Instruction Manual & Safety Warnings

Battery Backup Sump Pump System Model PHCC-1850

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PRO SERIES

1850

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Scan the QR code for more information about the PHCC-1850 Backup Sump Pump System IMPORTANT: Even if you have the Pro Series backup sump pump system installed by someone else, you must read and follow the safety information contained in this manual. Failure to do so could result in property damage, serious injury, or death.

Important Safety Warnings & Instructions

SAVE THESE INSTRUCTIONS. This manual contains important SAFETY WARNINGS and OPERATING INSTRUCTIONS for the Pro Series 1850 battery backup sump pump system. You will need to refer to it before attempting any installation or maintenance. **ALWAYS** keep these instructions with the unit so that they will be easily accessible.

Failure to read and follow these warnings and instructions could result in property damage, serious injury, or death. It is important to read this manual, even if you did not install the Pro Series backup sump pump system, since this manual contains safety information regarding the use and maintenance of this product. **DO NOT DISCARD THIS MANUAL. For** warranty purposes, keep a copy of your receipt with this manual.

ELECTRICAL PRECAUTIONS

A WARNING

This installation must be in accordance with the National Electric Code and all applicable local codes and ordinances.

Risk of electrical and fire hazard. May result in death, serious injury, shock or burns. To help reduce these risks, observe the following precautions:

- **DO NOT** walk on wet areas of the basement until all power has been turned off. If the main power supply is in a wet basement, call an electrician.
- **NEVER** handle the control unit with wet hands or while standing on a wet surface.
- **ALWAYS** unplug the control unit and disconnect the cables from the battery before attempting any maintenance or cleaning.
- ALWAYS unplug the main pump when installing or servicing the backup pump or float switch to avoid electric shock.
- **DO NOT** expose the control unit to water, rain or snow. **DO NOT** place the control unit on the floor.
- **DO NOT** pull the cord when disconnecting the control unit. Pull the plug.

• **DO NOT** pull on the float switch cord.

• MAKE SURE A PROPERLY GROUNDED RECEPTACLE IS AVAILABLE. This pump is wired with a 3-prong grounded plug. To reduce the risk of electrical shock, be certain that it is only connected to a properly grounded 3-prong receptacle. If you have a 2-prong receptacle, have a licensed electrician replace it with a 3-prong receptacle according to local codes and ordinances.

- **DO NOT** use an extension cord. The electrical outlet should be within the length of the controller's power cord and at least 4 feet above the floor.
- **DO NOT** use an attachment not recommended or sold by the manufacturer. It may result in a risk of fire or injury from an electrical shock.
- **DO NOT** operate the control unit if it has received a sharp blow, been dropped, or is otherwise damaged in any way.
- **DO NOT** use pump in pits handling raw sewage, salt water or hazardous liquids. This system is for groundwater use only.
- DO NOT disassemble the control unit.
- **DO** protect the electrical cord from sharp objects, hot surfaces, oil and chemicals. Avoid kinking the cord.
- **MAKE SURE** the supply circuit has a dedicated fuse or circuit breaker rated to handle the power requirements of this system.

When service is required, contact Glentronics' technical support at **800-991-0466**, or send an e-mail to **service@glentronics.com**. Return the control unit to the manufacturer for any repairs at the following address:

Glentronics, Inc., Attn: Repairs 645 Heathrow Drive; Lincolnshire, IL 60069-4205

BATTERY PREPARATION

A WARNING / POISON

Sulfuric acid can cause blindness or severe burns. Avoid contact with skin, eyes, or clothing. In the event of an accident, flush with water and call a physician immediately. KEEP OUT OF REACH OF CHILDREN.

To help reduce these risks, observe the following precautions:

- Someone should be within range of your voice or close enough to come to your aid when you work near a lead-acid battery.
- Have plenty of fresh water and soap nearby in case battery acid contacts skin, clothing or eyes.
- Wear eye and clothing protection and avoid touching your eyes while working with battery acid or working near the battery.
- If battery acid contacts skin or clothing, wash immediately with soap and water. If acid enters eye, immediately flood eye with running cold water for at least 15 minutes and get prompt medical attention.

▲ WARNING: Battery posts and terminals contain lead, lead compounds or chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Wash hands after handling. See www. p65warnings.ca.gov for more information.

▲ WARNING: Battery fluid can expose you to chemicals including strong inorganic acid mists containing sulfuric acid, which is known to the State of California to cause cancer. For more information go to www.P65warnings. ca.gov.

BATTERY PRECAUTIONS

A DANGER

Explosive gases could cause serious injury or death. Cigarettes, flames or sparks could cause battery to explode in enclosed spaces. Charge in a well-ventilated area. Always shield eyes and face from battery. Keep vent caps tight and level.

To help reduce these risks, observe the following precautions:

- **NEVER** smoke or allow a spark or flame in the vicinity of the battery.
- Use the Pro Series control unit for charging a LEAD-ACID battery only. **D0 NOT** use the control unit for charging dry-cell batteries that are most commonly used with home appliances.
- Be sure the area around the battery is well-ventilated.
- When cleaning the battery, first fan the top of the battery with a piece of cardboard (or

another <u>nonmetallic</u> material) to blow away any hydrogen or oxygen gas that may have been emitted from the battery.

- **DO NOT** drop a metal tool onto the battery. It might spark or short-circuit the battery and cause an explosion.
- Remove personal metal items such as rings, bracelets, watches, etc. when working with a lead-acid battery. A short circuit through one of these items can melt it, causing a severe burn.
- **ALWAYS** remove the power cord from the electrical outlet before connecting or disconnecting the battery cables.



- Check the polarity of the battery posts. The POSITIVE (+) battery post usually has a plus sign near it and the NEGATIVE (-) post has a minus sign nearby.
- When connecting the battery cables, first connect the large ring on the end of the RED wire to the POSITIVE (+) bolt of the battery and then connect the small ring on the end of the BLACK wire to the NEGATIVE (-) bolt of the battery.
- **ALWAYS** keep the cover secured on the battery box by slipping the tabs through the fittings on the front and back of the box.

A DANGER

DO NOT use this system to pump flammable or explosive fluids such as gasoline, fuel oil, kerosene, etc.

DO NOT use this system in pits handling raw sewage or other hazardous liquids.

DO NOT place anything on top of the battery, battery box or control unit.

Introduction

The Pro Series 1850 backup sump pump system is battery-operated. It is designed as an emergency backup system to support your main AC sump pump, and it will automatically begin pumping any time the float switch is activated by rising water. Should any malfunction or emergency occur that involves the sump pump, the battery, or the AC power, the Pro Series system will sound an alarm. A light on the display panel of the control unit will indicate the cause of the alarm and the possible corrective action.

For added reliability, the float switch has not one but two floats. Should one float fail to operate, the second float automatically activates the pump.

The Pro Series 1850 Sump Pump System includes:

- A control unit with a dual float switch, battery cables, and a 20-Amp fuse
- A pump with a $1\frac{1}{2}$ -inch PVC pipe adapter
- A plastic wire tie for mounting the float switch
- A battery box
- A battery charger

You will also need to supply:

• A Pro Series Maintenance-Free Battery (B12-100)

DO NOT use an automotive battery with this system.

