Grizzly Industrial, Inc.®

MODEL T10828

ROTARY TOOL WORKSHOP

OWNER'S MANUAL

(For models manufactured since 12/14)

#BB17036 PRINTED IN CHINA V1.01.15

⚠ WARNING!

This manual provides critical safety instructions on the proper setup, operation, maintenance, and service of this machine/tool. Save this document, refer to it often, and use it to instruct other operators.

Failure to read, understand and follow the instructions in this manual may result in fire or serious personal injury—including amputation, electrocution, or death.

The owner of this machine/tool is solely responsible for its safe use. This responsibility includes but is not limited to proper installation in a safe environment, personnel training and usage authorization, proper inspection and maintenance, manual availability and comprehension, application of safety devices, cutting/sanding/grinding tool integrity, and the usage of personal protective equipment.

The manufacturer will not be held liable for injury or property damage from negligence, improper training, machine modifications or misuse.

⚠ WARNING!

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- **Lead from lead-based paints.**
- **Crystalline silica from bricks, cement and other masonry products.**
- **Arsenic and chromium from chemically-treated lumber.**

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: Work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

SECTION 1: SAFETY

⚠WARNING

For Your Own Safety Read Instruction Manual Before Operating This Equipment

The purpose of safety symbols is to attract your attention to possible hazardous conditions. This manual uses a series of symbols and signal words which are intended to convey the level of importance of the safety messages. The progression of symbols is described below. Remember that safety messages by themselves do not eliminate danger and are not a substitute for proper accident prevention measures.

⚠DANGER **Indicates an imminent hazardous situation which, if not avoided, WILL result in death or serious injury.**

⚠WARNING **Indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.**

⚠CAUTION **Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury. It may also be used to alert against unsafe practices.**

NOTICE **This symbol is used to alert the user to useful information about proper operation of the equipment.**

⚠WARNING

Safety Instructions for Power Tools

OWNER'S MANUAL. Read and understand this owner's manual BEFORE using machine.

TRAINED OPERATORS ONLY. Untrained operators have a higher risk of being hurt or killed. Only allow trained/supervised people to use this power tool. When tool is not being used, disconnect power, and store in out-of-reach location to prevent unauthorized use—especially around children. Make workshop kid proof!

DANGEROUS ENVIRONMENTS. Do not use tools in areas that are wet, cluttered, or have poor lighting. Operating tools in these areas greatly increases risk of accidents and injury.

MENTAL ALERTNESS REQUIRED. Full mental alertness is required for safe operation of power tools. Never operate under the influence of drugs or alcohol, when tired, or when distracted.

DISCONNECT POWER FIRST. Always disconnect tool from power supply BEFORE making adjustments, changing tooling, or servicing machine. This prevents an injury risk from unintended startup or contact with live electrical components.

EYE PROTECTION. Always wear ANSI-approved safety glasses or a face shield when operating or observing machinery to reduce the risk of eye injury or blindness from flying particles. Everyday eyeglasses are not approved safety glasses.

⚠WARNING

ELECTRICAL SAFETY. Tool plug must match outlet. Double-insulated tools have a polarized plug (one blade is wider than the other), which must be plugged into a polarized outlet. Never modify plug. Do not use adapter for grounded tools. Use a ground fault circuit interrupter if operation is unavoidable in damp locations. Avoid touching grounded surfaces when operating tool.

WEARING PROPER APPAREL. Do not wear clothing, apparel or jewelry that can become entangled in moving parts. Always tie back or cover long hair. Wear non-slip footwear to avoid accidental slips, which could cause loss of workpiece control. Wear hard hat as needed.

HAZARDOUS DUST. Dust created while using tools may cause cancer, birth defects, or long-term respiratory damage. Be aware of dust hazards associated with each workpiece material, always wear a NIOSH-approved respirator, and connect tool to an appropriate dust collection device to reduce your risk.

HEARING PROTECTION. Always wear hearing protection when operating or observing loud machinery. Extended exposure to this noise without hearing protection can cause permanent hearing loss.

