1/2HP CAST IRON TRANSFER PUMP

OPERATING INSTRUCTIONS & PARTS MANUAL

Model：FX501



PREINSTALLATION CHECKLIST - ALL INSTALLATIONS

ATTENTION: READ CAREFULLY BEFORE ATTEMPTING TO INSTALL OR OPERATE YOUR PUMP. PROTECT YOURSELF AND OTHERS BY OBSERVING ALL SAFETY INFORMATION AND ADDITIONAL INSTRUCTIONS INCLUDED WITH EQUIPMENT. FAILURE TO COMPLY WITH INSTRUCTIONS COULD RESULT IN PERSONAL INJURY AND/OR PROPERTY DAMAGE! RETAIN FOR FUTURE REFERENCE.

⚠ WARNING 

1. Make sure that the pump is plugged into a properly **grounded electrical receptacle.** Use an Underwriters Laboratory listed circuit analyzer to test for proper installation of the circuit and ground. Any service to circuits or receptacles should be conducted by a qualified licensed electrician.
2. **Do not remove the ground pin from the plug under any circumstances.** If the ground pin is damaged, replace the power cord or plug before use.
3. All electrical installations must conform to the requirements of the National Electric Code and all local codes.
4. It is strongly recommended that the unit be plugged into a GFI protected circuit.
5. **Disconnect power before servicing the pump or motor by unplugging the unit from the outlet.**
6.  Do not touch the motor when operating and allow the motor to cool before touching it afterwards.
7. This pump is designed for water only. It has not been evaluated for pumping of chemicals.
8.  Do not use this product to pump flammable or explosive liquids.
9.  Do not use this product in hazardous environments or anywhere a spark could potentially ignite explosive gases.

10.  Do not handle this product with wet hands or while standing in water or on a wet or damp surface.
11. the pump is supplied with an automatically resetting thermal overload device and can restart without warning.
12.  Do not submerge the pump or motor in water.
13. Secure the discharge line before starting the pump. An unsecured hose can whip, possibly causing personal injury or property damage.
14.  Provide a means of pressure relief if the pump dis-charge can be shut off or obstructed. Pumps operating against a closed discharge can create very hot pumped liquid, which can cause burns.
15. Do not operate this product while unattended.
16.  Product is portable, and not intended to be permanently installed outdoors. If installed outdoors, care should be taken to protect the unit from rain and other elements of the weather.
17. According to the state of California (Prop 65), thisproduct contains chemicals known to the state of California to cause cancer and birth defects or other reproductive harm.

⚠ CAUTION

1. Make certain that the power source conforms to the requirements of the equipment as stated on the product nameplates.
2. Check hoses for weak or worn conditions before use and make certain that all connections are secure.
3. Periodically inspect the pump for damage and perform routine maintenance as required.
4. The maximum temperature of the pumped liquid must not exceed 120° F. The minimum allowable temperature is 40° F.
5. Use a screen or strainer on the inlet to prevent solids from entering the pump.
6. To avoid internal pump damage, pump should not be run for more than five minutes while attempting to prime.

DESCRIPTION

This portable utility pump is designed to be used as a transfer pump for such applications as emptying water heaters, swimming pools, livestock tanks, boats, etc. Pump can also be used for an intermittent pressure booster for applications such as washing cars, cleaning driveways, etc. The motor is air cooled. It is **NOT** designed to operate under water.

INSTALLATION

⚠ DANGER *Always disconnect power source befo re attempting to install, service or maintain the pump. Never handle a pump with wet hands or when standing on wet or damp surface or in water. Fatal electrical shock could occur.*

1. A ground fault circuit interrupter (GFCI) is recommended.

   ⚠ DANGER *Risk of electrical shock. This pump is supplied with a grounding conductor and grounding type attachment plug. A grounded receptacle in conformance with current NEC and local codes must be used*