The internal construction of some batteries may not be compatible with this system. Glentronics cannot guarantee the compatibility of other brands of batteries. **The use of a Pro Series battery is HIGHLY recommended.**





- 1½-inch rigid PVC pipe and fittings
- PVC primer and cement
- A union with hose clamps or a wye connector and two (2) check valves, depending on the installation method you use
- A surge protector (recommended)

For narrow sump pits you will need some additional parts:



- An "L" bracket at least six (6) inches long (preferably one that will not rust)
- Two (2) stainless-steel hose clamps
- \cdot One (1) stainless-steel screw (#8-32 x $_{^{3/4-}}$ inch), a matching washer and nut

To connect two batteries you will need:



- Two (2) batteries of similar age and capacity (so they will have equal power). **DO NOT** use batteries of different types, ages or capacities as they will not charge properly.
- Another battery box
- A set of battery cables with rings on both ends to connect the two batteries together (Model PJC available from Glentronics, Inc.)

Use of a Pro Series Klunkless Check Valve[™] will provide quieter operation. (See back cover for more information.)



PS-CVKSRRU15

Replacement Part Numbers

Pump 1011007
Float switch assembly FLOAT-DL-MC
Pipe adapter 1120002
Charger 1015010
Battery box 1113003
Parallel jumper cable for 2 batteries PJC
10-foot pump extension cable Pump-Ext
20-foot float extension cable Float-Ext-MC

Call 800-991-0466 to order parts.

System Specifications

Power supply requirements.....115 volts AC Pumping capacity......2,500 GPH @ 0 feet Pump ing capacity..... 1,850 GPH @ 10 feet Pump dimensions w/elbow.... 7%" H x 9" W Pump housing & strainer..... noncorrosive, will not rust Pump...can run dry for short periods of time Float switch independent, can be set at any level

Pump & Pipe Installation Instructions

Two basic methods can be used to install the pump-a direct discharge to the outside of the building or a connection to an existing discharge pipe. The same two options apply in very narrow sump pits where the backup pump must be mounted above the main pump.

Use a pit that conforms to all local codes, and check the code to see if a gate valve or ball valve is required.

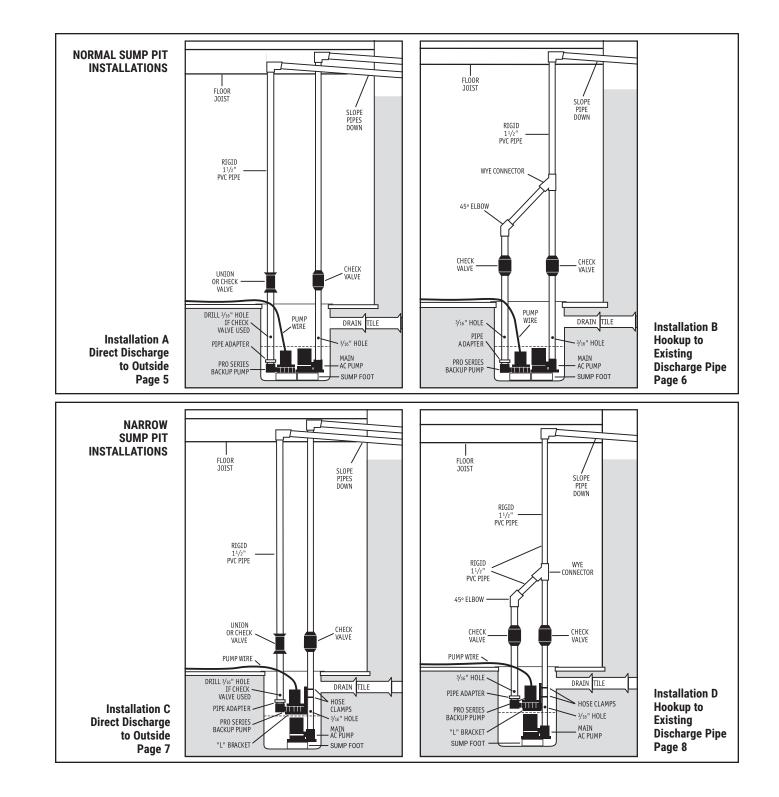
Whenever possible, install your Pro Series backup pump with a direct discharge to the outdoors. By using this method, an outlet always exists for the water from the sump pit. During very heavy rainstorms, many storm sewers fill up. If your pump is plumbed to discharge water into a full sewer, the water has nowhere to go. By discharging directly outdoors, the water from the sump pit can be pumped up and out. For this method, you will need to drill a hole through a floor joist or the foundation from the basement to the outside of the house.

If the direct discharge method is not possible or convenient, the Pro Series pump can be connected to the same line as your main AC sump pump by installing a wye connector and two (2) check valves.

In most cases, the backup pump will fit next to the main AC pump in the sump pit. In very narrow pits, the backup pump can be mounted above the main AC pump. Try to fit the backup pump on the floor of the sump pit first. Make sure enough room exists so the backup pump and the main pump do not touch each other.

Select the installation method that will best suit your needs from the diagrams at the right. Full instructions for each installation method are provided on the following pages.

Installation will take several hours.



Pump & Pipe Installation Instructions

INSTALLATION A: DIRECT DISCHARGE TO THE OUTSIDE OF THE BUILDING (Diagram A)

A DANGER

Unplug the main AC pump when installing the backup pump to avoid electric shock. Failure to do so could cause serious injury or death.

- 1. Cut a piece of 1½-inch rigid PVC pipe long enough to reach from the bottom of the sump pit to one (1) foot above the floor. Prime and cement it to the 1½inch pipe adapter, and then screw the adapter into the pump.
- 2. Secure the pump wire so the plug on the end will not fall into the pit. Attach the wire to the pipe with a piece of tape.
- 3. Place the pump with the PVC pipe attachment on the bottom of the sump floor next to the main AC pump. *The pumps should not touch each other.* Do





not mount the pump to any existing pipes; it should be placed on the floor of the sump pit. A brick or stand (Model SF1A) should be placed under the pump if rocks or other debris are on the sump pit floor that may clog the pump.

4. Attach a union or a check valve to the top of the 1½-inch pipe. This will allow the pump to be removed easily should the need arise.

The path of the rest of the pipe and the details of each installation will vary. Using sound plumbing practices, route the discharge pipe to an exterior wall via the shortest path with the fewest turns. More turns will reduce the pumping capacity. The pipe section exiting the building should be on a downward slope so the water in the pipe will exit outside instead of returning to the sump pit. Seal the hole in the wall where the pipe exits, and **prime and cement or clamp all connections securely to prevent leaking.** (No check valve is needed if you use less than 20 feet of pipe.)

CAUTION

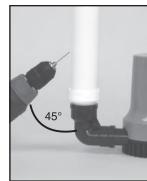
If you use more than a total of 20 feet of pipe in the installation (including vertical





and horizontal runs), install a check valve in place of the union. Make sure it is installed with the arrow pointing up, or it will not prevent the backflow of water. When a check valve is used, a 3/16-inch hole must be drilled in the PVC pipe above the Pro Series pump. Drill the hole at a 45° angle toward the bottom of the sump to avoid splashing water outside the sump pit. Make sure the hole is above the water line and below the check valve. If a hole is not drilled above the pump, an air lock may prevent the pump from operating.





