

43D-0578-R-2021

December 17, 2021

Montana Water Court

Montana Water Court  
PO Box 1389  
Bozeman, MT 59771-1389  
1-800-624-3270  
(406) 586-4364  
watercourt@mt.gov

IN THE WATER COURT OF THE STATE OF MONTANA  
YELLOWSTONE DIVISION  
CLARKS FORK YELLOWSTONE RIVER (BASIN 43D)  
PRELIMINARY DECREE

\*\*\*\*\*

CLAIMANTS: Laura H. Hollman; Harold H. Hollman

**43D-0578-R-2021**  
43D 197608-00

**NOTICE OF FILING OF MASTER'S REPORT**

This Master's Report was filed with the Montana Water Court on the above stamped date. Please review this report carefully.

You may file a written objection to this Master's Report within **10 days** of the stamped date if you disagree or find errors with the Master's findings of fact, conclusion of law, or recommendations. Rule 23, W.R.Adj.R. If the Master's Report was mailed to you, the Montana Rules of Civil Procedure allow an additional 3 days be added to the 10-day objection period. Rule 6(d), M.R.Civ.P. If you file an objection, you must serve a copy of the objection to all parties on the service list found at the end of the Master's Report. The original objection and a certificate of mailing to all parties on the service list must be filed with the Water Court.

If you do not file a timely objection, the Water Court will conclude that you agree with the content of this Master's Report.

## **MASTER'S REPORT**

### **Statement of the case**

Irrigation claim 43D 197608-00 appeared in the Preliminary Decree with the following issue remark:

THE CLAIMED FLOW RATE APPEARS TO EXCEED THE PUMP CAPACITY. AVAILABLE DATA SUPPORT A FLOW RATE OF 10.00 GPM.

Issue remarks result from Department of Natural Resources and Conservation (“DNRC”) claims examination. Claims examination confirms the historical use of water right claims and identifies issues with claims. If claims examination cannot confirm some aspect of a claim, an issue remark is added to the claim.

Montana law requires the Water Court to resolve issue remarks. Claimants, Laura H. Hollman and Harold H. Hollman (“Hollmans”), completed the issue remark resolution process.

### **Issues**

The Preliminary Decree abstract for claim 43D 197608-00 identifies a 43.01 GPM flow rate.

1. What is the historically accurate flow rate?
2. Is the flow rate issue remark resolved?

### **Findings of fact**

1. Hollmans provided information to the DNRC supporting the flow rate identified by Preliminary Decree abstract 43D 197608-00.

2. DNRC filed a Memorandum concerning claimants’ attempt at resolution of the flow rate issue remark on October 7, 2021. DNRC reported the flow rate issue remark is resolved.

3. The historically accurate flow rate for claim 43D 197608-00 is 43.01 GPM.

## **Principles of law**

1. A properly filed Statement of Claim for Existing Water Right is prima facie proof of its content. Section 85-2-227, MCA. Prima facie proof may be overcome by other evidence that proves, by a preponderance of the evidence, that an element of the prima facie claim is incorrect. This is the burden of proof for every assertion that a claim is incorrect. Rule 19, W.R.Adj.R. A preponderance of the evidence is a “modest standard” and is evidence that demonstrates the fact to be proved is “more probable than not.” *Hohenlohe v. State*, 2010 MT 203, ¶ 33, 357 Mont. 348, 240 P.3d 628.

2. The Montana Water Court is permitted to use information submitted by the Department of Natural Resources and Conservation, the statement of claim, information from approved compacts, and any other data obtained by the Court to evaluate water right claims. Section 85-2-231(2), MCA.

3. Settlement, including the documents filed by a claimant where the claimant is the only party, is subject to review and approval by the Water Court. Rule 17(a), W.R.Adj.R.

4. When resolving issue remarks, the Montana Water Court must weigh the information resulting in the issue remark and the issue remark against the claimed water right. Section 85-2-247(2), MCA.

5. If the Montana Water Court cannot resolve issue remarks based upon information in the claim file or information available to the Court, claimants shall be required to confer with the DNRC to attempt resolution of the issue remarks. Claimants shall file documentation to resolve the issue remarks, and the DNRC shall submit recommendations regarding disposition of the issue remarks. Section 85-2-248(5), MCA.

## **Analysis**

### **Issues 1 - 2 – flow rate and flow rate issue remark resolution**

Statement of claim 43D 197608-00 identified a claimed flow rate of 10.00 miner's inches, or 112.00 GPM, and a pump capacity of 10.00 GPM. During claims examination DNRC reduced the flow rate to the DNRC's 17.00 GPM per acre guideline, resulting in

the 43.01 GPM flow rate currently identified by the Preliminary Decree abstract. The flow rate issue remark raised the question of whether the pump limited the beneficial use of claim 43D 197608-00 to 10.00 GPM.

DNRC reviewed the claim file, visited with co-claimant Harold H. Hollman, and reviewed a picture provided by Mr. Hollman of the pump currently in use.

DNRC reported the same individual that filed statement of claim 43D 197608-00 filed other statements of claim within the same subdivided place of use also identifying a pump capacity of 10.00 GPM.<sup>1</sup> DNRC questioned whether the individual that filed statement of claim 43D 197608-00 measured the flow rate of the pump or arbitrarily chose the 10.00 GPM flow rate as the capacity of the pump.

Based upon the picture provided by Mr. Hollman, the pump currently in use is a Simer 3420P model. DNRC located and reviewed the pump Owner's Manual for this pump. Based upon the horsepower of the pump and the lift measurement provided by Mr. Hollman, the pump can pump the 43.01 GPM identified by the Preliminary Decree abstract for claim 43D 197608-00. The DNRC recommended the flow rate remain 43.01 GPM and the issue remark be removed from the claim abstract.

