

NOTICE TO INSTALLER: Instructions must remain with installation.

Your Peace of Mind is Our Top Priority®

FM1613
0116
Supersedes
0115

Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.



PUMP COMPANY

Zoeller Family of Water Solutions™

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Register your
Zoeller Pump Company
Product on our website:
<http://reg.zoellerpumps.com/>



MODEL 585


BATTERY BACKUP PEDESTAL SUMP PUMP

P/N 011952

PREINSTALLATION CHECKLIST

- Inspect your pump.** Occasionally, products are damaged during shipment. If the unit or any of the parts are damaged, contact your dealer before using.
- Read all the installation instructions** regarding installing and start up. Retain for future reference.

 **WARNING**
SEE BELOW FOR LIST OF WARNINGS

- | | |
|--|---|
| <ol style="list-style-type: none"> Testing for Ground. As a safety measure each electrical outlet should be checked for ground using an Underwriters Laboratory listed circuit analyzer, which will indicate if the power, neutral and ground wires are correctly connected to your outlet. If they are not, call a qualified licensed electrician. For your protection always disconnect the power supply from its power source before handling the components of your DC backup pump or the primary pump. Installation and checking of electrical circuits and hardware should be performed by a qualified, licensed electrician. | <ol style="list-style-type: none"> All electrical and safety codes must be followed in addition to the National Electrical Code and all applicable local codes.  It is the owner's responsibility to check the battery and battery connection at least once a month. Batteries contain acid and caution must be taken when handling. Risk of electric shock - These pumps have not been investigated for use in swimming pool areas. According to the state of California (Prop 65), this product contains chemicals known to the state of California to cause cancer and birth defects or other reproductive harm. |
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 **CAUTION**
SEE BELOW FOR LIST OF CAUTIONS

- | | |
|---|--|
| <ol style="list-style-type: none"> Make sure there is a properly grounded 115V receptacle available. Do not use primary pump circuit. The location must be within 6' of the control box and battery. The power supply for your DC control system plugs directly into the 115V outlet. DO NOT USE AN EXTENSION CORD. Make sure the 115V electrical supply circuit is equipped with fuses or circuit breakers of proper capacity. DC emergency pumps are designed for handling clear water. Do not use in septic tanks to pump effluent or sewage pits to pump sewage. Repair and service of your DC backup system should be performed by an authorized service station. | <ol style="list-style-type: none"> The installation of DC automatic backup pumps requires the use of a variable level float switch for operation. It is the responsibility of the installing party, to ensure that the <u>tethered</u> float switch will not hang up on the pump apparatus or pit <u>peculiarities</u> and is secured so the pump will turn "on" and "off". It is recommended that the pit be 18" in diameter or larger to accommodate both a primary and a DC backup pump. |
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REFER TO WARRANTY ON PAGE 2.

Limited Warranty

Manufacturer warrants, to the purchaser and subsequent owner during the warranty period, every new product to be free from defects in material and workmanship under normal use and service, when properly used and maintained, for a period of 3 years from date of purchase by the end user. Parts that fail within the warranty period, that inspections determine to be defective in material or workmanship, will be repaired, replaced or remanufactured at Manufacturer's option, provided however, that by so doing we will not be obligated to replace an entire assembly, the entire mechanism or the complete unit. No allowance will be made for shipping charges, damages, labor or other charges that may occur due to product failure, repair or replacement.

This warranty does not apply to and there shall be no warranty for any material or product that has been disassembled without prior approval of Manufacturer, subjected to misuse, misapplication, neglect, alteration, accident or act of God; that has not been installed, operated or maintained in accordance with Manufacturer's installation instructions; that has been exposed to outside substances including but not limited to the following: sand, gravel, cement, mud, tar, hydrocarbons, hydrocarbon derivatives (oil, gasoline, solvents, etc.), or other abrasive or corrosive substances, wash towels or feminine sanitary products, etc. in all pumping applications. The warranty set out in the paragraph above is in lieu of all other warranties expressed

or implied; and we do not authorize any representative or other person to assume for us any other liability in connection with our products.

Contact Manufacturer at, 3649 Cane Run Road, Louisville, Kentucky 40211, Attention: Customer Service Department to obtain any needed repair or replacement of part(s) or additional information pertaining to our warranty.

MANUFACTURER EXPRESSLY DISCLAIMS LIABILITY FOR SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES OR BREACH OF EXPRESSED OR IMPLIED WARRANTY; AND ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE AND OF MERCHANTABILITY SHALL BE LIMITED TO THE DURATION OF THE EXPRESSED WARRANTY.

Some states do not allow limitations on the duration of an implied warranty, so the above limitation may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion 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.

Carbon Monoxide Detectors

Whether you have an Aquanot® Battery Backup Sump Pump System, or a competitive brand, all batteries give off gaseous by-products when charging. Some of these by-products can produce a rotten egg odor. Also, some of these by-products can cause a CO detector to falsely activate. In order to help prevent false activation, Zoeller recommends moving the battery as far apart from the CO detector as possible or, if necessary, vent the battery to the exterior. Zoeller provides the previous statements only as guidelines to help prevent false activation of the CO detector. In no way are they meant to supersede the instructions that accompany the detector nor do they supersede advice from the CO detector manufacturer.

