

Submersible Sump Pump System



Please read and save these instructions. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and/or property damage! Retain instructions for future reference.

Operating Instructions and Parts Manual

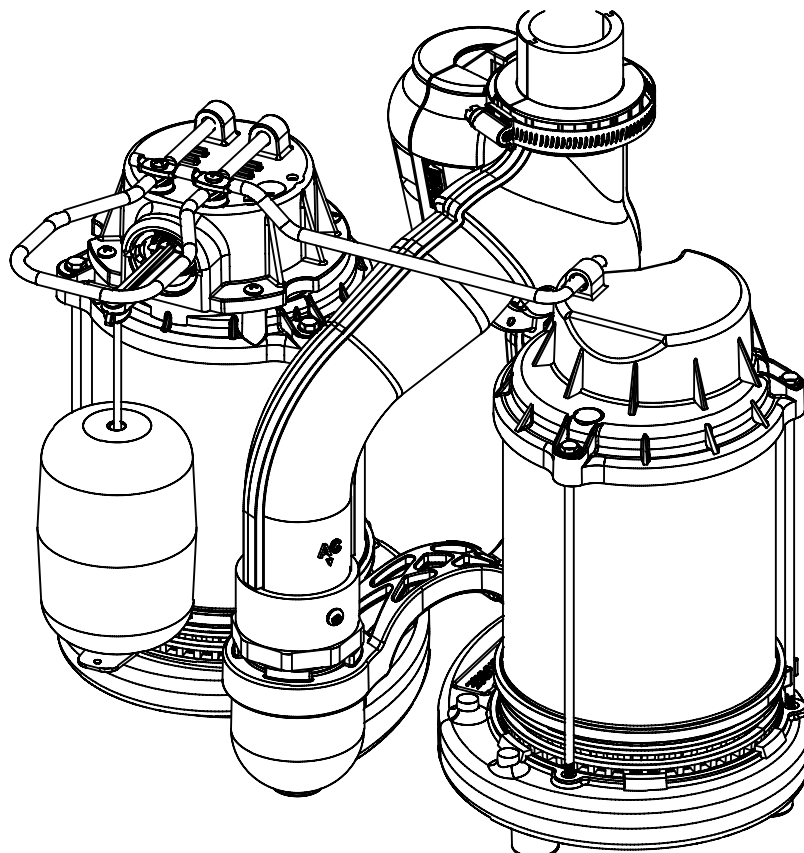
F33SSn/F50SSN

SPECIFICATIONS	AC SPECIFICATIONS	DC SPECIFICATIONS
POWER SUPPLY REQUIREMENTS	120 V, 60 Hz	12 V, DC*
MOTOR	Single Phase, Dielectric Oil Filled	Permanent Magnet DC
POWER	1/2 HP	100 Watts
CIRCUIT REQUIREMENTS	15 A (minimum)	15 A (minimum)
DIMENSIONS	11 1/2 in. high x 9 3/4 in. base	11 1/2 in. high x 9 3/4 in. base
ON LEVEL	Approximately 9 in.	10-12 in.
OFF LEVEL	Approximately 4 in.	N/A

CONSTRUCTION	AC	DC
MOTOR HOUSING	Coated Steel	
VOLUTE	Cast Iron	
IMPELLER	Glass Reinforced Thermoplastic	
SHAFT	Steel	Stainless Steel
DISCHARGE	1-1/2 in. NPT	

Model	HP	PERFORMANCE GAL/HR			
		Discharge Head (Lift Distance)			
		0 ft	5 ft	10 ft	15 ft
F33SSn	1/3	4500	3810	3060	2220
F50SSn	1/2	5100	4500	3840	3060
F33SSn/F50SSn	12 V DC	2700	2100	1500	660

* Battery not included. A Wayne WSB1275 75 Amp Hour battery is recommended



Intended for Indoor Use Only

Operating Instructions and Parts Manual

SYSTEM DESCRIPTION

This product is fully assembled and pre-plumbed 1/2 & 1/3 HP primary & 12 Volt backup sump system. The pumps are designed for use in residential basements to remove groundwater and prevent flooding. The pumps are designed for clear water only. LED indicator lights inform the homeowner of the charge status of the battery. Blue Angel recommends the WSB1275, 75 Amp Hour maintenance free battery (sold separately), to complete the system. Designed for 15 in. diameter or larger sump basins. This system is intended for indoor use only.

Installation of this system outdoors, unprotected from the weather, may cause hazardous conditions and will void warranty. Water inside the pump may freeze, limiting its performance and damaging the pump and pipes.

UNPACKING

Inspect this unit before it is used. Occasionally, products are damaged during shipment. If the pump or components are damaged, return the unit to the place of purchase for replacement, or call Customer Support (888-636-6628).

SAFETY SIGNAL WORDS

This manual contains information that is very important to know and understand. This information is provided for SAFETY and to PREVENT EQUIPMENT PROBLEMS. To help recognize this information, observe the following symbols.

