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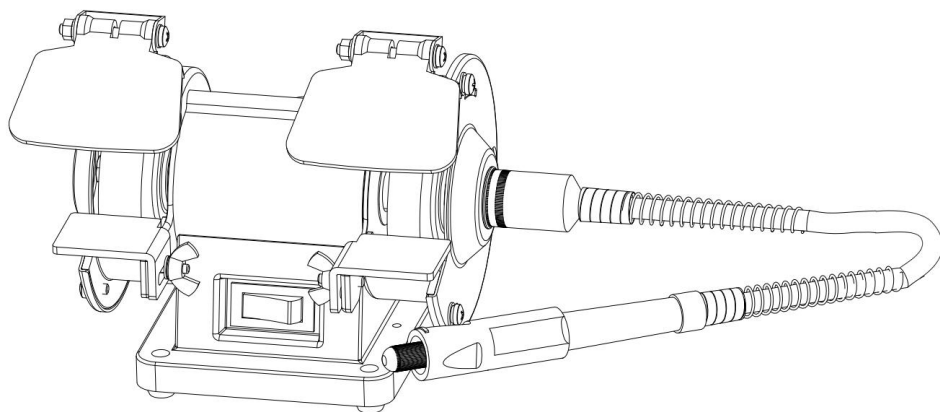
BENCH BUFFER POLISHER USER MANUAL

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VEVOR[®]

BENCH BUFFER POLISHER

MODEL:TDS-75B



NEED HELP? CONTACT US!

Have product questions? Need technical support? Please feel free to contact us:

✉ CustomerService@vevor.com

This is the original instruction, please read all manual instructions carefully before operating. VEVOR reserves a clear interpretation of our user manual. The appearance of the product shall be subject to the product you received. Please forgive us that we won't inform you again if there are any technology or software updates on our product.

WARNING!

Read all safety warnings, instructions, illustrations and specifications provided with this Bench grinder. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference.

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.

Controls & Components

Refer to **Figure 1** and the following descriptions to become familiar with the basic controls of this machine.

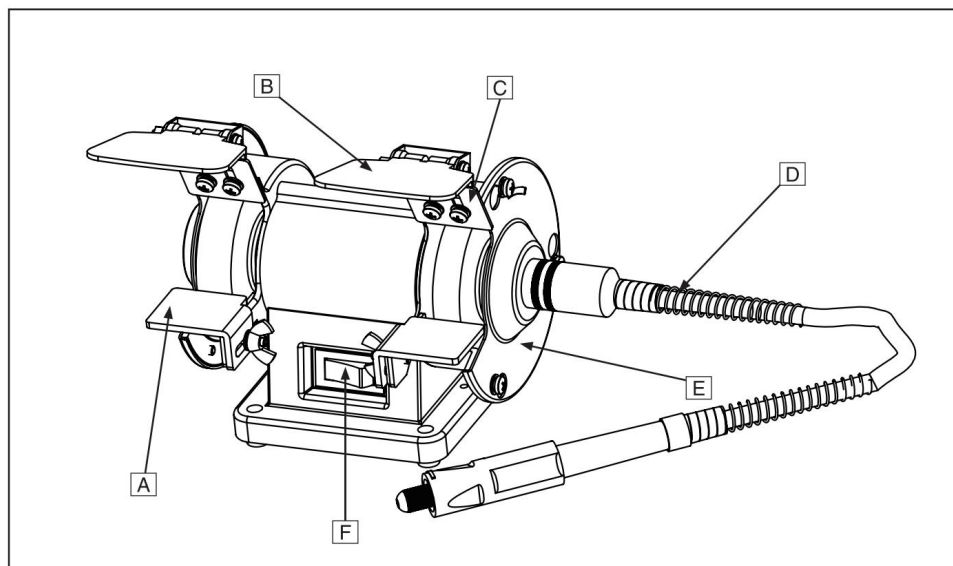


Figure 1. Controls and components.

- A. Tool Rest:** Provides flat surface to rest workpiece during operations.
- B. Safety Shield:** Acts as a protective barrier against sparks during grinding operations. This shield is not a substitute for personal protective equipment.

- C. Spark Deflector:** Reduces amount of sparks spraying back toward the operator.
- D. Rotating Shaft:** Attaches to the right side of the grinder to provide rotary tool functionality.
- E. Wheel Guard:** Prevents accidental contact with grinding wheel, and contains sparks during grinding.
- F. ON/OFF Switch:** Turns motor **ON** when flipped to right; Turns motor **OFF** when flipped to left.



3” MINI GRINDER/BUFFER WITH ROTATING SHAFT

Shipping Dimensions:

Weight..... 6 lbs.
 Length x Width xHeight..... 10 x 8 x 7 in.

Main specifications:

Power Requirement..... 120V, Single-Phase, 60 Hz
 Full-Load Current
 Rating..... 0.4A
 Minimum Circuit
 Size..... 15A
 Connection Type..... Cord & Plug
 Horsepower..... 1/14 HP
 Phase..... Single-Phase
 Speed..... 3600 RPM
 Right Wheel Type..... Aluminum Oxide
 Left Wheel Type..... Wool
 Wheel Bore..... 1/2 in.

SECTION 1: SAFETY

For Your Own Safety, Read Instruction Manual Before Operating This Machine

The purpose of safety symbols is to attract your attention to possible hazardous conditions. This manual uses a series of symbols and signal words 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. Always use common sense and good judgment.



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



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



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.



This symbol is used to alert the user to useful information about proper operation of the machine.

Safety Instructions for Machinery



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 machine. When machine is not being used, disconnect power, remove switch keys, or lock-out machine to prevent unauthorized use—especially around children. Make workshop kid proof!

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

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

ELECTRICAL EQUIPMENT INJURY RISKS. You can be shocked, burned, or killed by touching live electrical components or improperly grounded machinery. To reduce this risk, only allow qualified service personnel to do electrical installation or repair work, and always disconnect power before accessing or exposing electrical equipment.

DISCONNECT POWER FIRST. Always disconnect machine 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

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 reduce risk of slipping and losing control or accidentally contacting cutting tool or moving parts.

HAZARDOUS DUST. Dust created by machinery operations 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 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. Tools left on machinery can become dangerous projectiles upon startup. Never leave chuck keys, wrenches, or any other tools on machine. Always verify removal before starting!

USE CORRECT TOOL FOR THE JOB. Only use this tool for its intended purpose—do not force it or an attachment to do a job for which it was not designed. Never make unapproved modifications—modifying tool or using it differently than intended may result in malfunction or mechanical failure that can lead to personal injury or death!

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

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

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

FORCING MACHINERY. Do not force machine. It will do the job safer and better at the rate for which it was designed.

NEVER STAND ON MACHINE. Serious injury may occur if machine is tipped or if the cutting tool is unintentionally contacted.

STABLE MACHINE. Unexpected movement during operation greatly increases risk of injury or loss of control. Before starting, verify machine is stable and mobile base (if used) is locked.

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

UNATTENDED OPERATION. To reduce the risk of accidental injury, turn machine **OFF** and ensure all moving parts completely stop before walking away. Never leave machine running while unattended.

MAINTAIN WITH CARE. Follow all maintenance instructions and lubrication schedules to keep machine in good working condition. A machine that is improperly maintained could malfunction, leading to serious personal injury or death.

DAMAGED PARTS. Regularly inspect machine for damaged, loose, or mis-adjusted parts—or any condition that could affect safe operation. Immediately repair/replace **BEFORE** operating machine. For your own safety, **DO NOT** operate machine with damaged parts!

MAINTAIN POWER CORDS. When disconnecting cord-connected machines from power, grab and pull the plug—**NOT** the cord. Pulling the cord may damage the 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, and wet/damp locations.

EXPERIENCING DIFFICULTIES. If at any time you experience difficulties performing the intended operation, stop using the machine!

Additional Safety for Grinders

WARNING

Serious injury or death can occur from impact injuries. Rotating grinding wheels can easily remove skin, or entanglement/amputation injuries can occur from being caught in moving parts or in-running pinch points. Flying sparks can ignite explosive or flammable materials. To minimize risk of getting hurt or killed, anyone operating machine **MUST** completely heed hazards and warnings below.

SAFE MOUNTING & WORK AREA. An unsecured grinder may become dangerously out of control during operation. Before use, verify grinder is **FIRMLY** secured in a location free of explosive or flammable materials.

STARTING GRINDER. If a wheel is damaged, it will usually fly apart shortly after start-up. To protect yourself, always stand to side of grinder when turning it **ON** and allow it to run for at least one minute before standing in front of it.

VISUAL INSPECTION. Verify that grinding wheels are free of cracks, chips, or dents in wheel surface before installing. Do not use wheel if it has any of these problems or it could break apart during operation.