The pictures of the pump and the Owner's Manual for the pump are included with this report. The report, pictures of the pump, and the Owner's Manual will be placed in the claim file for future reference.

### **Conclusion of law**

Claim 43D 197608-00 appeared in two Water Court decrees. A remark under flow rate notified water users that an objection could be filed to the flow rate reduction implemented by DNRC during claims examination. No objections were filed to the 43.01 GPM flow rate in either decree.

Based upon information in the claim file and before the court, the issue remark does not overcome the reduced prima facie flow rate identified by statement of claim 43D 197608-00. The Preliminary Decree abstract reflects the historically accurate flow rate. The flow rate issue remark is resolved.

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<sup>1</sup> See claim file 43D 195947-00.

## **Recommendations**

Irrigation claim 43D 197608-00 accurately reflects historical use. No changes to the elements of the claim should be made.

The flow rate issue remark should be removed from the claim abstract.

A Post Decree Abstract of Water Right Claim accompanies this Report to confirm removal of the issue remark in the state's centralized water right record system.

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Anna M. Stradley  
Senior Water Master

### **Service via USPS Mail**

Laura H. Hollman  
Harold H. Hollman  
PO Box 4853  
Red Lodge, MT 59068

**Simer**

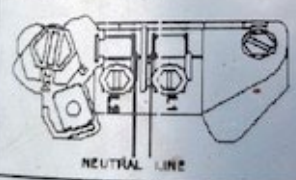
UL778  
CSA 108  
LR47013  
C US  
CSA ENC 2  
INDOOR USE

Motor# C48M2EC11C3 **FM**   
HP 2 1.5kW 115/230 V  
3450RPM 1PH 60 Hz KVA H  
Max Load Amps 24.0/12.0 S.F. 1.1  
THERMALLY PROTECTED TYPE T  
Insulation Class B Ambient Temp 50 °C Time Rating CONT

A.O. Smith

Read pump model number prior to motor replacement.  
Lire le numéro de modèle de la pompe avant de remplacer le moteur.  
Leer el número del modelo de la bomba antes de cambiar el motor.

\*Motor provided 230 Volt.  
\*Le moteur est prévu pour  
un courant 230 Volts.  
\*El motor está preinstalado  
para 230 Volts.



 **GRD** GREEN (GROUND)  
HIGH VOLTAGE (SHOWN). ROTATE DIAL  
CCW TO 115 FOR LOW VOLTAGE.  
USE COPPER CONDUCTORS ONLY.  
INSTALL MOTOR WITH VENTS DOWN.  
ACCEPTABLE FOR FIELD WIRING

\*For supply connection  
see wires acceptable for  
at least 90° C.

\*Pour les connexions du courant  
d'alimentation, utiliser des fils  
pouvant supporter une  
température au moins 90° C.

\*Para las conexiones del  
suministro de energía,  
usar cables aptos para por  
lo menos 90° C.

Manufacturer Approved  
for Indoor and Outdoor  
Use

\*Approuvé par le fabricant  
pour usage à l'intérieur ou  
à l'extérieur

\*Aprobado por el  
fabricante para uso en  
interiores y exteriores





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293 Wright St., Delavan, WI 53115

Phone: 1-800-468-7867

1-800-546-7867

Fax: 1-800-390-5351

Web Site: <http://www.simerpump.com>

## OWNER'S MANUAL

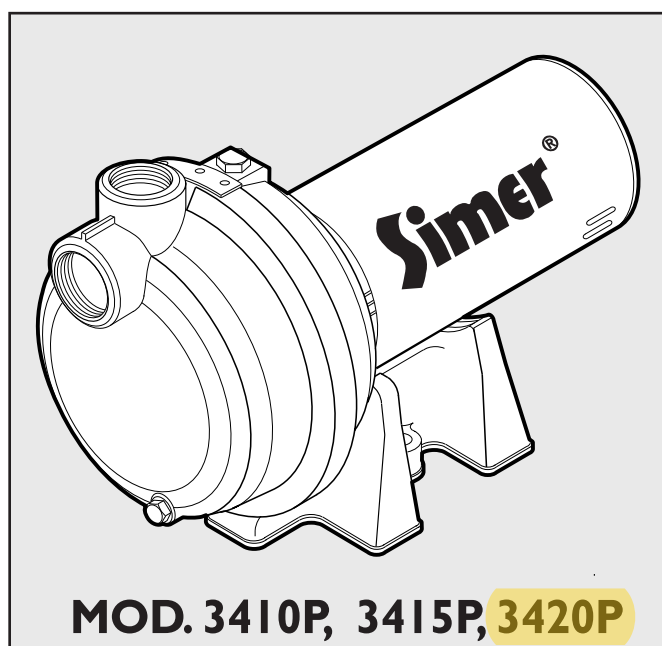
### Corrosion Resistant Centrifugal Lawn Sprinkler Pump

## NOTICE D'UTILISATION

### Pompe centrifuge et inoxydable pour l'arrosage du gazon

## MANUAL DEL USUARIO

### Bomba centrífuga resistente a la corrosión para rociadores de césped



#### Installation/Operation/Parts

*For further operating, installation,  
or maintenance assistance:*

**Call 1-800-468-7867**

**English ..... Pages 2-10**

#### Installation/Fonctionnement/Pièces

*Pour plus de renseignements  
concernant l'utilisation,  
l'installation ou l'entretien,*

**Composer le 1 (800) 468-7867**

**Français ..... Pages 11-19**

#### Instalación/Operación/Piezas

*Para mayor información sobre el  
funcionamiento, instalación o  
mantenimiento de la bomba:*

**Llame al 1-800-468-7867**

**Español ..... Páginas 20-28**



## READ AND FOLLOW SAFETY INSTRUCTIONS!

**⚠ This is the safety alert symbol.** When you see this symbol on your pump or in this manual, look for one of the following signal words and be alert to the potential for personal injury:

**⚠ DANGER** warns about hazards that **will** cause serious personal injury, death or major property damage if ignored.

**⚠ WARNING** warns about hazards that **can** cause serious personal injury, death or major property damage if ignored.

**⚠ CAUTION** warns about hazards that **will** or **can** cause minor personal injury or property damage if ignored.

The label **NOTICE** indicates special instructions which are important but not related to hazards.

