

Owner's Manual & Safety Instructions

Save This Manual Keep this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number in the back of the manual near the assembly diagram (or month and year of purchase if product has no number). Keep this manual and the receipt in a safe and dry place for future reference.

21b



63320

1 HP

NON-SUBMERSIBLE SPRINKLER PUMP



**Do not return this
pump to the store.
Call 1-844-416-9141**

Visit our website at: <http://www.harborfreight.com>
Email our technical support at: productsupport@harborfreight.com

When unpacking, make sure that the product is intact and undamaged. If any parts are missing or broken, please call 1-888-866-5797 as soon as possible.

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⚠ WARNING

Read this material before using this product.
Failure to do so can result in serious injury.
SAVE THIS MANUAL.

Before start-up, note the following:


The pump must be connected to a GFCI protected plug which has been installed according to regulations. The plug must have a supply voltage of 120 VAC at 60 Hz.

CAUTION

This pump has been evaluated for use with water only.

⚠ WARNING

IMPORTANT! For your own safety – before starting to run the pump, please have the following items checked by an expert:

1. Risk of electric shock – This pump is supplied with a grounding conductor and grounding-type attachment plug. To reduce the risk of electric shock, be certain that it is connected only to a properly grounded, grounding-type receptacle.
2. Risk of electric shock – This pump has not been investigated for use in swimming pool areas.
3. The electrical connections must be protected from moisture.
4. If there is danger of flooding, the electrical connections must be taken to higher ground.
5. Circulation of caustic fluids, as well as the circulation of abrasive materials, must be avoided at all costs.
6. The pump must be protected from frost.
7. The pump must be protected from running dry.
8. Access by children should also be prevented with appropriate measures.
9.  **To prevent death from electric shock, pump must be connected only to a GFCI protected outlet.**
10. Do not use an extension cord with this item.
11. People with pacemakers should consult their physician(s) before use. Electromagnetic fields in close proximity to heart pacemaker could cause pacemaker interference or pacemaker failure.
12. The warnings, precautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

Fluid Type

The Pump is designed for use with water with a maximum temperature of 77° F (25°C). Do not use the pump for other fluids, especially not fuels, cleaning fluids, or other chemical products.

Specifications

Electrical Rating	120VAC / 60Hz / 10A
Power Cord Length	6'
Maximum Flow @ 0'	1075 GPH
Maximum Head lift @ 0 Flow	70 PSIG
Discharge Port	3/4" NPT Thread



Installation


The pump must be installed in a stationary position with either:

- a. A fixed pipeline or
- b. A flexible hose pipe.

Please note!

1. Do not install the pump by suspending it unsupported from its delivery pipe or power cord. The pump must be suspended from the handle or be placed on the bottom of the basin. To ensure that the pump works properly, keep the bottom free from sludge and dirt of all kinds.
2. If the water level sinks too low, any sludge in the basin will dry out and stop the pump from starting. To help ensure the pump will start as required, check the pump regularly with start-up tests.

Power Supply

1. The pump is equipped with a shock-proof plug according to regulations. The pump is designed to be connected to 120 VAC, 60 Hz GFCI protected socket.
2. Make sure that the socket is sufficiently secured and is in excellent condition.
3. When the plug is inserted into the socket, the pump will be on standby.
4.  **WARNING: To prevent death from electric shock, pump must be connected only to a GFCI protected outlet.**
WARNING! TO PREVENT SERIOUS INJURY:
If the power cord or plug is damaged, do not use the pump. The power cord or plug may only be repaired by a certified electrician.

Areas of use

1. This pump is designed to pump water only.
2. This pump is designed to be used for:
Irrigation systems, lawn sprinkling, and clear water transfer.
3. This pump should NOT be used for:
Continuous run, fountain/pond water features.
Water with dirt and debris. Removing water from swimming pools or spas. Septic or sewage systems.
4. This pump can also be used to transfer water (e.g. household, farming, plumbing).

Installation Instructions

1. Position Pump on solid surface.

WARNING! TO PREVENT SERIOUS INJURY: This is NOT a submersible pump. Do not immerse in water.