RING TEST. Perform a “ring test” on grinding wheels before installation to ensure they are safe to use. A wheel that does NOT pass ring test may break or fly apart during operation.

WHEEL SPEED RATING. Wheels operated at a faster speed than rated for may break apart during operation. Before mounting a new wheel, be sure wheel RPM rating is equal or higher than speed of grinder. Never use unmarked wheels.

VIBRATING WHEEL. Never use a wheel that vibrates. Replace wheel or shaft bearings immediately.

SPARK DEFLECTOR GAP. Keep gap between end of spark deflector and grinding wheel between 1/8” and 1/4”. If the gap is larger, excessive sparks and abrasives can be expelled toward the operator.

SPINDLE NUT. Only tighten wheel spindle nut enough to drive wheel and prevent slippage.

EYE SHIELDS. Place eye shields close to grinding wheel and re-adjust as wheel wears down.

TOOL REST POSITION. If tool rest is too far away from wheel, workpiece may be pulled down, causing loss of control and pulling your hand into grinding wheel. Keep tool rest within 1/8” from wheel when operating. Replace grinding wheel when tool rest gap is wider than 1/8” and no additional adjustment can be made.

HAND & WHEEL CONTACT. Keep a firm grip on workpiece and position your hands a safe distance away when grinding. Anticipate when work piece will heat up, and cool it before it becomes too hot to hold, or use an appropriate clamp. Avoid wearing gloves as they may get caught in grinding wheel and cause even more serious entanglement injuries.

WHEEL FLANGES. Only use flanges included with grinder when mounting wheels. Other flanges may not properly secure wheel and cause an accident. Do not use warped or damaged flanges, and always use paper discs (blotters)

between wheels and flanges to reduce risk of flanges cracking wheel when tightened.

EYE, FACE, & LUNG PROTECTION. Grinding ejects small particles at a high rate of speed. These particles can cause blindness, skin injuries or respiratory damage. ALWAYS wear approved clothing, safety goggles, face shield, and a respirator for type of grinding to be done.

SIDE & TOP GRINDING. Grinding on side of wheels can cause them to crack and burst— unless wheel is rated for side grinding. Grinding on top of wheels greatly increases risk of workpiece kickback. Always grind on downward part of wheel.

Additional Safety for Buffers

WARNING

EYE/FACE PROTECTION. Always wear eye protection or a face shield when operating the buffer.

LUNG PROTECTION. Always wear a respirator when using this machine. Workpiece and buffing compound dust may cause allergies or long-term respiratory health problems.

MOUNTING TO BENCH/STAND. An unsecured buffer may become dangerously out of control during operation. Make sure buffer is FIRMLY secured to a bench/stand before use.

CORRECT ACCESSORIES AND USE. The buffer is only designed for buffing and polishing. Never exceed the maximum speed listed on each buffing/polishing wheel.

WORKPIECE CONTROL. If you cannot hold small workpieces securely, do not buff them with this machine. Secure them with clamps or similar jigs or use a different buffer.

OPERATOR POSITION. Do not stand directly in front of the buffer wheel when turning the machine **ON**, or when buffing. Do not buff material at the rear of the machine.

WORKPIECE SELECTION. Always inspect the condition of your workpiece. DO NOT buff pieces with loose knots, large splinters, sharp edges, and DO NOT buff

knives, cable, chain or other potentially dangerous objects that may be grabbed by the buffing wheel and thrown at the operator.

WORKPIECE FEED. Allow the wheel to reach full speed, then slowly ease the workpiece into the buffing wheel, holding it in front of and slightly below the wheel center. Do not place the workpiece on the top or sides of the buffing wheel and do not place an edge or corner of the workpiece against the buffing wheel, or jam it against the wheel. The workpiece may eject toward the operator or be torn from the operator's hands, causing serious personal injury.

HAND/WHEEL CONTACT. Do not allow your hands to come into contact with the buffing wheel. Abrasive accessories can remove skin fast. Keep a firm grip on the workpiece and position your hands at a safe distance away when buffing. Avoid wearing gloves as they may get caught in the buffing wheel and cause entanglement injuries.

ADJUSTMENTS/MAINTENANCE. Make sure your buffer is turned **OFF**, disconnected from its power source, and all moving parts have come to a complete stop before starting any inspection, adjustment, or maintenance procedure.

AVOIDING ENTANGLEMENT. Keep long hair and loose clothing articles such as sleeves, belts, and jewelry items away from the buffer.

WARNING

Like all machinery there is potential danger when operating this bench grinder. Accidents are frequently caused by lack of familiarity or failure to pay attention. Use this bench grinder with respect and caution to lessen the possibility of operator injury. If normal safety precautions are overlooked or ignored, serious personal injury may occur.

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: POWER SUPPLY

Availability

Before installing the machine, consider the availability and proximity of the required power supply circuit. If an existing circuit does not meet the requirements for this machine, a new circuit must be installed. To minimize the risk of electrocution, fire, or equipment damage, installation work and electrical wiring must be done by an electrician or qualified service personnel in accordance with all applicable codes and standards.



! WARNING

Electrocution, fire, or equipment damage may occur if machine is not correctly grounded and connected to the power supply.

Full-Load Current Rating

The full-load current rating is the amperage a machine draws at 100% of the rated output power. On machines with multiple motors, this is the amperage drawn by the largest motor or sum of all motors and electrical devices that might operate at one time during normal operations.

Full-Load Current Rating at 120V 0.4 Amps

The full-load current is not the maximum amount of amps that the machine will draw. If the machine is overloaded, it will draw additional amps beyond the full-load rating.

If the machine is overloaded for a sufficient length of time, damage, overheating, or fire may result— especially if connected to an undersized circuit. To reduce the risk of these hazards, avoid overloading the machine during operation and make

sure it is connected to a power supply circuit that meets the specified circuit requirements.

WARNING

Serious injury could occur if you connect machine to power before completing setup process. **DO NOT** connect to power until instructed later in this manual.

120V Circuit Requirements

This machine is prewired to operate on a power supply circuit that has a verified ground and meets the following requirements:

- Nominal Voltage120V
- Cycle.....60 Hz
- Phase..... Single-Phase
- Power Supply Circuit 15 Amps

A power supply circuit includes all electrical equipment between the breaker box or fuse panel in the building and the machine. The power supply circuit used for this machine must be sized to safely handle the full-load current drawn from the machine for an extended period of time. (If this machine is connected to a circuit protected by fuses, use a time delay fuse marked D.)

CAUTION

For your own safety and protection of property, consult an electrician if you are unsure about wiring practices or electrical codes in your area.

Note: *Circuit requirements in this manual apply to a dedicated circuit—where only one machine will be running on the circuit at a time. If machine will be connected to a shared circuit where multiple machines may be running at the same time, consult an electrician or qualified service personnel to ensure circuit is properly sized for safe operation.*

Grounding & Plug Requirements

This machine **MUST** be grounded. In the event of certain malfunctions or breakdowns, grounding reduces the risk of electric shock by providing a path of least resistance for electric current. This machine is equipped with a power cord that has an equipment-grounding wire and a grounding plug. Only insert plug into a matching receptacle (outlet) that is properly installed and grounded in accordance with all local codes and ordinances. **DO NOT** modify the provided plug!

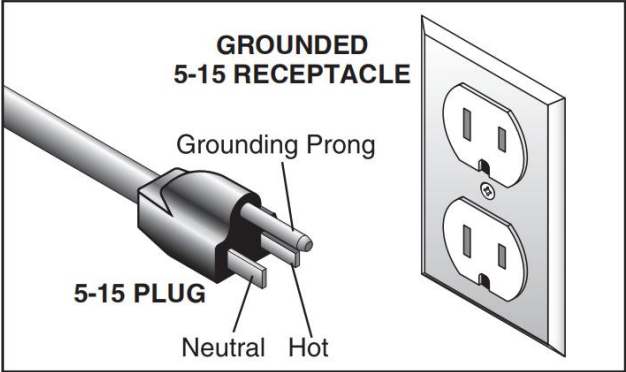
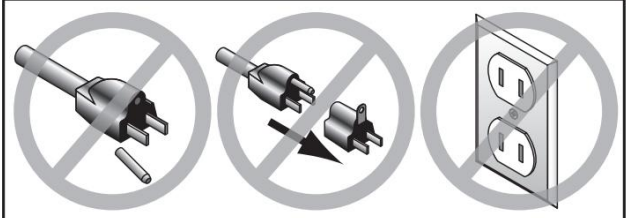


Figure 2. Typical 5-15 plug and receptacle.

**CAUTION**



SHOCK HAZARD!

