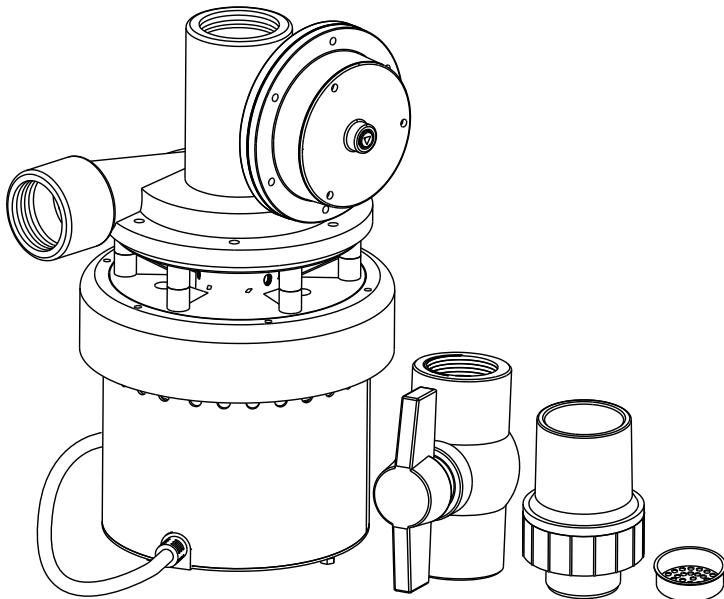




AUTOMATIC
UTILITY SINK PUMP



Model No. 062-3420-4

IMPORTANT:

Please read this manual carefully before running this utility sink pump and save it for reference.

**INSTRUCTION
MANUAL**

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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.

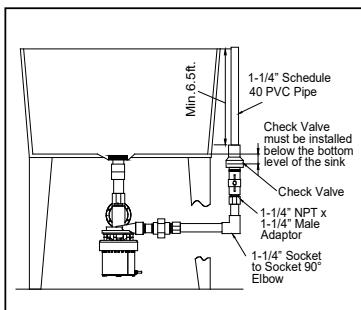
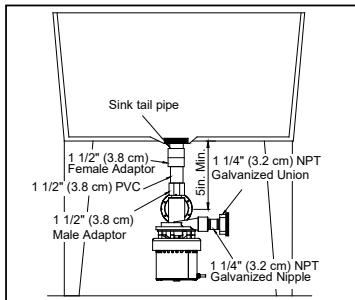
SAVE THESE INSTRUCTIONS

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



1 INLET PLUMBING

Connect the pump to the sink tail pipe using 1 1/2" (3.8 cm) pipe.

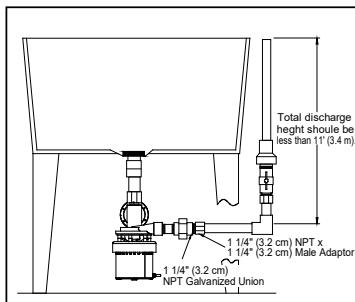
**2 DISCHARGE PLUMBING**

To install the discharge plumbing and check valve on the pump:

- Use non-stick tape — NOT pipe joint compound.
- Tighten the pipe into the pump.
- Install the check valve as close to the pump as possible.
- Drill an 1/8" (3 mm) anti-airlock hole as shown. The hole must be in the sump.

3 CONNECT DISCHARGE

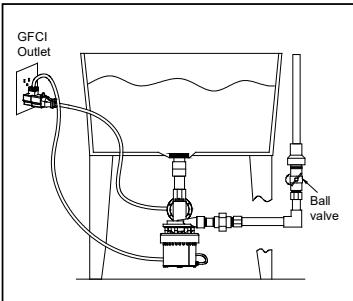
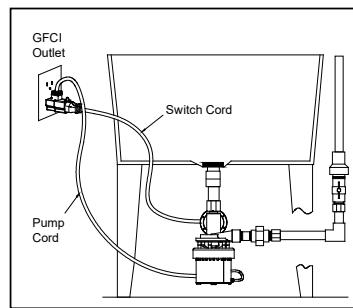
Connect discharge pipe to building drain. Total discharge height should be less than 11' (3.4 m).

