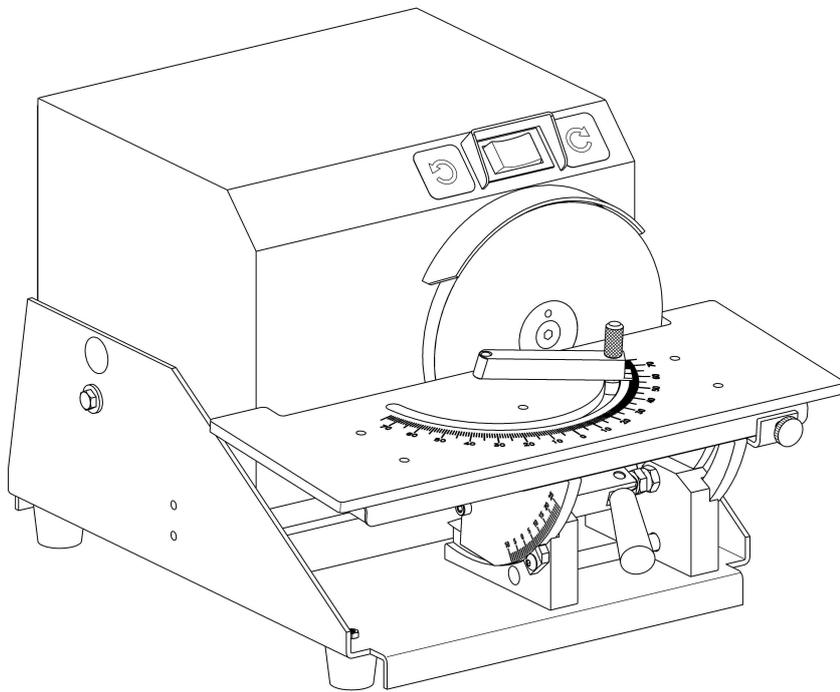


Gun Drill Re-sharpener
Operation Manual



RECYCLING



Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities.

Contact your local government for information regarding the collection systems available.

If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.

When replacing old appliances with new ones, the retailer is legally obligated to take back your old appliance for disposal at least for free of charge.

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I. Safety Instructions

All personnel working with the machine must be properly trained in its operation, and must follow strictly on the operating instructions and procedures given in this and all associated manuals. The machine may only be operated by persons who are authorized and trained.

The user of the machine must not remove, modify or obscure in any way the content or the readability of any safety label placed on or inside the machine.

The sound pressure level of this machine is less 70dB(A) with uncertainty 3dB.

The vibration total value does not exceed 2.5 m/s².

WARNING

Read all safety warnings, instructions provided with this power tool. 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.

1. Work area safety

- **Keep work area clean and well lit.** *Cluttered or dark areas invite accidents.*
- **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.*
- **Keep children and bystanders away while operating a power tool.** *Do not let persons, especially children, not involved in the work touch the tool or the extension cord and keep them away from the work area.*

2. Electrical safety

- **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.*
- **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** *Damaged or entangled cords increase the risk of electric shock.*
- **Use proper extension cord.** *Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating.*

- **Do not expose power tools to rain or wet conditions.** *Water entering a power tool will increase the risk of electric shock.*
- **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.*

3. Personal safety

- **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.*
- **Use personal protective equipment. Always wear eye protection.** *Protective equipment such as a dust mask, protective glasses, non-skid safety shoes, hard hat or hearing protection used for appropriate conditions will reduce personal injuries.*
- **Keep guards in place, in working order.** *Safety guards must never be removed when the tool is being used.*
- **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.** *Carrying power tools with your finger on the switch or energising power tools that have the switch on invites accidents.*
- **Remove any adjusting key or wrench before turning the power tool on.** *A wrench or a key left attached to a rotating part of the power tool may result in personal injury.*
- **Do not overreach. Keep proper footing and balance at all times.** *This enables better control of the power tool in unexpected situations.*
- **Dress properly. Do not wear loose clothing, gloves, neckties or jewelry which may get caught in moving parts.** *Keep your hair, clothing, gloves or jewelry away from moving parts.*
- **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** *Use of dust collection can reduce dust-related hazards.*
- **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** *A careless action can cause severe injury within a fraction of a second.*
- **Use only designated clamps to hold workpiece.** *It's safer than using your hand and it frees both hands to operate tool.*

- **Never stand on tool.** *Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.*
- **Never leave tool running unattended. Turn power off.** *Don't leave tool until it comes to a complete stop.*

