under the chime) by resting the chime rollers on the drum chime with the cutting wheel to the inside of the drum. Turn the T-bar handle clockwise until the cutter wheel is very snugly fit under the drum curl (see figure 2).

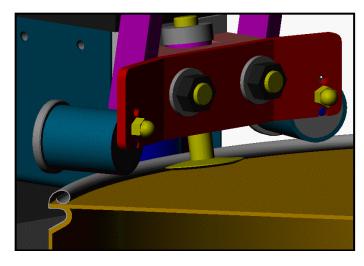


Figure 2: First Cut, Bottom of Drum.

AUTION

To prevent the unit from falling off the drum, make certain that the cutter wheel contacts the drum chime before releasing hold of the unit for any reason.

STARTING THE UNIT

WARNING

In the event of temporary power supply loss, there is the potential that the unit may be restarted automatically if the power switch is left in the "ON" position upon recovery of power.

- 1. Make sure the unit's power switch is in the "OFF" position.
- Plug the unit's coiled power cord into an extension cord. Keep the cord out of the cutting mechanism by supporting the cord up and away from the drum and drum dechimer.
- 3. Firmly grasp the dechimer handle.
- 4. Turn the power switch "ON".

RECOMMENDED CUTTING METHOD

VARNING

Keep all body parts away from the cutter wheel and roller whenever the power is "ON". If the cutter wheel and roller experience blockage and hang up, always turn the power "OFF" before attempting to dislodge any debris.

It is generally easiest to hold the dechimer stationary and allow the drum to rotate through the cutting mechanism. Alternately, while holding the handle and adjusting T-Bar, "walk" the unit through approximately 20-30° rotation, and then pull the unit and drum back towards yourself.

CAUTION

Never allow the unit to ride around a drum by itself while cutting. Drums may topple due to the weight of the unit, which may result in injury to the unit and/or the operator.

CUTTING THE DRUM BOTTOM (CLOSED END)

WARNING

The cut chime may be sharp. Caution should be used when attempting to remove the lid from the drum. It is recommended that leather work gloves be worn when handling cut chimes.

- After one revolution, tighten the cutter wheel until it "bottoms out" against the carrier. The cut depth has been preset at the factory. The dechimer must make at least one complete revolution in the "bottomed out" position. After 1-2 revolutions at the final cut depth, shut the motor off by moving the motor switch to the off position.
- 2. With the unit still clamped on the drum, take a mallet and pound the lid down into the drum. It may require some effort to remove the lid because it is generally pinched inside the chime (strike the lid close to the chime). If the lid is not separated from the chime, cut the chime one additional revolution with the dechimer and try again.
- 3. When the lid is removed, open the cutting mechanism by turning the T-bar handle counterclockwise. The unit should be opened enough to allow the cutting wheel to be raised over the chime lip without worry of chipping or otherwise damaging the cutting mechanism.
- Remove the unit from the drum. If the unit does not open because the cutting wheel becomes wedged in the lid, tap the T-bar handle inward with your hand to dislodge the cutting wheel.

REMOVING THE BOTTOM (CLOSED END) CHIME

- 1. Place the unit on a table and adjust the chime rollers to their highest position which lowers the cutting wheel (see figure 1).
- 2. Place the unit on the drum (the cutting wheel should be in its lowest position, under the chime indentation). Tighten the T-bar handle until the cutter wheel bottoms out against the carrier (see figure 3).
- 3. Hold the unit by the handle and turn the unit "on". Allow the unit to travel at 1-2 full revolutions around the drum until the chime is separated.

WARNING

The cut chime may fall off the drum with the unit. Hold the unit by the handle while it cuts.

4. Open the T-bar handle and remove the unit. A mallet may be required to tap the chime off if its band width is large.

Alternatively, the bottom chime on a fiber drum can be removed by slicing the chime immediately after the first cut was made using one of the tools listed below. Make a vertical cut through the entire chime width and then separate the chime from the fiber drum shell using a rubber mallet.

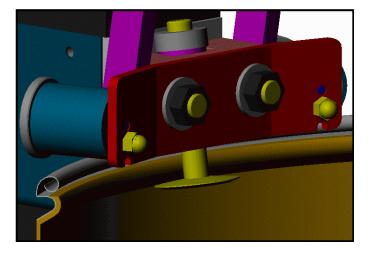


Figure 3: Second Cut, Bottom of Drum & Only Cut, Top of Drum.

CUTTING THE DRUM TOP (OPEN END)

- With the chime rollers still in their highest position, open the T-bar handle and place the unit on the drum (the cutter wheel should be just under the indentation (see figure 3).
- 2. Tighten the T-Bar handle until the front carrier bottoms out against the motor housing.
- 3. Grasp the unit by the handle and turn the unit "on". Walk the unit around the drum (as described above). Allow the unit to cut 1-2 revolutions until the chime is separated.
- 4. Open the T-bar handle and remove the unit. A mallet may be required to tap the chime off if its band width is large.