**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.

Make workshops childproof; use padlocks and master switches; remove starter keys.

### ⚠ WARNING



**Hazardous voltage.**  
Can shock, burn, or cause death.

Ground pump before connecting to power supply. Disconnect power before working on pump, motor or tank.

**⚠ Wire motor for correct voltage.** See “Electrical” section of this manual and motor nameplate.

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

**⚠ Meet National Electrical Code, Canadian Electrical Code, and local codes for all wiring.**

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

## ELECTRICAL SAFETY

**⚠ WARNING** Capacitor voltage may be hazardous. To discharge motor capacitor, hold insulated handle screwdriver **BY THE HANDLE** and short capacitor terminals together. Do not touch metal screwdriver blade or capacitor terminals. If in doubt, consult a qualified electrician.

## GENERAL SAFETY

**⚠ CAUTION** Do not touch an operating motor. Modern motors can operate at high temperatures. To avoid burns when servicing pump, allow it to cool for 20 minutes after shut-down before handling.

Pump is designed as a lawn sprinkler only. To avoid heat built-up, over pressure hazard and possible injury, do not use in a domestic water system. Do not use as a booster pump; pressurized suction may cause pump body to explode.

Do not allow pump or any system component to freeze. To do so will void warranty.

Pump water only with this pump.

Periodically inspect pump and system components.

Wear safety glasses at all times when working on pumps.

Keep work area clean, uncluttered and properly lighted; store properly all unused tools and equipment.

Keep visitors at a safe distance from the work areas.

“Dead Heading” a pump means running the pump while little or no water is released from the system. **Never** run pump above recommended pressure shown on the performance chart.



### ⚠ WARNING

**Hazardous pressure!**  
Do not run pump against closed discharge.

Release all pressure on system before working on any component.

***Thank you for purchasing a top quality, factory tested pump.***

	Page
General Safety .....	2
Warranty .....	3
Installation .....	4,5
Electrical .....	6,7
Operation .....	8,9
Troubleshooting .....	9
Repair Parts .....	10

### **Simer Limited Warranty**

SIMER warrants to the original consumer purchaser ("Purchaser") of its products that they are free from defects in material or workmanship.

If within twelve (12) months from the date of the original consumer purchase any such product shall prove to be defective, it shall be repaired or replaced at SIMER's option, subject to the terms and conditions set forth below. Your original receipt of purchase is required to determine warranty eligibility.

**Exceptions to the Twelve (12) Month Warranty**

**Five (5) Year Warranty:**

If within five (5) years from original consumer purchase any Pre-Charge water system tank shall prove to be defective, it shall be repaired or replaced at SIMER's option, subject to the terms and conditions set forth below.

**General Terms and Conditions**

Purchaser must pay all labor and shipping charges necessary to replace product covered by this warranty. This warranty shall not apply to acts of God, nor shall it apply to products which, in the sole judgement of SIMER, have been subject to negligence, abuse, accident, misapplication, tampering, alteration; nor due to improper installation, operation, maintenance or storage; nor to other than normal application, use or service, including but not limited to, operational failures caused by corrosion, rust or other foreign materials in the system, or operation at pressures in excess of recommended maximums.

Requests for service under this warranty shall be made by returning the defective product to the Retail outlet or to SIMER as soon as possible after the discovery of any alleged defect. SIMER will subsequently take corrective action as promptly as reasonably possible. No requests for service under this warranty will be accepted if received more than 30 days after the term of the warranty.

This warranty sets forth SIMER's sole obligation and purchaser's exclusive remedy for defective products.

SIMER SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, OR CONTINGENT DAMAGES WHATSOEVER.

THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS WARRANTIES. IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL NOT EXTEND BEYOND THE DURATION OF THE APPLICABLE EXPRESS WARRANTIES PROVIDED HEREIN.

Some states do not allow the exclusion or limitation of incidental or consequential damages or limitations on how long an implied warranty lasts, so the above limitations or exclusions 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.

## BEFORE YOU INSTALL YOUR PUMP

**NOTICE:** Well must not be more than 20' (6.1m) depth to water.

- Step 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. Be sure suction line is straight and angles toward pump.
- Step 2. Be sure well and pipe are clear of sand, dirt and scale. Foreign matter will plug pump and void warranty. Use new pipe for best results.
- Step 3. Protect pump and all piping from freezing. Freezing will split pipe, damage pump and void warranty. Check locally for frost protection requirements (usually pipe must be 12" (30.5cm) below frost line and pump must be insulated).
- Step 4. Be sure all pipes and foot valve are clean and in good shape.
- Step 5. No air pockets in suction pipe.
- Step 6. No leaks in suction pipe. Use Teflon tape or Plasto-Joint Stik to seal pipe joints.
- Step 7. Unions installed near pump and well will aid in servicing. Leave room to use wrenches.

