



Assembly Instructions	Instrucciones de Ensamblaje	Directives d'assemblage
Customer Service US: 1-800-645-2986	Servicio de atención al Cliente US: 1-800-645-2986	Service à la clientèle Canada: 888-645-2986

Electric Drain Cleaner for 4"-9" ID, 200 RPM, 3/4" x 100 ft

Model # 670441



Read this manual thoroughly prior to installation, operation or maintenance. Keep these instructions in a safe location for future reference. For questions, visit globalindustrial.com or contact Customer Service at 1-800-645-2986.

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Safety

DANGER Indicates a hazard that will cause death or serious injury if not avoided

WARNING Indicates a hazard that could cause death or serious injury if not avoided

General Safety

Read all instructions, warnings, specifications, and ratings for the equipment. Failure to follow all instructions listed below may result in electric shock, fire, and/or serious injury.

Work Area Safety

- Keep work area well-lit and clean.
- DO NOT operate power tools in explosive atmospheres including mixtures of flammable gases, vapors, liquids, or dust. Power tools create sparks which may ignite the flammable materials.
- Keep children and bystanders away while operating a power tool. Distractions can cause you to lose control.

Personal Safety

- **Use personal protective equipment (PPE) and always wear eye protection.** Wear proper protective equipment such as hard hats, dust masks, non-skid safety shoes, and hearing protection for appropriate conditions to reduce chances of injuries.

DANGER: Never grasp the drain cleaning cable with a rag or cloth glove while it is rotating. Only use gloves that come with the machine or gloves that are recommended by Global Industrial

- Do not use a power tool while you are tired or under the influence of alcohol, drugs, or medication. Being inattentive while operating a power tool may result in serious personal injury.
- Dress properly. Do not wear any loose clothing or jewelry. Keep gloves, clothing, and hair away from moving parts. Loose clothes, jewelry, and hair can be caught in moving parts.
- **Prevent accidental starting. Ensure the Motor Power Switch (23c) is OFF before connecting the power tool to a power source.** Carrying a power tool with your hand on the switch or connecting a power tool to a power source while the switch is ON invites accidents.
- **Remove adjusting wrenches, keys, or tools before turning the power tool ON.** A wrench, key, or tool left attached to a rotating part of the power tool can result

in personal injury.

- **Do not overreach. Keep proper balance and footing at all times.** Using proper balance and footing allows better control of the power tool during unexpected situations.

Electric Safety

- Always use outlets that match the power tool plug. Never remove the grounding plug or make any other modifications. Ensure the outlet is properly installed and grounded. Do not use adapter plugs. Using unmodified plugs and outlets helps ensure grounding and reduces chances of electrical shock.
- Ensure the Ground Fault Circuit Interrupter (GFCI) provided with the power cord is functional before using the power tool. Always use a GFCI protected supply when using the power tool. GFCI reduces the risk of an electric shock.
- DO NOT contact any earthed or grounded surfaces such as refrigerators, ranges, pipes, and radiators.
- **DO NOT expose a power tool to rain or wet conditions.** Water in a power tool increases the risk of an electric shock.
- Always pull the plug – not the power cord – when disconnecting from the outlet. DO NOT abuse the power cord. Never use the power cord for carrying or pulling the power tool. Keep the power cord away from moving parts, sharp edges, heat, and oil. Replace damaged power cords as damages increases the risk of electric shock.
- **Always use an extension cord for outdoor conditions and a GFCI when using the power tool outside.** The GFCI on the power cord will not prevent electric shock from the extension cord. Plugging in extension cords rated for outdoor use into a GFCI outlet can reduce the risk of an electric shock.
- DO NOT touch the power tool or the plug when hands are wet. Wet hands can increase the risk of electric shock.