2. Figure 1

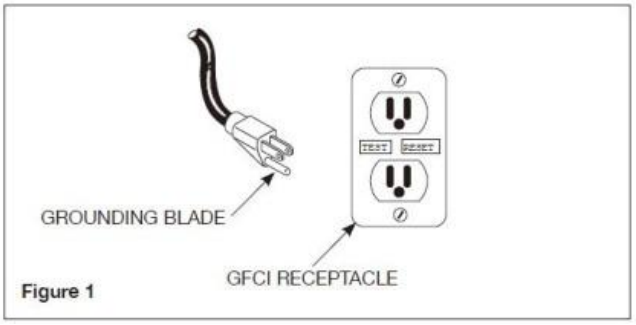


Figure 1

3. This pump operates on 115V, 60Hz AC, single phase.
4. Use an extension cord only if necessary. Follow the Extension Cord Length Table for proper gage of 3-wire, grounding type extension cord.

Extension Cord Length Table

Wire size	#18	#16	#14	#12
Length	25 ft	50 ft	100 ft	150 ft

⚠ DANGER *Risk of fatal electrical shock. Never cut off the round grounding prong. Cutting the cord or plug will void the warranty and make the pump inoperable.*

1. Figure 2 shows a typical installation. Threaded adapters are furnished for attaching garden hose where conditions permit its use. In no case should the pump be more than 15 feet above or away from inlet source. Use of foot valve on inlet line is recommended.

⚠ IMPORTANT Make sure the inlet hose is NOT coiled or kinked above or below water level.

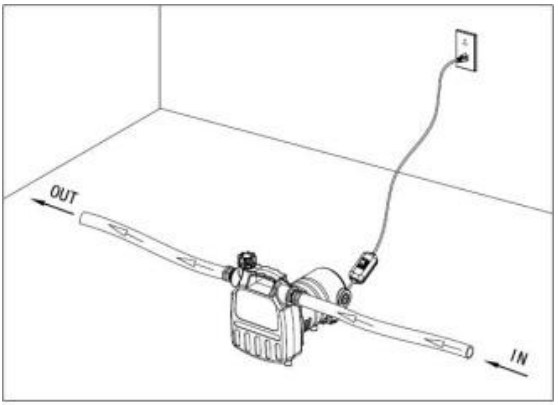


Figure 2

2. The inlet line may be galvanized pipe, plastic pipe, or non-collapsible hose. Small leaks in inlet line greatly reduce efficiency of pump and may prevent priming.

⚠ IMPORTANT *Regular garden hose will collapse under suction conditions and should not be used in the inlet, except for pressure boosting situations.*

3. Use a strainer when pumping from a creek, pond, or source where foreign objects may be sucked into the pump. The strainer should prevent solids from entering the inlet line.
4. A regular 3/4″ garden hose may be used as a discharge line. Keep the total length as short as possible to prevent excessive friction loss.

OPERATION

⚠ IMPORTANT ***Pump must be filled with water before operation. Running the pump dry or pumping any sand or other abrasives will cause damage to the shaft seal or impeller and void the warranty***

Figure 3



Figure 3

1. **⚠ DANGER** Product is portable, and not intended to be permanently installed outdoors. If installed outdoors, care should be taken to protect the unit from rain and other elements of the weather. This unit is not waterproof or weatherproof and is not intended to be used in showers,

saunas, or other potentially wet locations. The motor is designed to be used in a clean, dry location with access to adequate cooling air. Ambient temperature around the motor should not exceed 104°F (40°C).

2. Remove priming plug and fill with water. Reinstall plug.

⚠ IMPORTANT ***To help with the priming of the pump, a foot valve can be installed on the inlet line. The use of a foot valve is strongly recommended to be installed on inlet lines lifting over five feet.***

3. Plug power cord into GFCI protected electrical outlet. The pump will prime in a few minutes, depending on inlet line length.

⚠ IMPORTANT ***To avoid internal pump damage, if after five minutes the pump has not begun pumping water, turn off the pump, remove priming plug, re-fill pump with water, reinstall priming plug and plug pump back in.***

4. In the case of pressure boosting, turn water on before starting pump. This force primes the pump. Then, plug power cord into GFCI protected electrical outlet.

