

Model: A150

# Drain Cleaning Machine Operation Manual



## **WARNING!**

Read this Operator's Manual carefully before using this tool. Failure to understand and follow the contents of this manual may result in electrical shock, fire and/or serious personal injury.

## **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.

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. Tools create sparks which may ignite the dust or fumes.
- Keep bystanders, children, and visitors away while operating a 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 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.
- Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators. There is an increased risk of electrical shock if your body is grounded.
- Do not expose electrical tools to rain or wet conditions. Water entering a tool will increase the risk of electrical shock.
- Do not abuse 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 electrical shock.

- When operating a tool outside, use an outdoor extension cord marked “W-A” or “W”. These cords are rated for outdoor use and reduce the risk of electrical 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 electrical shock.

- Use proper extension cords. Insufficient conductor size will cause excessive voltage drop, 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 electrical 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 electrical shock from the extension cords.

- Keep all electric connections dry and off the ground. Do not touch plugs or tool with wet hands. Reduces the risk of electrical 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 medications. 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. Carrying tools with your finger on the switch or plugging tools in that have the switch ON invites accidents.

Remove adjusting keys or switches before

turning the tool ON. A wrench or a key that is left attached to a rotating part of the tool may result in personal injury.

- Do not over-reach. 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 preventive safety measures reduce the risk of starting the tool accidentally.
- Store idle tools out of the 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 electrical shock or injury.

### **Specific Safety Information**

**Read this operator's manual carefully before using the A150 Drain Cleaner. Failure to understand and follow the contents of this manual may result in electrical shock, fire and/or serious personal injury.**

### **Drain Cleaner Safety**

- Wear leather mitt provided with machine. Never grasp a rotating cable with a cloth or loose fitting cloth glove. Could become wrapped around cable and cause serious injury.
- Do not overstress cables. Keep one hand on the cable for control when the machine is running. Overstressing cables because of obstruction may cause twisting, kinking or breaking of the cable and result in serious injury.
- Position machine within two feet of inlet. Use Front End Guide Hose when it is difficult to locate the machine near the access or clean out. Greater distances can result in cable twisting or kinking.
- Do not operate machine in (REV) reverse. Operating machine in reverse can result in cable damage and is used only to back tool out of an obstruction.
- Be careful when cleaning drains where cleaning compounds have been used. Avoid

direct contact with skin and eyes. Serious burns can result from some drain cleaning compounds.

- Do not operate machine if operator or machine is standing in water. Will increase the risk of electrical shock.
- Wear safety glasses and rubber soled, non-slip shoes. Use of this safety equipment may prevent serious injury.
- Only use the A150 to clean drain lines up to 6" in diameter. Follow instructions on the use of the machine. Other uses or modifying the drain cleaner for other applications may increase the risk of injury.

### Description, Specifications and Standard Equipment

#### Description

The A150 is a portable Drain Cleaning Machine designed to clean 1 1/4" to 6" drain lines. Applications include sink, shower and floor drains. Capable of running 2 different size cables: 16mm and 22mm.

The machine is driven by a 750W motor that has a grounded electrical system. A toggle switch provides FORWARD/OFF/REVERSE control of the motor.

The A150 is designed to use 5/8"(16mm) and 7/8"(22mm) diameter sectional-type cable that has a quick change coupling system for disconnecting tools. The cable is manually fed in and out of the drain and rotates at a speed of 460 RPM. The rotation of the cable is controlled by a clutch handle. The cable stops instantly when the clutch handle is released.

The A150 is also designed to use with the adapter (optional) which hold 5/16"(8mm) continuous length cables. Rotation of the adapter is controlled by the clutch handle. The cable adapter is equipped with a quick-acting brake which immediately stops rotation of the drum when the clutch handle is pulled upward.

#### Specifications

Line Capacity .....Depends on choice of

cable.

Cable Sizes .....16mm, 22mm  
Motor Type .....115V/50-60 Hz,  
Reversible, 230V Available Upon Request  
Rating .....750W (input 1100W)  
Amps .....5.5A/10A  
Weight.....22.5KG

#### Dimensions

Length ..... 455mm  
Height .....525mm  
Width ..... 250mm

#### Machine Inspection

To prevent serious injury, inspect your Drain Cleaning Machine. The following inspection procedures should be performed before each use.

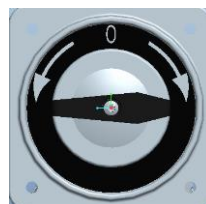
1. Make sure the Drain Cleaning Machine is unplugged and the directional switch is set to the OFF position.(Figure 1)



Left: to reverse



Middle: to stop



Right: to forward

Fig 1

2. Inspect the power cord and plug for damage. If the plug has been modified, is missing the grounding prong or if the cord is damaged, do not use the Drain Cleaning Machine until the cord has been replaced.

