

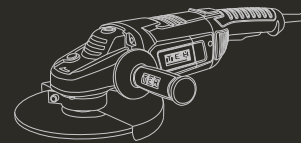


www.tehtools.com

Angle Grinder

TG23020 TG23024

To Be Your Exclusive Helper



TEH



TECHNICAL SPECIFICATION

Model	TG23020/TG23020S	TG23024/23024S
Rated Input Power	2000w	2400w
Rated Voltage	220V 50Hz	220V 50Hz
Disc Diameter	230mm	230mm
No-load Speed	6500r/min	6500r/min
Spindle Thread	M14	M14

COMPONENTS AND ACCESSORIES



Accessories included:

- 1 instruction manual
- 1 spanner
- 1 allen key
- 2 spare carbon brushes

SAFETY INSTRUCTIONS

WARNING ⚠

Read all instructions. Failure to follow all instructions listed below may result in electric shock, fire and/or other serious injury. The term “power tools” in all of the warnings listed below refers to mains-operated (corded) power tool or battery operated (cordless) power tool.

WORK AREA

- a) Keep work area clean and well lit. Cluttered and dark areas invite accidents.
- b) Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. Power tools create sparks which may ignite the dust or fumes.
- c) Keep children and bystanders away while operating a power tool. Distractions can cause you to lose control.

ELECTRICAL SAFETY

- a) Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools. Unmodified plugs and matching outlets will reduce risk of electric shock.
- b) Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is earthed or grounded.
- c) Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.

- d) Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tools. Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increases the risk of electric shock.
- e) When operating a power tool outdoors, use an extension cord suitable for outdoor use. Use of a cord suitable for outdoor use reduces the risk of electric shock.

PERSONAL SAFETY

- a) Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating power tools may result in serious personal injury.
- b) Use safety equipment. Always wear eye protection. Safety equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce the risk of personal injuries.
- c) Avoid accidental starting. Ensure the switch is in the off-position before plugging in. Carrying power tools with your finger on the switch or plugging in the power tools that have the switch on invites accidents.
- d) Remove any adjusting key or wrench before turning the power tool on. A wrench or a key to a rotating part of the power tool may result in personal injury.
- e) Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.
- f) Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewellery or long hair can be caught in moving parts.
- g) If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used. Use of these devices can reduce dust related hazards.

POWER TOOL USE AND CARE

- a) Do not force the power tool. Use the correct power tool for your application. The correct power tool will do the job better and safer at the rate for which it was designed.
- b) Do not use the power tool if the switch does not turn it on and off. Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- c) Disconnect the plug from the power source before making any adjustments, changing accessories, or storing power tools. Such preventive safety measures reduce the risk of starting the power tool accidentally.
- d) Store idle power tools out of the reach of children and do not allow persons unfamiliar with power tool or these instructions to operate the power tool. Power tools are dangerous in the hands of untrained users.
- e) Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts, breakage or parts and any other condition that may affect the power tools operations. If damaged, have the power tool repaired before use. Many accidents are caused by poorly maintained power tools.
- f) Keep cutting tools sharp and clean. Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- g) Use the power tool, accessories and tool bits etc., in accordance with these instructions and in the manner intended for the particular type of power tool, taking into account the working conditions and the work to be performed. Use of the power tool for operations different from intended could result in a hazardous situation.

SERVICE

- a) Tool service must performed only by qualified personnel. Service or maintenance performed by unqualified personnel could result in risk of injury.
- b) When servicing a tool, use only identical replacement parts. This will ensure that the safety of the power tool is maintained.






