

K-45 Drain Cleaning Machine



⚠ 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.

• Français – 17

• Castellano – pág. 37

Table of Contents

Recording Form For Machine Serial Number	1
Safety Symbols	2
General Power Tool Safety Warnings	
Work Area Safety	2
Electrical Safety	2
Personal Safety	3
Power Tool Use and Care	3
Service	3
Drain Cleaner Safety Warnings	3
Description, Specifications and Standard Equipment	
Description	4
Specifications	5
Standard Equipment	5
Pre-Operation Inspection	6
Machine and Work Area Set Up	7
Operating Instructions	8
Operation	9
Feeding The Cable Into The Drain	9
Maintenance Instructions	11
Cleaning	11
Cables	12
AUTOFEED®	12
Changing Cables	
Changing Inner Drum	12
Loading Cable Into Inner Drum	13
Loading Cable Without Changing The Inner Drum	13
Accessories	14
Machine Storage	14
Service and Repair	14
Disposal	15
Troubleshooting	16
Lifetime Warranty	Back Cover

*Original Instructions - English

Drain Cleaner

K-45 Drain Cleaning Machine



⚠ 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.

K-45 Drain Cleaning Machine

Record Serial Number below and retain product serial number which is located on nameplate.

Serial
No.

Safety Symbols

In this operator's manual and on the product, safety symbols and signal words are used to communicate important safety information. This section is provided to improve understanding of these signal words and symbols.

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 hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE NOTICE indicates information that relates to the protection of property.



This symbol means read the operator's manual carefully before using the equipment to reduce the risk of injury. The operator's manual contains important information on the safe and proper operation of the equipment.



This symbol means always wear safety glasses with side shields or goggles when handling or using this equipment to reduce the risk of eye injury.



This symbol indicates the risk of hands, fingers or other body parts being caught, wrapped or crushed in the drain cleaning cable.



This symbol indicates a risk of electrical shock.

General Power Tool Safety Warnings*

⚠ WARNING

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

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE!

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

Work Area Safety

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

Electrical Safety

- **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.

- **Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electrical shock if your body is earthed or 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 for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.
- **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.
- **If operating a power tool in a damp location is unavoidable, use a ground fault circuit interrupter (GFCI) protected supply.** Use of a GFCI reduces the risk of electric shock.

* The text used in the General Power Tool Safety Warnings section of this manual is verbatim, as required, from the applicable UL/CSA 60745 4th edition standard and EN/IEC 60745. This section contains general safety practices for many different types of power tools. Not every precaution applies to every tool, and some do not apply to this tool.

Personal Safety

- **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a 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.
- **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.
- **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.
- **Remove any adjusting key or wrench before turning the tool ON.** A wrench or a key left attached to a rotating part of the power 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.
- **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.
- **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

- **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.
- **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.
- **Disconnect the plug from the power source and/or the 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.
- **Store idle power tools out of the 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.
- **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.
- **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- **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

- **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.

Drain Cleaner Safety Warnings

WARNING

This section contains important safety information that is specific to this tool.

Read these precautions carefully before using this Drain Cleaning Machine to reduce the risk of electrical shock or other serious personal injury.

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE!

Keep this manual with the machine for use by the operator.

- **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.

- **Only wear RIDGID Drain Cleaning gloves. Never grasp the rotating cable with anything else, including cloth gloves or a rag.** They can become wrapped around the cable, causing hand injuries. Only wear latex or rubber gloves *under* leather work gloves. Do not use damaged gloves.
- **Do not allow the end of cable to stop turning while the machine is running.** This can overstress the cable and may cause twisting, kinking or breaking of the cable.
- **Position machine so that the cable outlet is within 12" (30 cm) of the drain inlet or properly support exposed cable when the distance exceeds 12" (30 cm).** Greater distances can cause control problems leading to twisting, kinking or breaking of the cable.
- **One person must control both the cable and the switch.** If the cutter stops rotating, the operator must be able to turn the machine motor off to prevent twisting, kinking and breaking of the cable.
- **Do not operate the machine in REV (reverse) rotation except as described in this manual.** Operating in reverse can result in cable damage and is used to back the tool out of blockages.
- **Do not wear loose clothing or jewelry. Keep your hair and clothing away from moving parts.** Loose clothing, jewelry or hair can be caught in moving parts.
- **Always use appropriate personal protective equipment while handling and using drain cleaning equipment.** Drains may contain chemicals, bacteria and other substances that may be toxic, infectious, cause burns or other issues. **Appropriate personal protective equipment always includes safety glasses and leather work gloves in good condition,** and may include equipment such as latex or rubber gloves, face shields, goggles, protective clothing, respirators and steel toed footwear.
- **Practice good hygiene.** Use hot, soapy water to wash hands and other body parts exposed to drain contents after handling or using drain cleaning equipment. Do not eat or smoke while operating or handling drain cleaning equipment. This will help prevent contamination with toxic or infectious material.
- **Do not operate this machine if operator or machine is standing in water.** Operating machine while in water increases the risk of electrical shock.
- **Only use drain cleaner to clean drains of recommended sizes according to these instructions.** Other uses or modifying the drain cleaning machine for other applications may increase the risk of injury.