**NOTE:**

- A 5" (12.7 cm) space is needed from sink bottom to inlet for proper operation. Do NOT use plumber's pipe threading compound (pipe dope) on plastic pipe—it can damage the plastic, causing leaks and piping failure, and voiding the warranty.
- Be sure check valve is installed with arrows pointing away from pump.

4 POWER ON

AFTER the pump is completely installed, plug the switch into the GFCI-protected, properly grounded outlet. Plug the pump into the back of the switch's plug.

**5 TEST PUMP**

Fill the sink with water and adjust the flow using the included ball valve.

TECHNICAL SPECIFICATIONS

Liquid temperature range	32 to 77°F (0 to 25°C)
Impeller	Plastic
Discharge size	1 1/4" (3.2 cm) Female NPT
Seal	Mechanical seal
Cord length	8' (2.4 m)
Upper bearing	Sleeve bearing
Lower bearing	Sleeve bearing
Single phase	Permanent split capacitor (PSC)
Motor protection	Auto-reset thermal overload protection in motor
Construction material	Steel for motor house; plastic for volute and impeller
Motor	Squirrel cage induction, class B insulation
Maximum flow	1300 U.S. GPH (4921 L/hr)
Maximum head height	15' (4.6 m)

MOTOR AND ELECTRICAL

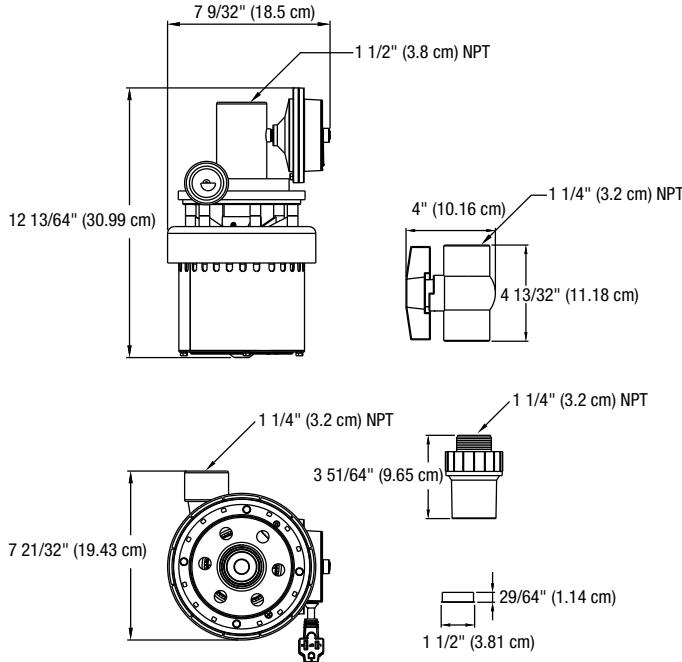
SKU number	062-3420-4
HP	1/3
Volt/ph	115/2
Hz	60
RPM	1725
Full load amps	4
Cord size	18 AWG
Cord type	SJTW

PERFORMANCE CHART

Lift in feet/ metres	0' (0 m)	5' (1.5 m)	10' (3 m)	15' (4.6 m)
U.S. gallons/ litres per hour	1300 (4,921)	950 (3,598)	550 (2,083)	0 0

*Friction loss in piping not included in measurement.

DIMENSIONS



SAFETY GUIDELINES

This manual contains information that relates to protecting personal safety and preventing equipment problems. It is very important to read this manual carefully and understand it thoroughly before using this product.

