

# HOLE CUTTER SHARPENER

## OPERATORS MANUAL



### **WARNING**

You must thoroughly read and understand this manual before operating the equipment, paying particular attention to the Warning & Safety instructions.

# SAFETY INSTRUCTIONS

**Safety Awareness Symbols** are inserted into this manual to alert you to possible **Safety Hazards**. Whenever you see these symbols, follow their instructions.



The **Warning Symbol** identifies special instructions or procedures which, if not correctly followed, could result in personal injury.



The **Caution Symbol** identifies special instruction or procedures which, if not strictly observed, could result in damage to or destruction of equipment.

1. **KEEP GUARDS IN PLACE** and in working order.
2. **REMOVE WRENCHES AND OTHER TOOLS.**
3. **KEEP WORK AREA CLEAN.**
4. **DON'T USE IN DANGEROUS ENVIRONMENT.** Don't use hole cutter sharpener in damp or wet locations. Machine is for indoor use only. Keep work area well lit.
5. **KEEP ALL VISITORS AWAY.** All visitors should keep a safe distance from work area.
6. **MAKE WORK AREA CHILD-PROOF** with padlocks or master switches.
7. **DON'T FORCE THE HOLE CUTTER SHARPENER.** It will do the job better and safer if used as specified in this manual.
8. **USE THE RIGHT TOOL.** Don't force the hole cutter sharpener or an attachment to do a job for which it was not designed.
9. **WEAR PROPER APPAREL.** Wear no loose clothing, gloves, neckties, or jewelry which may get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.
10. **ALWAYS USE SAFETY GLASSES.**
11. **SECURE YOUR WORK.** Securely grip the hole cutter as prescribed in the operators manual.
12. **DO NOT OVERREACH.** Keep proper footing and balance at all times.
13. **MAINTAIN HOLE CUTTER SHARPENER WITH CARE.** Follow instructions in Service Manual for lubrication and preventive maintenance.
14. **DISCONNECT POWER BEFORE SERVICING.**
15. **REDUCE THE RISK OF UNINTENTIONAL STARTING.** Make sure the switch is OFF before plugging in the hole cutter sharpener.
16. **USE RECOMMENDED ACCESSORIES.** Consult the manual for recommended accessories. Using improper accessories may cause risk of personal injury.
17. **CHECK DAMAGED PARTS.** A guard or other part that is damaged or will not perform its intended function, should be properly repaired or replaced.
18. **NEVER LEAVE HOLE CUTTER SHARPENER RUNNING UNATTENDED. TURN POWER OFF.** Do not leave hole cutter sharpener until it comes to a complete stop.
19. **KNOW YOUR EQUIPMENT.** Read this manual carefully. Learn its application and limitations as well as specified potential hazards.
20. **KEEP ALL SAFETY DECALS CLEAN AND LEGIBLE.** If safety decals become damaged or illegible for any reason, replace immediately. Refer to replacement parts illustrations in Service Manual for the proper location and part numbers of safety decals.
21. **DO NOT OPERATE THE HOLE CUTTER SHARPENER WHEN UNDER THE** influence of drugs, alcohol, or medication.

# GETTING TO KNOW YOUR GRINDER

**STURDY COVER** is hinged and quickly raises for easy access to the grinding area. Contains both dust and sparks

**HEAVY DUTY** 115 volt 1 Phase motor can be rewired for 220 V circuits if desired.

**HOLE CUTTER** is quickly positioned between four guides for quick and accurate sharpening.

**REVERSIBLE GRINDING DISCS** create two grinding paths that double the life of each sharpening disc.

**ON/OFF TOGGLE SWITCH** is conveniently located on front of unit for easy access (Can be foot operated.)

**POINTER** is a feature that is used to assist location of each lobe in relation to the grinding disc. Each cup lobe is marked and this mark aligns to the pointer as a grinding guide.

Operator position gives complete view of internal grinding area to insure correct matching of cup surface to the grinding disc.



## INTRODUCTION

The purpose of this unit is to sharpen the cutting edge of three styles of hole cutters--the Straight Edge, 3-Lobe and 4-Lobe designs, Maintaining a sharp cutting edge will decrease the amount of effort it takes to dig the hole plus it will show a dramatic improvement in the hole edge which in turn reduces the halo effect on your greens when repositioning the cup.

