Super-Vee™
Operating Instructions

For 1-1/4” through 3” lines
(30mm—100mm)

- ***Pour français voir la page 7***
- ***Para ver el español vea la paginá 15***

Your Super-Vee is designed to give you years of trouble-free, profitable service. However, no machine is better than its operator.

Read, understand and follow all safety warnings and instructions provided with the product. Failure to follow the warnings and instructions may result in electric shock and/or serious injury. Save all warnings and instructions for future reference.

SAVE THESE INSTRUCTIONS!

General
PIPE CLEANERS

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 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 Super-Vee.

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

WARINING 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 the 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.

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

GENERAL SAFETY RULES

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. **Double insulated tools are equipped with a polarized plug (one blade is wider than the other). This plug will fit a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install a polarized outlet. Do not change the plug in any way.** Double insulation eliminates the need for the three wire grounded power cord and grounded power supply system.
3. **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.
4. **Do not expose power tools to rain or wet conditions**. Water entering a power tool will increase the risk of electric shock.
5. **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.
6. **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.
7. **Keep all electric connections dry and off the ground**. Reduces the risk of electric shock.
8. **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.** 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. **Always wear safety glasses and rubber soled, non-slip shoes**. 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. **Inspect 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.

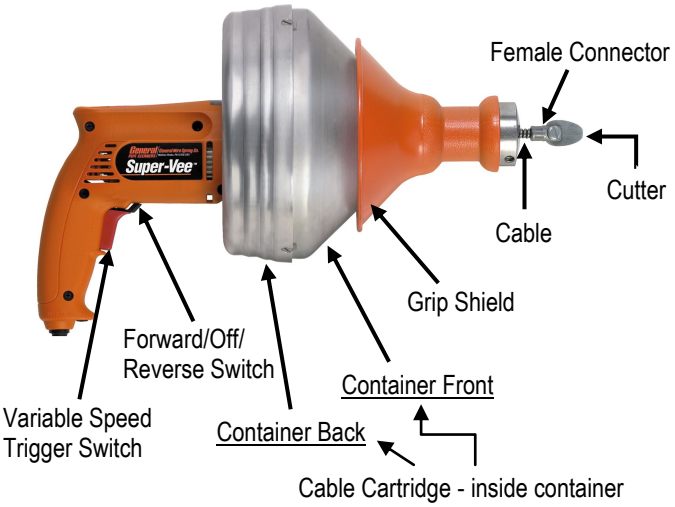
Service

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

SPECIFIC SAFETY RULES

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. **Be sure that the unit is plugged into a properly grounded receptacle.** If in doubt, check receptacle before plugging in machine. Check the power cord to see that there are no cuts or frays, and that the grounding prong on the plug is still in place.
3. **The drive unit used in the Super-Vee is double insulated, and therefore has no grounding wire. To reduce the risk of electric shock, this equipment has a polarized plug (one blade is wider than the other).** The plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If the plug still does not fit, contact a qualified electrician to install the proper outlet. Do not change the plug in any way.
4. **If the power cord supplied with the machine is not long enough, be sure to use a 16 gauge heavy duty extension cord no more than 50 feet long and in good condition.** Using lighter cords can result in severe power loss and motor overheating.
5. **Place the machine at a distance not greater than six inches from drain opening**. Greater distances can result in cable twisting or kinking.
6. **Machine is designed for ONE-PERSON operation.** Operator must control trigger switch and cable.
7. **Never take hold of a rotating cable. Pull the cable out, or push it back into the container by hand only when the motor is stopped. When the motor is turning, always have one hand controlling the trigger switch and the other hand around the grip shield.** Operator's 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 corrosive drain cleaners. Drain cleaning chemicals can cause serious burns, as well as damage the cable. Neutralize or remove corrosive drain cleaners in the drain before starting the job.
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.

FEATURES



VARIABLE SPEED SWITCH

A variable speed control is built into the trigger mechanism. You can control and increase the machine's speed by applying more trigger pressure until you get the speed that you want.

You can also control the machine's direction of rotation by switching the forward and reverse lever, which is located just above the trigger switch. Move the lever toward the Forward arrow for forward rotation and toward the Back arrow for reverse rotation. Switch to OFF position when the tool is not in use.

Cable Application Chart (Table 1)

Cable Size	Pipe Size	Typical Applications
1/4"	1-1/4" to 2"	Small lines, tubs, and shower drains.
5/16"	1-1/2" to 2"	Sinks, basins, and small drains.
3/8"	2" to 3"	Stacks, toilets, small drains (No Roots).

The 1/4" and 5/16" diameter cables with EL Basin plug heads can be spun through most strainer crossbars and work well in lines blocked by soft stoppages such as hair, soap, fats, etc.

