



POWERHORSE[®]

1/2 HP CAST IRON TRANSFER PUMP

Owner's Manual



! WARNING: Read carefully and understand all ASSEMBLY AND OPERATION INSTRUCTIONS before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury.

Item #50099

SAVE THESE INSTRUCTIONS

Thank you very much for choosing a Powerhorse product!

For future reference, please complete the owner's record below:

Serial Number/Lot Date Code: _____

Purchase Date: _____

Save the receipt, warranty, and this manual. It is important that you read the entire manual to become familiar with this product before you begin using it.

This pump is designed for certain applications only. Northern Tool and Equipment cannot be responsible for issues arising from modification or use of this product in an application for which it was not designed. We strongly recommend that this product not be modified and/or used for any application other than that for which it was designed.

For technical questions, please call **1-800-222-5381**.

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Intended Use

This pump is used to easily transfer water from one point to another using standard 115V outlet power. Typical applications include removing water from basements, pool covers, clogged drains, stock tanks, water basins, boats, etc. Use of an extension cord is NOT recommended.

Technical Specifications

Property	Specification
Power	115VAC, 60HZ
Amperage	8.0A
Motor	1/2 HP
Suction & Discharge Connection (in.)	3/4
Discharge Hose Diameter (in.)	5/8
Discharge Hose Max. Length	50 ft.
Operating Water Depth	1/4 in
Max. Water Temperature	113°F (45°C)
Weight	16 lbs.

Important Safety Information

WARNING

- Read and understand all instructions. Failure to follow all instructions may result in serious injury.
- The warnings, cautions, and instructions in this manual cannot cover all possible conditions or situations that could occur. Exercise common sense and caution when using this tool. Always be aware of the environment and ensure that the tool is used in a safe and responsible manner.
- DO NOT allow persons to operate or assemble this product until they have read this manual and have developed a thorough understanding of how the product works.
- DO NOT modify the product in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the product. There are specific applications for which the product was designed.
- Use the right tool for the job. DO NOT attempt to force a small equipment to do the work of larger industrial equipment. There are certain applications for which this equipment was designed. It will do the job better and more safely at the capacity for which it was intended. DO NOT use this equipment for a purpose for which it was not intended.
- Industrial or commercial applications must follow OSHA requirements.

⚠ WARNING

- This product may contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

⚠ WARNING

WORK AREA SAFETY

- Inspect the work area before each use. Keep work area clean, dry, free of clutter, and well lit. Cluttered, wet, or dark work areas can result in injury. Using the product in confined work areas may put you dangerously close to other cutting tools and rotating parts.
- Do not use the product where there is a risk of causing a fire or an explosion; e.g., in the presence of flammable liquids, gases, or dust. The product can create sparks, which may ignite the flammable liquids, gases, or dust.
- Do not allow the product to come into contact with an electrical source. The tool is not insulated and contact will cause electrical shock.
- Keep children and bystanders away from the work area while operating the tool. Do not allow children to handle the product.
- Be aware of all power lines, electrical circuits, water pipes, and other mechanical hazards in your work area. Some of these hazards may be hidden from your view and may cause personal injury and/or property damage if contacted.

⚠ WARNING

PERSONAL SAFETY

- Stay alert, watch what you are doing, and use common sense when operating the tool. Do not use the tool while you are tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating the tool may result in serious personal injury.
- Dress properly. Do not wear loose clothing, dangling objects, or jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry, or long hair can be caught in moving parts. Air vents on the tool often cover moving parts and should be avoided.
- Wear the proper personal protective equipment when necessary. Wear ANSI Z87.1 compliant safety goggles or safety glasses with side shields, or when needed, a face shield. Use a dust mask in dusty work conditions. Also use non-skid safety shoes, hardhat, gloves, dust collection systems, and hearing protection when appropriate. This applies to all persons in the work area.
- Do not overreach. Keep proper footing and balance at all times.
- Do not use the tool when tired or under the influence of drugs, alcohol or medication.
- Ensure the power switch is off prior to plugging in the tool.
- Remove keys or wrenches before connecting the tool to an air supply, power supply, or turning on the tool. A wrench or key that is left attached to a rotating part of the tool may cause personal injury.
- Secure the work with clamps or a vise instead of your hand when practical. This safety precaution allows for proper tool operation using both hands.