**⚠ WARNING** Pump body may explode if used as booster pump. DO NOT use in booster application.

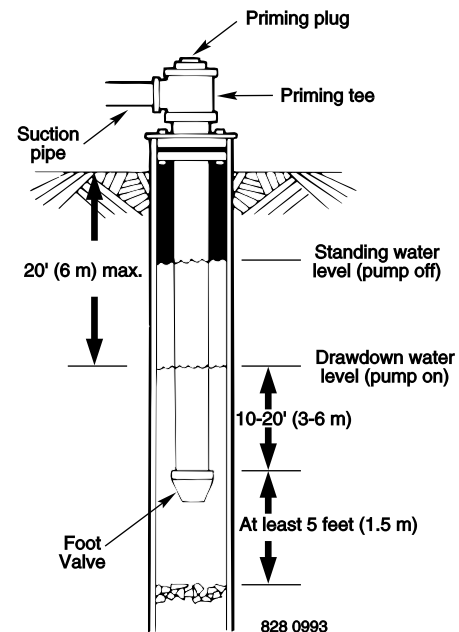
**⚠ CAUTION** Motor normally operates at high temperature and will be too hot to touch. It is protected from heat damage during operation by an automatic internal cutoff switch. Before handling pump or motor, stop motor and allow it to cool for 20 minutes.

## WELL PIPE INSTALLATION

**NOTICE:** Use installation method below which matches your well type.

## CASED WELL/DUG WELL INSTALLATION

- Step 1. Inspect foot valve to be sure it works freely. Inspect strainer to be sure it is clean and secure.
- Step 2. Connect foot valve and strainer to first length of suction pipe and lower pipe into well. Add sections of pipe as needed, using Teflon tape on male threads (use 1-1/2" pipe for suction pipe). Be sure all suction pipe is leakproof or pump will lose prime and fail to pump. Install foot valve 10 to 20 ft. (3 to 6 m) below lowest level to which water will drop while pump is operating (pumping water level). Your well driller can furnish this information.
- Step 3. To prevent sand and sediment from entering pumping system, foot valve/strainer should be at least 5 ft. (1.5 m) above bottom of well.
- Step 4. When proper depth is reached, install sanitary well seal over pipe and in well casing. Tighten bolts to seal casing.
- Step 5. When using foot valve, a priming tee and plug are recommended. (Figure 1).



**Figure 1: Cased/Dug Well Installation**

## DRIVEN POINT INSTALLATION

- Step 1. Connect suction pipe to drive point (Figure 2). Keep horizontal pipe run as short as possible. Use Teflon tape on male pipe threads. Multiple well points may be necessary to provide sufficient water to pump.
- Step 2. Install check valve in horizontal pipe. Flow arrow on check valve must point toward pump.

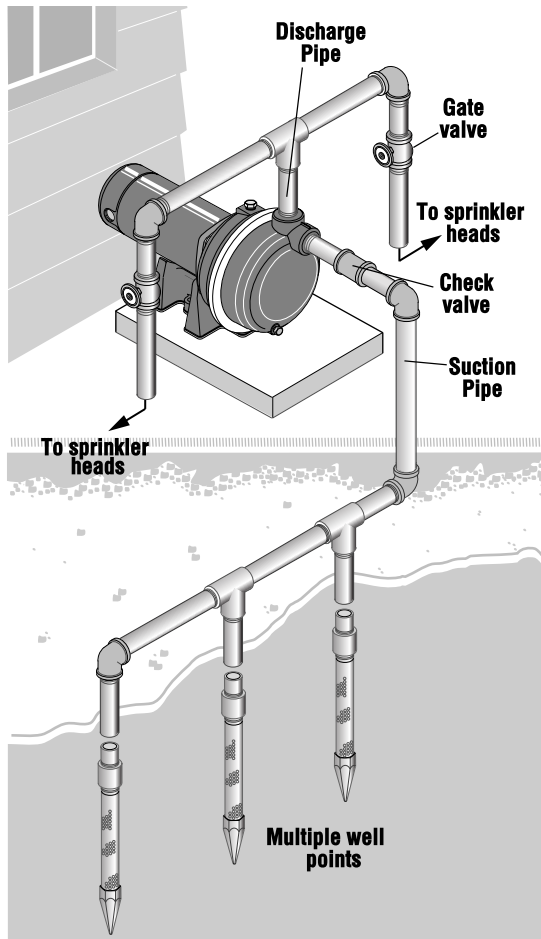


Figure 2: Driven Point Installation, Multiple Well Points

## HORIZONTAL PIPING FROM WELL TO PUMP

- Step 1. Pump performance will be decreased if less than 1-1/2" pipe is used as suction pipe.
- Step 2. To aid priming on well point installations, install line check valve. Be sure check valve flow arrow points toward pump.

## DISCHARGE PIPE SIZES

Discharge pipe size should be increased to reduce pressure losses caused by friction on long pipe runs.

- Up to 100' (30.5 m) run: Same size as pump discharge port.
- 100' - 300' (30.5 - 91.4 m) run: Increase one pipe size.
- 300' - 600' (91.4 - 182.9 m) run: Increase two pipe sizes.

## LAWN SPRINKLING APPLICATION

This pump is designed for lawn sprinkling. Delivers plenty of water at full sprinkler pressure. Pumps from pond, cistern or well points.

Pump discharge can be divided to supply 4 or more sprinkler systems.

Do not use in booster pump applications.

## PUMP/PIPING INSTALLATION

If turning pump on and off by pressure, a pressure switch and tank are required. For proper installation and operation instructions call Customer Service.

Use rigid pipe. Do not use hose or plastic tubing. See "Well Pipe Installation" for more information.

**NOTICE:** Use only Teflon tape or Teflon based joint compounds for making all threaded connections to the pump itself. **Do not use pipe joint compounds on plastic pumps:** they can react with the plastic in pump components. Make sure that all pipe joints in the suction pipe are air tight as well as water tight. *If the suction pipe can suck air, the pump will not be able to pull water from the well.*

- Step 1. Bolt pump to solid, level foundation.
- Step 2. Support all piping connected to pump.
- Step 3. Wrap 1-1/2 to 2 layers of Teflon tape clockwise (as you face end of pipe) on all male threads being attached to pump.
- Step 4. Tighten joints hand tight plus 1-1/2 turns. **Do not overtighten.**
- Step 5. Replace prime plug with pressure gauge. This will aid in sizing zones, troubleshooting, and following pump performance chart.