SECTION 3 -- PROPER USE AND CARE

With proper use and care, your fiber drum dechimer will give you long and dependable service.

- Lubricate the unit properly. The bearings should be cleaned, checked, and repacked with a medium weight grease every 500 drums (earlier, depending on the working environment). Failure to clean the bearings may result in premature bearing failure.
- Do not drop the drum dechimer. If the unit falls resulting in excessive damage or operation failure, call the factory for assistance.
- Be certain your electrical connections are correct and safe. Proper, safe operation requires the use of a 16ga or larger grounded extension cord. Make sure there is no damage to either the motor or power cord.
- 4. Occasionally check that all nuts and bolts are tight.
- 5. Occasionally wire brush the drive roller serration.
- 6. When placing the unit on or removing it from a drum, take care to protect the blade edge of the cutting wheel from any impact with the drum that could cause the blade to chip.
- 7. Periodically clean and lubricate the guide shafts with a light or medium weight grease.
- 8. Replace consumable parts (Cutter wheel, drive roller, snap rings, guards, etc.) every 500 drums
- Recondition entire unit every 2500 drums. This typically includes but is not limited to bearings, shafts, motor rebuild, springs, etc.

SECTION 4 -- FACTORY SERVICING

Send units requiring major service to the factory. WIZARD® will make a repair estimate and perform the repair only after your authorization.

NOTE: Contact Factory for Repair Authorization before Returning Unit.

SHIPPING INSTRUCTIONS

- 1. Call Wizard Drum Tools at 800-628-8628 and request a return authorization number from the factory.
- 2. Clean all exterior and accessible parts.
- Fasten an identification tag to your unit. The tag should show your company name and shipping address, and the serial number of the unit.
- 4. Ship PREPAID to:

WIZARD Drum Tool Company 400 Pilot Court Waukesha, WI 53188

COD shipments are not accepted.

SECTION 5 -- GENERAL MAINTENANCE AND REPAIR

WIZARD[®] drum dechimers are designed for long life, maximum reliability and simplified maintenance. Replacement parts are readily accessible and the number of parts have been kept to a minimum for quick and easy maintenance.

TOOLS NEEDED FOR SERVICE

- (1) Snap (retaining) ring pliers
- (1) 9/16" Crescent wrench
- (1) 3/4" Crescent wrench
- (2) 15/16" Ratchet or crescent wrench
- (1) 5/32" Allen wrench (included with unit)
- (1) 3/16" Long Allen wrench
- (1) 1/4" Allen wrench
- (1) 5/16" Allen wrench
- (1) Vice

WARNING

For proper operation the height of the cutting wheel must be correctly adjusted for each unique drum type. *Failure to adjust the cutting wheel height for each drum type will impair the operation of this unit and may cause permanent damage*. Keep a 5/32" Allen Wrench (which is included with the unit) on hand to make quick adjustments to the cutting wheel height.

MAINTENANCE FOR INDUSTRIAL UNITS

Daily checks should be:

- Make sure all nuts and bolts are securely fastened
- Check cutter wheels for any chips and/or wear
- Check drive roller for wear

- Check proper alignment of chime rollers
- Make sure there is no binding of any gears or bearings
- Make sure drive roller is free of debris

Bi-monthly checks:

- Take nameplate off to make sure there is enough grease on gears
- Check air lines for cracking and pinching
- Check electrical lines for cracking and pinching
- Check T-handle for wear or thread damage

WARNING

Always use personnel safety equipment (PSE) when using this machinery.

The grease we prefer is food grade grease. It is safer for the environment.

FIELD SERVICING

WARNING

Disconnect the power before attempting to disassemble any part of the unit. Reconnect the power only when needed.

Minor servicing and maintenance are possible with ordinary hand tools. Replacement parts are available from WIZARD[®] factory stock. Experience and use will determine which parts to keep on hand for routine maintenance, such as cutting wheels, drive rollers, and thrust bearings.

<u>Study the exploded view drawing and bill of materials in</u> <u>section 8</u> and note the relative positions of the parts before disassembly.

CUTTING WHEEL REPLACEMENT

- 1. Refer to section 8.
- 2. Disconnect the power supply from the unit.
- 3. Unlock the threaded shaft collar (19) and remove it an d the thrust washer (23) from the cutter wheel (26)
- 4. Slide the cutting wheel (26) out of the housing (20).
- 5. Clean, check, and repack the bearings (24) with medium weight grease.
- Slide the new cutting wheel (26) back into the housing (20) in the same orientation. Replace the thrust washer (23) and shaft collar (19). Tighten until there is no axial play, but allows the cutter wheel (26) to rotate freely. Lock in place.