The EC Declaration of Conformity (890-011-320.10) will accompany this manual as a separate booklet when required.

If you have any question concerning this RIDGID® product:

–

Description, Specifications and Standard Equipment

Description

K-45 is a hand held drain cleaning machine used to clean secondary drain lines (such as found in kitchens, bathrooms and utility rooms) from $\frac{3}{4}$ " (19mm) to $2\frac{1}{2}$ " (64mm) in diameter with the correct cable. Depending on the cable choice, the drum will hold up to 50 feet (15.2m) of cable.

The K-45 is available with two feed styles, manual feed and AUTOFEED® (AF). Both have a slide action chuck for quick locking/releasing of the cable. The AUTOFEED allows the cable to be advanced and retrieved with the push of a lever. Helps keep hands and work area clean. The manual version requires that the cable be fed in and out of the drum by hand.

The K-45 is a double insulated design equipped with a polarized plug. A FOR/REV switch controls drum and cable rotation and the variable speed ON/OFF switch provides control of the motor.

The two piece twist-lock drum will not dent or corrode, and allows easy access to the inner drum. The inner drum allows quick cable change out, helps prevent cable flip over in the drum, and reduces the likelihood of drum leakage.

Cables are available in three sizes – $\frac{1}{4}$ " (6mm), $\frac{5}{16}$ " (8mm), and $\frac{3}{8}$ " (10mm) diameters. The $\frac{1}{4}$ " (6mm) and $\frac{5}{16}$ " (8mm) cables are supplied with integral bulb augers. Some versions of these cables are supplied with the "Speed Bump" feature to indicate to the operator that they are near the end of the cable. $\frac{3}{8}$ " (10mm) cables are available with an integral bulb auger or with a quick change coupling for attaching tools.

Specifications

K-45 Line Capacity

Cable Size	Recommended Line Size
1/4" (6mm)	3/4" to 1 1/2" (19mm to 38mm)
5/16" (8mm)	3/4" to 1 1/2" (19mm to 38mm)
5/16" (8mm) IC (Inner Core)	1 1/4" to 2" (32mm to 50mm)
3/8" (10mm)	1 1/4" to 2 1/2" (32mm to 64mm)

See Accessories section for a listing of available cables and lengths



Figure 1 – K-45 Drain Cleaning Machine With Slide Action Chuck

- Motor TypeUniversal
- Motor Rating
 - 120V Motor..... Double Insulated
 - 120VAC single phase
 - 3.2 amp, 50/60Hz
 - 120V~
 - 3,2 A, 50/60Hz
 - 230V Motor..... Double Insulated
 - 230V~ 50/60Hz
 - 2,2 A, 280W
- ON/OFF Switch**Variable Speed Reversing
- No Load Speed**0-600 r/min (RPM)
- Drain Line Capacity**3/4" (19mm) thru 2 1/2" (64mm)
- Weight w/C1-IC Cable**
 - Manual Feed**12.6 lbs. (5.7kg)
 - AUTOFEED Feed**13.8 lbs. (6.3kg)

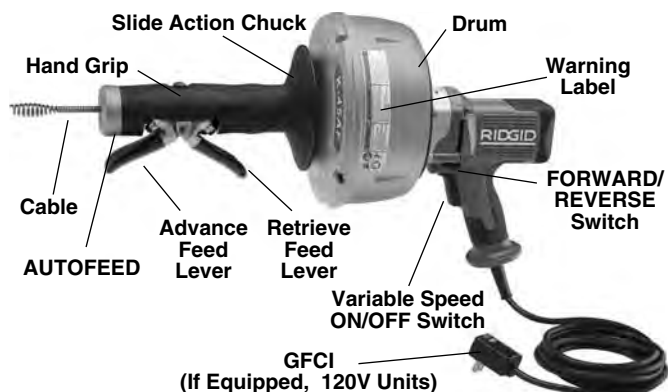


Figure 2 – K-45 AF Drain Cleaning Machine With AUTO-FEED



Figure 3 – Machine Serial Number

The machine serial number is located on the underside of the power unit. The last 4 digits indicates the month and year of the manufacture. (04 = month, 10 = year).

Standard Equipment

All K-45 Drain Cleaning Machines come with one pair of RIDGID Drain Cleaning gloves.

The K-45 drain cleaner is protected under various U.S. and International patents, including 7,685,669.

NOTICE This machine is made to clean drains. If properly used it will not damage a drain that is in good condition and properly designed, constructed and maintained. If the drain is in poor condition, or has not been properly designed, constructed and maintained, the drain cleaning process may not be effective or could cause damage to the drain. The best way to determine the condition of a drain before cleaning is through visual inspection with a camera. Improper use of this drain cleaner can damage the drain cleaner and the drain. This machine may not clear all blockages.

Pre-Operation Inspection

⚠ WARNING



Before each use, inspect your drain cleaning machine and correct any problems to reduce the risk of serious injury from electric shock, twisted or broken cables, chemical burns, infections and other causes and prevent drain cleaner damage.

