

Super-Vee *Operating Instructions*

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



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 POWER TOOL SAFETY WARNINGS

WARNING

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

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE USE!

The term “power tool” in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

Work Area Safety

1. **Keep work area clean and well lit.** Cluttered or 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 children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

Electrical Safety

1. **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.
2. **Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or 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 carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged cords increase the risk of electric shock.
5. **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.
6. **If operating a power tool in a damp location is unavoidable, use a ground fault circuit interrupter (GFCI) protected supply.** Use of an GFCI reduces the risk of electric shock.
7. **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.

Personal Safety

1. **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are 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. **Use personal protective equipment. Always wear eye protection.** Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
3. **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energizing power tools that have the switch on invites accidents.
4. **Remove any adjusting key or wrench before turning the power tool on.** A wrench or key that is left attached to a rotating part of the power tool may result in personal injury.
5. **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
6. **Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.
7. **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust-related hazards.

Power Tool Use and Care

1. **Do not force the power tool. Use the correct power 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 the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
3. **Disconnect the plug from the power source and/or battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
4. **Store idle power tools out of reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
5. **Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.
6. **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
7. **Use the power tool, accessories and tool bits, etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.

Service

1. Have your power tool serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the power tool is maintained.

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 listed tester to determine if the outlet is safe.

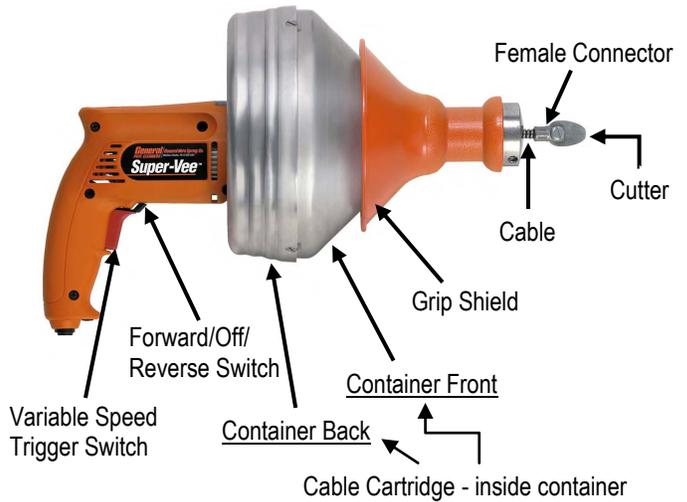


Do not overstress cables. Overstressing cables may cause twisting, kinking, or breaking of the cable and may result in serious injury.

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. **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.
3. **Place the machine at a distance not greater than six inches (15cm) from drain opening.** Greater distances can result in cable twisting or kinking.
4. **Machine is designed for ONE-PERSON operation.** Operator must control trigger switch and cable.
5. **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.
6. **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.
7. **Do not operate machine if operator or machine is standing in water.** Will increase risk of electrical shock.
8. **Wear safety glasses and rubber soled, non-slip shoes.** Use of this safety equipment may prevent serious injury.

9. **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.
10. **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



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

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.

Maximum Capacity: 50 ft. of 1/4" or 5/16" cable, or 35 ft. of 3/8" cable.

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

OPERATION

SET-UP



DISCONNECT MACHING FROM POWER SOURCE BEFORE ATTACHING CUTTER!

- 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.
- 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.
- 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.
- Place machine at a distance not greater than six inches (15cm) 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.



OPERATION

- Plug machine into a properly grounded outlet.
- Move the motor switch to the **forward** position.
- Slide the grip shield forward to release cable. Place the cable in the drain by hand as far as it will go.



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

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



- 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.

- After the cable has fed into the drain, release the trigger.
- 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.
- 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.
- Repeat procedure until you have worked through the stoppage.

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.

- Reverse the procedure to pull the cable out of the line.
- When you hear the end of the cable near the drain opening, take your finger off of the trigger switch to stop cable rotation. Never retract the cutter from the drain opening while the cable is rotating. The cable could whip and cause serious injury.

