

Please read and save these instructions. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and/or property damage! Retain instructions for future reference.

Dayton® Shallow Well Jet Pumps

Description

Dayton shallow well jet pumps (Models 1D880 and 1D881) are designed for use where the suction lift is 25 feet or less. They can be used with drilled (cased wells), dug wells, driven wells or with cisterns or lakes. The pump is equipped with a cast iron pump body and motor mounting bracket and utilizes a non-corrosive thermoplastic impeller and diffuser. The motor is dual voltage (115/230V) capacitor start. Pressure switch is factory preset at 30-50 psi.

General Safety Information

Carefully read and follow all safety instructions in this manual and on pump. Keep safety labels in good condition. Replace missing or damaged safety labels.



This is a **SAFETY ALERT SYMBOL**. When you see this symbol on the pump or in the manual, look for one of the following signal words and be alert to the potential for personal injury or property damage.

⚠ DANGER Warns of hazards that will cause serious personal injury, death or major property damage if ignored.

⚠ WARNING Warns of hazards that can cause serious personal injury or death, if ignored.

⚠ CAUTION Warns of hazards that MAY cause minor personal injury, product or property damage if ignored.

IMPORTANT: Indicates factors concerned with operation, installation, assembly or maintenance which could result in damage to the machine or equipment if ignored.

NOTE: Indicates special instructions which are important but are not related to hazards.

⚠ WARNING This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

⚠ WARNING Risk of electric shock. This pump has not been investigated for use in swimming pool areas.

⚠ WARNING This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

NOTE: Pumps with the "CSA" mark are tested to UL standard UL778 and certified to CSA standard C22.2 No. 108.

⚠ WARNING Wire motor for correct voltage. See Electrical section and Motor Data Charts A & C of this manual, and motor nameplate.

⚠ WARNING Ground motor before connecting to power supply. Meet United States National Electrical code and local codes for all wiring.

⚠ CAUTION Do not handle a pump or pump motor with wet hands or when standing on a wet or damp surface or in water.

⚠ CAUTION Follow wiring instructions in this manual when connecting to power lines.

⚠ WARNING Always disconnect power source

before performing any work on or near the motor or its connected load.



Do not use to pump flammable or explosive fluids such as gasoline, fuel oil, kerosene, etc. Do not use in flammable and/or explosive atmospheres.



Hazardous pressure! Install pressure relief valve in discharge pipe. Release all pressure on system before working on any component.

1. Make workshop child proof - use padlocks, master switches; remove starter keys.
2. Wear safety glasses when working with pumps.
3. Pump water only with this pump.
4. Keep work area clean, uncluttered and properly lighted; replace all unused tools and equipment.
5. Provide guarding around moving parts.
6. Keep visitors at a safe distance from the work area.
7. Periodically inspect pump and system components.
8. Protect electrical cord. Replace or repair damaged or worn cords immediately.
9. Do not insert finger or any object into pump or motor openings.
10. Do not allow pump or any other system component to freeze. Freezing may damage system, leading to injury or flooding. Allowing pump or system components to freeze will void warranty.

⚠ CAUTION Do not touch an operating motor or engine. They are designed to operate at high temperatures.

Specifications

Model	Motor					Motor Conn. For	Pres. Switch Sett.	NPT Suc. Inlet	NPT Disch. Outlet	Dimensions			Wt. Lbs.
	HP	Volts	PH	Hz	RPM					H	W	L	
1D881	1/2	115/230	1	60	3450	115V	30-50 psi	1 1/4"	3/4"	7 3/4"	9 7/8"	19 3/4"	40
1D880	3/4	115/230	1	60	3450	115	30-50	1 1/4"	3/4"	7 3/4"	9 7/8"	20	42

Chart A

Dayton® Shallow Well Jet Pumps

Pump Performance Chart

Chart B

Stock No.	HP	psi	Gallons per Hour at Depth of Water					Shut* Off
			5'	10'	15'	20'	25'	
1D881	1/2	20	680	600	510	430	320	72 psi
		30	640	560	490	420	320	
		40	500	480	410	390	320	
		50	360	300	250	240	200	
1D880	3/4	20	960	870	750	610	440	74 psi
		30	940	860	740	600	440	
		40	780	720	660	580	440	
		50	540	500	420	370	300	

(*) At 5 feet suction lift.

E
N
G
L
I
S
H

IMPORTANT: Pump must be primed; make sure pump is full of water before running. Failure to do so will cause damage to the pump and void the warranty.

Unpacking

1. Open carton and remove package that has been packed with the pump. This package includes pressure switch, shallow well ejector, ejector gasket, and bolts.
2. Remove pump from carton.
3. Check for loose, missing or damaged parts.

Assembly

1. Attach ejector to face of pump with two bolts and gasket provided. The venturi tube inserts into the top tapping on the face of the pump (See Figure 1).
2. Remove 1/4" plug from side of pump. Apply two wraps of Teflon tape provided to threads of the pressure switch and screw into tapping as shown in Figure 1. Refer to Electrical section for pressure switch wiring.

Pre-Installation

For installation the following general materials will be required:

- PVC cement (if plastic pipe is used)
- Pipe compound (if steel pipe is used)
- Teflon tape
- Pipe, pipe couplings and fittings

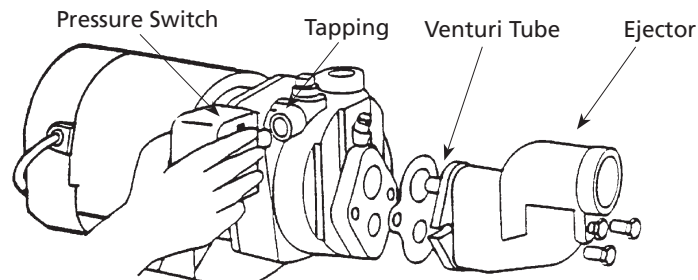


Figure 1

- 1 1/4" foot valve (for cased wells)
 - 1 1/4" check valve (for driven wells)
 - Single pipe well seal for 1 1/4" pipe (cased or dug wells)
 - Copper electrical wire (See Wiring in Electrical section)
- Before installing, observe the following precautions and pre-installation procedures.
1. Long runs and many fittings increase friction and reduce flow. Locate pump as close to well as possible: use as few elbows and fittings as possible.
 2. The diameter of the suction and discharge pipe should be no smaller than the corresponding ports of the pump (See Chart A). Smaller pipe will reduce the capacity of the pump. Increase pipe size on long runs.
 3. Be sure well is clear of sand. Sand will plug the pump and void the warranty.
 4. Protect pump and all piping from freezing. Freezing will split pipe, damage pump and void the warranty. Check locally for frost protection requirements (usually pipe

must be 12" below frost line and pump must be insulated).