Two-prong outlets do not meet the grounding requirements for this machine. Do not modify or use an adapter on the plug provided—if it will not fit the outlet, have a qualified electrician install the proper outlet with a verified ground.

Improper connection of the equipment-grounding wire can result in a risk of electric shock. The wire with green insulation (with or without yellow stripes) is the equipment-grounding wire. If repair or replacement of the power cord or plug is necessary, do not connect the equipment-grounding wire to a live (current carrying) terminal.

Check with a qualified electrician or service personnel if you do not understand these grounding requirements, or if you are in doubt about whether the tool is properly grounded. If you ever notice that a cord or plug is damaged or worn, disconnect it from power, and immediately replace it with a new one.

Extension Cords

We do not recommend using an extension cord with this machine. If you must use an extension cord, only use it if absolutely necessary and only on a temporary basis.

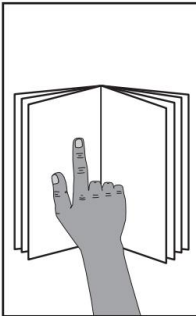
Extension cords cause voltage drop, which can damage electrical components and shorten motor life. Voltage drop increases as the extension cord size gets longer and the gauge size gets smaller (higher gauge numbers indicate smaller sizes).

Any extension cord used with this machine must be in good condition and contain a ground wire and matching plug/receptacle. Additionally, it must meet the following size requirements:

Minimum Gauge Size16 AWG

Maximum Length (Shorter is Better).....50 ft.

SECTION 3: SETUP

An illustration of a hand with the index finger pointing towards a stack of three manuals or booklets.

⚠WARNING

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



Needed for Setup

The following are needed to complete the setup process: (Not included in box)

Description	Qty
• Safety Glasses	1
• Solvent/Cleaner.....	1
• Shop Rags.....	1
• Phillips Screw Driver #2	1

Unpacking

This machine was carefully packaged for safe transport. When unpacking, separate all enclosed items from packaging materials and inspect them for shipping damage.

IMPORTANT: Save all packaging materials until you are completely satisfied with the machine and have resolved any issues. *You MUST have the original packaging to file a freight claim. It is also extremely helpful if you need to return your machine later.*



Inventory

The following is a list of items shipped with your machine. 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 machine and packaging materials. Often, these items get lost in packaging materials while unpacking or they are pre-installed at the factory.

Box 1 (Figures 3–5)	Qty
A. Grinder	1
B. Rotating Shaft.....	1
O. Fiber wheel.....	1
P. Kit box	1

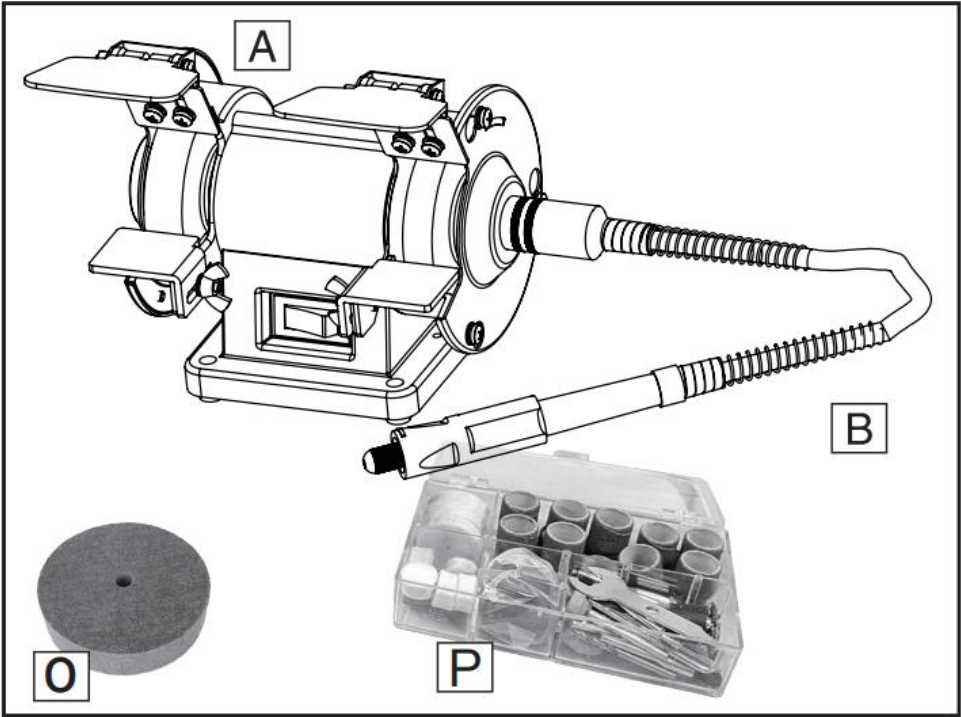


Figure 3.

C. Spark Deflector.....	2
D. Tool Rest (Left)	1
E. Tool Rest (Right)	1
F. Safety Shield	2



Figure 4. Tool rest and safety shield parts.

G. Collet Wrench.....	1
H. Open-End Wrench 10mm x 7mm.....	1
I. Pin Wrench.....	1
J. Phillips Head Screws M4-.7 x 8.....	4
K. Flat Washers 4mm	4
L. Phillips Head Screw M4-.7 x 40.....	2
M. Flange Nut M4-.7.....	2
N. Wing Bolts M4-.7 x 10.....	2

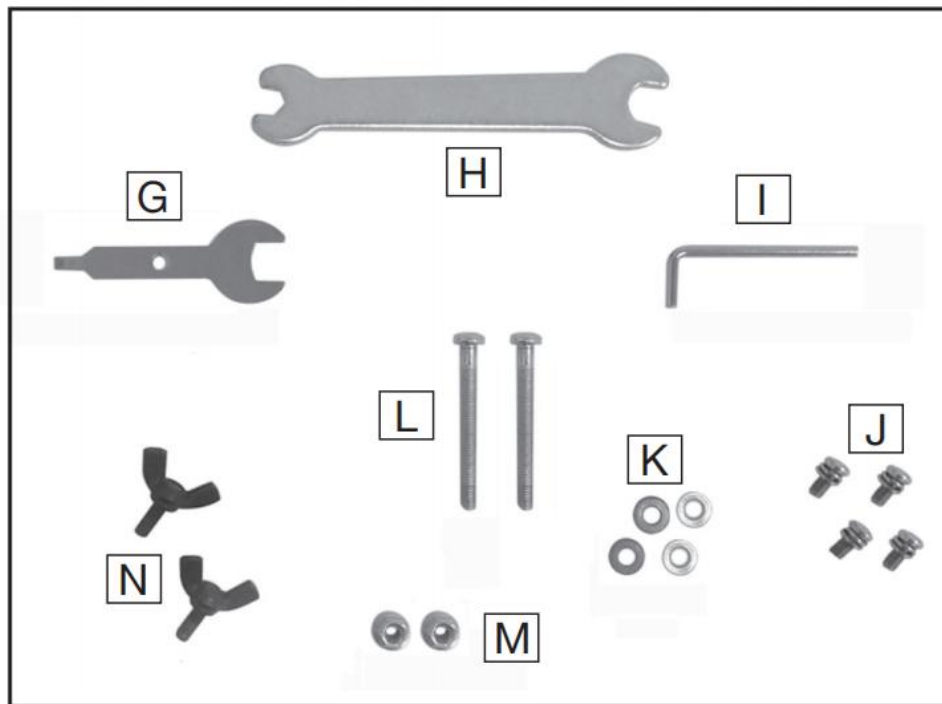


Figure 5. Tool and fastener inventory.

Site Considerations

Workbench Load

Refer to the **Machine Data Sheet** for the weight and footprint specifications of your machine. Some workbenches may require additional reinforcement to support the weight of the machine and workpiece materials.

Placement Location

Consider anticipated workpiece sizes and additional space needed for auxiliary stands, work tables, or other machinery when establishing a location for this machine in the shop. Below is the minimum amount of space needed for the machine.

