

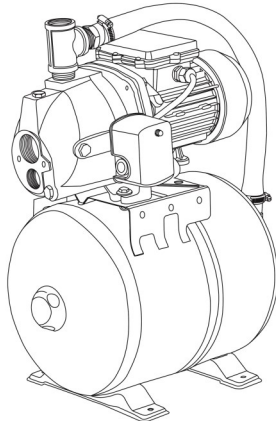
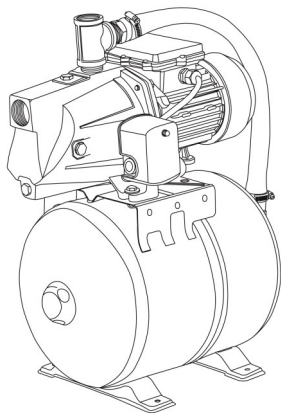


OWNER'S MANUAL

INSTALLATION AND OPERATION INSTRUCTIONS FOR:


SHALLOW WELL & CONVERTIBLE JET PUMP/TANK SYSTEM

**PAN94525, PAN94553, PAN94520, PAN94513,
PAN94725, PAN94753, PAN94720, PAN94713,
PAN94125, PAN94153, PAN94120, PAN94113**



Safety Guidelines

Carefully read, understand and follow all safety instructions in this manual.

 This is the safety alert symbol. When you see this symbol, look for one of the following signal words.

DANGER Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

CAUTION Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

WARNING Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

Safety Information

Read these warnings carefully. Know the application and limitations of this pump. Failure to follow these warnings could result in serious bodily injury and/or property damage.

DANGER *This pump is not submersible. Do not submerge the motor in water or expose to water. Personal injury and/or death could result from electric shock.*

DANGER *Do not use to pump flammable or explosive liquids such as gasoline, kerosene, fuel oil, etc. Personal injury and / or death could result. Do not use this pump in a flammable or explosive environment. This pump is intended to pump clear water only.*

WARNING *RISK OF ELECTRICAL SHOCK. This pump has not been investigated for use in swimming pool or marine areas.*

DANGER *Do not touch this pump while standing in or walking on wet surfaces until all power is turned off. Do not touch an operating motor. Allow motor to cool before performing service. Failure to follow this warning could result in electric shock.*

Specifications

Circuit Requirements.....15 Amp

Motor Bearings.....Permanently Lubricated Ball Bearings

Models	HP	Volts	Amps	Hz	Pressure Switch	Suction/ Discharge	Construction	Max. Liquid Temp.
PAN94525 PAN94553	1/2	115/230	6.4/3.2	60	20/40	1-1/4" / 1"	Cast Iron	120°F
PAN94520 PAN94513	1/2	115/230	6.4/3.2	60	20/40	1-1/4" / 1"	Cast Iron	120°F
PAN94725 PAN94753	3/4	115/230	7.8/3.9	60	20/40	1-1/4" / 1"	Cast Iron	120°F
PAN94720 PAN94713	3/4	115/230	7.8/3.9	60	20/40	1-1/4" / 1"	Cast Iron	120°F
PAN94125 PAN94153	1	115/230	10/5	60	20/40	1-1/4" / 1"	Cast Iron	120°F
PAN94120 PAN94113	1	115/230	10/5	60	20/40	1-1/4" / 1"	Cast Iron	120°F

Installation

⚠ DANGER

Always disconnect the power source before attempting to install, service or perform maintenance. If the power source is out of sight, lock and tag in the off position to prevent unintended power application. Failure to do so could result in fatal electric shock. All wiring should be performed by a qualified electrician.

Shallow Well Pump Installation

INSTALLING / REPLACING AN OLD PUMP

Drain and remove piping from old pump. Check the piping for rust, scale etc. Replace if necessary. Your jet pump comes ready to install for shallow well applications.