## SPECIFICATIONS

Grinding Disc.....	Special 40 Grit.
Hole Cutter Sizes .....	4.25" (108 mm) Outside Diameter.
Sharpens Hole Cutter .....	Styles: Plain, 3 Scallop, 4 Scallop.
Grinding Disc Available .....	4.0" (102 mm) Diameter for 3 Scallop Design. 3.5" (89 mm) Diameter for 4 Scallop Design.
Motor .....	.50 HP totally enclosed intermittent duty, with sealed ball bearings.
Dimensions .....	15-1/4" (38.7 cm) High x 12-1/2" (31.8 cm) Wide x 21-1/2" (54.6 cm) Long.
Shipping Weight .....	50 lbs (22.7 kg).
Sound Level .....	Dba when operating.

# SAFETY INSTRUCTIONS

This machine is intended for grinding cup hole cutters **ONLY**. Any use other than this may cause personal injury and void the warranty.



To assure the quality and safety of your machine and to maintain the warranty, you **MUST** use original equipment manufacturers replacement parts and have any repair work done by a qualified professional.

**ALL** operators of this equipment must be thoroughly trained **BEFORE** operating the equipment.

Do not use compressed air to clean grinding dust from the machine. This dust can cause personal injury as well as damage to the grinder. Machine is for indoor use only. Do not powerwash machine.



## NOTE THE FOLLOWING INFORMATION ON GROUNDING:

The Hole Cutter Sharpener is equipped with an electrical cord having an equipment grounding conductor and a grounding plug. The plug must be plugged into an outlet that is properly installed and grounded. If unsure of the proper electrical grounding, contact the electrical service technician within your company.



Do not modify the plug provided; if it will not fit the outlet, have the proper outlet and circuit installed by a qualified electrician.

# OPERATING INSTRUCTIONS

## INTRODUCTION

There are predominantly three types of hole cutter blade designs, four lobe, three lobe and straight edge. (See FIG. 1) Listed below is the sharpening procedure for each.



**Always wear proper eye wear when operating your grinder.**

**Do not operate near flammable liquids or other combustibles that grinding sparks may ignite.**

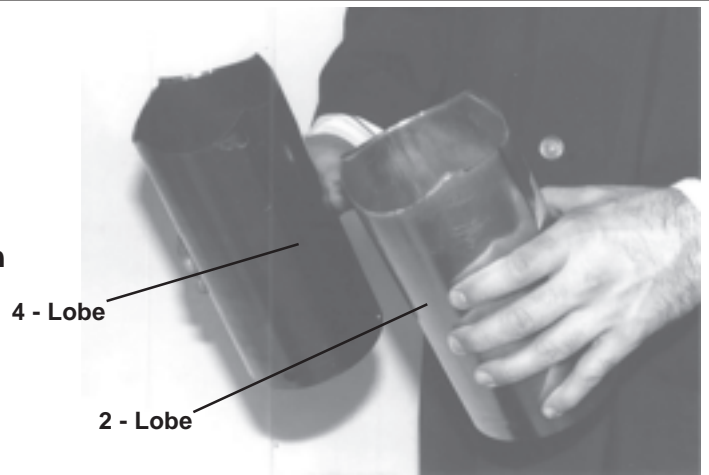


FIG. 1

## SHARPENING THE 4 LOBE DESIGN

1. Clean inside and outside surface of the hole cutter shell. (See FIG. 2)
2. Examine the tips on the hole cutter shell, If any tips are bent, they must be realigned straight with the outside diameter of the shell. (See FIG. 2)  
**NOTE:** The tip surface is hardened so be careful not to break tip while straightening.
3. Draw a line down the center of each lobe approximately 4" long with a black grease pencil or marker. Number each line in order 1-4. (See FIG. 3)
4. With the motor OFF insert the shell into the hole in the grinder. Line up the #1 line with the pointer on the machine base. Make sure the plunger stop plate engages the cup plunger and pushes it back away from the grinding disc. (see FIG. 4 & 5).
5. Push shell against the grinding disc and back off approximately 1/4".
6. Turn ON motor and grind lobe #1 in short, light and smooth strokes.