2. Plug Power Cord into GFCI protected outlet.

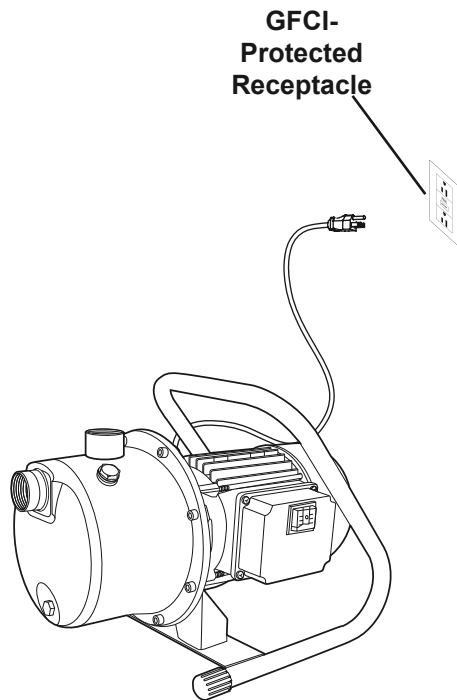


Figure A: GFCI Plug

3. The Pump uses 3/4" NPT piping (sold separately). Purchase the necessary length of pipe, including any needed fittings and bends. Mount the Pump as close to the source of water as possible and within the range of the rated Suction Lift. The connections must be airtight. Wrap all threaded connections with PTFE tape (sold separately).

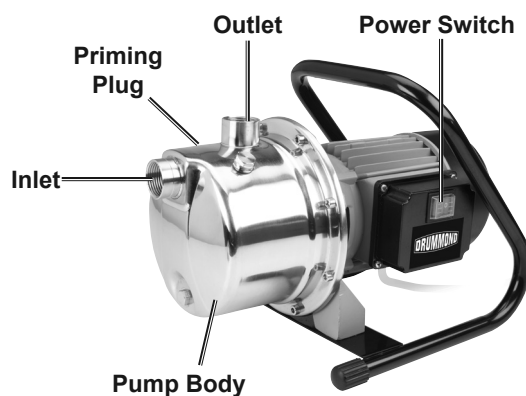


Figure B: Pump Components

4. Remove the Inlet and Outlet Covers from the Pump.
5. Attach the water source to the Inlet, using appropriate methods. The Inlet hose or pipe must be collapse-proof to properly withstand the suction force.
6. Install a foot valve and filter (sold separately) at the bottom of the inlet.

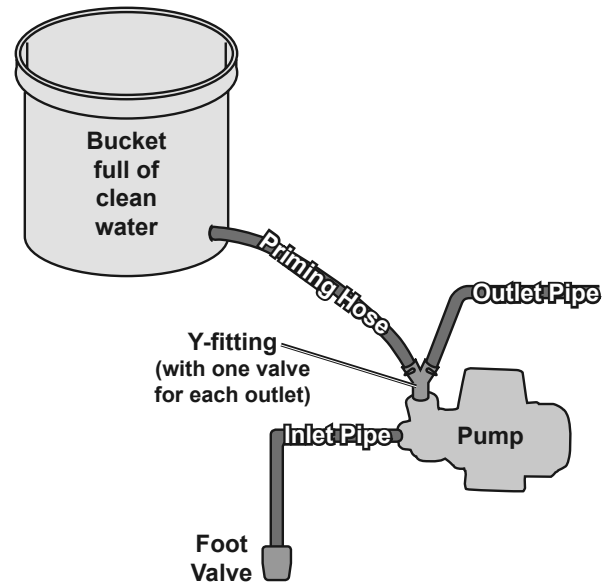


Figure C: Pump Position

7. Attach the outlet connection to the Outlet. A Y-fitting with dual valves (sold separately) is helpful for priming the pump (see Figure B).

Note: A foot valve on the inlet connection is critical to help prevent the pump from losing prime.

Note: Check that the water source and piping are clear of sand, dirt and debris.

8. Connect a bucket full of at least 3 gallons of water to one side of the Y-fitting using a hose, as shown above. (If available, a continuous water supply, such as a spigot, may be used instead.) The bucket must be positioned higher than the pump's outlet.
9. Close the valve on the outlet side of the Y-fitting, and open the valve on the priming side of the Y-fitting.
10. Remove the Priming Plug and wait until water starts coming out of the Priming Plug. Replace the Priming Plug and tighten securely.

Operation

After reading these instructions, consider the following points before starting the pump:

1. Verify that the discharge pipe is properly connected.
2. Verify that the electrical connection is 120 VAC, 60 Hz.
3. Verify that the electrical socket is GFCI protected and in good condition. Test GFCI protected outlet before use.
4. Verify that water and moisture cannot get near the power supply socket.
5. Verify that the pump is installed so as to prevent running dry.
6. To start the pump:
 - a. Open the valve on outlet side of the Y-fitting.
 - b. Make sure your hands are dry.
 - c. Plug in the pump.
 - d. Turn on the Power Switch (I).
 - e. Close the valve on the priming side of the Y-fitting.

**NOTICE: Do not run the Pump Dry!
Turn off the Pump IMMEDIATELY if water stops coming out the Outlet.**

7. If you operate the Pump and no water comes out, shut the Pump off IMMEDIATELY. Check the pipes for air-tightness. Check also that the bottom of the Inlet pipe is underneath the surface of the water and a foot valve is properly installed.
8. After the pump is running properly, the priming hose and bucket can be disconnected.
9. When finished using the pump, turn the Power Switch off (O), then unplug the Power Cord. Follow procedures for Storage explained on the next page.