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

**NOTICE:** For long horizontal pipe runs, install a priming tee between check valve and well head (Fig. 1). For driven point installations, install check valve. Be sure that check valve flow arrow points **toward** pump.

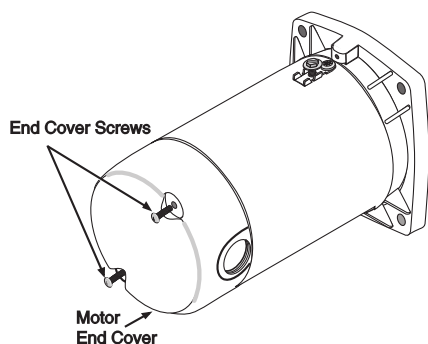
## MOTOR SWITCH SETTINGS

Dual-voltage motors (motors that can operate at either 115 or 230 volts), are set at the factory to 230 volts. Do not change motor voltage setting if line voltage is 230 volts, or if you have a single voltage motor.

**NOTE:** Never wire a 115 volt motor to a 230 volt line.

## REMOVE MOTOR END COVER

If you have a dual-voltage motor, and will connect it to 115 volts, follow the procedure below.

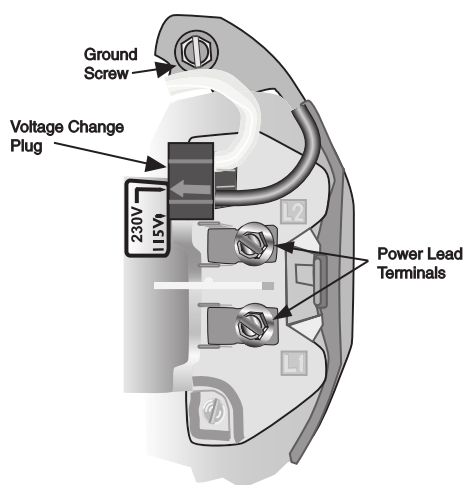


**Figure 3: Removing Motor End Cover**

You will need to remove the motor end cover to change the voltage setting.

Your motor terminal board (located under the motor end cover) should look like one of those below.

## PLUG TYPE VOLTAGE SELECTOR



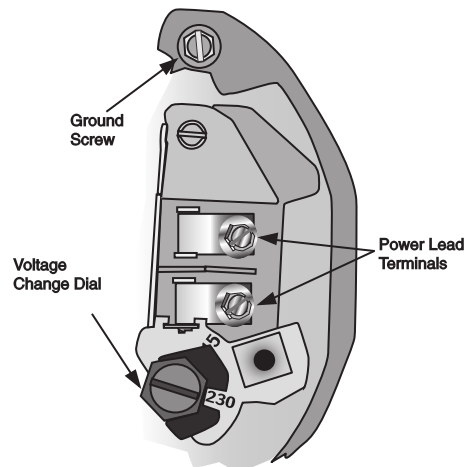
**Figure 4: Voltage set to 230 volts, Plug Type**

To change to 115 volts:

1. Make sure power is off.
2. Pull the plug straight up.

3. Move and attach the plug at the 115 volt position. The plug will now cover 2 metal tabs. The arrow on the plug will point to 115V.
  4. Attach the power lead wires to the power lead terminals. Make sure the wires are secure.
  5. Attach the ground wire to the green ground screw
  6. Reinstall the Motor end cover
- Go to Wiring Connections below.

## DIAL TYPE VOLTAGE SELECTOR



**Figure 5: Voltage set to 230 volts, Dial Type**

To change to 115 volts:

1. Make sure power is off.
  2. Turn the dial counter-clockwise until 115 shows in the dial window.
  3. Attach the power lead wires to the power lead terminals. Make sure the wires are secure.
  4. Attach the ground wire to the green ground screw
  5. Reinstall the Motor end cover
- Go to Wiring Connections below.

**⚠ WARNING** Hazardous voltage. Can shock, burn, or cause death. Disconnect power to motor before working on pump or motor. Ground motor before connecting to power supply.



## WIRING

**⚠ 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  $\pm 10\%$  of nameplate voltage. Incorrect voltage can cause fire or damage motor and voids warranty. If in doubt consult a licensed electrician.**

**⚠ Use wire size specified in Wiring Chart (Page 7). If possible, connect pump to a separate branch circuit with no other appliances on it.**

**⚠ Wire motor according to diagram on motor nameplate. If nameplate diagram differs from diagrams above, follow nameplate diagram.**

- Step 1. Install, ground, wire and maintain this pump in accordance with electrical code requirements. Consult your local building inspector for information about codes.
- Step 2. Provide a correctly fused disconnect switch for protection while working on motor. Consult local or national electrical codes for switch requirements.
- Step 3. Disconnect power before servicing motor or pump. If the disconnect switch is out of sight of pump, lock it open and tag it to prevent unexpected power application.

Step 4. Ground the pump permanently using a wire of the same size as that specified in wiring chart, below. Make ground connection to green grounding terminal under motor canopy marked GRD. or .

Step 5. Connect ground wire to a grounded lead in the service panel or to a metal underground water pipe or well casing at least 10 feet long. Do not connect to plastic pipe or insulated fittings.

Step 6. Protect current carrying and grounding conductors from cuts, grease, heat, oil, and chemicals.

Step 7. Connect current carrying conductors to terminals L1 and L2 under motor canopy. When replacing motor, check wiring diagram on motor nameplate against Figures 4 and 5. If the motor wiring diagram does not match either diagram, follow the diagram on the motor.