- shut down switch

5. Unplug cord to turn unit off.

MAINTENANCE

⚠ WARNING ***Let pump cool for at least 20 minutes before attempting to service. Motor may be extremely hot. Personal injury may result.***

1. Pump should be checked periodically for proper operation.
2. **⚠ DANGER** *Always disconnect the electrical supply before attempting to install, service, or perform any maintenance. If the power source is out of sight, lock and tag in the open (off) position to prevent unexpected power applications. Disconnect electrical cord from power supply. Failure to do so could result in fatal electrical shock. Only qualified electricians should repair this unit. Improper repair could result in fatal electrical shock.*

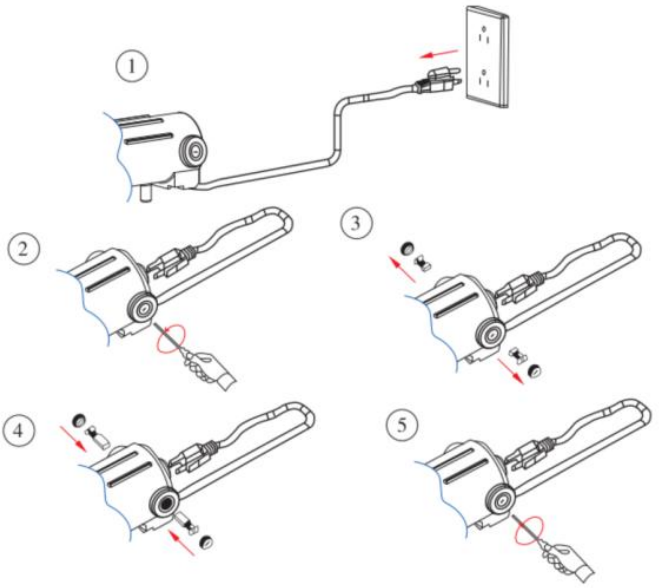
Brush Replacement

⚠ WARNING *ushes for this pump should be inspected after every 120 hours of operation.*

Pumps with excess of 120 hours of operation may stop operating or fail to start. This could be due to worn brushes or carbon build-up. The brushes should be removed and carbon removed. Worn brushes are not covered under warranty.

1. Disconnect electrical cord from power supply.
2. Remove brush caps with screwdriver.
3. Remove old brush assembly.
4. Insert new brush assembly.
5. Replace brush caps.

Figure 4



For other problems, consult troubleshooting chart

SPECIFICATIONS

Motor ：1/2 HP Single Phase, 120 V, 60Hz, 8,000 RPM Series Wound (brush type) AC operation

Maximum Fluid Temperature： 120° F

Inlet/Outlet Openings 3/4″ NPT

Maximum Case Pressure 100 PSI

TROUBLESHOOTING CHART

Symptom	**Possible Cause(s)**	Corrective Action
Pump will not start or run	1.Blown fuse	If blown, replace with proper sized fuse or

		reset breaker
	2.Low line voltage	Contact an electrician
	Worn brushes	Replace brushes
	Impeller blocked	Remove blockage
	Defective motor	Replace pump
Pump will not prime or retain prime after operating	Air leak in suction line	Repair or replace suction line (use plumbers tape to install garden hose adpater fittings and priming plug onto pump body)
	Impeller blocked	Remove blockage
	Worn seal	Replace seal
	Suction lift too high	Lower pump
	Hose kinked or looped	Straighten hose
	Fittings not tight	Tighten fittings
	Suction hose out of water	Submerge suction hose end
	Clogged inlet	Clean inlet
Flow rate is too low	Piping or hose is fouled or damaged	Clean or replace
	Low line voltage	Contact an electrician

Seal leaks	Worn seal	Replace seal
	Backhead damaged or cracked	Replace backhead
	Pump head loose on motor	Insure proper assembly and no obstruction, tighten bolts
Thermal Protector Tripping	Damage or misalignment causing rotating parts to bind	Take to motor repair shop or locate and repair mechanical binding
	High surrounding temperature	Provide a shaded, well-ventilated area for pump
	Low line voltage	Contact an electrician
	Motor housing air-vents blocked	Remove air-vent blockage

- Explosive view and parts list

