SPECIFIC SAFETY RULES

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

Electric shock resulting in death can occur if you plug this machine into an improperly wired outlet. If the ground wire is electrified, you can be electrocuted by just touching the machine, even when the power switch is off. A ground fault circuit interrupter will not protect you in this situation. Use a UL approved tester to determine if the outlet is safe.

Do not overstress cables. Overstressing cables may cause twisting, kinking, or breaking of the cable and may result in serious injury.

1. **Only wear leather gloves.** Never use any other type of glove, such as cloth, rubber, or coated gloves. Never grasp a rotating cable with a rag. These items could become wrapped around the cable and cause serious injury.
2. **Never operate machine with belt guard removed.** Fingers can get caught between belt and pulley.
3. **Do not overstress cables.** Keep leather-gloved hand on the cable for control when machine is running. Overstressing cables because of an obstruction may cause twisting, kinking, or breaking of the cable and may result in serious injury.
4. **Place the machine at a distance not greater than two feet from the opening.** Greater distances can result in cable twisting or kinking.
5. **Machine is designed for ONE-PERSON operation.** Operator must control foot switch and cable.
6. **Do not operate machine in reverse (REV).** Operating machine in reverse can result in cable damage and is used only to back cutting tool out of an obstruction.
7. **Keep hands away from rotating drum.** Do not reach into drum unless machine is unplugged. Hand may be caught in the moving parts resulting in serious injury.
8. **Be careful when cleaning drains where cleaning chemicals have been used.** Avoid direct contact with skin and eyes. Drain cleaning chemicals can cause serious burns as well as damage the cable.
9. **Do not operate machine if operator or machine is standing in water.** Will increase risk of electrical shock.
10. **Wear safety glasses and rubber soled, non-slip shoes.** Use of this safety equipment may prevent serious injury.
11. **Before starting each job, check that the cable in the drum is not broken or kinked, by pulling the cable out and checking for wear or breakage.** Always replace worn out (kinked or broken) cables with genuine GENERAL replacement cables.
12. **Only use this tool in the application for which it was designed. Follow the instructions on the proper use of the machine.** Other uses or modifying the drain cleaner for other applications may increase risk of injury.

Ground Fault Circuit Interrupter (GFCI)

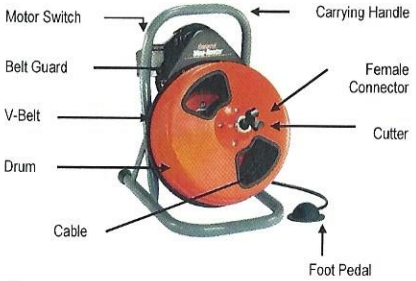
Your machine is equipped with a ground fault circuit interrupter, which protects you against shock if a short circuit should occur. Check that receptacle is properly grounded. Test the GFCI before each use.

1. Plug into 120-volt receptacle.
2. Push test button. Indicator light will go out and power to machine should cut off.
3. If light does not go out when test button is pushed, **DO NOT USE THE MACHINE** until proper repairs can be made.
4. To restore power after test, push reset button. With the reset button depressed, if the machine doesn't start, stops while running, or if the operator experiences a mild shock, **DO NOT USE THE MACHINE!** Tag the machine out of service and take it to a motor repair center or return it to the factory for repairs.

THE SECTION OF CORD BETWEEN THE WALL PLUG AND THE GFCI IS NOT IN THE PROTECTED CIRCUIT.

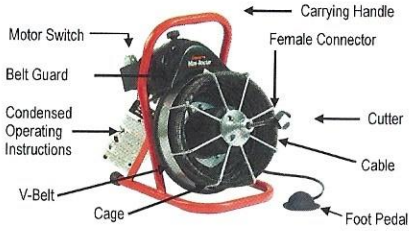
FEATURES

Mini-Rooter Closed Drum



NOTE: Do not operate machine if warning labels on the switch box and power cord are missing or illegible.

Mini-Rooter Open Drum



NOTE: Do not operate machine if warning labels on the switch box and power cord are missing or illegible.

Cable Application Chart (Table 1)

Cable Size	Pipe Size	Typical Applications	Max. Capacity
1/2"	1" to 2"	Roof Stacks and Small Floor Drains (No roots)	75 ft.
3/8"	1" to 1.5"	Roof Stacks, Laundry Lines & Small Drains	75 ft.
*5/16"	1"1 -1/2"	Sinks, Basins & Small Drains	50 ft.
*1/4"	1/2" - 1"	Small Lines, Tubs & Shower Drains	50 ft.

*The 1/4" and 5/16" diameter cables are for use with the J-Drum and Dual Drum.

Cutter Application Chart (Table 2)

Cutter		Cat. #	Typical Applications
Cutters for 1/2" Cables			
Boring Gimlet		BG	Best head for general purpose use.

