



# KÄRCHER

## OPERATOR'S MANUAL



**MODEL HD 2.0/10 Ed - 1.575-250.0**

**MODEL HD 1.9/15 Ed - 1.575-251.0**

**MODEL HD 2.8/10 Ed - 1.575-252.0**

**MODEL HD 3.5/20 Ea - 1.575-253.0**

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To locate your local Kärcher Commercial Pressure Washer Dealer nearest you,  
please call 1-888-805-9852 or visit [www.karchercommercial.us](http://www.karchercommercial.us)

9.800-085.0

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Model Number \_\_\_\_\_

Serial Number \_\_\_\_\_

Date of Purchase \_\_\_\_\_

The model and serial numbers will be found on a decal attached to the pressure washer. You should record both serial number and date of purchase and keep in a safe place for future reference.

# INTRODUCTION & IMPORTANT SAFETY INFORMATION

Thank you for purchasing this Pressure Washer.

All information in this manual is based on the latest product information available at the time of printing.

Manufacturer reserve the right to make changes at any time without incurring any obligation.

## Owner/User Responsibility:

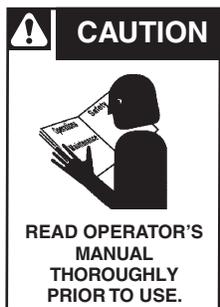
The owner and/or user must have an understanding of the manufacturer's operating instructions and warnings before using this pressure washer. Warning information should be emphasized and understood. If the operator is not fluent in English, the manufacturer's instructions and warnings shall be read to 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.**

## IMPORTANT SAFETY INFORMATION



**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 machine 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, single phase pressure washers are equipped with a UL approved ground fault circuit interrupter (GFCI) power cord. Three phase machines must be connected to a GFCI circuit breaker.



**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. Do not operate in an area where flammable or explosive materials are used or stored.



**WARNING:** Keep water spray away from electrical 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 re-

ceptacle 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 securely with both hands before starting the cleaner. Failure to do this could result in injury from a whipping wand.



**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, hand and other protective clothing must be worn when using this equipment.

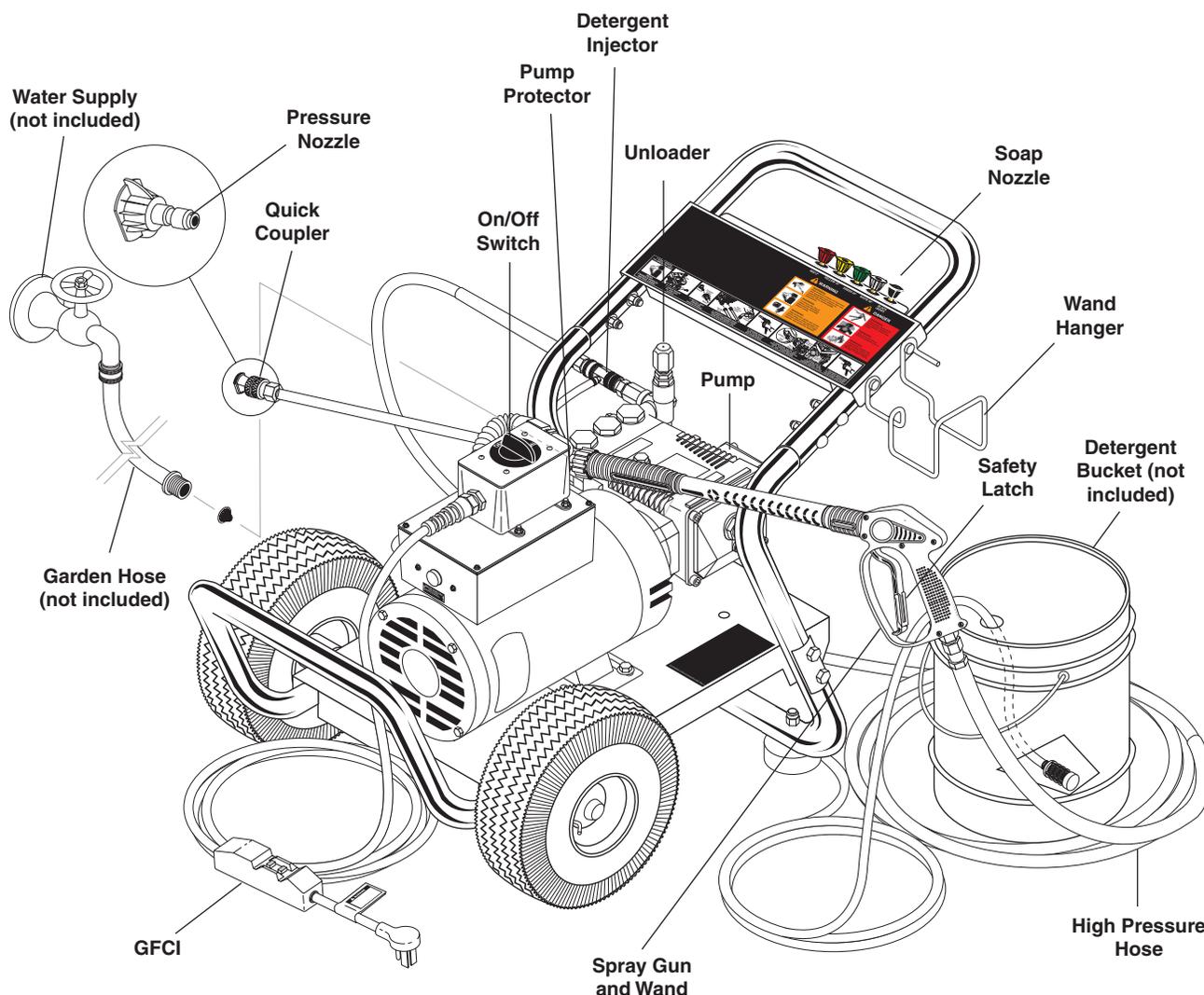
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## IMPORTANT SAFETY INFORMATION