5. Be sure all pipes and foot valve are clean and in good shape.
6. Insure that there are no air pockets in suction pipe.
7. There should be no leaks in suction pipe. Use Teflon tape or Plasto-Joint Stik to seal pipe joints.

NOTE: Do not use just any kind of thread sealing compound. If using plastic pipe, use thread sealing compound specifically recommended for this use.

IMPORTANT: Flow into well must at least equal flow out through pump! See Performance Chart.

8. Unions installed near pump and well will aid in servicing. Leave room to use wrenches.
9. Match pump to well.

CAUTION Over pressure may cause pump body to explode. Do not allow pressure in pump to exceed 125 psi under any circumstances.

Models 1D880 and 1D881

Installation

NOTE: Use Teflon® tape supplied with the pump for making all threaded connections to the pump.

1. Bolt pump to solid, level foundation.
2. Support all piping connected to the pump.
3. Wrap 1½ to 2 layers of Teflon® tape clockwise (as you face end of pipe) on all male threads being attached to pump.
4. Tighten joints hand tight plus 1½ turns. Do not overtighten.

NOTE: Install pump as close to well head as possible. Long piping runs and many fittings create friction and reduce flow.

IMPORTANT: For long horizontal pipe runs, install a priming tee between check valve and well head as shown in Figure 8A. For driven point installations, where the horizontal piping is more than 25 feet long, install a check valve as shown in Figure 8B. Be sure check valve flow arrow points toward pump.

See "Well Pipe Installation" for more information.

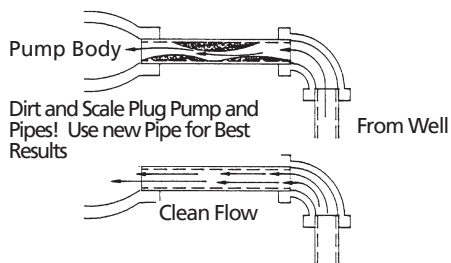


Figure 2 - No Dirt Or Scale In Suction Pipe

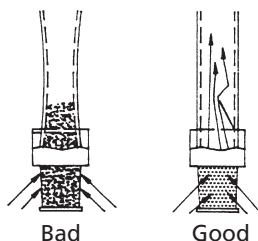


Figure 3 - Foot Valve Must Work Freely

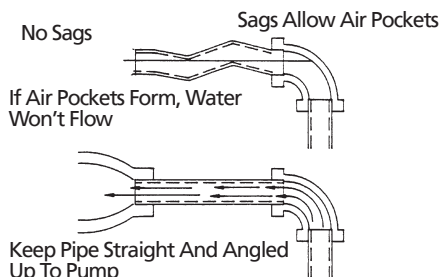


Figure 4 - No Air Pockets In Suction Pipe

Pipe Joint Compound Will Damage Plastic



Figure 5 - Suction Pipe Must Not Leak

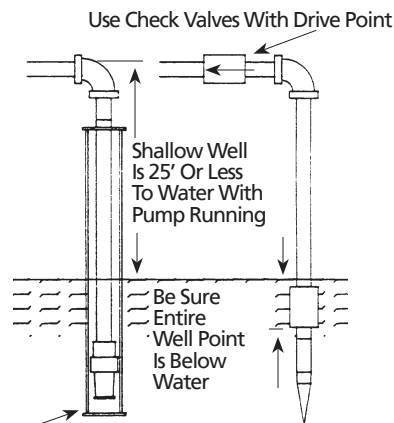


Figure 6 - Match Pump To Well

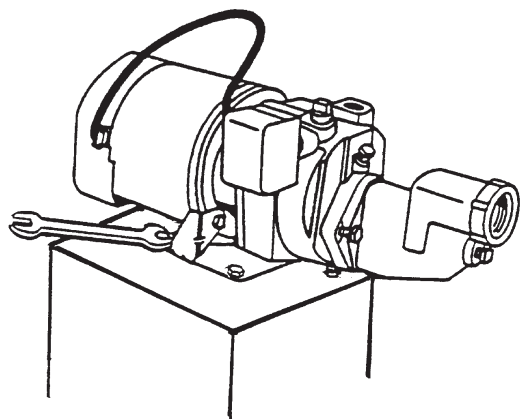


Figure 7A - Bolt Pump Down

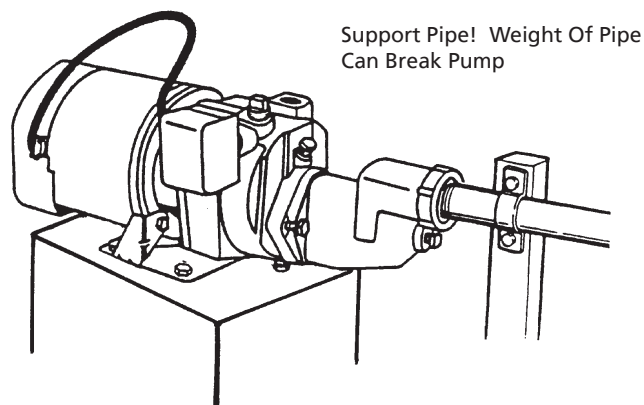


Figure 7B - Independently Support All Piping Attached To Pump

ENGLISH

Dayton® Shallow Well Jet Pumps

Installation (Continued)

WELL PIPE INSTALLATION

Use the installation method below which matches your well type.

CASED/DUG WELL INSTALLATION

1. Inspect foot valve to be sure it works freely. Inspect strainer to be sure it is clean.
2. Connect foot valve and strainer to the first length of suction pipe and lower pipe into well. Add sections of pipe as needed, using Teflon® tape on male threads. Be sure that all suction pipe is leakproof or pump will lose prime and fail to pump. Install foot valve 10 to 20 feet below the lowest level to which water will drop while pump is operating (pumping water level). Your well driller can furnish this information.