Always wear safety glasses, RIDGID drain cleaning gloves, and other appropriate protective equipment when inspecting your drain cleaner. For extra protection, wear latex, rubber or other liquid barrier gloves under the RIDGID drain cleaning gloves.

1. Inspect the RIDGID drain cleaning gloves. Make sure they are in good condition with no holes, tears or loose sections that could be caught in the rotating cable. It is important not to wear improper or damaged gloves. The gloves protect your hands from the rotating cable. If the gloves are not RIDGID drain cleaning gloves or are damaged, worn out or do not fit snugly, do not use machine until RIDGID drain cleaning gloves are available. *See Figure 4.*



Figure 4 – RIDGID Drain Cleaning Gloves – Leather, PVC

2. Make sure that the drain cleaning machine is unplugged. Inspect the power cord, Ground Fault Circuit Interrupter (GFCI) (if equipped, 120V units) and plug for damage. If the plug has been modified, or if the cord is damaged, to avoid electrical shock, do not use the machine until the cord has been replaced by a qualified repair person.
3. Clean any oil, grease or dirt from all equipment handles and controls. This aids inspection and helps prevent the machine or control from slipping from your grip. Clean any debris from the cable and drum.
4. Inspect the drain cleaner for the following items:

- Proper assembly and completeness
- Broken, worn, missing, mis-aligned or binding parts
- Smooth and free movement of the ADVANCE and RETRIEVE feed levers, the slide chuck, and the drum.
- Presence and readability of the warning label (*see Figure 2*).
- Any other condition which may prevent safe and normal operation.

If any problems are found, do not use the drain cleaner until the problems have been repaired.

5. Inspect cable for wear and damage – Look for:
 - Obvious flats worn into the outside of the cable (cable is made from round wire and profile should be round).
 - Multiple or excessively large kinks (slight kinks up to 15 degrees can be straightened).
 - Space between the coils indicating the cable has been deformed by stretching, kinking or running in REVERSE.
 - Excessive corrosion from storing wet or exposure to drain chemicals.

All of these forms of wear and damage weaken the cable and make cable twisting, kinking or breaking more likely during use. Replace worn and damaged cable before using drain cleaner.

Make sure cable is fully retracted with no more than 2" (50mm) of cable outside of the drain cleaner. This will prevent whipping at start up.

6. Inspect the tools for wear and damage. If necessary, replace prior to using the drain cleaning machine. Dull or damaged cutting tools can lead to binding, cable breakage, and slow the drain cleaning process.
7. With dry hands, plug cord into outlet. Test the GFCI (if equipped) in the electrical cord to insure that it is operating correctly. When the test button is pushed in, the reset button should pop out. Reactivate by pushing the reset button in. If GFCI is not functioning properly, unplug the cord and do not use the drain cleaning machine until the GFCI has been repaired.
8. Do not push feed levers (AUTOFEED units Only). Press the ON/OFF switch and note the direction of rotation of the drum as compared to the FOR/REV arrows on the decals. If the ON/OFF switch does not control the machine operation, do not use the machine until the switch has been repaired. Release the switch and let the drum come to a complete stop. Move the FOR/REV switch to the opposite position, and repeat above testing to confirm that the drain cleaner operates properly in the other direction.



Figure 5 – FOR/REV Labels

9. With the inspection complete, move the FOR/REV switch to the FOR position (drum turning clockwise when viewed from the motor end), and with dry hands, unplug the machine.

Machine and Work Area Set-Up

⚠ WARNING



Set up the drain cleaning machine and work area according to these procedures to reduce the risk of injury from electric shock, twisted or broken cables, chemical burns, infections and other causes, and prevent drain cleaner damage.

Always wear safety glasses, RIDGID drain cleaning gloves, and other appropriate protective equipment when setting up your drain cleaner. For extra protection from chemicals and bacteria on the machine and in the work area, wear latex, rubber or other liquid barrier gloves under the RIDGID drain cleaning gloves. Rubber soled, non-slip shoes can help prevent slipping and electric shock, especially on wet surfaces.

1. Check work area for:
 - Adequate lighting.
 - Flammable liquids, vapors or dust that may ignite. If present, do not work in area until sources have been identified and corrected. The drain cleaner is not explosion proof and can cause sparks.

- Clear, level, stable dry place for machine and operator. Do not use the machine while standing in water. If needed, remove the water from the work area.
 - Clear path to electrical outlet that does not contain any potential sources of damage for the power cord.
2. Inspect the drain to be cleaned. If possible, determine the access point(s) to the drain, the size(s) and length(s) of the drain, distance to mainlines, the nature of the blockage, presence of drain cleaning chemicals or other chemicals, etc. If chemicals are present in the drain, it is important to understand the specific safety measures required to work around those chemicals. Contact the chemical manufacturer for required information.

If needed, remove fixture (urinals, etc.) to allow access to the drain. Feeding cable through a fixture could damage the drain cleaner and the fixture.