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9. Do not operate with the spray gun trigger 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. Manufacturer will not be liable for any changes made to our standard machines, or any components not purchased from us.
12. Be certain all quick coupler fittings are secured before using pressure washer.
13. Never run pump dry or leave spray gun closed longer than 5 minutes.
14. Inlet water supply must be cold and clean fresh water.
15. Do not allow children to operate the pressure washer 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.

# COMPONENT IDENTIFICATION



**Pump** — Develops high pressure.

**Spray Gun** — Controls the application of water and detergent onto cleaning surface with trigger device. Includes safety latch.

**Detergent Injector** — Allows you to siphon and mix detergents when used with a soap nozzle.

**Wand** — Must be connected to the spray gun.

**Unloader** — Safety device that relieves pressure when spray gun trigger is closed.

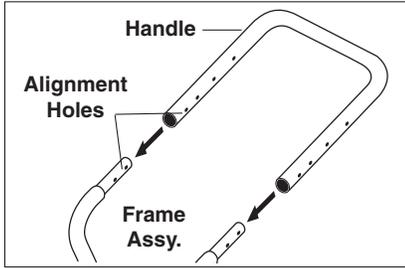
**High Pressure Hose** — Connect one end to water pump discharge nipple and the other end to spray gun.

**Pump Protector** — Cycles fresh cool water through pump when recirculating water reaches 140°F.

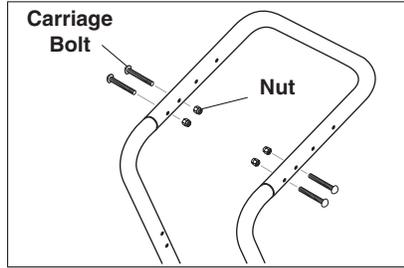
**GFCI** — Ground fault circuit interrupter trips when voltage leaks to ground.

**Note:** If trigger on spray gun is released for more than 2 minutes, water will leak from valve. Warm water will discharge from pump protector onto floor. This system prevents internal pump damage.