Install the new pump making sure all pipe connections are air and water tight. Use pipe joint compound or Teflon tape on all pipe connections. Make sure all piping is properly supported. **NOTE: If the suction pipe can suck air, the pump will not be able to pull water from the source.**

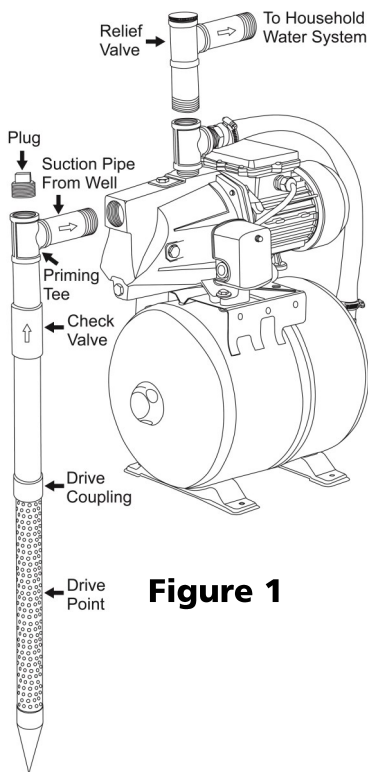


Figure 1

DRIVEN WELL POINT INSTALLATION

1. Drive the point using drive couplings and a drive cap. Do not use regular pipe fittings as the threads may strip out due to the force of driving the point.
2. Position the pump as close as possible to the water source to keep suction lift as low as possible.
3. Install a priming tee with a plug on the suction pipe from the water source as shown in Figure 1. An inline check valve should also be installed on the suction line going to the pump. Install a union or other fitting that will allow the pump to be easily disassembled from the piping for easy servicing. Make sure Teflon tape or pipe joint compound is used on all joints.
4. Run piping from the discharge tee on the pump housing to the household water piping.

Shallow Well Pump Installation

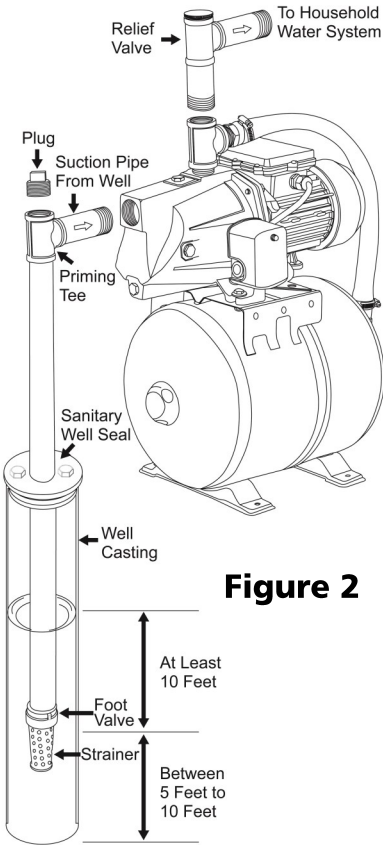


Figure 2

CASED WELL POINT INSTALLATION

1. Install a foot valve with strainer on the first section of pipe and lower it into the well.

2. Add enough pipe until the foot valve is about 10 feet below the water level. Make sure the foot valve does not rest on the bottom of the well.

3. Install a priming tee with a plug on the suction pipe from the water source as shown in Figure 2. Install a union to allow the pump to be easily disassembled from the piping for easy servicing. ***Make sure Teflon tape or pipe joint compound is used on all joints. The suction pipe should be at least 1 ¼"***

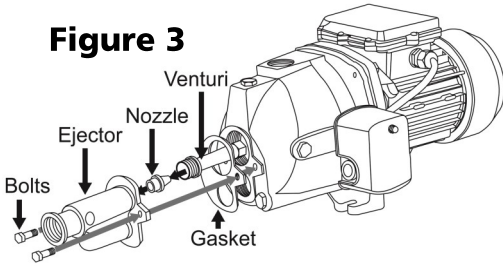
4. Install a well seal to prevent debris and other contaminants from entering the well.

5. Run piping from the discharge tee on the pump housing to the household water piping.

Convertible Pump (Shallow Well) Installation

DRIVEN WELL POINT INSTALLATION

Figure 3



1. Install the ejector kit to the pump housing as shown in Figure 3.
2. Drive the point using drive couplings and a drive cap. Do not use regular pipe fittings as the threads may strip out due to the force of driving the point.