4. Power tool use and care

- **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.*
- **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.*
- **Disconnect the plug from the power source and/or remove the battery pack, if detachable, from the power tool before making any adjustments, changing accessories, or storing power tools.** *Such preventive safety measures reduce the risk of starting the power tool accidentally.*
- **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** *Power tools are dangerous in the hands of untrained users.*
- **Maintain power tools and accessories. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, guards, cord and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** *Many accidents are caused by poorly maintained power tools.*
- **Keep cutting tools sharp and clean.** *Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.*
- **Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** *Use of the power tool for operations different from those intended could result in a hazardous situation.*
- **Keep handles and grasping surfaces dry, clean and free from oil and grease.** *Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.*
- **Do not use damaged grinding wheels.**
- **Use only grinding wheels and accessories that are recommended by the manufacturer.** *Use of unauthorized accessories may result in personal injury.*
- **The grinding wheel will not be dressed.**

- Please use the air spray gun and duster to clean all sharpened dusts from the machine after finishing the grinding job.
- **Direction of feed.** *Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.*

5. Service

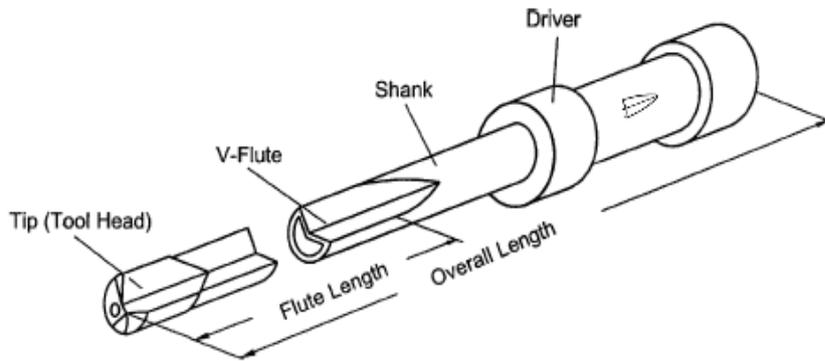
- **Have your power tool serviced by a qualified repair person using only identical replacement parts.** *This will ensure that the safety of the power tool is maintained.*

Explanation of Labels

	Indication of ground wiring
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II. Intended Use

This machine is designed to grind Gun Drill Bits.



