



Owner's Manual

12 Volt Battery Backup

Sump Pump System



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Before you start

A sump pump is an electrical device designed to operate in inherently wet environments.

ALWAYS USE EXTREME CAUTION

when installing or maintaining this product!

Need Help: Call 1-877-326-3561 for assistance;
Do Not Return to Store

GENERAL SAFETY


Important Safety Instructions


Carefully read and follow all safety instructions in this manual and on pump.


SAVE THESE INSTRUCTIONS – This manual contains important instructions that should be followed during installation, operation, and maintenance of the product.


Save this manual for future reference.

Safety Labels

 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** Indicates a hazard which, if not avoided, will result in death or serious injury.


 **WARNING** Indicates a hazard which, if not avoided, could result in death or serious injury.

 **CAUTION** Indicates a hazard which, if not avoided, could result in minor or moderate injury.

NOTICE indicates practices not related to personal injury.

Keep safety labels in good condition. Replace missing or damaged safety labels.

General Safety

 **CAUTION** Risk of burns. Do not touch an operating motor. Motors are designed to operate at high temperatures. To avoid burns when servicing pump, allow it to cool for 20 minutes after shut-down before handling.


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.

 **WARNING** Risk of explosion. Pump body may explode if used as a booster pump.

 **WARNING** Avoid exposing controls or battery to any open flame or sparks. Batteries can generate explosive gases.

For parts or assistance, call ECO-FLO Customer Service at 1-877 326-3561

Provide proper ventilation. The battery enclosures should be designed to prevent accumulation and concentration by hydrogen gas in “pockets” at the top of the compartment. Vent the battery compartment from the highest point. A sloped lid can also be used to direct the flow to the vent opening location. To reduce the risk of the battery explosion, follow all the instructions of the battery supplier or any equipment you intend to use in the vicinity of batteries.

⚠ WARNING Use the correct insulated tools to make AC/DC wiring connections.

⚠ WARNING Do not install battery/controls on or near flammable materials (plywood, chemicals, gas online etc.)

Personal Precautions:

⚠ CAUTION Someone should be within the range of your voice to come to your aid when you work near batteries.

⚠ CAUTION Have plenty of fresh water and soap nearby in the event that battery acid contact skin, clothing or eyes.

⚠ CAUTION Wear complete eye and clothing protection.

⚠ CAUTION Avoid touching eyes while working near batteries. Wash your hands when done.

⚠ CAUTION If battery acid comes in contact with skin or clothing, wash immediately with soap and water.

KNOWING YOUR SYSTEM

The battery pack acts as a reserve to ensure continuous supply of power whenever mains supply from utility power is not available. The controls are used to charge the batteries when normal utility power is available and converts the battery’s DC to AC voltage to run the pump when utility power is lost.

BATTERY SAFETY

A battery can present a risk of severe burn and injury from high short circuit current. The following precautions should be observed when working on batteries.

1. Do not dispose of battery in a fire. The battery may explode.

2. Do not open or mutilate the battery. Released electrolyte is harmful to the skin and eyes. It may be toxic.

3. The electrolyte is a dilute sulfuric acid that is harmful to the skin and eyes. It is electrically conductive and corrosive. The following procedures should be observed:

a. If electrolyte contacts the skin, wash it off immediately.

b. If electrolyte contacts the eyes, flush thoroughly and immediately with water. Seek medical attention.

c. Spilled electrolyte should be washed down with a suitable acid neutralizing agent. A common practice is to use a solution of approximately one pound (500 grams) bicarbonate of soda to approximately one gallon (4 liters) of water. The bicarbonate of soda solution be added until the evidence of reaction (foaming) has ceased. The resulting liquid should be flushed with water and the area dried.

4. Do not reverse the battery connections, as it will blow the battery fuse. A power cord has been provided to connect the controls to an incoming AC wall outlet.

BATTERY REQUIREMENTS

Your unit operates on 12VDC battery power when in the power fail mode. A UL recognized deep cycle marine battery should be used. There are two principal types of batteries: starting and deep cycle. There are several different types of battery constitutions including liquid lead acid, nickel iron, nickel cadmium, alkaline and maintenance free. Batteries can be sealed or vented.

Starting Batteries

Starting batteries are designed for high cranking power but not deep cycling. Do not use them with your back-up sump pump. They will simply not last long in a deep cycle application.

Deep Cycle Batteries

Deep cycle batteries are best suited for use with the battery back-up sump pump. They are designed to have the majority of their capacity used before recharge. Available in many sizes and types, be sure to use at least a 80AH battery.