⚠ DANGER *Danger indicates an imminently hazardous situation which, if NOT avoided, WILL result in death or serious injury.*

⚠ DANGER *La mention ger indique une situation dangereuse imminente qui, si elle n'est pas évitée, ENTRAÎNE la mort ou des blessures graves.*

⚠ WARNING *Warning indicates a potentially hazardous situation which, if NOT avoided, COULD result in death or serious injury.*

⚠ AVERTISSEMENT *La mention avertissement indique une situation potentiellement dangereuse qui, si elle n'est pas évitée, risque d'entraîner des lésions corporelles graves ou même la mort.*

⚠ CAUTION *Caution indicates a potentially hazardous situation which, if NOT avoided, MAY result in minor or moderate injury.*

⚠ MISE EN GARDE *La mention mise en garde indique une situation potentiellement dangereuse qui, si elle n'est pas évitée, pourrait entraîner des blessures mineures ou modérées.*

NOTICE *Notice indicates important information, that if NOT followed, MAY cause damage to equipment.*

IMPORTANT SAFETY INFORMATION

RISK OF ELECTRIC SHOCK. TO REDUCE THIS RISK, OBSERVE THE FOLLOWING WARNINGS:

RISQUE DE CHOC ÉLECTRIQUE. POUR RÉDUIRE CE RISQUE, TENIR COMPTE DES AVERTISSEMENTS SUIVANTS :



MAKE SURE THERE IS A PROPERLY GROUNDED RECEPTACLE AVAILABLE. The AC pump & transformer are supplied with a grounding conductor and grounding-type attachment plug. To reduce the risk of electric shock, be certain that it is connected only to a properly grounded, grounding-type receptacle.

S'ASSURER QU'UNE PRISE DE MISE À LA TERRE EST DISPONIBLE. Cette pompe et le transformateur c.a. sont fournis avec un conducteur et une fiche de type mise à la terre. Pour réduire le risque de choc électrique, s'assurer qu'elle est branchée seulement à une prise de courant correctement mise à la terre.

FOR ADDED SAFETY the receptacle must be protected with a ground fault circuit interrupter (GFCI). All wiring must be performed by a qualified licensed electrician and comply with the National Electric Code and all applicable local codes and ordinances.

POUR PLUS DE SÉCURITÉ, la prise de courant doit être protégée par un disjoncteur de fuite à la terre. Tout le câblage doit être effectué par un électricien qualifié et être conforme au Code électrique national et à tous les codes et règlements locaux applicables.

NEVER REMOVE THE GROUND PRONG from the plug or bypass the grounding wires.

NE JAMAIS RETIRER LE CONNECTEUR DE MISE À LA TERRE de la prise ou contourner les fils de mise à la terre.

NOTICE

THIS SYSTEM IS NOT DESIGNED TO HANDLE SALT WATER, BRINE, LAUNDRY DISCHARGE, WATER SOFTENER, SEWAGE, GREY WATER, OR ANY OTHER APPLICATION WHICH MAY CONTAIN CAUSTIC CHEMICALS AND/OR FOREIGN MATERIALS. PUMP AND/OR PROPERTY DAMAGE COULD OCCUR IF USED IN THESE APPLICATIONS AND WILL VOID WARRANTY

DO NOT REMOVE POWER SUPPLY CORD and strain relief or connect conduit directly to the pump.

NE PAS RETIRER LE CORDON D'ALIMENTATION ÉLECTRIQUE et le réducteur de tension, ni connecter le conduit directement à la pompe.

MAKE SURE THE POWER SUPPLY HAS A FUSE OR CIRCUIT BREAKER rated to handle the current (amps) noted on the pump nameplate or cord tag.

S'ASSURER QUE L'ALIMENTATION ÉLECTRIQUE EST MUNIE D'UN FUSIBLE OU D'UN DISJONCTEUR d'une valeur nominale appropriée pour supporter l'intensité du courant (ampérage) indiquée sur la plaque signalétique ou l'étiquette du cordon de la pompe.

IMPORTANT SAFETY INFORMATION (CONT'D)

ALWAYS DISCONNECT THE PUMP from power supply before installing, servicing or making any adjustments.

TOUJOURS METTRE LA POMPE HORS TENSION avant de procéder à l'installation, à l'entretien ou à des réglages.

DO NOT WALK on the floor when water is present until all power is turned off. If the electric panel is in the basement, call an electrician.

NE PAS MARCHER sur un sol mouillé avant que l'alimentation générale ne soit coupée. Si le tableau électrique est en sous-sol, appeler un électricien.

NEVER HANDLE A PUMP or motor with wet hands or when standing on a wet or damp floor while the pump is plugged into the power supply.

NE JAMAIS MANIPULER UNE POMPE ou un moteur de pompe avec les mains mouillées ou debout dans l'eau ou sur une surface humide.

RISK OF ELECTRIC SHOCK. This system has not been investigated for use in swimming pool and marine areas.

RISQUE DE CHOC ÉLECTRIQUE. Ce système n'a pas fait l'objet de vérification pour une utilisation dans les piscines ou les aires marines.

DO NOT USE TO PUMP FLAMMABLE OR EXPLOSIVE FLUIDS such as gasoline, fuel oil, kerosene, etc. Do not use in a flammable and/or explosive atmosphere. System should only be used to pump clear water. Personal injury and/or property damage could result and void warranty.

NE PAS UTILISER POUR POMPER DES FLUIDES INFLAMMABLES OU EXPLOSIFS tels que l'essence, le mazout, le kérosène, etc. Ne pas l'utiliser dans un environnement inflammable et/ou explosif. La pompe DOIT être utilisée uniquement pour pomper de l'eau claire. Des blessures corporelles et/ou des dégâts matériels pourraient en résulter et annuler la garantie.

