



Division of Hydro-Thermal Corporation PROVIDING SOLUTIONS WORLDWIDE

WIZ-Kid[®]

MANUAL DRUM OPENER

OPERATING and SERVICE MANUAL

Low Volume Drum Usage



Serial No. _____



Wizard Drum Opener Operating and Service Manual; Version 3.0, Rev C

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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.

- When using the unit, make sure you are wearing all personal safety equipment such as gloves, safety glasses, and steel toe boots.



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 PSE (personal safety equipment) 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 WIZ-Kid™ drum opener is a low cost, light weight, manually operated tool designed to cut the tops and/or bottoms off standard 55 and 30 gallon steel drums up to 16 gauge thick.

The unit requires minimal set up. The cutting mechanism is designed to cut through most dents eliminating the need to form the chime to its original contour. The cutting wheel is designed to fit between the drum chime and bung fitting so you don't have to flatten the bung prior to cutting. Also, there is only one simple adjustment for height, making it easy to use for all operators.

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.

**SECTION 2
HOW TO USE YOUR WIZ-Kid™**

SET- UP

1. Although the WIZ-Kid™ is designed to ride over most dented chimes, it may be necessary to straighten some dents with a deinker or to hammer them into their original contour.
2. Turn the T-bar handle counterclockwise and open the cutting wheel assembly away from the drive assembly to give the unit proper clearance to mount on the drum.

! CAUTION !

Damage may result from the unit falling off the drum by attempting to cut severely dented drums.

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

1. Place the unit on the drum by resting the chime rollers on the drum chime with the cutting wheel to the inside of the drum. The chime should be between the chime roller shoulders. The guide rollers are adjustable and should support the unit on the drum shell just above the shell rib (see figure 1).

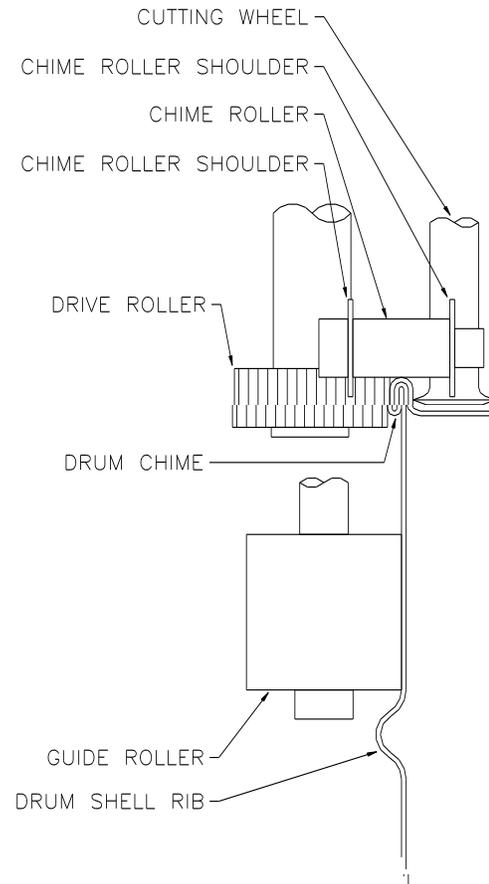


Figure 1: Wiz-Kid Set-up

2. Check the unit for the proper cutting height position. The height is factory set, however your drums may require adjustments to the unit. See section 3 before continuing.
3. Turn the T-bar handle clockwise until the cutting wheel touches the chime.

Caution!

Avoid "Over-tightening" the T-Bar handle. The handle should be adjusted as described in the following paragraph. Over-tightening may damage the T-Bar assembly and rear housing.

Caution!

For proper operation, the height of the cutting wheel must be properly positioned for each drum type. Failure to adjust the cutter wheel height properly may impair the operation and could cause permanent damage to the unit.

CUTTING THE DRUM

The manual WIZ-Kid™ is designed to cut most drums in one lap. If the drum lid is a heavy gauge or hard steel, it may require more laps. Also, because the unit is manually powered, the number of laps and the time to cut a drum will differ from person to person.