Tool Safety and Use

- DO NOT reach into the rotating drum unless the power tool is OFF and disconnected from a power source. Hands may be caught in the moving parts which can cause serious injury.
- DO NOT leave the **cleaning cable** exposed outside of the drum while the machine is plugged in or the **Motor Power Switch (23c)** is ON. The cleaning cable can whip and

- cause serious injury.
- Always check for damages to the cleaning cable in the drum by pulling the cable out while the power tool is OFF and disconnected from a power source before use. Perform frequent maintenance and replace damaged, kinked, or broken cables with identical replacements.
 - **Only use gloves recommended by Global Industrial for grasping the cleaning cable.** Loose fitting gloves such as cloth, rubber, latex, or coated gloves can get caught on the cleaning cable and cause serious injury.
 - **Keep glove-covered hand on the cleaning cable while the power tool is running.** Keeping gloved hands on the cable allows for better control and helps prevent the cable from breaking, twisting, or kinking which may lead to serious personal injury.
 - Use goggles, face shields, respirators, protective clothing, and latex or rubber gloves under the gloves recommended by Global Industrial to prevent the spread of toxic or infectious substances coming from the drain line. Drains may contain harmful chemicals, bacteria, and other toxic or infectious substances that may cause burns and personal injury.
 - DO NOT use the power tool without the **belt guard** or **cable guide**. The **belt guard** helps reduce the risk of fingers getting caught between the belt and the pulley. The **cable guide** helps reduce the risk of hand injury.
 - **This power tool is designed for a one-person operation.** The operator must be able to turn the power tool OFF as soon as the cutter stops rotating to prevent the cleaning cable from breaking, twisting, and kinking.
 - **Only use the power tool for the recommended drain or pipe sizes.** Using a drain cleaner inappropriate for the job can cause the cleaning cable to break, twist, or kink, and can cause personal injury.
 - **DO NOT use the power tool at a distance greater than two feet from the opening.** Distances greater than two feet can cause the cleaning cable to break, twist, or kink.
 - **DO NOT use the power tool while in reverse (REV) unless specified in this manual.** Using the power tool while in reverse can cause damage to the cleaning cable. The power tool should only be in reverse (REV) to back the cleaning cable and cutter out of blockages or obstructions.
 - Always practice good hygiene before, during, and after the job. Avoid direct contact with your skin and eyes. DO NOT eat or smoke while handling or using the power tool. Wash hands and other body parts exposed to drain contents with warm soapy water. Keeping clean and protected reduces the risk of health hazards.
 - DO NOT use this power tool if the operator or power tool is standing in water. Using the power tool while on water increases the risk of electric shock.
 - **Always check for risks of contact with utilities such as natural gas or electricity before using the power tool.** Look for utilities, damages to the drain, cross bores, and other objects the cutter may contact. Contact with these hazards can cause gas leaks, fires, explosions, electric shocks, or other serious injuries.
 - **DO NOT force the power tool. Let the cutter do the work.** Using the appropriate tool for the job is safer and effective. Cutters that do not turn while the cleaning cable is turning can be due to an obstruction. Further use in this situation can cause twisting or damage to the cleaning cable and may result in serious injury.
 - **DO NOT use the power tool if the power switch does not turn it ON or OFF.** A Power tool which cannot be controlled with a switch is dangerous and must be repaired.
 - Always disconnect the power tool from any power source and/or remove batteries, if applicable, before changing accessories or storing the power tool. Disconnecting the power prevents accidental starting of the power tool.
 - **Keep power tools and accessories out of reach of children and untrained persons.** Power tools are dangerous when used without proper training and understanding of the power tool and these instructions.
 - Maintain accessories and tools with care. Ensure there are no damages, misalignment, binding of moving parts, or any other condition that may affect the power tool's use. Poorly maintained tools can cause accidents.
 - **Keep cutting accessories and tools sharp and clean.** Sharp and clean tools are easier to control, more effective, and less likely to bind.
 - **DO NOT use accessories that are not provided or recommended by Global**

Industrial. Accessories that are not suitable for the power tool increases the risk of injury.

- Always use the power tool, accessories, and tools while following these instructions and in consideration of the job and working conditions. Using a power tool in situations different from those intended increases the risk of injury.
- **DO NOT use the power tool when handles**

are dirty, slippery, or covered in oil.