DRIVE ROLLER REPLACEMENT

- 1. Refer to section 8.
- 2. Disconnect the power supply from the unit.
- 3. Remove the drive roller guard (50) from the carrier (13).
- 4. Using snap ring pliers, remove the lower snap ring (15) located at the bottom of the drive roller shaft (31).
- 5. Slide the drive roller (33) off the drive roller shaft (31).
- 6. Slide the new drive roller (33) on the drive roller shaft (31) with the drive roller shaft key (32) and thrust bearing (14) in place.
- 7. Hold the drive roller (33) in place and replace the snap ring (15).

HOUSING BODY REMOVAL

- 1. Refer to section 8.
- 2. Disconnect the power supply from the unit.
- 3. Use two 15/16 ratchet wrenches and remove the nylon insert locknuts (5) at one end of the guide shafts (8).
- 4. remove the front guard bushings (42) and front guard (40) from the guide shafts (8).
- 5. Remove the chime roller bracket (27) from the guide shaft (8).
- 6. Slide the front housing (20) from the guide shafts (8).
- 7. Slide the guide shafts (8) out of the carrier housing (13).
- If you need to remove the rear housing (7), place the guide shafts (8) in a vice making sure to protect them by putting cardboard between the vice and the shaft. Remove the locknuts (5) and slide the shafts out of the rear housing (7).

MOTOR REMOVAL

- 1. Refer to section 8.
- Follow the instructions for removing the front housing body (20).
- 3. Using a 3/16 inch Allen wrench, remove the four socket head cap screws (29) and four lock washers (28) from the motor (16), inside the carrier housing (13).
- 4. Pull the motor (16) from the carrier (13) and slide the motor shaft from the drive roller shaft (31).

DRIVE ROLLER SHAFT REPLACEMENT

- 1. Refer to section 8.
- 2. Follow the instructions for removing the motor (16).
- 3. Using snap ring pliers, remove the top snap ring (15) from the drive roller shaft (31).
- 4. Slide the drive roller shaft (31) out of the carrier (13).
- 5. Remove the drive roller (33), thrust bearings (14), key (32) and snap ring (14) from the drive roller shaft (31).

- 6. Clean, check, and repack the bearings with a heavy weight grease.
- Slide the snap ring (15) on the lower end (the end with the outside keyway and shaft plug of the new drive roller shaft).
- 8. Slide the drive roller (33), with its key (32), over the snap ring (15).
- 9. Slide a thrust bearing (14) over the drive roller shaft (31) and insert the shaft assembly into the carrier (13).
- 10. Hold the shaft assembly against the bottom of the carrier (13) with one hand. Slide the other thrust bearing (14) over the top of the drive roller shaft (31) and fit tightly against the top of the carrier (13).
- 11. Replace the top snap ring (15) with snap ring pliers.
- 12. Replace the motor (16) by sliding the motor shaft and key into the open side of the drive roller shaft (31). Replace the four lock washers (28) and cap screws (29) and tighten.

HOUSING BODY ASSEMBLY

- 1. Refer to section 8.
- Make sure that the power supply is disconnected from the unit.
- 3. Slide the short shoulder ends of the guide shafts (8) into the rear housing body (7).
- 4. Slide a 5/8 inch washer (6) over the short shoulder of the guide shafts (8) and against the rear housing.
- 5. Finger tighten a 5/8 inch nylon insert locknut (5) on each end.
- Slide both guide shafts (8) into the back end (side with guide roller bracket of the carrier). This is **important** because it will align the guide shafts with the carrier bearings (11) which will allow the carrier to ride smoothly over the guide shafts.
- Place the compression springs (17) over the guide shafts (8) and into the counterbore in the carrier (13).
- Place the front housing (20) over the long shoulder end of the guide shafts (8). Make certain the slot in the front housing is facing away from the carrier housing.
- 9. Replace the chime roller bracket (27).
- 10. Replace the front guard bushings (42) and front guard (40).
- 11. Slide a 5/8 flat washer (6) over each long shoulder end of the guide shafts (8) and against the front housing (20).
- 12. Finger tighten a 5/8 inch nylon insert locknut (5) over the long shoulder end of each guide shaft (8).
- Using two 15/16 inch crescent or ratchet wrenches, tighten each 5/8 inch nylon insert locknut (5) at each end of the guide shafts. Make sure the locknuts are tight and bottomed out on the guide shafts.
- 14. Check the carrier for free movement over the guide shafts.