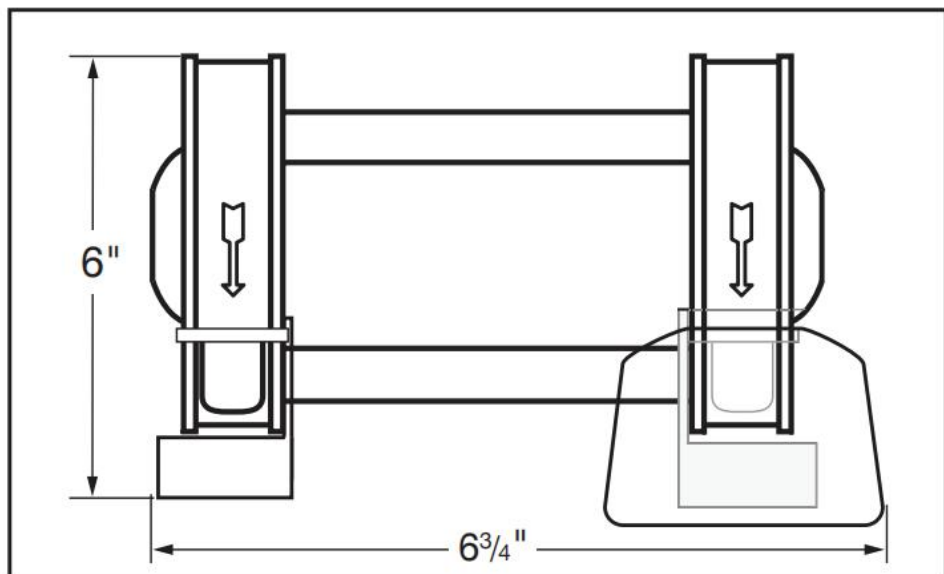
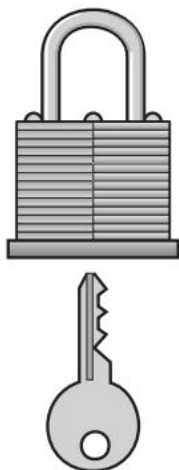


Figure 6. Minimum working clearances.



⚠ CAUTION

Children and visitors may be seriously injured if unsupervised around this machine. Lock entrances to the shop or disable start switch or power connection to prevent unsupervised use.

Bench Mounting

Number of Mounting Holes 4

Diameter of Mounting Hardware..... 3 /16"

The base of this machine has mounting holes that allow it to be fastened to a workbench or other mounting surface to prevent it from moving during operation and causing accidental injury or damage.

The strongest mounting option is a "Through Mount" (see example below) where holes are drilled all the way through the workbench—and hex bolts, washers, and hex nuts are used to secure the machine in place.

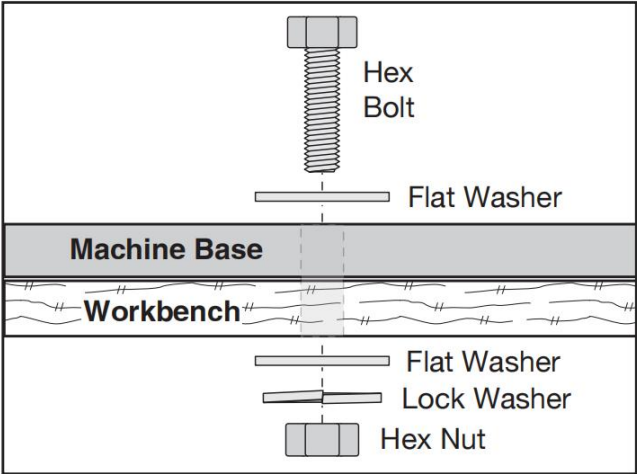


Figure 7. "Through Mount" setup.

Another option is a "Direct Mount" (see example below) where the machine is secured directly to the workbench with lag screws and washers.

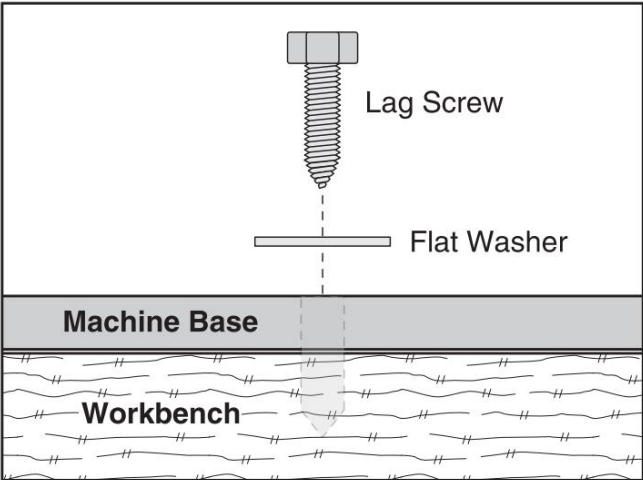


Figure 8. "Direct Mount" setup.

Assembly

To assemble grinder:

1. Attach safety shield to spark deflector using (1) M4-.7 x 40 Phillips head screw, (1) 4mm flat washer, (1) M4-.7 flange nut, as shown in **Figure 9**.
2. Attach safety shield assembly to right side of grinder using (2) M4-.7 x 8 Phillips head screws with captive flat and lock washers, as shown in **Figure 9**.

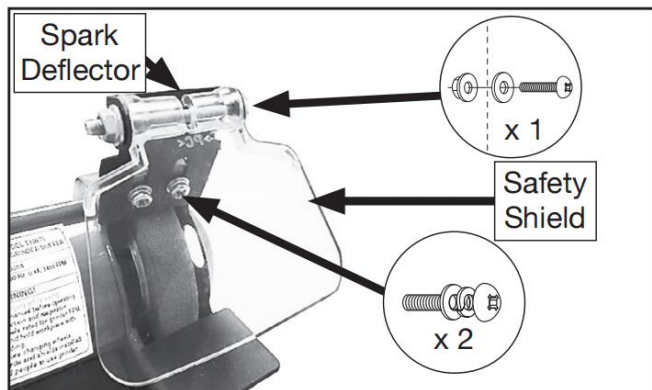


Figure 9. Safety shield assembly attached to grinder.

3. Attach each tool rest to grinder using (2) 4mm flat washers and (2) M4-.7 x 10 wing bolts, as shown in **Figure 10**.

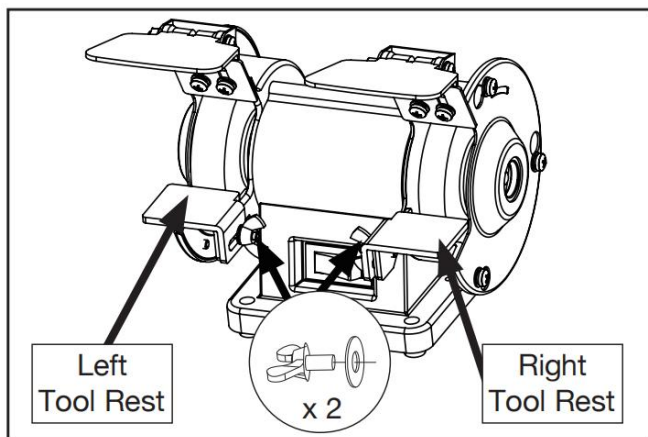


Figure 10. Tool rests attached to grinder.

Tool Rest Adjustment

The tool rest stabilizes the workpiece when grinding. It must always be positioned correctly when using the grinder to avoid the workpiece or the operator's hands being pulled into grinding wheel.

As the grinding wheel wears, loosen the wing bolt and adjust the tool rest closer to the grinding wheel to maintain a gap of $1/16"$ – $1/8"$ (see **Figure 11**), then retighten the wing bolt. If the gap reaches $1/8"$ and no additional adjustments can be made, replace the grinding wheel.

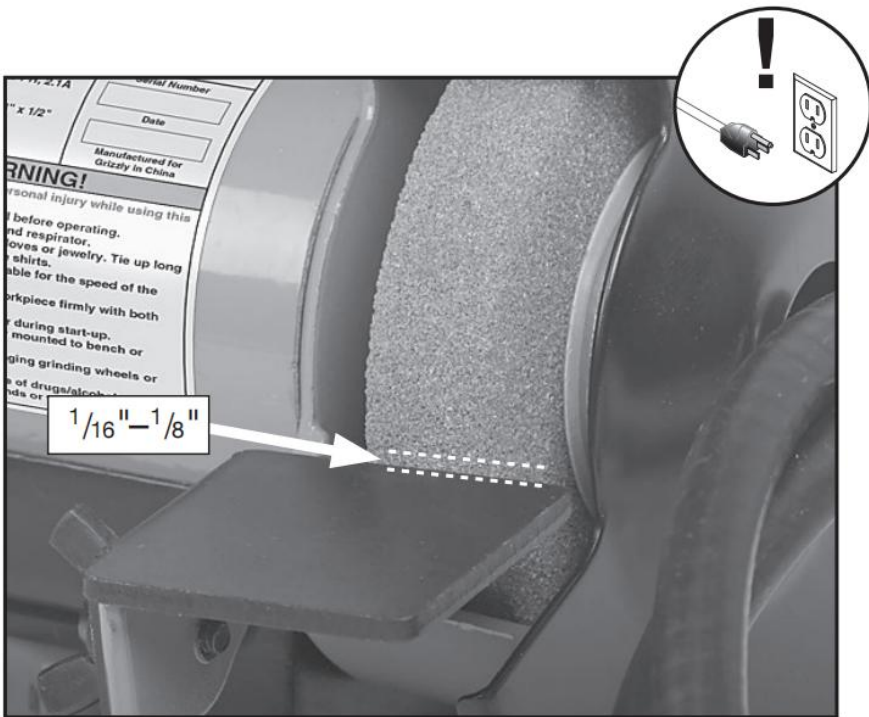


Figure 11. Example of correct tool rest gap.