- These precautions are intended for the personal safety of the operator and others working with the operator. Failure to follow these instructions may result in a permanent loss of vision, serious personal or even fatal injury, property damage and/or tool damage. Please take the time to read and understand them.
- Wear safety glasses with side shields when operating the pump and verify that others in the work area are also wearing safety glasses. Safety glasses must conform to both American National Standards Institute (ANSI Z87.1) and Canadian Standards Association (CSA Z94.3) standards requirements and must provide protection from flying particles from the front and the sides. Failure to comply may result in moderate injury.
- The motor of this pump has a thermal protector that will trip if the motor becomes too hot. The protector will reset itself once the motor cools down and an acceptable temperature has been reached. The pump may restart unexpectedly if it is plugged in.
- This pump is made of high-strength, corrosion-resistant materials. It will provide trouble-free service for a long time when properly installed, maintained, and used. However, inadequate electrical power to the pump, dirt, or debris may cause the pump to fail. Please carefully read the manual and follow the instructions regarding common pump problems and remedies.
- Mastercraft Canada is not responsible for losses, injury, or death resulting from a failure to observe these safety precautions, or the misuse or abuse of pumps or equipment.

DANGER!

- Keep children away from the work area. Do not allow children to handle the pump.
- Follow all electrical and safety codes, particularly the Canadian Electrical Code, and local codes and ordinances.
- Disconnect the power supply to the pump, drain all water and release all pressure from the water system before servicing any pump component.
- Risk of fire or explosion: 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.
- Risk of electric shock: Never remove the ground terminal on the three-pronged power plug of the pump as the ground terminal is designed for protection. Do not adjust any electrical appliance or product without disconnecting the power supply. Do not stand on wet or damp surface or in water when the pump is connected. Avoid handling the pump with wet hands.
- Risk of burns: Do not touch the motor housing during operation. The motor is designed to operate at high temperatures. Do not disassemble the motor housing.
- Ensure the electrical power source is adequate for the requirements of the pump.
- Extension cords may not deliver sufficient voltage to the pump motor. Extension cords present a life-threatening safety hazard if the insulation becomes damaged or the connection ends fall into water. The use of an extension cord to power this pump is not permitted.
- This unit is designed only for use on 115 V (single phase), 60 Hz, and is equipped with an approved 3-conductor cord and 3-prong grounded plug. Do not remove the ground pin under any circumstances. The 3-prong plug must be directly inserted into a properly installed and grounded 3-prong, grounding-type receptacle. Do not use this pump with a 2-prong wall outlet. Replace the 2-prong outlet with a properly grounded 3-prong receptacle (a GFCI outlet) installed in accordance with the Canadian Electrical code and local codes and ordinances. All wiring should be performed by a qualified electrician.
- Ensure that the electrical circuit to the pump is protected by a 15 A fuse or circuit breaker.

CAUTION!

- Know the pump and its applications, limitations, and potential hazards.
- Secure the discharge line before starting the pump. An unsecured discharge line will whip, possibly causing personal injury and/or property damage.
- Secure the pump to a solid base. This will aid in keeping the pump in a vertical orientation. This is critical in keeping the pump operating at maximum efficiency. It will also help prevent the pump from clogging resulting in premature failure.
- Periodically inspect the pump and system components. Disconnect the pump from the power supply before inspecting.
- Never run the pump dry, as doing so may damage the mechanical seal and void the warranty.
- Do not lift the pump by the power cord.

UNPACKING

- Upon receiving the pump, it should be inspected for damage or shortages. If damage has occurred, file a claim immediately with the carrier that delivered the pump. If the manual is removed from the packaging, do not lose or misplace.

STORAGE

- Short Term—Pumps are manufactured for efficient performance following short, inoperative periods in storage. For best results, pumps can be retained in storage, as factory assembled, in a dry atmosphere with constant temperatures for up to six (6) months.
- Long Term—For storage of six (6) months, to twenty-four (24) months, the units should be stored in a temperature-controlled area: a roofed-over, walled enclosure that provides protection from the elements (rain, snow, wind-blown, dust, etc.), and where the temperature can be maintained between 4 and 40°C (40 and 120°F). If extended high humidity is expected to be a problem, all exposed parts should be inspected before storage and all surfaces that have the paint scratched, damaged, or worn should be recoated with a water-based, air-dry enamel paint. All surfaces should then be sprayed with a rust-inhibiting oil.
- Pump should be stored in its original shipping container. On initial start up, rotate impeller by hand to assure seal and impeller rotate freely.