- Always keep the handles clean before using the power tool to ensure safe handling and control during unexpected situations.

Service











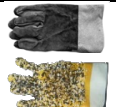
- Always have the power tool serviced by a qualified repair person using only identical replacement parts. Professional service reduces the risk of injury.

Major Components Diagram



Figure 1. Major components diagram of Model 670441

Table 1. Included Accessories and Application Examples

Cutter	Picture	Applications Examples	Pin Key	Picture	Installing and removing cutters
Spear Blade, 1 3/4"		Starting tool Loose objects			Installing and removing cutters
Retrieving Auger, 2 1/2"		Starting tool Cutting and scraping			3" to 6" pipes
Double Cutter, 2" Dia.		Finishing tool Grease stoppages			4" to 10" pipes
Double Cutter, 3" Dia.		Finishing tool Grease stoppages.			Feeding the cable automatically
Double Cutter, 4" Dia.		Finishing tool Grease stoppages.			Protect user from whipping and injury
					Protect user while handling the machine

Assembly Diagram

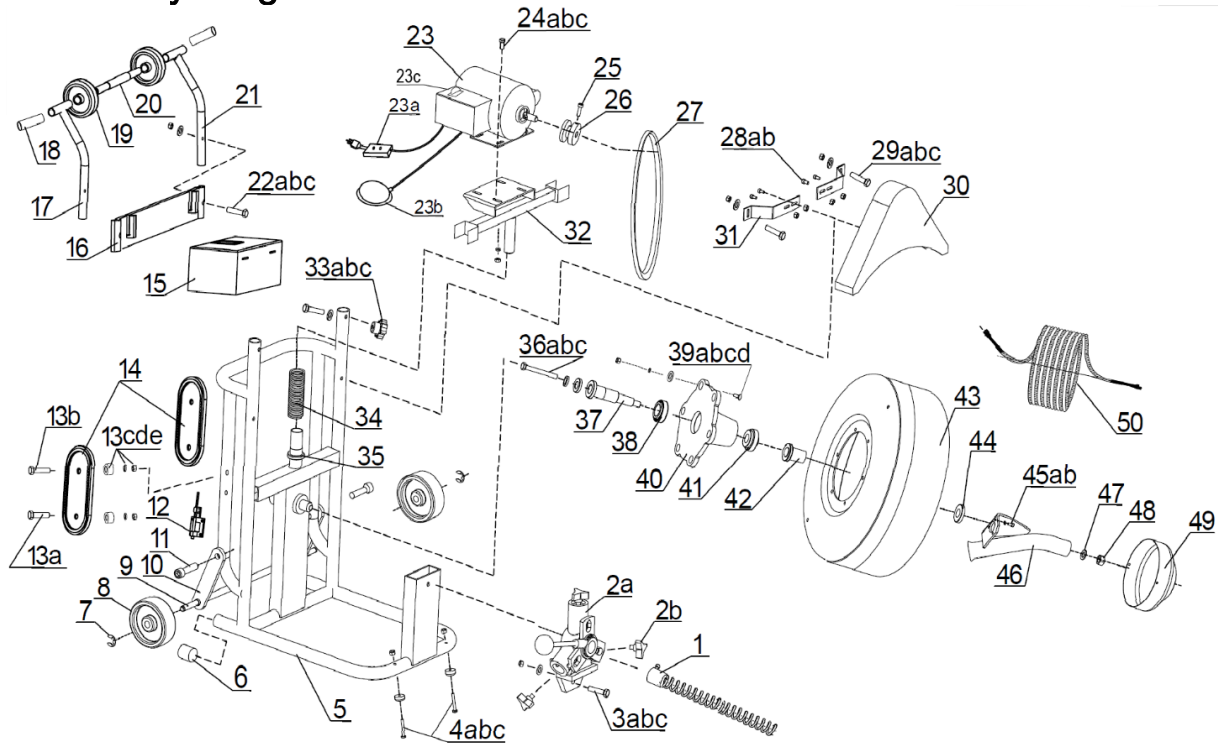


Figure 4

No.	Description	Qty	No.	Description	Qty	No.	Description	Qty	No.	Description	Qty
1	Cable Guide	1	13d	Washer Ø12	4	24c	Nut M8	4	36c	Washer Ø12	1
2a	Auto Feeder Set	1	13e	Nut M12	4	25	Pulley Set Screw M6 x 16	1	37	Drum Shaft	1