1. Turn the T-bar handle clockwise until the cutting wheel has penetrated all the way through the first layer of material. If the cutting wheel does not penetrate fully, it will require another lap. If it has penetrated too far into the second layer, it will require additional wasted effort to drive the unit.

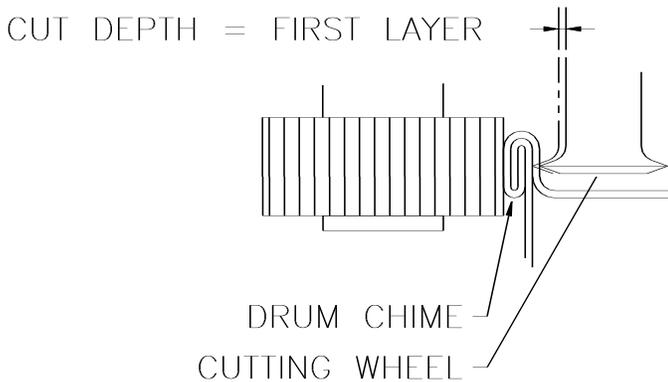


Figure 2: Proper Cutting Depth

2. Secure the ratchet to the drive shaft. Set the ratchet so the unit is driven by the downward push of the ratchet and the return motion is the upward push.
3. Begin to drive the unit by pumping the ratchet up and down. After the first few strokes, check the inside of the drum chime to see that the unit has fully penetrated the first layer and hasn't gone too deep. Adjust accordingly.
4. As the unit moves around the drum, occasionally check that the cutting wheel has remained level

throughout the cut. If it has moved up or down, the cutting position may be incorrect. Refer to section 3.

5. After the drum is fully cut, retract the cutter wheel by turning the T-bar handle counterclockwise and tapping the end of the handle inward to dislodge the cutting wheel. Push the unit fully open and remove the unit from the drum.
6. Tap one end of the lid with a mallet until it either flips or falls to the bottom of the drum.

! Warning !

The cut lid is sharp. Caution should be used when attempting to remove the lid from the drum. Leather work gloves are recommended.

SECTION 3

CUTTING WHEEL POSITIONING

To get the best performance from your WIZ-Kid™ drum opener, accurate positioning of the cutting wheel on the drum chime is critical. Please read section 3 carefully and check periodically for proper cutting wheel positioning.

LOCATION OF CUTTING POSITION

Proper positioning is not an exact science. Experience will help determine the best cutting position on your drum.

If the cutting wheel is positioned on the top radius of the chime (too high), the cutting wheel may rise and eventually lift the unit off the drum. If the cutting wheel is positioned on the lower radius (too low), the wheel tends to bury itself in the drum lid and bog down or stall the unit.

For the best results, position the cutting wheel on the flat of the drum chime between the upper and lower radius **directly across the point of contact between the drive roller and chime at least 1/8" above the drum lid** (see figure 3).

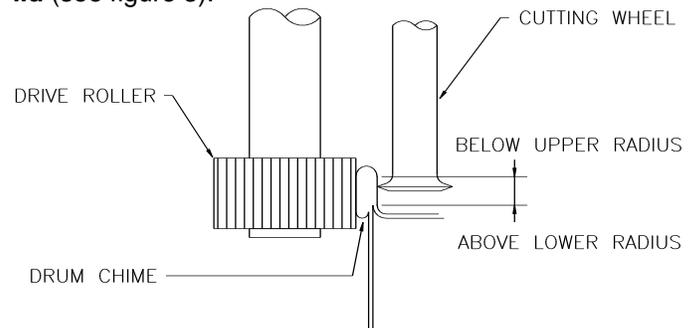


Figure 3: Proper Cutting Position

HEIGHT OF CUT ADJUSTMENT

The shaft collar controls the height of the cut. Refer to figure 3 for proper position and figure 4 to set the height. Set the height as follows:

1. Place the unit on the drum as described in section 2.
2. Loosen the shaft collar screw using a 5/32" Allen wrench.
3. Push the unit towards the drum and slide the cutting wheel up or down to position the cutting edge as described above.
4. Let the weight of the unit hold the cutting wheel in position, and close the unit on the drum chime by turning the T-bar handle.
5. With the cutting wheel held in place by the clamping force of the unit, turn the shaft collar clockwise down the cutting wheel shaft until it is snug against the front housing thrust washer.
6. Tighten the shaft collar screw to keep the collar from turning on the shaft (over tightening may cause the screw to strip).
7. Observe the unit and the cutting wheel as it moves around the drum. The cutting wheel should not rise up. The unit is tilted down slightly to ensure that the cutting wheel stays down as the unit cuts the drum. If the cutting wheel rises, it is possible that it is cutting on a slanted or curved part of the chime which will have a tendency to push the wheel up. Refer to section 3 and re-adjust the cutting height.

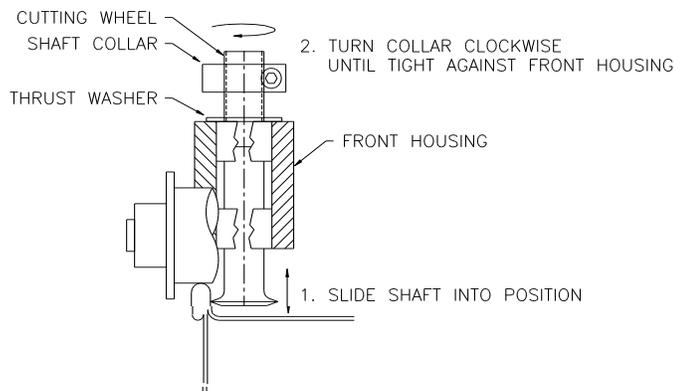


Figure 4: Setting the Cutting Position

SECTION 4 PROPER USE AND CARE

With proper use and care, your WIZ-Kid™ drum opener will give you long and dependable service.

1. Lubricate the unit properly. The bearings should be cleaned, checked, and repacked with food grade grease every 500 drums (earlier, depending on the working environment). Failure to do so may result in a shorter life of the bearings.
2. Do not drop the drum opener. If the unit falls and the damage is excessive or the unit fails to operate, call the factory for assistance.
3. Occasionally check that all nuts and bolts are tight.
4. Occasionally wire brush the drive roller serrations.
5. When placing the unit on a drum, take care to protect the blade edge of the cutting wheel from any impact with the drum which could chip the blade.

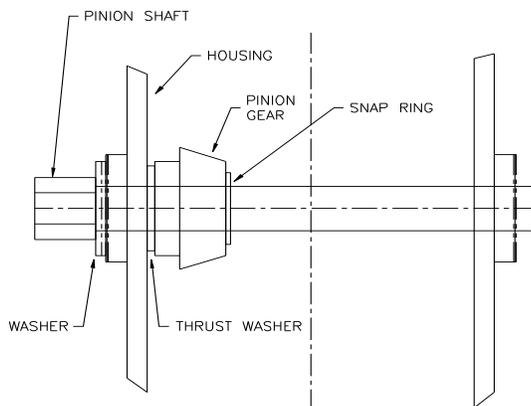
RIGHT HAND / LEFT HAND OPTION

The unit can be set up such that the ratchet drives the pinion shaft from the opposite side if the operator is uncomfortable with the existing set up. To change the position of the ratchet drive:

1. Remove the cover.
2. Remove all snap rings, and loosen the set screw on the pinion (small) gear.
3. Slide the pinion shaft out of the housing.