ADDITIONAL SAFETY PRECAUTIONS FOR ANGLE GRINDER

- 1) ALWAYS USE PROPER GUARD WITH GRINDING WHEEL. A guard protects operator from broken wheel fragments. When using grinding wheel attachments, the guard must always be attached to the tool and positioned for maximum safety, so the least amount of wheel is exposed from the side the tool is being operated.
- 2) ACCESSORIES MUST BE RATED FOR AT LEAST THE SPEED RECOMMENDED ON THE TOOL WARNING LABEL. Wheels and other accessories running over rated speed can fly apart and cause injury. Grinding wheels or any other accessory must have a maximum safe operating speed greater than the "no load speed- marked on the tool's nameplate.
- 3) HOLD TOOL BY INSULATED GRIPPING SURFACES WHEN PERFORMING AN OPERATION WHERE THE CUTTING TOOLS MAY CONTACT HIDDEN WIRING OR ITS OWN CORD. Contact with a "live" wire will make exposed metal parts of the tool and shock the operator.
- 4) BEFORE USING A GRINDER OR INSTALLING A NEW WHEEL, INSPECT THE GRINDING WHEEL FOR CHIPS AND CRACKS. Remove bad wheels immediately. Run the tool at no load for one minute, holding the tool in the direction away from people. Wheels with flaws will normally break apart during this time.
- 5) CAREFULLY HANDLE BOTH THE TOOL AND INDIVIDUAL GRINDING WHEELS TO AVOID CHIPPING OR CRACKING. Install a new wheel if tool is dropped while grimming. Do not use a wheel that may be damaged. Fragments from a wheel that bursts during operation will fly away at great velocity possibly striking you or bystanders.
- 6) DO NOT USE GRINDING WHEEL THAT IS LARGER THAN THE MAXIMUM RECOMMENDED SIZE FOR YOUR TOOL, OR WORN DOWN DAMAGED WHEELS FROM LARGER GRINDERS. Wheels intended for large angle sander/grinders are not suitable for the highspeed of a small angle sander/grinder, these wheels may easily burst and the fragments strike you or bystanders.
- 7) DO NOT USE DEPRESSED HUB GRINDING WHEELS FOR CUT-OFF OPERATIONS.
- 8) DO NOT USE THIS TOOL WITH "WOODCARVING" BLADE. Such blades create frequent kick-back and loss of control.

- 9) WEAR PROPER APPAREL WHILE USING A SANDER/GRINDER. Face shield or at least safety goggles, dust mask, leather gloves and shop apron capable of stopping small wheel or work piece fragments.
- 10) POSITION THE CORD CLEAR OF THE SPINNING GRINDING WHEEL OR ANY OTHER SANDING ACCESSORY. Do not wrap the cord around your arm or wrist. If you lose control and have the cord wrapped around your arm or wrist it may entrap you and cause injury.
- 11) AVOID BOUNCING AND SNAGGING THE WHEEL, ESPECIALLY WHEN WORKING CORNERS, SHARP EDGES ETC. This can cause loss of control and kick-back.
- 12) REGULARLY CLEAN THE TOOL'S AIR VENTS BY COMPRESSED AIR. Excessive accumulation of powdered metal inside the motor housing may cause electrical failures.
- 13) DO NOT GRIND OR SAND NEAR FLAMMABLE MATERIALS. Sparks from the wheel could ignite these materials.
- 14) THIS TOOL CAN BE CONVERTED TO A SANDER. When grinding is resumed the proper guard and wheel flanges MUST be reinstalled before proceeding with grinding. The guard must always be attached to the tool and positioned for maximum safety, so the least amount of wheel is exposed from the side the tool is being operated. The grinding wheel guard cannot be used for most sanding operations or for wire brushing.
- 15) WHEN SANDING. DO NOT USE OVERSIZED SANDING DISC. Larger sanding disc will extend beyond the sanding pad causing snagging, tearing of the disc or kick-back. Extra paper extending beyond the sanding pad can also cause serious lacerations.
- 16) WHEN SANDING CHEMICALLY PRESSURE TREATED LUMBER, PAINT THAT MAY BE LEAD BASED, OR ANY OTHER MATERIALS THAT MAY CONTAIN CARCINOGENS, USE SPECIAL PRECAUTIONS. A suitable breathing respirator must be worn by all personal entering the work area. Working area should be sealed by plastic sheeting and persons not protected should be kept out until work area is thoroughly cleaned.
- 17) DIRECT THE DISCHARGE OF THE SPINNING WIRE BRUSH AWAY FROM YOU. Small particles and tiny wire fragments may be discharged at high velocity during the "cleaning" action with these brushes and may become imbedded in your skin.

