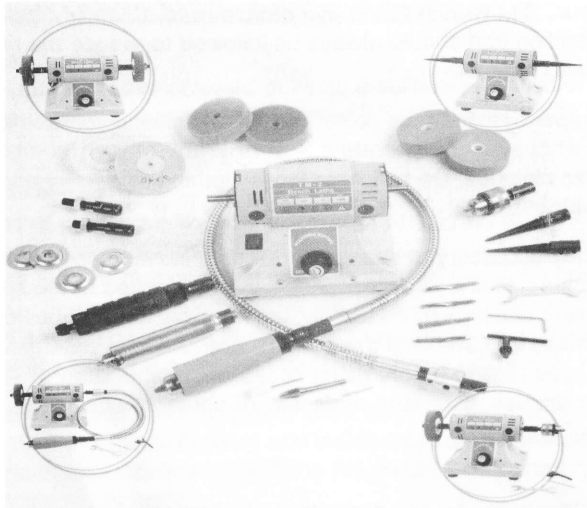


Owner's Manual



For Bench Grinder TM-2
(8mm Diameter Shaft)

Mini Bench Grinder Multi-function

For Your Own Safety—

Read Owner's Manual before operating
Always wear eye protection while using
the Bench Grinder or other power tools.

You have purchased a fine quality power tool which will perform a wide variety of tasks difficult to do with any other kind of power tool. TM Power Tools are manufactured to high standards of precision and performance and, with proper use and maintenance, will give you years of trouble-free performance.

Safety Instructions

Before using your TM Bench Grinder, **please read all safety instructions.** They are for your protection and should always be followed to reduce the risk of personal injury or damage to the tool.

Always wear proper eye and face protection. Safety glasses or face shields should be worn whenever you operate a TM any power tool to prevent serious eye or face injuries. **Do not** wear loose clothing or jewelry and be sure to **tie back long hair.**

Never operate any accessory at speeds above its maximum speed rating. When properly used, all of TM's accessories can be operated at the speeds listed in TM accessory catalogs or on the packaging. Only accessories rated for 8,500 RPM or more should be used with the Bench Grinder. **Always** determine the manufacturer's speed rating before using accessories other than TM's. (Safety requirements for the use, care, and protection of abrasive wheels are contained in ANSI Standards B7.1-1978

Never use or continue to use any accessory which appears to be damaged, loose, vibrating, or out of balance. Inspect each accessory for cracks or flaws before using it.

Always insert the shank or arbor of an accessory or mandrel into the collet (or collet holder chuck or chuck arbor) as far as possible in order to provide proper support. Tighten the collet or chuck securely.

Never use excessive side pressures which may tend to bend or break the shank or arbor or an accessory. Let the speed of the accessory do the work.

Do not stall the motor by jamming or using excessive pressure on the polishing wheel, buff, wheel, or accessory. This can result in damage to the motor.

Never operate your power tool during a perceptible power decrease. Turn power tool off and do not use until power is fully restored.

Use proper grounding procedures. This tool should be grounded while in use to protect the operator from electric shock. The tool is equipped with an approved 3-conductor cord and a 3-prong grounding type plug to fit the proper grounding receptacle.

Assembly Instructions

Based on your requirement Each Bench Grinder Can have the following standard attachments:TM-51B Tapered Spiral Spindle right /left hand TM-51C Drill chuck 1-6.5mm , TM-51D wheel mandrel 10mm . These are precision made spindles and collet holders suitable for speeds up to 8,500 RPM.Similar spindles and mandrels supplied for slower speed polishing motors often do not run as true which can cause vibration and be a potential hazard.**Their use is not recommended with this bench grinder.**

Mounting Base:

The base should be bolted or screwed down to a solid work bench or table to prevent movement while pressure is applied to a buff or wheel on the grinder.There are two mounting holes in the base for this purpose.

Attaching Accessories:

The TM51B(R) tapered spindle and TM-51C collet holder are **right hand side** accessories intended for use on the right hand side of the grinder as you are facing it. **Do not use them on the left side** as buff or wheel will tend to unscrew under load. The TM-51B(L) tapered spindle is intended **for use on the left side only.** Optional TM-51D wheel mandrels are available for use on the left and right side of the grinder.(Each mandrel and spindle is marked with an R or L to indicate left or right hand.)

