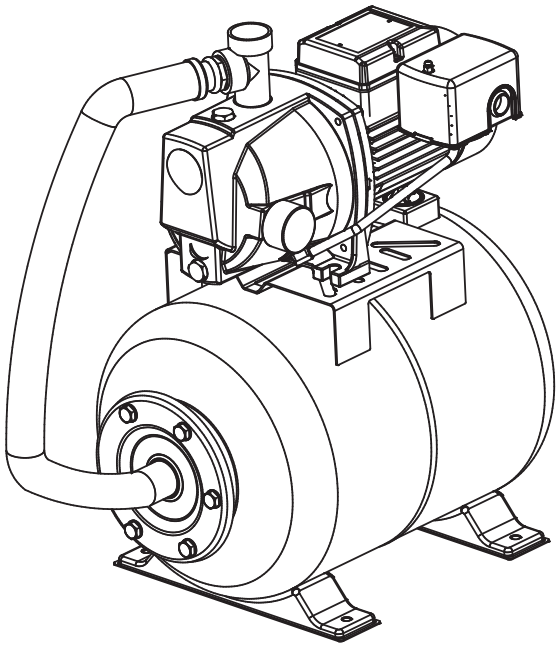
model no. 062-3415-8

MASTERCRAFT™/MC

SHALLOW WELL JET PUMP

with 6 U.S. Gallon (22 L) Tank



IMPORTANT:
Please read this manual carefully before running this pump and save it for reference.

INSTRUCTION MANUAL

TABLE OF CONTENTS

NOTE:
If any parts are missing or damaged, or if you have any questions, please call our toll-free helpline at 1-800-689-9928.

SAVE THESE INSTRUCTIONS
This manual contains important safety and operating instructions.
Read all instructions and follow them with use of this product.

TECHNICAL SPECIFICATIONS

Model number	062-3415-8
Voltage	115/230 V~60 Hz
Horsepower	1/2 HP
Amps	6.6/3.3 A
Maximum head height	147' (44.8 m)
Maximum flow	319 U.S. GPH (1207 L/h)
Discharge size	1" (2.5 cm) national pipe thread (NPT)

PERFORMANCE

5' (1.5 m)	10' (3 m)	15' (4.5 m)	20' (6.1 m)
390 U.S. GPH (1476 L/h)	340 U.S. GPH (1287 L/h)	280 U.S. GPH (1060 L/h)	250 U.S. GPH (946 L/h)

Maximum pressure shutoff: 50 PSI

SAFETY

- This pump is meant to be used where the vertical lift of water is less than 25' (7.6 m). If the well is deeper than that, you need to purchase a deep well convertible jet 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 vapours. Using this pump with or near flammable liquids can cause an explosion or fire, resulting in property damage, serious personal injury and/or death.
- Always disconnect the pump from its power source before inspection.
- Do not touch the pump housing while it is operating as the pump may be HOT and can cause serious skin burns.
- Do not disassemble the motor housing. This pump has NO repairable internal parts, and disassembling may cause leakage or dangerous electrical wiring issues.

CAUTION:

- The motor MUST NOT be started before the pump is primed!
- This is a dual voltage motor. It can be wired for 230 V or 115 V (pre-set), depending on the power source.
- This pump is equipped with a 30/50 PSI pressure switch. If the previous pump used a different switch, you must reset the tank to 28 PSI. An air compressor may be needed to do this.
- In order for the pump and tank to operate properly, the tank needs to be drained of all water and set to the proper pressure level BEFORE startup.
- For safety, the pump motor has a resetting thermal protector that automatically will turn off the pump if it becomes too hot. Overuse of this feature will damage the pump and void the warranty.
- Once the thermal protector detects that the pump has cooled to a safe temperature, it will allow the pump to operate normally. If the pump is plugged in, it may restart unexpectedly.
- Do not allow the pump to be exposed to freezing temperatures. This can crack the cast iron and void the warranty.