3. Determine the correct drain cleaning equipment for the application. The K-45 drain cleaner is made for:
 - $\frac{3}{4}$ " to $1\frac{1}{2}$ " (19mm to 38mm) lines up to 30' (9.1m) long with $\frac{1}{4}$ " (6mm) cable
 - $\frac{3}{4}$ " to $1\frac{1}{2}$ " (19mm to 38mm) lines up to 45' (13.7m) long with $\frac{5}{16}$ " (8mm) cable
 - $1\frac{1}{4}$ " to 2" (32mm to 50mm) lines up to 45' (13.7m) long with $\frac{5}{16}$ " (8mm) IC (Inner Core) cable
 - $1\frac{1}{4}$ " to $2\frac{1}{2}$ " (32mm to 64mm) lines up to 30' (9.1m) long with $\frac{3}{8}$ " (10mm) cable

Drain cleaners for other applications can be found by consulting the RIDGID Catalog, on line at www.RIDGID.com or www.RIDGID.eu.

4. Confirm that the equipment to be used has been properly inspected.
5. If needed, place protective covers in the work area. The drain cleaning process can be messy.
6. Determine if the K-45 cable outlet can be placed within 6" (15cm) of the drain opening. If not, the drain opening will need to be extended using similar size pipe and fittings so that the K-45 cable outlet can be placed within 6" (15cm) of the drain opening (See Figure 6). Improper cable support can allow the cable to kink and twist and damage the cable/fixture or injure the operator.

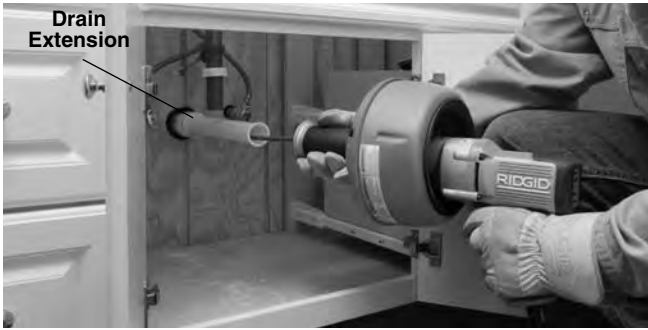


Figure 6 – Example Of Extending Drain To Within 6" (15cm) Of Drum Opening

7. Evaluate the work area and determine if any barriers are needed to keep bystanders away from the drain cleaner and work area. The drain cleaning process can be messy and bystanders can distract the operator.
8. Select proper tool for the conditions.

Most of the cable choices for the K-45 Drain Cleaning Machine incorporate a bulb auger end configuration. This is a good choice for use in small secondary drain lines. Use of a bulb auger allows the obstruction to be probed and fibrous blockages to be pulled out of the line.

The C-4, C-6 and C-6IC cable available for use with the K-45 Drain Cleaning Machine incorporate a male coupling that allows for the installation of various tools for cleaning drains.

If the nature of the obstruction is unknown, it is good practice to use a straight or bulb auger to explore the obstruction and retrieve a piece of the obstruction for inspection.

Once the nature of the obstruction is known, an appropriate tool can be selected for the application. A good rule of thumb is to start by running the smallest available tool through the blockage to allow the backed up water to start flowing and carry away the debris and cuttings as the drain is cleaned. Once the drain is open and flowing, other tools appropriate for the blockage can be used. Generally, the largest tool used should be no bigger than the inside diameter of the drain minus one inch.

Proper tool selection depends on the specific circumstances of each job and is left to the users' judgement.

A variety of other cable attachments are available and are listed in the Accessories section of this manual. Other information on cable attachments can be found in the RIDGID Catalog and on line at www.RIDGID.com or www.RIDGID.eu.

9. If needed, install the tool to the end of the cable. The T-slot coupler allows the cutting tool to be snapped into

the cable coupler. As the cutting tool is installed make sure that the spring-loaded plunger in the coupling on the end of the cable moves freely to retain the tool. If the pin sticks in the retracted position, the cutting tool may fall off in use. To remove cutting tool, insert the pin key into the hole in the coupling to depress the plunger and slide the coupling apart. (See Figure 7.)

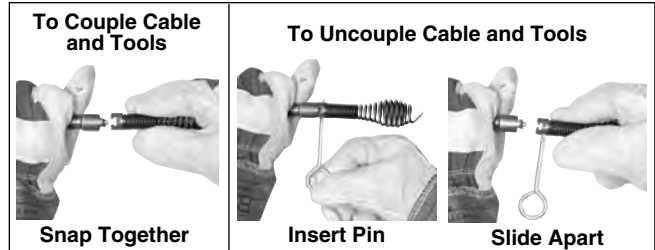


Figure 7 – Coupling and Uncoupling Tools

10. Run the cord along a clear path. With dry hands plug the drain cleaner into the outlet. Keep all connections dry and off the ground. If the power cord is not long enough, use an extension cord that:
 - Is in good condition.
 - Has a plug similar to that supplied on the drain cleaner.
 - Is rated for outdoor use and contains a W or W-A in the cord designation (i.e. SOW), or complies with H05VV-F, H05RN-F types or IEC type design (60227 IEC 53, 60245 IEC 57).
 - Has sufficient wire size (16 AWG (1.5mm²) for 50' (15.2m) or less, 14 AWG (2.5mm²) for 50' – 100' (15.2m – 30.5m) long). Undersized wires can over-heat, melting the insulation or causing a fire or other damage.