⚠ WARNING

ELECTRICAL SAFETY

- Grounded tools must be plugged into an outlet properly installed and grounded in accordance with all codes and ordinances. Never remove the grounding prong or modify the plug in any way. Do not use any adapter plugs. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. If the tools should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user.
- Double insulated tools are equipped with a polarized plug (one blade is wider than the other). This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install a polarized outlet. Do not change the plug in any way. Double insulation eliminates the need for the three wire grounded power cord and grounded power supply system.
- Do not allow the product to come into contact with an electrical source. The tool is not insulated and contact will cause electrical shock.
- Avoid body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerators. There is an increased risk of electric shock if your body is grounded.
- Do not abuse the power cord. Never use the power cord to carry the pump or pull the plug from an outlet. Keep the power cord away from heat, oil, sharp edges, or moving parts. Replace damaged power cords immediately. Damaged power cords increase the risk of electric shock.
- When operating a power tool outside, use an outdoor extension cords marked "W-A" or "W". These extension cords are rated for outdoor use, and reduce the risk of electric shock.

⚠ CAUTION

PUMP USE AND CARE

- Do not force the pump. Pumps do a better and safer job when used in the manner for which they are designed. Plan your work, and use the correct product for the job.
- Check for damaged parts before each use. Carefully check that the pump will operate properly and perform its intended function. Replace damaged or worn parts immediately. Never operate the pump with a damaged part.
- Do not use a pump with a malfunctioning switch. Any pump that cannot be controlled with the power switch is dangerous and must be repaired by an authorized service representative before using.
- Disconnect the power/air supply from the pump and place the switch in the locked or off position before making any adjustments, changing accessories, or storing the tool. Such preventive safety measures reduce the risk of starting the tool accidentally.
- Store the pump when it is not in use. Store it in a dry, secure place out of the reach of children. Inspect the tool for good working condition prior to storage and before re-use.
- Use only accessories that are recommended by the manufacturer for use with your pump. Accessories that may be suitable for one product may create a risk of injury when used with another tool. Never use an accessory that has a lower operating speed or operating pressure than the tool itself.
- Keep guards in place and in working order. Never operate the product without the guards in place.

Specific Operation Warnings

⚠ WARNING

- Wear ANSI Z87.1 compliant goggles.
- DO NOT start pump or run pump dry. Prime pump before each use.
- Do not submerge pump in water. For indoor use only.
- Pump clean water only. DO NOT use for salt water, brine, laundry discharge or any application that may contain foreign materials and/or caustic chemicals.
- Never pump gasoline or flammable liquids with this product.
- Do not operate pump where flammable or explosive fumes or gases are present. Explosion, fire, or serious injury may result.
- Do not use this product to pump chemicals or corrosive liquids, damage to seals and moving parts will result.
- Do not run the pump with the outlet closed or blocked. The excessive pressure will cause the pump to explode and cause injury or death.
- Before using any pump, check for alignment and binding of moving parts; any broken parts or mounting fixtures; and any other condition that may affect proper operation. Any part that is damaged should be properly repaired or replaced by a qualified technician.
- Unplug before servicing and when changing accessories.
- When servicing, use only identical replacement parts. Only use accessories intended for use with this pump. Approved accessories are available.
- Do not let water inside pump freeze or let frost build up on pump.
- No alterations shall be made to this product.
- Do not use in swimming pools or marine areas.
- Not for use by or around children.

ELECTRIC SHOCK HAZARD

- Always connect this product to a grounded outlet equipped with a ground fault circuit interruption device (GFCI).
- Before installing this product, have a licensed or certified electrician inspect the outlet to be sure the outlet is correctly grounded. (DO NOT remove ground pin on cord).
- Do not remove or modify the round ground prong on the power cord plug or use an adapter (cheater plug) that eliminates the ground prong. A shock hazard is created and serious injury can result.
- DO NOT plug in power cord when wet or while standing on damp/wet ground.
- Do not use an extension cord with this product.
- Always keep one hand free when plugging this product into an electrical power cord.
- DO NOT operate if power cord or electrical components are damaged or seals are compromised.
- DO NOT attempt to service or open this product while it is connected to an electrical power supply.
- DO NOT lift this product by the electrical power cord.