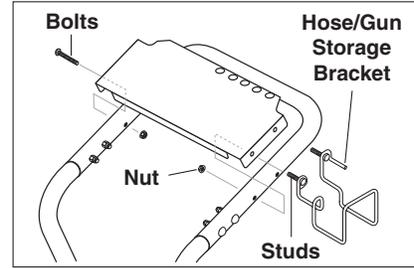
# ASSEMBLY INSTRUCTIONS



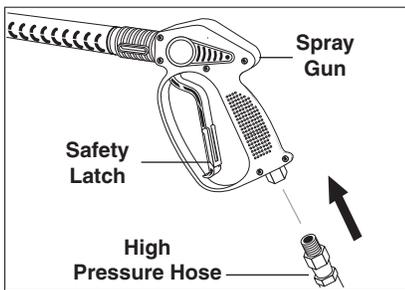
**STEP 1:** Attach handle to the frame of the pressure washer. **Note:** It may be necessary to move the handle supports from side to side in order to align the handle so it will slide over the frame supports.



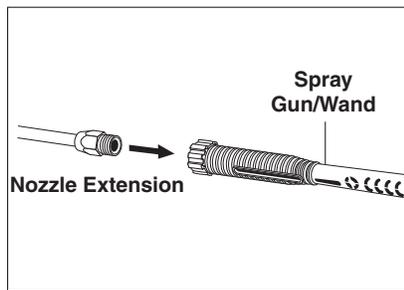
**STEP 2:** Insert the carriage bolt through the holes from the outside of the unit and attach a nut from the inside of the machine. Tighten nuts.



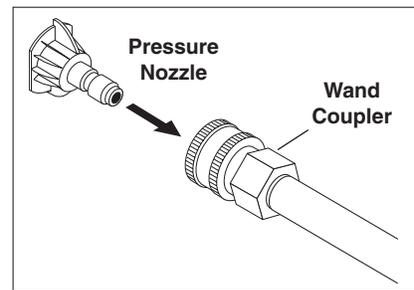
**STEP 3:** Attach the spray gun/hose storage bracket, and bracket to handle. Tighten nuts.



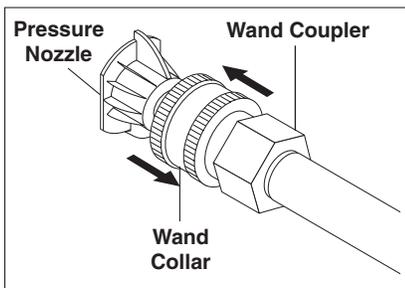
**STEP 4:** Attach the high pressure hose to the spray gun using teflon tape on hose threads.



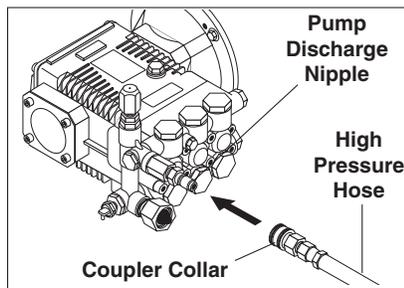
**STEP 5:** Attach nozzle extension to spray gun/wand. Tighten both by hand.



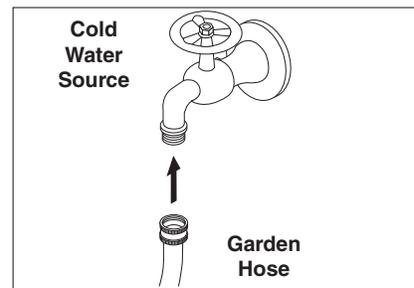
**STEP 6:** Pull the spring-loaded collar of the wand coupler back to insert your choice of pressure nozzle.



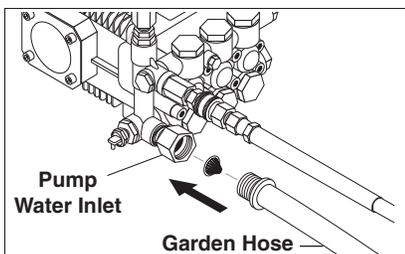
**STEP 7:** Release the coupler collar and push the nozzle until the collar clicks. Pull the nozzle to make sure it is seated properly.