The GFCI on the drain cleaner (if equipped) does not protect the extension cord. If the outlet is not GFCI protected, use a plug in type GFCI between the outlet and the extension cord to reduce the risk of electrical shock from extension cord faults. If the drain cleaner is not equipped with a GFCI, use a plug in type GFCI between the outlet and the drain cleaner to reduce the risk of electrical shock.

Operating Instructions

⚠ WARNING



Always wear eye protection to protect your eyes against dirt and other foreign objects.

Only wear RIDGID drain cleaning gloves. Never grasp the rotating cable with anything else, including a glove or a rag. They can become wrapped around the cable, causing serious injury.

When cleaning drains that might contain hazardous chemicals or bacteria, wear appropriate protective equipment, such as goggles, face shields or respirators, to prevent burns and infections. For extra protection from chemicals and bacteria on the machine and in the work area, wear latex, rubber or other liquid barrier gloves under the RIDGID drain cleaning gloves. Rubber soled, non-slip shoes can help prevent slipping and electric shock, especially on wet surfaces.

Follow operating instructions to reduce the risk of injury from twisted or broken cables, cable ends whipping around, machine tipping, chemical burns, infections and other causes.

1. Make sure that machine and work area is properly set up and that the work area is free of bystanders and other distractions.
2. Assume a proper operating position that will allow:
 - Control of the drain cleaner, including the ON/OFF action of the switch. Do not press ON/OFF switch yet.
 - Good balance. Be sure that you do not have to over reach, and cannot fall on the cable.
 - Ability to maintain the cable outlet of the machine 6" (15cm) or less from the drain.

This will help maintain control of the cable and machine. See Figure 10.

3. Wearing RIDGID Drain Cleaning gloves, pull the handgrip forward to release the chuck. Pull cable out of machine and feed into drain. Push cable as far into drain as it will go. At least one foot of cable must be in drain so that the end of the cable will not come out of the drain and whip around when you start the machine.
4. Move the FOR/REV switch to the FOR (FORWARD) position (drum should rotate clockwise when viewed from motor end). See Figure 6. **Do not depress the ON/OFF switch yet.** FOR/REV refers to the cable rotation and not to the direction of cable movement. Do not rotate the cable in reverse except as specifically described in these instructions. Running the drain cleaner in REV can damage the cable.

Operation

The K-45 Drain Cleaning Machine is available in two different feed configurations, either manual feed or AUTOFEED. A K-45 supplied with the AUTOFEED can either feed the cable with the AUTOFEED (by depressing a feed lever) or by manually pulling the cable from the drum and feeding it into the drain. A K-45 without the AUTOFEED can only be used manually.

Feeding The Cable Into The Drain

Manual Operation

Confirm that at least 12" (30cm) of cable is in the drain and that the cable outlet of the drain cleaner is within 12" (30cm) of the drain opening. Move the handgrip away from the drum to release chuck from the cable. With your gloved hand, grip the cable close to the drain cleaner and feed the cable into the drain opening. This can be done either with the cable rotating (ON/OFF switch ON) or not. Rotating the cable while feeding into the drain does a better job of cleaning the drain and makes advancing the cable easier. Do not expose more than 12" (30cm) of cable.

As feeding the cable becomes more difficult, the chuck can be used to better grip and feed the cable. Move the handgrip towards the drum to grip the cable with the chuck. With the cable rotating (ON/OFF switch ON) move the drain cleaner towards the drain opening to push the cable down the drain. Release the ON/OFF switch. Move the handgrip away from the drum to release the chuck from the cable. Grip the cable with your gloved hand to prevent it from pulling out of the drain and pull the drain cleaner back so that no more than 12" (30cm) of cable is exposed. Repeat the above steps to continue advancing the cable in this manner. (See Figures 8-9.)



Figure 8 – Move Hand Grip Toward Drum To Grip Cable With Chuck



Figure 9 – Push Cable Down Drain Line

AUTOFEED Operation

Confirm that at least 12" (30cm) of cable is in the drain and that the cable outlet of the drain cleaner is no more than 6" (15cm) from the drain opening. Move the handgrip away from drum to disengage the chuck from the cable. Do not engage the chuck while using the AUTOFEED. Press the ON/OFF switch to start the machine. To advance the cable into the drain, depress the advance feed lever. The rotating cable will work its way into the drain. Do not allow the cable to build up outside the drain, bow or curve. This can allow the cable to twist, kink or break.



Figure 10 – Feeding Cable With AUTOFEED

If it is difficult to get the cable through a trap or other fitting, the following methods or combinations of methods can be used.

- First, sharp thrusts of the cable, both with and without the cable rotating, can help the cable through a trap.
- A second method is to run the drain cleaner in REV (REVERSE) rotation for several seconds while pushing on the cable. Only do this long enough to get the cable started through the trap. Running the cable in reverse can damage the cable.
- If these options don't work, consider using a smaller diameter or more flexible cable, or a different drain cleaner.