PUMPS ARE NOT DESIGNED TO TRANSFER WATER INTENDED FOR DRINKING. Do not use the pumps for moving water that will be used for potable/drinking water. Pumps should only be used in applications for which it is designed.

LES POMPES NE SONT PAS CONÇUES POUR L'ACHEMINEMENT D'EAU DESTINÉE À LA CONSOMMATION. Ne pas utiliser la pompe pour transporter de l'eau qui sera utilisée comme de l'eau potable/destinée à la consommation. La pompe doit être utilisée uniquement dans les applications pour lesquelles elle est conçue.

⚠ WARNING

DO NOT USE AN EXTENSION CORD OR SURGE PROTECTOR.

Extension cords and/or surge protectors could present a safety hazard if not sized properly, become damaged or the connection falls into the sump. If receptacle is not within reach of the pump's power cord, contact a qualified licensed electrician to install a new receptacle.

⚠ AVERTISSEMENT

NE PAS UTILISER DE RALLONGE NI DE PROTECTEUR DE SURTENSION. Les rallonges et/ou les protecteurs de surtension

peuvent présenter un danger pour la sécurité s'ils ne sont pas correctement calibrés, s'ils sont endommagés ou si le raccordement tombe dans le puisard. Si la prise n'est pas à portée du cordon d'alimentation de la pompe, contacter un électricien qualifié pour installer une nouvelle prise.

TO REDUCE THE RISK OF HAZARDS THAT CAN CAUSE INJURY OR PROPERTY DAMAGE, OBSERVE THE FOLLOWING WARNINGS:

POUR RÉDUIRE LE RISQUE DE DANGERS POUVANT CAUSER DES BLESSURES OU DES DÉGÂTS MATÉRIELS, RESPECTER LES MISES EN GARDE SUIVANTES :



IT IS THE INSTALLER'S RESPONSIBILITY TO MAKE SURE THE PUMPS AUTOMATIC SWITCHES ARE ABLE TO OPERATE WITHOUT ANY OBSTRUCTIONS WITHIN THE BASIN. It is recommended that the installer test and observe the operation for several cycles after installation.

IL EST DE LA RESPONSABILITÉ DE L'INSTALLATEUR DE S'ASSURER QUE LES INTERRUPTEURS AUTOMATIQUES DE POMPE PEUVENT FONCTIONNER SANS AUCUN BLOCAGE À L'INTÉRIEUR DE LA CUVE. Il est recommandé que l'installateur teste et observe le fonctionnement de la pompe pendant plusieurs cycles après l'installation.

IT IS REQUIRED TO USE RIGID PIPING AND FITTINGS to secure the system in the basin and reduce pump movement. Pump movement can prevent the switch from operating correctly. Do not use flexible hose.

IL EST NÉCESSAIRE D'UTILISER DES TUYAUX ET DES RACCORDS RIGIDES pour fixer la pompe dans la cuve et réduire les mouvements de la pompe. Les mouvements de la pompe peuvent empêcher l'interrupteur de fonctionner correctement. Ne pas utiliser de tuyaux flexibles.

DO NOT INSTALL OR OPERATE THE PUMPS IF THEY HAVE BEEN DAMAGED IN ANY WAY.

NE PAS INSTALLER OU FAIRE FONCTIONNER LA POMPE SI ELLE A ÉTÉ ENDOMMAGÉE DE QUELQUE MANIÈRE QUE CE SOIT.

DO NOT LIFT OR CARRY THE SYSTEM BY THE POWER CORDS.

NE PAS SOULEVER OU PORTER LE SYSTÈME PAR LE CORDON D'ALIMENTATION.

IMPORTANT SAFETY INFORMATION (CONT'D)

DO NOT USE THIS SYSTEM IN MUD, SAND, CEMENT, OIL CHEMICALS, GREY WATER, OR ANY OTHER WATER THAT IS NOT CLEAR GROUND WATER.

NE PAS UTILISER CE SYSTÈME DANS LA BOUE, LE SABLE, LE CIMENT, LES PRODUITS CHIMIQUES À L'HUILE, DE L'EAU GRISÂTRE OU TOUTE AUTRE EAU QUI N'EST PAS DE L'EAU CLAIRE SOUTERRAINE.

DO NOT USE SUMP PUMPS TO HANDLE RAW SEWAGE.

NE PAS UTILISER DE POMPES DE PUISARD POUR POMPER LES EFFLUENTS.

WARNING

This product can expose you to chemicals, including DEHP, which is known to the State of California to cause cancer, birth defects and reproductive harm. For more information, go to www.P65Warnings.ca.gov.

AVERTISSEMENT

Ce produit peut vous exposer à des produits chimiques, notamment du DOP, reconnus par l'État de Californie comme étant cancérigènes et à l'origine d'anomalies congénitales et de problèmes de l'appareil reproductif. Pour plus de renseignements, visiter le site www.P65Warnings.ca.gov.

WARNING

VERTICAL FLOAT SWITCH This float is not adjustable. Any modifications or alterations will void the warranty and/or cause premature failure of the pump, which could lead to property damage.

AVERTISSEMENT

INTERRUPTEUR À FLOTTEUR VERTICAL. Ce flotteur n'est pas réglable. Toute modification ou altération peut entraîner une défaillance prématurée de la pompe avec pour conséquences des risques de dégâts matériels. Ces modifications ou altérations annuleront la garantie du matériel.