TO CHANGE CABLE CARTRIDGES



DISCONNECT MACHINE FROM POWER SOURCE BEFORE INSTALLING CABLES OR CARTRIDGES!

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



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 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)

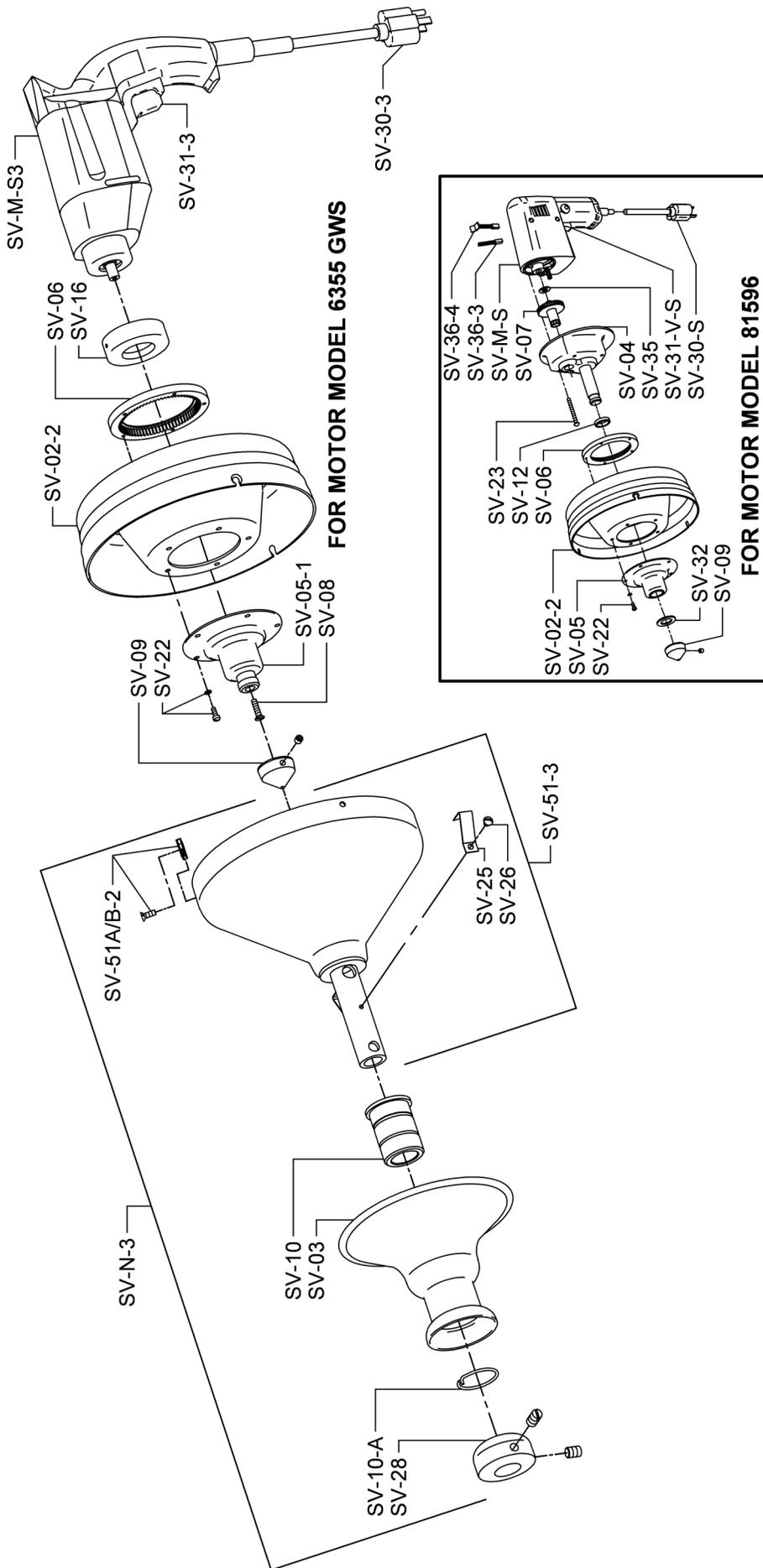
Problem	Probable Cause	Solution
Cable kinks or breaks.	Operator forcing the cable.	Do not force the cable. Let the cutter do the work.
	Too much slack between machine and drain.	Do not allow more than six inches between machine and drain.
	Cable used in wrong size drain line.	A cable that is too large 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.