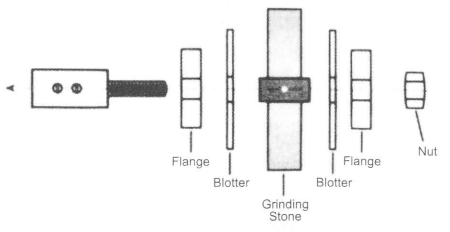
Attach the spindles or mandrels by sliding them onto the motor shaft until there is a 1/8" space between the motor housing and inside edge of the spindle or mandrel. Be sure that the two set screws line up with the flat on the motor shaft.

Tighten both screws securely.

Plug in the motor and run the lathe at slow speed without a buff (or wheel) to see that the spindles (or mandrel) on the grinder are running true.

Never use a buff, brush, abrasive wheel, or any other accessory that is not rated for at least 8,500 RPM and never use one that appears to wobble or vibrate. It could damage the grinder and cause injury to you. **Bufs over 4" in diameter should not be used on the Bench Grinder.**Never use a grinding wheel over 2" diameter. Please refer to Figure 2 for the proper mounting procedure for wheels or brushes on the TM-51D mandrel.

Figure 2
TM-51D
 Assemble all components in proper sequence.



Operation

Because of the higher maximum speed (approximately 8500 RPM to 10000 RPM) and variable speed control, the Tm Bench Grinder has several advantages over conventional single or two speed polishing and buffing lathes:

1. The same size buffing wheel can be used to obtain different surface speeds, as measured in surface feet per minute (SFPM). A 3" or 4" diameter buff can provide the 1,750 to 3,450 SFPM recommended for polishing and the 3,450 and higher SFPM recommended for buffing. The chart below shows the SFPM obtained with different diameter wheels at full, medium, and low speeds.
2. The SFPM can be varied while using the same wheel. This will give better results on different types of material.
3. The 8500 RPM maximum speed will enable you to get much higher SFPM with smaller buffs such as 1" or 2" buffs or inside ring buffs than slower single or double speed equipment.
4. The maximum speed of 8500 RPM is also fast enough to permit the use of small mounted abrasive points, brushes, cutters or other accessories in the two collet holders TM-51C, and Tm-42 Flexible Shaft which are available as optional accessories.

For additional information on buffing and polishing procedure, wheel selection, and TM buffing and polishing compounds, please refer to Form No. 1234.

SPEED	SFPM
1" Dia. Wheel	
Full 7,000 RPM	1,750
Med 4,000 RPM	1,000
2" Dia. Wheel	
Full 7,000 RPM	3,500
Med 4,000 RPM	2,000

SPEED	SFPM
3" Dia. Wheel	
Full 7,000 RPM	5,250
Med 4,000 RPM	3,000
4" Dia. Wheel	
Full 7,000 RPM	7,000
Med 4,000 RPM	4,000

6" Dia. Wheel @ 1,725 RPM = 2,600 SFPM 6" Dia. Wheel @ 3,450 RPM = 5,200 SFPM

Cotton, chamois or felt buffs over 4" in diameter should not be used with the mini Bench Grinder.

Guideline for Buffing and Polishing

Type of Material	Iron, Steel Hard Metals		Brass, Copper Soft Metals		Gold, Silver Plated, Solid		Brass Plate Copper Plate		Plastic	
	cut	color	cut	color	cut	color	cut	color	cut	color
Compound	Emery (#4001)	White Rouge (#4003)	Tripoli (#4002)	White Rouge (#4003)	Do Not Cut	Red Rouge (#4004)	Do Not Cut	Tripoli (#4002)	Tripoli (#4002)	White Rouge (#4003)
SFPM	To figure Surface Feet Per Minute: $1/4" \text{ diameter (in inches) of wheel} \times \text{spindle speed in RPM} = \text{SFPM}$ Generally, speed of 1750 to 3450 is recommended for polishing. Buffing requires a higher speed of approximately 3450 to 7000 SFPM.									



1. TM-51B tapered spiral spindle
2. TM-51C Drill Chuck 1-6.5mm
3. TM-51D Wheel Mandrel
4. Flexible Shaft with hand piece

Maintenance

Lubrication: The TM Bench Grinder has pre-lubricated ball bearings and a dust-proof motor housing and does not require any lubrication. The motor is designed to operate at about 40-50° F above room temperature which will be warm to the touch but will not harm the motor.

Brush Wear: Disconnect power cord before checking for brush wear. Check for brush wear periodically (about every 100 hours of continuous operation). The brush tubes are located under the two protective caps on the right hand side of the motor (as you face it). Remove them with a standard screw driver blade, unscrew the brush tube caps, check the brush length, and install new brushes if the old ones are less than 1/4" in overall length. Be sure that the radius in the end of the brush is in line and conforms to the commutator surface. Replacement brushes are available for your dealer or the factory.