INSTALLATION

DISCHARGE

- Please see the step 2 of page 4 for details.

ELECTRICAL CONNECTIONS

- Pump comes with diaphragm switch.
- Power Cable—The cord assembly mounted to the pump must not be modified in any way. Any splice between the pump and the control panel must be made in accordance with all applicable electric codes. It is recommended that a junction box, if used, be mounted outside the sump or be of at least NEMA 4 construction if located within the wet wall. Do not use the power cable to lift pump.



WARNING!

- 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 comply with the instructions and designed operation of this unit may void the warranty. Attempting to use a damaged pump can result in property damage, serious personal injury and/or death.

SAFETY GUIDELINES

WIRE SIZE

- Consult a qualified electrician for proper wire size.

PRE-OPERATION: CHECK VOLTAGE AND PHASE

- Before operating pump, check to make sure that the voltage and phase information stamped on the pump's identification plate matches the available power.

IDENTIFICATION PLATE

- Note the numbers on the pump's identification plate and record at the end of the manual for future reference.

INSULATION TEST

- Before the pump is put into service, an insulation (megger) test should be performed on it. The ohm values as well as the volts and amps should be recorded.

PUMP-DOWN TEST

- After the pump has been properly wired and lowered into the basin, sump, or lift station, it is advisable to check the system by filling with liquid and allowing the pump to operate through its pumping cycle. The time needed to empty the system, or pump down time, should be recorded.

MAINTENANCE

- Please see page 16 for details.



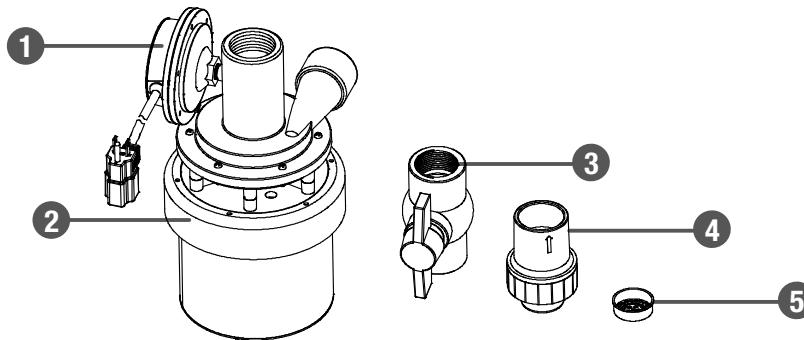
CAUTION!

- Risk of electric shock. Do not remove cord and/or strain relief. Do not connect conduit to pump.

PARTS LIST

No.	Description	Qty.
1	Diaphragm Switch	1
2	Pump	1
3	1 1/4" (3.2 cm) NPT Ball Valve	1

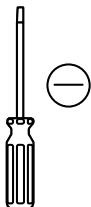
No.	Description	Qty.
4	1 1/4" (3.2 cm) NPT x 1 1/4" (3.2 cm) Slip Check Valve	1
5	Sink Drain Screen	1



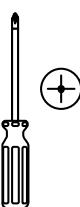
APPLICATION

- This pump is designed to be used with a sink where a gravity drain line is not available. Attach the pump to the drain tail piece; the pump will start when water begins to drain. Uses include basement laundry sinks, wet bars and utility sinks.