III. Machine Installation Instruction

1. Environmental Condition

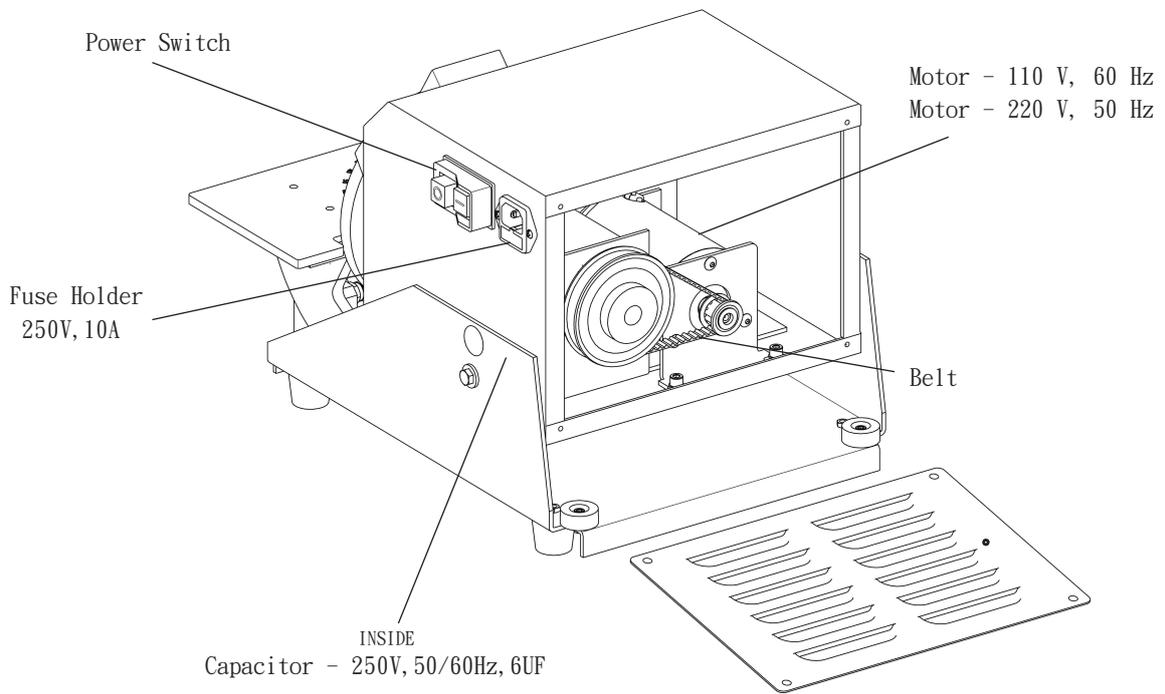
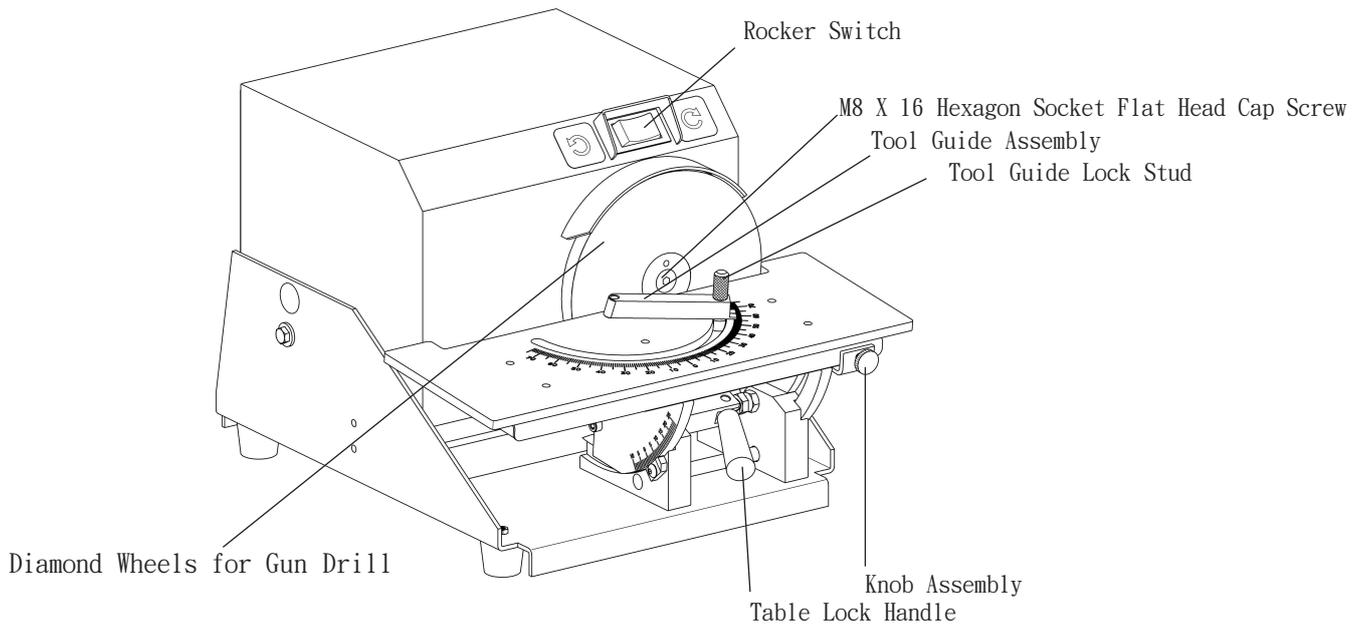
- Place the machine on a "flat" and "stable" working table.
- Operate the machine in dry environment and away from liquid.
- Make sure power plug and power cord are installed in proper location.

2. Power Supply

Make sure the local power supply is matching with the voltage specification from the product label.

Please check the switch is in off position before plugging into socket outlet.

IV. Machine Devices introduction



READ ALL DIRECTIONS before attempting setup or installation of this machine.

V. Installation

✘ Please unplug the power cord before changing or adjusting anything.

1. Unpack the machine and parts on a suitable work surface.
2. Rotate the motor housing up and back until the wheel spindle is oriented in the vertical position. (A)
3. For easier table installation, loosen table support by pulling the handle left. Rotate the support up until it is at approximately 0°. Lock handle.
4. Note there are four (4) ball bearings mounted on the table support structure. These bearings allow the table to roll.
5. Place the table face down on your work bench. Find the metal retainer strip located at each end. From only one strip, remove the two screws with a Phillips screwdriver (B). Note the small rubber bumper.
6. Turn the table face up and start the table onto the first set of bearings, making sure they locate properly in the machined tracks.
7. Slide table across until the second set of bearing* contacts to the end of the track (B). Confirm proper alignment, then slide table the rest of the way.
8. Replace the retainer bar with the two Phillips head screws. Make sure the rubber bumper is oriented properly. It should be directly across from the rubber bumper on the other side and the rubber pointy nub on the outside.
9. See C for how to lock table.