Cleaning The Drain

As you feed the cable into the drain, you may see the cable slow down or build up outside the drain. You may feel the cable start to wind or load up (the drain cleaner may want to twist or move sideways). This may be a transition in the drain (trap, elbow, etc.), build up in the drain (grease, etc.) or the actual blockage. Feed the cable slowly and carefully. Do not let cable build up

outside the drain. This can cause the cable to twist, kink or break.

Pay attention to the amount of cable that has been fed into the drain. Feeding cable into a larger drain or similar transition may cause the cable to kink or knot and prevent removal from the drain. Minimize the amount of cable fed into the transition to prevent problems.

The cables are not attached to the inner drum. Use care when feeding out the last 5 to 7 feet (1.5m to 2.13m) of the cable, to insure that it does not come out of the machine.

If using a cable with the "Speed Bump" feature (See Figure 11) this indicates that there is only about five more feet (1.5m) of usable cable.



Figure 11 – C-13-IC SB Cable With Cable End Indicator Speedbump Is Approx. 84" (2.1m) From Back End Of Cable

Working The Blockage

If the end of the cable stops turning, it is no longer cleaning the drain. If the end of the cable becomes lodged in the blockage and power is maintained to the drain cleaner, the cable will start to wind up (the drain cleaner or cable may want to twist, squirm or move sideways). If the cable end stops turning or if the cable starts to wind up, pull the cable back from the obstruction:

- **Manual Operation** – with the chuck gripping the cable, pull back on the drain cleaner to free the cable end from the blockage.
- **AUTOFEED Operation** – depress the retrieve feed lever to free the cable end from the blockage.

Don't keep the cable rotating if the cable is stuck in a blockage. If the cable end stops turning and the drum keeps rotating, the cable can twist kink or break.

Once the cable end is free of the blockage and turning again, you can slowly feed the cable end back into the blockage. Do not try to force the cable end through the blockage. Let the spinning end "dwell" in the blockage to completely break it up. Work the tool in this manner until you have moved completely past the blockage (or blockages) and the drain is flowing. If needed, the AUTOFEED feed levers do not need to be used, and the K-45 can be used manually. If using an AUTOFEED machine manually, pulling rearward on the handgrip will cause the chuck to grip the cable.

While working the blockage, the cable and tool may become clogged with debris and cuttings from the blockage. This can prevent further progress. The cable and tool need to be retrieved from the drain and the debris removed. See section on "Retrieving the Cable".

Handling A Stuck Tool/Cable End

If the cable end stops turning and cannot be pulled back from the blockage, release the ON/OFF switch while firmly holding the drain cleaner. The motor will stop and the cable and drum may turn backwards until energy stored in the cable is relieved. Do not pull the drain cleaner further than 12" (30cm) from the drain - the cable may twist, kink or break. Keep your finger off of the ON/OFF switch.

Freeing A Stuck Tool

If the cable end is stuck in the blockage, release the ON/OFF switch, pull the handgrip toward the drum to grip the cable and try pulling the cable loose from the blockage. Be careful not to damage the cable or tool while pulling on the cable. If the cable will not come free from the blockage, place the FOR/REV switch in the REV position, and with the handgrip toward the drum to grip the cable, press the ON/OFF switch for several seconds and pull on the cable until it is free of the blockage. Do not operate the machine in the REV position any longer than required to free the cable end from the blockage or cable damage can occur (with FOR/REV switch in REV position the AUTOFEED Advance feed lever will retrieve cable). Place the FOR/REV switch in the FOR position and continue cleaning the drain.

Retrieving The Cable

Once the drain is open, start a flow of water down the drain to flush the debris out of the line. This can be done by running a hose down the drain opening, turning on a faucet in the system or other methods. Pay attention to the water level, as the drain could plug again.

With water flowing through the drain, retrieve the cable from the line. The flow of water will help to clean the cable as it is retrieved. The FOR/REV switch should be in the FOR position – do not retrieve the cable with the switch in the REV position, this can damage the cable.

- **Manual Operation** – Pull the handgrip forward to release the chuck from the cable. With your gloved hand, grip the cable close to the drain opening and retrieve the cable back into the drum. This can be done either with the cable rotating or not. Rotating the cable while retrieving does a better job of cleaning the drain and makes retrieving the cable easier. Do not expose more than 12" (30cm) of cable.

The chuck can be used to better grip the cable during

retrieval. Move the handgrip towards the drum to grip the cable with the chuck. With the cable rotating (ON/OFF switch ON) move the drain cleaner away from the drain opening (but do not expose more than 12" (30cm) of cable). Release the ON/OFF switch. Move the handgrip away from the drum to release the chuck from the cable. Grip the cable with your gloved hand close to the drain opening (to prevent it from pushing back into the drain) and push the drain cleaner over the cable back into the drum. Repeat the above steps to continue retrieving the cable in this manner.

- **AUTOFEED Operation** – Confirm that the cable outlet of the drain cleaner is no more than 6" (15cm) from the drain opening. Pull the handgrip away from the drum to disengage the chuck from the cable. Do not engage the chuck while using the AUTOFEED. Press the ON/OFF switch to start the machine. To retrieve the cable, depress the retrieve feed lever. The rotating cable will work its way out of the drain.