BATTERY INFORMATION

The system is designed to operate most efficiently with an AGM battery. A Blue Angel WSB1275 is recommended. The oversize battery case (included) will accommodate a 12 Volt AGM battery (up to a group 27-frame size).

NOTICE

Be certain that the area around the battery is well ventilated. Before servicing the battery, blow away gasses by waving a piece of cardboard near the batteries.

AVIS

S'assurer que la zone autour des batteries est bien ventilée. Avant d'effectuer l'entretien des batteries, évacuer les gaz en agitant un morceau de carton près des batteries.

DANGER

Dangerous hydrogen gas can be released from the battery while charging. Sparks can ignite the gas in an enclosed space. Wear safety goggles when connecting battery. Battery connections should be made in a well ventilated area.

DANGER

De l'hydrogène dangereux peut s'échapper des batteries pendant le chargement. Les étincelles peuvent enflammer le gaz dans un espace clos. Porter des lunettes de sécurité pour brancher les batteries. Les connexions de la batterie doivent être effectuées dans un endroit bien ventilé.

DANGER

Working in the vicinity of a lead acid battery can be dangerous. Before making the connections or servicing the batteries, read and follow instructions on all applicable instruction manuals. To reduce the risk of battery explosion, follow the instructions in this manual and those published by the battery manufacturer, as well as those of any other equipment used in the surrounding area.

NOTICE

An assistant should be present or close enough to come to your aid in the event of an emergency. Have a reliable source of fresh water and soap nearby in case battery acid contacts skin or eyes.

NOTICE

Wear eye and clothing protection when working around lead acid batteries. Avoid touching your eyes when working around lead acid batteries.

WARNING

If battery acid contacts your eye(s), flush with cold running water for 10 minutes and seek immediate medical attention. If acid contacts your skin or clothing, wash immediately with soap and water.

AVERTISSEMENT

Si de l'acide de batterie entre en contact avec les yeux, les rincer avec de l'eau courante froide pendant 10 minutes et consulter immédiatement un médecin. Si l'acide entre en contact avec la peau ou les vêtements, les laver immédiatement avec de l'eau et du savon.

WARNING

Never smoke or allow a spark or flame in the vicinity of the battery.

AVERTISSEMENT

Ne jamais fumer ou laisser une étincelle ou une flamme près de la batterie.

WARNING

Avoid dropping metal tools on the battery posts because they may spark or short-circuit the system or battery, causing an explosion.

AVERTISSEMENT

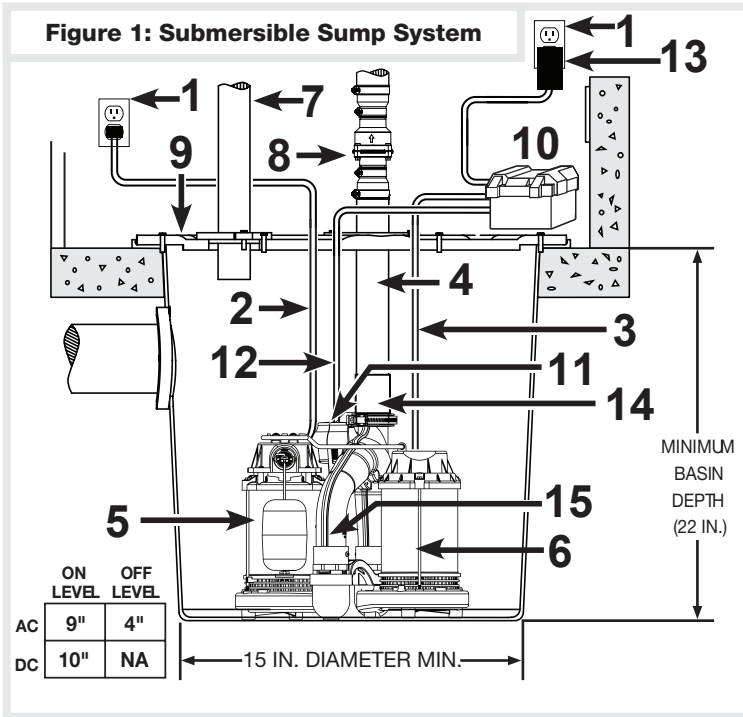
Éviter de faire tomber des objets en métal sur les bornes de la batterie : cela pourrait créer des étincelles ou des courts-circuits du système ou de la batterie, provoquant une explosion.

INSTALLATION

NOTICE *INSTALLATION OF THIS UNIT MAY TAKE SEVERAL HOURS. BEFORE DISABLING YOUR MAIN PUMP, HAVE READY AN APPROPRIATE MEANS OF EVACUATING THE SUMP.*

1. Turn power to main pump off.
2. Pump must be installed using 1-1/4 in. or 1-1/2 in. rigid PVC piping. Do not use flexible hose.