2b	Adjusting Knob	2	14	Stair Climber Assembly	2	26	Motor Pulley	1	38	Thrust Bearing	1
3a	Bolt M12 x 80	1	15	Tool Box	1	27	V-Belt	1	39a	Bolt M8 x 30	6
3b	Flat Washer Ø12	1	16	Tool Box Mounting Plate	1	28a	Bolt M6 x 14	4	39b	Flat Washer Ø8	6
3c	Nut M12	1	17	Left Upper Handle	1	28b	Lock Nut M6	4	39c	Spring Washer Ø8	6
4a	Bolt M6 x 45	2	18	Rubber Grip	2	29a	Bolt M8 x 40	2	39d	Nut M8	6
4b	Black Rubber Foot	2	19	6" Loading Wheel	2	29b	Flat Washer Ø8	2	40	Rear Hub	1
4c	Lock Nut M6	2	20	Middle Pipe	1	29c	Lock Nut M8	2	41	Thrust Bearing	1
5	Frame	1	21	Right Upper Handle	1	30	Belt Guard	1	42	Positioning Sleeve	1
6	Black Rubber Cap	2	22a	Bolt M8 x 40	2	31	Belt Guard Bracket	2	43	Drum	1
7	Retaining Clip Ø16	2	22b	Flat Washer Ø8	2	32	Motor Base Assembly	1	44	Guide Tube Hub	1
8	10" Wheel	2	22c	Lock Nut M8	2	33a	Knob Wheel	2	45a	Bolt M6 x 12	3
9	Axle	1	23	Motor	1	33b	Flat Washer Ø8	2	45b	Spring Washer Ø6	3
10	Rocker Arm	2	23a	Power Cord with GFCI	1	33c	Bolt M8 x 50	2	46	Guide Tube Assembly	1
11	Bolt M16 x 20	2	23b	Foot Switch	1	34	Suspension Spring	1	47	Flat Washer Ø16	1
12	Wheel lock Assembly	2	23c	Motor Power Switch	1	35	Adjusting Thumb Wheel	1	48	Nut M16	1
13a	Bolt M12 x 35	2	24a	Bolt M8 x 25	4	36a	Bolt M12 x 150	1	49	Front Hub	1
13b	Bolt M12 x 70	2	24b	Flat Washer Ø8	4	36b	Spring Washer Ø12	1	50	Cable	1
13c	Plastic Spacer	4									