For ratchet set up on the left side, looking from the front of the unit (as shipped), follow figure below:

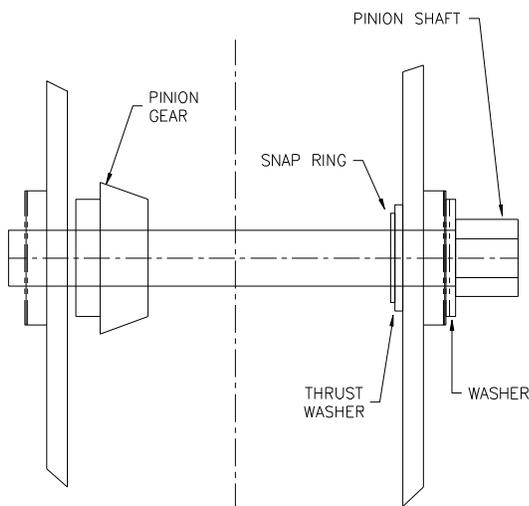
1. Slide the pinion shaft part way through the housing, with the steel washer between the head and housing.
2. Slide the oilite thrust washer over the shaft, against the housing.
3. Slide the pinion gear over the shaft, with the key in place.
4. Slide the snap ring over the shaft securing the assembly against the housing.
5. Lock the pinion gear set screw.
6. Replace the cover.



Left Side Operation

For ratchet set up on the right side, looking from the front of the unit, follow figure below:

1. Slide the pinion shaft part way through the housing, with the steel washer between the head and housing.
2. Slide the oilite thrust washer over the shaft, against the housing.
3. Slide the snap ring over the shaft securing the assembly against the housing.
4. Slide the pinion gear over the shaft, with the key in place. Move the pinion gear against the driven gear (large) and lock in place with the set screw. The teeth should allow free movement of both gears.



Right Side Operation

SECTION 5 FACTORY SERVICING

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

SHIPPING INSTRUCTIONS

1. Get a return authorization number from the factory.
2. Clean all exterior and accessible parts.
3. 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 Ct.
Waukesha, WI 53188

COD shipments are not accepted.

SECTION 6 GENERAL MAINTENANCE AND REPAIR

WIZARD® designs its drum openers for long life, maximum reliability and simplified maintenance. Replacement parts are readily accessible and the number of parts 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

FIELD SERVICING

Light servicing and maintenance is possible with ordinary hand tools. Replacement parts are available from factory stock. Use and experience will determine which parts to keep on hand for routine maintenance, such as cutting wheels, drive rollers, and thrust bearings.

Study the exploded view drawing in section 8 and note the relative positions of the parts before disassembly.

! 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.

CUTTING WHEEL REPLACEMENT

1. Refer to figure 5.
2. Loosen the shaft collar screw.
3. Remove the shaft collar by unthreading it from the cutting wheel. Remove the thrust washer.
4. Slide the cutting wheel out of the housing.
5. Clean, check, and repack the bearings with food grade grease.
6. Slide the new cutting wheel back into the housing in the same orientation. Replace the shaft collar and thrust washer.
7. Adjust the height of the cutting wheel as described in section 3.

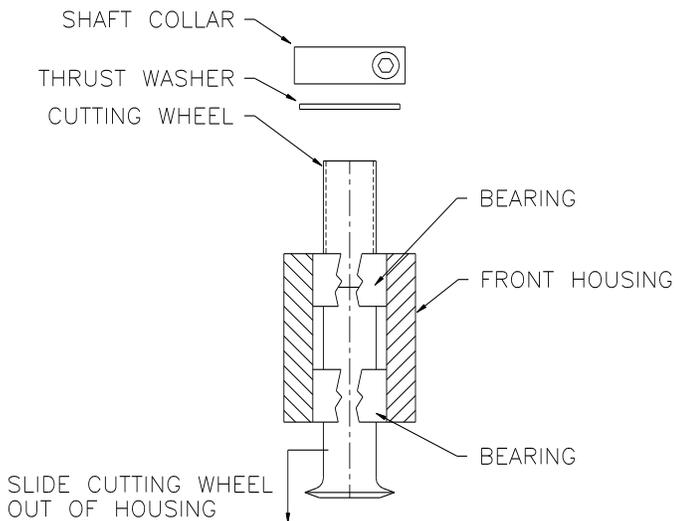


Figure 5: Replacing the Cutting Wheel

DRIVE ROLLER REPLACEMENT

1. Refer to figure 6.
2. Using a snap ring pliers, remove the lower snap ring located at the bottom of the drive roller shaft.
3. Slide the drive roller off the drive roller shaft.
4. Slide the new drive roller on the drive roller shaft with its key and thrust bearing in place.
5. Hold the drive roller in place and replace the snap ring.