If the audible alarm associated with your CO detector is activated, we recommend the following actions:

- 1) Take immediate action for personal safety as recommended in the CO detector literature.
- 2) Contact the appropriate agency to determine if the CO is being produced by your furnace, water heater, or any other device which uses natural gas.
- 3) If you are certain that no CO is being produced, then a charging battery may be producing gaseous by-products which are causing the CO detector to activate. Contact the manufacturer of the CO detector, and ask for recommendations as to what can be done to prevent the alarm activation.

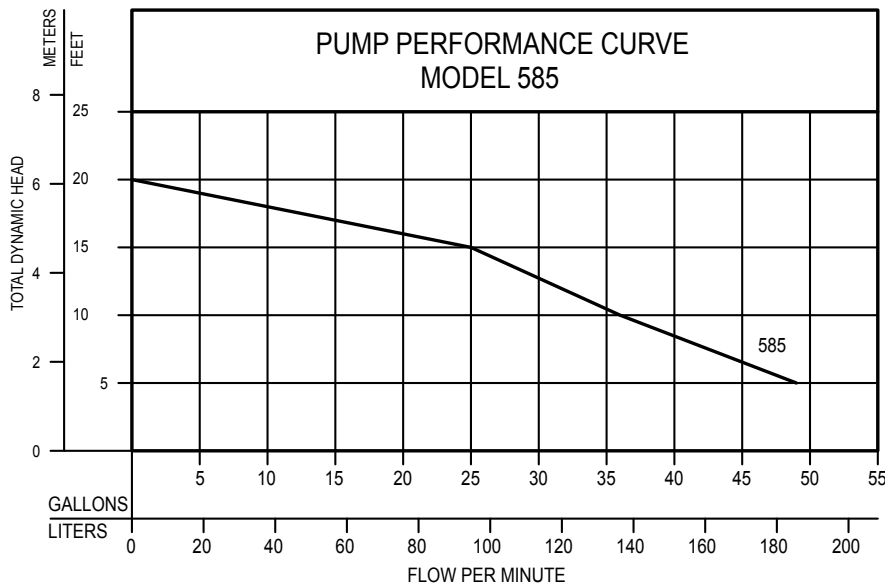
Ten Helpful Hints For Easy Installation

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Remove all debris from pit before installation. 2. Use a deep cycle battery only. Refer to battery descriptions on page 6. 3. Be sure the pump is on a firm, level surface. 4. Install a serviceable check valve in the discharge line. 5. Test the unit immediately after installation. Refer to STEP 6. | <ol style="list-style-type: none"> 6. The battery & charger should be placed on a shelf. 7. Check float On/Off levels per STEP 2 of instructions. 8. Apply grease to the Positive and Negative terminals of the battery to prevent corrosion. 9. Check the battery water level once a month and add distilled water as necessary. 10. Obtain model number, date code and installation instructions before calling factory. |
|--|---|

Do's And Don't's For Installing A Unit

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. DO read all installation material with the pump and charger. 2. DO inspect unit for any visible damage caused by shipping. Contact dealer if unit appears to be damaged. 3. DO clean all debris from the pit. 4. DO always disconnect pump from power source before handling. DO always connect to a separately protected and properly grounded ground fault protected circuit. DO NOT ever cut, splice or damage power cord. DO | <p>NOT carry or lift pump by its power cord. DO NOT use an extension cord with the Aquanot®. DO NOT lengthen battery/pump leads.</p> <ol style="list-style-type: none"> 5. DO install union check valve (see step 3) in the discharge line. DO NOT use a discharge pipe smaller than the recommended pump discharge sizes. 6. DO test pump immediately after installation to be sure that the system is working properly. 7. DO review all applicable local and national codes and verify that the installation conforms to each of them. |
|--|--|

Performance Characteristics



TOTAL DYNAMIC HEAD/FLOW
PER MINUTE
EFFLUENT AND DEWATERING

MODEL		585	
Feet	Meters	Gal.	Liters
5	1.5	49	186
10	3.0	36	136
15	4.6	25	95
Shut-off Head:		20 ft.(6.1m)	

011922

Note: Aquanot® II (Model 585) data was developed with the charger supplying DC power to the pump.

STEP 1

Placement of the Pump in the Pit

Note: If your pit has a cover, then it will have to be modified to accept the Aquanot®.

- 1.1) Inspect the pit for debris and clean as necessary
- 1.2) Place the pump in the pit making certain that it is on a stable level surface. Refer to Figure 1.1.

IMPORTANT: If this pump is to be used as a backup to your primary pump, then make certain that there is no interference between the two pumps.

The motor is not watertight. It should **NEVER** be below floor level.

If necessary, bricks or similar materials, can be placed under the Aquanot®.

