

## Operating Instructions

### WARNING



Always wear eye protection to protect your eyes against dirt and other foreign objects. Always wear appropriate personal protective equipment for the work environment.

Never operate the jetter with the hose end outside of the drain. Hose can whip, causing striking injuries and spray can penetrate skin and cause serious injury.

High pressure fluid can inject under skin resulting in serious injury, including amputation. Do not direct spray at people or animals.

Do not operate jetter above pressure rating or 140°F (inlet water temperature). This increases the risk of injury, including burns, and damage to the jetter.

One person must control both the jetting process and the foot valve. Always use the foot valve. If the jetter hose comes out of the drain, the operator must be able to shut the water flow off to reduce the risk of the jetter hose whipping, causing striking and high pressure injection injuries.

Always use appropriate personal protective equipment while handling and using drain cleaning equipment. Drain 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 gloves, and may also include equipment such as latex or rubber gloves, face shields, goggles, protective clothing, respirators, and steel toed footwear.

Follow operating instructions to reduce the risk of injury from whipping hoses, high pressure liquid injection, carbon monoxide 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. If the jetter is located remotely from the point of use, another person should be located at the jetter.
2. Insert the hose with nozzle attached into the drain at least three feet so that the end of the hose will not come out of the drain and whip around when the machine is started.
3. Confirm that the pulse actuator lever is rotated counter-clockwise in the "Pressure" position (*Figure 16*).

4. Open the inlet supply valve. Never start the engine without the water supply turned ON. This can damage the pump.
5. Press the foot valve to reduce pressure and allow the engine to start. Confirm that water flows freely through the nozzle. Following the starting instructions supplied in the engine manual, start the engine. Allow the engine to warm up.

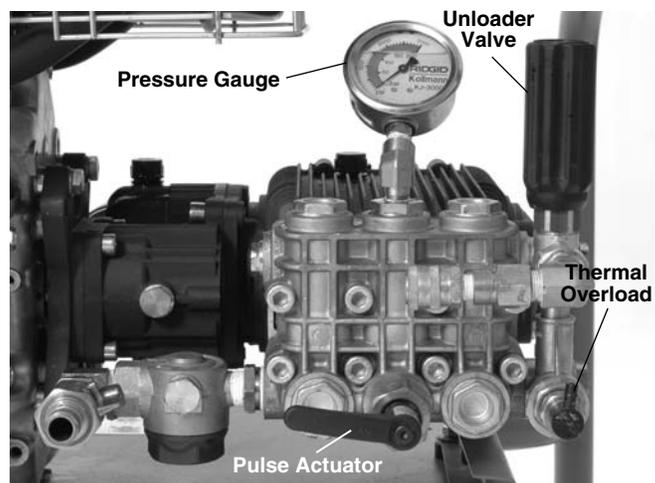


Figure 13 – Controls

6. Turn the unloader valve while monitoring the pressure gauge to adjust the pressure as desired (clockwise to increase pressure, counter-clockwise to decrease pressure). Do not exceed the machine pressure rating being used. Do not force the unloader valve or use wrenches or tools to turn. This will damage the unloader valve.

Jetter	Pressure Rating
KJ-2200	2200 psi
KJ-3100	3000 psi

If the jetter will not generate the rated pressure or is erratic

- Make sure the engine throttle is properly adjusted.
- Make sure that the inlet supply valve is fully open and other valves in the supply system are fully open.
- Turn unloader valve clockwise to increase pressure. Do not force.
- Make sure the pulse actuator is on the "Pressure" setting.
- Cycle the pulse actuator between the "Pressure" and "Pulse" position several times while the unit is running to clear any trapped air from the system.

- Inspect system for leaks. Use caution during inspection to prevent injury. If leaks are found, shut jetter OFF before fixing.
- Turn the jetter OFF. Check the inlet filter/filter washer and make sure that they clear of debris.
- Make sure there is adequate water flow to the jetter.
- Turn the jetter and inlet supply valve OFF. Remove the nozzle and clean the orifices with the nozzle cleaning tool.
- Run the jetter without a nozzle on the hose to remove air or debris from the system. Turn the jetter OFF before removing or attaching the nozzle.

7. Assume a proper operating position.

- Be sure you can control the ON/OFF action of the foot valve. Do not press the foot valve yet.
- Be sure that you have good balance and do not have to overreach.
- You must be able to place one hand on the jetter hose at all times to control and support the hose.
- You must be able to reach the reel for coiling the hose.

This operating position will help to maintain control of the jetter hose.



Figure 14 – Proper Operating Position

**Jetting the Drain**

When jetting a drain, typically the hose is fed into the drain the full distance to be cleaned and slowly pulled back. This allows the high pressure water directed at the drain walls to remove build-up.

Release the locking pin on the hose reel. With at least three feet of hose in the drain and one hand on the hose to control its movement, depress the foot valve. The reverse jet thrusters on the nozzle will help pull the hose into the drain. Feed the hose in the as far as needs to be cleaned. If the hose stops, it has encountered some type of obstruction.