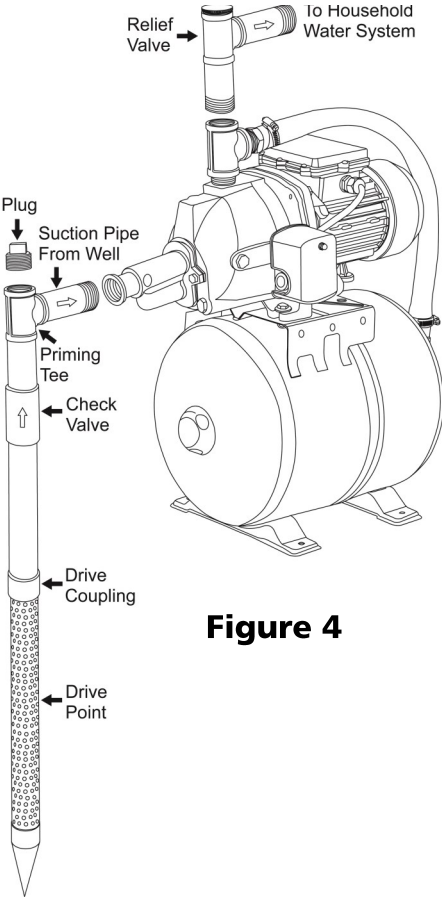


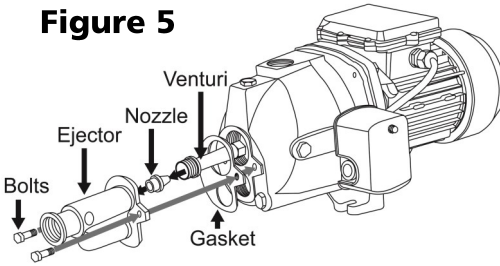
Figure 4

3. Position the pump as close as possible to the water source to keep suction lift as low as possible. NOTE: Long lengths of pipe and the use of many fittings will reduce water flow. Use the shortest possible length of pipe and the fewest fittings possible. The suction line should be at least as large as the suction port, in this case 1"
4. Install a priming tee with a plug on the suction pipe from the water source as shown in Figure 4. An inline check valve should also be installed on the suction line going to the pump. Install a union or other fitting that will allow the pump to be easily disassembled from the piping for easy servicing. Make sure Teflon tape or pipe joint compound is used on all joints.
5. Run piping from the discharge tee on the pump housing to the household water piping.

Convertible Pump (Shallow Well) Installation

2" OR LARGER CASED WELL

Figure 5



1. Install the ejector kit to the pump housing as shown in Figure 5.

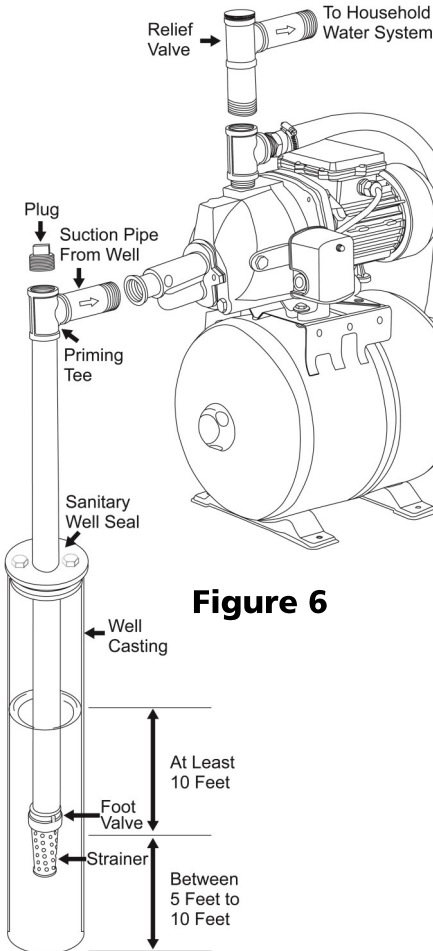
2. Drive the point using drive couplings and a drive cap. Do not use regular pipe fittings as the threads may strip out due to the force of driving the point.

3. Position the pump as close as possible to the water source to keep suction lift as low as possible. **NOTE:** Long lengths of pipe and the use of many fittings will reduce water flow. Use the shortest possible length of pipe and the fewest fittings possible. The suction line should be at least as large as the suction port, in this case 1"

4. Install a priming tee with a plug on the suction pipe from the water source as shown in Figure 6. An inline check valve should also be installed on the suction line going to the pump. Install a union or other fitting that will allow the pump to be easily disassembled from the piping for easy servicing. Make sure Teflon tape or pipe joint compound is used on all joints.