Pay attention to the cable during retrieval as the cable end can still become stuck.

Release the ON/OFF switch before the cable end comes out of the drain. Do not pull the end of the cable from the drain while the cable is rotating. The cable can whip around and cause serious injury. Pull the remaining cable from the drain with gloved hands and feed back into the drain cleaner. If needed, change the tool and continue cleaning following the above process. Several passes through a line are recommended for complete cleaning.

With dry hands unplug the machine.

Maintenance Instructions

WARNING

Maintain drain cleaning machine according to these procedures to reduce risk of injury from electrical shock, chemical burns and other causes.

Machine should be unplugged before performing any maintenance.

Always wear safety glasses and RIDGID drain cleaning gloves when performing any maintenance.

Cleaning

The machine should be cleaned as needed with hot, soapy water and/or disinfectants. Do not allow water to enter motor or other electrical components. Make sure unit is completely dry before plugging in and using. Use a clean cloth to wipe off unit. Do not use any solvents to clean.

Cables

Cables should be thoroughly flushed with water after every use to prevent damaging effects of sediment and drain cleaning compounds. Drain debris from drum by tipping machine forward after every use to remove sediment and chemicals which can corrode cable.

To help prevent corrosion during storage, cables can be coated with RIDGID Cable Rust Inhibitor. Once the cable is clean and dry, pull the cable from the drum. While manually feeding the cable back into the drum, wipe the Cable Rust Inhibitor on the cable with a cloth.

Do not apply the Cable Rust Inhibitor to a rotating cable. The cloth and your hand can become entangled in the cable, and Cable Rust Inhibitor can be slung from rotating cable.

AUTOFEED

Monthly or more often if needed, remove the AUTOFEED mechanism from the AUTOFEED hand grip and clean and lubricate.

1. Lift both AUTOFEED levers and push the cable through the AUTOFEED.
2. Remove screw from AUTOFEED hand grip using $\frac{3}{16}$ " allen wrench (Figure 12A) and remove the AUTOFEED mechanism (Figure 12B).



Figure 12A – Removing AUTOFEED Screw



Figure 12B – Removing AUTOFEED Mechanism From Housing

3. Wipe or wash dirt and debris out of the AUTOFEED mechanism and hand grip.
4. On the AUTOFEED mechanism, apply a small amount of general purpose grease to the Lever arm pivot points and roller bearing surfaces.

Reassemble in reverse order. AUTOFEED mechanism will only fit into hand grip one way.

Changing Cable

Changing Inner Drum

The K-45 is supplied with an inner drum that fits snugly inside a two-piece drum that allows easy change-out of cable. To access the inner drum feature:

1. Make sure handgrip is pulled forward to release the cable from the chuck.
2. Loosen the four screws that hold the drum front to the drum back about 3 full turns (do not remove) (Figure 13).



Figure 13 – Loosen 4 Drum Screws About 3 Full Turns, But Do Not Remove

3. Separate the drum front from the drum back by holding the drum back and twisting the drum front counter clockwise. (Figure 14).



Figure 14 – Twist Drum Apart

4. Remove the inner drum out of the drum back. Pull cable back through drum front. With the AUTOFEED both levers will need to be pulled up to allow the bulb of the auger to pass through.
5. Reverse process to install inner drum. Inspect condition of gasket on drum front and replace if necessary. This prevents liquid leakage from drum.

Loading Cable Into Inner Drum

1. Remove existing cable from drum if required.
2. To make installing the new cable easier, completely uncoil the new cable before proceeding. Use caution when removing the cable from the package. The cable is under tension and could strike the user.
3. Add a 15 - 30 degree bend approximately 1" (25.4mm) from the drum end of the cable as shown in Figure 15.



Figure 15 – Bend At Cable End

4. Coil the cable into the inner drum CLOCKWISE (See Figure 16).



Figure 16 – When Loading Cable Into An Inner Drum, Coil The Cable CLOCKWISE.

Loading Cable Without Changing The Inner Drum

1. Pull hand grip forward to the disengaged position. Pull cable out if needed.
2. For easier cable installation, bend drum end of cable approximately one inch from end 15 to 30 degrees. (Refer to Figure 15.)
3. Insert drum end of cable into hand grip opening and continue feeding entire cable into drum (Figure 17).



Figure 17 – Loading Cable Without Changing Inner Drum

Accessories

WARNING

The following RIDGID products have been designed to function with the K-45 Drain Cleaning Machine. Other accessories suitable for use with other tools may become hazardous when used on the K-45. To prevent serious injury, use only the accessories specifically designed and recommended for use with the K-45, such as those listed below.