ADDITIONAL SAFETY PRECAUTIONS

1. Know the pump applications, limitations, and potential hazards.
2. Make certain the electrical power source is adequate for the requirements of the pump.
3. ALWAYS disconnect the power to the pump before servicing.
4. Release all pressure within the system before servicing any component (drain all water from the system).
5. Secure the discharge line before starting the pump. An unsecured discharge line could whip, possibly causing personal injury and/or property damage.
6. Secure the pump on a solid base.
7. Check that all pipe connections are tight to minimize leaks.
8. Make certain the electrical circuit to the pump is protected by a dedicated 15 A or larger fuse or circuit breaker.
9. Never use extension cords with this pump!
10. Do not handle pump or pump motor with wet hands or when standing on a wet or damp surface, or in water.
11. Wear safety glasses at all times when working with pumps.
12. Follow all electrical and safety codes, particularly the National Electrical Code (NEC) or the Canadian Electrical Code (CEC), and in the workplace, the Occupational Safety and Health Act (OSHA) or the Canadian Centre for Occupational Health and Safety (CCOHS).
13. This unit is designed only for use on 115 V or 230 V, 60 Hz. Directly connect pump wires into properly grounded circuit board in accordance with the NEC or CEC and local codes and ordinances. All wiring should be performed by a qualified electrician.
14. Protect the electrical cord from sharp objects, hot surfaces, oil, and chemicals. Avoid kinking the cord. Do not use damaged or worn cords. Failure to properly wire this pump is dangerous and will void the warranty.

INSTALLATION PREPARATION

Before beginning assembly of the product, make sure all parts are present. If any part is missing or damaged, do not attempt to assemble the product. Contact customer service for replacement parts.

Estimated Installation Time (new installation): 30–60 minutes

Tools Required for Assembly (not included): Wrench, Pliers, Cross-head Screwdriver, Thread Tape, PVC Purple Primer, and PVC Cement

Accessories Required for Assembly (not included):

1 1/4" (3.2 cm) and 1" (2.5 cm) PVC adaptors	1" (2.5 cm) MNPT x 1 1/4" (3.2 cm) SLIP PVC adaptor
1 1/4" (3.2 cm) and 1" (2.5 cm) PVC pipes	1 1/4" (3.2 cm) single drop well seal
1" (2.5 cm) sealing gasket	1" (2.5 cm) flexible joint
Relief valve	1 1/4" (3.2 cm) foot valve
Drain valve	

DETERMINING THE DEPTH OF WELL

Using a weight tied to a string, determine the depth of the well by dropping the weight down the well, and then:

- Measure the ground level mark to where the string is wet. This is your well's water level.
- This number must be 10' (3 m) under the pump's normal pumping level.
- Subtract 5' (1.5 m) from this measured water level number. This number must be less than 25' (7.6 m).
- See Step 3 of Installation Instructions for a diagram.

LOCATION OF THE PUMP

Decide on the area for the pump installation. Select a pump location with adequate space for future pump maintenance. It can be located in the basement or utility room of the house, at the well, or between the house and the well. If installed outside of the house, it should be protected by a pump house with auxiliary heat to prevent possible freezing. The well also should be protected for sanitary reasons. Mount the pump as close to the well as possible.

TANKS — PRE-CHARGED STORAGE

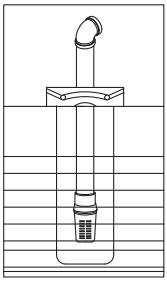
For best performance of the pump, it is recommended that you use a diaphragm pressure tank (not included). It is best to have this in place before installing the pump. A pre-charged storage tank has a flexible bladder or diaphragm that acts as a barrier between the compressed air and water. This barrier prevents the air from being absorbed into the water and allows the water to be acted on by compressed air at initially higher than atmospheric pressures (pre-charged). More usable water is provided than with a conventional type tank. Pre-charged tanks are specified in terms of a conventional tank. For example, a 20-gallon pre-charged tank will have the same usable water or draw-down capacity as a 40-gallon conventional tank, but the tank is smaller in size.