**IMPORTANT:** 115/230 Volt single phase models are shipped from factory with motor wired for 230 volts. If power supply is 115 volts, remove motor canopy and reconnect motor as shown in Figures 4 and 5. Do not try to run motor as received on 115 volt current.

Step 8. Motor has automatic internal thermal overload protection. If motor has stopped for unknown reasons, thermal overload may restart it unexpectedly, which could cause injury or property damage. Disconnect power before servicing motor.

Step 9. If this procedure or the wiring diagrams are confusing, consult a licensed electrician.

**Wiring Chart – Recommended Wire and Fuse Sizes for 115 and 230 volts**

Pump Model	HP	Volts	Max. Load Amp	Branch Fuse Rating* Amp	AWG Min. Wire Size (mm <sup>2</sup> )	DISTANCE IN FEET(METERS) FROM MOTOR TO SUPPLY				
						0 - 100 (0 - 30)	101 - 200 (31 - 61)	201 - 300 (62 - 91)	301 - 400 (92 - 122)	401 - 500 (123 - 152)
						AWG WIRE SIZE (mm <sup>2</sup> )				
3410P	1	115/230	14.8/7.4	20/15	12/14 (3/2)	12/14 (3/2)	8/14 (8.4/2)	6/14 (14/2)	6/12 (14/3)	4/10 (21/5.5)
3415P	1-1/2	115/230	19.2/9.6	25/15	10/14 (5.5/2)	10/14 (5.5/2)	8/14 (8.4/2)	6/12 (14/3)	4/10 (21/5.5)	4/10 (21/5.5)
3420P	2	115/230	24/12	30/15	10/14 (5.5/2)	10/14 (5.5/2)	6/14 (14/2)	6/12 (14/3)	4/10 (21/5.5)	4/10 (21/5.5)

\* Dual element or Fusetron time delay fuses recommended for all motor circuits.

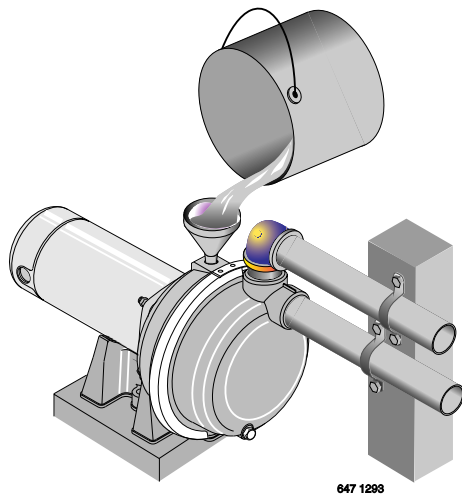


## PRIMING THE PUMP

**NOTICE:** 'Priming' refers to pump expelling all air in the system and beginning to move water from its source out into system. It does not refer only to pouring water into pump (although pouring water in is usually the first step).

**CAUTION** NEVER run pump dry. Running pump without water may cause pump to overheat, damaging seal and possibly causing burns to persons handling pump. Fill pump with water before starting.

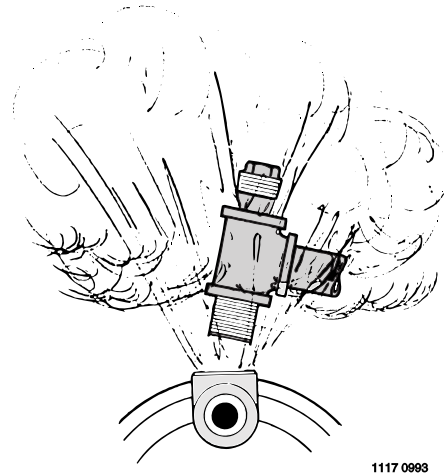
- Step 1. Remove priming plug.
- Step 2. Make sure suction and discharge valves and any hoses on discharge side of pump are open.
- Step 3. Fill pump and suction pipe with water (Figure 6).



**Figure 6: Fill Pump Before Starting**

- Step 4. Replace priming plug, using Teflon tape on thread; tighten plug.  
**NOTICE:** If priming tee and plug have been provided for long horizontal run, be sure to fill suction pipe through this tee and replace plug. (Use Teflon tape on plug.)
- Step 5. Start pump; water should be produced in 10 minutes or less, time depends on depth to water (not more than 20' (6 m)) and length of horizontal run (10' (3 m) of horizontal suction pipe = 1' (30.5 cm) of vertical lift due to friction losses in pipe). If no water is produced within 10 minutes, stop pump, release all pressure, remove priming plug, refill and try again.

**WARNING** NEVER run pump against closed discharge. To do so can boil water inside pump, causing hazardous pressure in unit, risk of explosion and possibly scalding persons handling pump (Figure 7). Replace priming plug with pressure gauge to monitor pressure so that it is not allowed to exceed maximum pumping pressures according to performance chart.



**Figure 7: Do Not Run Pump With Outlet Shut Off**

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

Remove priming plug.

- Step A. Fully open control valve (turn counterclockwise).
- Step B. Fill pump and suction pipe with water.
- Step C. Replace priming plug, using Teflon tape on plug thread; tighten plug.

To prevent explosion, do the following:

- Step A. Be sure discharge (valve, pistol grip hose nozzle, etc.) is open whenever pump is running.
- Step B. If pump fails to produce water when attempting to prime, release all pressure, drain pump and refill with cold water after every attempt.
- Step C. When priming, monitor pump body and piping temperature. Motor will warm up; this is normal. If pump body or piping begin to feel warm to touch, shut off pump and allow system to cool. Release all pressure in system and refill pump and piping with cold water.