4. Clean the basin/pit of all debris.
5. If using a basin, place the system directly on the bottom of the basin. To prevent damage set the system on a solid, level surface. Do not place units directly on clay, earth, gravel or sand. A brick or blocks can be installed under the pumps to provide a solid base.
6. Position system so the float switch is away from the inlet so float switch is clear from incoming water. Verify the float has at least 1 in. clearance to the side wall of the basin and is free to move throughout its travel.
7. Install discharge plumbing according to local, regional and state codes. Rigid PVC pipe is required. Do not use flexible hose in a permanent application. A 1-1/2 PVC schedule 40 coupling is required on diverter valve discharge. Do not use schedule 20 couplings or drainage fittings.
8. Install a permanent coupling to the top of the diverter valve with PVC glue.
9. Install removable check valve (8) (Blue Angel Part Number: 57028-001) positioned just above the basin to allow easy removal of the system for cleaning . and service. Note: A check valve is required to prevent back-flow.
10. Install a gate valve or ball valve if required by local, regional or state code.
11. Connect pump power supply cord to a ground fault circuit interrupter (GFCI) outlet (1).



- | | |
|--------------------------|----------------------------------|
| 1. GFCI GROUNDED OUTLETS | 9. GASKET/BASIN LID |
| 2. AC PUMP POWER CORD | 10. BATTERY BOX CONTROLLER |
| 3. DC PUMP POWER CORD | 11. DC FLOAT SWITCH |
| 4. DISCHARGE PIPE | 12. DC FLOAT SWITCH CORD |
| 5. AC PUMP (Primary) | 13. TRANSFORMER |
| 6. DC PUMP (Secondary) | 14. 1½" PVC SCHEDULE 40 COUPLING |
| 7. VENT PIPE | 15. DIVERTER VALVE |
| 8. REMOVABLE CHECK VALVE | |

NOTICE *THIS INSTALLATION MUST BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE AND ALL APPLICABLE LOCAL CODES AND ORDINANCES.*

3. Use a basin (purchased separately) or pit that is large enough to accommodate the system. The minimum requirements for the sump system are shown in Figure 1.

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AC PUMP CHECK

1. Fill the basin/pit with water. The pump will start when the water level has reached the float switch-on level.
2. The pump will stop when the water level has reached the switch-off level.
3. Verify the switch is operating without any obstruction from the pump, piping and basin.
4. Fill the basin/pit with water again. While the system is draining the basin/pit, verify the discharge pipe is carrying the water to a point at least 3 ft. away from the foundation. If the discharge line is exposed to freezing temperatures, the pipe must be positioned in a downward slope away from the foundation so any remaining water will drain away and not freeze.

CONTROL BOX INSTALLATION

1. Place battery in box, attach red cable to positive battery post and black cable to negative battery post.

▲ CAUTION *If cables are reversed, damage to the control box or battery will result, and void warranty.*

▲ MISE EN GARDE *Si les câbles sont inversés, la boîte de contrôle ou la batterie pourrait être endommagée et la garantie annulée.*

2. Plug the float, pump system, and transformer into the appropriate connectors. The connections are all unique and cannot be interchanged.
3. Put lid on box, and place the battery within six feet of the sump and a 115 VAC separately fused outlet. The outlet must be protected by a ground fault circuit interrupter (GFCI) The area must also be clean, dry and well ventilated.

▲ CAUTION *Do not allow battery box to get wet, or expose it to moisture. Electronics will be damaged and void warranty.*

▲ MISE EN GARDE *Ne pas laisser le coffre de la batterie être mouillé ou exposé à l'humidité. Les appareils électroniques seront endommagés et la garantie sera annulée.*

BACK UP PUMP CHECK

1. Test system operation by filling the sump with water while the main pump is unplugged. If the pump operates properly, plug the transformer into the GFCI protected outlet to begin charging the battery.
2. Protect electrical cord from sharp objects, hot surfaces, oil and chemicals. Avoid kinking the cord.
3. Secure power supply cord to discharge pipe using cable or zip ties to prevent possible switch entanglement.

OPERATION

⚠ DANGER Always disconnect the power source before attempting to install, service, relocate or maintain the pump. Never touch sump pump motor, water or discharge piping when pump is connected to electrical power. Never handle a pump or pump motor with wet hands or when standing on wet or damp surface or in water. Fatal electric shock could occur.

⚠ DANGER Toujours débrancher le cordon d'alimentation avant d'essayer d'installer, de réparer, de déplacer ou de faire l'entretien de la pompe. Ne jamais toucher le moteur de la pompe de puisard, l'eau ou les tuyaux d'évacuation lorsque la pompe est branchée à une source d'alimentation électrique. Ne jamais manipuler une pompe ou le moteur d'une pompe avec les mains humides, ou debout sur une surface mouillée ou humide ou dans l'eau. Cela pourrait occasionner un choc électrique.

⚠ DANGER Risk of electrical shock! Use a gfci receptacle to reduce the risk of fatal electric shock. Cutting the cord will void the warranty and make the pump inoperable.

⚠ DANGER Risque de choc électrique! Utiliser une prise avec disjoncteur de fuite à la terre pour réduire le risque de choc électrique. Couper le cordon annulera la garantie et rendra la pompe inutilisable.

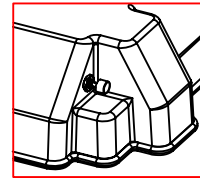
1. After installation, the backup pump will start when the water level rises above the backup float switch.
2. The control box has a DC charger designed to shorten the recharging time of your battery, and to prevent overcharging. In addition, the control box has a time delay which keeps the pump from repeated, short cycles when it shuts off. The time delay feature will allow the pump to run 20-25 seconds after the switch reaches the off position.
3. The control box contains multi-colored indicator lights. When AC power is present, the lights will indicate the charging state, and not reflect actual battery voltage, particularly with a defective battery. In order for the indicator light to provide an accurate reading, steps "a" through "d" must be followed.

