

Operating Instructions for

General Root 66™

For 1-1/4" through 4" lines (30mm – 100mm)

Your Root 66 is designed to give you years of trouble-free, profitable service. However, no machine is better than its operator. We therefore suggest you read these instructions through **carefully** before using your Root 66 on the job. This will enable you to operate it more efficiently and more assure you satisfactory performance. Failure to follow these instructions may cause personal injury or damage to equipment.



GENERAL SAFETY INFORMATION

WARNING! Read and understand all instructions. Failure to follow all instructions listed below may result in electric shock, fire and/or serious personal injury. Call General's customer service department at 412-771-6300 if you have any questions.

SAVE THESE INSTRUCTIONS!

Work Area Safety

- **Keep your work area clean and well lit.** Cluttered benches and 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 bystanders, children and visitors away while operating a power tool.** Distractions can cause you to lose control.

Electrical Safety

- **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 UL approved tester or 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. Machine must have a properly functioning ground fault circuit interrupter on the power cord.
- **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.
- **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- **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.
- **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.

- **Use only three-wire extension cords which have three-prong grounding plugs and three-pole receptacles which accept the tool's plug.** Use of other extension cords will not ground the tool and increase the risk of electric shock.
- **Use proper extension cords.** Insufficient conductor size will cause excessive voltage drop and loss of power.
- **Before using, test the Ground Fault Circuit Interrupter (GFCI) provided with the power cord to insure it is operating correctly.** GFCI reduces the risk of electric shock.
- **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.
- **Keep all electric connections dry and off the ground. Do not touch plugs or tools with wet hands.** Reduces the risk of electric shock.

Personal Safety

- **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.
- **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.
- **Avoid accidental starting. Be sure switch is off before plugging in.** Plugging in tools that have the switch on invites accidents.
- **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.
- **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control of the tool in unexpected situations.
- **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

- **Use clamp 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.
- **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.
- **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.
- **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.
- **Store idle tools out of reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.
- **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.
- **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.

- **Use only 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.
- **Keep handles dry and clean; free from oil and grease.** Allows for better control of the tool.

Service

- **Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified repair personnel could result in injury.
- **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.

Specific Safety Information

- **Wear leather gloves provided with the machine. Never grasp a rotating cable with a rag or cloth glove.** Could become wrapped around cable and cause serious injury.
- **Never operate machine with belt guard removed.** Fingers can get caught between belt and pulley.
- **Do not overstress cables. Keep 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.
- **Position machine within two feet of drain opening.** Greater distances can result in cable twisting or kinking.
- **Machine is designed for one-person operation.** Operator must control foot switch and cable.
- **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.
- **Keep hands away from rotating drum and distributor tube. Do not reach into drum unless machine is unplugged.** Hand may be caught in the moving parts resulting in serious injury.
- **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 to the cable.
- **Do not operate machine if operator or machine is standing in water.** Will increase risk of electrical shock.
- **Wear safety glasses and rubber soled, non-slip shoes.** Use of this safety equipment may prevent serious injury.
- **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. Use only genuine GENERAL replacement cables and parts.
- **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. **Do not remove Ground Fault Circuit Interrupter (GFCI).** Serious personal injury or death may result if machine is operated without a properly functioning GFCI. Check that receptacle is properly grounded by using a UL approved circuit tester. 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, equipment should not be used 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!** Take it to a motor repair center or return it to the factory for repairs.

Note: The section of cord between the wall plug and the GFCI is not in the protected circuit

Table 1. Cable Application Chart

Cable Size	Pipe Size	Typical Applications	Max. Distance
5/16" (Small Cont.)	1½" to 2"	Small lines, tubs and showers	25 ft.
3/8" (Large Cont.)	2" to 3"	Sinks, basins and small drains	35 ft.
5/8" Sectional	1¼" to 3"	Roof stacks and small drains	125 ft.
7/8" Sectional	2" to 4"	Medium drains and long runs	150 ft.

Table 2. Cutter Application Chart

5/8" Cutters	Catalog #	Typical Applications
Arrow Head	R-AH	Starting tool—For cutting and scraping
1½" U-Cutter	R-1½UC	Scrapes walls of pipe
Boring Gimlet	R-BG	To remove or retrieve loose objects
Retrieving Tool	R-RTR-1	To remove or retrieve loose objects

7/8" Cutters	Catalog #	Typical Application
Spear Head	R-SHD-10	Starting tool—For cutting and scraping
2" U-Cutter	R-2UC-10	Scrapes walls of pipe
3" U-Cutter	R-3UC-10	Scrapes walls of pipe
Hook Auger	R-HA-10	To remove or retrieve loose objects
Retrieving Tool	R-RTR-10	To remove or retrieve loose objects

Operation

With 5/8" and 7/8" Cables

1. Place machine within two feet of drain opening. If you can't get the machine closer, run the cable through a metal pipe to prevent cable whipping.
2. Attached Rear Guide Hose (66-RGH) by aligning knob on guide hose with indent on rear of machine and **tighten**.
3. Slide cable, female connector first, into front of machine. Never use more than one cable at a time.
4. Insert cutting tool into male connector at other end of cable. Start with the small cutters to get the line open. After the line is opened, follow with larger blades, which scrape the inside walls of the pipe, assuring a real cleaning job.

Note: To attach a cutter to 5/8" or 7/8" sectional cables, slide the slot on the cutter over the tab on the female connector until the spring pin pops into place. To remove the cutter, use the RCK coupling key (RCK-8 for 5/8" cable sections and RCK-10 for 7/8" sections). Push the key into the hole just below the slot in the female connector, then slide the cable ends apart. Cable sections are coupled and uncoupled the same way.