IMPORTANT NOTE

SYMBOLS

-  Read the manual
-  Warning
-  Wearing protection
-  Double insulation
-  WEEE marking

NOTE

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

- Lead from lead-based paints.
- Crystalline silica from bricks and 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 those 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.

ASSEMBLY & OPERATION INSTRUCTION

APPLICATIONS

This heavy duty grinder is designed for the following uses:

- 1) Removal of casting burrs and finishing on various types of steel, bronze, aluminum materials and castings.
- 2) Beveling and finishing weld seams.
- 3) Grinding of welded sections cut by means of welding.
- 4) Grinding of synthetic resin bricks, marbles etc.
- 5) Cutting thin wall tubes and small size metal materials.

WARNING

Before setting up, repair or maintenance of the appliance you must always turn off the operating switch and pull out the mains plug!

WHEEL GUARD INSTALLATION

WARNING

Wheel guard must be attached when using disc grinding wheels. Always keep wheel guard between you and your work while grinding.

- 1) The position of the guard can be adjusted to accommodate the operation being performed.
- 2) Loose the guard secure screw with alien key and position guard on spindle neck so that the bump on guard, line up with the notch on the spindle neck.
- 3) Rotate guard either direction to desired position, and tighten secure bolt to make guard in place.
- 4) To remove guard: Loose the guard secure screw and lift guard off the spindle neck.

LOCK NUT AND BACKING FLANGE

Your tool is equipped with a threaded spindle for mounting accessories. Always use the supplied lock nut (and backing flange) that has same thread size as spindle.

MOUNTING THE SIDE HANDLE

The side handle used to guide and balance the tool can be threaded into the front housing on either side, and on top of the tool, depending on personal preference and comfort. Use the side handle for safe control and ease of operation.

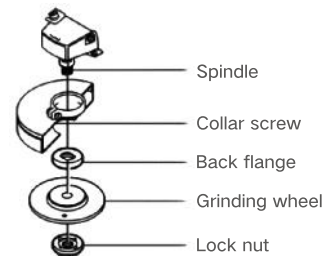
- 1) Screw the side handle into one of the 3 optional tapped holes on the gear housing depending on operator.
- 2) Tighten the side handle securely.

WARNING

Always use auxiliary handle for maximum control over torque reaction or kick-back. Operation of the grinder without the side handle could cause loss of control of the grinder, resulting in possible serious personal injury.

DISC GRINDING WHEEL ASSEMBLY

- 1) Disconnect tool from power source. Be sure that wheel guard is in place for grinding.
- 2) Thread BACKING FLANGE onto spindle, then place GRINDING WHEEL on the spindle. Thread on the lock nut and tighten nut using the supplied lock nut spanner, while holding the spindle lock in.
- 3) To remove: Reverse procedure.



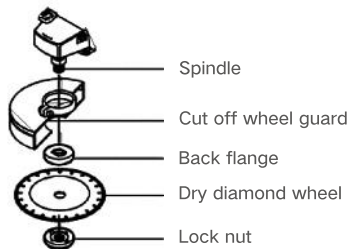
MASONRY CUTTING WHEEL ASSEMBLY

For cutting masonry materials like brick, tile, stone, etc., it is best to use a dry diamond cutting wheel. Use only lock nut and flange with equal diameters.

WARNING ⚠

Do not use water or other cooling fluid with this tool for cutting. When using an abrasive cut off wheel, be sure to use only the special wheel guard designed for use with cut-off wheels. Never use cut-off wheel for side grinding.

Disconnect tool from power source before attaching cutting wheel. With cut off wheel guard in place, assemble flange, cutting wheel and lock nut. When cutting, make only small passes through workpiece at a time. Be aware that "Kick-back" can occur at any time. Keep both hands on tool for maximum control.

**SANDING ACCESSORIES ASSEMBLY**

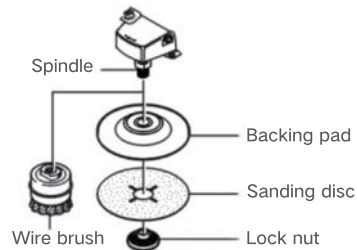
Before attaching a backing pad be sure its maximum safe operating speed is not exceeded by the nameplate speed of the tool.