*A definite resistance will be encountered with engaging the second set of bearings. This is due to the preloaded design in which the bearings actually squeeze the mating track. Align bearings with machined track before using any force. When properly aligned, only a slight nudge is required to urge the table over the second set.

Attaching A Wheel (D)

Select the wheel you wish to use.

Attach wheel to machine with the flat head machine screw using the 5mm hex L-wrench.

To ensure proper wheel trueness, make sure that the back of the wheel and the spindle face are clean when mounting wheels.

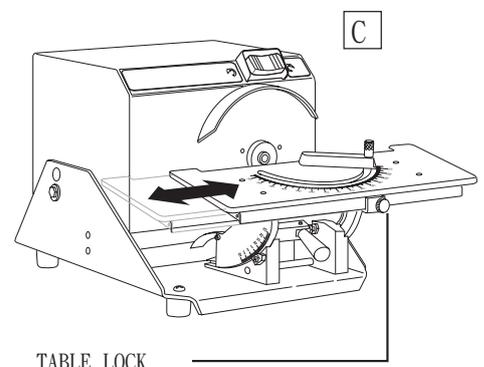
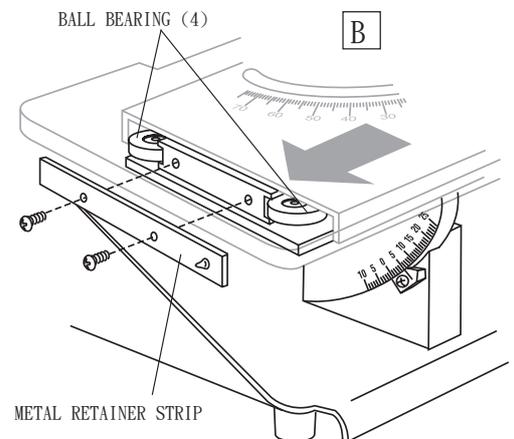
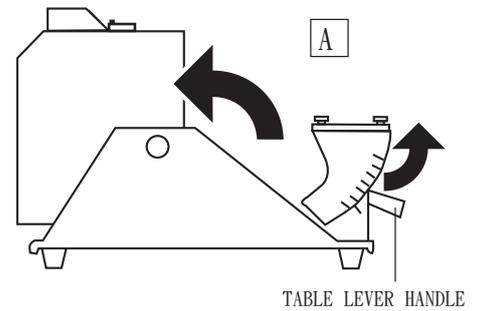
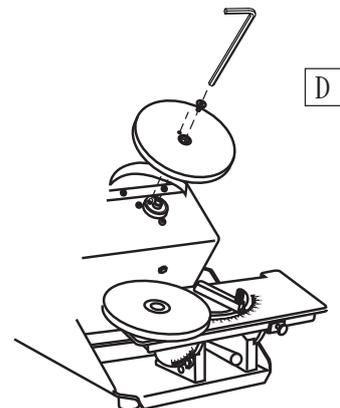


TABLE LOCK
This knob locks the table in position. Loosen it when you want to oscillate the table. Tighten it to hold the table in place.



VI. Table Position

The vertical wheel position allows use of the calibrated table and tool guide. Two tool angles can be simultaneously controlled. Tool clearance (relief) can be adjusted by setting the table elevation. To set table elevation:

1. Slide table to the right.
2. Pull the table lever handle left to free the table, allowing you to change the angle.
3. Set the elevation scale to desired degree (0° is square to wheel). Tighten locking knob (E).

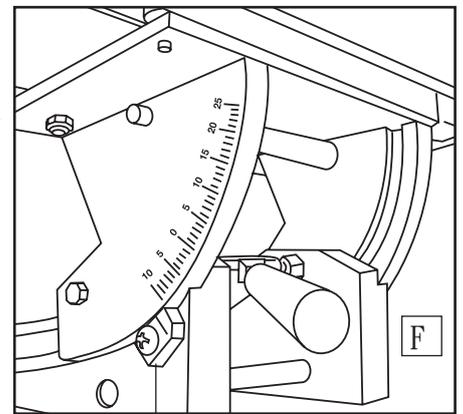
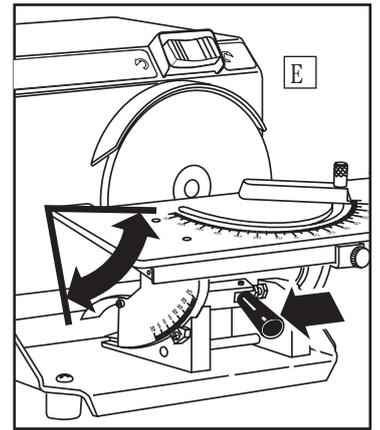
NOTE: To ensure proper elevation accuracy, the hinged surface between the main motor housing and the side support arms must be kept clean. Make sure that no metal particles or obstructions are stuck to the holding magnet or their mating surfaces.