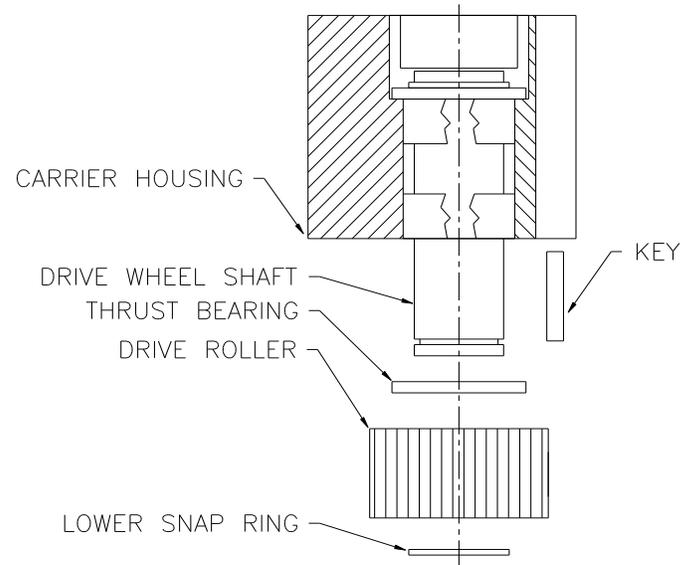


Figure 6: Replacing the Drive Roller

HOUSING BODY REMOVAL

1. Refer to figure 7.
2. Use two 15/16 ratchet wrenches and remove the nylon insert locknuts at one end of the guide shafts.
3. Slide the front housing from the guide shafts.
4. Slide the guide shafts out of the carrier housing.
5. If you need to remove the rear housing, place the guide shafts in a vice making sure to protect them by putting cardboard between the vice and the shaft. Remove the locknuts and slide the shafts out.

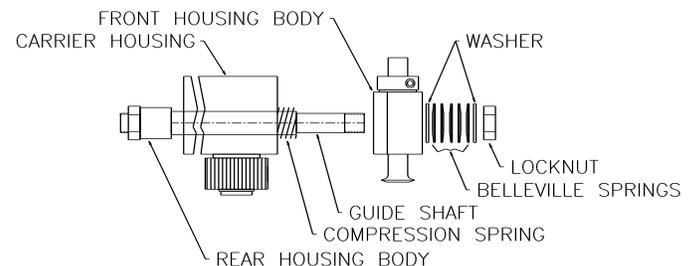


Figure 7: Removing the Housing Body

DRIVE ROLLER SHAFT REPLACEMENT

1. Refer to figure 8.
2. Access must first be made to the top of the drive roller shaft by removing the cover from the guide roller bracket.
3. Using a snap ring pliers, remove the top snap ring from the drive roller shaft and remove the bevel gear, key, and thrust bearing.
4. Slide the drive roller shaft out of the carrier.
5. Remove the drive roller, thrust bearings, key, and snap ring from the drive roller shaft.
6. Clean, check, and repack the bearings with food grade grease.
7. Slide the snap ring on the lower end (the end with the 3/16" keyway) of the new drive roller shaft.
8. Slide the drive roller, with its key, over the snap ring.
9. Slide a thrust bearing over the drive roller. Insert the shaft assembly into the carrier.
10. Hold the shaft assembly against the bottom of the carrier with one hand and slide the other thrust bearing over the top of the drive roller shaft and tight against the top of the carrier.
11. Replace the other thrust bearing, bevel gear and key.
12. Hold the assembly tight against the carrier and replace the top snap ring with snap ring pliers.
13. Replace the cover.