TOOLS REQUIRED



Flathead screwdriver



Cross-head screwdriver



Channel lock pliers



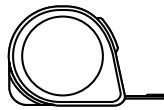
Pipe wrench



Hacksaw

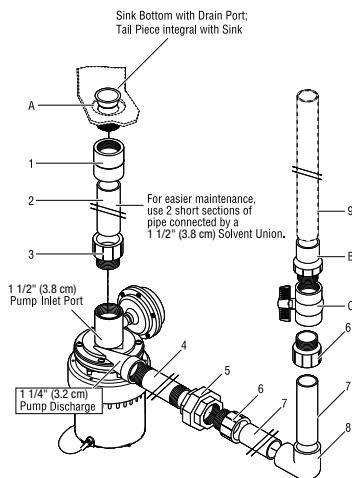


Safety goggles



Tape measure

INSTALLATION



Fittings Supplied:	Qty.
A. Sink Drain Screen	1
B. 1 1/4" (3.2 cm) NPT x 1 1/4" (3.2 cm) Slip Check Valve	1
C. 1 1/4" (3.2 cm) NPT Ball Valve	1
Purchase Separately:	
1. 1 1/2" (3.8 cm) NPT x 1 1/2" (3.8 cm) Slip Female Adaptor	1
2. 1 1/2" (3.8 cm) Schedule 40 PVC Pipe, to fit	1
3. 1 1/2" (3.8 cm) NPT x 1 1/2" (3.8 cm) Slip Male Adaptor	1
4. 1 1/4" (3.2 cm) NPT Galvanized Nipple, to fit	1
5. 1 1/4" (3.2 cm) NPT Galvanized Union	1
6. 1 1/4" (3.2 cm) NPT x 1 1/4" (3.2 cm) Male Adaptor	2
7. 1 1/4" (3.2 cm) Schedule 40 PVC Pipe, to fit	2
8. 1 1/4" (3.2 cm) Socket to Socket 90° Elbow	1
9. 1 1/4" (3.2 cm) Schedule 40 PVC Pipe to Drain	As Needed
PVC Pipe Cement	As Needed
PTFE pipe thread sealant tape	As Needed
1 1/2" (3.8 cm) PVC Solvent Union – optional	As Needed

Figure 1:
Typical method of mounting the pump

1. Place the sink in its final location.
2. Remove any existing drain fittings back to the tail piece. Make sure the existing tail piece does not leak.
3. Glue the 1 1/2" (3.8 cm) PVC pipe into the female adaptor (Part No. 1).
4. Wrap the threads of the tail piece with 1 to 1 1/2 turns of PTFE pipe thread sealant tape. Thread the 1 1/2" (3.8 cm) NPT female adaptor (Part No. 1) onto the sink-drain tail piece. Thread it hand tight plus 1/2 turn with a pipe wrench or slip joint pliers. DO NOT overtighten.
5. Wrap the threads of the 1 1/2" (3.8 cm) male adaptor (Part No. 3) with 1 to 1 1/2 turns of PTFE pipe thread sealant tape and install it in the pump inlet. Tighten it hand tight plus 1/2 turn with a pipe wrench or slip joint pliers. DO NOT overtighten!

NOTE:

- A 5" (12.7 cm) space is needed from sink bottom to inlet for proper operation, refer to Figure 2.
- DO NOT use plumber's pipe threading compound ("pipe dope") on plastic pipe; it can damage the plastic, causing leaks and piping failure and void the warranty.
- Be careful to avoid cross-threading. Use only a plastic-compatible pipe-threading compound or non-stick tape when connecting threaded fittings to plastic adaptors.
- DO NOT use plumber's pipe threading compound ("pipe dope") on plastic pipe; it can damage the plastic, causing leaks and piping failure and void the warranty.
- If the sink-drain tail piece is not 1 1/2" (3.8 cm) NPT, you will have to adapt it (bushings, reducers, etc.) In this case, wrap all joints with PTFE pipe thread sealant tape before making connections.
- The vertical height from the check valve to the pipe outlet should be at least 6 1/2' (2 m) to void check valve leakage.



WARNING!

- Electric Shock Hazard. Plug pump into a properly grounded, GFCI-protected outlet. Do NOT plug in the pump until after it is completely installed. Do not remove or modify the grounding pins on the plugs.
- Fire and explosion hazard. Be sure to follow the cement manufacturer's instructions when using PVC cement. Do not use near fire or open flame.