3. To prevent sand and sediment from entering the pumping system, the foot valve/strainer should be at least five feet above the bottom of the well.
4. When the proper depth is reached, install a sanitary well seal over the pipe and in the well casing. Tighten the bolts to seal the casing.
5. When using a foot valve, a priming tee and plug as shown in Figure 8A are recommended.

DRIVEN POINT INSTALLATION

1. Connect the suction pipe to the drive point as illustrated in Figure 8B. Keep horizontal pipe run as short as possible. Use Teflon® tape on male pipe threads.

2. Install a check valve in suction pipe (See Figure 8B). Check valve flow arrow must point toward pump.

LAKE INSTALLATION

Same as cased well except as follows:

1. Protect end of suction pipe, foot valve and strainer with screening (See Figure 8C).
2. Install suction pipe far enough below lake level so that end of pipe will be submerged at all times. End of suction pipe must be off lake bottom to help keep sand and sediment from entering system, causing pump failure.

ENGLISH

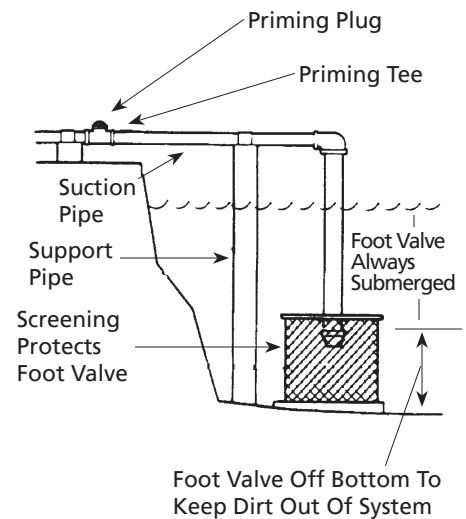
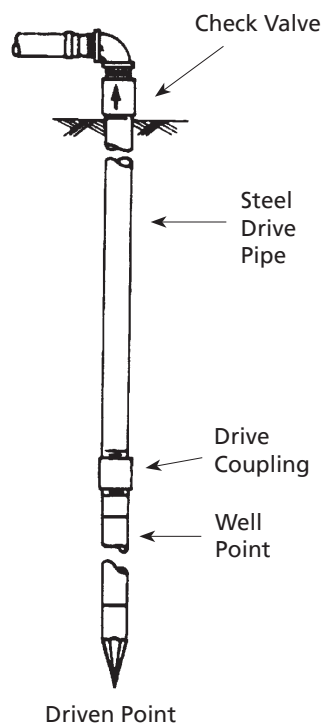
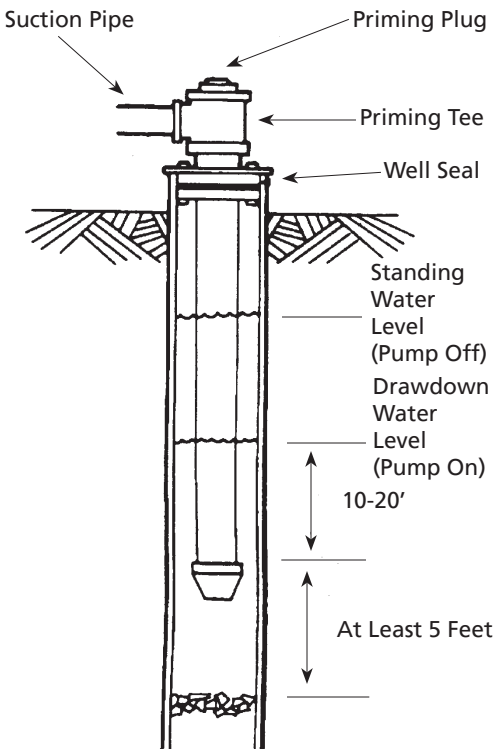


Figure 8A - Cased/Dug Well Installation

Figure 8B - Driven Point Installation

Figure 8C - Lake Installation

Models 1D880 and 1D881

Installation (Continued) PRESSURE TANK CONNECTION

⚠ WARNING *Install pressure relief valve in any installation where the pump pressure can exceed the maximum working pressure of the tank.*

PRESSURE TANK INSTALLATION

The pressure tank provides a reservoir of water under pressure and maintains cushion of air pressure to prevent pipe hammering and possible damage to plumbing components. When water is drawn off through house fixtures, the pressure in the tank is lowered and the pressure switch starts the pump.

STANDARD TANK CONNECTION

When a standard tank is used, an air volume control (AVC) adds air to the tank when it is needed. See Figures 9A and 9B for typical standard tank installation. To connect AVC to pump, remove 1/4" pipe plug from the ejector body near the suction port (See Figure 9B). Thread a 1/4" compression fitting into this tapped hole. Cut tubing to length to reach AVC; assemble to fitting on pump and to AVC on tank. See installation instructions provided with tank and AVC for details.

PRE-CHARGED TANK CONNECTION

When a pre-charged tank is used, no AVC is necessary. See Figure 10A for typical pre-charged tank installation. A pre-charged tank contains a factory provided air charge.

IMPORTANT: Your pump pressure switch is set for a 30-50 psi range and requires a tank pre-charge of 28 psi for proper operation (See Figure 10B). See tank owner's manual for instructions on checking tank air charge. An annual check on tank charge is recommended.