5. Run piping from the discharge tee on the pump housing to the household water piping.

Figure 6



Convertible Pump (Deep Well) Installation

4" OR LARGER CASED WELL

1. Install a foot valve with strainer to the bottom of the Ejector.
2. Connect the drive pipe and suction pipe to the deep well ejector as shown in Figure 7.
3. Add enough pipe until the foot valve is about 10 feet below the water level. Make sure the foot valve does not rest on the bottom of the well.
4. Install a well seal to prevent debris and other contaminants from entering the well.
5. Run piping from the discharge tee on the pump housing to the household water piping.

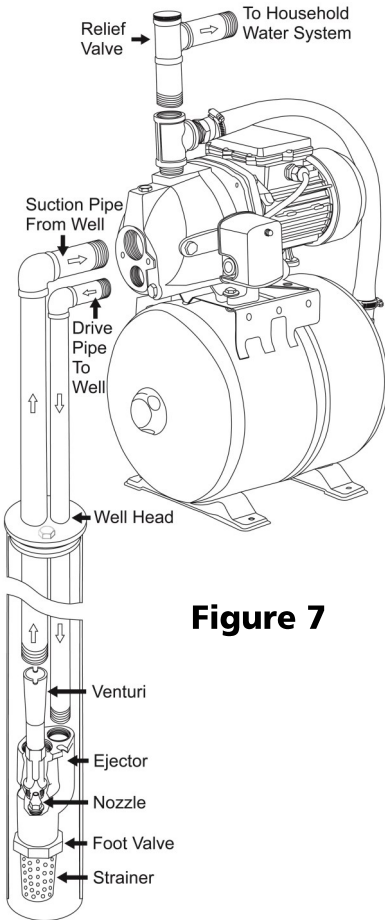
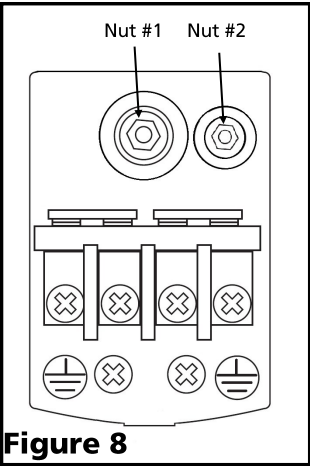


Figure 7

Pressure Switch Adjustment

- 1. The pressure switch comes preset from the factory with a 20/40 psi setting (Figure 8).
- 2. To increase the cut on & cut off pressure, turn Nut #1 clockwise.
- 3. To increase the cut off pressure only, turn Nut #2 clockwise.

NOTE: Make small adjustment and test after each adjustment until desired levels are reached.



Electrical Connections

⚠ CAUTION Risk Of Fire. Never connect a 230 volt line to a 115 volt motor.

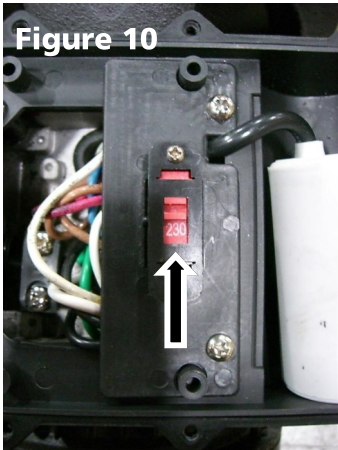
Check Voltage Setting Switch

TURN OFF POWER SUPPLY TO PUMP!!

NOTE: The voltage switch is factory set for 115 volt service. If you have 115 volt service do not change the voltage switch (Figure 9 & 10).



The voltage switch is factory set for 115 volt service.



To change to 230 volt operation slide the voltage switch to "230" volts

Use the chart below to determine what gauge wire you should be used in your installation.

Distance in Feet from Motor to Power Supply						
Wire Size (AWG)						
HP	Volts	Amps	0-100'	101-200'	201-300'	301-400'
1/2	115/230	6.4/3.2	14	12	10	8
3/4	115/230	7.8/3.9	14	12	10	8
1	115/230	10/5	14	12	10	8

Electrical Connections (continued)

115 VOLT CONNECTION

1. Connect the ground wire from the power source to the ground terminal on the pressure switch. Make sure the ground from the power source is connected to a grounded terminal in the service panel, a metal underground water pipe, a metal well casing, or a grounding rod.
2. Connect one hot wire (usually black or red) from the power source to one of the screw terminals on the pressure switch. It doesn't matter which one. Follow wiring diagram in Figure 11.
3. Connect the white (neutral) wire from the power source to the other screw terminal on the pressure switch.