Power Feeder Assembly Diagram

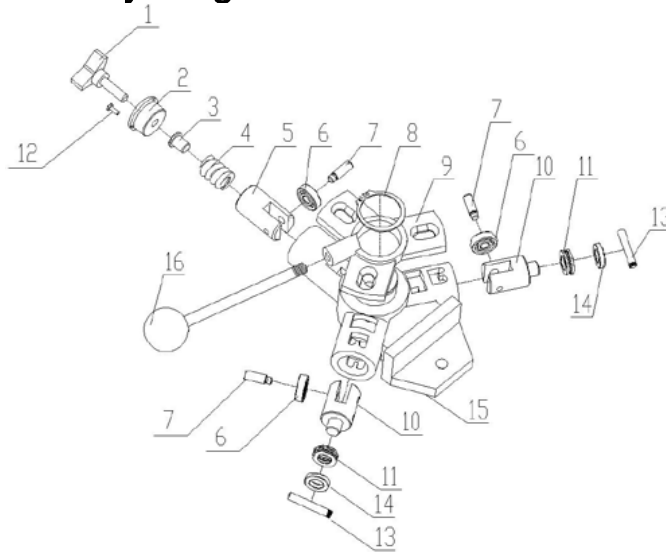


Figure 5

No.	Description	No.	Description
1	Feeder Knob	9	Feed Actuator
2	Knurled Nut	10	Stationary Roller Holder (2)
3	Ball Holder	11	Thrust Bearing (2)
4	Spring	12	Bolt M5x12mm (3)
5	Moveable Roller Holder	13	Pin (2)
6	Ball Bearing 6200 (3)	14	Spacer (2)
7	Actuator Pin (6)	15	Cable-Feeder Base
8	Retaining Ring ϕ 50 mm	16	Feeder Lever

Accessories and Replacements

Model #	Description
670444 (Optional)	Global Industrial Wire Core Cable with Drum Assembly, 5/8" x 100', for Use With 670441
670445	Global Industrial 2-Tier Composite Cable with Drum Assembly, Use With 670441, 3/4" x 100'
670447	Global Industrial 5-Piece Replacement Big Cutter Set, For Use With 670441

Installing and Removing Cutters

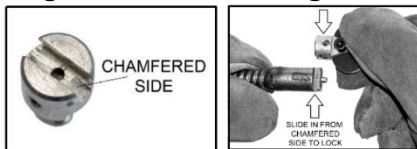


Figure 5. Installing Cutters

Slide the chamfered side of the female end of the cutter onto the male end of the cleaning cable until a click is heard.

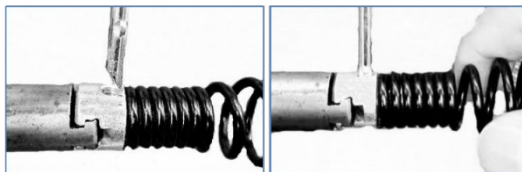


Figure 6. Removing Cutters

Insert the pin key into the hole of the cutter with the chamfered end of the key facing the cleaning cable. Hold the cleaning cable with one hand and slide the cutter off with the other hand.

Installing Upper Handles



Figure 7. Installing Upper Handles

Attach the **left upper handle (17)** and the **right upper handle (21)** to the **middle pipe (20)**. Attach the **Tool Box Mounting Plate (16)** with **parts 22a, 22b, and 22c**. Attach the assembly to the frame with **knob wheels (33a, 33b, and 33c)**.

Installing Cable Guide

Locate the lock pin on the adapter end of the **cable guide (1)** and pull the pin up as you slide the adapter onto the front of the **Auto-Feeder (3)**. Release the lock pin into the hole.

Auto-Feeder Setup

When using a 5/8" cleaning cable, turn the 2 Adjusting Knobs on both sides of the Auto-Feeder clockwise until they stops.

When using a 3/4" cleaning cable, turn the Adjusting Knobs counterclockwise.

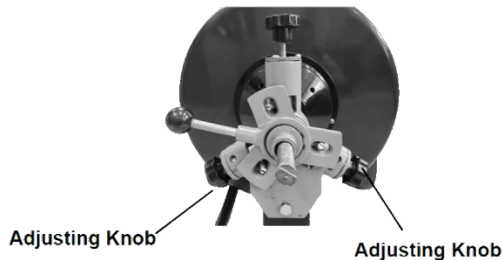


Figure 8. How to setup Auto-Feeder based on cleaning cable sizes

Operating Instructions

1. Ensure the **Motor Power Switch (23c)** is in the OFF position.
2. Grab the **top handle** and tilt the machine back to let the drain cleaner roll on its wheels. Position the drain cleaner within two feet from the drain opening. Tilt the machine forward and use your foot to pull the axle of the wheels away from the machine. This will swing the **rocker arm (10)** of the wheels outward and let the machine rest on its base to prevent it from moving during use.
3. Connect the machine to an outlet that matches the plug.
4. Test the GFCI near the plug on the power cord by pressing the test button. A light should turn on to indicate the GFCI works. Then press the reset button. If the light doesn't turn on, the GFCI needs to be repaired. **DO NOT** use the machine until the GFCI has been repaired.
5. Ensure the cable guide is installed to prevent the cleaning cable from whipping. Always keep a gloved hand on the cable. **DO NOT** use cloth or loose gloves. Use the gloves that come with the machine.