REMOVE ADJUSTING TOOLS. Never leave adjustment tools, chuck keys, wrenches, etc. in or on tool—especially near moving parts. Verify removal before starting!

INTENDED USAGE. Only use tool for its intended purpose. Never modify or alter tool for a purpose not intended by the manufacturer or serious injury or death may result!

AWKWARD POSITIONS. Keep proper footing and balance at all times when operating tool. Do not overreach! Avoid awkward hand positions that make tool control difficult or increase the risk of accidental injury.

SAFE HANDLING. Firmly grip tool. To avoid accidental firing, do not keep finger on switch or trigger while carrying.

FORCING TOOLS. Use right tool for job, and do not force it. It will do job safer and better at rate for which it was designed.

SECURING WORKPIECE. When required, use clamps or vises to secure workpiece. This protects hands and frees both of them to operate tool.

GUARDS & COVERS. Guards and covers reduce accidental contact with moving parts or flying debris. Ensure they are properly installed, undamaged, and working correctly.

CHILDREN & BYSTANDERS. Keep children and bystanders at a safe distance from the work area. Stop using tool if they become a distraction.

USE RECOMMENDED ACCESSORIES. Consult this manual or manufacturer for recommended accessories. Using improper accessories will increase risk of serious injury.

MAINTAIN WITH CARE. Keep cutting tool edges sharp and clean. Follow all maintenance instructions and lubrication schedules to keep tool in good working condition. A tool that is improperly maintained could malfunction, leading to serious personal injury or death. Only have tool serviced by qualified service-personnel using matching replacement parts.

CHECK DAMAGED PARTS. Regularly inspect tool for any condition that may affect safe operation. Immediately repair or replace damaged or mis-adjusted parts before operating tool.

MAINTAIN POWER CORDS. When disconnecting cord-connected tools from power, grab and pull the plug—NOT the cord. Carrying or pulling the cord may damage wires inside. Do not handle cord/plug with wet hands. Avoid cord damage by keeping it away from heated surfaces, high traffic areas, harsh chemicals, sharp edges, moving parts, and wet/damp locations. Damaged cords increase risk of electrocution.

UNATTENDED OPERATION. Never leave tool running while unattended. Turn tool ***OFF*** and ensure all moving parts completely stop before walking away.

EXPERIENCING DIFFICULTIES. If at any time you experience difficulties performing the intended operation, stop using the machine! Contact our Technical Support at (570) 546-9663.

⚠WARNING

Additional Safety Instructions for Rotary Tool Grinders

CLAMP THE WORKPIECE. If the spinning tool slips from the workpiece while you are holding it, you could suffer piercing or abrasion injuries. DO NOT hold the workpiece with one hand and operate the tool with the other. Secure the workpiece in a vise or work-holding device before starting the rotary tool.

EXPLOSION HAZARDS. Sparks from the grinding operation can easily ignite flammable gasses, fluids, or materials. ALWAYS make sure that these substances are completely removed from the work area before beginning operation.

ENTANGLEMENT HAZARDS. Loose clothing or jewelry can become entangled with the spinning tool, pulling hands and fingers into the bit. To avoid this risk, remove jewelry, secure loose clothing, button long sleeves, and tie back long hair.

ELECTROCUTION HAZARDS. DO NOT operate this tool in wet or damp conditions. Remove all liquids from the work area before beginning operation. Make sure your hands are clean and dry.

WORKPIECE CONTACT. Jamming the spinning tool against the workpiece could cause the workpiece or tool to shatter and send debris in all directions. Firmly grasp the rotary tool and ease it into the workpiece.

TOOL CAPACITIES. To avoid damage to the tool or workpiece that may cause operator injury, ALWAYS operate this tool within the capacities stated on **Page 4**.

ACCIDENTAL STARTUP. To avoid unexpected startup that may cause injuries, ALWAYS make sure the rotary speed dial is turned OFF before connecting the tool to power.

⚠CAUTION

No list of safety guidelines can be complete. Every shop environment is different. Always consider safety first, as it applies to your individual working conditions. Use this and other machinery with caution and respect. Failure to do so could result in serious personal injury, damage to equipment or poor work results.