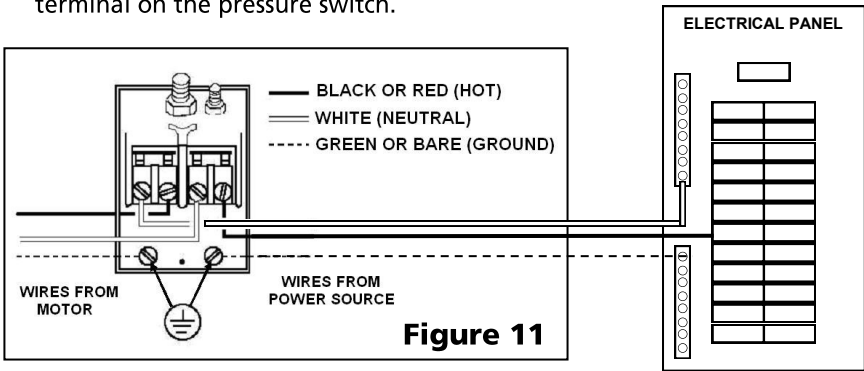


Figure 11

230 VOLT CONNECTION

1. Connect the ground wire from the power source to the ground terminal on the pressure switch. Make sure the ground from the power source is connected to a grounded terminal in the service panel, a metal underground water pipe, a metal well casing, or a grounding rod.
2. Connect one hot wire (usually black or red) from the power source to one of the screw terminals on the pressure switch. It doesn't matter which one. Follow wiring diagram in Figure 12.
3. Connect the other hot wire from the power source to the other screw terminal on the pressure switch.

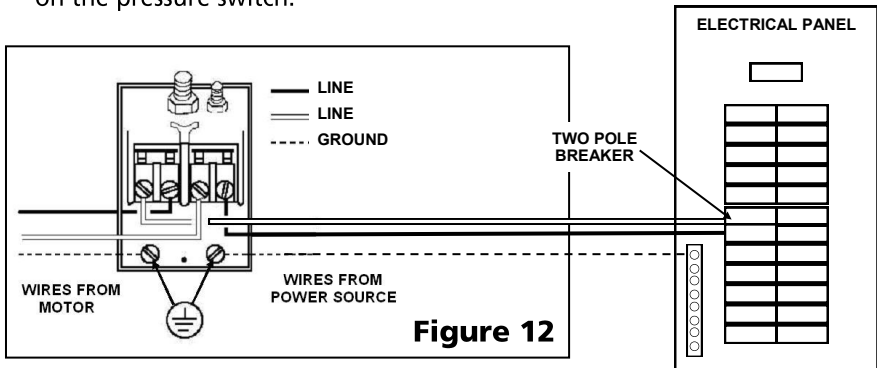


Figure 12

⚠ WARNING

Never run your pump dry. Damage to the internal parts of the pump could result and void the warranty.

⚠ WARNING

Never run the pump with the discharge side of the pump closed. The water inside the pump may boil and reach dangerous pressures which may result in severe burns if handled.

How to prime your jet pump

1. Remove the top plug on the discharge port of the pump (shallow well) or the manual regulator (deep well) and fill the pump and all piping with water. Use a funnel if necessary. If you installed a priming tee on the suction side, remove the plug and fill all piping.
2. Replace all plugs making sure all joints are air and water tight. Use Teflon tape or pipe joint compound.
3. Open a faucet to vent the system of air.
4. Turn on the pump. Water should be pumped within 1-2 minutes. If there is no water being pumped after 2 minutes, turn the pump off and repeat the above steps. NOTE: if you are pumping from a depth of 20' or more it may take several attempts to prime your pump.
5. Once the pump is moving water, let the system operate for a few minutes to flush all air out of the pipes.
6. Close the faucet and let pressure build in the tank. Once the pressure reaches the cut-off setting on the pressure switch, the pump will stop. NOTE: You may want to install a pressure gauge (not included) to adjust the pressure to meet your needs.
7. Test the system and pressure switch by opening a faucet to let water drain from the tank. The pump should start once the pressure reaches 20 PSI, +/-2 PSI and stop once the pressure reaches 40 PSI, +/-2 PSI.