5. Push the cable into the drain opening as far as it will go. Then pull an additional foot of cable from the machine so that an arc is formed.
6. Turn the power switch to the forward position. The motor will start running.
7. Put one gloved hand on the cable then push the clutch handle down with the other. The cable will spin into the line. Guide the cable into the line with a firm even pressure. **Do not force the cable.** You won't clear the line any faster and you could damage the cable. Too much cable between the machine and drain will cause the cable to whip and kink.
8. When the slack in the cable is gone, release the lever and pull another foot of cable from the machine. Pull lever down again and continue to feed the cable.
9. When you reach the end of the sectional cable, pull it out of the machine and slide another cable into the machine, female end first. Couple the ends together and continue feeding.
10. When you reach the stoppage, move the cable back and forth as the cable is rotating until the stoppage is cleared.
11. When the obstruction is cleared, retract the cable. Keep the motor in the **Forward** position. Running in reverse can damage the cable. Use reverse only if the cable gets caught in the line. Using the machine in reverse for more than a few seconds can damage the cable.
12. Push the cable against the lip of the pipe while holding the clutch handle down. The cable with corkscrew out of the line. When about a foot of cable emerges from the drain, release the clutch handle and slide the cable into the machine. Repeat until a complete section is removed from the line. Then disconnect the cable and remove it from the machine. Continue until all sections are removed.



Hint: It is often helpful to run water into the line as you are retracting the cable to wash away the cuttings and clean the cable.

Operation

With 5/16" and 3/8" Cables

1. To attach container to machine, pull cable out of container about a foot. Then slide container onto rear of machine allowing cable to slide through the machine body. Depress the operating lever to relieve spring pressure and allow the container casting to fully seat. Align knob on container with indent at rear of machine and **tighten**.
2. Attach a cutter to the 3/8" cable by sliding the cutter into the slot in the female connector at the end of cable, then tighten in place **firmly** with connecting screw **and** lock washer.
3. Place machine within two feet of drain opening. If you can't get the machine closer, run the cable through a metal pipe to prevent cable whipping.
4. Push the cable into the drain opening as far as it will go. Then pull an additional foot of cable from the machine so that an arc is formed.
5. Turn the power switch to the forward position. The motor will start running.
6. Put one gloved hand on the cable then push the clutch handle down with the other.

Note: To insure that the feed grips the cable properly without excessive wear to clutch jaws, pull the chuck handle down sharply when engaging the feed. Pull handle back fully to disengage the feed. Pulling the handle back will activate a brake that stops the containers used for 5/16" and 3/8" cables from spinning.

7. Guide the cable into the line with a firm even pressure. **Do not force the cable.** You won't clear the line any faster and you could damage the cable. Too much cable between the machine and drain will cause the cable to whip and kink.
8. When the slack in the cable is gone, release the lever and pull another foot of cable from the machine. Pull lever down again and continue to feed the cable.
9. When you reach the stoppage, move the cable back and forth as the cable is rotating until the stoppage is cleared.
10. When the obstruction is cleared, retract the cable. Keep the motor in the **Forward** position. Running in reverse can damage the cable. Use reverse only if the cable gets caught in the line. Using the machine in reverse for more than a few seconds can damage the cable.

Maintenance

To keep your machine operating smoothly, it is essential that all bearings be periodically lubricated. With heavy usage, grease the machine weekly. For periodic usage, grease once a month. A general cleaning and lubrication of clutch assembly is recommended once a year. This is particularly important where machine comes in contact with sand, grit, and other abrasive material.

To get maximum service from your cables, be sure they are well oiled. Some users periodically pour oil directly into the container. Then, as the container turns, the cables get complete lubrication. Our SNAKE OIL is ideal for this purpose, since it not only lubricates the cables, it deodorizes them as well.

To Clean or Replace Jaws

1. Tilt Root 66 onto its nose and remove four bolts (66-102-B) at rear of housing.
2. Remove rear casting (66-102) and rear cone (66-235).
3. Remove worn jaws (66-234). Remember to save springs (66-234-B).
4. Clean and re-grease front and rear cone. Remember to reinsert the drip guard (66-110) before reassembly.
5. Grease tips of new jaws.
6. Put springs into holes in sides of jaws.
7. Carefully put jaw assembly into housing so that jaws nest loosely between pins in front cone (66-225). No need to squeeze jaws tightly. Let them rest loosely.
8. Gently put rear cone over top of the jaws. Slip each jaw into the cone, one at a time. Then press down slowly to see that jaws seat properly.
9. Hold the rear cone shaft over the jaws with one hand, then guide the rear casting over the rear cone shaft with the other hand.
10. Look through the center of the machine. As you hold onto rear housing, press down on the feed lever. You should see the jaws move into position smoothly and evenly. Then screw in the four bolts. Make sure to tighten the bolts evenly.

Table 3. Trouble Shooting Guide

Problem	Probable Cause	Solution
Cable kinks	Operator forcing the cable.	Do not force the cable. Let the cutter do the work.
	Too much slack between machine and drain.	Release chuck handle and slide excess cable into machine.
	Cable used in wrong size drain line.	A cable that is too large or too small a diameter for a line is more likely to kink. Consult Table 1 - Cable Applications.
Chuck slips	Chuck not adjusted properly.	Chuck must be set properly for each cable size. See "Adjustable Chuck" section.
	Dirt build-up or lack of lubrication.	Disassemble chuck, clean and lubricate assembly. Lubricate regularly as per instructions. Badly worn jaws must be replaced.
	Kinked Cables	Kinked cables will not fit through chuck. Repair or replace damaged sections.