**NOTE:** The entire hole cutter cutting edge is hardened. When grinding aggressively on the cutting edge, it causes heat buildup. Excess heat buildup causes a softening of the metal and permits a burr to roll over to the outside diameter of the cup. Take quick grinding strokes to minimize heat buildup. Excessive and/or rapid stock removal in one pass creates excessive heat and can also soften the hardened cutting edge of the shell. Excessive stock removal also creates a heavy burr buildup on the cutting edge.

7. Rotate to the #2 line and repeat the grinding process. Removing an equal amount off the edge as in the previous step. (see FIG. 8)

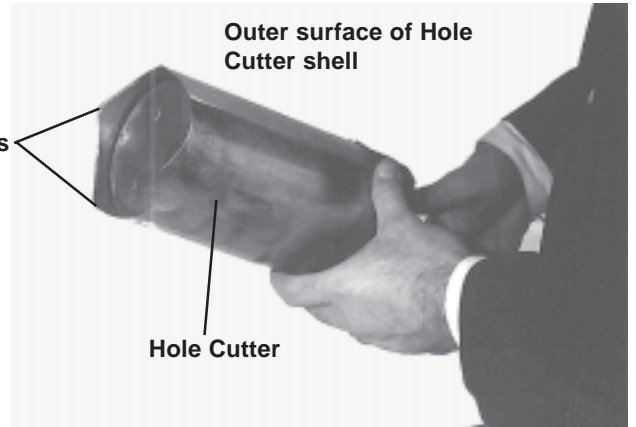


FIG.2

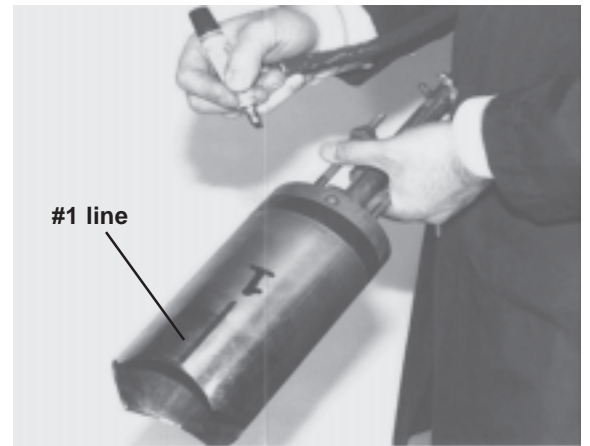


FIG. 3

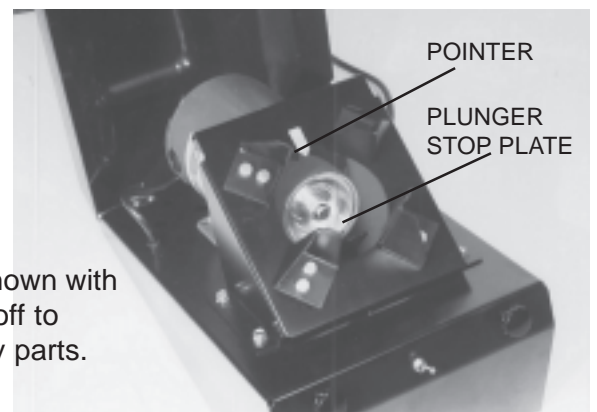


FIG. 4

## OPERATING INSTRUCTIONS Cont.

8. Rotate to the #3 line and remove an equal amount of material as in previous steps.
9. Rotate to the #4 line and remove an equal amount of material as in previous steps.
10. Turn motor off, check to see if all the tips have been completely re-ground and that an equal amount was ground off of each lobe. Regrind if required repeating steps 6-9.

**NOTE #1:** Watch the spark pattern for full grinding disc contact. This will help in grinding each lobe equally.

**NOTE #2:** After grinding a few shells, you'll develop a feel for how much metal is being removed and it will become easier to grind each lobe equally.

**NOTE #3:** If the metal edge turns color after grinding, remove less metal on each stroke to remedy this problem.

**NOTE #4:** Keep a sharp edge on the shell by sharpening more often, this will lessen the amount of material needed to be removed during each sharpening. This would also help the problem of burning metal and grinding too much in one pass.

11. When grinding is complete, file the outside edge with a hand file to remove any burr buildup. (See FIG. 6) When filing, hold the cup as shown in FIG. 6 and with the rear of the hand file angled 15, file off any burrs on the outside edge. A minimal burr may roll into the inside bevel and need not be removed.
12. After extended use, the grinding disc will wear out and/or develop a groove where the cutter meets the grinding disc. The disc can be rotated and used again. See the Procedures covering grinding disc replacement on page 7 for correct steps to rotate and/or remove the grinding disc.

