

INTRODUCTION

Thank you for purchasing a General's Jet Set™.

This manual covers the operation and maintenance of model J-1450. All information in this manual is based on the latest product information available at the time of printing.

General Wire Spring Co. reserves the right to make changes at any time without incurring any obligation.

Owner/User Responsibility:

The owner and/or user must have an understanding of the manufacturer's operating instructions and warnings before using this General's Jet Set. Warning information should be emphasized and understood. If the operator is not fluent in English, the manufacturer's instructions and warnings shall be read to and discussed with the operator in the operator's native language by the purchaser/owner, making sure that the operator comprehends its contents.

Owner and/or user must study and maintain for future reference the manufacturers' instructions.

This manual should be considered a permanent part of the machine and should remain with it if machine is resold.

When ordering parts, please specify model and serial number.

MACHINE SAFETY



CAUTION: To reduce the risk of injury, read operating instructions carefully before using.

1. Read the owner's manual thoroughly. Failure to follow instructions could cause malfunction of the unit and result in death, serious bodily injury and/or property damage.
2. All installations must comply with local codes. Contact your electrician, plumber, utility company or the selling distributor for specific details. To comply with the National Electrical code (NFPA 70) and provide additional protection from risk of electric shock, the machines are equipped with a UL approved ground fault circuit interrupter (GFCI) power cord.



WARNING: Flammable liquids can create fumes which can ignite causing property damage or severe injury.

WARNING: Risk of explosion -- do not spray flammable liquids.

3. Risk of explosion - do not spray flammable liquids or operate in an area where flammable or explosive materials are used or stored.



WARNING: Keep water spray away from electric wiring or fatal electric shock may result.

4. To protect the operator from electrical shock, the machine must be electrically grounded. It is the responsibility of the owner to connect this machine to a UL grounded receptacle of proper voltage and amperage ratings. Do not spray water on or near electrical components. Do not touch machine with wet hands or while standing in water. Always disconnect power before servicing.

5. Grip cleaning wand or hose securely with both hands before starting the cleaner. Failure to do this could result in injury from a whipping wand or hose.



WARNING: High pressure stream of fluid that this equipment can produce can pierce skin and its underlying tissues, leading to serious injury and possible amputation.

6. High pressure developed by these machines will cause personal injury or equipment damage. Use caution when operating.

Do not direct discharge stream at people or severe injury or death will result.

7. Never make adjustments on machine while in operation.



WARNING: High pressure spray can cause paint chips or other particles to become airborne and fly at high speeds.

8. Eye safety devices, foot protection and protective clothing must be worn when using this equipment.
9. Do not operate with the valve in the off position for extensive periods of time as this may cause damage to the pump.
10. The best insurance against an accident is precaution and knowledge of the machine.
11. General Wire Spring Co. will not be liable for any changes made to our standard machines or any components not purchased from General Wire Spring Co.
12. Be certain all fittings are secured before using Jet Set™.
13. Never run pump dry.
14. Inlet water supply must be cold and clean fresh water.
15. Do not allow children to operate the General's Jet Set™ at any time.
16. Protect from freezing.

17. When the machine is working, do not cover or place in a closed space where ventilation is insufficient.

ASSEMBLY

Upon arrival, inspect the shipping crate for damages. Un- crate and examine all parts. Note any damage to machine or components for claims against freight carrier.

Jets have antifreeze in the pump to protect it from freezing conditions during shipment and storage. If machine will be stored and operated in a cold climate, follow Freeze Protection instructions on page 9.

PRE-OPERATION CHECK

- Pump oil (SAE 30W non-detergent oil)
- Cold clean fresh water supply (6 gpm • 5/8" (15.875mm) • 20 psi)
- Hose, nozzle
- Water filter (intact, non-restrictive)

SET-UP PROCEDURES

These machines are meant to be used at or near the working area and under operator supervision. If machine must be located out of sight of operator, special controls may be required for proper machine operation and operator safety.

Locate the equipment on a solid level area with slopes for drainage. Avoid areas where water can be sprayed at machine.

Before using the jet, make sure there are no impurities in the incoming water supply. Turn the water source on for at least 15 seconds, to remove any possible debris in the water before connecting hose to water inlet swivel.

The inlet screen located inside the filter should be cleaned before each use. To clean the inlet screen, unscrew cap beneath the filter, remove the screen and rinse thoroughly with water. Then replace screen.

Connect one end of a garden hose (not included) to the water faucet — water supply not to exceed 100 psi (6.9 Bar) and the other end to the water inlet of the jet machine. (See component identification drawings on next pages.) Use heavy duty 3/4" hose of no more than 50 ft. (15m) in length. If run without an adequate water supply, the pump will cavitate. Cavitation causes the pump to vibrate, causing damage to the pump. **Note:** Lack of water supply can lead to seal damage, causing a loss of pressure and will void the warranty to the pump.

Maximum temperature from the water source should not exceed 140°F (60°C). Using water hotter than 140°F (60°C) can cause damage to the pump and void the warranty. If jet is being used to clear ice blockages, see instructions on page 8.

Remove oil plug on top of pump and replace with dipstick supplied.

Hose Selection Guide

Select the proper hose diameter for the line to be cleaned. When using new hose, run water through it to clean it out before attaching the nozzle.