SECTION 2: INTRODUCTION

Foreword

We are proud to offer this manual with your new T10828 Rotary Tool! We've made every effort to be exact with the instructions, specifications, drawings, and photographs of the T10828 Rotary Tool we used when writing this manual. However, sometimes we still make an occasional mistake.

Also, owing to our policy of continuous improvement, your T10828 Rotary Tool may not exactly match the manual. If you find this to be the case, and the difference between the manual and T10828 Rotary Tool leaves you in doubt, check our website for the latest manual update or call technical support for help.

For your convenience, we post all available manuals and manual updates for free on our website at www.grizzly.com. Any updates to your model of machine will be reflected in these documents as soon as they are complete.

Specifications

Required Power:.....110V
Speed Range: ..... 10,000–32,000 RPM
Maximum Collet Chuck Capacity: ..... ⅛"

Contact Info

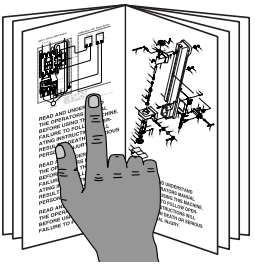
We stand behind our machines. If you have any service questions, parts requests or general questions about the machine, please call or write us at the location listed below.

Grizzly Industrial, Inc.
1203 Lycoming Mall Circle
Muncy, PA 17756
Phone: (570) 546-9663
E-Mail: techsupport@grizzly.com

We want your feedback on this manual. If you can take the time, please email or write to us at the address below and tell us how we did:

Grizzly Industrial, Inc.
C/O Technical Documentation Manager
P.O. Box 2069
Bellingham, WA 98227-2069
Email: manuals@grizzly.com

⚠WARNING



Read the manual before operation. Become familiar with this tool, its safety instructions, and its operation before beginning any work. Serious personal injury may result if safety or operational information is not understood or followed.

Identification

Become familiar with the names and locations of the controls and features shown below to better understand the instructions in this manual.

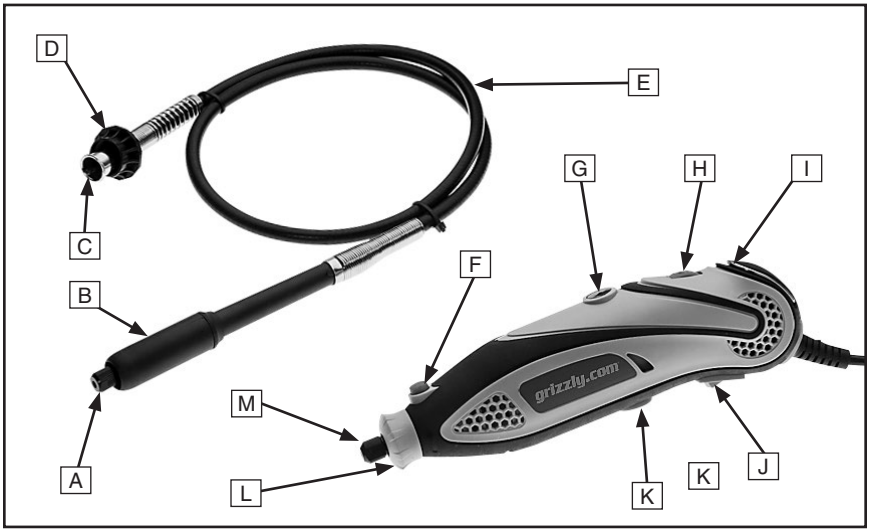
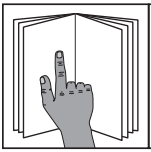


Figure 1. T10828 component identification.

A. Flexible Shaft Collet Nut
B. Flexible Locking Sleeve
C. Inner Spindle
D. Flexible Shaft Locking Ring
E. Flexible Shaft
F. Spindle Lock Button
G. Motor Brush Cap
H. Variable-Speed Control
I. Tool Hanger
J. ON/OFF Switch
K. Motor Brush Cap
L. Rotary Tool Locking Ring
M. Rotary Tool Collet Nut



⚠WARNING
To reduce your risk of serious injury, read this entire manual BEFORE using machine.