Wheel guard may not be used for most sanding operations.

Always reinstall wheel guard when converting back to grinding operations.

INSTALLING BACKING PAD AND SANDING DISC

Disconnect tool from power source. Set the tool on its top side (spindle up). Place the rubber backing pad onto the spindle shaft. Center the sanding disc on top of the backing pad. Insert the lock nut through the disc and thread onto the spindle as far as you can with your fingers. Press in the spindle lock, then tighten the backing pad securely with the lock nut spanner.

**WIRE BRUSH ASSEMBLY**

Before assembling wire brush to this tool, disconnect from the power source. Wire brushes are equipped with their own threaded hub, simply thread on to spindle. Be sure to seat against shoulder before turning tool "ON".

OPERATION

To start your grinder plug the cord into a power socket.
Push safety lock-on lever forward (toward the spindle) then squeeze the trigger switch.
For continuous operation, push the lock-on lever while the trigger switch is squeezed.

TO STOP GRINDER

To stop the tool, squeeze the trigger switch and release.

REAR HANDLE ADJUSTMENT

The rear handle can be adjusted +/- 90 ° to left or right side according to the required cut.

1. Push the rear handle release button.
 2. Turn the rear handle in desired direction to the end.
- Make sure the handle engages in position, and the lock button being returned.

PROPER OPERATION INSTRUCTIONS

- 1) Before starting the grinder, put on safety glasses and make that the grinding wheel, guard and the tool are in good condition and correctly fitted.
- 2) Always hold the tool firmly with one hand on the rear handle and the other on the side hands.
- 3) Turn the angle grinder on and then apply the grinding wheel to the work piece.
- 4) Use just enough pressure to keep the grinder from chattering or bouncing.
- 5) Avoid overloading the tool for a long time, heavy pressure will decrease its speed and put a strain on the motor.
- 6) Lift the grinder away from the work piece before turning your grinder off.

DISC GRINDING WHEELS

Grinding wheel should be carefully selected in order to use the grinder most efficiently. Wheels vary in type of abrasive, bond, hardness, grit size and structure. The correct type of wheel to use is determined by the job. Use disc grinding wheels for fast grinding of structural steel, heavy weld beads, steel casting, stainless steel and other ferrous metals.

GRINDING TIPS

Efficient grinding is achieved by controlling the pressure and keeping the angle between wheel and workpiece at 10 ° to 15 °.

If the wheel is flat, the tool is difficult to control. If the angle is too steep, the pressure is concentrated on a small area causing burning to the work surface.

WARNING

Excessive or sudden pressure on the wheel will slow grinding action and put dangerous stresses on the wheel.

When grimming with a new wheel be certain to grind while pulling tool backwards until wheel becomes rounded on its edge.

New wheels have sharp comers which tend to "bite" or cut into work piece when pushing forward.

SANDING OPERATIONS

Selecting Sanding Disc

Sanding discs are made of extremely hard and sharp aluminum oxide grits, phenol-resin bonded

to a sturdy fiber backing for fast heavy-duty service and long life. The discs vary as to size and spacing of the abrasive grits. OPEN COAT (type H) - used for soft materials and on paint or varnish. CLOSED COAT (type K) used for metal, hardwood, stone, marble and other materials.

Sanding discs range in grit from 16 (very coarse) to 180 (very fine). To obtain best results, select sanding discs carefully. Many Jobs require the use of several grit sizes and at times both "open coat and closed coat" discs are required get the job done faster.

SANDING TIPS

For best results, tilt the Disc Sander at a 10 ° to 15 ° angle while sanding so that only about 1" of the surface around the edge of the disc contacts the work.

WARNING ▲

If the disc (accessory) is held flat or the back edge of the disc comes in contact with the work, a violent thrust to the side may result.

If sander is tilted too much, sanding action will be too great and a rough cut surface or gouging and snagging will result. Guide the Disc Sander with crosswise strokes. Be careful not to hold the sander in one spot too long. Do not use a circular motion, as this makes swirl marks. Test before use on scrap stock.