Cables

	Catalog No.	Model No.	Description
	50647	S-1	15' (4.6m) with Bulb Auger
	50652	S-2	25' (7.6m) with Bulb Auger
	50657	S-3	35' (10.7m) with Bulb Auger
	62225	C-1	25' (7.6m) w/Bulb Auger
	56782	C-11C	25' (7.6m) Inner Core w/Bulb Auger
	89400	C-21	50' (15.2m) w/Bulb Auger
	56792	C-131C	35' (10.7m) w/Bulb Auger
	95847	C-131CSB	35' (10.7m) Inner Core Speed Bump w/Bulb Auger
	62235	C-2	25' (7.6m) w/Drop Head Auger
	56787	C-21C	25' (7.6m) Inner Core w/Drop Head Auger
	89405	C-22	50' (15.2m) w/Drop Head Auger
	56797	C-231C	35' (10.7m) w/Drop Head Auger
	62245	C-4	25' (7.6m) w/Male Coupling
	62250	C-5	35' (10.7m) w/Bulb Auger
	62260	C-6	35' (10.7m) w/Male Coupling
	96037	C-61C	35' (10.7m) w/Male Coupling

Accessories and Tools That Fit C-4, C-6 and C-61C Cables

	Catalog No.	Model No.	Description
	41937	—	RIDGID Drain Cleaning Gloves, Leather
	70032	—	RIDGID Drain Cleaning Gloves, PVC
	62067	T-201A	Straight Flex Auger
	62990	T-201	Straight Auger, 5" (12.5cm) Long
	62995	T-202	Bulb Auger, 1 1/8" (29mm) O.D.
	63000	T-203	Bulb Auger, 7/8" (22mm) O.D.
	55457	T-225	Retrieving Auger
	63065	T-217	Drop Head, 4" (100mm) Long
	54837	T-204	"C" Cutter 1" (25mm)
	63005	T-205	"C" Cutter 1 3/8" (35mm)
	63010	T-206	Funnel Auger, 3" (75mm) Long
	63030	T-210	Grease Cutter, 1" (25mm)
	63035	T-211	Grease Cutter, 1 3/8" (35mm)
	63040	T-212	Grease Cutter, 1 3/4" (45mm)
	63045	T-213	4-Blade Cutter, 1" (25mm)
	63050	T-214	4-Blade Cutter, 1 3/8" (35mm)
	63055	T-215	4-Blade Cutter, 1 3/4" (45mm)
	52812	T-230	H-D "C" Cutter, 2" (50mm)
	52817	T-231	H-D "C" Cutter, 2 1/2" (64mm)
	48482	T-250	Tool Set includes: T-203, T-205, T-210, T217, A-13

Accessories

Catalog No.	Model No.	Description
68917		K-39/45 Inner Drum
89410	C-6429	Carrying Case
76817		C-6 Cable Kit Includes: – C-6 3/8" x 35' (10mm x 10.7m) Cable w/Inner Drum – Torque Arm – T-250 5 Piece Tool Kit
98072		C-61C Cable Kit Includes: – C-61C 3/8" x 35' (10mm x 10.7m) Cable w/Inner Drum – Torque Arm – T-250 5 Piece Tool Kit
23908	A-39AF	Drum front and AUTOFEED Assembly, Replacement AUTOFEED Cartridge

Machine Storage

WARNING The drain cleaner and cables 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.

Service and Repair

WARNING

Improper service or repair can make machine unsafe to operate.

The "Maintenance Instructions" will take care of most of the service needs of this machine. Any problems not addressed by this section should only be handled by an authorized RIDGID service technician.

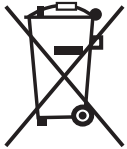
Tool should be taken to a RIDGID Independent Authorized Service Center or returned to the factory.

For information on your nearest RIDGID Independent Service Center or any service or repair questions:

•

Disposal

Parts of the K-45 drain cleaner contain valuable materials and can be recycled. There are companies that specialize in recycling that may be found locally. Dispose of the components in compliance with all applicable regulations. Contact your local waste management authority for more information.



For EC Countries: Do not dispose of electrical equipment with household waste!

According to the European Guideline 2002/96/EC for Waste Electrical and Electronic Equipment and its implementation into national legislation, electrical equipment that is no longer usable must be collected separately and disposed of in an environmentally correct manner.

Chart 1 Troubleshooting

PROBLEM	POSSIBLE REASONS	SOLUTION
Cable kinking or breaking.	Cable is being forced. Cable used in incorrect pipe diameter. Motor switched to reverse. Cable exposed to acid. Cable worn out. Cable not properly supported.	Do Not Force Cable! Let the cutter do the work. Use correct cable/equipment. Use reverse only if cable gets caught in pipe. Clean cables routinely. If cable is worn, replace it. Support cable properly, see instructions.
Cable turns in one direction but not the other.	Faulty FOR/REV switch.	Replace switch.
Ground Fault Circuit Interrupter (GFCI) trips when machine is plugged in or when switch is depressed.	Damaged power cord. Short circuit in motor. Faulty Ground Fault Circuit Interrupter (GFCI). Moisture in motor, switch or on plug.	Replace cord set. Take motor to authorized service center. Replace cord set that includes a Ground Fault Circuit Interrupter. Take drain cleaner to an Authorized Service Center.
AUTOFEED doesn't work.	AUTOFEED full of debris. AUTOFEED needs lubrication.	Clean AUTOFEED. Lubricate AUTOFEED.
Machine wobbles or vibrates while cleaning drain.	Cable not evenly distributed.	Pull all cable out and refeed in, evenly distribute.