BATTERIES NOT INCLUDED

CONTENTS

- 1 - 12 volt battery backup sump pump
- 1 - Control/alarm panel
- 1 - Float switch
- 1 - 12 volt battery charger
- 1 - Extra fuse
- 2 - Battery terminal post clamps
- 2 - Wire ties
- 1 - Plastic battery case (Battery not included)
- 1 - Dual pipe size (1-1/2" or 1-1/4") PVC tee with a 1" threaded check valve fitting for installing the pump
- 4 - Mounting screws

TOOLS & MATERIALS NEEDED

TOOLS:

- Adjustable wrench or socket wrench
- Screwdriver
- Hack saw or PVC pipe cutters
- File or sandpaper for sanding cut pipe
- Clean cloth for wiping water debris

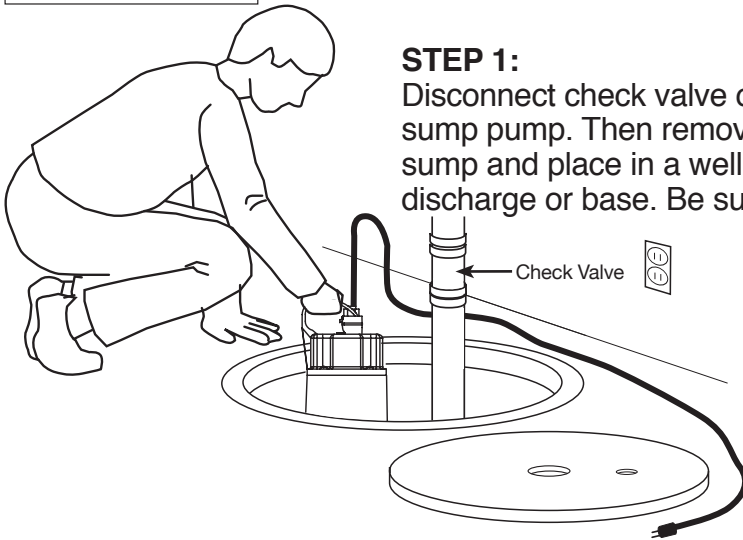
MATERIALS:

- PVC cement and primer
- One 12 Volt Group 24 Deep Cycle Marine Battery

INSTALLATION



DISCONNECT ELECTRICAL POWER FROM PRIMARY SUMP PUMP



STEP 1:

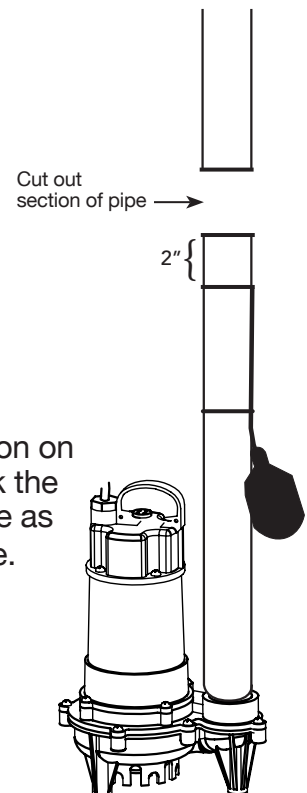
Disconnect check valve or coupling from the discharge pipe and primary sump pump. Then remove primary sump pump and pipe assembly from sump and place in a well lit work area. Re-install check valve at the sump discharge or base. Be sure check valve is below the back up pump.

STEP 2:

Hold the automatic float switch up in the on position. Mark that location on the discharge pipe. From that mark, measure up the pipe 2" and mark the pipe again. At the second mark, cut off a section of the discharge pipe as described below, to allow space for the supplied pump installation tee.

If discharge is 1-1/4" pipe, cut off 1-1/2" of pipe.

If discharge is 1-1/2" pipe, cut off 2" of pipe.