⚠ DANGER Risk of electrical shock! Unplug main ac pump and the transformer.

⚠ DANGER Risque de choc électrique! Débrancher la pompe principale et le transformateur de courant c.A.



- a. After main pump and transformer are unplugged, a power off alert tone will sound for 30 seconds.



- b. Press and release the self test button to activate the back up pump.
- c. When the pump stops, read the charge indicator lights:
 - Green:** Indicates the battery is fully charged.
 - Yellow:** Indicates battery partially charged, still operable.
 - Red:** Battery is completely discharged or defective.
 - Red blinking:** Battery discharged below level where pumping can occur. Motor is locked out by controller until battery is sufficiently charged to run pump.
- d. Plug in transformer and main AC pump.

When main AC power is out, and when pump has been running, the lights will indicate battery status.

4. A chirping sound from the control box will accompany the red light, indicating that the battery may require attention or replacement. Voltage is only an indicator of battery condition and may not reflect the true condition of the battery. See maintenance for instruction on assessing battery condition.
5. A single thirty (30) second tone will sound when power to the system is interrupted and the power failure light will illuminate. The unit will reset and the light will go out automatically when power is restored.
6. A three (3) second tone will sound every time the pump starts.



⚠ CAUTION Secure the basin cover and gasket to the basin to prevent debris from falling into the basin, prevent personal injury, and to contain gases and/ or odors.

⚠ MISE EN GARDE Fixer le couvercle de cuve et le joint d'étanchéité à la cuve pour éviter que des débris ne tombent dedans, prévenir les blessures corporelles et contenir les gaz et les odeurs

TROUBLESHOOTING WARNINGS

WARNING

LET PUMP COOL FOR A MINIMUM OF 2 HOURS BEFORE ATTEMPTING TO SERVICE. Submersible pumps contain oil that become pressurized and hot under normal operating conditions.

AVERTISSEMENT

LAISSER REFROIDIR LA POMPE PENDANT AU MOINS 2 HEURES AVANT D'ESSAYER DE LA RÉPARER. Les pompes submersibles contiennent de l'huile qui devient pressurisée et chaude dans des conditions normales de fonctionnement.

1. Submersible pump models have permanently lubricated bearings and require no additional lubrication.
2. Submersible pump contains dielectric oil for cooling. Dielectric oil can be harmful to the environment. Follow state environmental laws when disposing of pump.
3. The AC pump motor is equipped with automatic resetting thermal protector and may restart unexpectedly. Protector tripping is an indication of motor overloading as a result of operating the pump at low heads, excessively high or low voltage, inadequate wiring, incorrect motor conditions, or at the end of its life.

AC ROUTINE SUMP MAINTENANCE

The pump system should be inspected 3-4 times per year for movement or buildup of debris on the switch or float. Reposition system if it has moved. Remove any debris that could interfere with the operation of the switches. Lack of proper routine maintenance will void warranty.

- Make sure the system is plugged in to a working ground fault circuit interrupter (GFCI) outlet and the cord is in good shape. In damp areas, GFCI breakers may trip, effectively shutting off the sump pump. Check in on your sump pump and reset the GFCI if necessary. Replace pump if GFCI continues to trip.
- Ensure the system is upright. Vibrations during operation can cause it to fall or tilt onto one side. This can jam the float so it can't activate the pump.
- Pour a bucket of water into the pit to make sure the AC pump starts automatically and the water drains quickly once the pump is on. If the pump doesn't start, have it serviced or replaced.
- Check the inlet screen and clear away any small stones or debris.

AC TROUBLESHOOTING CHART

Symptoms	Possible Cause(s)	Suggested Remedies
Pump will not start or run	<ol style="list-style-type: none"> 1. Water level too low 2. Blown fuse or tripped circuit breaker 3. Low supply voltage 4. Motor 5. Switch 6. Inlet screen clogged 7. Switch obstruction 	<ol style="list-style-type: none"> 1. Water must be at the appropriate level to activate switch 2. If blown, determine cause and then either replace with proper sized fuse or reset breaker 3. Contact an electrician 4. Replace pump 5. Replace unit if switch is broken 6. Remove debris 7. Remove obstruction to ensure free motion of switch
Pump starts and stops too often	<ol style="list-style-type: none"> 1. Back-flow of water from discharge pipe 2. Switch 3. Check valve not functioning properly or leaking 	<ol style="list-style-type: none"> 1. Install check valve 2. Replace unit if switch is broken 3. Remove and examine check valve for proper installation and free operation. Replace check valve if necessary.
Pump shuts off and turns on independently of switch (trips thermal overload protection)	<ol style="list-style-type: none"> 1. Excessive water temperature 2. Switch 3. Switch obstruction 4. Obstruction in discharge pipe 5. Low supply voltage 	<ol style="list-style-type: none"> 1. Pump should not be used for hot water 2. Replace pump 3. Remove obstruction to ensure free motion of switch 4. Remove obstruction in discharge piping 5. Contact an electrician.
Pump operates noisily or vibrates excessively	<ol style="list-style-type: none"> 1. Worn bearings 2. Impeller broken 3. Piping attachments to building structure too rigid or too loose 	<ol style="list-style-type: none"> 1. Replace pump 2. Replace pump 3. Install rubber coupling (available at local hardware stores) to isolate pump vibration from discharge plumbing
Pump will not shut off	<ol style="list-style-type: none"> 1. Switch 2. Switch obstructions 3. Restricted discharge (obstruction in piping) 4. Excessive inflow or pump not properly sized for application 	<ol style="list-style-type: none"> 1. Replace unit if switch is broken 2. Remove obstruction to ensure free motion of switch 3. Remove obstruction from discharge piping 4. Recheck all sizing calculations to determine proper pump size
Pump operates but delivers little or no water	<ol style="list-style-type: none"> 1. Low supply voltage 2. Inlet screen clogged 3. Pump not properly sized for application 4. Check valve stuck closed or installed backwards 5. Shut off valve closed 	<ol style="list-style-type: none"> 1. Contact an electrician 2. Remove debris 3. Recheck all sizing calculations to determine proper pump size 4. Remove and examine check valve for proper installation and free operation 5. Open valve
Pump trips GFCI	<ol style="list-style-type: none"> 1. Bad GFCI 2. Bad pump 	<ol style="list-style-type: none"> 1. Contact and electrician to replace GFCI 2. Replace pump