**STEP 8:** Connect the high pressure hose to the pump discharge nipple. Push coupler collar forward until secure.

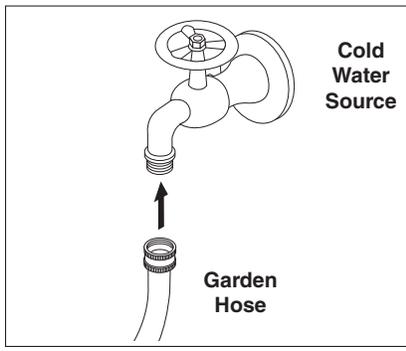


**STEP 9:** Connect garden hose to the cold water source.

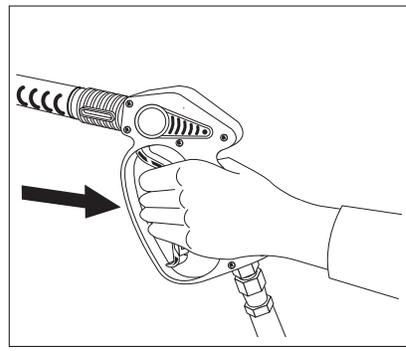


**STEP 10:** Connect the garden hose to pump water inlet. Inspect inlets. **CAUTION: Do not run the pump without water or pump damage will result.**

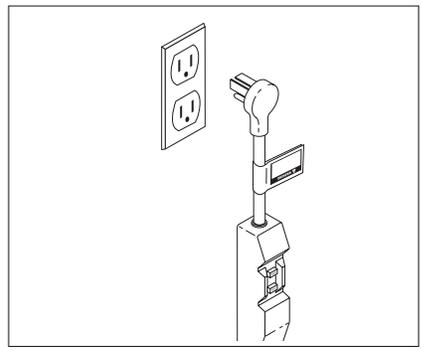
# OPERATING INSTRUCTIONS



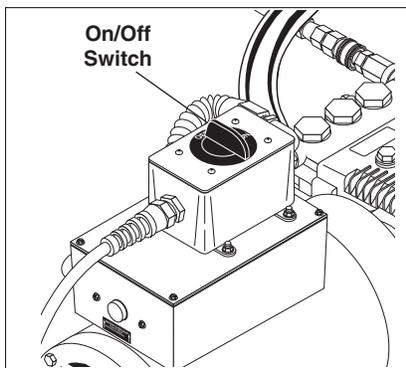
**STEP 1:** Connect garden hose to the cold water source and turn water on completely. Never use hot water.



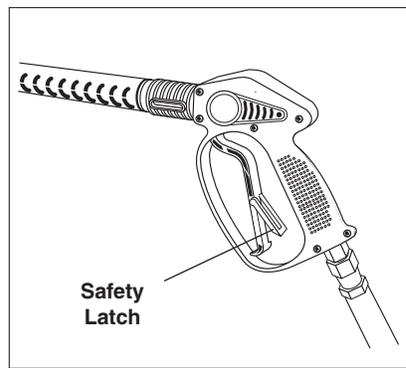
**STEP 2:** Trigger the spray gun to eliminate trapped air then wait for a steady flow of water to emerge from the spray nozzle.



**STEP 3:** Connect to appropriate power supply. Push reset button on GFCI.



**STEP 4:** Turn machine on by turning switch at top of motor.



**WARNING!** Never replace nozzles without engaging the safety latch on the spray gun trigger.



The five color-coded quick connect nozzles provide a wide array of spray widths from 0° to 45° and are easily accessible when placed in the convenient rubber nozzle holder, which is provided on the front of the machine.

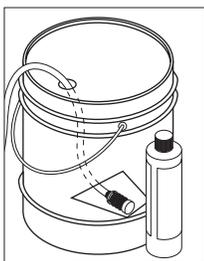
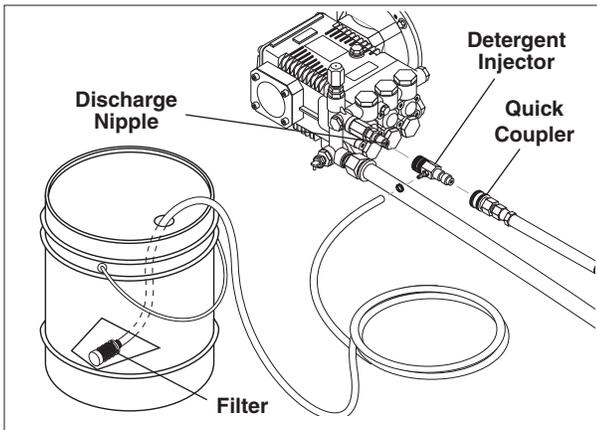
**NOTE:** For a more gentle rinse, select the white 40° or green 25° nozzle. To scour the surface, select the yellow 15° or red 0° nozzle. To apply detergent select the black nozzle.