Grounding

⚠ WARNING

- The pump must be grounded while in use to protect the operator from electrical shock. It is equipped with an electric cord that has an equipment-grounding conductor and a grounding plug. The plug **MUST** be plugged into a matching receptacle that is properly installed and grounded in accordance with ALL local codes and ordinances.
- **DO NOT MODIFY THE PLUG PROVIDED.** If it will not fit the receptacle, have the proper receptacle installed by a qualified electrician.
- **CHECK** with a qualified electrician or service person if you do not completely understand the grounding instructions, or if you are not sure the tool is properly grounded.

Grounded Tools: Tools with 3-Prong Plugs

Tools marked with **Grounding Required** have a 3-wire cord and 3-prong grounding plug. The plug must be connected to a properly grounded outlet. If the tool should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user, reducing the risk of electric shock. (See Figure A.)

The grounding prong in the plug is connected through the green wire inside the cord to the grounding system in the tool. The green wire in the cord must be the only wire connected to the tool's grounding system and must never be attached to an electrically live terminal.

Your tool must be plugged into an appropriate outlet, properly installed and grounded in accordance with all codes and ordinances. The plug and outlet should look like those in the following illustration.

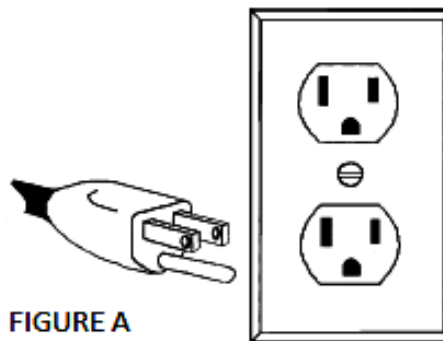


FIGURE A

Extension Cords

⚠ WARNING

- An extension is NOT recommended for use with this product. If an extension cord is used, be sure to follow the requirements listed below.
- **USE A PROPER EXTENSION CORD.** Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage, resulting in loss of power and cause overheating.
- Be sure your extension cord is properly wired and in good condition. Always replace a damaged extension cord or have it repaired by a qualified person before using it. Protect your extension cords from sharp objects, excessive heat and damp or wet areas.
- Grounded tools require a 3-wire extension cord (with a three-prong plug). Double Insulated tools can use either a 2- or 3-wire extension cord.
- As the distance from the supply outlet increases, you must use a heavier gauge extension cord. Using extension cords with inadequately sized wire causes a serious drop in voltage, resulting in loss of power and possible tool damage.
- The smaller the gauge number of the wire, the greater the capacity of the cord. For example, a 14-gauge cord can carry a higher current than a 16-gauge cord. Minimum extension cord wire size is shown in the following table:

Minimum Wire Size Of Extension Cords				
Nameplate AMPS	Cord Length			
	25'	50'	100'	150'
0-6	18 AWG	16 AWG	16 AWG	14 AWG
6-10	18 AWG	16 AWG	14 AWG	12 AWG
10-12	16 AWG	16 AWG	14 AWG	12 AWG
12-16	14 AWG	12 AWG	NOT RECOMMENDED	

- When using more than one extension cord to make up the total length, make sure each cord contains at least the minimum wire size required.
- If you are using one extension cord for more than one tool, add the nameplate amperes and use the sum to determine the required minimum cord size.
- If you are using an extension cord outdoors, make sure it is marked with the suffix **W-A** (**W** in Canada) to indicate it is acceptable for outdoor use.
- Make sure your extension cord is properly wired and in good electrical condition. Always replace a damaged extension cord or have it repaired by a qualified electrician before using it.
- Protect your extension cords from sharp objects, excessive heat, and damp or wet areas.

Installation

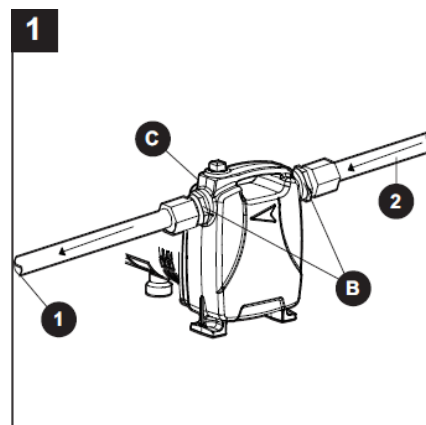
Transferring Water

⚠ CAUTION

- Never install a shutoff valve in the suction or discharge of this pump. This will cause excessive friction loss and will damage the pump and void the warranty.
- All connections must be air tight. A single leak will prevent proper operation of the pump and may cause the pump to run dry. If the pump runs dry, this will void the warranty.