E
N
G
L
I
S
H

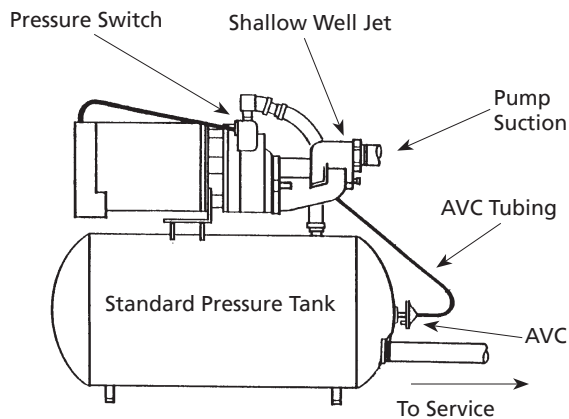


Figure 9A - Pump On Standard Tank

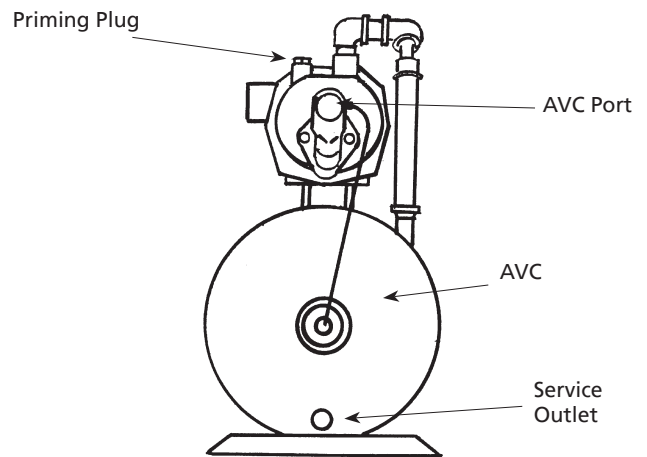


Figure 9B - AVC Connection

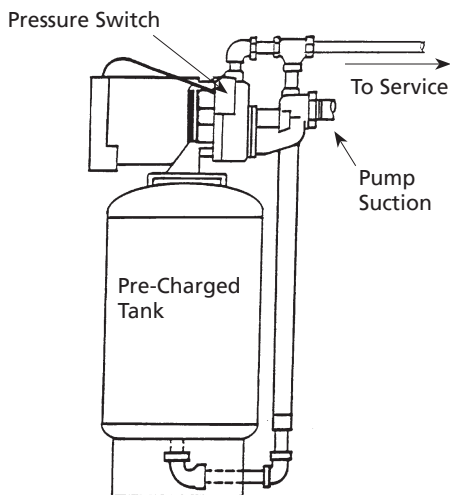


Figure 10A - Pump On Pre-Charged Tank

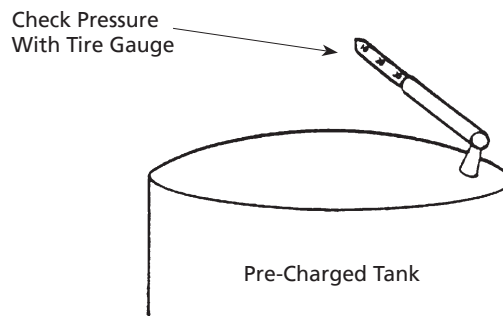


Figure 10B - Checking Tank Pre-Charge

Dayton® Shallow Well Jet Pumps

ENGLISH

Installation (Continued)

⚠ WARNING



Hazardous voltage. Can shock, burn or cause death.
Ground pump before connecting to power supply.

⚠ **Ground motor before connecting to electrical power supply.**

⚠ **Failure to ground motor can cause severe or fatal electrical shock hazard.**

⚠ **Do not ground to a gas supply line.**

⚠ **To avoid dangerous or fatal electrical shock, turn off power to motor before working on electrical connections.**

⚠ **Supply voltage must be within ± 10% of nameplate voltage. Incorrect voltage can cause fire or seriously damage motor and voids warranty. If in doubt, consult a licensed electrician.**

⚠ **Use wire size specified in wiring Chart C. If possible, connect pump to a separate branch circuit with no other appliances on it. If motor wiring diagram differs from diagram shown below, follow diagram on motor.**

WIRING

1. Install, ground, wire and maintain this pump in accordance with your local electrical code and all other codes and ordinances that apply. Consult your local building inspector for local code information.

2. Ground the pump permanently using a wire of size and type specified by local or United States National Electrical Code. **Do not ground to a gas supply line.**

3. Connect ground wire first. Connect to ground first, then to green grounding terminal provided on pressure switch (See Figure 12) identified as GRD. Ground connection **MUST** be made to this terminal. **Do not** connect motor to electrical power supply until unit is permanently grounded; otherwise serious or fatal electrical shock hazard may be caused.

4. Connect the other end of the ground wire to a properly grounded service panel or to a control panel ground bar if it is connected to the power supply ground.

IMPORTANT: Check local and/or national electric codes for proper grounding information.

⚠ **CAUTION** **Make certain that the power supply conforms to the electrical specifications of the motor supplied. See Motor Data Chart A.**

5. The motors are prewired from factory for use with 115V service. All motors are dual voltage (115/230V) and may be field connected for 230V service.

6. If the motor must be rewired, consult the motor wiring diagram or Figure 11.

7. To make the wiring change remove the rear access cover.

⚠ **WARNING** **Replace rear access cover before starting or operating pump. Failure to do so can result in personal injury.**

IMPORTANT: Do not use an extension cord or splice wires. Joints should be made in an approved junction box. If the above information or the following wiring diagrams are confusing, consult a licensed electrician.

WIRING THE PRESSURE SWITCH

1. Remove pressure switch cover to expose wiring terminals.
2. Insert motor wires through side hole of pressure switch and attach to the two inside flag terminals marked "load" (See Figure 12).
3. Connect the green ground wire of the motor and the power supply to the switch ground terminals.
4. Connect the power supply wire to the two outside pressure switch terminals marked "line" and replace the switch cover.

⚠ **WARNING** **Never examine, make wiring changes or touch the motor before disconnecting the main electrical supply switch.**

Wiring and Fuse Sizes

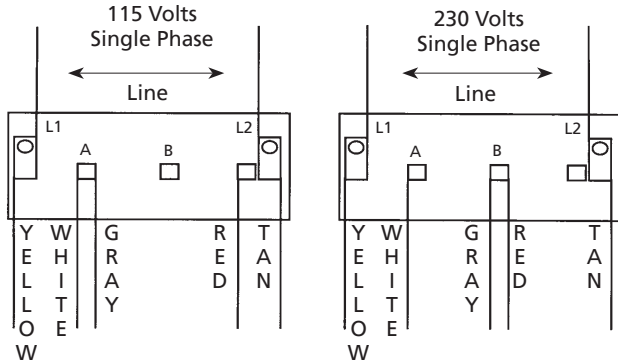
Chart C

Motor HP	Volts	Max. Load Amps	Branch Fuse† Rating- Amps	Distance In Feet From Motor To Service Panel				
				0-50 Ft.	50-100 Ft.	100-150 Ft.	150-200 Ft.	200-300 Ft.
1/2	115/230	8.6/4.3	20/15	12/14	12/14	12/14	10/14	10/14
3/4	115/230	13.0/6.5	20/15	12/14	12/14	10/14	10/12	8/12

(†) Fusetrons are recommended instead of fuses on all motor circuits.

Models 1D880 and 1D881

Installation (Continued)



NOTE: Dual voltage motor, change the red and gray wire to voltage required.

