

Grizzly *Industrial, Inc.*®

MODEL T28062 HIGH-PRECISION MINI ROTARY TOOL OWNER'S MANUAL

(For models manufactured since 08/17)



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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.

Additional Warnings for Rotary Tools

WARNING

Serious injury or death can occur from fingers, clothing, jewelry, or hair getting entangled in spindle or other moving components. Abrasion injuries can occur from touching rotating bits, burrs, or cones with bare skin. Debris thrown by rotary tools can strike operator or bystanders with moderate force, causing impact injuries. Long-term respiratory damage can occur from using rotary tools without proper use of a respirator. To reduce the risk of these hazards, operator and bystanders **MUST** completely heed the hazards and warnings below.

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

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

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

SAFE HANDLING. **DO NOT** push spindle lock during startup or operation. **DO NOT** lay tool down until spindle comes to a complete stop.

ELECTROCUTION HAZARDS. **DO NOT** operate 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 spinning tool against the workpiece could cause workpiece or tool to shatter and send debris in all directions. Firmly grasp rotary tool and ease it into workpiece.

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

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

UNATTENDED TOOL. **DO NOT** leave tool unattended when connected to power. Always disconnect tool from power before leaving work area.

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 T28062 High-Precision Mini Rotary Tool! We've made every effort to be exact with the instructions, specifications, drawings, and photographs of the T28062 we used when writing this manual. However, sometimes we still make an occasional mistake.

Also, owing to our policy of continuous improvement, your T28062 may not exactly match the manual. If you find this to be the case, and the difference between the manual and T28062 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 tool will be reflected in these documents as soon as they are complete.

Contact Info

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

Grizzly Technical Support
1815 W. Battlefield
Springfield, MO 65807
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 Documentation Manager
P.O. Box 2069
Bellingham, WA 98227-2069
Email: manuals@grizzly.com

Specifications

AC Input (AC adapter).....	110V (60 Hz)
DC Output (AC adapter).....	6V (1.8A)
Power Output	20W
Speed	0–16,000 RPM
Rated Tool Volume.....	73–75 dB
Max. Continuous Run Time.....	10 Min.
Length.....	5½"
Diameter.....	1"
Weight w/o AC adapter	2.4 Oz.

SECTION 3: SETUP

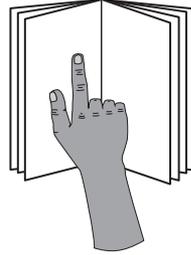
Unpacking

Your tool was carefully packaged for safe transportation. Remove the packaging materials from around your tool and inspect it. If you discover the tool 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.

WARNING



This tool presents serious injury hazards to untrained users. Read through this entire manual to become familiar with the controls and operations before starting the tool!

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.

Inventory

The following is a list of items shipped with your tool. Before beginning setup, lay these items out and inventory them.

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.

NOTICE

If you cannot find an item on this list, carefully check around/inside the tool and packaging materials. Often, these items get lost in packaging materials while unpacking or they are pre-installed at the factory.



Figure 2. Inventory.

Inventory (Figure 2)

A.	Mini Rotary Tool.....	1
B.	Collets 1/8", 3/32"	1 Ea.
C.	Screw Mandrels 3/32"	2
D.	Diamond Bits 3/32"	
	—2mm Round.....	1
	—3mm Flame	1
	—1mm Cylindrical.....	1
	—2mm Spear.....	1
E.	Steel Burrs 3/32":	
	—1.5mm Round.....	1
	—2mm Cylindrical.....	1
F.	Abrasive Cones:	
	—Medium.....	5
	—Coarse.....	5
G.	AC Adapter	1
H.	Case (not shown).....	1

Test Run

To test run tool:

1. Clear all setup tools away from machine.
2. Remove knurled collet nut and collet.
3. Connect tool to power supply.
4. Turn ON/OFF/Variable-Speed Control dial **ON** and adjust to low RPM. Verify motor operation.
5. Make sure tool runs smoothly and without unusual problems or noises.
6. Turn ON/OFF/Variable-Speed Control dial **OFF**.

SECTION 4: OPERATIONS

Rotary Tool Use

The Model T28062 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.