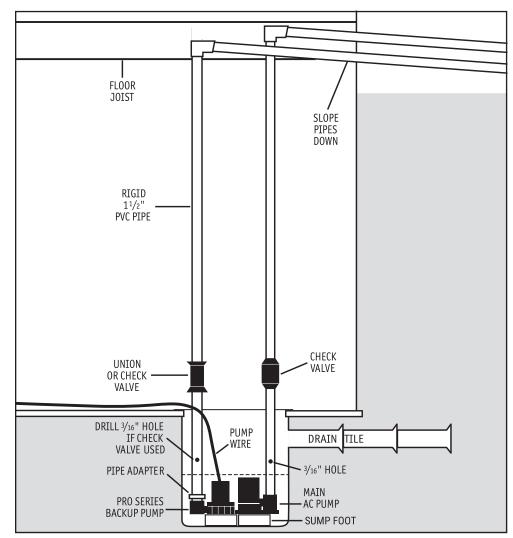


Diagram A

Pump & Pipe Installation Instructions INSTALLATION B: CONNECTION TO AN EXISTING DISCHARGE PIPE (Diagram B)

Depending on your requirements, PVC pipe lengths will vary. Cut the pipes and assemble them like in photo #7. *Do not cement them together until you are sure they are cut to the correct lengths.* Keep the discharge pipes on both pumps parallel to each other so the pumps remain flat on the sump pit floor. More detailed instructions follow.

🛕 DANGER

Unplug the main AC pump when installing the backup pump to avoid electric shock. Failure to do so could cause serious injury or death.

- Cut a piece of 1½-inch rigid PVC pipe long enough to reach from the bottom of the sump pit to one (1) foot above the floor. Prime and cement it to the 1½-inch pipe adapter, and then screw the adapter into the pump.
- 2. Install a check valve on the top of the PVC pipe attached to the Pro Series pump. Make sure it is installed with the arrow pointing up or it will not prevent water from backflowing.

CAUTION

3. When a check valve is used, a ³/₁₆-inch hole must be drilled in the PVC pipe above the Pro Series pump. Make sure it is above



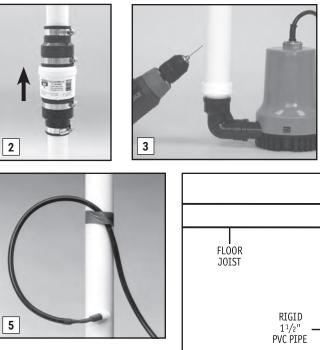
the water line and below the check valve. Drill the hole at a 45° angle toward the bottom of the sump to avoid splashing water outside the sump pit. If a ³/₁₆-inch hole is not drilled in the pipe above the pump, an air lock may prevent the pump from operating.

4. If no check valve is on the discharge pipe of the main AC pump, one must be installed at this time. Cut the discharge pipe approximately one (1) foot above the floor. Install a check valve on the top of the pipe and tighten the bottom hose clamp. Now prime and cement a small piece of 1½-inch PVC pipe to the bottom of a wye connector. Prime and cement the top of the wye assembly to the discharge pipe with the wye extension facing down toward the backup pump. Then connect the bottom of the assembly to the check valve and tighten the hose clamp.

CAUTION

Failure to install a check valve between the wye connector and the main AC pump will cause the main system to not operate properly. A $3/_{16}$ -inch hole also must be drilled in the PVC pipe above the pump.

- 5. Secure the pump wire so that the plug on the end will not fall into the sump pit. Attach the wire to the pipe with a piece of tape.
- 6. Place the pump with the PVC pipe attachment on the bottom of the sump floor next to the main AC pump. *The pumps should not touch each other.* Do not mount the pump to any existing pipes; it should be placed on the floor of the sump pit. A brick or stand (Model SF1A) should be placed under the pump if rocks or other debris are on the sump pit floor that may clog the pump.
- 7. Connect a piece of 1½-inch PVC pipe above the check valve of the Pro Series pump, and attach a 45° elbow to that pipe. Extend another piece of pipe to reach from the 45° elbow to the wye connector on the other pipe.
- 8. Prime and cement all pipe connections securely to prevent leaking, and tighten all the hose clamps.







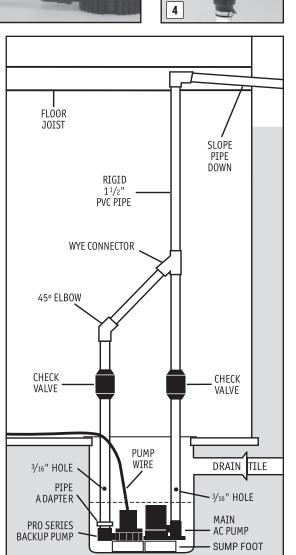


Diagram B

Pump & Pipe Installation Instructions

INSTALLATION C:

DIRECT DISCHARGE TO THE OUTSIDE OF THE BUILDING FOR NARROW SUMP PITS (Diagram C)

A DANGER

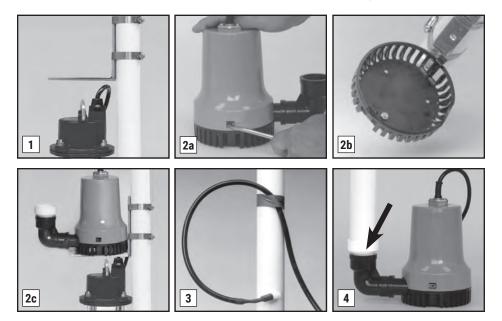
Unplug the main AC pump when installing the backup pump to avoid electric shock. Failure to do so could cause serious injury or death.

- 1. Attach an "L" bracket to the discharge pipe of the main AC pump with two (2) stainlesssteel hose clamps. Position the bracket so the bottom of the "L" is just above the top of the main pump, and out of the way of any float switch on the main pump.
- 2. (a) Remove the black strainer on the bottom of the pump by pressing in the two tabs on the strainer and pushing down. Holes suitable for mounting are on the bottom of the strainer. (b) Using the #8-32 x ³/₄-inch stainless-steel screw, washer and

nut, attach the strainer to the "L" bracket. (c) Once the strainer is attached, simply press the rest of the pump onto the mounted strainer

- 3. Secure the pump wire so that the plug on the end will not fall into the pit. Attach the wire to the pipe with a piece of tape.
- 4. Cut a piece of 1¹/₂-inch rigid PVC pipe long enough to reach from the elbow of the backup pump to one (1) foot above the floor. Prime and cement it to the 1¹/₂-inch pipe adapter, and then screw the adapter into the pump.
- 5. Attach a union or check valve to the top of the 1½-inch PVC pipe. This will allow the pump to be removed easily should the need arise.

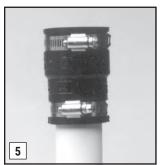
The path of the rest of the pipe and the details of each installation will vary. Using sound plumbing practices, route the discharge pipe to an exterior wall via the shortest path with the fewest turns. More turns will reduce the pumping capacity. The pipe section exiting the building should be on a downward slope so that the water in the pipe will exit outside instead of returning to the sump pit. Be sure to seal the hole in the wall where the pipe exits, and prime and cement or clamp all connections securely to prevent leaking.

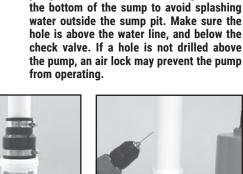


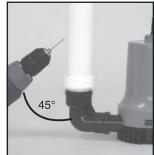
(No check valve is needed with this method of installation as long as you use less than 20 feet of pipe.)