6. Place the **Foot Switch (23b)** in a convenient location where you can reach the motor switch with one hand and reach the cleaning cable with another hand.
7. Select the proper cutting tool (**See Table 1. Accessories and Application Examples**). A good tool to start with is the Grease Cutter or Bulb Auger. After the pipe is opened, try larger blades to scrape the inside edges of the pipe.
8. Slide the cutter onto the end of the cleaning cable.
9. Pull the cleaning cable out of the drum while the machine is OFF. Slide the cleaning cable into the drain as far as it will go. At least one foot (0.3 m) of the cable must be in the drain.
10. Tighten the knob on the top of the **Auto Feeder (2a)** so that the **Auto Feeder (2a)** roller presses against the cable. **DO NOT** over tighten as this could cause excess cable wear.

WARNING: The **Auto Feeder (2a)** is designed for use with 3/4" and 5/8" cables only. 5/8" cables are optional accessories. Both cables come preinstalled in drums.

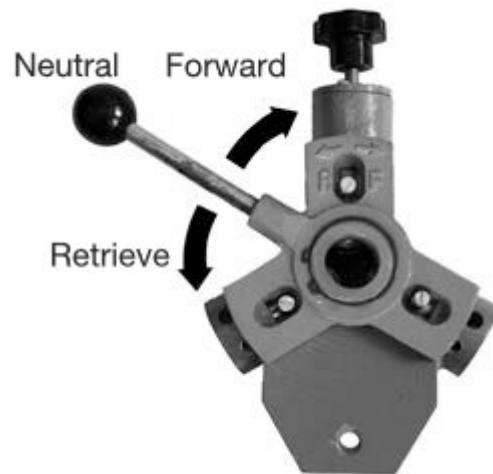


Figure 9. How to use Auto-Feeder

The **Auto Feeder (2a) Lever** controls the feeding rate and the direction of the cable. Hold the lever down to the **Forward position** to pull the cable out of the drum and feed it into the drain. The lower the lever is pushed downward, the faster the cable will feed. Hold the lever up to the **Retrieve position** to retract the cable from the drain and push it back into

the drum. When the lever is held in the middle at the **Neutral position**, the cable will continue to rotate with the drum but it will not move in or out of the feeder.

11. Set the **Motor Power Switch (23c)** at the **Forward** position. Grab the cleaning cable with a gloved hand, and place your other hand on the **Auto Feeder (2a) Lever** which should be in the **Neutral position**. Step on the **Foot Switch (23b)** to start the machine.
12. Feed the cable into the drain line by holding the **Auto Feeder (2a) Lever** down (**Forward position**). Adjust the feeding rate with the Auto Feeder (2a) lever as the resistance changes. DO NOT force the cable – let the cutter do the work. The drain won't be cleaned faster and the cable could get damaged.
13. If the cleaning cable twists or bends, take your foot off the **Foot Switch (23b)**. Move the feed lever up (**Retrieve position**) and step on the foot pedal to retract some of the cable back into the drum.
14. When the cable reaches a stoppage, move the **Auto Feeder (2a) Lever** to the middle (**Neutral**).
15. Slowly move the **Auto Feeder (2a) Lever** down (**Forward**) to allow the cutter to chew the stoppage as it goes. Moving the cable back and forth slowly is effective and helps reduce stress on the cable.

NOTE: It's sometimes helpful to move the cable back and forth slowly. This can effectively remove the stoppage without damaging the cleaning cable. To move the cable back and away from the stoppage, move the **Auto Feeder (2a) lever** up to the **Retrieve** position. Then move the **Auto Feeder (2a) lever** down to the **Forward** position. Repeat as needed.