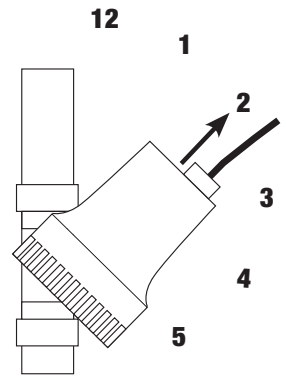


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INSTALLATION

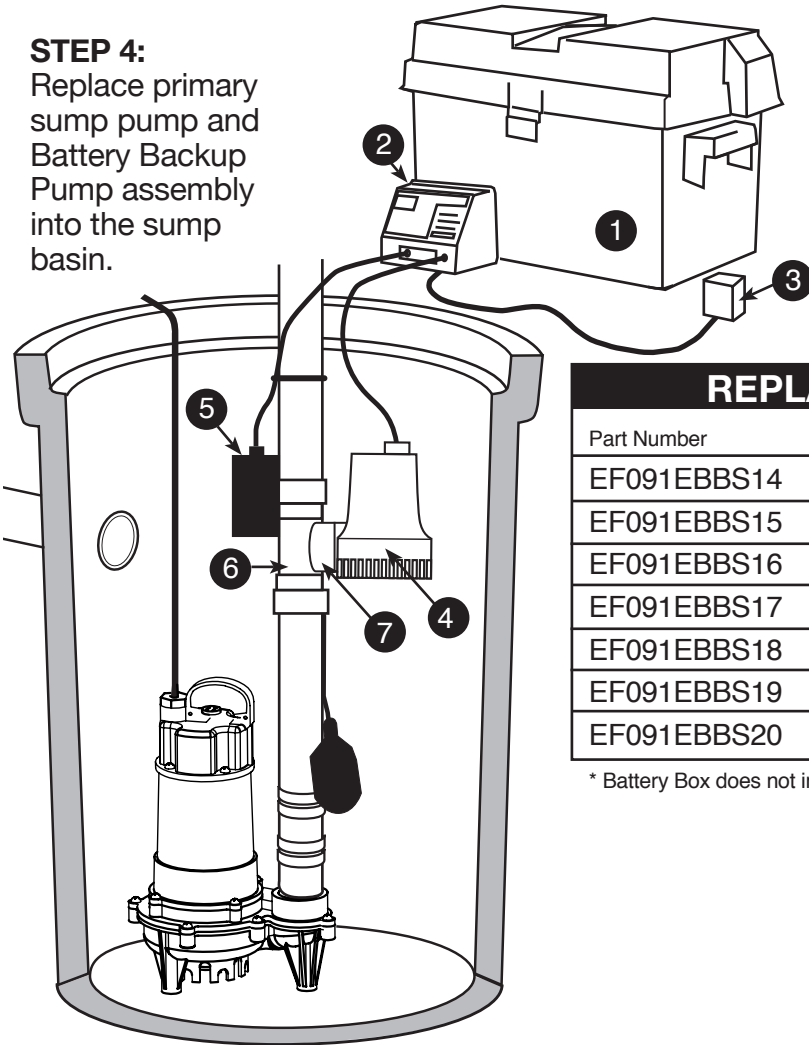
STEP 3:

Thread the Battery Backup Sump Pump onto the dual size pipe tee provided. Once the pump is threaded tight and oriented parallel to the discharge pipe, turn the pipe to the 2 o'clock position to prevent air from being trapped in the pump housing. Then cement the installation tee to the discharge pipe with PVC primer and PVC cement.



STEP 4:

Replace primary sump pump and Battery Backup Pump assembly into the sump basin.



REPLACEMENT PARTS

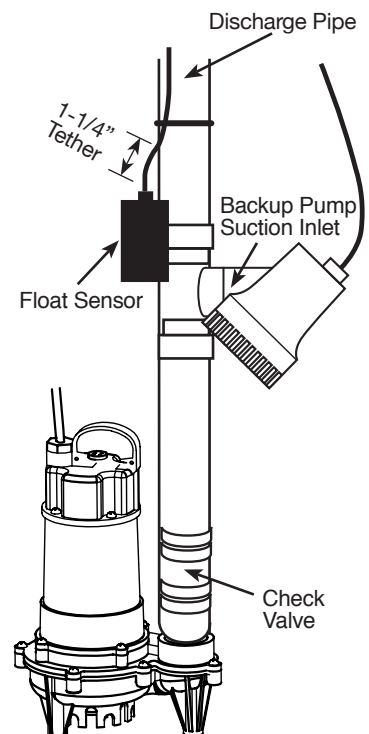
Part Number	Description	No.
EF091EBBS14	Battery Box*	1
EF091EBBS15	Control	2
EF091EBBS16	12V. Transformer/Plug	3
EF091EBBS17	Pump - 2700GPH	4
EF091EBBS18	Float Switch	5
EF091EBBS19	Inline Tee	6
EF091EBBS20	Check Valve	7

* Battery Box does not include battery or control.

The top of the Battery Backup Pump should be at least 4" below the top of the sump and at least 1" above the highest water level of the primary sump pump. Connect the remaining discharge pipes, check valve and couplings.

STEP 5:

Attach the automatic float switch to the discharge pipe so that the switch is tethered 1-1/4" from the discharge pipe. Use the supplied wire straps to mount the float switch cord to the discharge pipe.