Cutter Application Chart (Table 2)

Cutter	Catalog #	Typical Applications
Arrow Head 	AH	Ideal for heavy cutting and scraping.
Flexible Arrow Head 	FAH	More flexibility than Arrow Head; can take sharp turns in small lines.
Boring Gimlet 	BG	To remove or retrieve loose objects.
Down Head Boring Gimlet 	DHBG	Leads cable down drain line rather than up vent or across tee.
1-1/4" Side Cutter 	1-1/4SCB	Works well in grease stoppages, scrapes walls of pipe.
Other Available Accessories:		
Down Head Fitting 	DHF	Converts various cutters to the down-head style
Toilet Attachment 	CAA	For cleaning stoppages in toilet bowl

Operating Instructions

1. The cable may have an EL-Basin plug head on the end to help the cable around tight bends, or it may have a connector for attaching cutters to the end.
2. To attach a cutter, first unplug the machine. Then, remove the screw and lock washer from the connector at the end of the cable. Slide the cutter into the slot, then replace the lock washer and connecting screw. Tighten the screw firmly.
3. The Boring Gimlet and Arrow Head are good cutters to start with. Then change to the larger cutters after you've gotten the water flowing.
4. Place machine at a distance not greater than six inches from the drain opening. If you can't place the machine this close to the drain opening, run the cable through a hose or pipe to prevent cable whipping.

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

5. Slide the grip shield forward to release cable. Place the cable in the drain by hand as far as it will go.

6. Slide the grip shield back to grip the cable. Be sure the Forward/Off/Reverse switch is in the **FORWARD** position.

7. Gently squeeze the trigger and move the machine toward the drain opening. ***DO NOT FORCE THE CABLE.*** The job won't go any faster and you could kink the cable.

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

8. After the cable has fed into the drain, release the trigger.
9. Slide the grip shield forward to release the cable. Pull the Super-Vee back while holding the able in place. After you are past the first bend, you probably will not have to hold the cable as you pull the machine back.
10. Slide the grip shield back, squeeze the trigger and move the machine toward the drain again. Slide the grip shield forward and pull the machine back. Be sure to allow no more than six inches of cable between the machine and drain opening. Too much slack in the cable can cause it to tangle and kink.
11. Repeat procedure until you have worked through the stoppage.
12. Reverse the procedure to pull the cable out of the line.

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.

TO CHANGE CABLE CARTRIDGES

DISCONNECT MACHINE FROM POWER SOURCE BEFORE INSTALLING CABLES OR DRUMS!

1. Remove the cutter and connecting screw from the cable, if one is attached.
2. Loosen three screws that hold front and back of container together.
3. Pull the container front off of the machine, revealing the cable cartridge within.
4. Remove the cable cartridge.
5. Press replacement cartridge *firmly* into back of container. Make sure to line up the grooves in the cartridge with the slots in the container back.
6. Slide the cable through the container front.
7. Position the container front so that the three screws aligned with the slots in the container back. Press the container front into the container back.

8. Tighten screws *firmly*, making sure the screw heads are centered in the slots and flush with the container surface.

Maintenance

To keep your machine operating smoothly, it is essential that all bearings and bushings be lubricated. Oiling moving parts is particularly important where machine comes in contact with sand, grit and other abrasive material.

DISCONNECT MACHINE FROM POWER SOURCE BEFORE PERFORMING MAINTENANCE ON MACHINE!

CABLE MAINTENENCE

To get maximum service from your cables, be sure that they are clean and well oiled. This not only provides running lubrication but greatly extends the life of the cables as well. Some users periodically pour oil directly into the drum. Then, as the drum turns, the cables get complete lubrication. Our SNAKE OIL is ideally suited for this purpose, since it not only lubricates the cables, it deodorizes them as well.

TO CLEAN OR REPLACE GRIPPERS

If your Super-Vee is not gripping the cable properly, the cable grippers may need to be cleaned or replaced.

1. Loosen the 3/8” set screws and the slotted screw in the front collar.
2. Remove the front collar and slide off the grip shield.
3. Remove screws holding the cable grippers.
4. Clean or replace cable grippers.
5. Re-grease grippers and reassemble.

TO REMOVE MOTOR

1. Loosen the three screws that hold the container front and back together.
2. Pull the container front off of the machine.
3. Loosen the two set screws in the beveled collar and remove both the collar and the felt washer.
4. Slide a flat head screw driver into the Hub Spindle and unscrew the *Left Hand* locking screw from the drive shaft by turning it clockwise.
5. Unscrew the Hub Spindle from the *Right Hand* Drive Shaft by rotating the container back counter-clockwise. *Note: The Hub Spindle, Hub, and Container Back remain as one unit.* The thrust bearing will spin freely.
6. Reverse these instructions to re-assemble.

TROUBLE SHOOTING GUIDE (TABLE 3)

Problem	Probable Cause	Solution
Cable kinks or breaks.	Operator forcing the cable.	Do not force the cable. Let the cutter do the work.
	Too much slack between machine and drain.	Do not allow more than six inches between machine and drain.
	Cable used in wrong size drain line.	A cable that is too large or too small in diameter for a line is more likely to kink. (Consult Table 1—Cable Applications.)
	Cable exposed to acid	Clean and oil cables regularly.
Cable tangles in container.	Operator forcing the cable.	Do not force the cable. Let the cutter do the work.
Motor does not run.	Trigger in neutral (off) position.	Switch Trigger to either Forward or Reverse.
Motor turns in one direction but not other.	Reverse switch failure.	Replace reverse switch.

For Parts List and Schematic Diagram, see pages 22 and 23.