- Measure the 1 1/2" (3.8 cm) PVC pipe (Part No. 2) against the drain and the pump and trim the pipe to fit.
- Do a trial assembly (dry—no glue) of the pump onto the drain pipe. Swing the pump until it accurately faces the discharge piping, and then mark the pump and the inlet pipe/adaptor assembly so that you can accurately install the pump in Step 8. Arrange a temporary support under the pump to relieve the strain on the sink drain piping while the glue is setting. Leave it in place while you measure and cut the discharge piping (Step 12).
- Slide the pump up into position and glue the pipe (Part No. 2) into the male adaptor (Part No. 3 on the pump).
 - No glue on the pump or in the motor;
 - Make sure the pump is facing the right direction (match the marks from Step 7);
 - Put the support in place under the motor.
- Wrap the 1 1/4" (3.2 cm) galvanized nipple (Part No. 4) with 1 1/2 to 2 turns of PTFE pipe thread sealant tape on each end and thread it into the pump discharge port.
- Hold the nipple (Part No. 4) with a pipe wrench and thread one half of the 1 1/4" (3.2 cm) union (Part No. 5) onto it, hand tight plus 1 1/2 turns with a pipe wrench or slip-joint pliers.
- At this time, wrap the threads on both the 1 1/4" (3.2 cm) male adaptors (Part No. 6) with 1 1/2 to 2 turns of PTFE pipe thread sealant tape. Thread one of the adaptors into the other half of the 1 1/4" (3.2 cm) union (Part No. 5), hand tight plus 1/2 turn with a wrench or a pair of slip-joint pliers. DO NOT overtighten!
- Install the discharge piping as shown in Figures 1 and 2. The order is:
 - 1 1/4" (3.2 cm) PVC Pipe cut to fit (Part No. 7)
 - 90° Socket to Socket Elbow (Part No. 8)
 - 1 1/4" (3.2 cm) PVC Pipe cut to fit (Part No. 7)
 - Male adaptor (Part No. 6)
 - Flow Control/Ball Valve (C), Check Valve (B)
 - 1 1/4" (3.2 cm) Discharge Pipe (Part No. 9)
- Connect the discharge piping to the building drain.

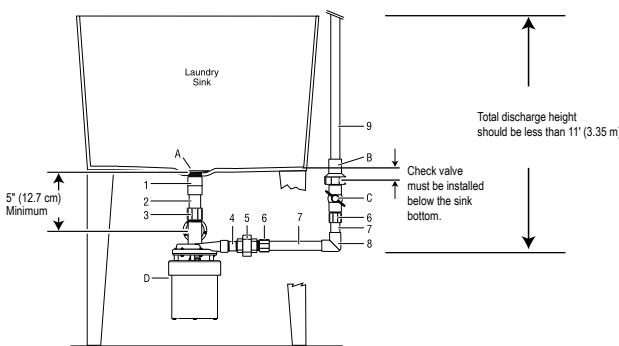


Figure 2: Pump Installed
(Refer to Figure 1 for parts names)

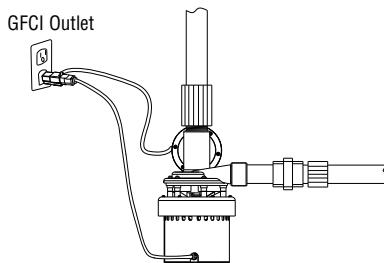
† For easier removal for servicing or cleaning, install a 1 1/2" (3.8 cm) solvent union in the drop pipe.

NOTE:

- Tighten this only enough to prevent leaking. Over-tightening can crack the plastic.
- Install the check valve in the vertical discharge pipe with the threads down. Be sure the flow arrow points AWAY from the pump. That is, when the check valve is correctly installed, the arrow showing direction of flow should point UP.

PLUG IN THE PUMP

AFTER the pump is completely installed, plug the switch into a GFCI-protected, properly grounded outlet. Plug the pump into the back of the switch's plug.