CAUTION

If you use more than a total of 20 feet of pipe in the installation (including vertical and horizontal runs), install a check valve in place of the union. (6) Make sure the check valve is installed with the







arrow pointing up or it will not prevent

the backflow of water. (7) When a check

valve is used, a 3/16-inch hole must be drilled in the PVC pipe above the Pro Series

pump. Drill the hole at a 45° angle toward

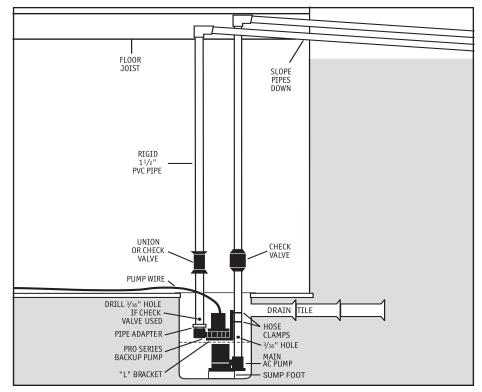


Diagram C

Pump & Pipe Installation Instructions INSTALLATION D:

INSTALLATION D: CONNECTION TO EXISTING DISCHARGE PIPE FOR NARROW SUMP PITS (Diagram D)

Depending on your installation requirements, PVC pipe lengths will vary. Cut the pipes and assemble them as in photo #8. *Do not cement them together until you are sure they are cut to the correct lengths.* Keep the discharge pipes on both pumps parallel to each other so that the pumps remain flat on the floor of the sump pit. More detailed instructions follow.

A DANGER

Unplug the main AC pump when installing the backup pump to avoid electric shock. Failure to do so could cause serious injury or death.

1. Attach an "L" bracket to the discharge pipe of the main AC pump with two (2) stainlesssteel hose clamps. Position the bracket so the bottom of the "L" is just above the top of the main pump, and out of the way of any float switch on the main pump.

- 2. (a) Remove the black strainer on the bottom of the pump by pressing in the two tabs on the strainer and pushing down. Holes suitable for mounting are on the bottom of the strainer. (b) Using the #8-32 x ¾-inch stainless-steel screw, washer and nut, attach the strainer to the "L" bracket. (c) Once the strainer is attached, press the rest of the pump onto the mounted strainer.
- 3. Secure the pump wire so that the plug on the end will not fall into the pit. Attach the wire to the pipe with a piece of tape.
- 4. Cut a piece of 1½-inch rigid PVC pipe that reaches from the elbow of the backup pump to one (1) foot above the floor. Prime and cement it to the 1½-inch pipe adapter, and then screw the adapter into the pump.
- 5. Install a check valve on the top of the PVC pipe attached to the Pro Series pump. Make sure it is installed with the arrow pointing up or it will not prevent the backflow of water.

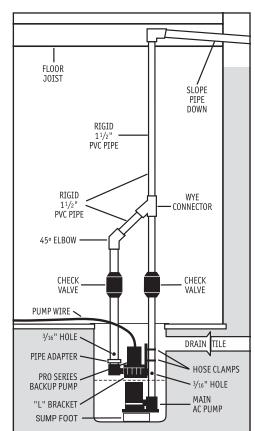
CAUTION

- 6. When a check valve is used, a ³/₁₆-inch hole must be drilled in the PVC pipe above the Pro Series pump. Make sure it is above the water line and below the check valve. Drill the hole at a 45° angle toward the bottom of the sump to avoid splashing water outside the sump pit. If a ³/₁₆-inch hole is not drilled above the pump, an air lock may prevent the pump from operating.
- 7. If no check valve is installed on the discharge pipe of the main AC pump, install one at this time. Cut the discharge pipe approximately one (1) foot above the floor. Install a check valve on the pipe and tighten the bottom hose clamp. Now prime and cement a small piece of 1½ -inch PVC pipe to the bottom of a wye connector. Prime and cement the top of the wye assembly to the discharge pipe with the wye extension facing down toward the backup pump. Now connect the bottom of the check valve and tighten the hose clamp.

CAUTION

Failure to install a check valve between the wye connector and the main AC pump will cause the main system to not operate properly. A $\frac{3}{16}$ -inch hole must also be drilled in the PVC pipe above the pump.

- Connect a piece of 1½-inch PVC pipe above the check valve of the Pro Series pump, and attach a 45° elbow to that pipe. Extend another piece of pipe to reach from the 45° elbow to the wye connector on the other pipe.
- 9. Prime and cement all pipe connections securely to prevent leaking, and tighten all the hose clamps.



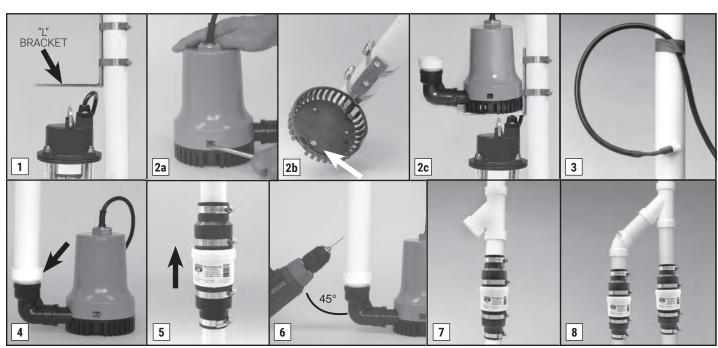


Diagram D

Battery Instructions

This system will accommodate the B12-100 maintenance free (AGM) battery. To double the runtime of the backup system, two of the same model batteries can be connected together using the parallel jumper cable (Model PJC). The batteries should be of similar age, type and capacity. **DO NOT** use batteries of different types, ages or capacities as they will not charge properly.

CAUTION

- The use of automotive batteries is NOT recommended. Automotive batteries are not designed for this application. They will only run the pump for a short time and will have a shorter life than a standby battery.
- The internal construction of some batteries may not be compatible with this system. Glentronics cannot guarantee the compatibility of other brands of batteries. The use of a Pro Series B12-100 battery is HIGHLY recommended.

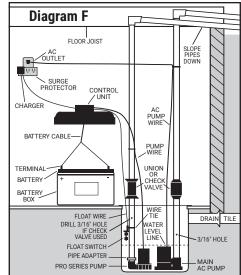
Control Unit Connections

A DANGER

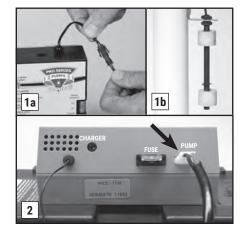
Risk of electrical shock or battery explosion, which can cause serious injury or death. Unplug the main AC pump to avoid electrical shock. Wear eye protection. Work in a wellventilated area. Do not smoke or allow a spark or flame in the vicinity of the battery. Avoid dropping metal tools on the battery. If battery acid contacts eyes, flush with water for 15 minutes and get prompt medical attention. Review the safety instructions on page 2.

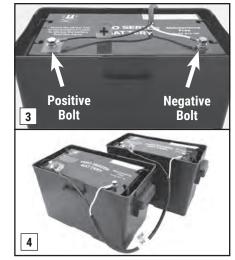
When you position the battery with the control unit on the top, be sure the charger cord will reach the AC power outlet, and the pump cable and the float switch will reach the bottom of the sump. Position the unit in a well-ventilated area. (Diagram F)

 Positioning the dual float switch: The float switch wire includes a connector that can be separated from the controller when the wire needs to be threaded through small openings such as a sump pit cover. Be sure the float switch wire connection is secure before final installation. The float switch



will activate the pump when the water raises either float, and it will remain running as long as the water is above the float. When the water drops below the float switch, a timer in the control unit will keep the pump running an additional 25 seconds to empty the pit. The switch should be mounted about six (6) inches above the water level line in the pit. Attach the float switch securely to the discharge pipe with the plastic wire tie. **Position the switch is vertically with the mounting bracket at the top. Do not tilt the switch. Do not position the float switch on the side of the discharge pipe facing the drain tile or any incoming rush of water!**





- 2. Connecting the pump: Remove the security tag from the pump and plug the pump wires into the pump connector on the back of the control unit. Keep the backup pump wire, the AC pump wire, and the float wire separate from each other. Do not let them cross on the final installation.
- 3. Connecting the battery: (a) Remove the battery terminal hardware from the plastic bag. Remove the security tag from the battery cables. When connecting the battery cables, first connect the large ring on the end of the RED wire to the POSITIVE (+) bolt of the battery, and then connect the small ring on the back of the BLACK wire to the NEGATIVE (-) bolt of the battery. Tighten the bolts. Note: Connecting the cables to the wrong posts will damage the controller. (b) If you are connecting two batteries to the system (use Model PJC), before you replace the bolts, connect the additional cable to the two batteries-the BLACK wires to the POSITIVE (+) bolts and the WHITE wires to the NEGATIVE (-) bolts of each battery. **NEVER** attach one end of the positive wire to the positive bolt and the other end of the positive wire to the negative bolt on the other battery.
- 4. **Connecting the charger:** Immediately plug the charger into the charger hole on the back of the control unit, and then into an

AC outlet on the wall. (Provide additional protection for the control unit by using a surge protector.)