▲ NOTICE This product is meant to be used as a battery backup pump to your primary pump only. Consult factory for advice before installing this unit as a primary pump.

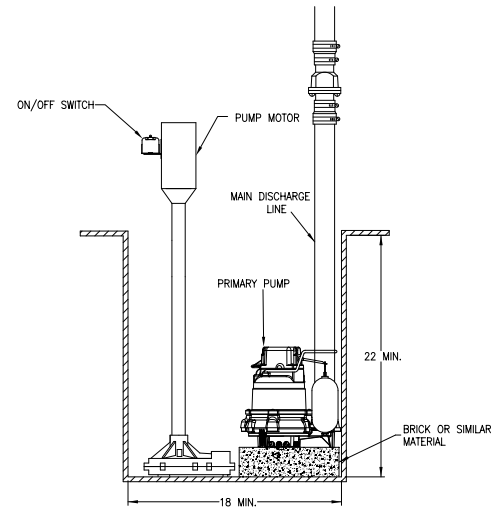


Figure 1.1

SK1775

STEP 2

Float Stop Adjustment

- 2.1) With the pump in the pit, measure the desired float stop on/off positions as shown in Fig. 2.1. These two dimensions will determine the on/off levels of the pump. The spacing between the upper and lower stops will determine the amount of water removed from the pit.

Note: It may be necessary to raise the float rod guide to adjust the stops to the dimensions determined in Step 2.1.

▲ CAUTION The float rod guide should **NEVER** be between the upper and lower stop.

- 2.2) Remove the pump from the pit and adjust the float stops as necessary. Tighten all screws.

Note: If a brick, or similar material has been used to raise the pump in the pit, it will be necessary to account for the thickness of the brick.

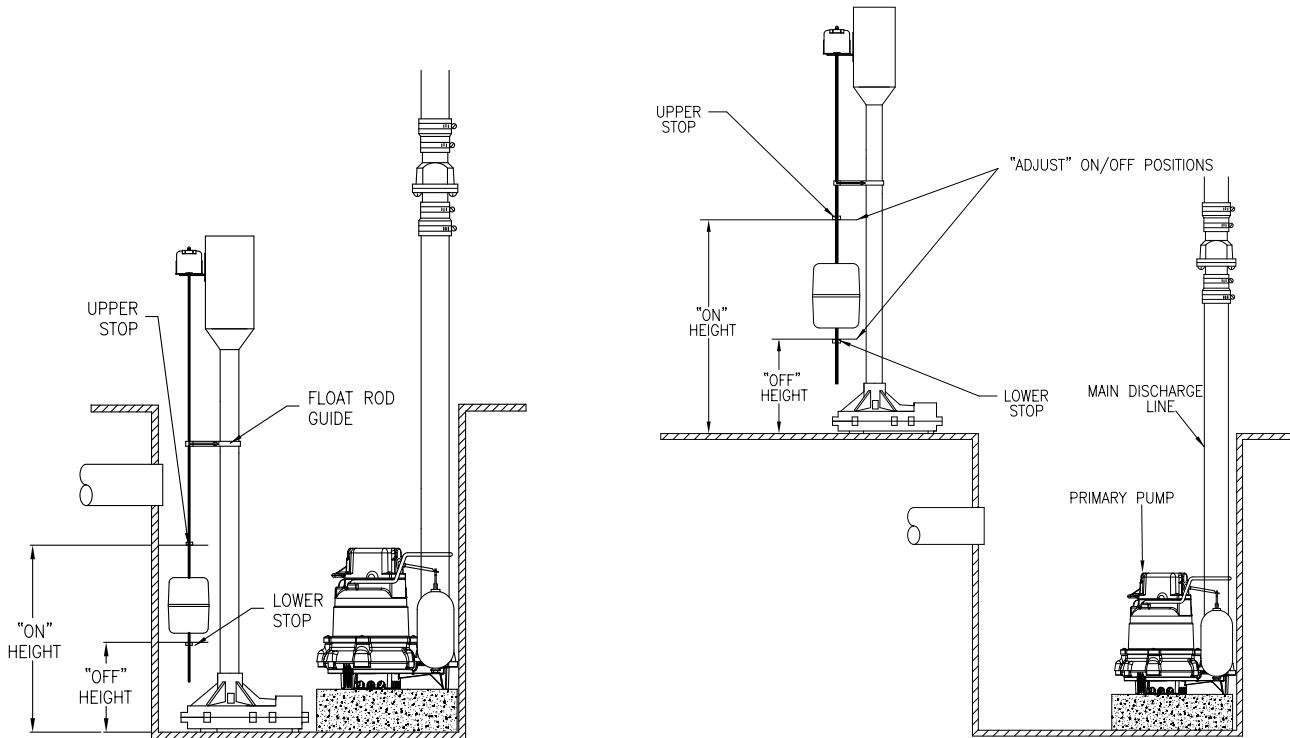


Figure 2.1

SK1776

Figure 2.2

SK1777

STEP 3

Installation of the Discharge Piping

3.1) Assemble the discharge pipe into the pump as shown in Figure 3.1.