1. Installing the pump:

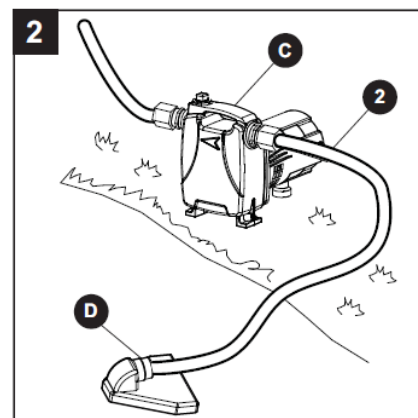
- a. Secure the pump to a solid base to prevent it from tipping over.
- b. Threaded hose fittings (B) are furnished for attaching garden hoses (sold separately). Wrap threads of the hose fittings with PTFE tape before attaching a hose to pump (C).
- c. In no case should the pump be more than 15 ft. above or away from the inlet source.
- d. The inlet line may be galvanized pipe, plastic pipe, or reinforced hose. Small leaks in the suction line greatly reduce the efficiency of the pump and may prevent priming.
- e. You can use a regular garden hose (sold separately) as the discharge line (1). C21



2. Use the strainer (D) when pumping from a creek, pond, or source where debris may be sucked into the pump. The strainer should prevent debris from entering the inlet line (2).

Note: To prevent re-priming during periods of frequent stopping and restarting of the pump (C), install a 3/4 in. foot valve (not included) instead of the included suction strainer (D). The foot valve will keep the pump primed when it is turned off.

Caution: Even when using a foot valve, do not leave the pump permanently installed if it is not run regularly.



Pressure Boosting

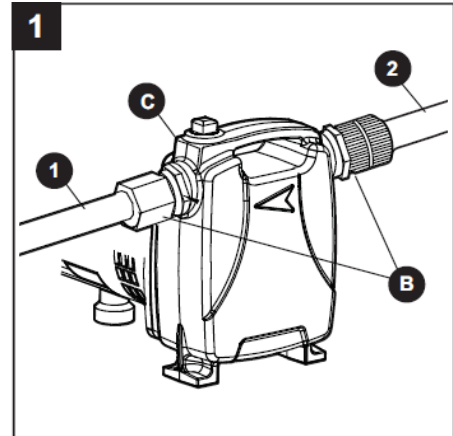
⚠ CAUTION

- Never install a shutoff valve in the suction or discharge of this pump. This will cause excessive friction loss and will damage the pump and void the warranty.
- All connections must be air tight. A single leak will prevent proper operation of the pump and may cause the pump to run dry. If the pump runs dry, this will void the warranty.

NOTE: In order to properly boost pressure, your inlet water pressure must be between 11 PSI and 29 PSI.

Installing the pump:

- a. Attach the inlet hose to a water source spigot. Threaded hose fittings (B) are furnished for attaching garden hoses (not included). Wrap the threads of the hose fittings with PTFE tape before connecting to the pump (C).
- b. The inlet (2) and discharge lines (1) can be regular garden hoses (not included).
- c. Connect a double female hose connector (not included) to the suction side (2) of the pump.



Before Each Use

⚠ WARNING

- Inspect the work area before each use. Keep work area clean, dry, free of clutter, and well lit. Cluttered, wet, or dark work areas can result in injury. Using the tool in confined work areas may put you dangerously close to other cutting tools and rotating parts.
- Check for damaged parts before each use. Carefully check that the pump will operate properly and perform its intended function. Replace damaged or worn parts immediately. Never operate the pump with a damaged part.
- Do not use the pump where there is a risk of causing a fire or an explosion; e.g., in the presence of flammable liquids, gases, or dust. The pump can create sparks, which may ignite the dust or fumes.
- Keep children and bystanders away from the work area while operating the pump. Do not allow children to handle the pump.
- Be aware of all power lines, electrical circuits, water pipes, and other mechanical hazards in your work area. Some of these hazards may be below the work surface hidden from your view and may cause personal harm or property damage if unintentionally contacted.