⚠ CAUTION

NEVER grind without tool rest in place and properly positioned. "Free hand" grinding or too large of a gap between wheel and tool rest increases risk of kickback, which may lead to serious injury.

NOTICE

Some grinding wheels must be replaced before spark deflector or tool rest reach their final adjustment. As diameter of a grinding wheel is reduced, so is available surface speed. Grinding under these conditions can lead to faster abrasive loss and poor grinding results. Always follow wheel manufacturer's directions.

Spark Deflector Adjustment

The spark deflector prevents sparks from showering the top of the workpiece and the operator's hands. As the wheel wears, loosen the mounting screws shown in **Figure 12**, and adjust the spark deflector closer to the grinding wheel to maintain a gap of $1/8'' - 1/4''$, then re-tighten mounting screws. If the gap reaches $1/4''$ and no additional adjustments can be made, replace the grinding wheel.

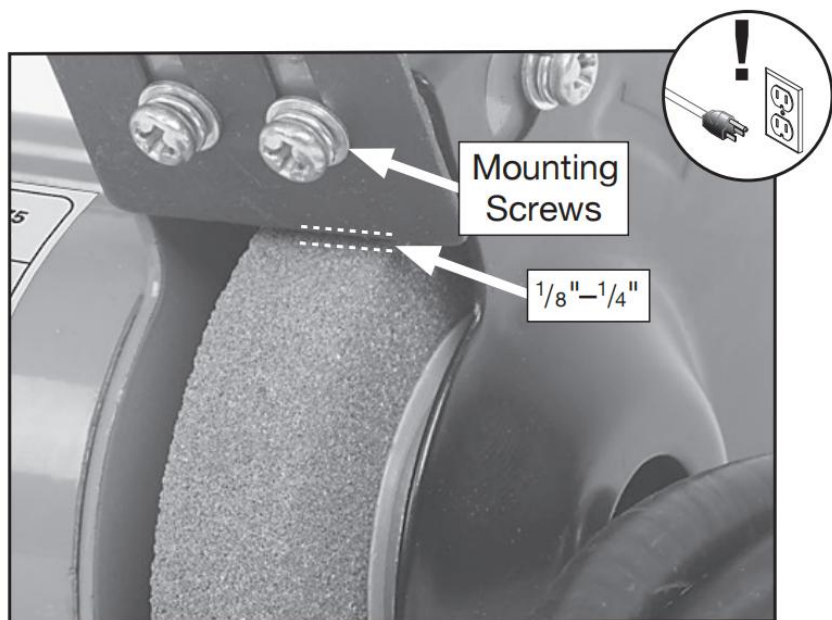


Figure 12. Example of correct spark deflector gap.

Test Run

Once assembly is complete, test run the machine to ensure it is properly connected to power and safety components are functioning correctly. If you find an unusual problem during the test run, immediately stop the machine, disconnect it from power, and fix the problem **BEFORE** operating the machine again. The **Troubleshooting** table in the **SERVICE** section of this manual can help.

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.

WARNING

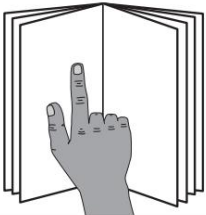
DO NOT start machine until all preceding setup instructions have been performed. Operating an improperly set up machine may result in malfunction or unexpected results that can lead to serious injury, death, or machine/property damage.

To test run machine:

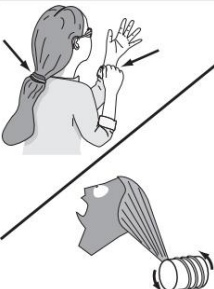
1. Clear all setup tools away from machine.
2. Connect machine to power supply.
3. Turn machine **ON**, verify motor operation, and then turn machine **OFF**. The motor should run smoothly and without unusual problems or noises.

Note: *A small amount of vibration during operation is normal.*

SECTION 4: OPERATIONS

	!WARNING To reduce your risk of serious injury, read this entire manual BEFORE using machine.
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!WARNING Eye and face injuries and respiratory problems can occur while operating this tool. Wear personal protective equipment to reduce your risk from these hazards.		
		

	!WARNING Keep hair, clothing, and jewelry away from moving parts at all times. Entanglement can result in death, amputation, or severe crushing injuries!
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NOTICE

If you are not experienced with this type of machine, **WE STRONGLY RECOMMEND** that you seek additional training outside of this manual. Read books/magazines or get formal training before beginning any projects. Regardless of the content in this section, we will not be held liable for accidents caused by lack of training.

To complete a typical operation, the operator does the following:

1. Examines workpiece to make sure it is suitable for grinding or buffing.
2. Selects correct wheel for type of operation, inspects wheel, performs a "ring test" (on grinding wheel), and installs wheel.
3. Verifies/adjusts tool rest position so it is perpendicular to wheel and gap is 1/16" to 1/8"; verifies/adjusts spark deflector so wheel gap is 1/8" to 1/4".
4. Positions safety shield for safe grinding.
5. Ensures that ON/OFF switch is in OFF position, and connects grinder to power.
6. Puts on personal protective equipment.
7. Stands aside, starts grinder, and allows it to reach full speed and operate for at least one minute to ensure grinding wheel does not fly apart from centrifugal force of rotation.
8. Places workpiece on tool rest and positions it for grinding or buffing.
9. Operator gradually feeds workpiece into wheel and moves workpiece left and right.
10. After grinding operation is complete, quenches workpiece as required to prevent surface hardening or temper loss.
11. Stops bench grinder.

Workpiece Inspection

Some workpieces are not suitable for grinding on a bench grinder. **Before grinding, inspect all workpieces for the following:**

- **Hard Workpiece:** Workpieces that are made of stone, carbide, stainless steel, ceramics, glass, or have hardened welds will wear out most general-grade grinding wheels quickly. If hard materials are to be ground, you must install the correct type of grinding wheel.
- **Soft Workpiece:** Workpieces that are made of aluminum, brass, lead, and other nonferrous metals will load up in the grinding wheel and render the abrasive useless. Grinding wood, plastics, rubber, fiberglass, or other soft materials can also cause the same problem and lead to the wheel overheating and possibly bursting during use if ignored. To restore a loaded grinding wheel surface, redress with a dressing tool.

- **Flexible/Unstable Workpiece:** Grinding on the side or the ends of cable, chain, or round workpieces creates the hazard of workpiece twist or grab, leading to entanglement with the wheel or shaft. This hazard must be avoided.
- **Loose Parts:** Make sure that the workpiece is free of any parts like springs, pins, balls, or other components that may loosen or dislodge during grinding, and hit the operator.
- **Strength:** Make sure that the workpiece is strong enough to be ground. Should it break, the broken piece may dig into the wheel and cause kickback or severe injury.

⚠WARNING

Electrical system is not waterproof. **DO NOT** use this grinder with a liquid cooling system required for wet grinding wheel operations. Ignoring this warning can lead to electrocution or machine damage.

Wheel Selection

The Model only accepts Type 1 wheels with a 1 /2" bore. Aluminum oxide and silicon carbide wheels are marked in a somewhat uniform manner by all the major manufacturers. Understanding these markings will help you understand the capabilities of various wheels. Always refer to the manufacturer’s grinding recommendations when selecting a wheel for your project.

The basic format for wheel numbering is:

Prefix	Abrasive Type	Grit Size	Grade	Bond Type
1	A	60	L	V

The **Prefix** is the manufacturer’s designation for a particular wheel type (eg. Type 1 wheels).

The most common **Abrasive Types** used are A for Aluminum Oxide, C for Silicon Carbide, and occasionally SG for Seeded Gel.

The **Grit Size** is a number that refers to the size of the abrasive grain in the wheel. The lower the number, the coarser the wheel. Ten is a very coarse wheel for roughing and 220 is usually the upper range for fine finish work.

Grade is an indication of the hardness of the wheel—“A” being the softest and “Z” being the hardest.

Bond Type refers to the type of bonding material used to hold the abrasive material. Most general purpose wheels will have a “V” indicating Vitrified Clay is used. Vitrified Clay provides high strength and good porosity. The other common bond type is “B” for resin where synthetic resins are used. These are used to grind cemented carbide and ceramic materials.