WARNING

TO PREVENT SERIOUS INJURY FROM ACCIDENTAL OPERATION:
Unplug the Pump from its electrical outlet before performing any inspection, maintenance, or cleaning procedures.

If the pump is moved during operation, flush it out with clean water after every use.

Quarterly Maintenance

The below maintenance must be performed at least once every 3 months under optimal conditions. For frequent use, or dirty areas, more frequent maintenance is required.

1. Clean sludge and debris from the bottom of the basin.
2. Clean sludge/debris from inlet screen.
3. Make sure discharge pipe is free from leaks.
4. Make sure check valve is functioning properly.
5. Manually operate flow switch to determine that pump turns on/off as intended.

Long Term Storage

1. Drain Pump Body. Disconnect both suction and outlet lines, then tip pump so that all water is drained from pump cavity.
2. If the Pump sits idle for a period of 5 days or more, it should be unplugged and rotated with a screwdriver through the middle hole of the fan cover through several revolutions to prevent it from taking a permanent set.
3. If you use the Pump only occasionally, when you are done pumping, replace the Inlet and Outlet covers to protect the unit.

Troubleshooting

Problem	Possible Causes	Possible Solutions
Pump runs, but will not deliver any water.	<ol style="list-style-type: none"> 1. When starting, the water height falls below the minimum water level (0"). 2. Low line voltage. 3. Check valve (sold separately) stuck or installed backwards. 4. Improper priming. 5. Clogged filter at end of intake connections. 6. Discharge valve closed. 7. Pipe size too small. 8. Impeller plugged. 9. Pipes frozen. 	<ol style="list-style-type: none"> 1. There must be at least 0" deep water for the Pump to operate properly. 2. Consult an electrician. 3. Remove and examine check valve. 4. Re-prime according to directions. 5. Clean filter. 6. Open discharge valve. 7. Re-pipe using pipe of the same size as the Pump inlet and outlet ports. 8. Have Impeller cleaned by qualified service technician. 9. Thaw pipes. Check for damage before using pump.
Pump won't start or run.	<ol style="list-style-type: none"> 1. Check power connections and circuits/fuses. 2. Water level too low. 3. Defective motor. 4. Cord not connected. 5. No power at outlet. 6. Fuse is blown or breaker tripped. 7. Internal damage or wear. (Carbon brushes or switch, for example.) 	<ol style="list-style-type: none"> 1. Consult an electrician. 2. Allow water level to rise above 0", or move Pump to a lower location. 3. Have a qualified service technician repair or replace. 4. Check that cord is plugged in. 5. Check power at outlet. If outlet is unpowered, turn off tool and check circuit breaker. If breaker is tripped, make sure circuit is right capacity for tool and circuit has no other loads. 6. Have fuse replaced by a qualified service technician. 7. Have serviced by a qualified service technician.
Pump does not deliver water at full capacity.	<ol style="list-style-type: none"> 1. Corroded pipes. 2. Piping size too small. 3. Not enough water supplied to Pump. 4. Low Voltage. 	<ol style="list-style-type: none"> 1. Replace pipes. 2. Re-pipe using pipe of the same size as the Pump inlet and outlet ports. 3. Enlarge inlet pipe. Check well pump system. 4. Check that outlet is 120V.
Excessive noise or vibration.	Internal damage or wear. (Carbon brushes or bearings, for example.)	Have technician service tool.
Pump starts and stops too frequently.	<ol style="list-style-type: none"> 1. Water temperature too high. 2. Check valve (sold separately) stuck or installed backwards. 3. Back flow of water from discharge hose. 	<ol style="list-style-type: none"> 1. Do not exceed 77° F (25°C) water temperature. 2. Remove and examine check valve. 3. Install or inspect check valve (sold separately).