SECTION 3: SETUP

Unpacking

Your machine was carefully packaged for safe transportation. Remove the packaging materials from around your machine and inspect it. If you discover the machine is damaged, *please immediately call Customer Service at (570) 546-9663 for advice.*

Save the containers and all packing materials for possible inspection by the carrier or its agent. Otherwise, filing a freight claim can be difficult.

When you are completely satisfied with the condition of your shipment, inventory the contents.

If any non-proprietary parts are missing (e.g., a nut or a washer), we will gladly replace them; or for the sake of expediency, replacements can be obtained at your local hardware store.

Inventory

Model T10828 Inventory (Figure 2)

A. Toolbox
- —Collet Wrench.....1
- —Collet 1/8".....2
- —Collet 3/32".....1
- —Collet 1/16".....1
- —Dressing Stone.....1
- —Drum Mandrel 1/2".....1
- —Drum Mandrel 1/4".....1
- —Screw Mandrel.....2
- —Threaded Mandrel.....1
- —Cutoff Wheels.....5
- —Grinding Stone (Green).....4
- —Grinding Stone (Red).....6
- —Grinding Wheel (Green).....5
- —Grinding Wheel (Red).....5
- —Rubber Emery Wheel.....1
- —Wire Brushes.....3
- —Bristle Brushes.....3
- —Sanding Drum 1/2".....8
- —Sanding Drum 1/4".....8
- —Felt Buffing Pads.....7
- —Felt Buffing Cone.....1
- —Felt Buffing Cylinder.....1
- —Flap Wheel (80 Grit).....1
- —Polishing Rouge.....1

B. Flexible Shaft.....1

C. Variable-Speed Rotary Tool.....1

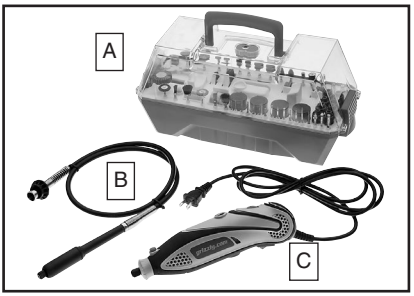


Figure 2. T10828 inventory.

Power Connection

After you have completed all previous setup instructions, the machine is ready to be connected to the power supply.

To avoid unexpected startups or property damage, use the following steps whenever connecting or disconnecting the machine.

Connecting Power

1. Turn machine power switch **OFF**.

2. Insert power cord plug into a matching power supply receptacle. Tool is now connected to power source.

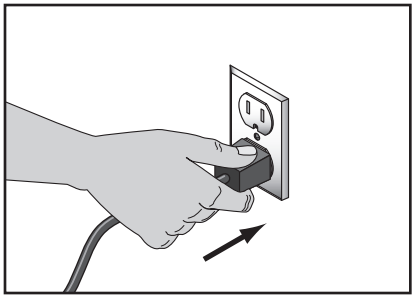


Figure 3. Connecting power.

Disconnecting Power

1. Turn machine power switch **OFF**.

2. Grasp molded plug and pull it completely out of receptacle. Do not pull by the cord as this may damage wires inside.

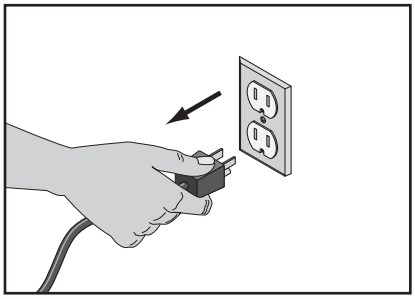


Figure 4. Disconnecting power.

⚠WARNING

Serious injury or death can result from using this machine BEFORE understanding its controls and related safety information. DO NOT operate, or allow others to operate, machine until the information is understood.