OPERATING INSTRUCTIONS

Set-Up

MAKE SURE THE MOTOR SWITCH IS IN THE 'OFF' POSITION!

1. Place machine within approximately two feet (.6m) of drain opening. If you can't place the machine this close to the drain opening, run the cable through a metal guide tube to prevent cable whipping.

2. Position the foot pedal for easy accessibility. The machine is designed for one-person operation. Be sure you can quickly remove your foot from the pedal in an emergency.
3. Be sure the motor switch is in the **off** position.
4. Select the proper cutting tool (See Cutter Application Chart—Table 2). A good tool to start with is the Arrow Head or Boring Gimlet. After the line is opened, follow with larger blades, which scrape the inside edges of the pipe, assuring a real cleaning job.
5. Insert the cutter into the female connector at the end of the 3/8" or 1/2" cable and tighten the connecting screw and lock washer *firmly* in place.

Operation

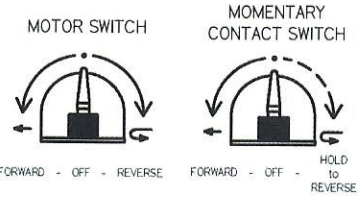
1. Begin by pulling the cable from the drum/cage and sliding it into the drain as far as it will go.
2. Move the motor switch to the **forward** position.
3. With both hands (wearing *leather* gloves) on the cable, depress the air foot pedal to start machine.
4. Feed the cable into the line and against the obstruction with a firm, even pressure. Adjust the feeding rate to the resistance met. Do not force the cable – let the cutter do the work. The job won't get done any faster and you could damage the cable.

DO NOT USE TOO MUCH FORCE – LET THE CUTTER DO THE WORK.

5. Don't leave too much slack in the cable since this will cause whipping. If the cable starts to bend or build up too much twist, release pressure on the foot pedal and rotate the drum in the opposite direction to relieve the twist on the cable. Push any excess cable back into the drum and then continue.

DO NOT ALLOW TOO MUCH SLACK IN THE CABLE BETWEEN MACHINE AND DRAIN OPENING SINCE THIS CAN CAUSE CABLE WHIPPING.

6. If you're having trouble getting around tight bends, try putting the machine in reverse while applying steady pressure. (If using Power Cable Feed, putting motor in reverse will cause the feed control lever to operate opposite of normal.) Note: If your is equipped with a momentary contact reverse switch, you must hold the switch in position when operating the machine in reverse.



Don't run motor in reverse for more than a few seconds at a time as this could cause tangling in the drum or kinking.

7. If you still can't get around the bend, you're probably using too large a cable. Switch to a 3/8" diameter cable, or even a smaller one if necessary. (See Cable Application Chart—Table 1)
8. When the cable reaches the stoppage, allow the cable to progress forward slowly, chewing into the stoppage as it goes. This slow forward movement will reduce stress on the cable while doing a more thorough cleaning job. A back and forth action often works best.

Hint: It's often helpful to have a small stream of water running in the line to wash the cuttings away while the machine is in operation and after.

⚠ WARNING

Read and understand operator's manual before using this machine. Failure to follow operating instructions could result in death or serious injury.

WARNING! Read and understand all instructions. Failure to follow all instructions listed below may result in electric shock, fire and/or serious personal injury. Replacement manuals are available upon request at no charge, or may be downloaded from our website, www.drainbrain.com. Instructional videos are available for download on our website, and may be ordered. If you have any questions or problems, please call General's customer service department at 412-771-6300.

SAVE THESE INSTRUCTIONS!

These instructions are intended to familiarize all personnel with the safe operation and maintenance procedures for the Mini-Rooter.

SAFETY SYMBOLS

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ DANGER

DANGER indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

⚠ WARNING

WARNING indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

⚠ CAUTION

CAUTION indicates a hazard with a low level of risk which, if not avoided, will result in minor or moderate injury.

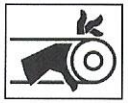
⚠ WARNING

Electric shock resulting in death can occur if you plug this machine into an improperly wired outlet. If the ground wire is electrified, you can be electrocuted by just touching the machine, even when the power switch is off. A ground fault circuit interrupter will not protect you in this situation. Use a UL approved tester to determine if the outlet is safe.

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 dust or fumes.

Only wear leather gloves. Never use any other type of glove, such as cloth, rubber, or coated gloves. Never grasp a rotating cable with a rag. These items could become wrapped around the cable and cause serious injury.

Always wear safety glasses and rubber soled, non-slip shoes. Use of this safety equipment may prevent serious injury.



Never operate machine with belt guard removed. Fingers can get caught between belt and pulley.

Do not overstress cables. Overstressing cables may cause twisting, kinking, or breaking of the cable and may result in serious injury.

