K-40, K-40AF

Drain Cleaning Machine with Guide Hose and AUTOFEED

⚠ 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-40 Drain Cleaner	
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. 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.


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


This is the electrical shock symbol.

General Safety Rules*

⚠ WARNING

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

SAVE THESE INSTRUCTIONS!

Work Area

- **Keep 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.** Power tools create sparks which may ignite the dust or fumes.
- **Keep bystanders, children, and visitors away while operating a power 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 electric shock if your body is 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 to carry the tool or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately.** Damaged cords increase the risk of electric shock.
- **When operating a power tool outside, use an outdoor extension cord marked "W-A" or "W".** These cords are rated for outdoor use and reduce the risk of electric shock.

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 inat-

* The text used in the General Safety Rule section of this manual is verbatim, as required, from the applicable UL/CSA 62841 1st edition standard. 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.

tention 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 power tools with your finger on the switch or plugging in power tools that have the switch ON invites accidents.
- **Remove 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.
- **Use safety equipment. Always wear eye protection.** Safety equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.

Tool Use and Care

- **Use clamps or other practical way to secure and support the workpiece to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control.
- **Do not force the tool. Use the correct tool for your application.** The correct 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 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 power tools.** Such preventive safety measures reduce the risk of starting the power 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.

Service

- **Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified personnel could result in a risk of 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

⚠ WARNING

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

Read these precautions carefully before using the K-40 drain cleaning machine to reduce the risk of electrical shock or other serious personal injury.

SAVE THESE INSTRUCTIONS!

Contact the Ridge Tool Company, Technical Service Department at (800) 519-3456 or rtctechservices@emerson.com if you have any questions.

Drain Cleaner Safety

- **Only wear RIDGID drain cleaning gloves. Never grasp the rotating cable with anything else, including other gloves or a rag.** They can become wrapped around the cable, causing hand injuries. Only wear latex or rubber gloves *under* RIDGID drain cleaning gloves. Do not use damaged drain cleaning gloves.
- **Do not allow the cutter to stop turning while the machine is running.** This can overstress the cable and may cause twisting, kinking or breaking of the cable.
- **Keep gloved hand on the cable whenever the machine is running.** This provides better control of the cable and helps prevent twisting, kinking and breaking.
- **Position machine within two feet of the drain inlet or properly support exposed cable when the distance exceeds two feet.** Greater distances can cause control problems leading to twisting, kinking or breaking of the cable.
- **One person must control both the cable and the foot 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.
- **Keep hands away from rotating drum. Do not reach into drum unless machine is unplugged.** Hand may be caught in the moving parts.
- **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 RIDGID drain cleaning gloves,** 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 exposed 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 cleaning machine 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.

Description, Specifications and Standard Equipment

Description

The RIDGID K-40 Drain Cleaning Machine will clean secondary drain lines (such as found in kitchens, bathrooms and utility rooms) from 3/4" to 2 1/2" in diameter with the correct cable. The K-40 can be used in two positions (both horizontally and vertically) to allow better access to the drain being cleaned. Depending on cable choice, the drum will hold up to 50 feet of cable.

The drum is belt driven by a 1/8 horsepower electric motor. Corded versions are grounded and supplied with a GFCI built into the cord. A FWD/OFF/REV switch controls drum and cable rotation and a pneumatic foot switch provides ON/OFF control of the motor.

The K-40 is offered in both AUTOFEED and manual versions. The AUTOFEED is integral to the four foot long front guide hose. The AUTOFEED allows the cable to be advanced and retrieved at a rate of 6 feet per minute. The front guide hose used with the AUTOFEED helps to protect fixtures and contain the liquid and debris thrown off the cable as it is retrieved from the drain. Manual feed versions require that cable be fed in and out of the drain by hand.

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 damage from flip over in the drum, and reduces the likelihood of drum leakage.

Cables are available in three sizes – 1/4", 5/16" and 3/8" diameters. The 1/4" and 5/16" 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. 3/8" cables are available with an integral bulb head or with a quick change coupling for attaching tools. The K-40 is equipped with a torque arm attached to the cable to improve torque transfer when most of the cable is out of the drum.