Test Run

To test run machine:

1. Clear all setup tools away from machine.

2. Remove collet nut and collet.

3. Set variable-speed knob to lowest setting.

4. Connect machine to power supply.

5. Turn machine ON, verify motor operation, and then turn machine OFF.
   Tool should run smoothly and without unusual problems or noises.

SECTION 4: OPERATIONS

Installing Bits

The Model T10828 uses bits and cutters with a ⅛" diameter shaft. See the Grizzly catalog or website for a complete listing of available bits and accessories.

⚠WARNING

DO NOT use bits or cutters with a cutting surface larger than 1". The bit could break apart under the stresses of high speed use causing serious personal injury.

To install a bit:

1. DISCONNECT TOOL FROM POWER!
2. Press spindle lock and rotate collet nut until spindle locks (see **Figure 5**).
3. Loosen collet nut by turning counterclockwise.

   NOTE: *DO NOT completely remove collet nut from shaft.*

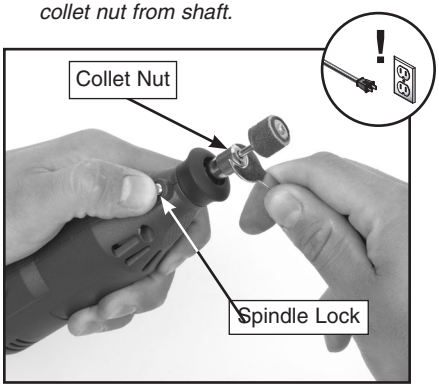


Figure 5. Loosening collet nut by pressing spindle lock and turning Counterclockwise w/wrench.

4. Insert bit shank into collet.

   Note: *At least ½" of bit shank should be mounted into end of collet.*

5. Hand-tighten collet nut while pressing spindle lock button to secure bit.
6. Tighten ⅓ of a turn with collet wrench. DO NOT over tighten.

⚠WARNING

Failure to wear safety glasses while operating the grinder could cause serious personal eye injury.

Operating Rotary Tool

The Model T10828 is best suited for high-RPM, low-torque applications. Most operations performed with the tool will perform best at higher RPM settings; however, slower RPM settings are ideal when working with plastics that melt easily.

High RPM Uses

High RPM's are best for general carving, cutting, routing, and grinding. The grinder removes material quicker at higher RPM's.

Low RPM Uses

Low RPM's are best for grinding and cutting materials that have low melting points. Plastics in particular often melt from the heat generated by high-speed bits. Low RPM's are also best for polishing and buffing with the felt accessories included.

To use rotary tool:

1. Install collet and bit.
2. Grasp tool firmly.
3. Turn tool ***ON***.
4. Adjust speed dial to change RPM.
5. Ease tool against workpiece using light pressure.

   Note: *Always test bit and RPM combination on a scrap piece of material similar to workpiece.*

⚠CAUTION

Use low RPM settings when working with plastics or other materials with low melting points. Melted plastics can liquefy, be thrown into the air, and stick to the operator, causing serious personal injury.

Installing Flex Shaft

The flex shaft allows the user to get into tight spaces and is easier to control—more like a pencil. DO NOT operate the flex shaft with sharp bends.

To install flex shaft:

1. DISCONNECT TOOL FROM POWER!
2. Loosen collet nut and remove plastic locking ring on rotary tool (see **Figure 1** on **Page 5**) to expose shaft attachment threads, as shown in **Figure 6**.

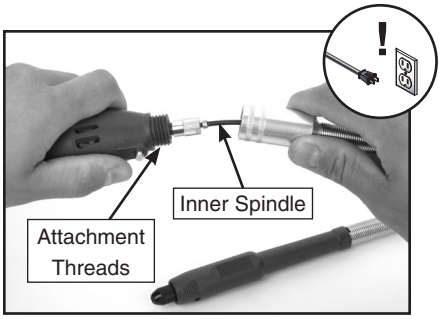


Figure 6. Example of inserting spindle into rotary tool collet with attachment threads exposed.