If the nozzle cannot pass through an obstruction, such as a change in direction (trap, turn, etc.) or a blockage.

- Use sharp thrusts of the hose
- Rotate the hose a quarter to half turn to orient the set of the hose to the direction change (If the hose is rotated, once through the obstruction, turn the hose back to help prevent kinks) See Figure 15.
- Use the pulse mode.  (see next section)
- Use a trap hose or smaller diameter hose.



Figure 15 – Rotating the Hose.

Once past a blockage, take the time to clean that section of drain prior to moving forward. Move several feet past the area of the obstruction and slowly pull the nozzle back through the area of the obstruction. Do this several times and then move further into the drain.

Watch the drain water level. If the water level gets too high, you may need to turn the jetter OFF and allow the water to drain prior to continuing. Jetting when the line is full of water is less effective than when the line is empty. Do not allow the jetter to run for extended period of time with the foot valve OFF. When the foot valve is OFF, water recirculates in the pump and cause the water to heat up. This can cause the pump thermal overload to open.

Once the nozzle is the desired distance into the drain, slowly (1 ft /minute for heavy drain accumulations) pull the nozzle back through the drain. Use one hand to control the hose and the other to wind the hose onto the reel. Watch as the nozzle gets closer to the drain opening that the nozzle does not come out of the drain while water is flowing. This could allow the hose to whip around and cause striking and high pressure fluid injuries. Always control the hose. Look for the mark on the hose near the nozzle. Release the foot valve to shut off the water flow.

Turn OFF the engine as directed in the engine manual, and depress the foot valve to release the system pressure. Never leave the system pressurized. If needed, change the nozzle and continue cleaning following the above process. Several passes through a line are recommended for complete cleaning.

When finished, with the jetter shut off, remove the nozzle and open inlet supply valve to flush out the pump and hose. If using the jetter in cold weather conditions, immediately drain the water from the system to help prevent damage from freezing. See *Machine Storage* for information on freeze protecting.

### Using the Pulse Mode

When manipulating the hose is not enough to pass through a direction change or obstruction, the pulse mode should be used. The pulse mode induces large variation in water pressure that causes the hose to vibrate, easing hose advancement.

1. Turn the pulse actuator lever clockwise to the “Pulse” position. In pulse mode, the pressure gauge will read less than full pressure. This is normal.

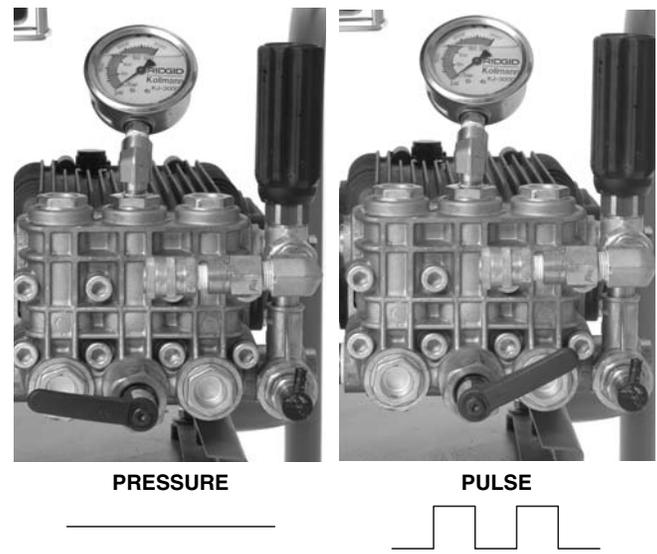


Figure 16 – Pulse Actuator Lever Position

2. If needed, use sharp thrusts of the hose and hose rotation to help the nozzle through the obstruction.
3. Once through the obstruction, turn the pulse actuator lever counter-clockwise to the “Pressure” position. Do not leave the jetter in pulse mode any longer than needed to pass through an obstruction. Excessive use of the pulse feature can cause premature wear on hoses and system.

### Using Water Jetter Machine as a Pressure Washer

The RIDGID water jetting machines can also be used as pressure washers with the addition of the pressure wash package. Use as a pressure washer is similar to use as a jetter, and those instructions should be used in conjunction with the following.

1. Locate an appropriate work area.
2. Make sure all equipment has been properly inspected.
3. Attach the wash wand to the wash wand hose. Always use hose with a pressure rating at least as high as the jetter pressure rating. Use a thread sealant to prevent leaks.
4. Attach hose to the jetter outlet. Make sure the ends of the hose are securely connected to prevent them from coming off under pressure.
5. Connect an appropriate water supply, as discussed earlier, to the jetter.
6. Open the inlet supply valve and squeeze the wash wand trigger to allow water to flow and purge any air from the system. Never start the engine without the water supply turned ON. This can damage the pump.