3. Inspect the Drain Cleaning Machine for any broken, missing, misaligned or binding parts as well as any other conditions which may affect the safe and normal operation of the machine. If any of these conditions are present, do not use the Drain Cleaning Machine until any problem has been repaired.

4. Lubricate the Drain Cleaning Machine, if necessary, according to the Maintenance Instructions.

5. Use tools and accessories that are designed for your drain cleaner and meet the needs of your application.

The correct tools and accessories allow you to do the job successfully and safely. Accessories suitable for use with other equipment may be hazardous when used with this drain cleaner.

6. Clean any oil, grease or dirt from all equipment handles and controls. This reduces the risk of injury due to a tool or control slipping from your grip.

7. Inspect the cutting edges of your tools. If necessary, have them sharpened or replaced prior to using the Drain Cleaning Machine. Dull or damaged cutting tools can lead to binding and cable breakage.

8. Inspect cables and couplings for wear and damage. Cables should be replaced when they become severely worn or corroded. A worn cable can be identified when the outside coils become flat. Worn or damaged cables can break causing serious injury.

### Machine Set-Up

#### **WARNING**

*Do not place machine in water. Water entering the motor can result in electrical shock.*

*To prevent serious injury, proper set-up of the machine and work area is required. The following procedures should be followed to set-up the machine:*

#### **Set-Up For 5/8" (16mm) Sectional Cable**

1. Check work area for:

- Adequate lighting
- Grounded electrical outlet
- Clear path to the electrical outlet that does not contain any sources of heat or oil, sharp edges or moving parts that may damage electrical cord.
- Dry place for machine and operator. Do not use the machine while standing in water.
- Flammable liquids, vapors or dust that may ignite.

2. Position the Drain Cleaning Machine within 2' of drain inlet. Greater distance can result in cable twisting or kinking.

3. Make sure FOR/OFF/REV switch is in the OFF position.

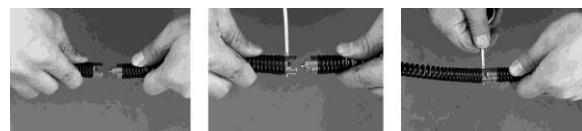
4. Insert first cable into front of machine (female end first) and push through until approximately one foot remains out the front of the machine (Figure 2).



**Figure 2 – Inserting Cable Into Front Of Machine**

Never couple more than one cable at a time. Cable will extend behind rear guide tube.

6. Select and install the proper tool to the end of the cable. The T-Slot Coupler allows the tool to be snapped into the cable coupler (Figure 3). To remove tool, use the pin key to depress the plunger and slide the coupling apart.



**Figure 3 – Coupling and Uncoupling Tools**

7. Plug the Drain Cleaning Machine into the electrical outlet, making sure to position the

power cord along the clear path selected earlier. If the power cord does not reach the outlet, use an extension cord in good condition.

### **Warning**

To avoid electric shock and electrical fires, never use an extension cord that is damaged or does not meet the following requirements:

If the wire thickness is too small, the cord may overheat, melting the cord's insulation or causing nearby objects to ignite. To reduce risk of electrical shock, keep all electrical connections dry and off the ground. Do not touch plug with wet hands.

### **Set-Up For 5/16" Cable Adapter (Optional)**

1. Make sure FOR/OFF/REV switch is in the OFF position.
2. Pull ten inches of cable from cable adapter and slide into back of A150.
3. Lift plunger pin on cable adapter and depress clutch handle on machine to allow cable adapter to slip into drilled hole (Figure4). Be sure plunger has locked into machine.



**Fig 4**

NOTE! By pulling down hard on clutch handle, the adapter will spin. With an upward snap of clutch handle, the adapter will stop instantly, preventing overrun or kinking. The built-in brake increases life of cable.

4. Position machine as close to line opening as possible and follow same set-up procedure as described for use with 5/8" sectional cable.
5. Check that the adapter stops instantly when

clutch handle is pulled upward. If adapter coasts, see Special Procedures section to adjust brake.

### **Operating Instructions**

#### **WARNING**

*Wear mitts with rivets provided with machine. Never grasp a rotating cable with a rag, loose fitting cloth or leather glove that may become wrapped around the cable causing serious injury. Always wear eye protection to protect your eyes against dirt and other foreign objects. Wear rubber soled, non-slip shoes.*

Be very careful when cleaning drains where cleaning compounds have been used. Wear gloves when handling cable and avoid direct contact to the skin and especially the eyes and facial area as serious burns can result. Do not operate if clutch handle is damaged or does not function properly. Clutch is a safety feature designed to stop rotation of cable or adapters when released.