3. Pull inner spindle partially out of flex shaft (see **Figure 6**).
4. Insert inner spindle into rotary tool collet, then tighten collet nut, as described in **Steps 5–6** on **Page 8**.
5. Thread flexible shaft plastic locking ring onto rotary tool attachment threads.
6. Insert shank of tool bit into collet as shown in **Figure 7**, then slide down flex shaft locking sleeve and tighten collet.

   Note: *Hold flex shaft firmly when starting rotary tool.*

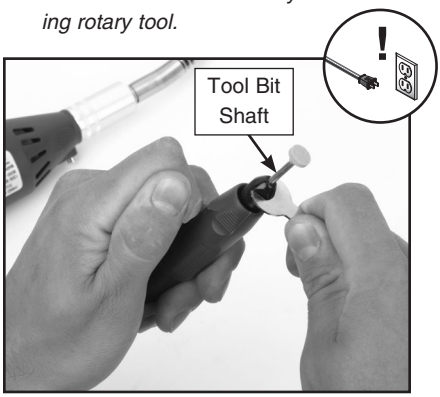
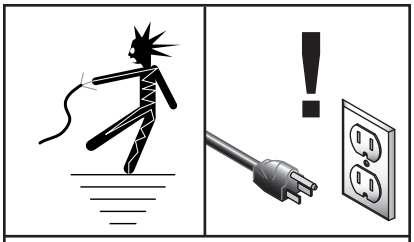


Figure 7. Tightening flex shaft collet.

SECTION 6: MAINTENANCE



WARNING

Always DISCONNECT POWER before servicing, adjusting, or doing maintenance to reduce the risk of accidental injury or electrocution.

Schedule

For optimum performance from your machine, follow this maintenance schedule and refer to any specific instructions given in this section.

Daily Check

- Wipe motor housing, flex shaft, and tool bits with dry cloth or blow off dust and debris with compressed air(be sure to wear a respirator while doing this.).

- Check for damage to bits, cords, or the housing.

Lubrication

The flex shaft needs to be lubricated with a light lithium lubricant or machine oil after 25-30 hours of use.

To lubricate flex shaft:

1. Remove inner spindle.

2. Apply a thin film of lubricant on inner spindle.

Note: *Too much lubricant can become messy and possibly get on your workpiece. DO NOT use automotive grease; it is too thick.*

3. Re-install inner spindle into flex shaft.

Carbon Brush Replacement

Carbon brush life is 500–2000 hours, depending on the nature of use. Always replace both brushes at the same time.

To replace carbon brushes:

1. Use small flathead screwdriver, included in toolbox, to remove caps from sides of motor housing (see **Figure 8**).

Note: *Brushes are spring loaded; take care when removing caps.*

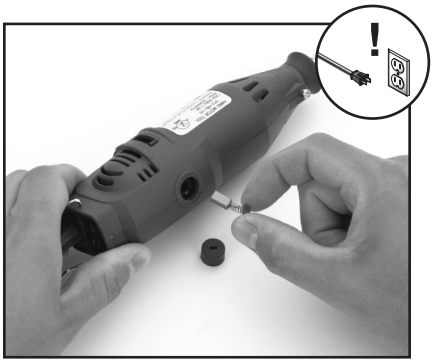


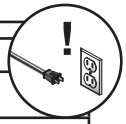
Figure 8. Replacing 1 of 2 carbon brushes.