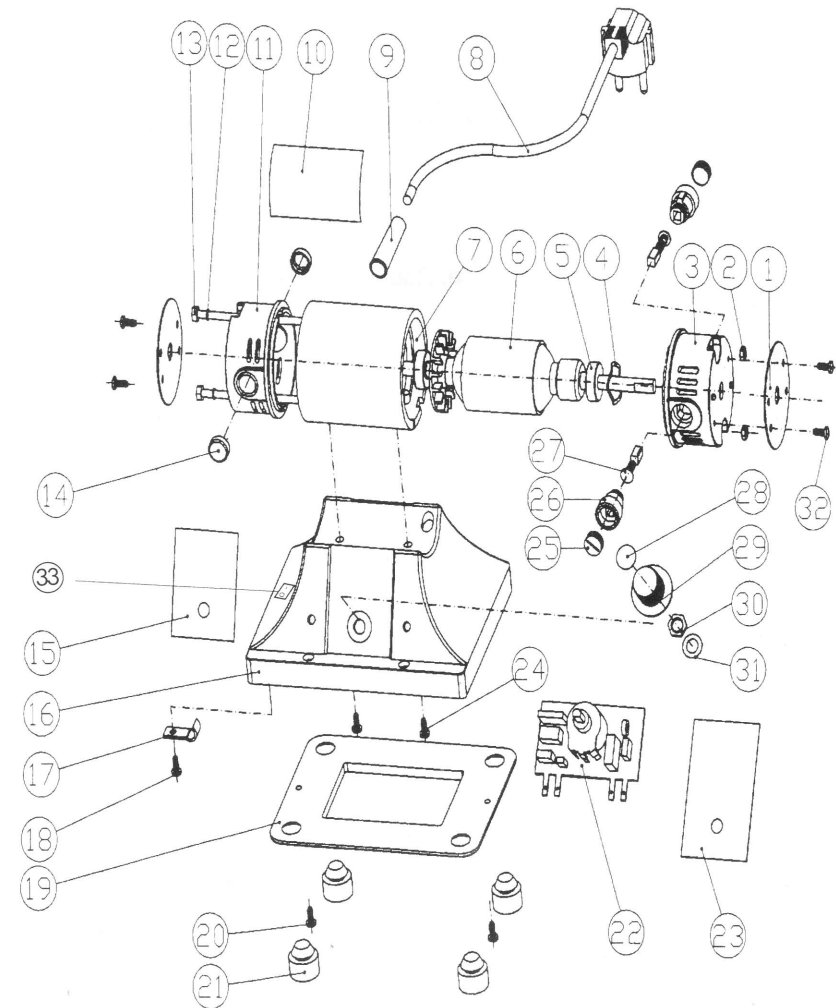
Repair Service

Factory repairs are done promptly and at reasonable cost. If you wish, you can send your equipment directly to the factory

LIMITED WARRANTY

The TM Grinding Tool warrants the Bench Grinder to be free of defects in material or workmanship for a period of 1 year after purchase. During the warranty period, the defective product will be repaired or replaced without charge or, at our option, the purchase price will be refunded. This warranty does not cover damage caused in transit or by accident, misuse, or ordinary wear.

ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO WARRANTIES OF FITNESS AND MERCHANTABILITY, ARE HEREBY LIMITED IN DURATION TO A PERIOD ENDING ONE YEAR FROM DATE OF PURCHASE, AND WE WILL NOT BE LIABLE OR RESPONSIBLE FOR ANY SPECIAL OR CONSEQUENTIAL DAMAGES.



No	Name
1	baffle
2	Locknut M5
3	Bearing housing 1
4	Wave washer
5	bearing (608)
6	rotor
7	Stator subassembly
8	Power Cord
9	Power Cord Sheath
10	Brand 1
11	Bearing housing 2
12	Split washer $\Phi 5$
13	Screws(M5X135)
14	circle ornament
15	Brand 2
16	bottom
17	Wire Strain Plate
18	Screws (ST4 \times 6)
19	cover board
20	Screws (ST4 \times 8)
21	Rubber feet
22	Circuit Board
23	insulation paper
24	Screws (ST5 \times 10)
25	Brush Fixer
26	Brush Carrier
27	Carbon Brush
28	Brand 3
29	Speed control
30	Hex Jam Nut
31	Flat washer $\phi 10$
32	Screws (ST4 \times 8)
33	Power Switch