Operating Instructions

⚠ WARNING

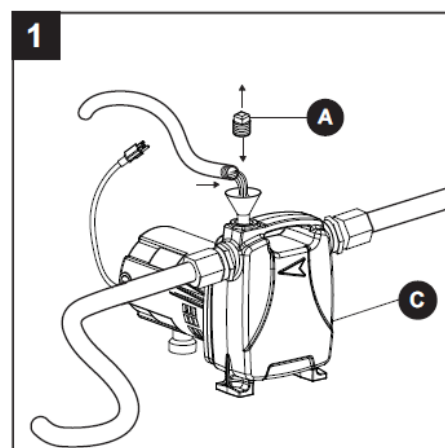
- Stay alert, watch what you are doing, and use common sense when operating the pump. Do not use the pump while you are tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating the pump may result in serious personal injury.
- Use ANSI-approved safety goggles or safety glasses with side shields, or when needed, a face shield. Also use non-skid safety shoes, gloves, and hearing protection when appropriate.
- Do not overreach. Keep proper footing and balance at all times.
- **This pump is not submersible!** Do not stand the pump in water while it is plugged in, and do not get the motor wet as it could cause electrocution. Do not handle pump with wet hands.
- Do not leave the pump running unattended because the supply water may get fully drained and the pump motor can burn out. Do not allow the pump to run dry.
- **Always make sure the pump is unplugged as soon as the supply water level reaches 1/4 in. deep.** At water levels less than 1/4 in., the pump may begin to pump air and be EXTREMELY LOUD, which will cause the pump to overheat and burn out. Running the pump without sufficient water will damage the pump and void the pump's warranty.
- You must use the included clear suction hose on the inlet of this pump, as marked on the pump.
- Always use the suction strainer included with this pump to prevent debris from getting into and damaging the pump.
- Do not pump flammable or explosive liquids such as oil, gasoline, kerosene, ethanol, etc. Do not use in the presence of flammable or explosive vapors. Using this pump with or near flammable liquids can cause an explosion or fire, resulting in property damage, serious personal injury and/or death.
- Do not touch the pump housing while it is operating, as the pump may be HOT and can cause serious skin burns. To avoid burns, unplug the pump and allow time for it to cool after periods of extended use.
- Always use the handle to lift the pump, not the power cord. Also do not suspend the pump by the discharge hose or power cord.

Transferring Water

Prime and run the pump:

Note: The pump must be filled with water before operating. Running the pump dry will cause damage to the shaft seal and will void the warranty (see Warning bullet 5 above).

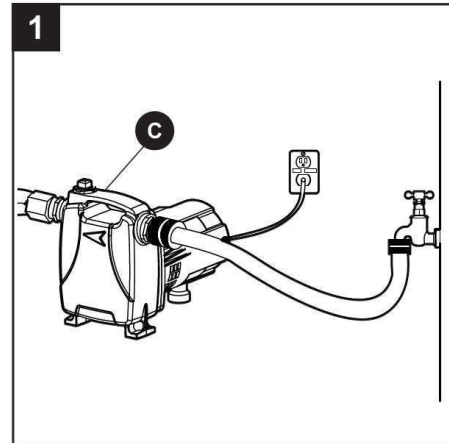
- a. Remove the priming plug (A) and fill the pump (C) with water. Wrap plug threads with PTFE tape (sold separately), then re-thread the plug into the priming port. All connections must be air tight. A single leak will prevent proper operation of the pump and may cause the pump to run dry.
- b. Insert the inlet hose (with strainer (D) attached or a 3/4 in. foot valve) into the water to be removed.
- c. Plug the power cord into a GFCI protected electrical outlet. The pump will prime in a few minutes depending on the suction line length.
- d. To turn the pump off, unplug the power cord.



Pressure Boosting

Prime and run the pump:

- a. Turn the water source on. This will force the pump (C) to prime.
- b. Plug the power cord into a GFCI protected electrical outlet.
- c. When done boosting pressure, immediately unplug the pump (C).
- d. Shut the water supply off.



After Use

After use, unplug the pump then allow time for it to cool before moving it because it will be HOT. Disconnect the two hoses, drain them manually, and coil them up. When the pump has cooled, always use the handle to lift the pump, not the power cord.

Store the pump when it is not in use. Store it in a dry, secure place out of the reach of children. Inspect the pump for good working condition prior to storage and again before re-use.