It is important to know approximate distance from inlet to main sewer or septic tank. Over-running cable too far into main sewer or septic tank can cause cables to knot up and prevent their return through small line.

### **Cleaning Drain using 5/8" Sectional Cable**

1. Assume the correct operating posture in order to maintain proper balance.

Should an unexpected situation arise, this posture provides you with the opportunity to safely keep control of the machine and cable.

- Be sure you can quickly release the clutch handle.
- Hand must be on the cable to control its twisting action when it hits an obstruction.
- Must have access to FOR/OFF/REVERSE switch.

2. Without turning the machine on, pull sufficient cable out of the machine to start tool and cable into the drain inlet. Push cable into inlet as far as it will go.

3. Pull enough extra cable through machine to form almost a half circle between machine and

line opening.

4. Hold cable loosely in mitted hand. Put FOR/OFF/REVERSE switch in FOR (forward) position.

*NOTE! The motor will start but cable will not rotate.*

5. With mitted hand on cable, push down on clutch handle with opposite hand to engage cable. Push down on top of the cable loop with a definite snap to advance the cable.



**Fig 5**

*NOTE! A slow or gradual engaging of the clutch handle causes excessive wear of the jaw set. The clutch is instant-acting and returning clutch handle to its original position frees cable instantly.*

6. As soon as excess cable has gone into line, release clutch handle and pull six to ten inches of cable out of machine with mitted hand.

7. Continue to feed the cable into the line until resistance or obstruction is encountered. This will become apparent to operator as it will be difficult to feed additional cable into line and/or the cable will have a tendency to twist sideways in operator's hands.

8. If cable loads down in the obstruction, relieve load by pulling back on cable with short, quick jerks to free cutter. Slowly advance cable back into the obstruction.

Repeat this process until the obstruction is clear. Remember, make sure the cutter is rotating at all times and never force the cable. At this point, progress depends upon the sharpness of the

tool and nature of the obstruction.

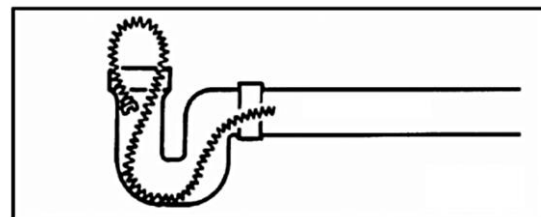
### **WARNING**

Do not allow tension to build up in the cable. This will happen if the cutting tool hits a snag and stops turning, but the motor and cable continue to rotate. Torque builds until the cable suddenly twists, potentially wrapping around your hand or arm. This can happen quickly and without warning, so proceed slowly and carefully as you feed the cable into the drain. Releasing clutch handle will stop the cable rotating and releases the torque. If tool gets hung up in an obstruction, refer to Reverse Operating Instructions in the "Special Procedures" section.

9. Once obstruction is cleared, it is recommended that operator flush debris from line with running water. Repeat Step 8 several times if necessary for thorough cleaning job and then work cable through additional stoppages as required.

10. To add cable, the following procedure should be followed:

- After reaching the end of each cable section, turn the machine OFF.
- Secure the cable by looping it in the line (Fig 6).



**Figure 6 – Looping Cable In Line**

This procedure is especially useful when cleaning a line that has rapid fall, such as working from a stack line.

- With line secured, insert another section of cable in through the front of the machine (female end first) until approximately one foot remains out the front of the machine.
- Attach cable to cable in line and resume operation.

11. To retrieve cable from drain line, the following procedure should be followed:

- Leave FOR/OFF/REV switch in FOR (forward) position.
  - Push down on clutch handle to engage cable. With mittened hand pull cable out of line (if possible) or hold cable against edge of inlet to thread the cable out until loop forms in front of the machine. NOTE! By holding the cable against the edge of the inlet, in the FOR (FORWARD) position, the rotation will rapidly “thread” the cable out of the line.
  - When loop forms, release clutch handle and push excess cable back through machine. Disconnect one section at a time. When disconnecting sections, remember to turn unit off and secure cable in line.
  - Once section of cable is removed, insert the secured cable in through the front of the machine and continue removing sections until tool on last section of cable is just inside sewer inlet. Never retract tool from sewer inlet while cable is rotating. Tool can whip causing serious injury.
12. Turn FOR/OFF/REV Switch to OFF position.
13. Pull remaining cable and tool from sewer. After using, thoroughly flush and drain cables, couplings and tools with water due to damaging effects of some drain cleaning compounds.