GENERAL SAFETY RULES

⚠ WARNING

Read and understand all instructions. Failure to follow all instructions listed below may result in electric shock, fire, and/or serious injury.

SAVE THESE INSTRUCTIONS!

Work Area

1. **Keep work area clean and well lit.** Cluttered benches and dark areas invite accidents.
2. **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.
3. **Keep bystanders, children, and visitors away while operating a power tool.** Distractions can cause you to lose control.

Electrical Safety

1. **Grounded tools must be plugged into an outlet, properly installed and grounded in accordance with all codes and ordinances. Never remove the grounding prong or modify the plug in any way. Do not use any adapter plugs. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded.** If the tool should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user.
2. **Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is grounded.
3. **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
4. **Do not abuse the cord. Never use the cord to carry the tools or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately.** Damaged cords increase the risk of electric shock.
5. **When operating a power tool outside use an outdoor extension cord marked "W-A" or "W".** These cords are rated for outdoor use and reduce the risk of electric shock.
6. **Test the Ground Fault Circuit Interrupter (GFCI) provided with the power cord to insure it is operating correctly before operating machine.** Machine must have a properly functioning ground fault circuit interrupter on the power cord. GFCI reduces the risk of electric shock.
7. **Extension cords are not recommended unless they are plugged into a Ground Fault Circuit Interrupter (GFCI) found in circuit boxes or outlet receptacles.** The GFCI on the machine power cord will not prevent electric shock from the extension cords.
8. **Only use proper three-wire extension cords in good condition which have three-prong grounding plugs and three-pole receptacles which accept the tool's plug.** Use of damaged, inferior, or other extension cords will not ground the tool. Increases the risk of electric shock and bodily injury or death.
9. **Keep all electric connections dry and off the ground.** Reduces the risk of electric shock.
10. **DO NOT touch plugs or tools with wet hands.** Reduces the risk of electric shock.

Personal Safety

1. **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.
2. **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.
3. **Avoid accidental starting. Be sure switch is off before plugging in.** Carrying tools with your finger on the switch or plugging in tools that have the switch on invites accidents.
4. **Remove adjusting keys or switches before turning the tool on.** A wrench or key that is left attached to a rotating part of the tool may result in personal injury.
5. **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control of the tool in unexpected situations.
6. **Use safety equipment. Always wear eye protection.** Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.

Tool Use and Care

1. **Use clamps or other practical way to secure and support the workpiece to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control.
2. **Do not force tool. Use the correct tool for your application.** The correct tool will do the job better and safer at the rate for which it is designed.
3. **Do not use tool if switch does not turn it on or off.** Any tool that cannot be controlled with the switch is dangerous and must be repaired.
4. **Disconnect the plug from the power source before making any adjustments, changing accessories, or storing the tool.** Such preventative safety measures reduce the risk of starting the tool accidentally.
5. **Store idle tools out of reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.
6. **Maintain tools with care. Keep cutting tools sharp and clean.** Properly maintained tools, with sharp cutting edges are less likely to bind and are easier to control.
7. **Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool's operation. If damaged, have the tool serviced before using.** Many accidents are caused by poorly maintained tools.
8. **Only use accessories that are recommended by the manufacturer for your model.** Accessories that may be suitable for one tool may become hazardous when used on another tool.

Service

1. **Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified repair personnel could result in risk of injury.
2. **When servicing a tool, use only identical replacement parts. Follow instructions in the Maintenance section of this manual.** Use of unauthorized parts or failure to follow Maintenance Instructions may create a risk of electric shock or injury.

9. Be careful not to let the cutter get caught in the stoppage as you work through it. This can cause kinking and breaking of the cable. When you feel the cable starting to twist in your hands, stop the machine and pull back on the cable. This will free the cutter from the obstruction. Then allow the cable to move forward slowly into the stoppage. Remember, no cutting takes place when the blades stop turning.
10. After the line has been opened, retract the cable. Make sure the motor switch is in the **forward** position. This is important to prevent the cable from tangling in the drum or in the line.

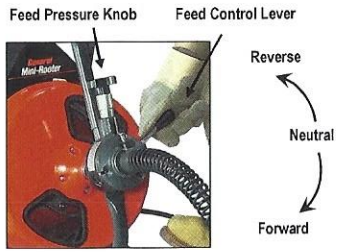
DO NOT USE REVERSE TO PULL THE CABLE OUT OF THE DRAIN. RUNNING MACHINE IN REVERSE CAN CAUSE THE CABLE TO TANGLE IN THE DRUM.

11. When the cutter is near the drain opening, take your foot off the pedal to stop drum rotation. Never retract the cutter from drain while cable is rotating. The cable could whip and cause serious injury.

POWER CABLE FEED

(Optional. Cat. # PO-MR)
The variable speed Power Cable Feed is designed for use with 3/8" and 1/2" cables. If the feed was purchased separately, see "How to Install Power Cable Feed."