Specifications

K-40 Line Capacity.....Refer to following chart

K-40/K-40 AF Specifications

Cable Size	Recommended Line Size
1/4"	3/4" to 1 1/2"
5/16"	3/4" to 1 1/2"
5/16" IC (Inner Core)	1 1/4" to 2"
3/8"	1 1/4" to 2 1/2"

See Accessories section for a listing of available cables and lengths.

Figure 1 – K-40 Drain Cleaner

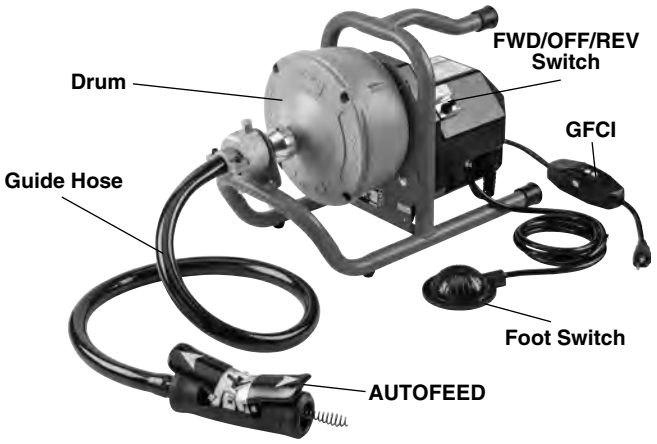


Figure 2 – K-40 AF Drain Cleaning Machine

Motor:

Type .....Induction

Rating.....120V, 1.5A, 50/60Hz
220-240V, 0.9A, 50/60Hz

Toggle Switch.....FORWARD/OFF/REVERSE

Operating Speed.....320 RPM

K-40 Weight w/C-13IC-SB Cable .....30 lbs.

K-40 AF Weight w/C-13IC-SB Cable .....33 lbs.

Sound Pressure (L_{PA})* .....64.9 dB(A), K=3

Sound Power (L_{WA})*.....68.0 dB(A), K=3

* Sound measurements are measured in accordance with a standardized test per Standard EN 62841-1.
- Sound emissions may vary due to your location and specific use of these tools.
- Daily exposure levels for sound need to be evaluated for each application and appropriate safety measures taken when needed. Evaluation of exposure levels should consider the time a tool is switched off and not in use. This may significantly reduce the exposure level over the total working period.

Standard Equipment

All K-40 Drain Cleaning Machines come with one pair of RIDGID Drain Cleaning Gloves.

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.

Machine Assembly

⚠ WARNING

To reduce the risk of serious injury during use, follow these procedures for proper assembly.

Mounting Guide Hose To K-40

1. If required, attach bracket to K-40 frame with 1/4" bolts provided *(See Figure 3).* Do not over tighten bolts.

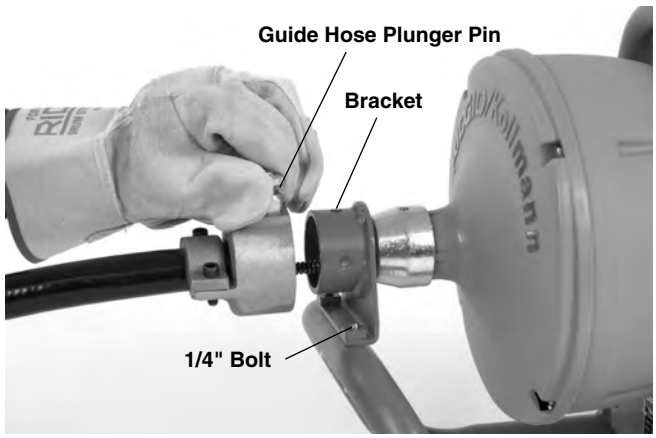


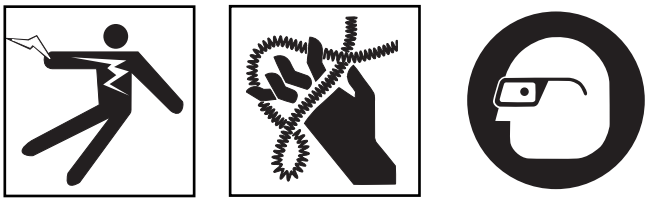
Figure 3 – Mounting Guide Hose to K-40

2. Pull approximately five feet of cable from the K-40. Insert the cable into the guide hose (the end with the plunger pin) and feed it through the guide hose until it reaches the AUTOFEED. Fully lift the levers of the AUTOFEED and feed the end of the cable through the end of the AUTOFEED. *See Figure 4.*
3. Attach the guide hose to the bracket on the K-40. Pull plunger pin out and place over bracket, making sure that the plunger pin engages with the hole in the bracket. *See Figure 4.*

Figure 4 – Feeding Cable Through AUTOFEED

Machine 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 from chemicals and bacteria on the equipment, wear latex, rubber or other liquid barrier gloves *under* the RIDGID drain cleaning gloves.