IMPORTANT: In order for this installation to work properly, a check valve must be installed onto the discharge line.

P/N 30-0100
P/N 30-0101
P/N 30-0102
P/N 30-0103

} Recommend the following Zoeller check valves:
Some local codes require union check with ball valve.

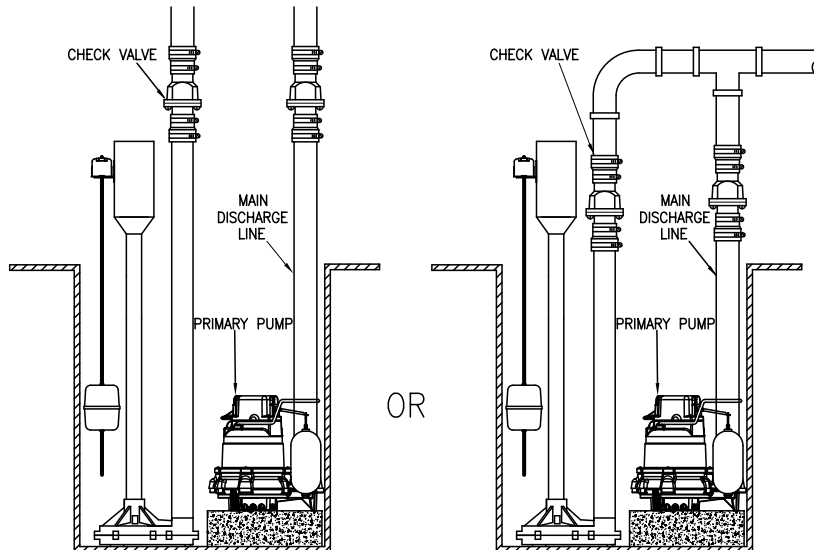


Figure 3.1

SK1778

STEP 4

Electrical Connections for Model 585

4.1) Complete electrical connections as shown in Figure 4.1.

CAUTION Do not place battery or charger directly on ground. If the battery or charger must be placed directly on the ground, then place a piece of wood between the units and the ground. Do not put the charger on top of the battery.

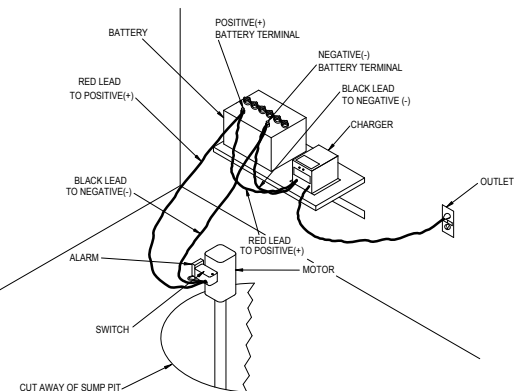


Figure 4.1

SK1783

STEP 5

Testing of Pump Operation

- 6.1) Unplug the primary pump so that it does not start.
- 6.2) Fill pit with water until the Aquano[®] starts.
- 6.3) Verify that the pump starts and stops at the desired on/off points.
- 6.4) Verify that there are no leaks in the discharge line.
- 6.5) If adjustment is necessary, raise or lower the appropriate stop(s) according to STEP 2.

IMPORTANT: Spacing between upper and lower stops determine amount of water removed from pit.

- 6.6) If the pump is not operating properly after following the above steps, refer to the Troubleshooting guide on page 8.
- 6.7) When finished testing plug primary pump back into AC receptacle.

Operation of the Aquanot® Charger

The charger automatically monitors and charges your battery. In the event of a power outage the pump will be powered by the battery. Once line power is restored, the charger will recharge the battery. If there is a failure of the primary pump, the charger will supply power to the pump through the battery if line power is present; otherwise, the battery will take over until the problem has been corrected.

The lights on the front panel of the charger indicate the state of system:

The red light: Indicates that AC line power is present.

The green light: Indicates that the battery is charged to 12V DC*.

During periods of extended power outage the charge on the battery may drop below 12V DC which would cause the green light to go out. This is normal. The green light will be illuminated once the charger restores the voltage level to 12V DC.

The yellow light: Indicates that the battery is charged above 8V DC.

If the yellow light is not illuminated, it indicates that the charge on the battery is below 8V DC. If the line power is out, the pump may have depleted the battery due to normal operation. If there has been no power outage and the primary pump is working properly, it may indicate that the battery is defective or that the controller is defective. Refer to the Troubleshooting guide on page 8 for further instructions.

If the Green and Yellow lights flash intermittently, refer to Section G in the Trouble Shooting Guide on page 8.

*Voltage is only one indicator of the state of the battery, and does not reflect the true condition of the battery. Use a hydrometer to more accurately determine the condition of the battery.

Operation of the Audible Alarm

All Aquanot® pump systems are equipped with an alarm which sounds when the pump is activated. The alarm will automatically silence when the pumping cycle is completed.

