

Zoeller 508-0006

Zoeller 508-0006 12 V Submersible Battery Back-Up Sump Pump System User Manual

Model: 508-0006

INTRODUCTION AND SAFETY INFORMATION

This manual provides essential instructions for the safe installation, operation, and maintenance of your Zoeller 508-0006 12 V Submersible Battery Back-Up Sump Pump System. Please read this manual thoroughly before attempting to install or operate the pump. Failure to follow these instructions may result in property damage, serious injury, or death.

General Safety Warnings

- Always disconnect power before servicing the pump or battery.
- Do not operate the pump with a damaged cord or plug.
- Ensure all electrical connections are made by a qualified electrician and comply with local codes.
- This pump is designed for clear water only. Do not use for sewage, flammable liquids, or chemicals.
- Keep hands and feet clear of the pump inlet and discharge openings during operation.
- Wear appropriate personal protective equipment (PPE) during installation and maintenance.
- The battery used with this system contains sulfuric acid. Handle with care and follow battery manufacturer's safety guidelines.

PRODUCT OVERVIEW AND FEATURES

The Zoeller 508-0006 is a reliable 12-volt DC submersible battery back-up sump pump system designed to activate automatically when your primary AC sump pump fails or during a power outage. It provides an essential layer of flood protection for your basement or crawl space.



Figure 1: Zoeller 508-0006 Battery Back-Up Sump Pump System. This image shows the complete system including the pump, control box, and battery case.

Key Features:

- **Integrated Control Box:** Features a 10 amp battery recharging system with overcharge protection.
- **LED Indicators:** Clearly display battery power status and float switch activation.
- **Audible Alarms:** Alert you to high water levels, reverse polarity, and low battery conditions.
- **Vertical Float Switch:** Solid and buoyant polypropylene design for reliable activation.
- **Durable Battery Case:** Constructed from non-corrodible polyethylene.
- **Included Accessories:** DC pump discharge check valve, AC pump check valve, tee, and adapter for easy integration.
- **Power Cord:** 6-foot power cord for convenient connection.

SETUP AND INSTALLATION

Proper installation is crucial for the reliable operation of your battery back-up sump pump system. This system is designed to work as a backup to a primary sump pump.

1. Sump Pit Requirements

The sump pit must have a minimum diameter of 18 inches and a minimum depth of 22 inches to accommodate both the primary sump pump and the Zoeller 508-0006 system, including the battery case.



Figure 2: Illustrative diagram of a sump pit showing recommended dimensions for primary and backup pump placement.

2. Battery Installation

1. Place the battery case (non-corrodible polyethylene) in a suitable location near the sump pit, ensuring it is easily accessible for maintenance.
2. Insert a 12V deep cycle marine battery (not included) into the battery case. The maximum battery dimensions are 13" L x 7-1/2" W x 9-1/2" H.
3. Connect the battery cables from the control box to the battery terminals. Ensure correct polarity: red to positive (+), black to negative (-). The system has reverse polarity protection and an alarm.



Figure 3: Diagram showing proper battery connection to the control box, highlighting positive and negative terminals.

3. Pump and Plumbing Installation

1. Position the Zoeller 508-0006 pump in the sump pit, ensuring it is below the primary pump's activation level but above the pit floor to prevent debris intake.
2. Connect the pump's discharge to the included tee fitting. This tee allows both the primary pump and the backup pump to discharge through a common pipe.
3. Install the included DC pump discharge check valve above the backup pump and the AC pump check valve above the primary pump to prevent backflow.
4. Secure all plumbing connections to prevent leaks.



Figure 4: Detailed plumbing diagram illustrating the connection of the backup pump, primary pump, check valves, and tee fitting to the discharge line.

4. Electrical Connection

Plug the 6-foot power cord from the control box into a standard 120V AC outlet. The control box will begin charging the battery and monitoring the system.

OPERATING INSTRUCTIONS

The Zoeller 508-0006 system operates automatically once properly installed and powered.

Automatic Operation

- The system continuously monitors the battery charge and the water level in the sump pit.
- If the water level rises above the primary pump's activation point and reaches the backup pump's float switch, the 12V DC pump will automatically activate and begin pumping water out of the pit.
- The pump will continue to operate until the water level drops below the float switch's deactivation point.