CAUTION:
In order for the pump and tank to operate properly, the pressure tank needs to be drained of all water BEFORE INSTALLING THE NEW PUMP. After draining, if you are using the supplied 30/50 PSI pressure switch at the pre-set settings, add or adjust the air pressure in the tank to 28 PSI of pressure BEFORE startup.

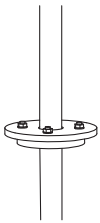
SHALLOW WELL INSTALLATION INSTRUCTIONS

1. Wrap thread tape (not included) around threads of a 1 1/4" (3.2 cm) male PVC adaptor (not included). Thread adaptor into a 1 1/4" (3.2 cm) foot valve. Hand tighten, then tighten 1/2 turn with a pipe wrench.

2. Subtract 5' (1.5 m) from the depth of the well. This is the total length of PVC pipe and adaptors needed. Using PVC purple primer and PVC cement (not included), attach as many couplings and sections of rigid PVC pipe (not included) to the adaptor as necessary.



3. Before sliding the pipe assembly into the well, firmly clamp the assembly with a pipe clamp (not included) to prevent the assembly from sliding down into the well.



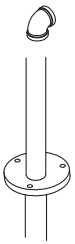
4. Remove pipe clamp and slide a well seal (not included) over the PVC pipe and onto the well casing (not pictured). The PVC pipe should extend approximately 12" (30 cm) from the well seal, depending on the height of the pump (A).

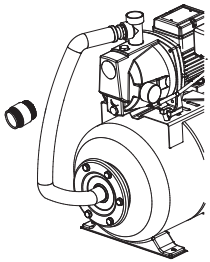
NOTE: DO NOT let the assembly slide down into well. Tighten the well seal until the rubber gaskets are tight against the well casing and the PVC pipe.

NOTE: Use a minimum of 1 1/4" (3.2 cm) diameter PVC piping for the suction pipe for best performance. A 1" (2.5 cm) MNPT x 1 1/4" (3.2 cm) SLIP adaptor will be needed to make the connection to the pump.

WARNING:
All joints and connections must be AIRTIGHT. A single leak will prevent the proper operation of the pump. Wrap thread tape clockwise on all threaded connections. For all non-threaded connections, you must use PVC purple primer and PVC cement to ensure airtight seals. Measure all pipe lengths before attaching.

5. Using PVC purple primer and PVC cement, attach a 1 1/4" (3.2 cm) PVC elbow (not included) onto the rigid PVC pipe extending from the well seal.

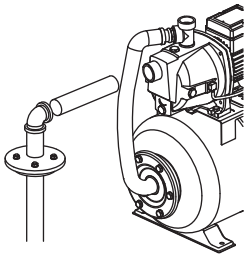


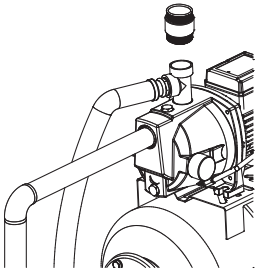


6. Wrap thread tape around the threads of a male PVC adaptor (not included). Thread the adaptor into the front of the pump (A).

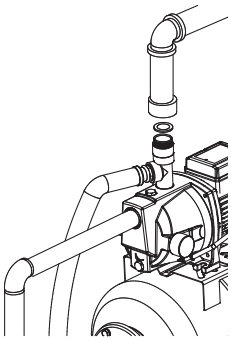
7. Using PVC purple primer and PVC cement, attach as many sections of rigid PVC pipe and couplings (not included) as needed to connect the male PVC adaptor to the PVC elbow.

   Ensure the pipe slopes slightly toward the well (to prevent air from being trapped in the pipe).