1. Be sure you have read and understand the instructions for manual feed before using the Power Cable Feed. Misuse of the feed can result in severe damage to the cable.
2. Put the feed control handle in the neutral position. Then, loosen the feed pressure knob and pull three feet of cable from the drum/cage.
3. Slide the guide tube (Cat. # MR-GT) over the cable and snap the tube into place on the feed spout. (Be sure to remove the cutter and connecting screw from the female connector first. Reattach desired cutter to cable after guide tube is attached to feed.)
4. Place machine within approximately two feet of drain opening. Be sure the Mini-Rooter Guide Tube (MR-GT) is in place. If you can't place the machine this close to the drain opening, run the cable through the optional Guide Tube Extension (GTE) or a metal guide tube to prevent cable whipping.



5. Tighten the knob at the top of the Power Cable Feed so that the feed roller presses against the cable. Be sure not to over tighten since this could cause excess cable wear. Note: The Power Cable Feed is designed for use with 3/8" and 1/2" cables only.

Note: In operation, use the least pressure possible to get the job done in order to minimize wear on the feed and cable.

6. The feed lever controls the feeding rate and direction of the cable. Move the lever down to feed the cable out of the drum. The further the lever is moved downward, the faster the cable will feed out. Move the lever up to retract the cable into the drum. When the lever is in the middle (neutral) position, the cable will spin in place.
7. Move the motor switch to the **forward** position. Then, with a gloved hand on the guide tube, depress the air foot pedal to start machine.
8. Feed the cable into the line and against the obstruction with a firm, even pressure. Adjust the feeding rate to the resistance met. Do not force the cable – let the cutter do the work. The job won't get done any faster and you could damage the cable.

DO NOT USE TOO MUCH FORCE – LET THE CUTTER DO THE WORK.

9. Don't leave too much slack in the cable since this will cause whipping. If the cable starts to bend or build up too much twist, release pressure on the foot pedal and rotate the drum in the opposite direction to relieve the twist on the cable. Push any excess cable back into the drum and then continue.

DO NOT ALLOW TOO MUCH SLACK IN THE CABLE BETWEEN MACHINE AND DRAIN OPENING SINCE THIS CAN CAUSE CABLE WHIPPING.

10. When the cable reaches stoppage, put the feed in neutral. Then allow the cable to progress forward slowly, chewing into stoppage as it goes. This slow movement will reduce stress on cable while doing a more thorough cleaning job. A back and forth motion often works best.
11. Move the feed lever to the reverse position (upward) to retract the cable. If more pulling power is required, the motor may be put in reverse and the feed lever moved downward to forward position.
12. After the line has been opened, retract the cable by moving the feed lever up. Make sure the motor switch is in the **forward** position. This is important to prevent the cable from tangling in the drum or in the line.

DO NOT RUN MOTOR IN REVERSE FOR MORE THAN A FEW SECONDS AT A TIME SINCE THIS COULD CAUSE THE CABLE TO KINK OR TANGLE IN THE DRUM.

13. When the cutter is near the drain opening, take your foot off the pedal to stop drum rotation. Never retract the cutter from drain while cable is rotating. The cable could whip and cause serious injury.

SPECIAL OPERATIONS

The motor can be reversed to free cable if it gets caught in the line. Use the following procedure:

1. Move toggle switch on motor to reverse position.
2. Wearing leather gloves, pull on cable while the drum is turning in reverse.

DO NOT RUN MOTOR IN REVERSE FOR MORE THAN A FEW SECONDS AT A TIME SINCE THIS COULD CAUSE THE CABLE TO KINK OR TANGLE IN THE DRUM.

3. When the cable is freed, slide excess cable back into drum.
4. Move the toggle switch to the forward position again, and continue at Step 3 of the Operating Instructions.

IF CABLE TANGLES IN DRUM

This is almost always caused by using too much pressure when feeding the cable, or by feeding the cable while running the machine in reverse. To untangle, rotate drum in opposite direction. This will usually get the cable to lie in the drum properly

If cable has become badly tangled, which shouldn't happen when machine is used properly, it can be straightened out by removing the distributor tube from the drum. To do this:

1. Loosen the four bolts that hold the distributor tube cone on the front of the drum.
2. Pull the cone and distributor tube forward, then pull the tangled portion of the cable out of the drum.
3. After the cable has been straightened out, slide the distributor tube and cone back along the cable until it can be repositioned and bolted to the front of the drum.

DISCONNECT MACHINE FROM POWER SOURCE BEFORE INSTALLING CABLES OR DRUMS!

Note: The cable should lay in the drum in a clockwise direction.

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DISCONNECT MACHINE FROM POWER SOURCE BEFORE INSTALLING CABLES OR DRUMS!

1.