- 5. If the pump alarm is sounding, press the RESET button on the front of the control panel to reset the alarm.
- 6. Secure the cover on the battery box by slipping the tabs through the fittings on the front and back of the box.
- 7. After installation, check the pump operation by filling the sump with water and observing the pump through several full cycles.
- 8. BE SURE TO PLUG IN THE MAIN AC PUMP WHEN YOU FINISH THE INSTALLATION.

Understanding the Warnings & Alarms

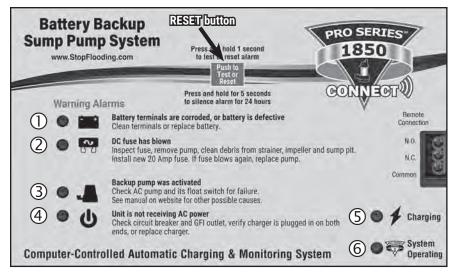
The Pro Series control unit features a series of warning lights that pinpoint potential problems. In addition, an alarm sounds to alert you to the problem. In some cases the lights and alarm will go off automatically when the problem has been solved. In others, the RESET button on the front of the control panel must be pushed to reset the alarm. Refer to the table below for a quick review of the features and their corresponding alarm status.

Warning	Alarm can be silenced before problem is corrected	Alarm shuts off automatically when the problem is corrected
Battery problem	No	No, push RESET button
Fuse/pump problem	No	Yes
Power	Yes	Yes
Pump was activated	Yes	No, push RESET button

SILENCING THE ALARM DURING AN EMERGENCY

The Pro Series 1850 allows you to silence **some** of the alarms during an emergency; however, the warning lights will remain on until the problem is corrected.

 Press the RESET button on the front of the control panel for one (1) second to reset the "Pump was activated" alarm and silence the



"AC power" alarms for two (2) minutes.

• Press the RESET button for five (5) seconds to silence these alarms for 24 hours. A brief buzzing sound will notify you that the alarms have been silenced. The alarms will automatically reactivate in 24 hours if the warning condition still exists.

1 Battery terminals are corroded, or battery is defective

This light and alarm will come on when the control unit detects that there is less than ½ hour of pumping power left in the battery, or that the battery is defective. The alarm cannot be silenced because action needs to be taken to protect your basement. If your battery is more than five (5) years old, replace it. If not, several situations could cause the pump to run the battery for an extended time and discharge the battery. Check the list before replacing the battery.

- If the bottom light on the controller is also on, it means that the unit is not receiving AC power. Either the AC power is out, the circuit breaker has tripped, the outlet is bad, or the charger has failed. When the problem is corrected, the battery should recharge.
- If the third light on the controller is also on, check your main pump for failure. The backup pump may have been activated repeatedly if your main AC pump is

broken, or you are experiencing heavy rains and your main pump cannot keep up with the inflow of water. You may need to upgrade or replace your main pump. When the problem is corrected, the battery should recharge.

- If no other lights are on, this means the terminals may be corroded, and the battery cannot charge properly. Unplug the charger from the wall outlet. Then check the battery cables and the battery bolts for corrosion. Clean and tighten them as needed. The procedure is described in the next column and on page 11.
- If the battery bolts have been cleaned and the light is still on, an issue could exist with the controller or battery. The best way to determine if the battery is the problem is to have it charged and load tested at any local auto supply or battery store. If the battery is bad and less than one (1) year old, return it to the place of purchase for a replacement (receipt required). If the battery is good, contact Glentronics' service department for further instructions at 800-991-0466.
- If the battery alarm goes on while the pump is running and the power is out, you will have a minimum of one-half (1/2) hour of continuous pumping time to replace the battery. (In most cases, the pump does not run continuously, and therefore, you actually have a longer time to replace it.) You will not be able to silence

the alarm. Left unattended, the basement will flood. In a severe emergency, if a replacement battery is not available, you could temporarily use your car battery, or recharge the pump's battery by connecting it to your car battery.

Once the AC power is restored, the battery will recharge automatically unless it is old or damaged. The alarm will remain on until the RESET button on the front panel of the control unit is pressed for one (1) second.

If your Pro Series sump pump system has pumped for an extended period of time, the battery may be very depleted. In this condition, when the AC power is returned to the unit, a battery alarm will continue to sound. The battery may need a longer period to recharge. Press the RESET button on the front panel of the control unit for five (5) seconds to silence the alarm for 24 hours.

For a faster recharge, an automotive or marine battery charger can be used to recharge the battery. Follow the manufacturer's instructions and safety information included with the charger.

A WARNING

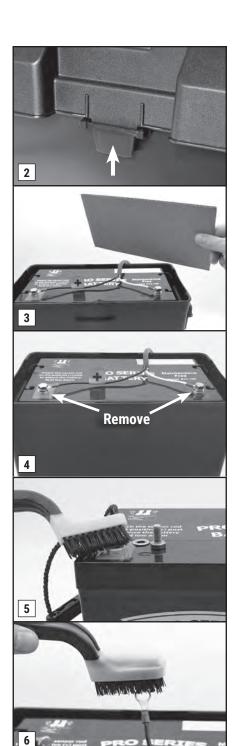
When another charger is used, first disconnect the Pro Series charger from the control unit, and then disconnect the control unit from the battery. Using another charger without disconnecting the control unit will destroy the control unit and void the warranty.

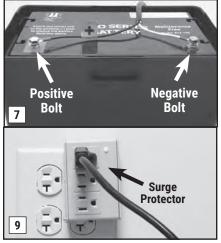
CLEANING THE BATTERY BOLTS AND CABLES

A DANGER

Risk of electrical shock or battery explosion, which can cause serious injury or death. Wear eye protection. Work in a well-ventilated area. Do not smoke or allow a spark or flame in the vicinity of the battery. Avoid dropping metal tools on the battery. If battery acid contacts eyes, flush with water for 15 minutes and get prompt medical attention. Review the safety instructions on page 2.

- 1. Unplug the charger from the wall outlet.
- 2. Remove the cover of the battery box by pushing in the tabs on the front and back, and then lifting up.