**Step D. Make sure discharge pipe and zone size are not too small for this pumps performance.**

**Performance Chart / GPM(LPM)**

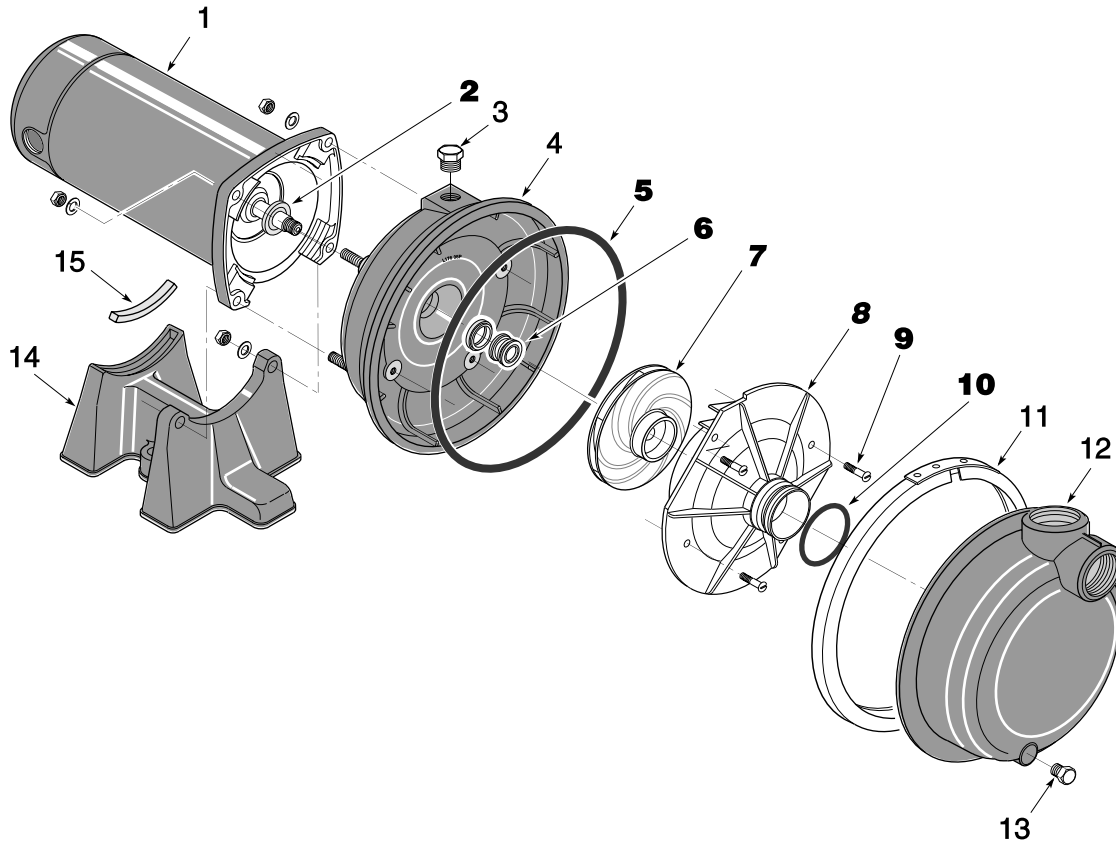
Discharge Pressure PSI (kPa)	3410P – 1 HP				3415P – 1-1/2 HP				3420P – 2 HP			
	Height Of Pump Above Water / Feet (Meter)											
	5' (1.5)	10' (3)	15' (4.6)	20' (6.1)	5' (1.5)	10' (3)	15' (4.6)	20' (6.1)	5' (1.5)	10' (3)	15' (4.6)	20' (6.1)
10 (69)	55 (208)	49 (185)	48 (181)	45 (170)	67 (254)	61 (231)	56 (212)	46 (174)	69 (261)	64 (242)	65 (246)	62 (235)
15 (103)	51 (193)	46 (174)	45 (170)	44 (166)	66 (250)	58 (220)	55 (208)	45 (170)	65 (246)	62 (235)	60 (227)	57 (215)
20 (138)	45 (170)	42 (159)	39 (148)	37 (140)	61 (231)	56 (212)	54 (204)	44 (166)	59 (223)	56 (212)	54 (204)	52 (197)
25 (172)	38 (144)	35 (132)	32 (121)	29 (110)	55 (208)	52 (197)	51 (193)	43 (163)	52 (197)	50 (189)	48 (181)	46 (174)
30 (207)	31 (117)	28 (106)	24 (90)	20 (76)	48 (181)	45 (170)	44 (166)	37 (140)	47 (178)	45 (170)	42 (159)	40 (151)
35 (241)	23 (87)	19 (72)	16 (60)	11 (42)	39 (147)	37 (140)	34 (129)	28 (106)	42 (159)	38 (144)	35 (132)	32 (121)
40 (276)	17 (64)	13 (49)	8 (30)		33 (125)	27 (102)	20 (76)	11 (42)	34 (129)	30 (113)	27 (102)	23 (87)
45 (310)					18 (68)	14 (53)	8 (30)		25 (95)	18 (68)	13 (49)	10 (38)
50 (345)									14 (53)	7 (26)		

All models except 3420P have discharge and suction size of 1-1/2" NPT. 3420P has 2" NPT suction and discharge.

## Troubleshooting

**⚠ WARNING** Capacitor voltage may be hazardous. To discharge capacitor, hold insulated handle screwdriver **BY THE HANDLE** and short capacitor terminals together. Do not touch metal screwdriver blade or capacitor terminals. If in doubt, consult a qualified electrician.