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DC ROUTINE SUMP MAINTENANCE

NOTICE

Once a month, check the battery condition. To check battery condition follow steps Listed below:

1. Unplug the transformer.

NOTE: An inexpensive hydrometer can be purchased at an automotive parts dealer.

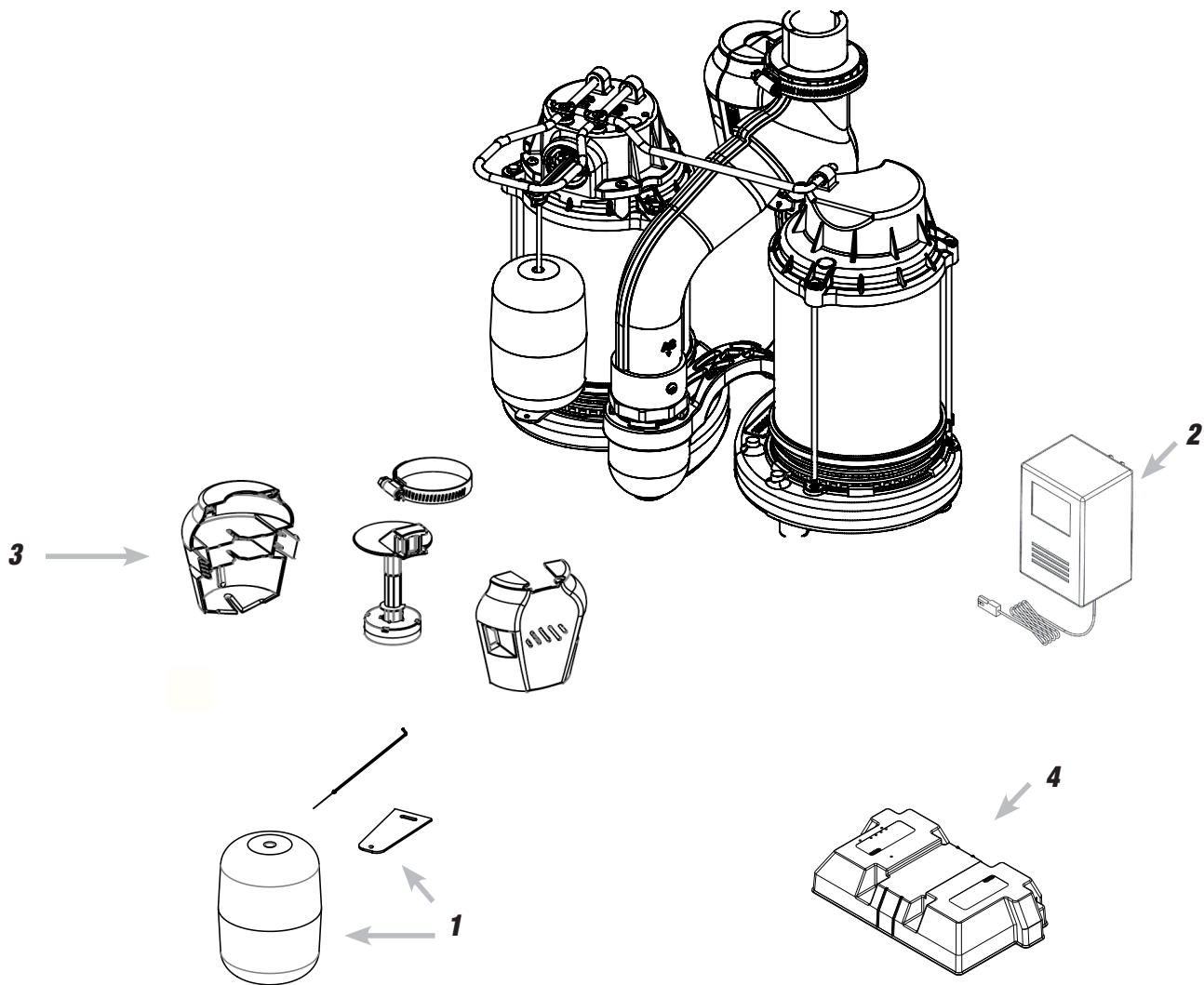
2. Inspect the terminals and clamps for corrosion and tightness. Clean and tighten as required.