Figure 5 – RIDGID Drain Cleaning Gloves – Leather, PVC

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 5.*
2. Make sure that the drain cleaning machine is unplugged. Inspect the power cord, Ground Fault Circuit Interrupter (GFCI) and plug for damage or modification, such as a missing grounding prong. If any damage or modifications are found, do not use the tool until the cord has been properly repaired or replaced.
3. Clean any oil, grease or dirt from all equipment handles and controls. This helps prevent the machine or control from slipping from your grip.
4. Make sure the foot switch is attached to the drain cleaning machine. Do not operate the machine without the foot switch.
5. Inspect the drain cleaning machine for any broken, worn, missing, misaligned or binding parts or any other condition which may prevent safe and normal operation. Rotate the drum and make sure that it turns freely without binding. If any problems are found, do not use machine until problems have been repaired.

Figure 6 – K-40 Warning Label

6. Check that the warning label is present and firmly attached. Do not operate the drain cleaning machine without the warning label. *See Figure 6.*
7. Check the motor shroud to insure that it is securely fastened to the drain cleaner. Do not operate without motor shroud in place. *(See Figure 6.)*
8. Clean any debris from the cable and tools. Inspect cables for wear and damage. Inspect for
   - Wear – wear can be identified by looking for flats on the outside of the cable. Cables are made from round wire, and the outside of the cable should be rounded like the wire profile. If you can see an obvious flat on the outside of the cable, it is worn and should be replaced.
   - Cable kinks – If the cable is not perfectly straight but is slightly “wavy”, that is acceptable. Kinked cables have a well-defined bend, and may have gaps between the coils of the cable. Slight kinks (up to 15°) can be straightened, but all kinks weaken the cable and can cause cable failure during use. Cables with multiple or excessively large kinks should be replaced.

- Space between cable coils – space between the cable coils indicates that the cable has been deformed. This can be caused by kinking, stretching (mechanically pulling the cable) or running the cable in REVERSE (REV). Cables with space between the coils should be replaced.
- Excessive corrosion – this can be caused by storing the cable wet or using the cable in corrosive chemicals used in chemical clog removers. Corrosion weakens the cable and can make it brittle. Excessively corroded cable should be replaced.

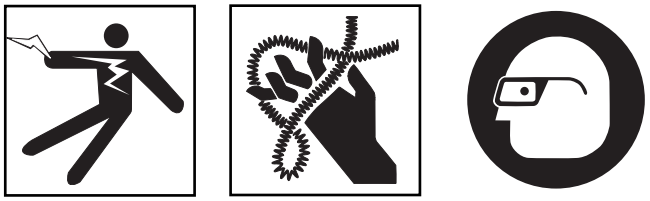
All of these forms of wear and damage weaken the cable and make cable twisting, kinking or breaking more likely during use. Make sure cable is fully retracted, with no more than 2" of cable out. This will prevent whipping of the cable at start up.

9. 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.
10. Make sure that the FOR/OFF/REV switch is set to the OFF position.
11. With dry hands, plug cord into properly grounded outlet.