The table is factory calibrated, but you may want to calibrate it yourself sometime in the future. With the table angle unlocked, place a square against the table and wheel, then lock the table. This is a perfect 90° -OR- 0° on the angle protractor. Loosen the locator block and align mark with the 0° mark on the protractor and tighten the locator block (F).

The tool guide is adjustable to 75° either side of 0° . Loosen the knurled locking screw in the tool guide. Set angle to desired degree on scale and tighten locking screw.

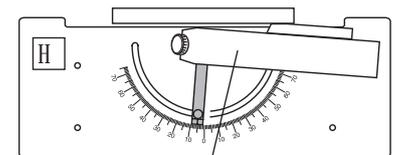
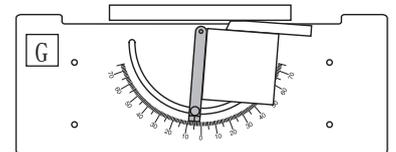
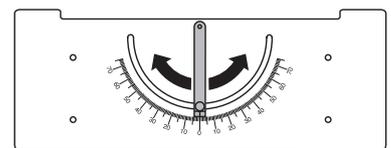
For angles greater than 75° , obtain a piece of flat material about 2" - 3" square by $1/8$ " - $1/2$ " thick. Place this square block against the tool guide (G).

Working from the 90° offset lets you set all angles.