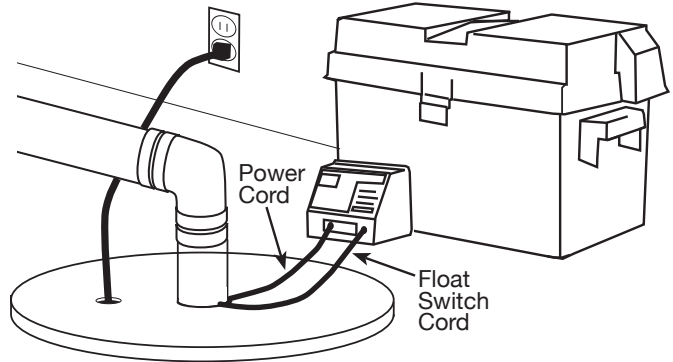


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BATTERY & CONTROL/ALARM PANEL ASSEMBLY

STEP 6:

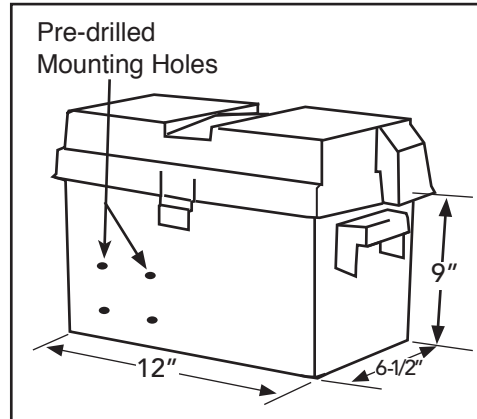
Feed the pump and float switch cords through the sump pump vent or utility hole and cover the sump with the sump cover.



STEP 1:

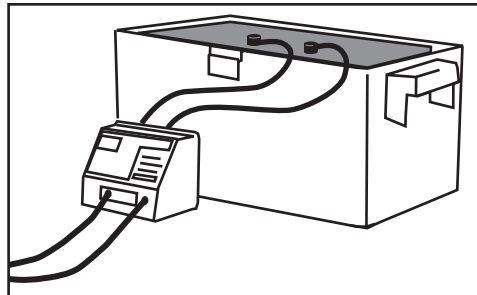
Mount the Control/Alarm Panel to the battery case using the four mounting screws provided. Battery case has four mounting holes predrilled for easy installation of control panel.

For best results, use a Group 24, marine battery. Battery dimensions should not exceed : 9" high (including post) x 12" long x 6-1/2" wide.



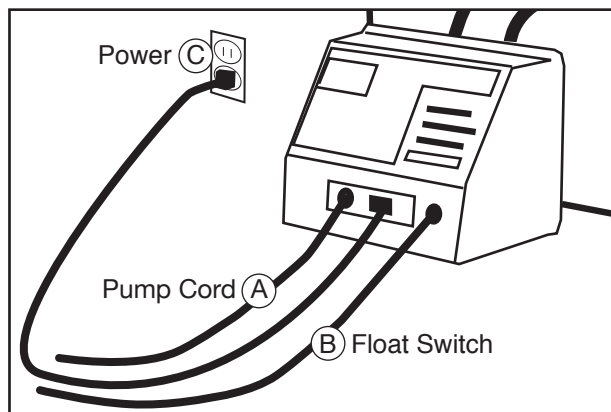
STEP 2:

Insert marine battery into battery case. Attach the RED and BLACK wires from the back of the control/alarm panel to each of the battery clamps provided. Then connect battery clamps to the battery. RED WIRE to the POSITIVE (+) terminal and the BLACK WIRE to the NEGATIVE (-) terminal.



STEP 3:

Plug in the designated components to the control/alarm panel, (A) battery backup pump, (B) the float switch, (C) and the 12 volt transformer.



STEP 4:

Turn the alarm switch on the control/alarm panel to the OFF position and plug the 12 volt transformer in a GFCI outlet. If a GFCI outlet is unavailable, have an electrician install one for you. Once proper power is supplied, turn the alarm switch to the on position. Then plug the primary sump pump to its power source.

YOUR BATTERY BACKUP SUMP PUMP SYSTEM IS READY.

For parts or assistance, call ECO-FLO Customer Service at 1-877 326-3561

TESTING THE SYSTEM

STEP 1:

Disconnect the power to the primary sump pump so the only pump available is the Battery Backup Sump Pump.

STEP 2:

With a garden hose or buckets of water fill the sump basin with water. At the designated level of water, the Battery Backup Sump Pump should activate and the ALARM and ALARM INDICATOR LIGHT should come on. This indicates the system is working.