Do not force or apply pressure when sanding. Use only the weight of the tool for pressure. Excess pressure actually slows the tool down, if faster stock removal is desired, change to a coarser grit disc.

Remove gummy paint from metal with an "open coat" disc. Sand until sparks start to appear, then stop and change to a "closed coat" disc to remove any remaining paint.

SANDING WOOD

When sanding wood the direction of the disc motion at the contact point should parallel the grain as much as possible.

The rapid cut of discs and the swirl type scratch pattern they occasionally create generally prohibit their use for producing the final finish.

Scratches and circular marks are usually the result of using too coarse a grit. When changing to a finer grit, move across the sanding lines that were made by a previous coarser disc.

SANDING METAL

When sanding automobiles or appliances, wipe the metal clean with a non-flammable solvent or commercial cleaner to remove all wax and grease. By doing this first, the sanding discs will sand better and last longer. For heavy duty work, use a coarse grit disc first. Follow-up with a medium grit to remove scratches.

To produce smooth finish, use fine grit disc.

WIRE BRUSH OPERATIONS

Wire brushes are intended to "clean" structural steel, castings, sheet metal, stone and concrete. They are used to remove rust, scale and paint.

WARNING ▲

Avoid bouncing and snagging the wire brush, especially when working corners, sharp edges etc. This can cause loss of control and kick-back.

WARNING ⚠

- 1) Never use your grinder without wearing eye protection.
- 2) Never attach a wood cutting or carving blade of any type to this angle grinder.
- 3) Never use your grinder with guard removed.
- 4) Failure to following this rule could result In serious personal injury.

WARNING ⚠

If any of the following events occur during normal operation, the power supply should be shut off at once and then the tool should be inspected thoroughly and repaired by a qualified person if necessary:

- 1) The rotating parts get stuck or speed drops abnormally low.
- 2) The tool shakes abnormally and accompanied by some unusual noise.
- 3) The motor housing gets abnormally hot.
- 4) Heavy sparks occurring around the motor area, and down over the work area.

MAINTENANCE

WARNING ⚠

Remove the plug from the socket before carrying out any adjustment, servicing or maintenance.

Always store your power tool in a dry place.

If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

If a fault can not be rectified, return the drill to an authorized dealer for repair.

CLEANING

Unit by rubbing it with a clean cloth or blow it clean using low-pressure compressed air.

Keep the safety devices, ventilation slots and Motor housing as free of dirt and dust as possible. We recommend that you always clean the unit immediately after using it.

Clean the unit regularly by rubbing it with a damp cloth and a little soft soap. Do not use cleaners or solvents; these will attack the plastic parts in the unit. You must also ensure that water cannot get into the inside of the unit.

CARBON BRUSHES

If excessive sparking occurs you must have the carbon brushes checked by a qualified electrician. Attention! Only a qualified electrician is allowed to change the brushes.

WARRANTY CARD

Dear customers, the warranty service for purchasing TEH products is as follows:

Under normal use, the wear of the rotor steering gear is less than 0.2 mm within three months from the date of purchase. It is guaranteed that the damage is caused by the quality of the tool.

The following conditions occur during the warranty period, not covered by the warranty:

- a. Any valid legal document (single ticket) certifying the date of purchase
- b. Any damage caused by natural wear and overload
- c. Any damage caused by the use of low-priced inferior accessories
- d. Any damage caused by improper carrying, transportation or storage
- e. Any product that has been opened, repaired, replaced, or modified by itself
- f. Any damage caused by misuse, beyond the scope of use of the tool, and failure to use and maintain in accordance with the instructions

 ladies/gentlemen: _____ employer: _____

contact number: _____ fax number: _____

contact address: _____

warranty record: _____

post code: _____

IMPORTANT NOTE

1. The invoice and warranty card must be presented at the time of warranty.
2. The fuselage number on the invoice is the same as the fuselage number on the warranty card.
3. Once this warranty card is issued, if it is lost, it will not be reissued. Please keep it properly.

Note: The company reserves the right to amend the above provisions and has the final interpretation right in the case that the warranty service does not violate national laws.