## DETERGENTS & GENERAL CLEANING TECHNIQUES

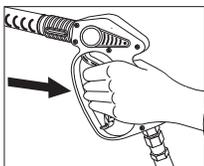


**WARNING:** Some detergents may be harmful if inhaled or ingested, causing severe nausea, fainting or poisoning. The harmful elements may cause property damage or severe injury.

**STEP 1:** Connect detergent injector to discharge nipple on machine. Connect high pressure hose to injector with quick coupler. (Check to make sure locking coupler sleeves are in proper position before applying water pressure).



**STEP 2:** Use detergent designed specifically for pressure washers. Household detergents could damage the pump. Prepare detergent solution as required by the manufacturer. Fill a container with pressure washer detergent. Place the filter end of detergent suction tube into the detergent container.



**STEP 3:** With safety latch on spray gun engaged, secure black detergent nozzle into quick coupler. **NOTE:** Detergent cannot be applied using a pressure nozzle.

**STEP 4:** With the motor running, pull trigger to operate machine. Liquid detergent is drawn into the machine and mixed with water. Apply detergent to work area. Do not allow detergent to dry on surface.

**IMPORTANT:** You must flush the detergent injection system after each use by placing the suction tube into a bucket of clean water, then run the pressure washer in low pressure for 1-2 minutes.

## THERMAL PUMP PROTECTION

If you run the motor on your pressure washer for 3-5 minutes without pressing the trigger on the spray gun, circulating water in the pump can reach high temperatures. When the water reaches this temperature, the pump protector engages and cools the pump by discharging the warm water onto the ground. This thermal device prevents internal damage to the pump.

## CLEANING TIPS

Pre-rinse cleaning surface with fresh water. Place detergent suction tube directly into cleaning solution and apply to surface at low pressure (for best results, limit your work area to sections approximately 6' square and always apply detergent from bottom to top). Allow detergent to remain on surface 1-3 minutes. Do not allow detergent to dry on surface. If surface appears to be drying, simply wet down surface with fresh water. If needed, use brush to remove stubborn dirt. Rinse at high pressure from top to bottom in an even sweeping motion keeping the spray nozzle approximately 1' from cleaning surface. Use overlapping strokes as you clean and rinse any surface. For best surface cleaning action spray at a slight angle.

### Recommendations:

- Before cleaning any surface, an inconspicuous area should be cleaned to test spray pattern and distance for maximum cleaning results.
- If painted surfaces are peeling or chipping, use extreme caution as pressure washer may remove the loose paint from the surface.
- Keep the spray nozzle a safe distance from the surface you plan to clean. High pressure wash a small area, then check the surface for damage. If no damage is found, continue to pressure washing.

### CAUTION - Never use:

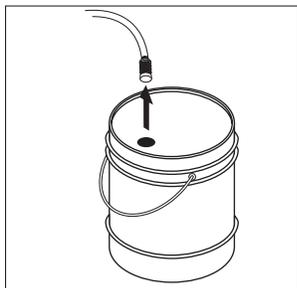
- Bleach, chlorine products or other corrosive chemicals
- Liquids containing solvents (i.e., paint thinner, gasoline, oils)
- Tri-sodium phosphate products
- Ammonia products
- Acid-based products

These chemicals will harm the machine and will damage the surface being cleaned.

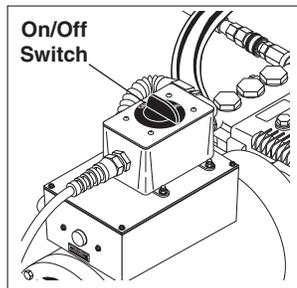
## RINSING

It will take a few seconds for the detergent to clear. Apply safety latch to spray gun. Remove black soap nozzle from the quick coupler. Select and install the desired high pressure nozzle. **NOTE:** You can also stop detergent from flowing by simply removing detergent siphon tube from bottle.