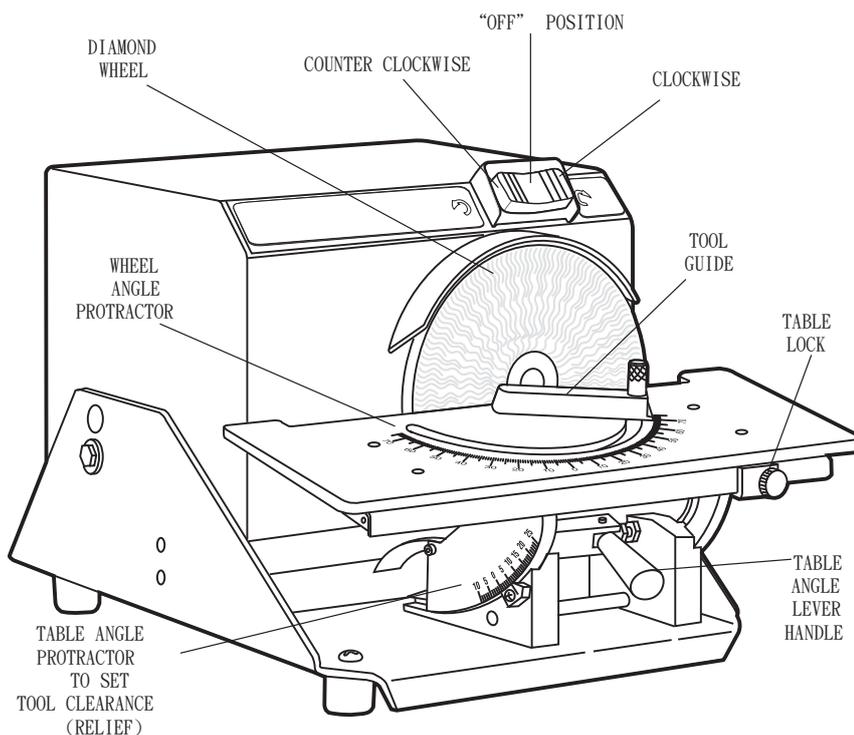
LOCATOR
BLOCK

Tool Guide



Protractor Extension Arm

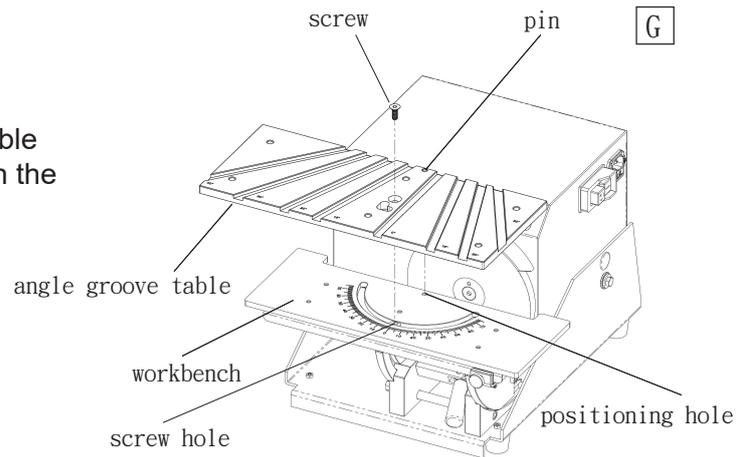
Clamps to the tool guide. This makes it easier to hold the tools while sharpening (H).



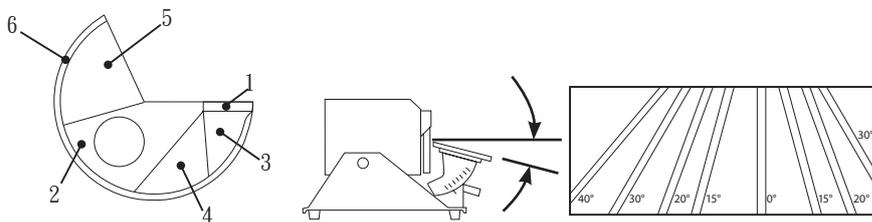
VII. Gun Drill Grinding Steps

1. Angle groove table installation

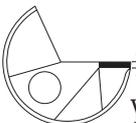
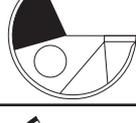
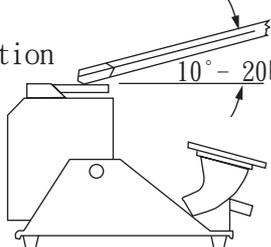
Align the positioning pin of the angle groove table with the positioning hole of the table, Then align the screw with screw hole and lock it. (G)



2. Gun drill grinding steps



FOR STANDARD FACETED GUN DRILLS

Sharpening Sequence 1 ▶ 2 ▶ 3 ▶ 4 ▶ 5 ▶ 6	TABLE ANGLE	SLOT ANGLE FOR		Comments
		3/4 Round	1/2 Round	
 1. Primary Relief	12° Down	 30° Left	 20° Left	Grind until wear is removed from cutting edge. Use fine wheel or ceramic lap for finishing. Grind "Y" slightly long because step 3 will shorten it.
 2. Inner Relief	12° Down	20° Right	15° Right	Maintain D/4 (.25 times drill diameter) or as specified by drill supplier. Use caliper or calibrated magnifier to measure. Some applications may use other values such as D/3.
 3. Secondary Relief	20° Down	30° Left	20° Left	Maintain "Y" of .01"-.03" (0,2-0,8mm) or as specified by drill manufacturer.
 4. Front Clearance	25° Down	0° Center	0° Center	Grind until triangle just reaches the bottom of the primary relief ground in step 1.
 5. Oil Clearance	IMPORTANT!		SKIP STEP 5	Rotate drill holder on its side.
	25° Down	20° Right		Grind until triangle just reaches the top cutting surface.
 6. Chamfer	Rotate Wheel to horizontal position			Remove drill from holder. Hand rotate to chamfer the periphery at 10°-20° from the drill axis or as specified by drill supplier. The width of chamfer is normally about the same as the "Y" of Step 1. Chamfer should NOT enter the primary relief.

VIII. Grinding Wheel Lift Kit

Included with your machine is a lift kit. This is for those who wish to raise the wheel center higher above the table. Because some fixtures on the market are taller than fixtures with the machine, the lift kit will allow the use of those fixtures.

TO INSTALL LIFT KIT

Remove the side bolts (one located each side) that hold the motor housing. Separate the motor housing from the base. On each side, switch the bolt bushings and the plastic plugs. (I).

From the center base, remove the bolts that hold the magnet bracket. Turn the magnet brackets 90°.

Move the magnet to the top and replace the bolts (I). Remove the two rubber stops located at the back. Push the bolt out of the center of each and replace with the long bolt that comes with the lift kit. Insert the long bolt through the plastic extensions and replace on base. Reattach the motor housing unit to the side arms.