    For a corded tool, test the GFCI provided in the electrical cord to insure that it is operating correctly. When the test button is pushed in, the indicator light should go off. Reactivate by pushing the reset button in. If the indicator light goes on, the GFCI is functioning properly. If GFCI is not functioning properly, unplug the cord and do not use the drain cleaning machine until the GFCI has been repaired.
12. Move the FOR/OFF/REV switch into the FOR position. Press the foot switch and note the direction of rotation of the drum. If the foot switch does not control the machine operation, do not use the machine until the foot switch has been repaired. The drum should rotate counter-clockwise when viewed from the front of the drum, and will match the drum direction shown on the warning label *(Figure 6)*. Release the foot switch and let the drum come to a complete stop. Place the FOR/OFF/REV switch into the REV position, and repeat above testing to confirm that the drain cleaner operates properly in reverse. If the rotation is not correct, do not use the machine until it has been repaired.
13. With the inspection complete, move the FOR/OFF/-REV switch into the OFF posltion, 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, fire, machine tipping, 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.
   - Properly grounded electrical outlet. A three-prong or GFCI outlet may not be properly grounded. If in doubt, have outlet inspected by a licensed electrician.
   - Clear path to electrical outlet that does not contain any potential sources of damage for the power cord.
   - Clear path to transport the drain cleaner to the work area.
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 tanks or 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-40 is made for
   - 3/4" to 1 1/2" lines up to 30' long with 1/4" cable
   - 3/4" to 1 1/2" lines up to 45' long with 5/16" cable
   - 1 1/4" to 2" lines up to 45' long with 5/16" IC (Inner Core) cable
   - 1 1/4" to 2 1/2" lines up to 30' long with 3/8" cable

   Drain cleaners for other applications can be found by consulting the Ridge Tool Catalog, on line at RIDGID.com or by calling Ridge Tool Technical Services at 800-519-3456.
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. Take the drain cleaning machine to the work area along the clear path. If the machine needs to be lifted, use proper lifting techniques. Use care moving equipment up and down stairs, and be aware of possible slip hazards. Wear appropriate footwear to help prevent slips.
7. Position the drain cleaning machine. If using a machine without the front guide hose and AUTOFEED, the opening of the drum must be within 2 feet of the drain opening. If using a machine with the guide hose and AUTOFEED, the end of the AUTOFEED must be within 6 inches of the drain opening. The guide hose should not be pulled tight or kinked to reach this position. Greater distances from the drain access increase the risk of the cable twisting or kinking. The K-40 can be placed either with the drum horizontal or vertical as long as it sits squarely and firmly on the rubber feet provided.
8. If the machine cannot be placed close enough to the drain opening, extend the drain access back to 2' from the drum opening or 6" from the AUTOFEED with similar sized pipe and fittings. Improper cable support can allow the cable to twist and kink and can damage the cable or injure the operator. *See Figure 7.*

Figure 7 – Example of Extending Drain to Within 2' of Drum Opening.

9. 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.
10. Select proper tool for the conditions.

    Most of the cable choices for the K-40 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 fiberous blockages to be pulled out of the line.

    The C-4, C-6 and C-6IC cable available for use with the K-40 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 RIDGID.com.

11. 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 8.)*

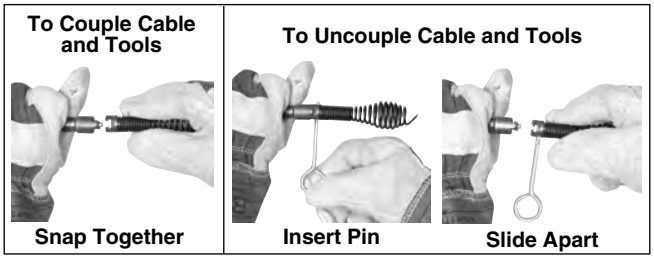


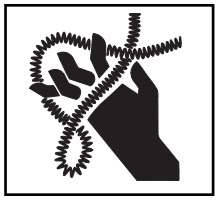
Figure 8 – Coupling and Uncoupling Tools

12. Position the foot switch for easy accessibility. You must be able to hold and control the cable, control the foot switch, and reach the FOR/OFF/REV switch.
13. Confirm that the FOR/OFF/REV switch is in the OFF position.
14. Run the cord along the clear path. With dry hands plug the drain cleaner into a properly grounded 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 three prong 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).
    - Has sufficient wire size (16 AWG for 50' or less, 14 AWG for 50' – 100' long). Undersized wires can overheat, melting the insulation or causing a fire or other damage.

    When using an extension cord, the GFCI on the drain cleaner does not protect the extension cord. If the outlet is not GFCI protected, it is advisable to use a plug in type GFCI between the outlet and the extension cord to reduce the risk of shock if there is a fault in the extension cord.

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. Wearing RIDGID drain cleaning gloves, 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.
3. Assume a proper operating position.
    - Be sure you can control the ON/OFF action of the foot switch and can quickly release the foot switch if needed. Do not step on foot switch yet.
    - Be sure that you have good balance, do not have to over reach, and cannot fall on the foot switch, drain cleaning machine, the drain or other hazards.
    - You must be able to place at least one hand on the cable at all times to control and support the cable as it feeds into the drain and blockage.
    - You must be able to reach the FOR/OFF/REV switch.