ADJUSTING THE FLOW

The drain pump can pump up to 21 gallons per minute (GPM) / 79.5 litres per minute (LPM). Normal sink drains allow only 5 to 6 GPM (19 to 22.7 LPM) to flow. Adjust the discharge ball valve (C) as follows so that the pump does not cycle on and off when the faucets are on full.

- Run water into the sink. The pump will start when it detects water.
- Check for leaks. If leaks are found, unplug the pump power cord and fix the leaks before proceeding.
- Put a stopper in the drain and allow the sink to fill up a few inches.
- Open the discharge ball valve (C), open the faucets, and remove the stopper to drain the sink.
- The pump will start. Adjust the discharge ball valve (C) until the pump runs continuously while the faucets are running and the sink is draining. If the water level rises with the pump on, slightly open the discharge valve to balance the flow. If it drops, slightly close the discharge valve.

WASHING MACHINE USE

Washing machines usually discharge more water than the faucets do, and it is normal for the water level to rise in the sink while the pump is discharging. Do not adjust the discharge valve to match the flow when the washing machine discharges into it, unless the sink is ONLY used for washing machine discharge.

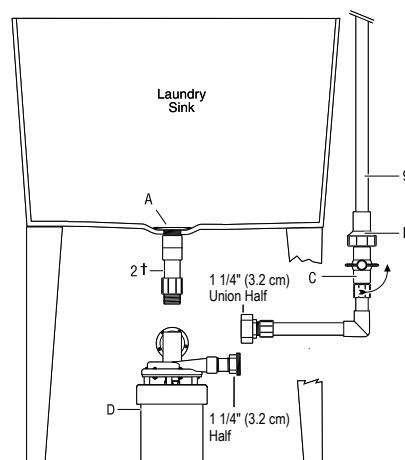


Figure 3: Pump Removal

† For easier removal for servicing or cleaning, install a 1 1/2" (3.8 cm) solvent union in the drop pipe.

NOTE:

- Washing machine discharge water contains fibre and lint. Unfiltered washing machine discharge could plug the pump and require pump disassembly for cleaning. To avoid this, install a lint trap or bag type filter in the washing machine discharge line and clean it out regularly.

TO CLEAR A JAMMED IMPELLER

- Unplug the pump.
- Close the discharge ball valve (C).
- Bail out the sink as much as possible.
- Disconnect the union (Part No. 5), unscrew the pump from the sink tail piece, lower the pump to the floor, and slide it out from under the sink (see Figure 3).
- Remove the six housing screws (see Figure 4).
- Clean out the pump. Make sure that the pump discharge is clear. If necessary, replace the impeller.
- Install the new gasket if necessary. Reassemble the pump.
- Raise the pump back into position, thread it back onto the sink tail piece, and reconnect the union (Part No. 5).
- Plug in the pump. Run water in the sink until the pump has run at least one complete cycle to make sure the pump is operating correctly and there are no leaks.

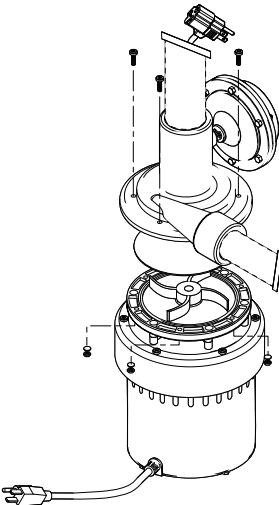


Figure 4: Remove 6 housing screws to clean out pump

CAUTION!



- Always use the handle to lift the pump. Never use the power cord to lift the pump. To avoid skin burns, unplug the pump and allow time for it to cool after periods of extended use.
- This pump requires very little maintenance and should provide a long service life. Problems are rare; when the pump flow drops off, the most likely cause is something solid going down the drain and jamming the impeller.