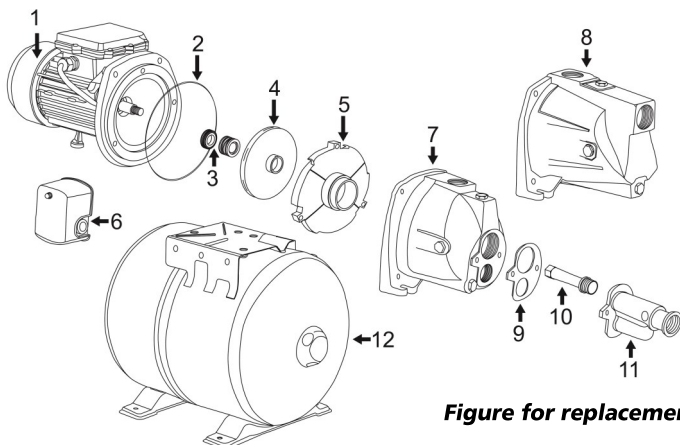


Figure for replacement parts

Replacement parts call 1-800-495-9278

Ref#	Description	94525 94725 94125	94553 94753 97153	94520 94720 94120	94513 94713 94115
1	Motor	*	*	*	*
2	O-ring	99226	99226	99226	99226
3	Shaft Seal	99225	99225	99225	99225
4	Impeller	99228	99224	99224	99228
5	Diffuser	99229	99229	99229	99235
6	Pressure Switch	99230	99230	99230	99230
7	Pump Housing (Convertible Pump)	n/a	n/a	99231	99231
8	Pump Housing (Shallow Well Pump)	99232	99232	n/a	n/a
9	Ejector Gasket	n/a	n/a	99233	99233
10	Venturi	99227	99227	99227	99234
11	Ejector Body	n/a	n/a	99236	99236
12	Pressure Tank	TANK24L	TANK50L	TANK24L	TANK50L

*If motor fails, replace entire pump.

Troubleshooting

PROBLEM	POSSIBLE CAUSES	HOW TO CORRECT
If the pump does not start or run	Pump is not plugged in, switch/breaker is off	Plug pump in or turn on switch/breaker
	Check for blown fuses or tripped circuit breakers or tripped GFCI outlets	Replace fuse, reset breaker, reset GFCI
	Wire connections are loose or wired incorrectly	Tighten connections or re-wire following wiring diagram on page 9
	Contacts on pressure switch are dirty or worn	Clean or replace pressure switch
Motor runs hot and thermal overload protector turns pump off	Voltage is too low	Use heavier gauge wire
	Motor is not properly vented	Make sure there is adequate room for air to circulate around the pump
If the pump runs but moves little or no water	Loss of prime	Re-prime if necessary. See page 10
	Air lock in suction line	Make sure horizontal piping between the pump and the well pitches upward towards the pump. Otherwise an airlock may form
	Leak in suction line	Check all connections for leaks. Make sure all connections are air tight.
	Discharge or suction pipes may be clogged or corroded	Remove clog or replace pipes if necessary
	Distance from the pump to the water is greater than 25 feet	Change to a deep well application
	Intake screen/foot valve is obstructed	Clean or replace if necessary
	Foot valve or check valve is stuck in the closed position	Inspect, repair or replace if necessary
	Foot valve or check valve is installed backwards	Make sure valve is installed in the correct direction of flow
	Worn, damaged or clogged pump parts (Injector, impeller, diffuser, seal, etc.)	Inspect for wear, damage or clog and clean or replace if necessary
	Foot valve is buried in sand or mud	Raise above surface bottom
	Water level in the well is too low	Lower suction pipe or convert to deep well application
	Well is "dry" or has slow recovery	Move location of well
Pump starts and stops too often	Pipes are frozen	Thaw pipes, heat pump house or bury pipes below frost line
	Water logged tank (Standard Tank)	Drain tank and re-prime pump. The air volume control will supply the correct amount of air in the tank
	Ruptured bladder (Pre-charged Tank)	Replace bladder and/or tank
	Incorrect air pressure in tank (Pre-charged Tank)	Add or release air as needed
	Leak in pressure tank or system piping	Locate and repair leak
Pump does not shut off	Pressure switch is not properly adjusted	Adjust settings by following instructions under the pressure switch cap
	Incorrect pressure switch setting	Lower "cut off" setting. Follow instructions under pressure switch cap
	Bad pressure switch. Contacts stuck in closed position	Replace switch
	Pressure switch tubing clogged	Blow debris from tubing or replace