**Follow all safety precautions whenever diagnosing or servicing the tool.
Disconnect power supply before service.**

PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

Parts List

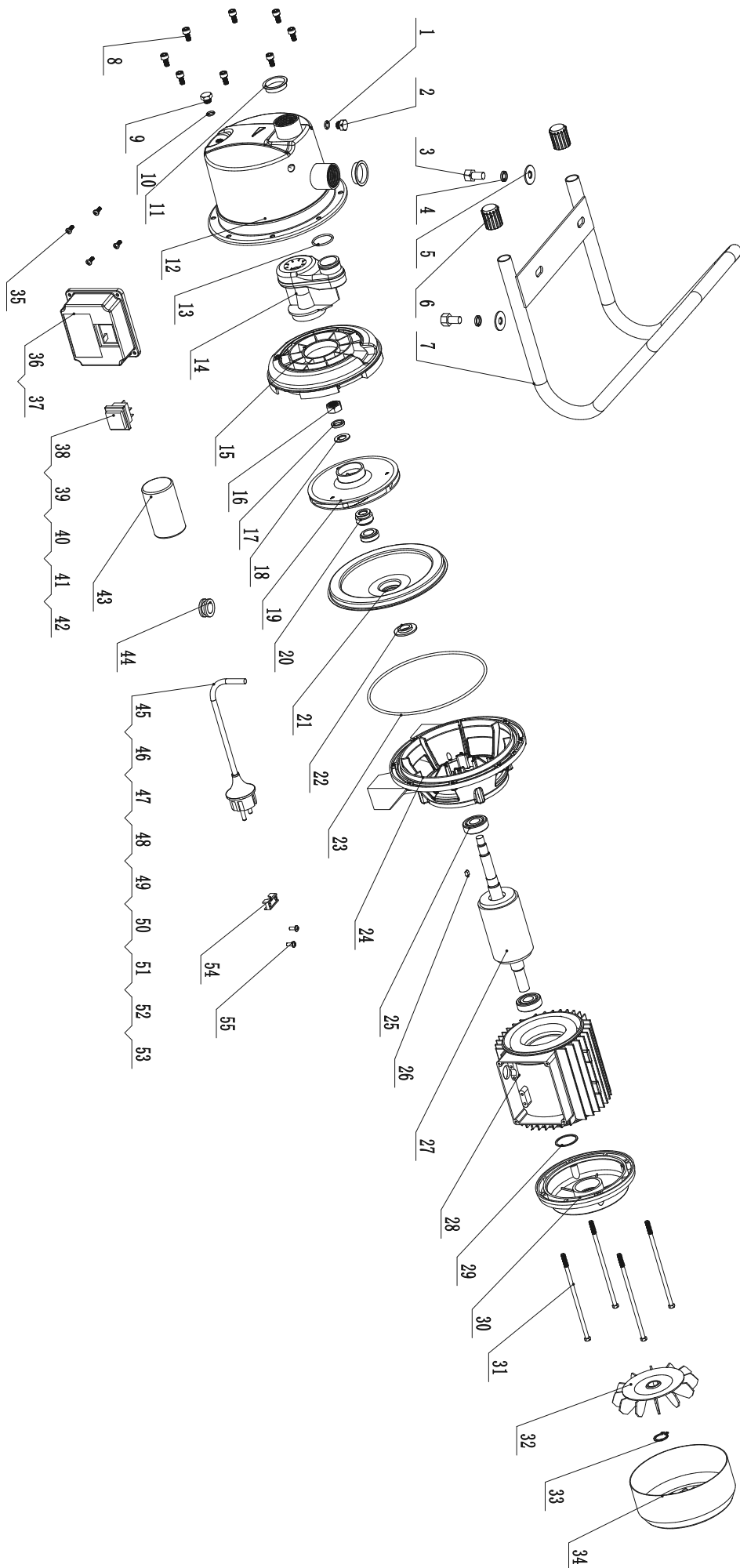
Part	Description	Qty.	Part	Description	Qty.
1	O-Ring 8.2 X 1.9	2	29	Spring Washer	1
2	Drain Plug	2	30	End Plate	1
3	Bolt	2	31	Bolt M5x138	4
4	Flat Washer	2	32	Fan	1
5	Spring Washer	2	33	Spring Collar	1
6	Foot	2	34	Fan Cover	1
7	Handle	1	35	Bolt M4x8	4
8	Screw M6x12	8	36	Terminal Box	1
9	O-Ring 8.2 X 1.9	2	37	O-Ring	1
10	Drain Plug	2	38	Switch	1
11	Dust Proof	2	39	Jacket	3
12	Pump Body	1	40	Jacket	1
13	O-Ring 26.3X2.2	1	41	Insert Spring	3
14	Diffuser	1	42	Insert Spring	1
15	Venturi Tube	1	43	Capacitor	1
16	nut	1	44	Outlet Seal Gasket	1
17	Spring Washer	1	45	Cable	1
18	Flat Washer	1	46	Connection	2
19	Impeller	1	47	Line	1
20	Mechanical Seal	1	48	Cold Compacting	1
21	Bracket Cover	1	49	Heat Shrink Tube	0.14
22	Waterproof Gland	1	50	Heat Shrink Tube	0.14
23	O-Ring 163X3.55	1	51	Spring Washer	1
24	Pump Support	1	52	Screw M4x6	1
25	Ball Bearing	2	53	Fixing Washer	1
26	Shaft Key	1	54	Cord Clip	1
27	Rotor	1	55	Screw M4.2x12	2
28	Stator	1			

Record Product's Serial Number Here: _____

Note: If product has no serial number, record month and year of purchase instead.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts. Specify UPC 792363633208 when ordering parts.

Assembly Diagram



Limited 90 Day Warranty

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.



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