Figure 11 - Wiring Diagram For Single Phase Motors

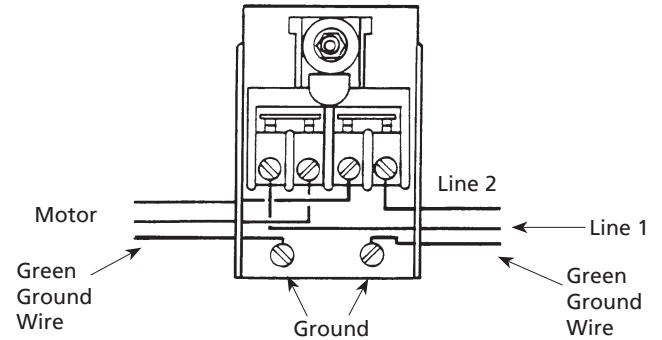


Figure 12 - Pressure Switch Wiring Diagram

Operation

PRIMING THE PUMP

⚠ WARNING Never run pump dry or against a closed discharge. To do so cause pump to overheat, damaging seal and possibly causing burns to persons handling pump. Fill pump with water before starting.

NOTE: Open water system faucets before priming pump for the first time.

⚠ CAUTION All pumps must be primed (filling the cavity with water) before they are first operated. This may take several gallons of water, as the suction line will be filled in addition to the pump cavity.

1. Remove the 1/2 in. priming plug with pressure gauge and air relief plug. (Fig. 13)

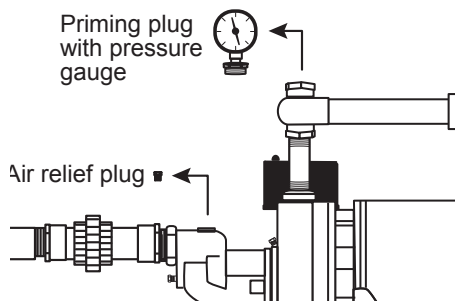


Figure 13 - Remove priming plug

2. Slowly fill pump cavity until water comes out of air relief hole on top of the ejector body. (Fig. 14)

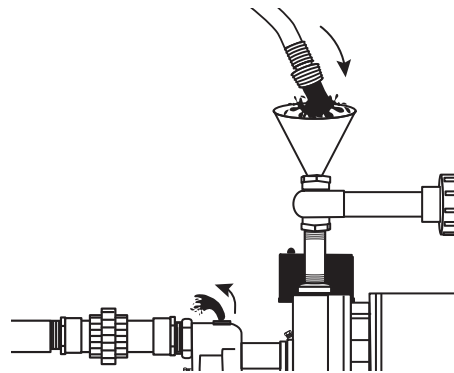


Figure 14 - Add water to pump cavity

3. Replace air relief plug and continue adding water to pump cavity until water reaches the top of the priming plug. (Fig. 15)

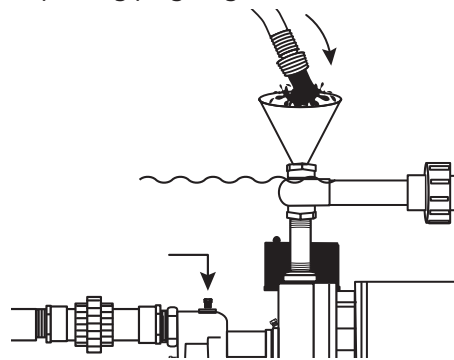


Figure 15 - Replace air relief plug

4. Thread in priming plug and then open optional ball valve if installed by turning handle to line up with the pipe. (Fig. 16)

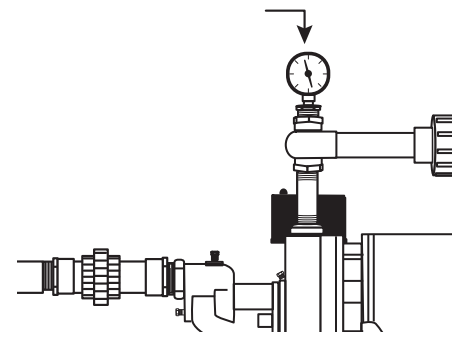


Figure 16 - Replace priming plug

5. Turn on breaker to start pump

IMPORTANT: If the pump hums instead of pumping or turns off repeatedly, shut pump off immediately. Check voltage. Make sure your incoming voltage matches the pump wiring voltage. See wiring guide in the instructions.

START-UP PROCEDURE

Once the preceding instructions have been completed, the pump can be started.

1. During the first few hours of operation, inspect the pump, piping and any auxiliary equipment used in connection with the unit.
2. Check for leaks, excessive vibration or unusual noises.

Dayton® Shallow Well Jet Pumps

ENGLISH

Maintenance

⚠ CAUTION

Disconnect power supply and

depressurize system before servicing pump or removing any component.

LUBRICATION

The motor has prelubricated bearings. No lubrication is required.

WINTERIZING

If pump is located in an area subject to freezing temperatures, the pump should be drained when it is not in service or in danger from freezing.

1. Disconnect power.
2. Slowly and carefully release all water pressure.
3. Drain suction pipe to a point below the frost line.
4. Drain all piping exposed to freezing temperatures.
5. Remove the 1/4" drain plug located on the bottom of the pump body.
6. Remove priming plug at the uppermost point on the pump case to vent.
7. Drain pressure tank.

CLEANING SHALLOW WELL EJECTOR

1. Remove the bolts that connect the ejector to the pump body (See Figure 20).

NOTE: Care should be taken when removing the ejector, not to damage the gasket. If torn or damaged, the gasket will require replacement (See Parts List).

2. Remove the venturi using the edge of a putty knife or other tool, turning counterclockwise. **DO NOT** use pipe wrench or pliers as the venturi may be damaged.
3. Remove nozzle using a 3/4" socket wrench turning counterclockwise.
4. Clean venturi and nozzle by carefully inserting an awl or other small diameter pointed tool into venturi and/or nozzle dislodging material.

NOTE: Be careful not to enlarge hole in nozzle or venturi.

5. If venturi and nozzle cannot be cleaned or if they are damaged in the cleaning process, replace.
6. Replace nozzle and venturi by turning clockwise until snug. Do not overtighten.

PUMP DISASSEMBLY

(See Figure 20)

To disassemble the pump, refer to the exploded parts view and the following instructions.