    This operating position will help to maintain control of the cable and machine. *See Figures 7 and 11.*

4. Move the FOR/OFF/REV switch to the FOR (FORWARD) position. **Do not depress the foot switch yet.** FOR/OFF/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.

Using Manual Feed Machine

Grasp the cable with both gloved hands and pull a short section (6" - 12") of cable from the drum so that there is a slight bow in the cable. Gloved hands must be on the cable to control and support the cable. Improper cable support can allow the cable to kink or twist and can damage the cable or injure the operator. *See Figure 9.*

Figure 9 – Manually Feeding Cable

Starting the cable in the drain

Confirm at least one foot of cable is in the drain and the drum opening is within 2' of drain opening. Press the foot switch to start the machine. Feed the rotating cable into the drain. The rotating cable will slowly work its way into the drain as you push on the cable with gloved hands. **The person controlling the cable must also control the foot switch. Do not operate the drain cleaner with one person controlling the cable and another person controlling the foot switch. This can lead to kinking, twisting and breaking of the cable.**

If it is hard to get the cable through a trap, the following methods or combination of methods can be used.

- First, sharp downward thrusts on the cable, both with and without the cable turning, can help to get the tool to pass through the trap.
- A second method is to run the drain cleaner in REV (REVERSE) for several seconds while pushing on the cable. Only do this long enough to get the cable started through the trap. Running the drain cleaner in reverse can damage the cable.
- Finally, if none of these options work, consider using a smaller diameter or more flexible cable, or a different drain cleaner.

Cleaning the drain

With the cable rotating in FORWARD (FOR) direction pull short sections (6" - 12") of cable out of the drum and feed it into the drain. Always keep both hands on the cable. As you feed the cable into the drain, you may feel and see the cable slow down and feel the cable start to wind or load up (this will feel like the cable is starting to twist or squirm). This may be a transition in the drain line (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 line 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.

If using cable with the “speed bump” feature *(See Figure 10)* this indicates that there is only about five more feet of usable cable.

Figure 10 – C-13-IC SB Cable with Cable End Indicator Speedbump is Approx. 84″ From Back End of Cable

Working the blockage

If the tool at the end of the cable stops turning, it is no longer cleaning the drain. If the tool becomes lodged in the blockage and power is maintained to the drain cleaner, the cable will start to wind up (this will feel like the cable is starting to twist or squirm). Having both hands on the cable allows you to feel this wind up and control the cable. As you feel the cable wind up, or if the tool stops turning, pull back on the cable to free the tool from the blockage. Don’t keep the cable rotating if the tool is stuck

in a blockage. If the tool stops turning and the drum keeps rotating, the cable can twist, kink or break.

Once the tool is free of the blockage and is turning again, you can slowly feed the rotating cutting tool back into the blockage. Do not try to force the tool through the blockage. Let the spinning tool "dwell" in the blockage to help completely break it up. Work the tool in this manner until it has moved completely past the blockage (or blockages), and the drain is flowing.

While working the blockage, the tool and cable 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

If the tool stops turning and the cable cannot be pulled back from the blockage, release the foot switch while firmly holding the cable with both hands. **Do not remove hands from cable or cable may kink, twist and break.** The motor will stop and the cable and drum will turn backwards until the energy stored in the cable is relieved. Do not remove hands from cable until the tension is released. Place FOR/OFF/REV switch in OFF position.

Freeing a stuck tool

If the tool is stuck in the blockage, with the FOR/OFF/REV switch in the OFF position and the foot switch released, try pulling the cable loose from the blockage. Be careful not to damage the cable or tool while pulling on the cable. If the tool will not come free from the blockage, place the FOR/OFF/REV switch in the REV position. Grasp the cable with both gloved hands, press the foot 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 cutting tool from the blockage or cable damage can occur. Place the FOR/OFF/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 FOR/OFF/REV switch should be in the FOR position – do not retrieve the cable with the FOR/OFF/REV in the REV position, this can damage the cable. As with feeding the cable into the drain, keep both hands on the cable for control. The tool can become caught while being retrieved. Pull 6" - 12" of cable from the drain at a time and feed back into the drum. The flow of water down the line will help to clean the cable as it is retrieved. Continue retrieving the cable this way until the tool is just inside the drain opening. Release your foot from the foot switch, allowing the drum to come to a complete stop. **Do not pull the end of the cable from the drain while the cable is rotating. The cable can whip around and could cause serious injury.**

Place the FOR/OFF/REV in the OFF position and with dry hands unplug the machine. Pull the remaining cable from the drain by hand and feed 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.