3. Unplug the main pump and fill sump with water until backup pump turns on. Repeat process two times to make sure pump is operating normally.

4. If pump operates normally, plug transformer into wall outlet, turn on main pump. If pump fails to operate normally, see Troubleshooting guide and correct problem.

DC TROUBLESHOOTING CHART

Symptoms	Possible Cause(s)	Suggested Remedies
Pump will not start or run	<ol style="list-style-type: none">1. Connections not secure2. Low or defective battery3. Float switch stuck4. Defective or blown fuse5. Battery voltage below threshold, motor locked out	<ol style="list-style-type: none">1. Check all connections2. Check battery and replace as needed3. Make sure nothing is interfering with operation of switch4. Pull the transformer from the wall outlet and remove. Check the 20 Amp automotive style fuse located under the battery box lid protruding from printed circuit board cover5. Wait for battery to recharge or replace with fresh battery
Motor hums but won't run	<ol style="list-style-type: none">1. Defective battery2. Locked pump rotor	<ol style="list-style-type: none">1. Check battery and replace if low or defective2. Check pump inlet for debris
Pump runs but pumps very little or no water	<ol style="list-style-type: none">1. Check valve missing or improperly installed2. Obstruction in discharge pipe3. Discharge length and/or height exceeds capacity of pump4. Low or defective battery	<ol style="list-style-type: none">1. Check to make sure check valve installed in discharge and line is functioning properly2. Check for obstruction and clear if necessary3. If discharge is too high, a separate line may be required with a lower discharge height4. Check battery and replace as needed
Pump cycles too frequently	<ol style="list-style-type: none">1. Check valve problem	<ol style="list-style-type: none">1. Check to make sure check valve installed in discharge and line is functioning properly



REPAIR KITS		
REF. NO.	DESCRIPTION	PART NUMBER
1	FLOAT KIT	60038-WYN1
2	TRANSFORMER	60194-WYN1
3	BACK UP SWITCH	Call for part
4	LID ASSEMBLY	60184-WYN1

**FOR REPLACEMENT
PARTS OR CUSTOMER SUPPORT,
CALL 1-888-636-6628**

**ADDRESS PARTS CORRESPONDENCE TO:
BLUE ANGEL PUMPS
101 Production Drive
Harrison, OH 45030 U.S.A.**

Please provide following information:

- Model number
- Serial number on cord tag (not to be removed)
- Part description and number as shown in parts list

Thank you for making Blue Angel Pumps a key part of your home maintenance program. If properly installed, maintained and operated in accordance with Blue Angel Pumps' written instructions, your pump should provide you with approximately (*) years of service.

Product Warranty	(*) Expected Life
1	3
2	3
3	6
5	6

LIMITED WARRANTY

For three years for F33SSn/F50SSN from the date of purchase, from an authorized dealer, Blue Angel Water Systems will repair or replace, at its option for the original purchaser, any part or parts of its Sump Pumps or Water Pumps ("Product") found upon examination by Blue Angel Water Systems to be defective in materials or workmanship. Please call Blue Angel Water Systems (888-636-6628) for warranty instructions. Be prepared to provide the model number and the serial number when exercising this warranty. All transportation charges on Products or parts submitted for repair or replacement must be paid by purchaser. This Limited Warranty is not transferrable. This Limited Warranty does not cover Products which have been damaged as a result of accident, abuse, misuse, neglect, improper installation, improper maintenance, or failure to operate in accordance with BLUE ANGEL's written instructions.

This Limited Warranty does not cover Products which have been damaged as a result of accident, abuse, misuse, neglect, improper installation, improper maintenance, or failure to operate in accordance with Blue Angel Water Systems' written instructions.

THIS WARRANTY IS IN LIEU OF ANY AND ALL OTHER WARRANTIES, OBLIGATIONS OR AGREEMENTS, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, AND ANY RIGHTS OR REMEDIES AGAINST ANY PERSON OR ENTITY UNDER THE UNIFORM COMMERCIAL CODE OR OTHERWISE WITH RESPECT TO THE SALE OF THE PRODUCT. THE REMEDIES AND OBLIGATIONS STATED IN THIS WARRANTY ARE THE SOLE AND EXCLUSIVE REMEDIES OF AND OBLIGATIONS TO THE OWNER FOR ANY AND ALL MATTERS ARISING WITH RESPECT TO OR IN ANY WAY CONNECTED WITH THE PRODUCT, REGARDLESS OF THE SOURCE OR PROVIDER OF SUCH GOODS. IN NO EVENT, WHETHER AS A RESULT OF BREACH OF CONTRACT, WARRANTY TORT (INCLUDING NEGLIGENCE) OR OTHERWISE, SHALL BLUE ANGEL WATER SYSTEMS OR ANY AFFILIATE BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

You **MUST** retain your purchase receipt along with this form. In the event you need to exercise a warranty claim, you **MUST** send a **copy** of the purchase receipt along with the material or correspondence. Please call Blue Angel Water Systems (888-636-6628) for return authorization and instructions.

DO NOT MAIL THIS FORM TO Blue Angel Water Systems. Use this form only to maintain your records.

MODEL NO. _____ SERIAL NO. _____ INSTALLATION DATE _____

ATTACH YOUR RECEIPT HERE