1. Disconnect power to motor.
2. Disconnect wires to pressure switch (Ref. No. 8).
3. Remove four hex cap screws (Ref. No. 10) and disengage the pump body (Ref. No. 9) from mounting ring (Ref. No. 2).
4. Remove diffuser (Ref. No. 6).

NOTE: The square cut sealing ring (Ref. No. 3) and diffuser rubber (Ref. No. 7) are generally reusable. However, check to see if cut or damaged and replace if necessary.

CLEANING/REPLACING IMPELLER

(See Figure 20)

NOTE: First, follow instructions under "Pump Disassembly".

1. With diffuser removed (Ref. No. 6) the exposed impeller can now be cleaned.
2. Remove impeller (Ref No. 5) by unthreading counter clockwise while looking into the eye of impeller. To hold motor shaft, use the screwdriver slot at the impeller eye.
3. To reinstall, reverse steps 1 and 2 and re-mount diffuser.
4. Re-assemble the pump body (Ref. No. 9) to the mounting ring (Ref. No. 2).

MECHANICAL SEAL REPLACEMENT

(See Figure 20)1. Follow instructions under "Pump Disassembly".

2. Follow steps 1 and 2 under "Cleaning/Replacing Impeller".
3. Remove the mechanical seal assembly (Ref. No. 4).
 - a. The rotary portion of the seal assembly (carbon ring, Buna-N gasket and spring will slide easily off the end of the shaft).
 - b. Using two (2) screwdrivers, pry the ceramic seal and rubber gasket from the recess of the mounting ring (See Figure 17).

⚠ CAUTION

The precision lapped faces of the

mechanical seal are easily damaged. Handle the replacement seal carefully. Short seal life will result if seal faces (ceramic & carbon) are nicked, scratched or dirty.

4. Clean the seal cavity of the mounting ring (Ref. No. 2) and the motor thoroughly.
5. Wet outer edge of rubber cup on ceramic seat with liquid soap solution. Use sparingly (one drop only).

NOTE: Liquid soap solution - one drop of liquid soap combined with one teaspoonful of water.

6. With thumb pressure, press ceramic seal half firmly and squarely into seal cavity. Polished face of ceramic seat is up. If seal will not seat correctly, remove, placing seal face up on bench. Reclean cavity. Seal should now seat correctly (See Figure 18).

Models 1D880 and 1D881

ENGLISH

Maintenance (Continued)

7. If seal does not seat correctly after recleaning cavity, place a cardboard washer over polished seal face and carefully press into place using a piece of standard clean 3/4" pipe as a press (See Figure 19).

IMPORTANT: Do not scratch seal face.

8. Dispose of cardboard washer and recheck seal face to be sure it is free of dirt, foreign particles, scratches and grease.

9. Inspect shaft to be sure it is free of nicks and scratches.

10. Apply liquid soap solution sparingly (one drop is sufficient) to inside diameter of rubber rotating member.

11. Slide rotating seal member (carbon face down toward ceramic face) and spring over the shaft.

IMPORTANT: Be sure not to nick or scratch carbon face of seal when passing it over threaded shaft end of shaft shoulder.

The carbon surface must remain clean or short seal life will result.

12. Hold motor shaft with flat blade screwdriver and thread impeller onto shaft. Tightening impeller will automatically locate seal in correct position.

13. Remount diffuser (Ref. No. 6) to mounting ring (Ref. No. 2).

14. Reassemble the pump body (Ref. No. 9) to the mounting ring (Ref. No. 2).

MOTOR REPLACEMENT

(See Figure 20)

The motor can be replaced with a standard NEMA 56J motor of the same horsepower size by referring to the following instructions. For the correct replacement motor see the attached repair parts list. The original motor is a partial motor with no end bell on the shaft end. The replacement motor (any NEMA 56J) is a complete motor. This is designed for customer ease and consideration. It will work both mechanically and electrically.

1. Remove pump body (Ref. No. 9), diffuser (Ref. No. 6), impeller (Ref. No. 5) and mechanical seal (Ref. No. 4) by following steps 1 and 2 of Mechanical Seal Replacement.

2. Disassemble pump base (Ref. No. 11) from motor (Ref. No. 1) by removing two 3/8" hex size bolts.

3. Remove rear motor cover.

4. Remove four through bolts from rear of motor and pull motor shell and stator assembly away from mounting ring (Ref. No. 2) Discard shell and stator assembly.

5. Disconnect four self tapping screws that hold the bearing housing to the mounting ring (Ref. No. 2). Discard the bearing housing, rotor assembly and two square headed screws.

6. Replace motor with correct NEMA 56J motor as indicated on repair parts list.

7. Position replacement motor against mounting ring (Ref. No. 2) and assemble with four 3/8"-16 x 3/4" long bolts (not provided). The mounting base (Ref. No. 11) is connected at the bottom of the mounting ring (Ref. No. 2) with two of the four 3/8" bolts.

8. Follow steps 4 thru 14 of Mechanical Seal Replacement to reassemble the remainder of the pump.

NOTE: Because damage to the shaft seal can occur in disassembly, a new seal will be required.