STEP 3:

Press the RESET button on the control/alarm panel and reconnect power to the primary sump pump. The test is complete.

NOTE: If the Battery Backup Sump Pump failed to activate, review the complete instructions.

NORMAL OPERATION

The Battery Backup Sump Pump is designated as an emergency back up pump in the event your primary sump pump fails or if there is a loss of power to your primary sump pump.

THE BATTERY BACKUP SUMP PUMP IS NOT INTENDED FOR USE AS A PRIMARY SUMP PUMP.

PRIMARY SUMP PUMP FAILURE

In the event your primary sump pump fails or loses power, the Battery Backup System will automatically activate when the float switch reaches the ON position. When it turns on, a alarm will sound and the alarm indicator will light. When the water in the sump basin recedes and the pump turns off, the alarm will continue to sound until you depress the ON/OFF switch to the on/off switch to the ON position and press the RESET button.

BATTERY LOW

In the event 12 volt battery charge should drop lower than 11 volts, the alarm will sound and the BATTERY LOW indicator will light. Press the ON/OFF switch to OFF position, disconnect power to the 12 volt transformer from the GFCI outlet and disconnect the pump and float switch cords from the alarm/control panel plugs. Have the battery checked, serviced or replaced if necessary. Once 12 volt battery is serviced or replaced, reconnect all plugs, cables and power and follow the Test Procedures listed in this owners manual.

BATTERY CHARGING/CHARGED

When the battery is not at full charge capacity, the BATTERY CHARGING indicator will light. The battery charger is simply recharging the battery to its full charged capacity. Once the battery has reached full charging capacity (13 volts) the CHARGED indicator will light.

If neither the BATTERY CHARGING or CHARGED indicator lights are on, check all wire connections and plugs to ensure proper hook up.

LEADS REVERSED

If you connect the battery cable to the wrong battery terminal, the LEADS REVERSED indicator will light. Simply remove the battery cable and reconnect to the proper battery terminals. The RED WIRE is connected to the positive (+) terminal and the BLACK wire is connected to the negative (-) terminal.

You must replace the 1 amp fuse with the extra fuse provided. Simply turn the fuse cover counter clockwise until the burnt fuse is exposed. Replace the fuse and thread the fuse cover, turning clockwise.

BATTERY MAINTENANCE

The 12 volt marine battery should be tested every four to six months. It is recommended to replace the battery every three to four years. Follow the battery manufacturers recommendations for proper battery maintenance and battery replacement.

WARRANTY

Retain Original Purchase Receipt for Warranty Eligibility

Limited Warranty

Manufacturer warrants to the original consumer purchaser ("Purchaser" or "You") that its products are free from defects in material and workmanship for a period of twelve (12) months from the date of the original consumer purchase. If, within twelve (12) months from the original consumer purchase, any such product shall prove to be defective, it shall be repaired or replaced at manufacturer's option, subject to the terms and conditions set forth herein. Note that this limited warranty applies to manufacturing defects only and not to ordinary wear and tear. All mechanical devices need periodic parts and service to perform well. This limited warranty does not cover repair when normal use has exhausted the life of a part or the equipment.

The original purchase receipt and product warranty information label are required to determine warranty eligibility. Eligibility is based on purchase date or original product – not the date of replacement under warranty. The warranty is limited to repair or replacement of original purchased product only, not replacement product (i.e. one warranty replacement allowed per purchase).

Purchaser pays all removal, installation, labor, shipping, and incidental charges.

Claims made under this warranty shall be made by returning the product to the retail outlet where it was purchased or to the factory immediately after the discovery or any alleged defect. Manufacturer will subsequently take corrective action as promptly as reasonably possible. No requests for service will be accepted if received more than 30 days after the warranty expires. Warranty is not transferable and does not apply to products used in commercial/rental applications.

General Terms and Conditions; Limitations of Remedies

You must pay all labor and shipping charges necessary to replace product covered by this warranty. This warranty does not apply to the following: (1) acts of God; (2) products which, in manufacturer's sole judgment, have been subject to negligence, abuse, accident, misapplication, tampering, or alteration; (3) failures due to improper installation, operation, maintenance or storage; (4) atypical or unapproved application, use or service; (5) failures caused by corrosion, rust or other foreign materials in the system, or operation at pressures in excess of recommended maximums.

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

MANUFACTURER SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, OR CONTINGENT DAMAGES WHATSOEVER. THE FOREGOING LIMITED WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS AND IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE FOREGOING LIMITED WARRANTIES SHALL NOT EXTEND BEYOND THE DURATION 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.



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