Control Box Indicators and Alarms

The control box provides visual and audible feedback on the system's status:

- **LED Light (Battery Power):** Indicates the current charge level of the battery. Refer to the control box label for specific light patterns and their meanings (e.g., green for charged, yellow for charging, red for low).
- **LED Light (Float Activated):** Illuminates when the float switch is engaged and the pump is running.

- **High Water Alarm:** An audible alarm will sound if the water level in the sump pit reaches a critical high point, indicating potential system failure or overwhelming water inflow.
- **Low Battery Alarm:** An audible alarm will sound if the battery charge drops to a critical level, indicating the need for inspection or replacement.
- **Reverse Polarity Alarm:** An audible alarm will sound if the battery is connected incorrectly (positive to negative, negative to positive). Correct the connections immediately.

MAINTENANCE

Regular maintenance ensures the longevity and reliability of your Zoeller 508-0006 system.

Monthly Checks:

1. **Test Operation:** Manually lift the float switch to activate the pump. Ensure the pump runs smoothly, discharges water, and the float activated LED illuminates.
2. **Battery Inspection:** Check the battery terminals for corrosion. Clean if necessary. Verify the battery fluid levels (if applicable for your battery type) and top off with distilled water if needed.
3. **Sump Pit Cleanliness:** Inspect the sump pit for debris, dirt, or sediment that could obstruct the pump or float switch. Remove any obstructions.
4. **Check Valves:** Ensure both the DC and AC pump check valves are functioning correctly and not leaking.

Annual Checks:

- **Battery Replacement:** Batteries typically last 3-5 years. Consider replacing your deep cycle marine battery every 3-5 years, or sooner if performance degrades.
- **System Inspection:** Visually inspect all components for wear, damage, or loose connections.

TROUBLESHOOTING

This section provides solutions to common issues you might encounter with your Zoeller 508-0006 system.

Problem	Possible Cause	Solution
Pump does not run when float is activated.	<p>Low or dead battery.</p> <p>Loose battery connections.</p> <p>Reverse polarity connection (alarm sounding).</p> <p>Float switch obstructed or faulty.</p> <p>Pump motor failure.</p>	<p>Check battery charge via LED indicator. Recharge or replace battery.</p> <p>Tighten battery terminal connections.</p> <p>Correct battery cable connections (red to +, black to -).</p> <p>Clear any obstructions around the float switch. Test float switch for proper movement.</p> <p>Contact Zoeller support for pump inspection/replacement.</p>
Low Battery Alarm sounds.	<p>Battery needs charging.</p> <p>Battery is old or faulty.</p> <p>Control box not receiving AC power.</p>	<p>Allow time for the control box to recharge the battery.</p> <p>Test battery with a multimeter; replace if necessary.</p> <p>Check AC power outlet and control box power cord connection.</p>

Problem	Possible Cause	Solution
High Water Alarm sounds.	Backup pump not activating. Backup pump unable to keep up with inflow. Primary pump failure.	Refer to "Pump does not run" troubleshooting. Check for blockages in discharge line. Ensure pump is not air-locked. Inspect primary sump pump for operation.
Pump runs continuously.	Float switch stuck in the "up" position. Check valve failure (allowing water to flow back).	Clear any obstructions around the float switch. Inspect and replace faulty check valves.

SPECIFICATIONS

Feature	Detail
Model Number	508-0006
Voltage	12V DC
Material (Pump/Float)	Polypropylene (PP)
Material (Battery Case)	Non-corrodible Polyethylene
Item Weight	17 Pounds (pump only, without battery)
Power Cord Length	6 feet
Maximum Battery Dimensions (L x W x H)	13" x 7-1/2" x 9-1/2"
Minimum Sump Pit Diameter	18 inches
Minimum Sump Pit Depth	22 inches
GPM @ 5 feet head	39 GPM
GPM @ 10 feet head	30 GPM
GPM @ 15 feet head	20 GPM
GPM @ 20 feet head	6 GPM
GPM @ 22 feet head	Off

WARRANTY AND SUPPORT

The Zoeller 508-0006 12 V Submersible Battery Back-Up Sump Pump System is covered under Zoeller's 3-year warranty. This warranty covers defects in materials and workmanship under normal use and service.

For warranty claims, technical assistance, or to purchase replacement parts, please contact Zoeller customer support. Keep your proof of purchase for warranty validation.

Zoeller Company Contact Information:

Please refer to the official Zoeller website or product packaging for the most current contact details.