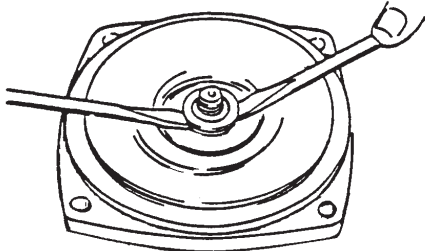


Figure 17 - Remove Mechanical Seal

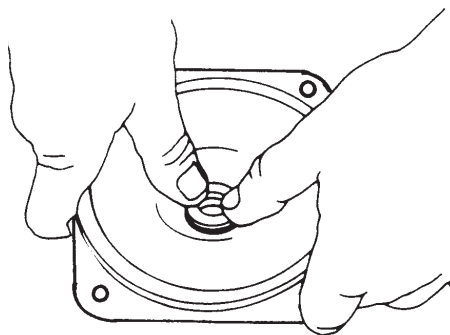


Figure 18 - Press In Seal

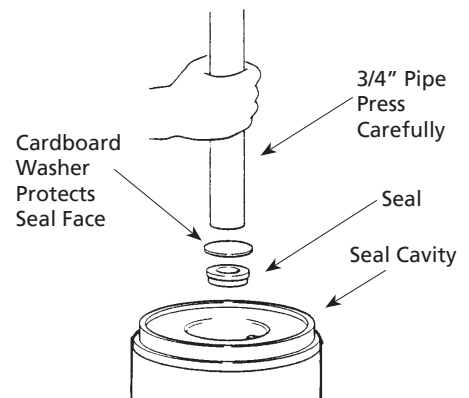


Figure 19 - If Necessary, Press With Cardboard And Pipe

Troubleshooting Chart

Symptom	Possible Cause(s)	Corrective Action
Motor will not run	<ol style="list-style-type: none"> 1. Disconnect switch is off 2. Fuse is blown 3. Starting switch is defective 4. Wires at motor are loose, disconnected, or wired incorrectly 5. Pressure switch contacts are dirty 	<ol style="list-style-type: none"> 1. Be sure switch is on 2. Replace fuse 3. Disconnect power; replace starting switch 4. Refer to instructions on wiring. Disconnect power; check and tighten all wiring 5. Disconnect power and file contacts with emery board or nail file
Motors runs hot and overload kicks off	<ol style="list-style-type: none"> 1. Motor is wired incorrectly 2. Voltage is too low 3. Pump cycles too frequently 	<ol style="list-style-type: none"> 1. Refer to instructions on wiring 2. Check with power company. Install heavier wiring if wire size is too small. See wiring instructions 3. See section on next page on Pump cycles too frequently.
Motor runs but no water is delivered * (NOTE: Check prime before looking for other causes. Unscrew priming plug and see if there is water in priming hole)	<ol style="list-style-type: none"> *1. Pump in a new installation did not pick up prime through: <ol style="list-style-type: none"> a. Improper priming b. Air leaks c. Leaking foot valve *2. Pump has lost its prime through: <ol style="list-style-type: none"> a. Air leaks b. Water level below suction of pump 3. Ejector or impeller is plugged 4. Check valve or foot valve is stuck in closed position 5. Pipes are frozen 6. Foot valve and/or strainer are buried in sand or mud 	<ol style="list-style-type: none"> 1. In new installation: <ol style="list-style-type: none"> a. Re-prime according to instructions b. Check all connections on suction line, air volume control, and ejector c. Replace foot valve 2. In installation already in use: <ol style="list-style-type: none"> a. Check all connections on suction line, air volume control, ejector and shaft seal b. Lower suction line into water and re-prime. If receding water level in a shallow well operation exceeds suction lift, a deep well pump is needed 3. Clean ejector or impeller according to instructions 4. Replace check valve or foot valve 5. Thaw pipes. Bury pipes below frost line. Heat pit or pump house 6. Raise foot valve and/or strainer above well bottom
Pump does not deliver water to full capacity (Also check point 3 immediately above)	<ol style="list-style-type: none"> 1. Water level in well is lower than estimated 2. Steel piping (if used) is corroded or limed, causing excess friction 3. Offset piping is too small in size 	<ol style="list-style-type: none"> 1. A deep well jet pump may be needed (over 25 ft. to water) 2. Replace with plastic pipe where possible, otherwise with new steel pipe 3. Use larger offset piping
Pump pumps water but does not shut off	<ol style="list-style-type: none"> 1. Pressure switch is out of adjustment or contacts are "frozen" 2. Faucets have been left open 3. Ejector or impeller is clogged 4. Water level in well is lower than estimated 	<ol style="list-style-type: none"> 1. Adjust or replace pressure switch 2. Close faucets 3. Clean ejector or impeller 4. Check possibility of using a deep well jet pump

ENGLISH

Models 1D880 and 1D881

Troubleshooting Chart

Symptom	Possible Cause(s)	Corrective Action
Pump cycles too frequently	<ol style="list-style-type: none"> Standard pressure tank is waterlogged and has no air cushion Pipes leak Faucets or valves are open Foot valve leaks Pressure switch is out of alignment Air charge too low in precharged tank 	<ol style="list-style-type: none"> Drain tank to air volume control tapping. Check air volume control for defect. Check for air leaks at any connection Check connections Close faucets or valves Replace foot valve Adjust or replace pressure switch Disconnect electrical power and open faucets until all pressure is relieved. Using automobile tire pressure gauge, check air pressure in tank at the valve stem located at top of tank. Air pressure should be 2 psi below pump pressure switch cut-in setting. Check air valve for leaks, using soapy solution, and replace core if necessary
Air spurts from faucets	<ol style="list-style-type: none"> Pump is picking up prime Leak in suction side of pump Well is gaseous Intermittent over-plumbing of well 	<ol style="list-style-type: none"> As soon as pump picks up prime, all air will be ejected Check suction piping Change installation as described in manual Lower foot valve if possible, otherwise restrict discharge side of pump to match well delivery

E
N
G
L
I
S
H

For Repair Parts, call 1-800-323-0620

24 hours a day - 365 days a year

Please provide following information:

- Model number
- Serial number (if any)
- Part description and number as shown in parts list

Address parts correspondence to:

Grainger Parts
 P.O. Box 3074
 1657 Shermer Road
 Northbrook, IL 60065-3074 U.S.A.