Note: *There may be other numbers inserted that have meaning for a particular type of wheel. Refer to the manufacturer’s technical data for a complete explanation.*

Wheel Inspection

Before mounting a new grinding wheel, it must be inspected. Do not assume that a wheel is in sound condition just because it is new—often damage can occur in shipping, with age, or with exposure to moisture.

First, do a **Visual Inspection**. Look for any cracks, chips, nicks or dents in the surface of the wheel. If you see any of these, DO NOT use the wheel.

Second, do a **Ring Test**. This test will give you an indication of any internal damage that may not be obvious during a visual inspection.

To perform ring test:

1. Make sure grinding wheel you test is clean and dry; otherwise, you may get false results.
2. If size permits, balance grinding wheel with your finger in mounting hole. If this is not possible, hang wheel in air with a piece of cord or string looped through mounting hole in center.
3. At spots shown in **Figure 13**, gently tap grinding wheel with a light non-metallic device such as handle of a screwdriver or a wooden mallet.

Note: *Finding exact spot to tap will take several attempts.*

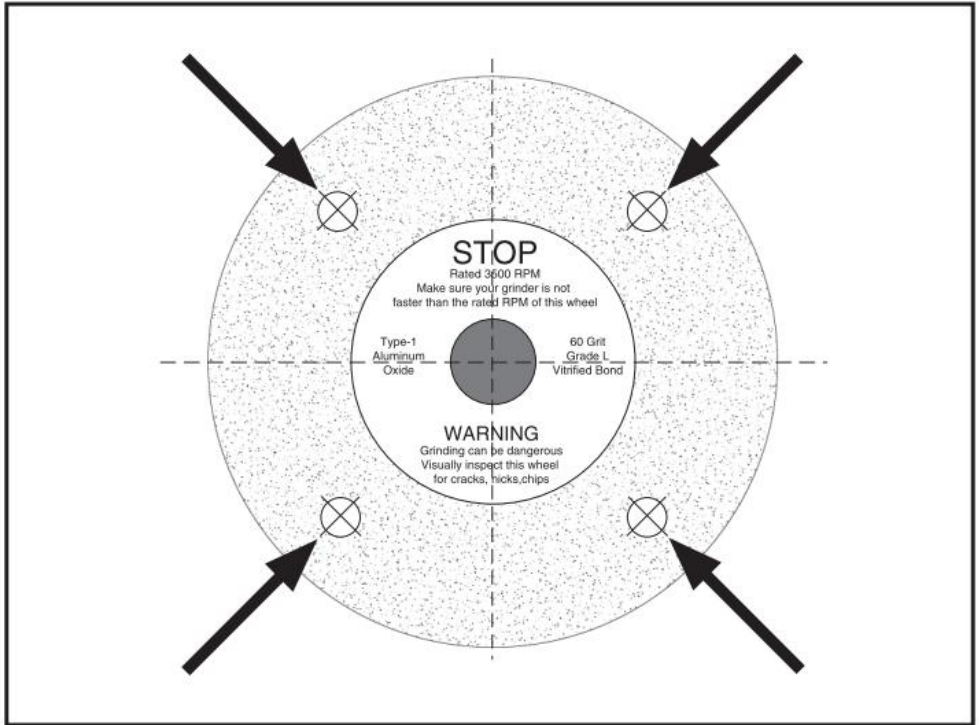


Figure 13. Tapping locations when performing a ring test.

4. An undamaged grinding wheel will emit a clear metallic ring or “ping” sound in each of these spots. A damaged grinding wheel will respond with a dull thud that has no clear tone.

— If you determine from ring test that grinding wheel is damaged, DO NOT use it!

Wheel Dressing

Depending on the type of grinding you do, the grinding wheel may require periodic dressing.

There are several different types of wheel dressing devices available on the market (see **Page 25** for examples). Dressing restores the abrasive quality of the wheel surface and brings the wheel edge back to a square form.

Refer to the instructions that accompany your dressing accessory for complete details on how to properly dress the wheel.

CAUTION

Always adjust tool rest and spark deflector after dressing or replacing grinding wheel. Failure to do so could lead to workpiece kickback and injury.

Wheel Care

When grinding, your safety depends, to a large degree, on the condition of the wheel. A wheel in poor condition presents the possibility of breaking apart during rotation and injuring the operator and others in the area.

Tips to help you avoid breaking the wheel:

- Always transport, store and handle wheels with care. Wheels may be damaged if they are dropped or if heavy objects are stacked on them.
- Select the right grinding wheel for the job. **DO NOT** grind material inappropriate for the wheel type.
- Only use wheels that are rated for the RPM of the tool grinder.
- Mount the wheel properly (see **Installing/ Removing Grinding Wheel** on this page).
- Do not push the tooling into the grinding wheel with such force that it causes the grinder to bog down. And do not apply pressure to stop the wheel after turning the grinder **OFF**.
- Dress the wheel when necessary. Do not allow it to become glazed (see **Wheel Dressing** on **Page 18**).
- Do not store wheels in damp or wet locations.
- Do not overtighten the nut when mounting the wheel.
- Do not leave the wheel mounted when machine is not in use.

Installing/Removing Grinding Wheel

⚠ CAUTION

ALWAYS visually inspect and perform a “ring test” on a wheel before installing. **DO NOT** use damaged wheels!

To install/remove grinding wheel:

1. DISCONNECT MACHINE FROM POWER!
2. To remove outer guard, loosen (3) M4-.7 x 10 Phillips head screws with captive flat and lock washers holding wheel guard in place (see **Figure 14**).
3. Remove wheel guard (see **Figure 14**) by twisting guard clockwise until screws align with access holes.

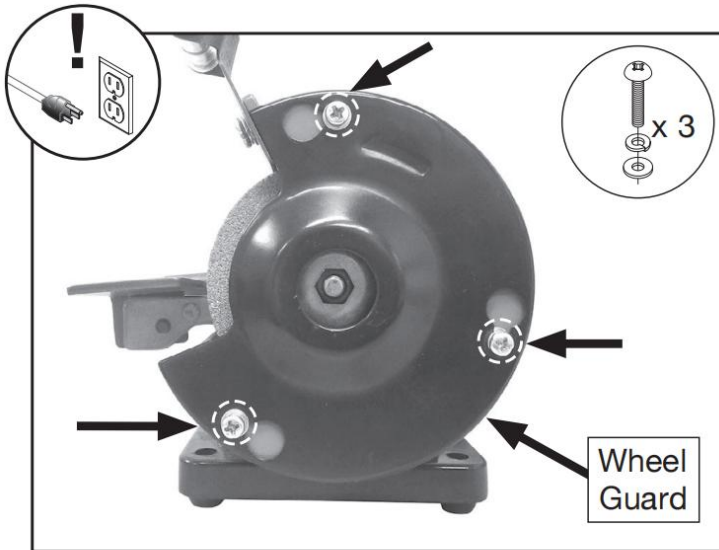


Figure 14. Fasteners securing wheel guard.

4. Remove M6-1 hex nut (see **Figure 15**) .

Tip: Hold grinding wheel with free hand to stop spindle from turning while removing hexnut.

Note: Spindle on left side of grinder has left-hand threads. Turn it clockwise to loosen.

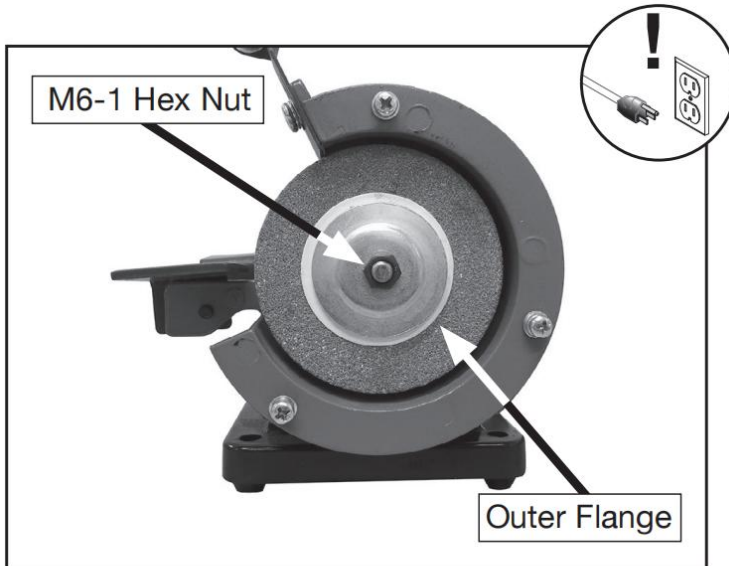


Figure 15. Outer wheel guard removed to access grinding wheel.

