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 from chemicals and bacteria on the equipment, 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plug has been modified, or if the cord is damaged, to avoid electrical shock, do not use the machine until the cord has been replaced by a qualified repair person.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:
   - 3/4" to 1 1/2" (19mm to 38mm) lines up to 30' (9.1m) long with 1/4" (6mm) cable
   - 3/4" to 1 1/2" (19mm to 38mm) lines up to 45' (13.7m) long with 5/16" (8mm) cable
   - 1 1/4" to 2" (32mm to 50mm) lines up to 45' (13.7m) long with 5/16" (8mm) IC (Inner Core) cable
   - 1 1/4" to 2 1/2" (32mm to 64mm) lines up to 30' (9.1m) long with 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.

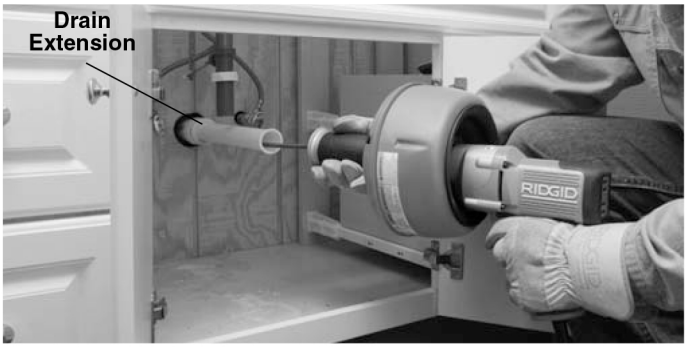

Figure 6 – Example Of Extending Drain To Within 6" (15cm) Of Drum Opening

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 fiberous 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.)*

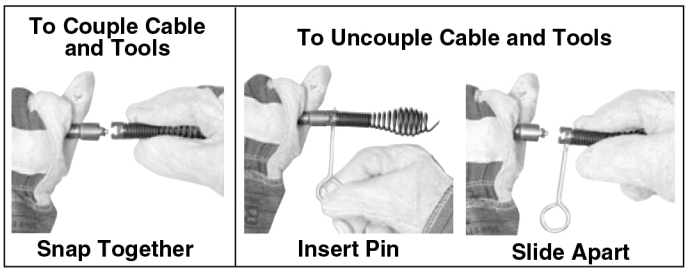

Figure 7 – Coupling and Uncoupling Tools

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 (1.5mm^2) for 50' (15.2m) or less, 14 AWG (2.5mm^2) for 50' – 100' (15.2m – 30.5m) long). Undersized wires can overheat, 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.