LIMITED WARRANTY - RESIDENTIAL JET PUMPS:

Manufacturer warrants this product, to the original purchaser, for the initial residence in which it is installed (upon verification that it is installed correctly) to be free from defects in materials and or workmanship for a period of 1 YEAR from the date of purchase. The motor is warranted to be free from defects in materials and or workmanship for a period of 3 YEARS from the date of purchase. During the time period and subject to the terms and conditions, Manufacturer will repair or replace to the original user or consumer any portion of this product which proves to be defective due to materials or workmanship. At all times Manufacturer shall have and possess the sole right and option to determine whether to repair or replace defective equipment, parts, or components. Manufacturer has the option to inspect any product returned under warranty to confirm that the warranty applies before repair or replacement under warranty is approved. This warranty sets forth Manufacturer sole obligation and purchaser's exclusive remedy for defective product. Return defective product to the place of purchase call 1-800-495-9278.

WARRANTY PERIOD - PRODUCTS:

If, within the duration of product use by the original user, this product proves to be defective due to materials or workmanship, the product shall be repaired or replaced at Manufacturer option, subject to the terms and conditions set forth in this warranty statement. Proof of purchase is required for warranty consideration. In the absence of suitable proof of the purchase date, the effective period of this warranty is 12 months from the product's date of manufacture.

LABOR, ETC. COSTS:

Manufacturer shall IN NO EVENT be responsible or liable for the cost of field labor or other charges incurred by any customer in removing and/or affixing any product, part, or component thereof.

PRODUCT IMPROVEMENTS:

Manufacturer reserves the right to change or improve its products or any portions thereof without being obligated to provide such a change or improvement for units sold and/or shipped prior to such change or improvement.

GENERAL TERMS AND CONDITIONS:

This warranty shall not apply to damage due to acts of God, normal wear and tear, normal maintenance services and the parts used in connection with such service, lightning or conditions beyond the control of Manufacturer, nor shall it apply to products which, in the sole judgment of Manufacturer, have been subject to negligence, abuse, accident, misapplication, tampering, alteration; nor due to improper installation, operation, maintenance or storage; nor to excess of recommended maximums as set forth in the instructions. Warranty will be VOID if any of the following conditions are found:

1. Product is used for purposes other than those for which it was designed and manufactured
2. Product not installed in accordance with applicable codes, ordinances, and good trade practices
3. Product connected to voltage other than indicated on nameplate
4. Pump exposed to but not limited to the following: sand, gravel, cement, grease, plaster, mud, tar, oil, gasoline, solvents or other abrasive or corrosive substances
5. Pump has been used for pumping liquids above 120°F
6. Pump allowed to operate dry (liquid supply cut off)

DISCLAIMER:

Any oral statements about the product made by the seller, Manufacturer, the representatives, or any other parties do not constitute warranties, shall not be relied upon by the user, and are not part of the contract for sale. Seller's and Manufacturer only obligation, and buyer's only remedy, shall be the replacement and/or repair by Manufacturer of the product as described above. NEITHER SELLER NOR MANUFACTURER SHALL BE LIABLE FOR ANY INJURY, LOSS OR DAMAGE, DIRECT, INCIDENTAL OR CONSEQUENTIAL (INCLUDING, BUT NOT LIMITED TO, INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR LOST PROFITS, LOST SALES, INJURY TO PERSON OR PROPERTY, OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL LOSS), ARISING OUT OF THE USE OR THE INABILITY TO USE THE PRODUCT, AND THE USER AGREES THAT NO OTHER REMEDY SHALL BE AVAILABLE TO IT. Before using, the user shall determine the suitability of the product for his/her intended use, and user assumes all risk and liability whatsoever in connection therewith.

THE WARRANTY AND REMEDY DESCRIBED IN THIS LIMITED WARRANTY IS AN EXCLUSIVE WARRANTY AND REMEDY AND IS IN LIEU OF ANY OTHER WARRANTY OR REMEDY, EXPRESSED OR IMPLIED, WHICH OTHER WARRANTIES AND REMEDIES ARE HEREBY EXPRESSLY EXCLUDED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, TO THE EXTENT EITHER APPLIES TO A PRODUCT SHALL BE LIMITED IN DURATION TO THE PERIODS OF THE EXPRESSED WARRANTIES GIVEN ABOVE.

Some states and countries do not allow the exclusion or limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above exclusion or limitations may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.