5. Remove outer wheel flange and paper disc (see **Figure 16**) .

6. Remove grinding wheel and bushing from spindle (see **Figure 16**). Take note of paper or fiber disc between wheel flanges and wheel. These cushion the pressure of the wheel flanges and help distribute pressure more evenly. They also help reduce damage to the flanges.

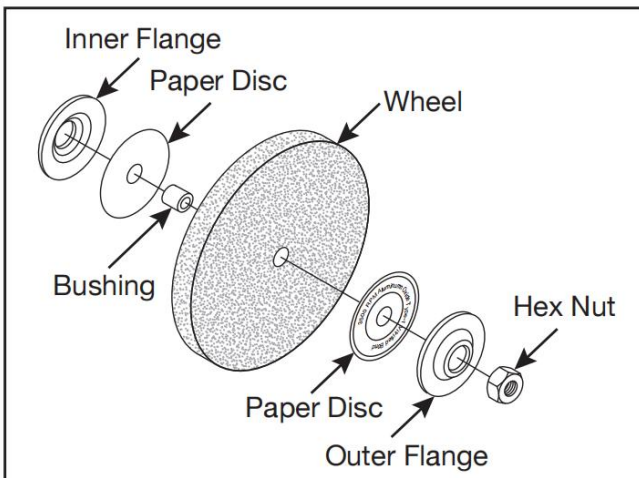


Figure 16. Assembly order for wheel installation.

CAUTION

NEVER install grinding wheel on spindle without paper or fiber discs between wheel and flange. Not using discs can put stress on wheel, causing it to crack and possibly fall apart.

7. Verify the flatness of the inner and outer flanges by placing them on a level surface. If either flange is warped or damaged, replace it.

CAUTION

Warped wheel flanges can contribute to grinding wheel breaking and flying apart. Never use warped wheel flanges. Always check flanges before re-installing grinding wheel.

8. Mount new grinding wheel and bushing in order shown in **Figure 16**. Tighten M6-1 hex nut snugly but do not over-tighten. Over-tightening can stress and crack wheel.

9. Re-assemble outer wheel guard using hardware removed in **Step 2**.

10. While standing away from line of rotation, turn grinder **ON** and run new grinding wheel for at least 1-2 minutes before standing in front of it. This helps protect you if the wheel has internal damage that will cause it to fly apart from the centrifugal force of rotation.

— If grinder runs smoothly, grinding wheel may now be used.

— If wheel appears to wobble, grinder vibrates excessively, or any other unsafe condition appears with new wheel, stop grinder and refer to **Troubleshooting** on **Page 29**.

Buffing

Below are some quick tips for getting the most out of your buffing wheel.

Remember, there is no substitute for experience. Learning how to hold the workpiece, how much pressure to apply, how to move the workpiece against the

wheel, and how much compound to use requires a certain amount of trial-and-error.

- Thoroughly clean all parts you plan to buff. Dirt, oil, rust, paint, or other film must be removed chemically or with water. Make sure to dry off parts with a rag after cleaning.
- Apply buffing compounds in small amounts at a time. Apply paste-type compounds with a wand or directly to the part. For wax-based polishing stick-type compounds, press the compound on the wheel for a couple of seconds while the machine is running. Avoid using too much compound.
- Put your workpiece under the wheel when you are loading the compound on the buffing wheel. This way, you will catch any compound that would normally be wasted on the floor.
- To begin buffing, place your workpiece on the tool rest and slowly feed it into the buffing wheel. Hold the workpiece tightly at all times while buffing. Placing one hand near the contact point will give you better control.
- Keep buffing wheels raked out before each use and when buildup gets heavy during use. Raking means to clean the buffing wheels with a wheel rake to remove built-up compounds and metal particles. ALWAYS use light pressure when raking wheels!
- Do not mix two different compounds on the same wheel. For best results, use a separate wheel for each compound.
- Wear safety equipment when buffing. If the buffer forces the workpiece out of your hand, be prepared for it to come flying at you! Wear safety glasses or a face shield and a heavy leather apron. Also, wear a dust mask to protect your lungs from microscopic particulate that will be flying off the wheel.

CAUTION

Always hold workpiece firmly against tool rest while buffing. Failure to do so may cause workpiece to be thrown from operator's hands, causing personal injury.

Installing/Removing Buffing Wheel

This grinder has a left and right shaft to provide the option of mounting grinding or buffing accessories, depending on your application.

WARNING

Safety shield must always be installed for grinding operations. Failure to do so may result in serious personal injury.

To install/remove buffing wheel:

1. DISCONNECT MACHINE FROM POWER!
2. Loosen (3) M4-.7 X 10 Phillips head screws with captive flat and lock washers holding wheel guard in place (see **Figure 14** on **Page 19**).
3. Remove outer guard (see **Figure 14** on **Page 19**).
4. Remove M6-1 hex nut (see **Figure 17**).

Note: Spindle on left side of grinder has lefthand threads. Turn clockwise to loosen.

5. Remove outer flange, buffing wheel, and bushing from spindle (see **Figure 17**).
6. Install new buffing wheel, bushing, and wheel flange (see **Figure 17**). Then re-install M6-1 hex nut and tighten snugly.

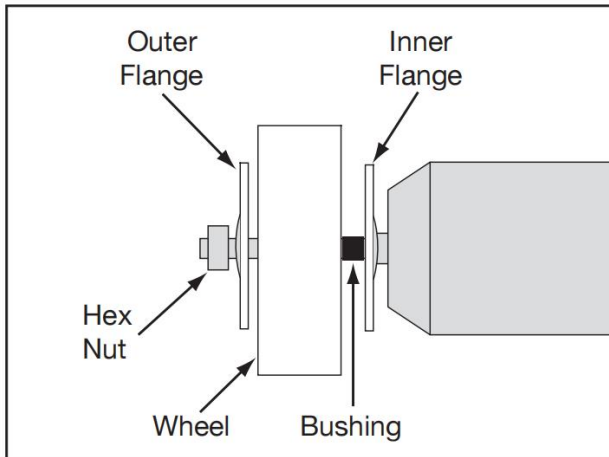


Figure 17. Correct order for installing buffing wheel components.

To use buffing wheel:

1. Put on safety glasses and respirator.
2. Connect machine to power.
3. Select appropriate polishing compound for application.
4. Turn machine **ON** and apply polishing compound to rotating face of buffing wheel.
5. Position workpiece for buffing.
6. Perform work on buffing wheel using methods outlined in **Buffing** on **Page 21**.

Note: *Use caution when polishing plated metals; there is a chance that thinly-plated materials could be damaged. Light pressure is all that is needed for quality work.*

7. When satisfied with results, turn machine **OFF**

Rotating Shaft Operations

The rotating shaft installs onto your grinder to allow you to operate in tight spaces with greater control. DO NOT operate the rotating shaft with sharp bends.

Installing Rotating Shaft

1. DISCONNECT MACHINE FROM POWER!
2. Thread rotating shaft onto spindle on right hand side of grinder (see **Figure 18**).

Tip: *Hold wrench on flats of rotating shaft, then rotate grinding wheel counterclockwise with free hand to tighten (see **Figure 18**).*

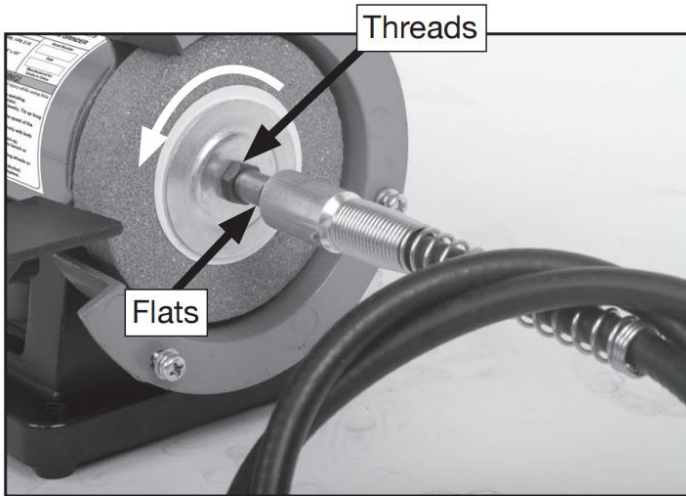


Figure 18. Rotating shaft attached to grinder
(wheel guard removed for clarity).

Installing Bits

The Model uses bits and cutters with a 1 /8" diameter shaft.

To install a bit:

1. DISCONNECT MACHINE FROM POWER!
2. Rotate collet nut until locking holes in rotating shaft grip align (see **Figure 19**), then insert pin wrench.