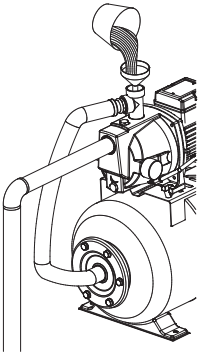
8. Wrap thread tape around the threads of a 1" (2.5 cm) adaptor, thread it onto the tee.



9. Spread the PVC cement on the outer screw of the adaptor and inner screw of the adjustable adaptor. Install the 1" (2.5 cm) adjustable adaptor into the water system and seal with gasket.

10 Air pressure in the tank must be 2 PSI lower than the "cut-in" of the pressure switch.

NOTE: The pump (A) has a 30/50 PSI pressure switch, which means the "cut-in" is 30 PSI; therefore, the tank needs to be set to 28 PSI. To check the pressure in the tank, use a tire pressure gauge. If more air is needed, add air to the tank with a tire pump or air compressor. If less is needed, bleed out some air.



11 To prime, remove both:

a. The plug from the top of the discharge tee (fill pump and piping through priming tee); and
b. The priming plug in front of the discharge tee (this is to allow air to vent out while priming).

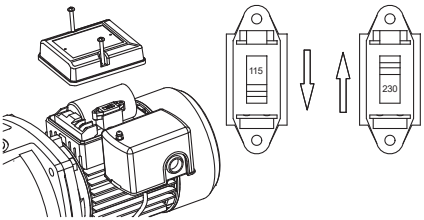
Fill the discharge tee with water until water overflows.

NOTE: It may take several minutes or more to fill the pipes and the pump (A) completely. Watch the water level in the discharge tee. Make sure the water level is stable and there are no air bubbles.

WARNING: If the pump is lower than the suction pipe, air may get trapped in the pipe. The pump may not work properly. Make sure the pipe slopes away from the pump.
Wrap the discharge tee plug and priming plug threads with thread tape and re-attach to the pump (A). Tighten with a wrench.

12 This pump is pre-wired at 115 V. If the power source is 230 V, remove the electrical housing cover. Flip the switch to 230 V. Replace the cover.

NOTE: All electrical work should be performed by a licensed electrician.

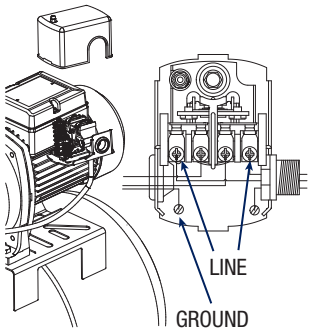


PRESSURE SWITCH INSTALLATION INSTRUCTIONS

To complete the installation, you must connect the power source to the pressure switch. The pressure switch allows for automatic operation; the pump starts when pressure drops to the "cut-in" setting (30 PSI pre-set).

To wire the pressure switch:

- Remove the pressure switch cover on pump to expose the wiring terminals.
- Connect the green ground wire of the power supply to the switch ground terminal.
- Connect the power supply wires to the two outside terminals marked "LINE" and replace the switch cover.



If you had a different pressure switch on the old pump (e.g., 20/40 PSI), make sure to adjust the pressure in your tank to 28 PSI. You may need an air compressor to add air pressure. If you have too much air pressure in the tank, simply press the air stem down to release air.

You will need a tire gauge to test the pressure in the tank.

Note: The ground connection must be made at this terminal. The ground conductor must not be smaller than the circuit conductors supplying the motor.

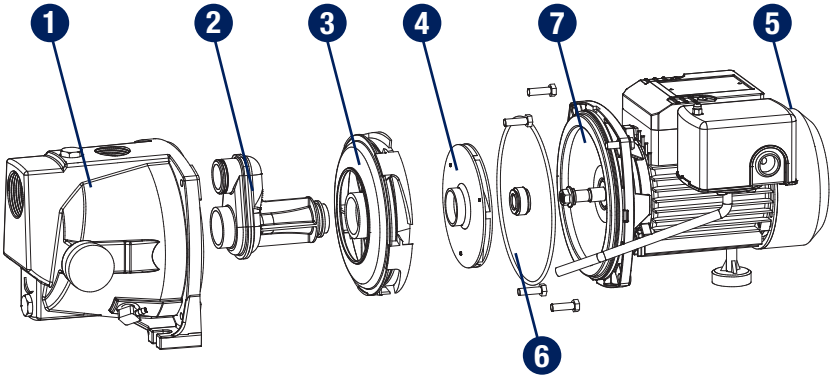
WARNING:

- Before wiring the pressure switch, turn off the power source to which you are connecting to avoid potentially life-threatening electric shock.
- It is recommended all electrical work be performed by a licensed electrician.
- When wiring from the power source to the pressure switch, it is recommended that you use either a 14-gauge or 12-gauge cord.

TROUBLESHOOTING

Problem	Possible Cause	Corrective Action
Pump does not start or run.	1. Power off. 2. Blown fuse or tripped breaker. 3. Faulty pressure switch. 4. Motor overload tripped. 5. Wires are connected incorrectly.	1. Turn power on or call power company. 2. Replace fuse or reset circuit breaker. 3. DISCONNECT THE POWER, then clean the switch contacts or replace switch. 4. Let cool. Overload will automatically reset. 5. Follow the instructions for wiring the pump.
Pump will not prime.	1. Not enough water. 2. Air trapped in the pipe. 3. Water level in well is below foot valve. 4. Foot valve is plugged or leaks.	1. Stop motor; remove pressure gauges or prime plug; fill housing pipes with water. 2. Adjust the pump's height so that the pipe slopes away from the pump. 3. Lower the suction pipe. If the water level is more than 25' (7.6 m), you will need a deep well pump. 4. Replace foot valve or dig well deeper.
Pump operates but pumps little or no water.	1. Water level below pump intake. 2. Discharge not vented while priming. 3. Leaking in piping on well side of pump. 4. Well screen or inlet strainer clogged. 5. Foot valve may be clogged or stuck closed. 6. Pump not fully primed. 7. Water level below maximum lift specification. 8. Undersized piping. 9. Improper voltage.	1. Lower suction pipe further into well. 2. Open faucet; repeat priming procedure. 3. Repair piping as needed. 4. Clean or replace as necessary. 5. Clean or replace as needed. 6. Follow priming instructions. 7. Return pump and purchase deep well jet pump. 8. Increase pipe size to a minimum of 1 1/4" (3.2 cm). 9. Check voltage switch.
Pump starts and stops too often.	1. Incorrect tank pre-charged. 2. Ruptured diaphragm/bladder (pre-charged tank). 3. Leak in house piping. 4. Foot valve or check valve stuck open. 5. Pressure switch does not match tank pressure.	1. Empty water from tank. Add or release air as needed to get to 28 PSI. 2. Replace tank. 3. Locate and repair leak or reconnect (usually a leaky toilet or faucet). 4. Remove and replace. 5. Readjust or replace switch. Call help line.
Pump does not shut off.	1. Leak in house piping. 2. Water level is lower than estimate. 3. Improper setting of pressure switch.	1. Locate and repair (usually a leaky toilet or faucet). 2. Use a deep well jet pump if water level is >25' (7.6 m). 3. Reset or replace pressure switch.

KEY PARTS DIAGRAM



PARTS LIST

No.	Description
1	Pump body
2	Interval channel
3	Drain cover
4	Impeller
5	Motor
6	Mechanical seal
7	O-ring

WARRANTY

PLEASE DO NOT ATTEMPT TO OPEN OR REPAIR THE PUMP YOURSELF. DOING SO COULD VOID THE WARRANTY AND CAUSE DAMAGE OR PERSONAL INJURY.

This Mastercraft product carries a three (3) year LIMITED warranty against defects in workmanship and materials. This product is not guaranteed against wear or breakage due to misuse and/or abuse.

Made in China
Imported by
Mastercraft Canada Toronto, Canada M4S 2B8