16. Ensure the cutter doesn't get caught in the stoppage as you work through it. This can cause the cleaning cable to kink and break. When you feel the cable start twisting in your hands, stop the machine and pull some of the cable back to free the cutter from the obstruction. Then, repeat the

slow forward motion. Remember, no cutting takes place when the blade stops turning.

17. After the line is opened and you are ready to put the cleaning cable back into the drum, ensure the **Motor Power Switch (23c)** is still at the **Forward** position. This is important to prevent the cable from tangling in the drum. Move the **Auto Feeder (2a) lever** up to the **Retrieve position** and step on the **Foot Switch (23b)** until the cutter tool is near the drain opening.

DANGER: Always run the machine with the **Motor Power Switch (23c)** in the **Forward** position for moving the cable into the drain line, out of the drain line, and into the drum. The **Reverse** position is only meant to be used for a few seconds to get a cable unstuck. The **Reverse** position is NOT for retracting the cable into the drum.

18. When the cutter tool is near the drain opening, take your foot off the **Foot Switch (23b)**.

DANGER: Never retract the cutting tool from the drain while the cable is rotating. The cleaning cable could whip and cause serious injury.

Troubleshooting

Problem	Probable Cause	Solution
Cable kinks or breaks	Operator forced the cable	Do not force the cable. Let the cutter do the work
	Too much slack between machine and drain	Keep the machine within two feet from the drain
	Cable used in wrong size drain line	A cable that is too large or too small in diameter for a line is more likely to kink
Cable tangles in drum	Operator forced the cable	Do not force the cable. Let the cutter do the work
	Machine was running while the Motor Power Switch (23c) was in the Reverse direction for more than a few seconds	Do not set the Motor Power Switch (23c) in the Reverse position to retract the cable from the drain or to put the cable into the drum. The Reverse position is only meant to be used for a few seconds to get a cable unstuck. The Reverse position is NOT for retracting the cable into the drum. To retract a cable, leave the Motor Power Switch in the Forward position and set the Auto Feeder (2a) lever to the Retrieve position. Push the cable into the drum.
Cable caught in drain line	Cable is stuck at an obstruction	Reverse the motor for a few seconds by moving the Motor Power Switch to Reverse . Pull the cable while the drum is rotating in the Reverse direction. When the cable is freed, set the motor switch to Forward .

Drum stops while Foot Switch (23b) is pressed	Hole in the Foot Switch (23b) or hose	Replace as required
Drum turns in one direction but not the other	Motor Power Switch (23c) failure	Replace the switch
Ground fault circuit interrupter trips and will not reset.	Damaged power cord or extension cord	Replace cords
	Short circuit in motor	Take motor to authorized repair center
	Faulty ground fault circuit interrupter	Replace ground fault circuit interrupter
Failure to feed	Cable tangled in drum	Do not run machine while the Motor Power Switch (23c) is in the Reverse position.
	Auto Feeder (2a) misadjusted	If the Auto Feeder (2a) tension knob is too loose the cable will slip. If it is too tight the Auto Feeder (2a) rollers will wear prematurely
	Auto Feeder (2a) roller frozen	Clean and lubricate Auto Feeder (2a) rollers regularly. Replace worn rollers.
	Worn cable	When cable coils wear flat, cable should be replaced

Replacing Drum

1. Remove the tool box, if attached, by lifting it straight up.
2. Remove the **belt guard** by loosening the screws on the sides of the guard.
3. The **motor** is supported by a **suspension spring (34)**. Place your hand on top of the **motor** case and push it down to lower the **motor**. This will relieve tension off the **V-Belt (27)**. Then, slide the V-Belt (27) off the back of the drum.
4. Loosen the bolt behind the center of the machine's drum. Pull the drum forward and off the drum's shaft.
5. To install the new **drum**, slide the **drum** onto the **drum shaft**. Then reinstall the bolt.
6. Position the **V-Belt (27)** around the drum, press down on the **motor** and slip the **V-Belt (27)** onto the **motor pulley (26)**.
7. Reattach the **belt guard (30)**.