E
N
G
L
I
S
H

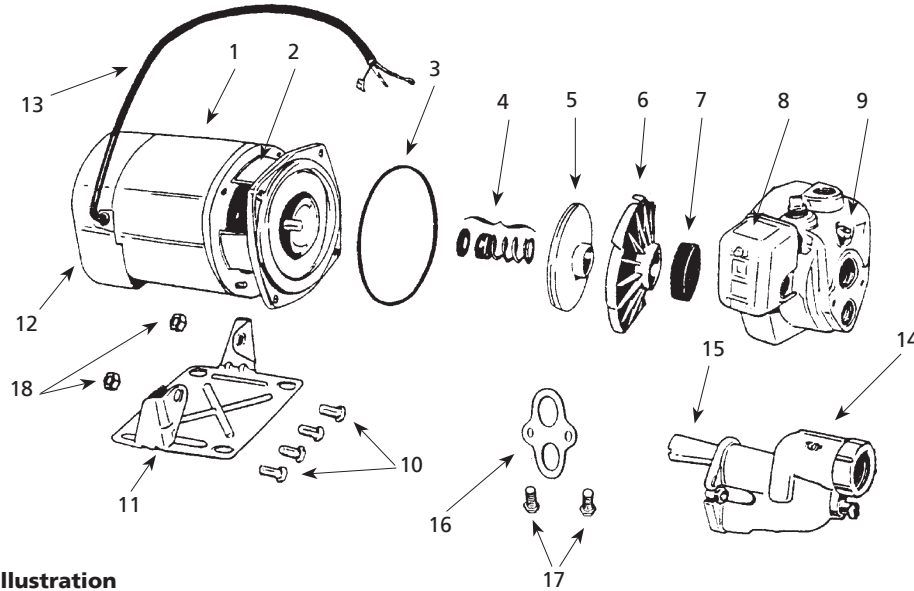


Figure 20 - Repair Parts Illustration

Repair Parts List

Ref. No.	Description	Horsepower & Model No.		Qty.
		1/2 HP 1D881	3/4 HP 1D880	
1	NEMA 56J motor	5K660	5K661	1
2	Mounting ring	134162	134162	1
3	Square cut ring	132583	132583	1
4	Mechanical seal assembly	2VJ43	2VJ43	1
5	Impeller	139348	139349	1
6	Diffuser	132424	132424	1
7	Diffuser rubber	132428	132428	1
8	1/4" NPTM Pressure switch	020346	020346	1
9	Pump body	134121	134121	1
10	3/8"-16 x 3/4" long Body bolts	*	*	4
11	Pump base	128034	128034	1
12	Rear motor cover w/screws	021301R	021301R	1
13	Lead wire	136135A	136135A	1
14	Ejector body	135021	135021	1
15	Ejector venturi	4C55-26	4C55-30	1
16	Ejector gasket	130969	130969	1
17	7/16"-14 x 1" long Ejector bolts	*	*	2
18	3/8"-16 Hex nuts	*	*	2
△	10-24 x 1/2" Rear motor cover screw	021302	021302	2
△	Ejector nozzle	4C39-16	4C39-16	1

(*) Standard hardware item, available locally.

(△) Not shown.

Models 1D880 and 1D881

LIMITED WARRANTY

DAYTON ONE-YEAR LIMITED WARRANTY. DAYTON® SHALLOW WELL JET PUMPS, MODELS COVERED IN THIS MANUAL, ARE WARRANTED BY DAYTON ELECTRIC MFG. CO. (DAYTON) TO THE ORIGINAL USER AGAINST DEFECTS IN WORKMANSHIP OR MATERIALS UNDER NORMAL USE FOR ONE YEAR AFTER DATE OF PURCHASE. ANY PART WHICH IS DETERMINED TO BE DEFECTIVE IN MATERIAL OR WORKMANSHIP AND RETURNED TO AN AUTHORIZED SERVICE LOCATION, AS DAYTON DESIGNATES, SHIPPING COSTS PREPAID, WILL BE, AS THE EXCLUSIVE REMEDY, REPAIRED OR REPLACED AT DAYTON'S OPTION. FOR LIMITED WARRANTY CLAIM PROCEDURES, SEE "PROMPT DISPOSITION" BELOW. THIS LIMITED WARRANTY GIVES PURCHASERS SPECIFIC LEGAL RIGHTS WHICH VARY FROM JURISDICTION TO JURISDICTION.

LIMITATION OF LIABILITY. TO THE EXTENT ALLOWABLE UNDER APPLICABLE LAW, DAYTON'S LIABILITY FOR CONSEQUENTIAL AND INCIDENTAL DAMAGES IS EXPRESSLY DISCLAIMED. DAYTON'S LIABILITY IN ALL EVENTS IS LIMITED TO AND SHALL NOT EXCEED THE PURCHASE PRICE PAID.

WARRANTY DISCLAIMER. A DILIGENT EFFORT HAS BEEN MADE TO PROVIDE PRODUCT INFORMATION AND ILLUSTRATE THE PRODUCTS IN THIS LITERATURE ACCURATELY; HOWEVER, SUCH INFORMATION AND ILLUSTRATIONS ARE FOR THE SOLE PURPOSE OF IDENTIFICATION, AND DO NOT EXPRESS OR IMPLY A WARRANTY THAT THE PRODUCTS ARE MERCHANTABLE, OR FIT FOR A PARTICULAR PURPOSE, OR THAT THE PRODUCTS WILL NECESSARILY CONFORM TO THE ILLUSTRATIONS OR DESCRIPTIONS. EXCEPT AS PROVIDED BELOW, NO WARRANTY OR AFFIRMATION OF FACT, EXPRESSED OR IMPLIED, OTHER THAN AS STATED IN THE "LIMITED WARRANTY" ABOVE IS MADE OR AUTHORIZED BY DAYTON.

Technical Advice and Recommendations, Disclaimer. Notwithstanding any past practice or dealings or trade custom, sales shall not include the furnishing of technical advice or assistance or system design. Dayton assumes no obligations or liability on account of any unauthorized recommendations, opinions or advice as to the choice, installation or use of products.

Product Suitability. Many jurisdictions have codes and regulations governing sales, construction, installation, and/or use of products for certain purposes, which may vary from those in neighboring areas. While attempts are made to assure that Dayton products comply with such codes, Dayton cannot guarantee compliance, and cannot be responsible for how the product is installed or used. Before purchase and use of a product, review the product applications, and all applicable national and local codes and regulations, and be sure that the product, installation, and use will comply with them.

Certain aspects of disclaimers are not applicable to consumer products; e.g., (a) some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you; (b) also, some jurisdictions do not allow a limitation on how long an implied warranty lasts, consequently the above limitation may not apply to you; and (c) by law, during the period of this Limited Warranty, any implied warranties of implied merchantability or fitness for a particular purpose applicable to consumer products purchased by consumers, may not be excluded or otherwise disclaimed.

Prompt Disposition. A good faith effort will be made for prompt correction or other adjustment with respect to any product which proves to be defective within limited warranty. For any product believed to be defective within limited warranty, first write or call dealer from whom the product was purchased. Dealer will give additional directions. If unable to resolve satisfactorily, write to Dayton at address below, giving dealer's name, address, date, and number of dealer's invoice, and describing the nature of the defect. Title and risk of loss pass to buyer on delivery to common carrier. If product was damaged in transit to you, file claim with carrier.

Manufactured for Dayton Electric Mfg. Co., 5959 W. Howard St., Niles, Illinois 60714-4014 U.S.A.

In those instances where damages are incurred as a result of an alleged pump failure, the Homeowner must retain possession of the pump for investigation purposes.