Using Machines with Guide Hose and AUTOFEED

Figure 11 – Using Machine With AUTOFEED

Grasp the AUTOFEED with one hand and hold it so that

the end of the AUTOFEED is within 6 inches of the drain opening. *See Figure 11.* The guide hose helps to protect the fixture from damage and contain the liquid thrown off the cable as it is retrieved from the drain. If the AUTOFEED is not kept within 6" of the drain opening, the cable will not be properly supported and may allow the cable to twist, kink or break.

When using a machine with a front guide hose, pay attention to how the guide hose feels in your hand and watch the drum rotation. Because the guide hose is over the cable, there is less sensitivity to the loading of the cable, and it can be harder to tell if the tool is rotating or not. If the tool is not rotating, the drain is not being cleaned.

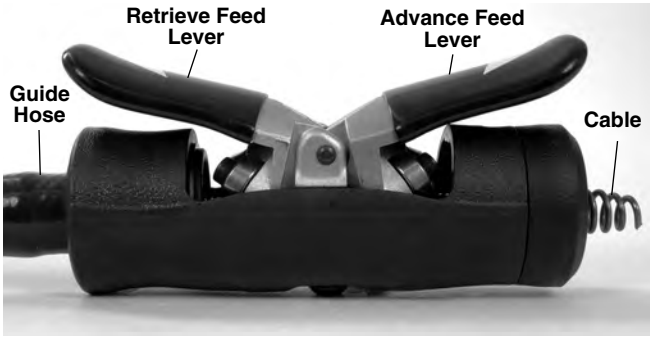


Figure 12 – Advance/Retract Feed Lever

Starting the cable in the drain

Confirm at least one foot of cable is in drain and end of AUTOFEED is less than 6" from Drain opening. Press on the foot switch to start the machine. To advance the cable into the drain, depress the ADVANCE feed lever *(Figure 12 and 13)*. The rotating cable will work its way into the drain. **The person controlling the cable and the AUTOFEED must also control the foot switch. Do not operate the drain cleaner with one person controlling the cable and AUTOFEED and another person controlling the foot switch. This can lead to kinking, twisting and breaking of the cable.**

If it is hard to get the cable through a trap, the following methods or combination of methods can be used.

- First, sharp downward thrusts on the cable, both with and without the cable turning, can help to get the tool to pass through the trap.
- A second method is to run the drain cleaner in REV (REVERSE) for several seconds while pushing down on the cable. Only do this long enough to get the cable started through the trap. Running the drain cleaner in reverse can damage the cable.
- Finally, if none of these options work, consider using a smaller diameter or more flexible cable, or a different drain cleaner.

Figure 13 – AUTOFEED in Advance and Retrieve Position

Cleaning the Drain

Always keep one hand on the guide hose. As you feed the cable into the drain, you may feel and see the cable slow down and feel the guide hose start to load or wind up (this will feel like the guide hose is starting to twist or squirm). This may be a transition in the drain line (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 drain. This can cause the cable to twist, kink or break. Keep end of AUTOFEED within 6" of drain opening.

Pay attention to the amount of cable that has been fed into the drain. If using cable with the “speed bump” feature *(See Figure 10),* the speed bump will not pass through the depressed AUTOFEED. This indicates that it is time to retrieve the cable. Feeding cable into a larger drain line 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.

Working the blockage

If the tool at the end of the cable stops turning, it is no longer cleaning the drain. If the tool becomes lodged in the blockage and power is maintained to the drain cleaner, the cable will start to wind up (this may feel like the guide hose is starting to twist or squirm) and buildup outside the drain. Having a hand on the guide hose can allow you to

feel this wind up and control the cable. As you feel the cable wind up or if the tool stops turning, immediately release the advance feed and depress the retrieve feed lever to free the tool from the blockage. Don't keep the cable rotating if the tool is stuck in a blockage. If the tool stops turning and the drum keeps rotating, the cable can twist, kink or break.