Activation of the audible alarm indicates that the primary pump has failed or line power to the primary pump is not present. Whenever the alarm is activated the primary pump and outlet should be inspected.

The On/Off switch, located on the side of the alarm enclosure, allows the audible alarm to be turned off, however, this practice is not recommended. Verify that the alarm switch is in the "on" position, by manually turning the pump "on".

The Aquanot® Battery

There are millions of batteries manufactured each year, so it is impossible to guarantee consistent quality. A defective battery will never become fully charged and may damage the circuits of the charger. It is for this reason that Zoeller offers its own line of batteries. We offer two types of batteries; Water/Acid Deep-Cycle, and AGM - both power the pump continuously for over 3½ hours. These times are based on continuous pumping at 10' of static head. Actual times will vary depending on static head, volume of water entering the pit, and the condition of the battery.

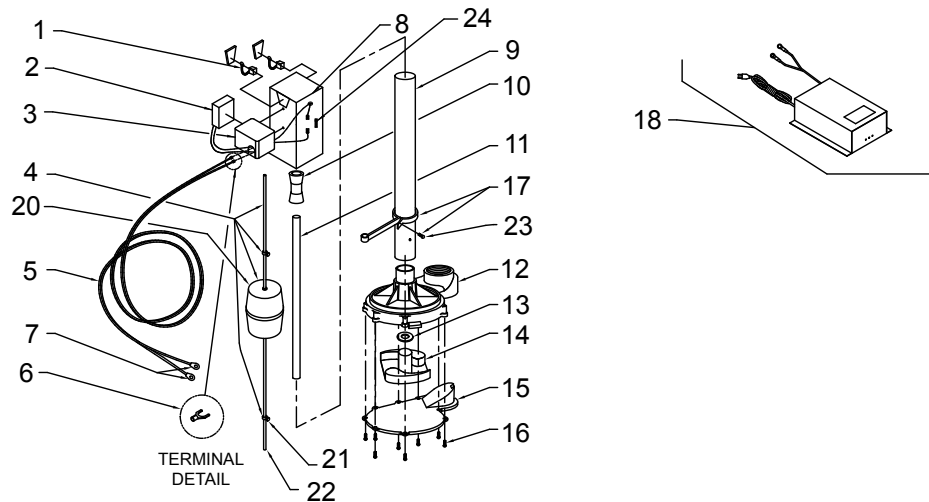
Follow these recommendations:

- Use a B.C.I. size 27, 29, or 31 deep-cycle battery, 175 minute reserve capacity, or larger.
- Do NOT use a "maintenance-free" battery unless it is an AGM battery.
- Replace your battery every 3 years.
- Do not let corrosion build up on the battery terminals.
- Do not place your battery on a concrete floor where it will discharge faster.
- To check specific gravity, follow the instructions on a hydrometer (not applicable for AGM batteries).

PROTECT YOUR WARRANTY:

- Water level in batteries must be checked once a month (not applicable for AGM batteries).

19 - MODEL 585 COMPLETE PUMP



SK1786

Illustrated Parts Breakdown

REF. NO.	MODELS:		580-A	580-B	580-C	580-D	580-E	585-A	585-B	585-C	585-D	585-E	585-F	585-G
	DESCRIPTION	QTY												
1	Motor Brushes	2	011882	011882	011882	013878	*Consult Factory	011882	011882	011882	011882	013878	*Consult Factory	*Consult Factory
2	Pump Alarm	1	012485	012485	012485	012485	012485	012485	012485	012485	012485	012485	012485	012485
3	Pump Switch	1	011990	011990	017205	017205	017205	011990	011990	011990	017205	017205	017205	017205
4	Float Kit & Cable	1	012109	012109	012709	012709	012709	012109	012109	012109	012709	012709	012709	012709
5	Lead Wires	1	012401	012401	012401	012401	012401	012401	012401	012401	012401	012401	012401	012401
6	Terminal Spade	1	004442	004442	004442	004442	004442	004442	004442	004442	004442	004442	004442	004442
7	Terminal Ring	1	011939	011939	011939	011939	011939	011939	011939	011939	011939	011939	011939	011939
8	Pump Motor	1	013873	013873	013873	013873	013873	013873	013873	013873	013873	013873	013873	013873
9	Column	1	011942	011942	011942	011942	011942	011942	011942	011942	011942	011942	011942	011942
10	Adapter, Drive	1	011940	011940	011940	011940	011940	011940	011940	011940	011940	011940	011940	011940
11	Shaft	1	011944	011944	011944	011944	011944	011944	011944	011944	011944	011944	011944	011944
12	Head w/Brass Bearing	1	011947	012137	012137	012137	012137	011947	011947	012137	012137	012137	012137	012137
13	Washer, Thrust	1	002140	002140	002140	002140	002140	002140	002140	002140	002140	002140	002140	002140
14	Impeller	1	011945	011945	011945	011945	011945	011945	011945	011945	011945	011945	011945	011945
15	Base Plate	1	011948	012138	012138	012138	012138	011948	011948	012138	012138	012138	012138	012138
16	Screws	8	011949	012118	012118	012118	012118	011949	012118	012118	012118	012118	012118	012118
17	Guide, Float Rod	1	N/A	N/A	003903	003903	003903	N/A	N/A	N/A	003903	003903	003903	003903
18	Battery Charger	1	N/A	N/A	N/A	N/A	N/A	150160	150160	150160	150160	150160	150160	150160
19	Pump 585	1	585-0006	585-0006	585-0006	585-0006	585-0006	585-0006	585-0006	585-0006	585-0006	585-0006	585-0006	585-0006
20	Float	1	N/A	N/A	012707	012707	012707	N/A	N/A	N/A	012707	012707	012707	012707
21	Stop, Float	2	N/A	N/A	054085	054085	054085	N/A	N/A	N/A	054085	054085	054085	054085
22	Rod, Float	1	N/A	N/A	012706	012706	012706	N/A	N/A	N/A	012706	012706	012706	012706
23	Screws	1	N/A	N/A	003925	003925	003925	N/A	N/A	N/A	003925	003925	003925	003925
24	Fuse, 30 Amp	1	011927	012353	012353	012353	*Consult Factory	011927	012353	012353	012353	012353	*Consult Factory	*Consult Factory