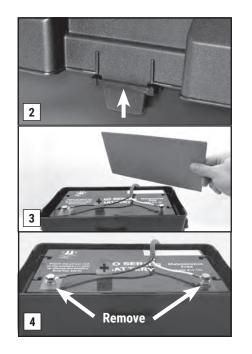
- 3. Fan the area around the top of the battery with a piece of cardboard (or another <u>nonmetallic</u> material) to remove any <u>hydrogen or</u> oxygen gas that may have been emitted from the battery.
- 4. Unscrew the bolts and remove the battery cables.
- 5. Clean the battery posts with a battery terminal cleaner or a wire brush.
- 6. Clean any corrosion off of the ring connectors on the ends of the battery wires. Use a stiff brush or sandpaper. DO NOT apply corrosion-resisting sprays or pads to the rings or bolts after you have cleaned them, since this could prevent the system from charging properly.
- 7. Replace the battery cables, first connecting the large ring on the end of the RED wire to the POSITIVE (+) bolt of the battery, and then connecting the small ring on the end of the BLACK wire to the NEGATIVE (-) bolt of the battery. Tighten bolts. Secure the cover on the battery box by slipping the tabs through the fittings on the front and back of the box.
- 8. Plug the charger back into the wall outlet. (You should provide additional protection for the control unit by using a surge protector.)
- 9. If any of the alarms are sounding, press the RESET button on the front panel of the control unit for one (1) second.

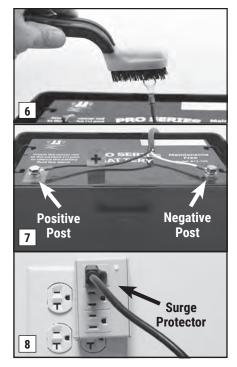
REPLACING THE BATTERY

Risk of electrical shock or battery explosion, which can cause serious injury or death. Wear eye protection. Work in a well-ventilated area. Do not smoke or allow a spark or flame in the vicinity of the battery. Avoid dropping metal tools on the battery. If battery acid contacts eyes, flush with water for 15 minutes and get prompt medical attention. Review the safety instructions on page 2.

REFER TO THE PHOTOS BELOW AND AT RIGHT

- 1. Unplug the charger from the wall outlet.
- 2. Remove the cover of the battery box by pushing in the tabs on the front and back, and then lifting up.
- 3. Fan the area around the top of the battery with a piece of cardboard (or another <u>nonmetallic</u> material) to remove any hydrogen or oxygen gas that may have been emitted from the battery.
- 4. Unscrew the bolts and remove the battery cables.
- 5. Remove the old battery from the battery box and place the new battery in the box.





- 6. Clean any corrosion off of the ring connectors on the ends of the battery wires. Use a stiff brush or sandpaper. DO NOT apply corrosion-resisting sprays or pads to the rings or bolts after you have cleaned them, since this could prevent the battery from charging properly.
- 7. Replace the battery cables, first connecting the large ring on the end of the RED wire to the POSITIVE (+) bolt of the battery, and then connecting the small ring on the end of the BLACK wire to the NEGATIVE (-) bolt of the battery. Tighten bolts.
- 8. Plug the charger back into the wall outlet. (Provide additional protection for the control unit by using a surge protector.)
- 9. If any of the alarms are sounding, press the RESET button on the front of the control panel for one (1) second.

2 DC fuse has blown

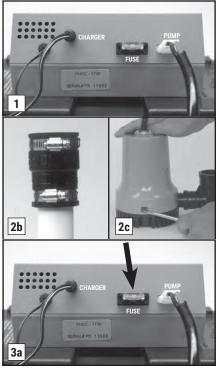
🛕 DANGER

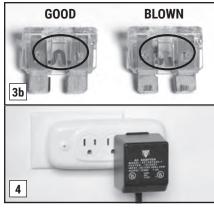
Unplug the main AC pump before servicing the backup pump to avoid electric shock. Failure to do so could cause serious injury or death.

This alarm indicates that the 20-Amp safety fuse on the back of the control unit has blown. This can be the result of a clogged pump motor, or pump wires that have been shorted out. To determine the problem:

REFER TO THE PHOTOS BELOW

- 1. Check the pump plug in the back of the unit to make sure it is firmly connected. Check the pump wires to make sure they are connected securely to the pump plug. Check the rest of the pump wires for any possible breaks.
- If the pump wires are intact, the pump may be clogged. (a) Disconnect the control unit from the wall outlet, and disconnect the battery cables and the fluid sensor. (b) Release the union or check valve and remove the pump and rigid PVC pipe section from the sump pit. (c) Clear any debris from the strainer, and then reconnect the pump to the discharge pipe. (d) Connect the control unit and the battery cables to the battery—the large ring on the end of the RED wire to the POSITIVE (+) bolt of the battery, and then the small ring on the end





of the BLACK wire to the NEGATIVE (-) bolt of the battery. Tighten bolts. (e) Plug the control unit back into the wall outlet.

- 3. (a) Check the DC fuse by pulling it out of the fuse holder. (b) If the wires are burned and broken, replace the fuse with a 20-Amp DC safety fuse. If the fuse blows again, unplug the controller from the wall and disconnect the battery cables from the battery. Then call Glentronics' technical support for instructions at 800-991-0466. You may need to replace the pump.
- 4. Plug the main AC pump back into the wall outlet.

(3) Backup pump was activated

When the water rises in the sump pit and activates the float switch, the pump will begin pumping, and the "Pump was activated" light and alarm will turn on. Try to determine what caused the system to activate.

- Check the main AC pump for failure. It may not be working, the float switch may be stuck, or the pump may be too small to handle the inflow of water.
- Make sure the check valve is working and installed correctly.
- Make sure the discharge pipe is not clogged or frozen.
- If the power was out, the backup pump was automatically activated. Push the RESET button on the front of the control panel to silence the alarm.

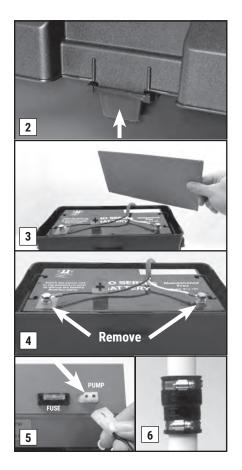
REPLACING THE PUMP

Before you begin this process, you will need a new backup pump. If a check valve is installed, now would be a great time to replace it (consider the Pro Series Klunkless check valve—see back cover).

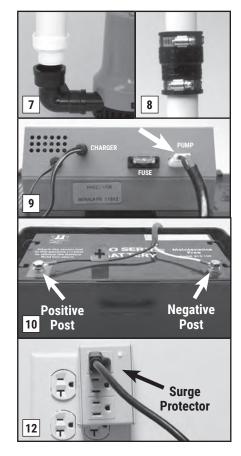
Unplug the main AC pump when installing or servicing the backup pump to avoid electric shock. Failure to do so could cause serious injury or death. Review the safety instructions on page 2.

REFER TO PHOTOS BELOW

- 1. Unplug the charger from the wall outlet.
- 2. Remove the cover of the battery box by pushing in the tabs on the front and back, and then lifting up.



- 3. Fan the area around the top of the battery with a piece of cardboard (or another nonmetallic material) to remove any hydrogen or oxygen gas that may have been emitted from the battery.
- 4. Remove the battery cables from the battery.
- 5. Unplug the pump from the back of the control unit.
- 6. Release the union or check valve and remove the pump and the rigid PVC pipe section from the sump pit.
- 7. Unscrew the pipe and adapter from the old pump, and screw them into the new pump.
- 8. Lower the pump into the pit and reconnect the union or check valve.
- 9. Plug the pump wires into the back of the control unit.
- 10. Connect the battery cables to the batterythe large ring on the end of the RED wire



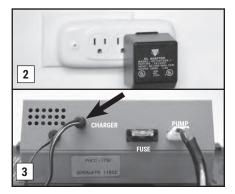
to the POSITIVE (+) bolt of the battery, and then the small ring on the end of the BLACK wire to the NEGATIVE (-) bolt of the battery. Tighten the bolts.

- 11. Replace the cover on the battery box.
- 12. Plug the charger and the main AC pump back into the wall outlet. (Provide additional protection for the control unit by using a surge protector.)
- 13. If any alarms are sounding, press the RESET button on the front of the control panel for one (1) second to silence them.

