

Super-Vee™

Operating Instructions

**For 1-1/4" through 3" lines
(30mm – 75mm)**



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- *Para ver el español vea la pagin  17*

General
PIPE CLEANERS

Your Super-Vee 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 machine on the job. This will enable you to operate the Super-Vee more efficiently and more profitably. Failure to follow these instructions may cause personal injury to operator or damage to equipment.

SAVE THESE INSTRUCTIONS!

Safety Instructions



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.



Wear only 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.



Use safety equipment. Always wear safety glasses and rubber soled, non-slip shoes.



Never operate machine with guard removed. Fingers can get caught in the mechanism.



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

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

1. **Keep your 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.
4. **Do not let visitors contact the tool or extension cord.** Such preventative measures reduce the risk of injury.

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 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.
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. **Don't 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. **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.
8. **Use proper extension cords.** Insufficient conductor size will cause excessive voltage drop and loss of power.
9. **Keep all electric connections dry and off the ground. Do not touch plugs or tools with wet hands.** Reduces the risk of electric shock.
3. **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.
4. **Store idle tools out of reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.
5. **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.
6. **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.
7. **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.

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. **Use safety equipment. Always wear eye protection.** Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.
8. **Inspect tool and extension cords periodically and replace if damaged.** Damaged cords increase risk of electrical shock.
9. **Keep handles dry and clean; free from oil and grease.** Allows for better control of the tool.
10. **Store tools in dry place.** Such measures reduce the risk of electrical shock.

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 Information

1. **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.

Tool Use and Care

1. **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.
2. **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.

2. **The Skil 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.
3. **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.
4. **Wear only leather gloves. Never use any other type of glove such as cloth, rubber, or coated gloves. Never grasp a rotating cable with a rag or cloth glove.** These items could become wrapped around cable and cause serious injury.
5. **Never operate machine with guard removed.** Fingers can get caught in the mechanism.
6. **Do not overstress cables.** Overstressing cables because of an obstruction may cause twisting, kinking, or breaking of the cable and may result in serious injury.
7. **Position machine within six inches of drain opening.** Greater distances can result in cable twisting or kinking. If you can't get the machine this close to the drain opening, run the cable through metal tubing or conduit to prevent cable whipping and kinking.
8. **Machine is designed for one-person operation.** Operator must control trigger and cable.
9. **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.
10. **Do not operate machine if operator or machine is standing in water.** Will increase risk of electrical shock.
11. **Wear safety glasses, rubber soled, non-slip shoes.** Use of this safety equipment may prevent serious injury.
12. **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.

13. **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.

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.

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 (Not 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 Number	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.

Note: Cutters may only be used with 3/8" cables and 5/16" cables with a female connector.

Operating Instructions

1. Slide the grip shield forward to release cable. Place the cable in the drain by hand as far as it will go. Leave six inches of cable between the machine and the drain.



2. Slide the grip shield back to grip the cable. 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.



3. After the cable has fed into the drain, release the trigger.
4. Slide the grip shield forward to release the cable. Pull the Super-Vee back while holding the cable in place. After you are past the first bend, you probably will not have to hold the cable as you pull the machine back.



5. 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.
6. Repeat procedure until you have worked through the stoppage.

7. Reverse the procedure to pull the cable out of the line.

CAUTION

Do not use reverse to pull the cable out of the drain. Always run your machine in **Forward**, whether you are feeding the cable into the line or pulling it out. Use reverse **only** to release cable if it should become caught in 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 CHANGING CARTRIDGES!

1. Remove the cutter and screw from the cable, if one is attached.
2. Loosen the three screws that hold the front and back of drum together.
3. Pull the drum off of the front of the machine.
4. Remove the cartridge. Press replacement cartridge firmly into the back of the drum. Make sure to line up the grooves in the cartridge with the slots in the drum back.
5. Slide cable through the front of the drum. Be sure the grip shield is in the forward position. Position the drum front so that the screws and slots in the drum back are aligned.
6. Tighten the screws firmly, making sure they are centered in the slots, and tightened so that the heads of the screws are flush with the drum.



MAINTENANCE



DISCONNECT MACHINE FROM POWER SOURCE BEFORE PERFORMING 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.

CABLE MAINTENANCE

To get maximum service from your cables, be sure that they are clean and well oiled. This not only provides complete lubrication, but greatly extends the life of the cables as well. 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 front and back of the drum together.
2. Pull the drum off of the front of the machine.
3. Remove cable cartridge.
4. Loosen the set screws in the beveled collar and remove both the collar and the felt washer.
5. 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.
6. Unscrew the Hub Spindle from the Right Hand Drive Shaft by rotating the drum back counter-clockwise. *Note:* The Hub Spindle, Hub, and Drum Back remain as one unit; the Thrust Bearing will come free.
7. Reverse these instructions when re-assembling.

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 drum.	Operator forcing the cable.	Do not force the cable. Let the cutter do the work.
	Machine run in reverse.	Do not run machine in reverse to retract cable from drain. Use reverse only if cable is caught in line.
Motor does not run.	Trigger in neutral (off) position.	Switch Trigger to either Forward or Reverse.

See pages 22 and 23 for Parts List and Schematic Diagram.

Symbol	Name	Symbol	Name
V	Volts	→	Action direction or arrow
A	Amperes	~	Alternating current
Hz	Hertz	□	Designates double insulated
n _o	No load speed	UL	Designates this tool is listed by Underwriters Laboratories
.../min	Revolutions per minute	CSA	Designates this tool is listed by Canadian Standards Association