SECTION 6 – TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	REMEDY	
Motor does not run.	Faulty power connection.	Check and replace (if necessary) line cord.	
	Loose power connection.	Tighten Power connection.	
	Damaged motor.	Replace motor.	
The unit stalls or does not start.	Motor stalls.	Back off T-bar handle. Tighten Tbar	
	Drive roller slips	Handle. Clean serration's in drive roller.	
		Refer to cutting instructions page 2	
Cutting wheel rides up on chime	Drum Bottom (closed end)	Try another location on the drum.	
	The cutter wheel was not positioned properly and tightened enough to keep it from digging into the chime,	Refer to cutting instructions page 2.	
	Drum Top	Adjust the chime rollers to the high	
	The cutter wheel is in the high position.	position (cutter wheel in low position.	
The unit does not cut drums	Cutting wheel dull or chipped.	Replace cutting wheel.	
	Not enough passes around drum.	Allow more passes.	
	Not enough cutting force	Tighten T-bar handle until it "bottoms out."	
	Slop in mechanism.	Tighten screws and check that bearings have not moved.	
Unstable- wobbles going around drum.	Drum chime kinked.	Guide unit past dented area. USE CAUTION.	
	The cutter wheel is in the high position.	Adjust the chime rollers to the high position (cutter wheel in low position.	
Motor runs but does not cut drum.	Key missing from drive wheel or motor	Inspect parts. Replace key.	
	Drive roller slips	Clean serrations. Tighten T-bar handle	
Cutting Wheel damaged by Drive	Assembled incorrectly.	Reassemble unit noting orientation of	
Wheel serration		parts.	

NOTE: Contact Factory for Repair Authorization before Returning Unit.

SECTION 7 - GLOSSARY

The following items are often used to describe the drum and the use of the fiber dechimer. A proper understanding of these terms will help you use your dechimer.

- CHIME The rolled edge of the top and bottom (closed end) of the drum. Most fiber drums have a metal seam composed of 1 piece of metal.
- DRUM SHELL The fiber body of the drum usually made of 6-10 layers of fiber.
- BOTTOM
 A round fiber piece usually made of 2 layers of shell fiber which is rolled into the lower chime

Limited Warranty

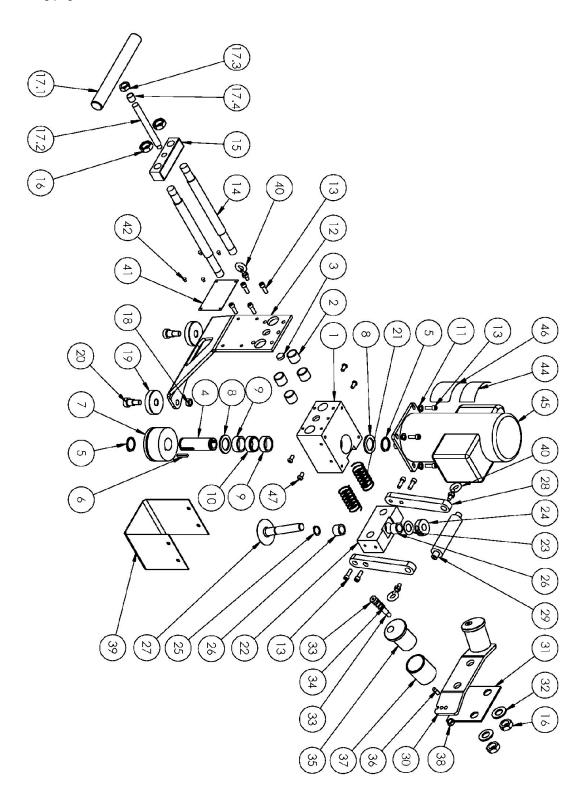
Wizard® Drum Tool Company guarantees the materials, components, and workmanship in its drum tool products to be of the highest quality and to be free of defects in material and workmanship for a period of 1 year from the delivery date. Any defective component or parts will be exchanged at our factory with replacement parts, shipped to you prepaid, if found to be defective from other than overload, abuse, careless or negligent use, or failure to maintain the unit as recommended by company operating and service manuals. Typical use would be 20-30 drums per week. A major rebuild is expected every 2500 drums. The company's liability does not extend to damage or malfunction resulting from alterations from original design of the equipment or failure to follow normal operating procedures.

There are no warranties, either express or implied, of fitness for a particular purpose which shall extend beyond the warranty period of 1 year from the date of delivery. No responsibility is assumed from any incidental or consequential damages except for those allowed under state law.

The company reserves the right under its product improvement policy to change construction or design details and furnish equipment when so modified without reference to illustrations or specifications.

SECTION 8 -- ASSEMBLY DRAWING AND BILL OF MATERIAL

Please see continuing pages.



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