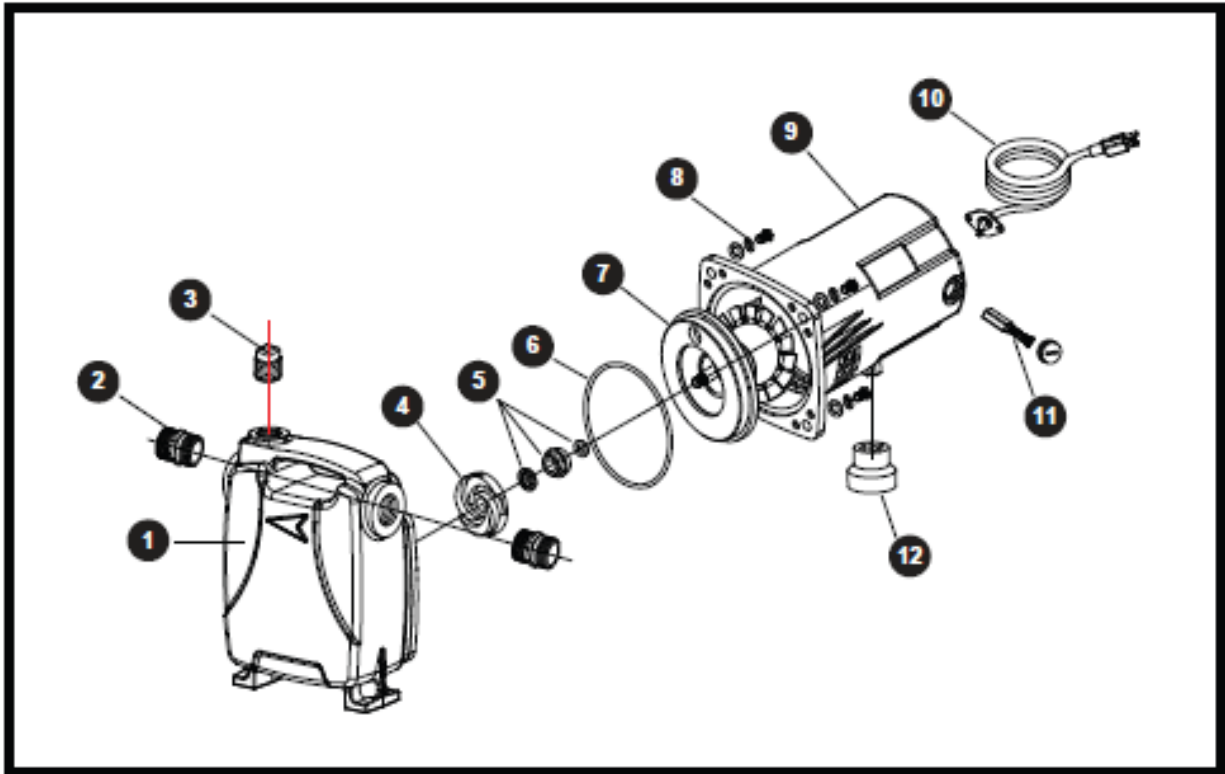
Maintenance

Maintain the pump. It is recommended that the general condition of any tool be examined before it is used. Keep the pump in good repair by adopting a program of conscientious repair and maintenance in accordance with the recommended procedures.

⚠ WARNING

- Before inspection, always unplug the pump from power and allow it to cool.
 - Do not disassemble the motor housing. This pump has NO repairable internal parts, and disassembling may cause an oil leak or dangerous electrical wiring issues.
-
- Keep the pump dry, clean, and free from oil and grease.
 - Use only identical replacement parts.

Parts Diagram



Parts List

Part No.	Description	Quantity
1	Pump body	1
2	3/4" garden hose adapter	2
3	Priming port plug	1
4	Impeller	1
5	Shaft seal	1
6	O-ring	1
7	Seal plate	1
8	Screw parts	4
9	Motor	1
10	Power cord	1
11	Brush and cap assembly	2
12	Rubber base	1