TROUBLESHOOTING

Problem	Possible Causes	Corrective Action
Pump does not run when water flows in from the sink.	1. The pump is unplugged. 2. There is no power to the outlet. 3. The pump impeller is jammed. 4. The sink stopper is in the drain. 5. Insufficient level of water above the diaphragm switch.	1. Plug in the pump. 2. Check the fuse/breaker. 3. Unplug the pump and follow the procedure under "Care and Cleaning" to clear the pump. 4. Remove stopper. 5. Check the installation per Figure 2.
Pump runs but does not empty the sink.	1. The drain is clogged. 2. The discharge line is clogged. 3. The shut-off valve is closed. 4. The system discharge line is too high or too long. 5. The check valve is installed backwards.	1. Clear the drain screen. 2. Unplug the pump. Then open and clear discharge line. 3. Open shut-off valve slightly. 4. Unplug the pump or reduce the height or length of the discharge line (11'3/3.35 m max. height). 5. Make sure the flow arrow on the check valve points away from the pump.
Pump cycles on and off when no water is in the sink.	1. Check valve is not installed. 2. Check valve is jammed.	1. Unplug the pump and install the check valve (see Figures 2 and 3). 2. Unplug the pump. Then open the discharge line and clean the check valve.
Pump cycles on and off when the sink is at maximum water flow or is full.	1. Shut-off valve is not adjusted. 2. Shut-off valve is not installed.	1. See "Adjusting the Flow". 2. Unplug the pump and install a shut-off valve (see Figures 2 and 3).

This Mastercraft product is guaranteed for a period of **one (1) year** from the date of original retail purchase, against defects in materials and workmanship.

Subject to the conditions and limitations described below, this product, if returned to us with proof of purchase within the stated warranty period and if covered under this warranty, will be repaired or replaced (with the same model, or one of equal value or specification), at our option. We will bear the cost of any repair or replacement and any costs of labour relating thereto.

These warranties are subject to the following conditions and limitations:

- a. a bill of sale verifying the purchase and purchase date must be provided;
- b. this warranty will not apply to any product or part thereof which is worn or broken or which has become inoperative due to abuse, misuse, accidental damage, neglect or lack of proper installation, operation or maintenance (as outlined in the applicable owner's manual or operating instructions) or which is being used for industrial, professional, commercial or rental purposes;
- c. this warranty will not apply to normal wear and tear or to expendable parts or accessories that may be supplied with the product which are expected to become inoperative or unusable after a reasonable period of use;
- d. this warranty will not apply to routine maintenance and consumable items such as, but not limited to, fuel, lubricants, vacuum bags, blades, belts, sandpaper, bits, fluids, tune-ups or adjustments;
- e. this warranty will not apply where damage is caused by repairs made or attempted by others (i.e., persons not authorized by the manufacturer);
- f. this warranty will not apply to any product that was sold to the original purchaser as a reconditioned or refurbished product (unless otherwise specified in writing);
- g. this warranty will not apply to any product or part thereof if any part from another manufacturer is installed therein or any repairs or alterations have been made or attempted by unauthorized persons;
- h. this warranty will not apply to normal deterioration of the exterior finish, such as, but not limited to, scratches, dents, paint chips, or to any corrosion or discolouring by heat, abrasive and chemical cleaners; and
- i. this warranty will not apply to component parts sold by and identified as the product of another company, which shall be covered under the product manufacturer's warranty, if any.

Additional Limitations

This warranty applies only to the original purchaser and may not be transferred. Neither the retailer nor the manufacturer shall be liable for any other expense, loss or damage, including, without limitation, any indirect, incidental, consequential or exemplary damages arising in connection with the sale, use or inability to use this product.

Notice to Consumer

This warranty gives you specific legal rights, and you may have other rights, which may vary from province to province. The provisions contained in this warranty are not intended to limit, modify, take away from, disclaim or exclude any statutory warranties set forth in any applicable provincial or federal legislation.

Made in China

Imported for
Mastercraft Canada Toronto, Canada M4S 2B8

MASTERCRAFTTM