SUPER-VEE PARTS LIST

CAT. NO.	DESCRIPTION	CAT. NO.	DESCRIPTION
SV-M-S	Skil Variable Speed Motor #81596	*SV-28	Front Collar w/Set Screws
SV-M-S3	Skil Variable Speed Motor #6355-GWS	SV-30-S	Cord Set for Motor #81596
SV-M-S/220	Skil Variable Speed Motor 220 Volts/50 Hz	SV-30-3	Cord Set for Motor #6355-GWS
SV-M-SC12	Cordless Variable Speed Motor	SV-30-S/220	Cord Set for 220/50 Motor
SV-N-3	Complete Super-Vee Front Assembly	SV-31-V-S	Trigger Switch Assembly for Motor #81596
SV-51-1	Container Front - Includes SV-51-A & SV-51-B-1 (Ser. #AS19205 thru AS57101)	SV-31-3	Trigger Switch Assembly for Motor #6355-GWS
*SV-51-3	Container Front - Includes SV-51-A & SV-51-B-1 (Ser. #AS57102 & Up)	SV-31-V-S/200	Trigger Switch Assembly for 220/50 Motor
SV-51-A/B-1	Set of 3 Thumb Nuts, Bolts & Nuts (Ser. #AS19205 thru AS57101)	SV-32	Felt Washer
SV-51-A/B-2	Set of 3 "U" Nuts & Flat Head Screws (Ser. #AS57102 & Up)	SV-33	Armature for Motor #81596
SV-02-1	Container Back - Discontinued (Replace w/SV-51-3 & SV-02-2)	SV-33-3	Armature for Motor #6355-GWS
SV-02-2	Container Back (Use w/SV-51-3 Front Only)	SV-33/220	Armature for 220/50 Motor
*SV-03	Grip Shield	SV-34	Field for Motor #81596
SV-04	Gear Case Body for Motor #81596	SV-34-3	Field for Motor #6355-GWS
SV-05	Gear Case Cap for Motor #81596	SV-34/220	Field for 220/50 Motor
SV-05-1	Container Hub for Direct Drive Unit	SV-35	Spacer Washer
SV-06	Internal Ring Gear	SV-36-3	Brush Spring & Brush (2) for Motor #81596, Type 2
SV-07	Pinion & Spindle Gear Assembly for Motor #81596	SV-36-4	Integral Brush, Spring, & Connector (2) for Motor #81596, Type 3
SV-08	Screw for Direct Drive Unit	SV-36-5	Brush & Holder Set for Motor #6355-GWS
SV-09	Beveled Collar w/Set Screw	SV-36/220	Brush Spring & Brush for 220/50 Motor
*SV-10	Spindle Sleeve (Incl. SV-10-A)	SV-37	Left & Right Handle Cover Set for Motor #81596
SV-10-A	Spindle Sleeve Retaining Ring	SV-37-3	Left & Right Handle Cover Set for Motor #6355-GWS
SV-12	Spacer Washer	SV-37-C	Set Screws & Nuts for Skil Type 2 & 3 Handle Cover
SV-16	Thrust Bearing for Motor #6355-GWS	SV-38	Motor Housing for Motor #81596
SV-22	Machine Screws w/Lock Washers (5)	SV-39-3	Holder for Brush & Spring (2) Type 3 Motors
SV-23	Fillister Head Screws (4)	B12	Battery Pack - 12 v
*SV-25	Cable Grippers (2)	C12	Battery Charger
*SV-26	Screws w/Locktite (2)	PC	Plastic Cartridge
		SV-DECAL	Set of Safety Decals
		SV-VIDEO	Instructional Video
		SV-MCC	Carrying Case

*Part Number SV-N-3 Includes All * Parts.

SUPER-VEE SCHEMATIC DIAGRAM



IMPORTANT: When ordering, give Serial Number of Machine.

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