### **Cleaning Drain Using 5/16" Cable Adapter (optional)**

1. Assume the correct operating posture in order to maintain proper balance. Should an unexpected situation arise, this posture provides you with the opportunity to safely keep control of the machine and cable.
- Be sure you can quickly release the clutch handle.
  - Hand must be on the cable to control its twisting action when it hits an obstruction.
  - Must have access to FOR/OFF/REVERSE switch.
2. Pull out enough cable by hand to insert into the drain opening and hand-feed the cable into drain until it stops feeding easily. Push cable

- down drain line keeping your control hand close to the drain opening.
3. Hold cable loosely in mittened hand, put FOR/OFF/REV SWITCH in FOR (forward) position.
- NOTE! The motor will start but cable will not rotate.*
4. With mittened hand on cable, push down on clutch handle with opposite hand to engage adapter.
5. Continue hand-feeding the cable slowly until the drain is opened or blockage is encountered. Keep your cable hand close to the drain opening to keep control of the cable and help prevent cable flip-over.
6. When you reach the blockage, work the cable back and forth to clear the obstruction. At this point, progress depends on the type of tool being used and nature of the blockage. Advance cable slowly.
7. If cable gets hung up in the obstruction, release the clutch handle to stop the rotation of the cable. Refer to “Reverse Operation” in the “Special Procedures” section.
8. Once obstruction is cleared, it is recommended that operator flush debris from line with running water. Repeat Step 6 several times if necessary for thorough cleaning job and then work cable through additional stoppages as required. Cable is not attached inside drum. When approaching end of cable, keep hand securely on cable to avoid losing it down the drain.
9. To withdraw cable from line with machine running, leave FOR/REV lever in FORWARD position and slowly pull cable from drain.
10. As excess cable is retrieved from line, hand-feed cable back into A150.
11. Release clutch handle just prior to cable or tool emerging from drain opening. Cable or tool may contain debris and splash work area. Never retract tool from sewer inlet while cable is rotating. Tool can whip causing serious injury.



12. Turn FOR/OFF/REV Switch to OFF position.
13. Pull remaining cable and tool from sewer.

### **Special Procedures**

#### **Reverse Operation**

Running machine in reverse will cause premature failure of cable. Use reverse only to free a tool or cable caught in an obstruction. If this should occur, immediately release clutch handle and place FOR/OFF/REV switch to OFF position. After motor comes to a complete stop, place FOR/OFF/REV switch in the REV (reverse) direction. Engage clutch handle only until cable or tool is free of obstruction. Once it is free, release clutch handle immediately. Turn unit OFF. Run unit in FOR (forward) direction and follow normal operating procedure.

Never operate this machine in REV (reverse) for any other purpose. Operating in reverse can damage a cable and cause serious injury.

### **Maintenance Instructions**

#### **WARNING**

*Make sure machine is unplugged from power source before performing maintenance or making any adjustment.*

#### **Lubrication**

Lubricate machine with grease at grease fitting (located on jaw housing) once a week if used every day; once a month if used less. Place a drop of oil on each of the bearing points, thrust bearing, clutch jaws, etc., at least once a year.

#### **Cables**

Cables should be thoroughly flushed with water to prevent damaging effects of sediment and drain cleaning compounds.

Periodically lubricate cables and couplings.

When not in use, store cables indoors to prevent deterioration by the elements.

Cables should be replaced when they become severely corroded or worn. A worn cable can be identified when outside of coils become flat.

### **Cable Containers**

Cable container on 5/16" cable adapter (optional) should be periodically cleaned.

1. Remove cable from the cable adapter. Cable is not attached to inside of drum.
2. Remove three 1/4" screws holding tube and flange to the drum.
3. Clean inside of drum and flange assembly. Certain cleaning agents and solvents damage plastic parts. Some of these are: gasoline, carbon tetrachloride, chlorinated cleaning solvents, ammonia and household detergents that contain ammonia. Avoiding use of these and other types of cleaning agents minimizes the probability of damage.
4. Reinstall the flange assembly to the drum and replace cable.

### **Machine Storage**

Motor-driven equipment must be kept indoors or well covered in rainy weather. Store the machine in a locked area that is out of reach of children and people unfamiliar with drain cleaners. This machine can cause serious injury in the hands of untrained users.

If machine has been exposed to freezing weather, unit must be run for ten (10) to twenty (20) minutes without load to warm up. Failing to do this will result in frozen bearings. If machine is exposed to weather for a period of time, moisture will form across motor windings causing motor to burn out.