Once the tool is free of the blockage and the tool is turning again, you can slowly feed the rotating tool back into the blockage. Let the spinning tool "dwell" in the blockage to help completely break it up. Do not try to force the tool through the blockage. Work the tool in this manner until the tool has moved completely past the blockage (or blockages), and the drain is flowing.

While working the blockage, the tool and cable 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".*

If the tool continues to get hung up in the blockage, stop using the auto feed and work the cable by hand as detailed in the Manual Feed Section. To do this, the cable must be retrieved from the drain and the guide hose and AUTOFEED removed from the machine to allow proper positioning of the machine to the drain and access to the cable. Do not try to work the cable by hand with the guide hose and AUTOFEED in place.

Handling a stuck tool

If the tool stops turning and the cable cannot be pulled back from the blockage, release the foot switch, maintain a firm grip on the AUTOFEED and guide hose and release the feed lever. **Do not remove your hand from cable or the cable may kink, twist and break.** The motor will stop and the cable and drum will turn backwards until the energy stored in the cable is relieved. Do not remove hand from the AUTOFEED and cable until the tension is released. Place FOR/OFF/REV switch in the OFF position.

Freeing a stuck tool

If the tool is stuck in the blockage, place the FOR/OFF/-REV switch in the REV position. With both AUTOFEED levers released press the foot switch for several seconds until it is free of the blockage. Do not operate the machine in the REV position any longer than required to free the cutting tool from the blockage or cable damage can occur. Place the FOR/OFF/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 by depressing the retrieve feed lever. The FOR/OFF/REV switch should be in the FOR position – do not retrieve the cable with the FOR/OFF/REV in the REV position, this can damage the cable. As with feeding the cable into the drain, keep hands firmly on the AUTOFEED and guide hose for control. The tool can become caught while being retrieved. The flow of water down the line will help to clean the cable as it is retrieved. Continue retrieving the cable until the tool is just inside the drain opening. Release the feed lever and release the foot switch, allowing the drum to come to a complete stop. **Do not pull the end of the cable from the drain while the cable is rotating. The tool can whip around and could cause serious injury.**

Place the FOR/OFF/REV in the OFF position and with dry hands unplug the machine. Pull the remaining cable from the drain by hand and feed 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.

Maintenance Instructions

⚠ WARNING

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

FOR/OFF/REV switch should be OFF and machine unplugged before performing any maintenance.

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

Cables

Cables should be thoroughly flushed with water after every use to prevent damaging effects of sediment and drain cleaning compounds. Remove guide hose and 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

Weekly 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 $^{3}/_{16}$" allen wrench *(Figure 14A)* and remove the AUTOFEED mechanism *(Figure 14B*).

Figure 14A

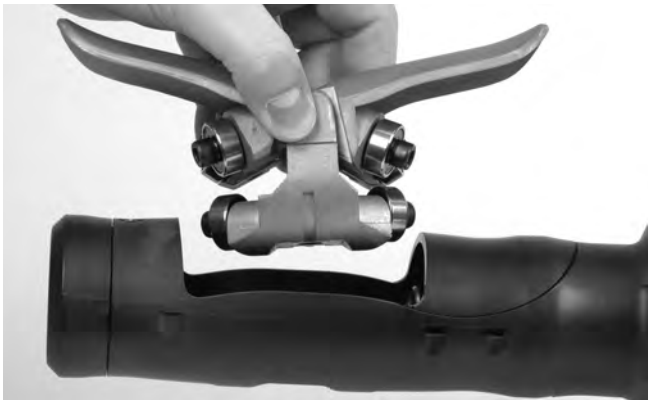


Figure 14B

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 roller bearing surfaces.

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

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.

Changing Cable

Changing Inner Drum

The K-40 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. On units supplied with mounting bracket, remove one mounting bracket bolt and loosen the remaining one. Swing mounting bracket to **OPEN** position *(Figure 15)*.

Figure 15 – Mounting Bracket Swung OPEN For Drum Access

2. Loosen the four screws that hold the drum front to the drum back. Loosen each screw about 3 full turns *(Figure 16)*.

Figure 16 – 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 17)*.