*Advise motor Leeson or CIM.



▲ WARNING Before servicing a pump, always shut off the main power breaker and then unplug the pump - making sure you are not standing in water and are wearing insulated protective sole shoes. Under flooded conditions, contact your local electric company or a qualified licensed electrician for disconnecting electrical service prior to pump removal.

If the following checklist does not solve the problem, consult Zoeller's Technical Service Department 1-(800) 928-7867 - **Do not** attempt to service or otherwise disassemble pump.

Troubleshooting Guide

	CONDITION	POSSIBLE CAUSE	REMEDY
A	PUMP WILL NOT START OR RUN.	Low voltage, blown fuse open circuit.	Have a qualified electrician check fuse and circuit.
		Impeller bound.	Replace fuse.
		Blown pump fuse.	
		Defective Switch	Contact factory.
		Motor or wiring shorted.	
B	PUMP STARTS TOO SOON.	Float "ON" point is adjusted too low.	Refer to STEP 2.
C	PUMP WILL NOT SHUT OFF.	Float is obstructed.	Inspect float operation and correct problem.
		Float "Off" point adjusted too low.	Adjust "Off" point. Refer to STEP 2.
		Faulty float switch.	Contact factory.
D	PUMP OPERATES BUT DELIVERS LITTLE OR NO WATER.	Debris around intake.	Clean area around intake.
		Blockage in discharge pipe.	Remove pipe and flush out debris.
		Low voltage.	Check condition of battery. Replace as necessary or recharge.
		Blown fuse, open circuit.	Have a qualified electrician check circuit.
		Incorrect float adjustment	Refer to STEP 2 for proper installation.
		Pump is air locked.	Drill ¼" hole in discharge pipe below waterline.
		Vertical lift too high.	Change discharge piping or contact tech. service.
		Base plate is "loose" or corroded.	Remove pump from pit and tighten as necessary.
		Pump runs in reverse.	Make certain that the red(+) lead and black(-) leads go to the appropriate battery terminals.
	Damaged Impeller.	Contact factory.	
E	RED LIGHT ON CHARGER IS OUT.	Power outage.	Normal condition Red light will be illuminated once line power is restored.
		AC line fuse blown.	Have a qualified electrician replace with new fuse on the circuit board.
		Defective controller or light burned out.	Contact factory.
		No AC power, battery less than 5V.	Battery has depleted below 5V due to prolonged operation without AC power. Call for service or replace battery.
F	RED LIGHT FLASHING.	The charger fan may be defective.	Have a qualified electrician inspect the charger.
G	GREEN & YELLOW LIGHTS FLASH INTERMITTENTLY.	Positive & Negative battery leads are reversed.	Make certain that the positive (red) & negative (black) leads go to the proper battery terminals.
		Battery maintenance required.	Check water level of battery, refill as necessary (Do not overfill). Defective battery. Replace as necessary.
		Battery has a "Dead Short".	Replace battery. Battery has aged beyond its ability to chemically store electricity.
		Loose battery connections.	Tighten red and black battery leads.
		Corroded battery terminals.	Clean terminal as necessary. Apply grease to terminals to prevent future corrosion problems.
H	YELLOW LIGHT IS OUT.	Battery voltage has dropped below 8V.	Battery depleted below 8V due to normal operation. Will be illuminated once AC power is restored and battery is charged.
		Battery may be defective.	Replace battery.
		Light may be defective.	Contact factory.
I	GREEN LIGHT IS OUT	Battery voltage has dropped below 12V.	Battery depleted below 12V due to normal operation. Will be illuminated once AC power is restored and battery is charged.
		Light may be defective.	Contact factory.
J	RED, GREEN & YELLOW LIGHTS FLASH IN SEQUENCE.	Lights flash for approximately for 4 seconds.	Normal condition. The lights indicate that the system is properly installed.
K	CONSTANTLY ADDING DISTILLED WATER TO BATTERY.	Defective battery.	Have battery inspected. The charger will overcharge a battery with a defective cell.
		Defective controller.	Contact factory.
L	ROTTEN EGG SMELL IN BASEMENT.	Charger is overcharging battery.	Have battery inspected. The charger will overcharge a battery with a defective cell.