Troubleshooting

Problem	Possible Cause	Corrective Action
Pump will not start or run	1. Plug not connected 2. No power at outlet 3. Corroded plug 4. Voltage is low. 5. Impeller is blocked 6. Motor overheated 7. Motor is defective	1. Check that cord is fully plugged in. 2. Check power at outlet. If outlet is unpowered, turn off pump and check the circuit breaker. If breaker is tripped, make sure circuit is right capacity for pump and circuit has no other loads. Reset the breaker. 3. Clean plug prongs 4. If voltage is less than 108V, check the size of the extension cord or use a shorter cord. 5. Remove blockage. 6. Unplug power and wait 10-30 minutes for the motor to cool before plugging in and restarting the pump. 7. Contact Customer Service at 1-800-222-5381 to replace the motor.
Pump doesn't prime or retain prime	1. Air leak in suction line 2. Impeller is blocked 3. Suction lift too high 4. Hose kinked or coiled 5. Suction hose out of water 6. Clogged inlet or strainer	1. Tighten hose connection or replace the hose 2. Remove blockage 3. Move pump vertically closer to supply water 4. Straighten hose 5. Submerge strainer at hose end 6. Clean inlet or strainer
Flow rate too low	1. Hose kinked or coiled 2. Hose damaged 3. Strainer or inlet blocked 4. Discharge hose too long 5. discharge hose too small 6. Worn impeller 7. Low line voltage	1. Straighten hose 2. Replace hose 3. Clean strainer or remove blockage 4. Use shorter hose (50 ft. max.) 5. Use minimum 3/4" heavy-duty hose. 6. Replace impeller 7. If voltage is less than 108V, check the size of the extension cord or use a shorter.
The seal leaks	1. The seal worn 2. The shaft is grooved 3. The pump head is loose on the motor.	1. Contact Customer Service at 1-800-222-5381 to replace the seal. 2. Contact Customer Service at 1-800-222-5381 to replace the rotor. 3. Ensure the pump is assembled properly and there is no obstruction.

Replacement Parts

- For replacement parts and technical questions, please call Customer Service at **1-800-222-5381**.
- Not all product components are available for replacement. The illustrations provided are a convenient reference to the location and position of parts in the assembly sequence.
- When ordering parts, the following will be required: Model Number, Serial Number/Lot Date Code, and Description.
- The distributor reserves the rights to make design changes and or improvements to product lines and manuals without notice.

Limited Warranty

Northern Tool and Equipment Company, Inc. ("We" or "Us") warrants to the original purchaser only ("You" or "Your") that the Powerhorse product purchased will be free from material defects in both materials and workmanship, normal wear and tear excepted, for a period of **one year** from date of purchase. The foregoing warranty is valid only if the installation and use of the product is strictly in accordance with product instructions. There are no other warranties, express or implied, including the warranty of merchantability or fitness for a particular purpose. If the product does not comply with this limited warranty, Your sole and exclusive remedy is that We will, at our sole option and within a commercially reasonable time, either replace the product or product component without charge to You or refund the purchase price (less shipping). This limited warranty is not transferable.

Limitations on the Warranty

This limited warranty does not cover: (a) normal wear and tear; (b) damage through abuse, neglect, misuse, or as a result of any accident or in any other manner; (c) damage from misapplication, overloading, or improper installation; (d) improper maintenance and repair; and (e) product alteration in any manner by anyone other than Us, with the sole exception of alterations made pursuant to product instructions and in a workmanlike manner.

Obligations of Purchaser

You must retain Your product purchase receipt to verify date of purchase and that You are the original purchaser. To make a warranty claim, contact Us at 1-800-222-5381, identify the product by make and model number, and follow the claim instructions that will be provided. The product and the purchase receipt must be provided to Us in order to process Your warranty claim. Any returned product that is replaced or refunded by Us becomes our property. You will be responsible for return shipping costs or costs related to Your return visit to a retail store.

Remedy Limits

Product replacement or a refund of the purchase price is Your sole remedy under this limited warranty or any other warranty related to the product. We shall not be liable for: service or labor charges or damage to Your property incurred in removing or replacing the product; any damages, including, without limitation, damages to tangible personal property or personal injury, related to Your improper use, installation, or maintenance of the product or product component; or any indirect, incidental or consequential damages of any kind for any reason.

Assumption of Risk

You acknowledge and agree that any use of the product for any purpose other than the specified use(s) stated in the product instructions is at Your own risk.

Governing Law

This limited warranty gives You specific legal rights, and You also may have other rights which vary from state to state. Some states do not allow limitations or exclusions on implied warranties or incidental or consequential damages, so the above limitations may not apply to You. This limited warranty is governed by the laws of the State of Minnesota, without regard to rules pertaining to conflicts of law. The state courts located in Dakota County, Minnesota shall have exclusive jurisdiction for any disputes relating to this warranty.



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NorthernTool.com

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