(4) Unit is not receiving AC power

There are several causes for power failure. The most common is a power outage by your electric company. During this emergency, the Pro Series system will automatically switch to battery power and protect your basement from flooding.

Silence the "AC power failure" alarm for 24 hours by pressing the RESET button on the front of the control panel for five (5) seconds. The alarm will be silenced, but the light will stay on. The system will continue to operate



while the power alarm is silenced. After 24 hours, the alarm will reset automatically.

- 1. If the power is on in the rest of the house, check the home's circuit breaker or fuse box for failure, and correct the problem.
- 2. Check the charger. Make sure it is securely plugged into the wall outlet. Check the outlet to ensure it is working.
- 3. Check the charger plug that fits into the rear panel of the control unit. Make sure it is securely plugged into the control unit.

The control unit must receive 115 volts AC +/- 5% from the AC outlet. Any voltage lower than 110 volts will activate the power failure alarm. Lower voltages can be caused by utility company brownouts or a heavy power draw from other appliances on the same circuit. Reduce the number of appliances on the circuit.

If all the connections are secure and the wall outlet is operating, but the "AC power failure" warning light is still on, replace the charger unit with the Pro Series part #1015010; call Glentronics at 800-991-0466 to order it.

Charging (5)

The Pro Series 1850 is equipped with a computer-controlled, automatic charging system. The computer is constantly monitoring the battery and will supply a preprogrammed amount of energy to keep your battery at full charge. The "Charging" light has two charging states. Solid green-the charger is changing the battery. Blinking green-the charger is maintaining the battery at its optimum level. The charging light will be off when it is not charging. If the battery is discharged from extended use, the charger light will remain on until the battery is completely recharged.

System Operating (6)

This light will always be on when power is coming from either the battery or the outlet.

TEST-RESET-SILENCE BUTTON

To test the pump, press the RESET button on the front of the control panel for one (1) second. The pump will run for 2 seconds and then shut off automatically.

To silence an alarm, press the RESET button for one (1) second. Some alarms cannot be silenced since action must



be taken to prevent a flood.

To silence the alarms for 24 hours, press the RESET button for five (5) seconds until you hear a buzz. The alarms will automatically reactivate in 24 hours

TESTING THE FLOAT SWITCH

It is important to manually test the float switch periodically or after any maintenance.

Unplug the main AC pump when installing or servicing the backup pump to avoid electric shock. Failure to do so could cause serious injury or death. Review the safety instructions on page 2.

Lift the float up and let go. This will activate the pump. The control unit will LIFT run the pump for FLOAT approximately 25 seconds so it can empty all the water in the sump pit. While the pump is running,

water will come out of the 3/16-inch hole that was drilled into the PVC discharge pipe. This is normal. The hole is needed to prevent an air lock within the system. **DO NOT** obstruct the hole or an air lock may prevent the system from activating. If the pit has no water in it, the pump can run dry for this amount of time. The alarm will sound and the "Pump was activated" light will go on. After the pump stops, push the RESET button to silence the alarm BE SURE TO PLUG IN THE MAIN AC PUMP WHEN YOU HAVE COMPLETED THE TEST.

Using the Remote Notification

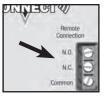
THE REMOTE TERMINAL

The Pro Series 1850 can be connected to a home security system or other alarm devices to alert you to a problem or required maintenance.

INSTRUCTIONS FOR CONNECTING THE REMOTE ALARM

The terminal is located on the front of the control unit. The three (3) positions for wire connections on the terminal are: N.O. (normally open), N.C. (normally closed), and common.

Check your security system to determine whether an open (no contact) or closed (making contact) connection is needed to activate the alarm.



Battery Backup

The security system will provide two connection terminals. Extend wires from the security system to the Pro Series control unit. Strip the two wires, 14-inch each. Connect either wire to the common terminal. To secure the wire into the terminal, insert the exposed wire into the hole on the back of the terminal next to the screw marked common. Turn the screw a few turns to lock in the wire.

If the security system requires a closing of a contact to activate the alarm, secure the other wire in the terminal hole labeled N.O. (normally open). If the security system requires an opening of a contact, secure the wire in the terminal hole labeled N.C. (normally closed).

USB DATA PORT

This system is equipped with a USB data port on the side of the controller. The purpose of this port is to allow communication with the Pro Series Connect Module. DO **NOT** connect any other

device to the USB data port other than a Pro Series Wifi2 Module.



The Pro Series Connect Module is a separately sold accessory that will allow the user to stay connected and receive remote notifications of potential problems and needed maintenance while away from home.

Pro Series WiFi Module

(Model PS-WiFi2)



- · Sends emails, text or push notifications and status alerts to your phone, tablet or computer
- · No required monthly or yearly fees or subscriptions

For more information, please visit www. StopFlooding.com

MAINTENANCE CHECKLIST

- 1. Maintenance should be performed 1-2 times per year
- 2. Lift the float switch as described at left.
- 3. Remove all debris from the bottom of the pit and the pump strainer.
- 4. Remove all debris from the water.
- 5. Remove all debris from the float switch.
- 6. Fill the pit with water. Make sure the pump turns on at the intended level.
- 7. While the pump is running, make sure the pump is evacuating water at a good pace and water is coming out of the 3/16-inch air bleed hole.
- 8. Check and clean battery terminals.
- 9. Check the battery fluid levels once every four months.

PARTS & SERVICE INFORMATION

You can receive technical support, parts or service information by calling Glentronics, Inc. at 800-991-0466 or by visiting the Pro Series website at www.stopflooding.com. Send your unit to the following address if repairs are needed:

Glentronics, Inc., Attn: Repairs 645 Heathrow Drive Lincolnshire, IL 60069-4205

Potential Cause	BATTER	Y PROBLEM	Solution
Terminals are corroded		Clean terminals and cables	
Cables are loose		Tighten bolts	
Battery is discharged below 25%		Replace battery if power is out. Only 1 hour of continuous pumping power remains. Battery will recharge when power is restored	
Battery is old or damaged		Replace battery	
Potential Cause	POWE	R FAILURE	Solution
Power outage		None. The backup pump will run off the battery. Slide the Audible Alarm switch to the off position. When power has returned, slide switch to on	
An outlet, fuse or circuit breaker has failed		Try another outlet, replace the fuse, or reset the circuit breaker	
The power cord is unplugged		Make sure the power cord is plugged in securely	
The charger is receiving less than 110 volts from the outlet		None, if the utility company has instigated brownouts. Otherwise, reduce the number of other appliances on the circuit	
Potential Cause	PUMP	P FAILURE	Solution
Backup pump is unplugged		Make sure the pump is securely plugg	ged into the back of the control unit
Backup pump is clogged		Remove strainer from pump and clear	n out any debris
Backup pump is broken		Replace the pump	
Potential Cause	PUMP WA	S ACTIVATED	Solution
The main AC pump failed because	of a power outage	None. The backup pump was activate	d when needed
The float switch on the main pump is stuck or defective		Free the float switch on the main pur	np or replace it
The main AC pump is broken		Replace the main AC pump	
The main AC pump could not keep up with the inflow of water		None. The backup pump was activate problem, install a higher-capacity mai	
The check valve(s) is/are stuck or	installed improperly	Replace the check valve(s) or correct the installation	
Discharge pipe is clogged or froze	1	Clean out the blockage, thaw or replace the discharge pipe	
There is a slight chance of false a cord is wrapped around the AC por		Move the float switch cord away from	the AC power cord
Potential Cause	DC FUSE	HAS BLOWN	Solution
Pump is clogged		Remove strainer from pump. Clean out	t any debris. Replace the 25-Amp DC fuse
Pump wires are exposed		Replace the pump	
Pump is broken		Replace the pump	
Potential Cause	WATER WILL N	OT LEAVE THE PIT	Solution
The float switch is not connected t	o the controller	Check connection of the float switch t	to the controller
No check valve		If connecting backup to the primary discharge pipe, make sure a check valve installed on both the main and backup pipes below the tie-in point	
Check valve is broken or installed i	mproperly	Make sure check valve(s) is/are functioning and installed properly	
Discharge pipe is clogged or frozen		Clean out the blockage, thaw or replace the discharge pipe	
There is an air lock in the system		Make sure the ³ / ₁₆ -inch weep hole is d check valve, but above the water line.	
Potential Cause	SYSTEM DOES NOT OPE	RATE AFTER INSTALLATION	Solution
The battery cables are connected I	1 1	Reverse the battery connections	