Variable-Speed Control Dial

The variable-speed control dial adjusts the rotary tool speed between zero and 16,000 rotations per minute (RPM).

High RPM Uses

High RPM's are best for general carving, cutting, routing, and grinding. The grinder removes material more quickly 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.

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.

CAUTION

To prevent injuries from tool slippage, always secure workpiece in a vice or other clamping device. Never hold the workpiece by hand during operation.

To use rotary tool:

1. Make sure ON/OFF/Variable-Speed Control dial is turned **OFF**.
2. Install a bit (see **Page 9**).
3. Insert AC adapter into a matching power supply receptacle.
4. Grasp tool firmly. Make sure your hands are clean and dry.
5. Turn ON/OFF/Variable-Speed Control dial **ON** and turn dial further to change RPM.

Note: Start operation with low speed and increase speed as needed.

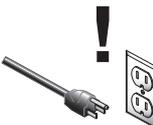
6. Ease tool against workpiece using light pressure.

Tips: Test bit and RPM combination on a scrap piece of material similar to workpiece. When using abrasive cones, use tip of cone. Otherwise abrasive material may unravel.

WARNING



**LUNG/EYE
INJURY HAZARD!
Wear a respirator
and safety glasses
when using this
tool.**



**ACCIDENTAL
START HAZARD!
Disconnect power
before servicing
or changing
accessories.**

Installing Collets & Bits

The Model T28062 uses bits, burrs, and mandrels with $\frac{3}{32}$ " and $\frac{1}{8}$ " diameter shafts. To use bits, burrs and mandrels with a $\frac{3}{32}$ " diameter shaft, the $\frac{3}{32}$ " collet must be installed. To use bits, burrs and mandrels with a $\frac{1}{8}$ " diameter shaft, the $\frac{1}{8}$ " collet must be installed. The Model T28062 comes with an assortment of $\frac{3}{32}$ " bits, burrs and mandrels. See the Grizzly catalog or website for a complete listing of available bits and accessories.

Installing a Collet

1. DISCONNECT TOOL FROM POWER!
2. Press and hold spindle lock button and turn knurled collet nut until spindle locks.
3. While holding down spindle lock button, loosen and remove knurled collet nut by turning counterclockwise.
4. Insert collet into spindle, as shown in **Figure 3**.

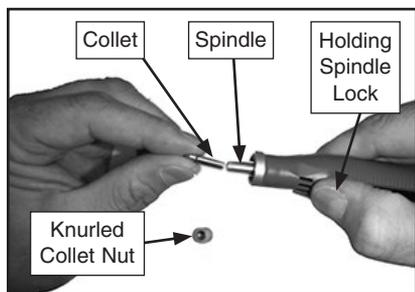


Figure 3. Inserting collet into spindle.

5. While holding down spindle lock button, replace and tighten knurled collet nut by turning clockwise. DO NOT over-tighten.

!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.

Installing a Bit, Burr, or Mandrel

1. DISCONNECT TOOL FROM POWER!
2. Press and hold spindle lock button and turn knurled collet nut until spindle locks.
3. While holding down spindle lock button, loosen knurled collet nut by turning counterclockwise.

Note: *DO NOT* completely remove knurled collet nut from shaft.

4. Insert bit, burr, or mandrel shank into collet, as seen in **Figure 4**.

Note: *At least $\frac{1}{2}$ " of shank should be mounted into end of collet.*

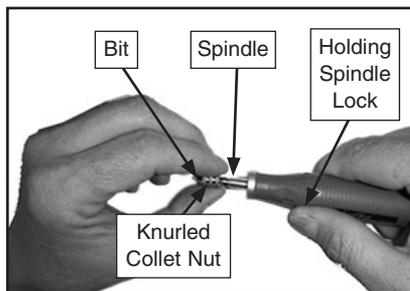
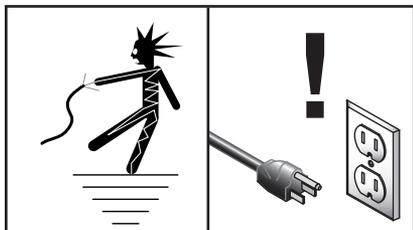


Figure 4. Inserting bit into collet.