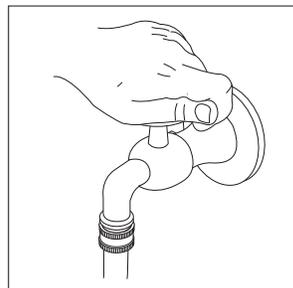
## SHUTTING DOWN AND CLEAN-UP



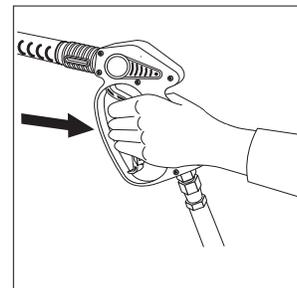
**STEP 1:** Remove detergent suction tube from container and insert into one gallon of fresh water. Slide nozzle forward for low pressure or use black detergent nozzle. Pull trigger on spray gun and siphon fresh clean water for one minute.



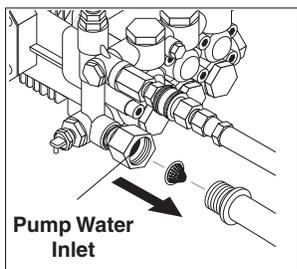
**STEP 2:** Turn off machine by turning switch to "OFF" switch.



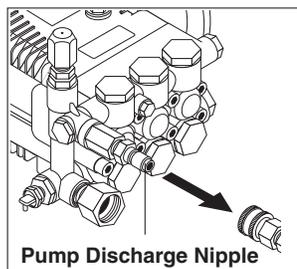
**STEP 3:** Turn off water supply.



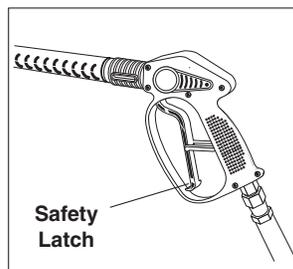
**STEP 4:** Press trigger to release water pressure.



**STEP 5:** Disconnect the garden hose from the water inlet on the machine.



**STEP 6:** Disconnect the high pressure hose from pump discharge nipple.



**STEP 7:** Engage the spray gun safety lock.

## STORAGE

### Pump Storage



**CAUTION:** Always store your pressure washer in a location where the temperature will not fall below 32°F (0°C). The pump in this machine is susceptible to permanent damage if frozen.

**FREEZE DAMAGE IS NOT COVERED BY WARRANTY.**

If you must store your pressure washer in a location where the temperature is below 32°F, you can minimize the chance of damage to your machine by draining your machine as follows:

1. Stop the pressure washer and detach supply hose and high pressure hose. Squeeze trigger of spray gun to drain all water from the wand and hose.
2. Restart pressure washer and let it run briefly (about 5 seconds) until water no longer discharges from the high pressure outlet.