If the listed solutions do not resolve the problem, follow the instructions within this manual to disconnect the system from the outlet and battery terminals, then reconnect the system and push the RESET button. If the problem continues, contact customer service at 800-991-0466, option 3.

LIMITED WARRANTY

By opening this package and using this GLENTRONICS, INC. product, you are agreeing to be bound by the terms of the GLENTRONICS, INC. limited warranty") as set out below. Do not use your product until you have read the terms of the warranty. If you do not agree to the terms of the warranty, do not use the product and return it within the return period stated on your purchase receipt from the retail store or authorized distributor where you purchased it for a refund.

To the extent permitted by law, this warranty and the remedies set forth are exclusive and in lieu of all other warranties, remedies and conditions, whether oral, written, statutory, express or implied. GLENTRONICS, INC. disclaims all statutory and implied warranties, including without limitation, warranties of merchantability and fitness for a particular purpose and warranties against hidden or latent defects, to the extent permitted by law. GLENTRONICS, INC. will not be liable for any incidental, special or consequential damages for breach of any express or implied warranties on this product. In so far as such warranties cannot be disclaimed, GLENTRONICS, INC. limits the duration and remedies of such warranties to the duration of this express warranty and, AT GLENTRONICS, INC.'s option, the repair or replacement services described below. Some states (countries and provinces) do not allow limitations on how long an implied warranty (or condition) may last, so the limitation described above may not apply to you.

Any and all causes of action arising from, filed as a result of or in reference to, this warranty or the products described under this warranty shall be governed by and construed under the laws of the State of Illinois. Any cause of action arising from, filed as a result of or in reference to, this warranty or the products described under this warranty shall be filed only in the Circuit Court of the 18th Judicial District, Lake County, Waukegan, Illinois, or in the Northern District of Illinois if filed in Federal Court. The maximum liability for any product described in this warranty shall be the cost of product replacement only.

If any term is held to be illegal or unenforceable, the legality or enforceability of the remaining terms shall not be affected or impaired.

What is Covered by this Warranty?

GLENTRONICS, INC. warrants to the end purchaser that its pumps, switch and control unit products are free from defective materials and workmanship for the periods indicated below:

All parts and labor (excluding installation) for a period of:

• 3 years from the date of installation, when used intermittently as a sump pump

The defective product must be returned directly to the factory, postage prepaid with the original bill of sale or receipt to the address listed below. GLENTRONICS, INC., at its option, will either repair or replace the product and return it postage prepaid.

What is NOT Covered by this Warranty?

This warranty does not cover the cost or value of damaged property, including expressly any property that has been affected by water overflow, seepage or flooding. If GLENTRONICS, INC. determines that a product is deemed defective under this warranty agreement, it will repair or replace the PRODUCT ONLY. GLENTRONICS, INC. will not cover the cost to reinstall the product, nor will GLENTRONICS, INC. pay the cost of having a plumber or contractor repair or replace the product.

GLENTRONICS, INC. will not repair or replace a product that was installed incorrectly. A product shall be considered "installed incorrectly" when it deviates in any way from the instructions described in this manual.

This warranty does not cover product problems resulting from handling liquids hotter than 104 degrees Fahrenheit, handling inflammable liquids, solvents, strong chemicals or severe abrasive solutions; user abuse; misuse, neglect, improper maintenance, commercial or industrial use; improper connection or installation, damages caused by lightning strikes; excessive surges in AC line voltage; water damage to the controller; other acts of nature, or failure to operate in accordance with the enclosed written instructions.

How to Obtain Warranty Service

Call Glentronics customer service to troubleshoot the problem with the product. If a replacement part is needed, it will be sent. Within thirty (30) days of the product's defective performance, theunit must be shipped, freight prepaid, or delivered to GLENTRONICS, INC. to provide the services described hereunder in either its original carton and inserts, or a similar package affording an equal degree of protection. Products not received by GLENTRONICS, INC. at the address indicated below within thirty (30) days of the product's defective performance will not be considered for warranty service. Products received after three (3) years from the date of purchase, fall outside of the timeframe for warranty service and will not be eligible for warranty service. The product must be returned to GLENTRONICS, INC. for inspection in order to be considered for warranty service. If the product is not returned to GLENTRONICS, INC. or the product is inspected by any person, plumber, contractor or business other than GLENTRONICS, INC., this warranty shall no longer be valid. Prior to defective operation, the unit must not have been subject to accident, misuse, abuse or operated contrary to the instructions contained in the accompanying manual. The dealer's dated bill of sale, or installer's invoice must be retained as evidence of the date of purchase and to establish warranty eligibility.

Where are Products Sent for Warranty Service?

Glentronics, Inc., 645 Heathrow Drive, Lincolnshire, IL 60069

How Can I Obtain More Information?

By calling 800-991-0466

Check Out These Other Pro Series Products at Stopflooding.com

AC PUMPS

INDUSTRIAL GRADE PUMPS FOR THE RESIDENTIAL MARKET



The Pro Series Pumps line of AC sump pumps and sewage pumps are strong, dependable, and so energy efficient they could pay for themselves in a few years. The sump pumps can be equipped with dual float switches for added reliability, and a controller that will sound an alarm if AC power goes out or a pump problem occurs. The control unit has a terminal which can be connected to your security system or an auto dialer to forward the signal to you or your alarm company. When your main AC pump needs replacement, consider upgrading to one of the pumps in the Pro Series line.



Scan the OR code for more information about the reliable line of AC pumps

Float Switches

WHAT'S THE MOST COMMON **REASON YOUR AC PUMP FAILS?**



It's probably the result of a float switch that is stuck or broken. Replace it with a Pro Series dual float and controller for reliable operation. The dual float has not one but two floats mounted within a protective cage. Should one float fail to operate, the second float automatically activates the pump. The protective cage prevents debris or other wires from interfering with the movement of the float. It can be used to replace the float on most AC pumps.

Check Valves

WHAT'S A KLUNKLESS **CHECK VALVE?**



If you've spent any time in your basement, you've probably noticed your sump pump turning on and off with a loud clunk. That's the result of the water pressure slamming the valve closed in the check valve. The Klunkless Check Valve has a built-in air chamber to counteract that pressure and muffle the sound. It works just like a conventional check valve, only quieter.

Water Alarms

MINIMIZE THE RISK OF WATER DAMAGE



PS-WA360

You can detect leaks before they become bigger problems by placing a water alarm wherever water damage is a risk-in the utility room, laundry room, kitchen, bathroom or basement. The alarm will sound when as little as $\frac{1}{32}$ -inch of water reaches the sensor