GUEST[®]



MODEL 2602A-12

3 STAGE AUTOMATIC BATTERY CHARGER

OWNER'S MANUAL

SAVE THESE INSTRUCTIONS

1. INTRODUCING THE CHARGER

The 2602A-12 is a “3-stage” electronic battery charger. Rainproof, lightweight, silent, and completely automatic, it produces 12 Volts DC at a full 2 Amps, while using much less AC current than older chargers. After it recharges your batteries, it then supplies just enough power to compensate for the charge that batteries can lose during storage. Unlike automotive “trickle” chargers, the 2602A-12 will not boil off the electrolytes in properly installed and maintained batteries. When the 2602A-12 is attached to your batteries and plugged into a standard 115 volt / 60 Hz AC outlet, the green LED lets you know the unit is maintaining your batteries.

2. IMPORTANT SAFETY INSTRUCTIONS

This manual contains important safety and operating instructions for the charger. Read the entire manual before using. Also read all instructions and cautions for and on the charger and batteries.

WARNINGS

THIS CHARGER SHOULD BE USED TO CHARGE ONLY 12-VOLT DC SYSTEMS. USED ON A SYSTEM OTHER THAN A 12 VDC SYSTEM CAN CAUSE THE BATTERIES TO EXPLODE AND CAUSE PERSONAL INJURY.

RISK OF EXPLOSIVE GASES! WORKING IN THE VICINITY OF LEAD ACID BATTERIES IS DANGEROUS. BATTERIES GENERATE EXPLOSIVE GASES DURING NORMAL OPERATION. THEREFORE IT IS OF UTMOST IMPORTANCE THAT EACH TIME BEFORE USING YOUR CHARGER YOU READ THIS MANUAL AND FOLLOW THE INSTRUCTIONS EXACTLY.

Personal Safety Precautions

Adhere to the following personal safety precautions when installing or working with the chargers:

1. Someone should be within voice range or close enough to come to your aid when you work near a lead-acid battery.
2. Have plenty of fresh water and soap nearby in case battery acid contacts skin, clothing, or eyes.
3. Wear complete eye protection and clothing protection. Avoid touching eyes while working near a battery.
4. If battery acid contacts skin or clothing, wash them immediately with soap and water. If acid enters the eye, flood the eye with cold, running water for at least ten minutes and get medical attention immediately.
5. Never smoke or allow an open flame in the vicinity of the battery.
6. Do not drop a metal tool onto the battery. It may spark, short circuit the battery and may cause an explosion.
7. Remove all personal metal items such as rings, bracelets, necklaces, and watches when working near a lead-acid battery. A battery can produce short circuit currents high enough to weld a ring or the like to metal, causing a severe burn.

Preparing to Charge Precautions

Before charging a battery with the charger, read the following precautions:

1. Do **NOT** operate the charger if the cables or LED are damaged.
2. Make sure all external electrical loads are **OFF**.
3. If the battery or batteries must be removed from the equipment in which the charger is mounted, always remove the grounded terminal from the battery first.
4. Be sure the area around the battery is well ventilated while the battery is being charged. Gas can be forcefully blown away using a piece of cardboard or other non-metallic material as a “hand fan”.
5. Clean battery terminals, but keep corrosion particles out of your eyes.
6. Add distilled water in each cell until battery acid reaches levels specified by the battery manufacturer, if applicable. Do not over fill. For all batteries, carefully follow the manufacturer’s recharging instructions.
7. Never allow the ring terminals to touch each other.
8. **NEVER** charge a frozen battery.

Grounding Precaution

DANGER

Do not operate this charger with a two bladed ground adapter plug or extension cord. Doing so can result in serious personal injury.

CAUTION: To reduce the risk of shock, connect only to a properly grounded outlet.

3. INSTALLING THE CHARGER

Choosing Mounting Location

The charger should have at least eight inches of unobstructed area on all sides of the unit for effective cooling. The case of this charger will become warm during operation. Do not install onto a carpeted, upholstered, or varnished surface. Keep the DC wires between the charger and batteries as short as possible.

Mounting the Charger

1. Use corrosion resistant #6 screws, backed by a flat washer, and secured to the mounting surface with a split-ring lock washer.
2. Hold the charger to the mounting surface and mark the holes.
3. Remove the charger and drill the mounting holes.
4. Align the charger and assemble the mounting hardware. Secure.

Making DC Connections

DANGER

Before working on electrical equipment, first determine there is no live AC power!

The output cable includes ring terminals for easy connection to common batteries.