## TROUBLESHOOTING

| PROBLEM   | POSSIBLE CAUSE   | SOLUTION  |
|---|--|---|
| <b>PUMP RUNNING NORMALLY BUT PRESSURE LOW ON INSTALLATION</b>     | Pump sucking air   | Check water supply and possibility of air           |
|   | Check valves sticking  | Check and clean or replace if necessary.            |
|   | Unloader valve seat faulty                                   | Check and replace if necessary.                     |
|   | Nozzle incorrectly sized                                     | Check and replace if necessary.                     |
|   | Worn piston packing  | Check and replace if necessary.                     |
| <b>FLUCTUATING PRESSURE</b>                                       | Valves worn  | Check and replace if necessary.                     |
|   | Blockage in valve  | Check and replace if necessary.                     |
|   | Pump sucking air   | Check water supply connections.                     |
|   | Worn piston packing  | Check and replace if necessary.                     |
|   | Insufficient water   | Check filter and hose for breakage.                 |
| <b>PRESSURE LOW AFTER PERIOD OF NORMAL USE</b>                    | Nozzle worn  | Check and replace if necessary.                     |
|   | Suction or delivery valves worn                              | Check and replace if necessary.                     |
|   | Suction or delivery lines blocked                            | Check and clean if necessary.                       |
|   | Unloader valve seat worn                                     | Check and replace if necessary.                     |
|   | Worn piston packing  | Check and replace if necessary.                     |
| <b>PUMP NOISY</b>   | Water temperature excessive                                  | Reduce to below 160° F.                             |
|   | Air in suction line  | Check water supply and connections on suction line. |
|   | Broken or weak suction or delivery valve spring              | Check and replace if necessary.                     |
|   | Foreign matter in valves                                     | Check and clean if necessary.                       |
|   | Worn bearings  | Check and replace if necessary.                     |
| <b>PRESENCE OF WATER IN PUMP OIL</b>                              | Excessive temperature of water                               | Reduce to below 160° F.                             |
|   | Oil seal worn  | Check and replace if necessary.                     |
|   | High humidity in air   | Check and replace if necessary.                     |
| <b>WATER DRIPPING FROM UNDER PUMP</b>                             | Piston packing worn  | Check and replace if necessary.                     |
|   | O-ring plunger retainer worn                                 | Check and replace if necessary.                     |
| <b>WATER DRIPPING FROM PUMP PROTECTOR</b>                         | Piston packing worn  | Check and replace if necessary.                     |
|   | O-ring plunger retainer worn                                 | Check and replace if necessary.                     |
| <b>WATER DRIPPING FROM PUMP PROTECTOR</b>                         | Water supply pressure too high (over 90 PSI)                 | Lower water supply pressure using a regulator.      |
|   | Spray gun is in the off position for over 5 minutes          | Turn machine off if not in use for over 5 minutes.  |
| <b>OIL DRIPPING</b>   | Oil seal worn  | Check and replace if necessary.                     |
| <b>EXCESSIVE VIBRATION IN HIGH PRESSURE HOSE</b>                  | Irregular functioning of the pump valves                     | Check and replace if necessary.                     |
| <b>MOTOR DOES NOT START WHEN SWITCHED ON</b>                      | Plug not well connected or lack of power supply              | Check plug, cable and switch.                       |
| <b>WHEN SWITCHING ON THE MACHINE, MOTOR HUMS BUT DOES NOT RUN</b> | Main voltage is insufficient lower than the minimum required | Check to make sure main power supply is adequate.   |
|   | The pump is stuck or frozen                                  | Check by turning the motor manually.                |



**LIMITED NEW PRODUCT  
WARRANTY—COMMERCIAL  
PRESSURE WASHERS**



Phone: 888-805-9852  
Fax: 800-248-8409  
www.karchercommercial.us

**PRESSURE WASHER Warranty**

**WHAT THIS WARRANTY COVERS**

All Kärcher commercial pressure washers are warranted by Kärcher to the original purchaser to be free from defects in materials and workmanship under normal use, for the periods specified below. This Limited Warranty, subject to the exclusions shown below, is calculated from the date of the original purchase, and applies to the original components only. Any parts replaced under this warranty will assume the remainder of the pressure washer's warranty period.

**FIVE YEAR PARTS AND ONE YEAR LABOR WARRANTY**

Components manufactured by Kärcher, such as frames, handles, float tanks, fuel tanks, belt guards, and heating coils. Internal components on the oil-end of Kärcher pumps have a 5 year warranty. Heating coils are pro-rated at 25% after 2 years. Stainless steel coils have a 10 year warranty.

**ONE YEAR PARTS AND ONE YEAR LABOR WARRANTY**

All other components, excluding normal wear items as described below, will be warranted for one year on parts and labor. Parts and labor warranty on these parts will be for one year regardless of the duration of the original component manufacturer's part warranty.

**WARRANTY PROVIDED BY OTHER MANUFACTURERS**

Motors, generators, and engines, which are warranted by their respective manufacturers, are serviced through these manufacturers' local authorized service centers. Kärcher is not authorized and has no responsibility to provide warranty service for such components. Motors manufactured outside of the United States will be warranted by Kärcher.