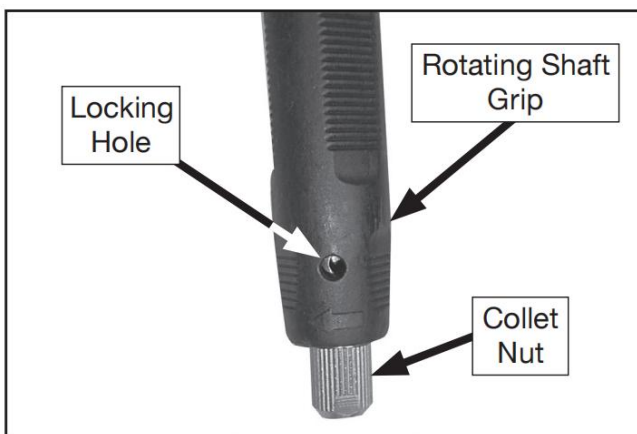


Figure 19. Location of locking holes in rotating
shaft grip.

3. Loosen collet nut by turning counterclockwise.

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

4. Insert bit shank into collet.

Note: *At least 1 1/2" of bit shank should be mounted into end of collet.*

5. Hand-tighten collet nut while pin wrench is inserted into locking hole.

6. Tighten 1/3 of a turn with collet wrench (see **Figure 20**). DO NOT over tighten.

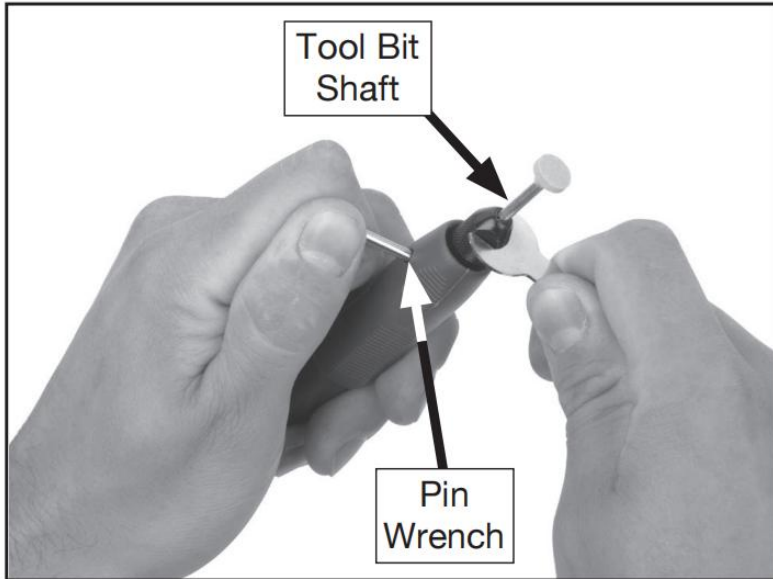


Figure 20. Tightening rotating shaft collet.

Using Rotating Shaft

1. Install collet and bit.

2. Grasp tool firmly.

3. Turn tool **ON**.

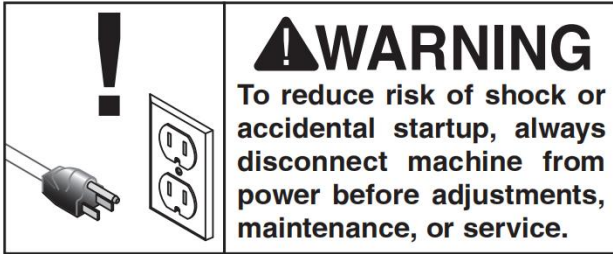
4. Ease tool against workpiece using light pressure.

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

⚠ WARNING

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

SECTION 6: MAINTENANCE



Schedule

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

Daily Check

- Loose mounting bolts.
- Cracked or loose grinding wheel.
- Damaged buffing wheel.
- Worn or damaged wires.
- Any other unsafe condition.

Cleaning & Protecting

Cleaning the machine is relatively easy. Vacuum excess debris, and wipe off the remaining dust with a dry cloth.

Buffing Wheels

Keep buffing wheels raked out before each use and when buildup gets heavy during use. Raking means to clean the buffing wheels with a wheel rake to remove built-up compounds and metal particles. ALWAYS use light pressure when raking wheels!

Grinding Wheels

The grinding wheel should be inspected before every use. Use the ring test method noted in **Wheel Inspection** on **Page 18** to verify the structural integrity.

Take care in storing grinding wheels to keep them free from potential damage by being dropped or having other items drop on them.

Replace the wheel when the spark deflector or tool rest has no more adjustment and the gap has exceeded the safe limit.

Wheel Dressing

Depending on the type of grinding you do, the grinding wheel may require periodic dressing. Several different kinds of wheel dressing devices are available.

Dressing restores the abrasive quality of the wheel surface and squares up the wheel edge. Refer to the instructions that accompany your dressing accessory for complete details on how to properly dress a wheel.

Wheel Storage

Grinding wheels can be easily damaged, so it is important to store them properly. Follow all wheel manufacturer storage instructions. Always store grinding wheels in a location that is dry and protected from potential damage due to them being dropped or having other items dropped on them. Also, avoid storing grinding wheels where there is high humidity, extreme heat or cold, or solvents.

SECTION 7: SERVICE

Review the troubleshooting and procedures in this section if a problem develops with your machine. If you need replacement parts or additional help with a procedure, call our Technical Support. **Note:** *Please gather the serial number and manufacture date of your machine before calling.*

Troubleshooting



Motor & Electrical

Symptom	Possible Cause	Possible Solution
Machine does not start or a breaker trips.	1. Switch disabling key removed. 2. Incorrect power supply voltage or circuit size. 3. Blown fuse. 4. Power supply circuit breaker tripped or fuse blown. 5. Motor wires connected incorrectly. 6. Motor at fault.	1. Install switch disabling key. 2. Ensure correct power supply voltage and circuit size. 3. Replace fuse/ensure no shorts. 4. Ensure circuit is sized correctly and free of shorts. Reset circuit breaker or replace fuse. 5. Correct motor wiring connections. 6. Test/repair/replace.
Machine stalls or is underpowered.	1. Machine undersized for task. 2. Motor wired incorrectly. 3. Motor overheated. 4. Run capacitor at fault. 5. Motor bearings at fault.	1. Use new grinding/buffing wheel; reduce the feed rate. 2. Wire motor correctly. 3. Clean motor, let cool, and reduce workload. 4. Test/repair/replace. 5. Test/repair/replace.
Machine has vibration or noisy operation.	1. Machine incorrectly mounted to workbench. 2. Motor or component loose. 3. Grinding wheel at fault/arbor hole not round. 4. Motor bearings at fault. 5. Motor shaft bent.	1. Adjust feet, shim, or tighten mounting hardware. 2. Inspect/replace damaged bolts/nuts, and retighten with thread locking fluid. 3. Dress/replace grinding wheel. 4. Test by rotating shaft; rotational grinding/ loose shaft requires bearing replacement. 5. Test with dial indicator and replace motor.

Operation

Symptom	Possible Cause	Possible Solution
Machine slows when operating.	1. Operator is using too much pressure. 2. RPM too low.	1. Use less pressure when grinding. 2. Adjust RPM.
Wavy condition on surface of workpiece.	1. Machine vibrating. 2. Workpiece not being held firmly. 3. Wheel face uneven. 4. Wheel is too hard.	1. Make sure machine is securely mounted on a solid surface. 2. Use a holding device to firmly retain workpiece. 3. Dress grinding wheel. 4. Use softer wheel, or reduce feed rate.
Lines on surface of workpiece.	1. Impurity on wheel surface. 2. Workpiece not being held tightly.	1. Dress grinding wheel. 2. Use a holding device to firmly retain workpiece.
Burning spots or cracks in the workpiece.	1. Improper type of grinding wheel. 2. Improper feed rate. 3. Workpiece requires quenching.	1. Try a wheel which is softer style or coarser grit. 2. Slow down rate of movement of workpiece into wheel. 3. Quench workpiece in water to cool.
Wheel dulls quickly, grit falls off.	1. Depth of cut too great. 2. Wheel is too soft. 3. Wheel diameter too small. 4. Bad wheel dress. 5. Defective wheel bonding.	1. Slow down rate of movement of workpiece into wheel. 2. Wheel too soft for material being ground; select harder bond. 3. Replace wheel. 4. Dress wheel. 5. Consult manufacturer of grinding wheel.

	items	Description
1	Name	Bench Buffer Polisher
2	Model	TDS-75B
3	Parameter	Voltage/Frequency: 120VAC/60Hz, Horsepower: 1/14HP, Rated current: 0.4A, Rated speed: 3600rpm, Wheel size: 3"
4	Package Size	290x200x185mm
5	G. W.	2.2KG

Manufacturer: Weihai Allwin Electrical & Mechanical Tech. Co., Ltd

Address: No.15-1 SICHAN ROAD, WENDENG,SHANDONG,CHINA

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