Carefully connect the DC output cable to your 12-volt battery as follows:

Red or white wire with in-line fuse to battery (+)

Black wire to battery (-)

The in-line fuse holder houses a 3 AMP fuse. If the battery is connected in reverse (red to (-), black to (+)) this fuse will blow, and there may be no LED indication of malfunction.

WARNING

Do not cut off or rewire the DC output connector. Failure to abide could cause personal injury and void the warranty.

Making AC Plug Connection

After securing the battery connections, plug the AC line cord into an available AC outlet that is protected by a Ground Fault Circuit Interrupter (GFCI) breaker. Keep the AC power cord connection as short as possible especially when using an extension cord.

4. OPERATING THE CHARGER

Proper Operation

When the 2602A-12 charger senses a drop in battery voltage, it automatically increases its output to re-charge the battery. By using a sophisticated three-stage charging method, it can fully recharge your batteries in the fastest, healthiest way.

During the first charging stage, known as “**BULK**” charging, most of the battery charging is accomplished. The green LED will blink during this stage. The charging current is limited to 2 Amps and the battery voltage rises to approximately 14.5 VDC.

During the second charging stage, known as “**ABSORPTION**” charging, the charger holds the battery voltage at approximately 14.5 VDC, and then gradually reduces the amount of current (Amps) it delivers to the battery. By doing this, the battery is able to “absorb” the last 10% of charge as quickly as possible without becoming overheated. The green LED will blink during this stage.

When the battery approaches full charge, the charger switches into its third charging stage, gradually reducing the current fed to the batteries to as low as 0.1 Amps. At the same time, it reduces its output voltage to a “**FLOAT**” or “**Maintenance**” charging rate of approximately 13.3 VDC nominal, indicated by the green LED light. This low “*Float*” or “*Maintenance*” voltage gently “tops off” your batteries, keeping them fully charged and ready until needed. Now you can store your batteries at full charge indefinitely without overcharging, when batteries are properly maintained. The green LED indicates that your batteries are now fully charged and ready for use.

5. TROUBLESHOOTING

Problem	Cause	Solution
<p>1. Charger does not seem to be charging. (Verify that the charger is working: Disconnect the charger's DC output cables going to the batteries. Reapply AC power and the green LED should now light. If it does, the charger is OK and proceed to troubleshoot. If it does not light, contact the Guest Co.</p>	<p>1. One or more defective or damaged cells. 2. Charger has reduced its output voltage below the normal level due to a DC overload or a DC short. 3. On-board DC systems are drawing more current than the charger can replace. 4. No AC power available at the charger.</p>	<p>1. Load test the battery and replace if necessary. 2. Remove the source of the overload or short. Turn off all DC equipment while charging. 3. Turn off all DC equipment while charging. 4. Connect AC power or reset the AC breaker on the main panel</p>
<p>2. The green LED does not stay lit after 24 Hrs of charging.</p>	<p>1. On-board DC systems are drawing between 1 to 2A. 2. One or more defective or damaged cells. 3. Extremely low AC voltage at the battery charger</p>	<p>1. Turn off all DC equipment while charging. 2. Load test the battery and replace if necessary. 3. Apply a higher AC voltage source or reduce the length of the extension cord. 4. Check battery manufacturer's specifications for battery charging.</p>
<p>3. Green LED stays on when the battery is known to be low.</p>	<p>1. Faulty or contaminated terminal connections. 2. One or more defective or damaged cells.</p>	<p>1. Clean and tighten or repair all terminal connections. 2. Load test the battery and replace if necessary.</p>

6. MAINTAINING THE CHARGER

Periodically clean both battery terminals with baking soda and tighten all connections. No other maintenance on the charger is required.

7. SPECIFICATIONS

Output:	
Charging:	12 Volts DC(min.) at 2 Amps
Maintaining:	13.3 Volts DC at 0.1 Amps
Input:	
Rated AC Voltage	115 VAC, 60 Hz
Current Draw	1.0 Amps at full output
Maximum recommended battery size:	
For recharging:	Up to 30 Amp-Hours
Maintenance only:	Up to 100 Amp-Hours
Physical Dimensions:	
Height:	2.9 in. (7.3 cm.)
Width:	5.1 in. (12.9 cm.)
Depth:	1.5 in. (3.8 cm.)
Weight:	2.0 lb. (0.9 kg)

FCC Class A EMC Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

LIMITED WARRANTY

For two (2) years from the date of original purchase, The Guest Co. will, at its discretion, repair or replace for the original consumer, free of charge, any parts found defective in material or workmanship. All transportation charges under this warranty must be borne by the consumer.

Proof of purchase is required: A computerized register receipt is required. Hand-written receipts are not accepted for warranty proof of purchase. In the absence of a receipt, warranty period will be calculated from date of manufacture printed or stamped on the product.

There is no other expressed warranty. Implied warranties, including those of merchantability and fitness for a particular purpose, are limited to two years from the date of purchase. This is the exclusive remedy and consequential damages are excluded where permitted by law.

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