SYMPTOM	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Motor will not run	Disconnect switch is off Fuse is blown or circuit breaker tripped Starting switch is defective Wires at motor are loose, disconnected, or wired incorrectly	Be sure switch is on. Replace fuse or reset circuit breaker. DISCONNECT POWER; Replace starting switch. Refer to instructions on wiring (Page 7). DISCONNECT POWER; check and tighten all wiring.
Motor runs hot and overload kicks off or motor does not run and only hums	Motor is wired incorrectly Voltage is too low	Refer to instructions on wiring. Check voltage being supplied to motor. Install heavier wiring if wire size is too small (See Electrical / Wiring Chart).
Motor runs but no water is delivered*  * (Note: Stop pump; then check prime before looking for other causes. Unscrew priming plug and see if water is in priming hole).	Pump in new installation did not pick up prime through: 1. Improper priming 2. Air leaks  3. Leaking foot valve or check valve 4. Pipe size too small Pump has lost prime through: 1. Air leaks 2. Water level below suction pipe inlet  Impeller is plugged Check valve or foot valve is stuck shut Pipes are frozen Foot valve and/or strainer are buried in sand or mud	In new installation:  1. Re-prime according to instructions. 2. Check all connections on suction line, with soapy water or shaving cream. 3. Replace foot valve or check valve. 4. Re-pipe using size of suction and discharge ports on pump. In installation already in use: 1. Check all connections on suction line and shaft seal with soapy water. 2. Lower suction line into water and re-prime. If receding water level in well exceeds 25' (7.6M), a deep well pump is needed. Clean impeller. Replace check valve or foot valve. Thaw pipes. Bury pipes below frost line. Heat pit or pump house. Raise foot valve and/or strainer above bottom of water source. Clean foot valve and strainer.
*Pump does not deliver water to full capacity	Water level in well is lower than estimated Steel piping (if used) is corroded or lined, causing excess friction Piping is too small in size Pump not being supplied with enough water	A deep well jet will be needed if your well is more than 25' (7.6M) depth to water. Replace with plastic pipe where possible, otherwise with new steel pipe.  Re-pipe using size of suction and discharge ports on pump. Add additional well points.
Pump leaks around clamp	Clamp loose	STOP PUMP, tighten clamp nut 1-2 turns. Alternately tighten and tap on clamp with mallet to seat O-Ring. Do not overtighten.



## Part Names

Key No.	Description	Key No.	Description
1	Motor	9	#8-32x1" Screw
2	<b>Slinger</b>	•	<b>Lockwasher</b>
3	Priming Plug	10	<b>Diffuser O-Ring</b>
4	Seal Plate	11	Clamp
5	<b>O-Ring</b>	12	Pump Body
6	<b>Shaft Seal</b>	13	Drain Plug
7	<b>Impeller</b>	14	Base
8	<b>Diffuser</b>	15	Motor Pad

Parts in **Bold Face** are included in Seal and Gasket Kit and in Overhaul Kit.

Parts in **Bold Face Italics** are included in Overhaul Kit only.

Key No.	Part Description	3410P 1 HP	3415P 1-1/2 HP	3420P 2 HP
		115V/230V 60 Hz/1 Ph		230V 60 Hz/1 Ph
1	Motor	J218-596PKG	J218-601PKG	J218-883APKG
4	Seal Plate Complete	L176-47P1	L176-47P1	C103-189P1
11	"V" Clamp	C19-54SS	C19-54SS	C19-37A
12	Pump Body Front Half	C176-53P	C176-53P	C176-62P
14	Base	C4-42P	C4-42P	C4-42P
•	Seal and Gasket Kit	FPP5000	FPP5000	FPP50000
•	Includes Items 2, 5, 6, 9, & 10. See "Part Names," above.			
•	Overhaul Kit			
•	Includes all items in Seal and Gasket Kit plus Item 7, <b>impeller</b> , and 8, <b>diffuser</b> . See "Part Names," above.	FPP5001	FPP5002	FPP5008

**WATER COURT  
ABSTRACT OF WATER RIGHT CLAIM  
CLARKS FORK YELLOWSTONE RIVER  
BASIN 43D**

**Water Right Number:** 43D 197608-00 STATEMENT OF CLAIM

**Version:** 3 -- POST DECREE

**Status:** ACTIVE

**Owners:** HAROLD H HOLLMAN  
PO BOX 4853  
RED LODGE, MT 59068

LAURA H HOLLMAN  
PO BOX 4853  
RED LODGE, MT 59068

**Priority Date:** JUNE 13, 1910

**Type of Historical Right:** FILED

**Purpose (Use):** IRRIGATION

**Irrigation Type:** FLOOD

**Flow Rate:** 43.01 GPM

**Volume:** THE TOTAL VOLUME OF THIS WATER RIGHT SHALL NOT EXCEED THE AMOUNT  
PUT TO HISTORICAL AND BENEFICIAL USE.

**Climatic Area:** 4 - MODERATELY LOW

**Maximum Acres:** 2.53

**Source Name:** UNNAMED TRIBUTARY OF WILLOW CREEK, WEST FORK

**Source Type:** SURFACE WATER

**Point of Diversion and Means of Diversion:**

<u>ID</u>	<u>Govt Lot</u>	<u>Qtr Sec</u>	<u>Sec</u>	<u>Twp</u>	<u>Rge</u>	<u>County</u>
1		NWSWNW	17	7S	20E	CARBON

**Period of Diversion:** MAY 1 TO SEPTEMBER 30

**Diversion Means:** PUMP

**Subdivision:** LAZY S L RANCHES TRACT/LOT: 15

**Period of Use:** MAY 1 TO SEPTEMBER 30

**Place of Use:**

<u>ID</u>	<u>Acres</u>	<u>Govt Lot</u>	<u>Qtr Sec</u>	<u>Sec</u>	<u>Twp</u>	<u>Rge</u>	<u>County</u>
1	2.53		W2NW	17	7S	20E	CARBON

**Subdivision:** LAZY S L RANCHES TRACT/LOT: 15

**Total:** 2.53