**WHAT THIS WARRANTY DOES NOT COVER**

This warranty does not cover the following items:

1. Normal wear items, such as nozzles, spray guns, discharge hoses, wands, quick couplers, seals, filters, gaskets, O-rings, packings, pistons, pump valve assemblies, strainers, belts, brushes, rupture disks, fuses, pump protectors.
2. Any components or other devices incorporated into a Kärcher product that are not manufactured by Kärcher, including, but not limited to gasoline engines, pumps, etc.
3. Defects caused by improper or negligent operation or installation, accident, abuse, misuse, neglect, unauthorized modifications, repair or maintenance of the product by persons other than authorized representatives of Kärcher, including, but not limited to, the failure of the Customer to comply with recommended product maintenance schedules.
4. Kärcher products that have been returned by the original Customer and are ultimately re-sold by an Authorized Servicing Dealer or other sales or service outlet to another purchaser.
5. Kärcher products that are sold by any distributor or retailer that is not an official authorized dealer or retailer of Kärcher products.
6. Defects caused by acts of nature and disaster including, but not limited to, floods, fires, wind, freezing, earthquakes, tornadoes, hurricanes and lightning strikes.
7. Defects caused by water sediments, rust corrosion, thermal expansion, scale deposits or a contaminated water supply (such as water in the unit with chloride content higher than that of 80 mg/liter or use of chemicals not approved or recommended by Kärcher).
8. Defects caused by improper voltage, voltage spikes or power transients in the electrical supply.
9. Devices or accessories not distributed or approved by Kärcher.
10. Any cost of labor arising from the removal and reinstallation of the alleged defective part by Customer.
11. Transportation of the product to an Authorized Servicing Dealer, field labor, replacement rental and any freight charges.

Any components, accessories or other devices provided with the product but not manufactured by Kärcher (such as engines, pumps, etc.) are subject to warranties and service through their respective manufacturers authorized service centers and according to the applicable terms and conditions of such manufacturers warranties. Such components or other devices not manufactured by Kärcher should be referred by the Customer to an authorized service center or their respective manufacturers for repair or replacement.

THE FOREGOING WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES OF ANY KIND, WHETHER ARISING BY LAW, CUSTOM OR CONDUCT. KÄRCHER MAKES NO ADDITIONAL WARRANTIES, EITHER EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY EXPRESSED OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS OF EQUIPMENT FOR A PARTICULAR PURPOSE AND ANY SUCH WARRANTIES ARE EXPRESSLY DISCLAIMED. KÄRCHER FURTHER DISCLAIMS ANY WARRANTY THAT THE PRODUCT PURCHASED BY CUSTOMER WILL MEET ANY PARTICULAR REQUIREMENT OF CUSTOMER EVEN IF KÄRCHER HAS BEEN ADVISED OF SUCH REQUIREMENT.

THE RIGHTS AND REMEDIES PROVIDED UNDER THIS WARRANTY ARE EXCLUSIVE AND IN LIEU OF ANY OTHER RIGHTS OR REMEDIES OF CUSTOMER. KÄRCHER SHALL NOT UNDER ANY CIRCUMSTANCES BE LIABLE TO ANY PERSON OR ENTITY INCLUDING, BUT NOT LIMITED TO, THE CUSTOMER OR ANY END USER OF THE PRODUCT FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR ECONOMIC LOSS, LOSS OF PROFITS OR LOSS OF USE OF THE PRODUCT, ARISING IN CONNECTION WITH THE SALE, DELIVERY, INSTALLATION, TRAINING OR USE OF PRODUCT.

KÄRCHER'S LIABILITY, WHETHER IN CONTRACT OR IN TORT, ARISING OUT OF ANY WARRANTIES OR REPRESENTATIONS, INSTRUCTIONS OR DEFECTS FROM ANY CAUSE, SHALL BE LIMITED EXCLUSIVELY TO THE COST OF REPAIR OR REPLACEMENT PARTS UNDER AFORESAID CONDITIONS.

The purpose of the foregoing limitations on liability and Customer remedies is to protect Kärcher from unknown or undeterminable risks. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to the Customer.

Kärcher sales and service representatives are not authorized to waive or alter the terms of this warranty, or to increase the obligations of Kärcher under the warranty.

Kärcher reserves the right to make design changes in any of its products without prior notification to the Customer.



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