### SHARPENING THE 3-LOBE DESIGN

Change to the 4" diameter grinding disc. See how to change disc instruction on page 7 in the Procedures. Follow all proceeding steps for sharpening the 4-lobe design noting there are only three lobes instead of four.

### SHARPENING THE STRAIGHT EDGE DESIGN

Use either the 3.5" or 4.0" diameter grinding disc. Place a start line anywhere on the outside of the cutting shell. Follow all the steps outlined for 3- and 4-lobe design cutters, except the shell is rotated once rapidly in a complete circle starting and finishing at the line you drew on edge of cutter. As discussed in the 3- and 4-lobe design grind evenly and lightly -- do not grind excessive material in each pass.



FIG.5

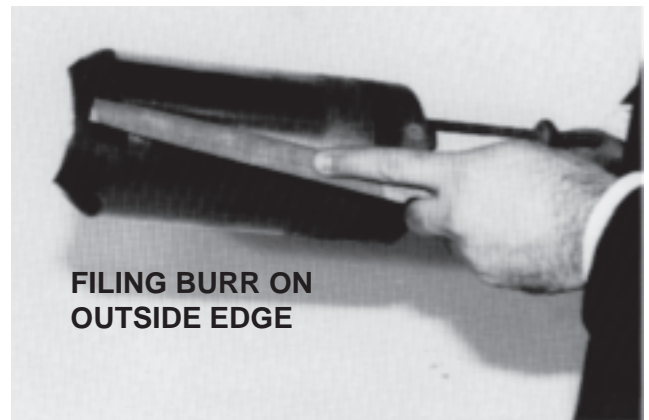


FIG.6



FIG.7

## OPERATING INSTRUCTIONS Cont.

**GRINDING DISC REPLACEMENT** - Unplug unit from power source. The grinding disc assembly is made up of a unit that is fully replaceable. To remove an old disc, lift up the hinged cover (see FIG. 4). Remove the 5/16-18 socket head cap screw from the end of the motor shaft by using the 1/4 (.250) Allen wrench provided in the storage hole located at the bottom of the cup guide support.

Mount either the 3.50 diameter or 4.00 diameter grinding disc assembly by aligning the flats on the motor shaft to the grinding disc flats. Slide on the disc until it bottoms out on the internal locking hub located inside the grinding disc bore.

Start the 5/16-18 socket head cap screw using the 1/4 (.250) Allen wrench and a 1/2" (.500) open end wrench on the motor shaft to keep it from rotating. Next screw in the disc locking screw and torque to 20 in. lbs. (See Fig. 8). Replace the Allen wrench in its storage hole and close and tighten the cover.



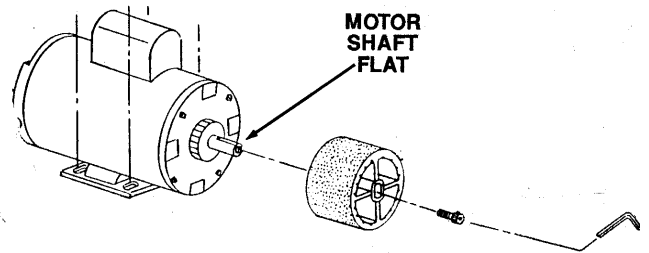
Do not over torque the locking screw. This will put undue stress on internal hub locating shoulder and could cause it to crack or could deform the wheel hub mounting bold hole.

**NOTE:** When operating the hole cutter sharpener the socket head cap screw is self tightening.



**Always disconnect power when performing maintenance procedures on your grinder.**

**GRINDING DISC ROTATION** - Through use, the cutters will wear a groove in the grinding disc. The disc is reversible so it permits two grinding paths per disc to be worn in before replacement of the grinding disc is required. To reverse the disc, follow the disc replacement procedures above.



**FIG.8**

## DAILY MAINTENANCE BY OPERATOR

On a daily basis, clean the sharpener by opening the cover and wiping it off.

On a daily basis, when the cover is open inspect the sharpener for loose fasteners or components.

Contact your company's Maintenance Department if damaged or defective parts are found.