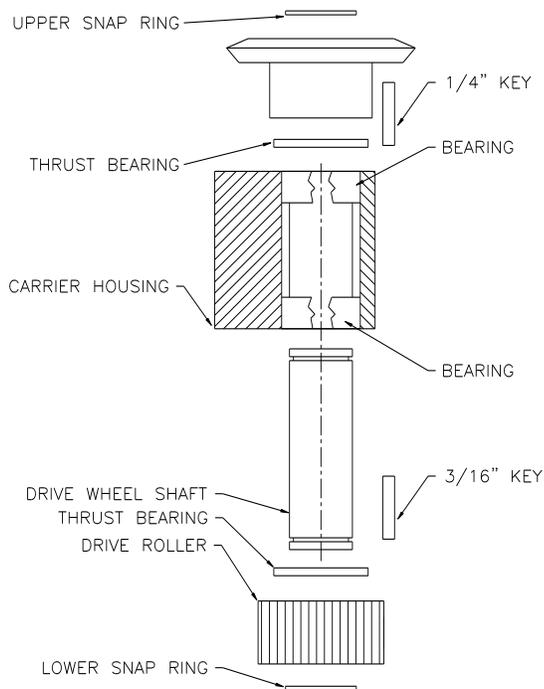


Figure 8: Drive Roller Replacement

HOUSING BODY REASSEMBLY

1. Refer to figure 9.
2. Slide the short shoulder ends of the guide shafts into the rear housing body. Finger tighten a 5/8 nylon insert locknut on each end.
3. Slide both guide shafts into the rear end (side with guide roller bracket) of the carrier. This is **important** because it will align the guide shafts with the carrier bearings which will allow the carrier to ride smoothly over the guide shafts.
4. Place the front housing over the long shoulder end of the guide shafts.
5. Slide a 5/8 flat washer over each long shoulder end of the guide shafts and against the front housing.
6. Slide three belleville washers over each long shoulder end of the guide shafts and against the 5/8 flat washer. Place the belleville washers on the guide shafts accordion style (face to face-rear to rear).
7. Slide another 5/8 flat washer on the guide shafts and against the belleville washers.
8. Finger tighten a 5/8 nylon insert locknut over the long shoulder end of each guide shaft.
9. Using two 15/16 crescent or ratchet wrenches, tighten each 5/8 nylon insert locknut at each end of the guide shafts. Make sure the locknuts are tight and bottomed out on the guide shafts.
10. Check the carrier for free movement over the guide shafts.

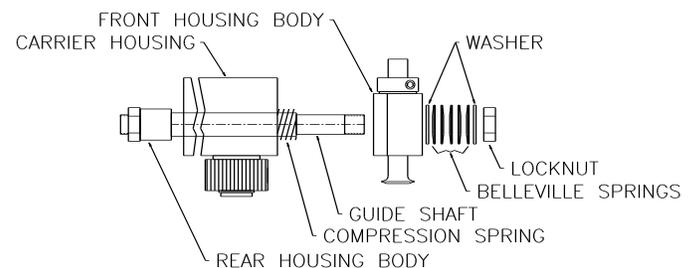


Figure 9: Replacing the Housing Bodies

SECTION 7 TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	REMEDY
Unit does not turn on.	Faulty power connection.	Check / Replace line cord.
	Loose power connection.	Make connection tighter.
	Damaged motor.	Replace motor.
Unit stalls or does not start.	Excessive cutting force.	Back off T-bar handle.
	Drive roller slips.	Clean serrations in drive roller.
	Cutting too low (at lower chime radius).	Refer to section 3. Cut higher, on flat portion of the chime.
Cutting wheel rides up.	Cutting too high (at upper chime radius).	Refer to section 3. Cut lower, on flat portion of the chime.
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
Unstable- wobbles going around drum.	Drum chime kinked.	Straighten using dekiner.
	Drum shell dented.	Guide unit past dented area. USE CAUTION.
Drum head can't be removed.	Outer chime layer not cut completely through.	Tighten T-bar handle. Allow more passes.
	Cutting wheel not penetrating metal.	Replace dull or chipped cutting wheel.
Does not run or cut.	Defective motor.	Replace motor.
	Key missing from drive wheel or motor.	Inspect parts. Replace key. Clean serrations.
	Drive roller slips.	Possibly cutting too low (at lower chime radius). Cut higher on chime