Hose Size (ID)*	Pipe Size	Typical Applications
3/8" or 5/16" (9.925mm to 7.938mm)	4" to 8" (102mm to 203mm)	Floor drains, septic lines, long runs
1/4" (6.350mm)	2" to 4" (51mm to 102mm)	Kitchen sinks, laundry drains, clean outs
1/8" (3.175mm) <small>* Inside Diameter</small>	1-1/2" to 2" (38mm to 51mm)	Small lines, bathroom sinks, tight bends

When selecting hose size, consider that pressure is lost as the water travels down the length of the hose. As the length increases, the pressure decreases. In addition, the smaller the diameter of the hose, the greater the loss of pressure per foot will be. As an example, at 2 GPM (.13L/sec) a 1/4" (6.350 mm) hose will lose 180 lbs. (12.4 bar) of pressure over 100 ft. (30.5m) of hose, yet a 3/8" (9.925mm) hose will only lose 25 lbs. (1.7 bar) of pressure over the same length and at the same flow rate. At 4 GPM, a 3/8" hose will lose 90 lbs. (6.2 bar) of pressure over a 100 ft. (30.5m) length. The gauge reflects pressure from the pump only, not pressure at the end of the hose. It is important to select the largest possible hose size in order to have as much pressure as possible at the end of the hose.

Hoses of the same diameter may be coupled together using the CC-1 coupling, but it is not recommended for use in lines smaller than 8" (203mm) in diameter. The long length of the hose connectors and coupling together can get caught in bends in the line.

Coupling two different size hoses can be done through the spray wand trigger or foot pedal.

It is not advisable to have two different hose sizes coupled in a drain line. There is a tremendous loss of pressure when combined, aside from the difficulty of getting around bends.

The 3/8" (9.925 mm) and 1/4" (6.350 mm) hoses may be attached to the fitting in the core of the hose reel using the swivel at one end of the hose. The 3/8" hose may also be attached directly to the accessory outlet by using a twist connect. The 1/4" and 1/8" (3.175mm) hoses may be connected directly to the accessory outlet if an adapter fitting (AD-1 or AD-2) is used between the hose and quick connect. Adapters may be ordered separately.

Often, the 1/8" hose is used in conjunction with the spray wand trigger to give the operator finger tip control. Remove the spray wand from the trigger and attach the 1/8" hose using the AD-3 adapter.

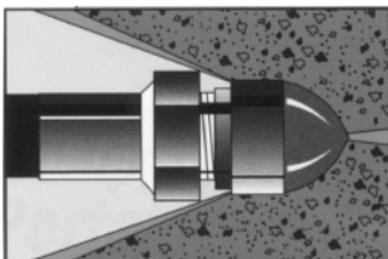
Nozzles

A number of types of nozzles are available for drain cleaning. Each has a different spray pattern. Some nozzles may have a hole in the front to cut through the stoppage. All will have holes in the back to drive the hose down the line and clean the walls of the pipe. A tight spray pattern (15°) has more driving power for long runs, a wide spray pattern (40°) does a better job of cutting the grease off the walls of the pipe. A combination of nozzles may be required to clear a line. Always turn off the machine and shut off valve before changing nozzles.

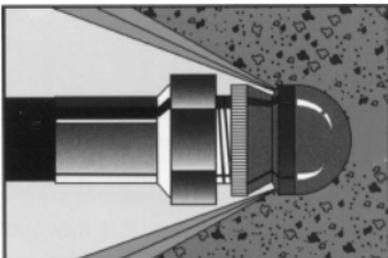
Make sure the nozzle you are using matches the pump size. A 3000 psi (207 bar) pump requires a different nozzle orifice than a 1500 psi (104 bar) pump. Mismatching nozzles with pump size will either cause too little pressure which may not clear the drain, or too much pressure which may damage the machine.

Check nozzles before and after each use for clogged holes which can cause pressure to increase to dangerously high levels and damage the pump. A clogged hole can be cleared by simply using the NCT Nozzle Cleaning Tool.

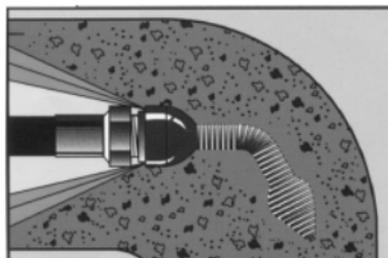
Use the nozzle selection guide to determine what nozzle you will need for various applications. Example: If a nozzle is stamped #22, it is a JN-22, 15° rear jets, 2 GPM (.13L/Sec) @ 1500 PSI (104 Bar) with a forward cutting jet.



Powerful penetrating nozzle cuts through grease and ice.



Wide spray flushing nozzle cleans inside of pipe thoroughly.



Spring leader nozzle gets hose around tight bends and P-traps

OPERATING INSTRUCTIONS

- ❑ Check all hoses for wear and damage. Tighten all connections securely.
- ❑ Check oil level of pump.
- ❑ To begin, turn the water faucet on fully and purge air from system.
- ❑ Insert end of the jet hose 2 to 3 feet into the drain line. Then turn the valve on.

Warning: Never point the end of the jet hose at a person while operating.

Start-Up

1. Make sure that the ball valve is turned on and the water is flowing.
2. Plug in GFCI power cord to proper receptacle and voltage.
3. Hold on to hose firmly to prevent hose from whipping around.
4. Turn motor switch on.

Vibra-Pulse

Pulsation makes the hose vibrate, helping the jet go longer distances and around tight bends easier.

The pulse control valve is located on the front of the pump. Simply turn the valve on to engage the pulse.

The pulse causes a pressure drop when it's engaged. The pulse is most effective in a 1/8" hose. You'll note less vibration with a 1/4" hose and almost none with a 3/8" hose. However the pulse is still effective, causing the water to burst from the nozzle hundreds of times per second.

If you are still having difficulty getting a hose around a tight bend, switch to a smaller diameter hose.

Turn the pulse off before turning machine off.

Shut Down Instructions

After drain cleaning or spray washing is completed, run clear water through the system. Always leave ball valve in open position when turning off motor. Turn off water supply and drain as much water from pump as possible. Remove water supply hose from inlet. If you are in a cold climate, see Freeze Protection.