Figure 17 – Twist Drum Apart

4. Remove the inner drum, with cable, out of the drum back and pull cable through drum front.
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. Remove torque arm from end of cable using a flat head screwdriver.
3. 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.
4. Add a gradual 30 degree bend approximately 4" from the drum end of the cable as shown in *Figure 18*.

Figure 18 – Torque Arm Attached to Cable. Cable Should Be Permanently Bent as Shown with Clamp Installed Approx. 2" From End of Cable

5. Install the torque arm approximately 2" from the drum end of the cable as shown in *Figure 18* and firmly tighten with a flat head screwdriver. The torque arm improves torque transfer to the cable when most of the cable is out of the drum.
6. Place the torque arm into the inner drum so that the long section of the torque arm lies against the outer wall of inner drum. Coil the cable into the inner drum CLOCKWISE *(See Figure 19)*.

Figure 19 – When loading cable into an inner drum, wind the cable in CLOCKWISE.

Accessories

⚠ WARNING

Only the following RIDGID products have been designed to function with the K-40 Drain Cleaning Machine. Other accessories suitable for use with other tools may become hazardous when used on the K-40. To prevent serious injury, use only the accessories specifically designed and recommended for use with the K-40, such as those listed below.

Accessories

Catalog No.	Model No.	Description
26558	A-40AF	AUTOFEED Assembly & Guide Hose for K-40 Includes Mounting Bracket
23913	A-39/40AF	AUTOFEED Cartridge Assembly for K-40
72702	A-40B	Mounting Bracket
76817		C-6 Cable Kit Includes: – C-6 3/8″ x 35′ (10.7m) Cable w/Inner Drum – Torque Arm – T-250 5 Piece Tool Kit
68917		Inner Drum
71847		Torque Arm
98072		C-6IC Cable Kit Includes: – C-6IC 3/8″ x 35′ (10.7m) Cable w/Inner Drum – Torque Arm – T-250 5 Piece Tool Kit

Cables

	Catalog No.	Model No.	Description
 5/16″ (8mm) Bulb Auger	62225	C-1	25′ (7.6m) w/Bulb Auger
	56782	C-1IC	25′ (7.6m) Inner Core w/Bulb Auger
	89400	C-21	50′ (15.2m) w/Bulb Auger
	56792	C-13IC	35′ (10.7m) w/Bulb Auger
	95847	C-13ICSB	35′ (10.7m) Inner Core Speed Bump w/Bulb Auger
 5/16″ (8mm) Drop Head	62235	C-2	25′ (7.6m) w/Drop Head Auger
	56787	C-2IC	25′ (7.6m) Inner Core w/Drop Head Auger
	89405	C-22	50′ (15.2m) w/Drop Head Auger
	56797	C-23IC	35′ (10.7m) w/Drop Head Auger
 3/8″ (10mm)	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-6IC 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" Long
	62995	T-202	Bulb Auger, 1 1/8" O.D.
	63000	T-203	Bulb Auger, 7/8" O.D.
	55457	T-225	Retrieving Auger
	63065	T-217	Drop Head, 4" Long
	54837	T-204	"C" Cutter 1"
	63005	T-205	"C" Cutter 1 3/8"
	63010	T-206	Funnel Auger, 3" Long
	63030	T-210	Grease Cutter, 1"
	63035	T-211	Grease Cutter, 1 3/8"
	63040	T-212	Grease Cutter, 1 3/4"
	63045	T-213	4-Blade Cutter, 1"
	63050	T-214	4-Blade Cutter, 1 3/8"
	63055	T-215	4-Blade Cutter, 1 3/4"
	52812	T-230	H-D "C" Cutter, 2"
	52817	T-231	H-D "C" Cutter, 2 1/2"
	52822	T-232	H-D "C" Cutter, 3"
	48482	T-250	Tool Set includes: T-203, T-205, T-210, T217, A-13

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 Authorized Independent Service Center or returned to the factory.

When servicing this machine, only identical replacement parts should be used. Use of other parts may create a risk of electrical shock or other serious injury.

If you have any questions regarding the service or repair of this machine, call or write to:

Ridge Tool Company
Technical Service Department
400 Clark Street
Elyria, Ohio 44036-2023
Tel: (800) 519-3456
E-mail: rtctechservices@emerson.com

For name and address of your nearest Authorized Independent Service Center, contact the Ridge Tool Company at (800) 519-3456 or RIDGID.com.