NOTE: Contact Factory for Repair Authorization Before Returning Unit.



Figure 10: Name Plate

SECTION 8 LIMITED WARRANTY

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 from defects in material and workmanship for a period of 90 days 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. 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 should extend beyond the warranty period of one (1) year from the date of delivery. No responsibility is assumed from an 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 9 EXPLODED VIEW DRAWING AND BILL OF MATERIALS

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	10094	CARRIER	1
2	10003	OILITE BEARING 1.00" ID	2
3	10123	BEVEL GEAR 1.000"	1
4	10026	EXT. RETAINING RING, 1.00" ID	2
5	10000	NEEDLE BEARING, 1.00" ID	2
6	12055	OILITE BEARING 1.125" ID	1
7	10098	ROLLER DRIVE SHAFT	1
8	10114	KEY SQUARE 0.25 x 1.25Lg	1
9	10034	KEY, 0.1875" SQ x 1.00" LG	1
10	10016	DRIVE WHEEL	1
11	3062	HARDENED STEEL PLUG	1
12	10002	OILITE BEARING 0.75" ID	5
13	10099	ROLLER GUIDE BRACKET	1
14	2167	SHCS, 0.25-20x0.75, ZINC	4
15	10093	GUIDE SHAFT	2
16	10009	REAR HOUSING	1
17	10068	JAM LOCK NUT, 0.625-11 NYLON	4
18	11778	T-BAR ASSEMBLY	1
18.1	10121	T-BAR HANDLE	1
18.2	3203	THREADED T-BAR ROD	1
18.3	5313	JAM HEX NUT 0.50-13, ZINC	1
18.4	6630	HEAT SHRINK TUBING 0.50" DIA.	1
19	10104	PINION SHAFT	1
20	10046	WASHER, FLAT, 0.625, ZINC	11
21	10109	OILITE BEARING	2
22	10110	KEY, 0.1875" SQ x 0.875" LG	1
23	10122	BEVEL GEAR 0.625"	1
24	8070	EXT. RETAINING RING	1
25	10096	FRONT HOUSING	1
26	10001	NEEDLE BEARING 0.625" ID	2
27	10100	CUTTER WHEEL	1
28	10005	THREADED SHAFT COLLAR	1
29	10092	WASHER, FLAT, 0.63, BRASS	2
30	10097	ROLLER CHIME BRACKET	1
31	10103	CHIME ROLLER	2
32	10027	SHCS, 0.63-11x1.50, 18-8SS	2
33	10111	SPRING WASHER 0.625" ID	6
34	10105	GEAR COVER	1
35	10116	SHCS, 0.63-11x6.00, 18-8SS	2
36	10115	GUIDE ROLLER	2
37	5603	WASHER, FLAT, .50, SS ZINC PL	2
38	5342	JAM LOCK NUT, 0.500-13 NYLON	2
39	2222	SELF TAP SCREW, 6-32x0.25 LG	8
40	10131	WIZKID MANUAL NAMEPLATE	1
41	12627	LABEL "DO NOT OVER-TIGHT..."	1
42	10135	LABEL "WIZKID MANUAL UNIT"	1
43	5606	LOCK WASHER 0.375" DIA	2
44	2110	HHCS, 0.375-16x1.00, ZINC	2
N/A	12158	ALLEN WRENCH, 5/32"	1
N/A	10117	RATCHET WRENCH, 3/4" HEX	1

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