2. Install new brushes.

3. Re-install brush cap. Run tool for 5 minutes to seat brushes before using it on a workpiece.

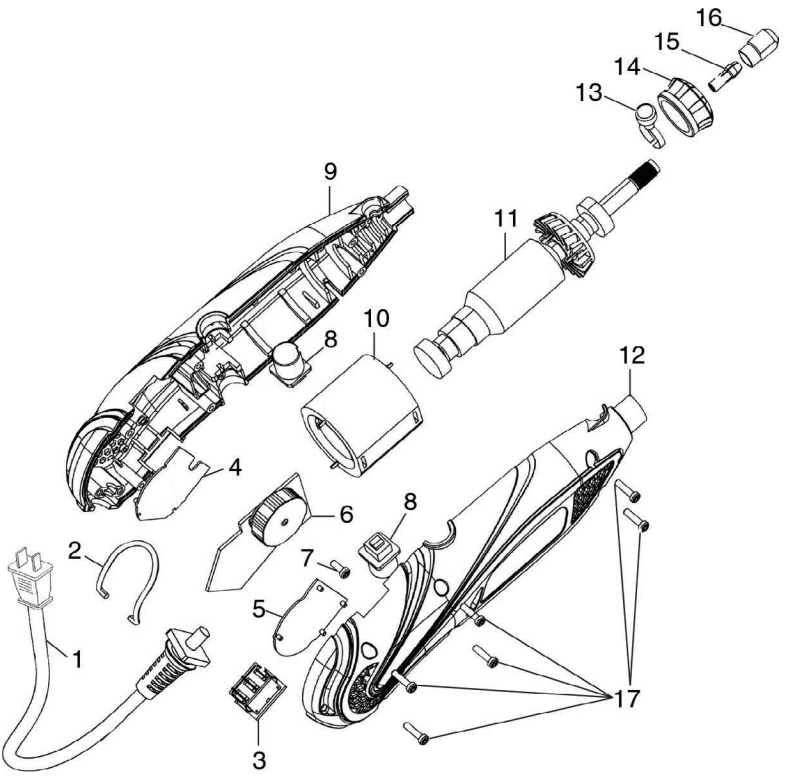
SECTION 7: SERVICE

Troubleshooting



Symptom	Possible Cause	Solution
Motor won't start.	1. Brushes dirty or worn. 2. Power supply inoperative. 3. Power cord defective.	1. Clean or replace burshes. 2. Check circuit breaker. 3. Replace power cord.
Bit slipping.	1. Collet not tight. 2. Collet damaged. 3. Bit damaged.	1. See **Installing Bits** on **Page 8**. 2. Replace collet. 3. Replace bit
Excessive vibration.	1. Bit not inserted correctly. 2. Brushes worn.	1. See **Installing Bits** on **Page 8**. 2. Replace brushes.
Motor overheats.	1. Dirty or blocked motor vents.	1. Blow out and wipe down motor vents.

Parts Breakdown



REF	PART #	DESCRIPTION
1	PT10828001	POWER CORD 18G 2W 71" 1-15P
2	PT10828002	TOOL HANGER
3	PT10828003	ON/OFF SWITCH, CANAL MR-2 125V
4	PT10828004	AIR DEFLECTOR (L)
5	PT10828005	AIR DEFLECTOR (R)
6	PT10828006	CIRCUIT BOARD
7	PT10828007	TAP SCREW M3 X 8
8	PT10828008	CARBON BRUSH (2-PC SET)
9	PT10828009	HOUSING (L)

REF	PART #	DESCRIPTION
10	PT10828010	STATOR
11	PT10828011	ROTOR
12	PT10828012	HOUSING (R)
13	PT10828013	SPINDLE LOCK BUTTON
14	PT10828014	LOCKING RING PLASTIC
15	PT10828015	COLLET
16	PT10828016	COLLET NUT
17	PT10828017	TAP SCREW M3 X 15

WARRANTY

Grizzly Industrial, Inc. warrants every product it sells for a period of **1 year** to the original purchaser from the date of purchase. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence, accidents, repairs or alterations or lack of maintenance. This is Grizzly's sole written warranty and any and all warranties that may be implied by law, including any merchantability or fitness, for any particular purpose, are hereby limited to the duration of this written warranty. We do not warrant or represent that the merchandise complies with the provisions of any law or acts unless the manufacturer so warrants. In no event shall Grizzly's liability under this warranty exceed the purchase price paid for the product and any legal actions brought against Grizzly shall be tried in the State of Washington, County of Whatcom.

We shall in no event be liable for death, injuries to persons or property or for incidental, contingent, special, or consequential damages arising from the use of our products.

To take advantage of this warranty, contact us by mail or phone and give us all the details. We will then issue you a "Return Number,'' which must be clearly posted on the outside as well as the inside of the carton. We will not accept any item back without this number. Proof of purchase must accompany the merchandise.