5. While holding down spindle lock button, tighten knurled collet nut by turning clockwise. DO NOT over-tighten.

SECTION 5: MAINTENANCE



! WARNING

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

! WARNING

Never submerge tool in liquid or clean with flammable solvents. Electrocution or fire may result, causing serious injury or death.

Schedule

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

Daily Check

- Wipe motor housing and tool bits with dry cloth or blow off dust and debris with compressed air. Wear a respirator while doing this.
- Check for damage to bits, cord, or the housing.

Cleaning

Cleaning the Model T28062 is relatively easy and should be done daily to prevent build up of dust and resins.

Use an air hose or vacuum to remove excess wood chips and dust from the ventilation opening (see **Figure 5**).

Use a dry rag to wipe off the remaining dust and debris from the tool flange and any accessories used.

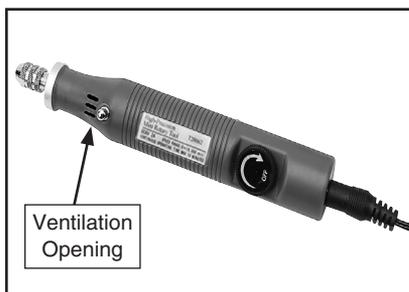
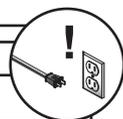


Figure 5. Ventilation opening location.

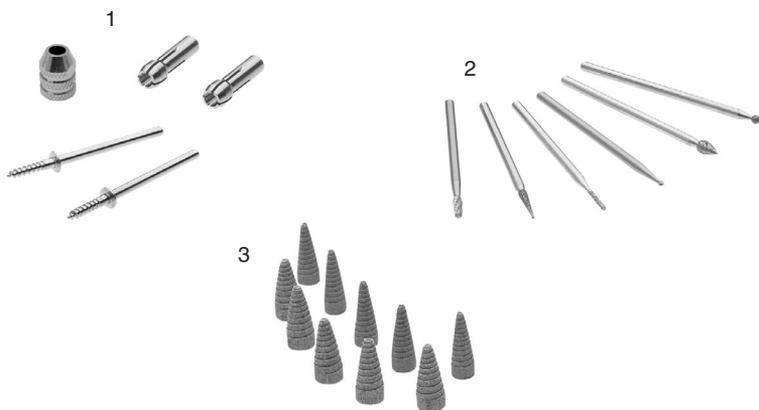
SECTION 6: SERVICE

Troubleshooting



Symptom	Possible Cause	Solution
Motor won't start.	<ol style="list-style-type: none">1. Power supply inoperative.2. AC adapter defective.	<ol style="list-style-type: none">1. Check circuit breaker.2. Replace AC adapter.
Bit slipping.	<ol style="list-style-type: none">1. Incorrect collet size.2. Collet not tight.3. Collet damaged.4. Bit damaged.	<ol style="list-style-type: none">1. Install correct sized collet for bit shaft (Page 9).2. Tighten collet (Page 9).3. Replace collet (Page 9).4. Replace bit (Page 9).
Excessive vibration.	<ol style="list-style-type: none">1. Bit not inserted correctly.2. Bit worn irregularly.3. Bit too large for rotary tool.	<ol style="list-style-type: none">1. Insert bit correctly (Page 9).2. Replace bit (Page 9).3. Install correct-sized bit for rotary tool. (Page 9).
Motor overheats.	<ol style="list-style-type: none">1. Dirty or blocked motor vents.2. Excessive workload.	<ol style="list-style-type: none">1. Blow out and wipe down motor vents (Page 10).2. Allow motor to cool; reduce workload.

REPLACEMENT PARTS



REF	PART #	DESCRIPTION
1	PT28062001	COLLET/MANDREL KIT
2	PT28062002	BIT/BURR KIT

REF	PART #	DESCRIPTION
3	PT28062003	ABRASIVE CONE KIT

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.

The manufacturers reserve the right to change specifications at any time because they constantly strive to achieve better quality equipment. We make every effort to ensure that our products meet high quality and durability standards and we hope you never need to use this warranty.

Please feel free to write or call us if you have any questions about the machine or the manual.

Thank you again for your business and continued support. We hope to serve you again soon.

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