

NOTICE TO INSTALLER: Instructions must remain with installation.

Your Peace of Mind is Our Top Priority®

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



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Visit our web site:
www.zoellerpumps.com

FM1648
0317
Supersedes
1214



MODELS 108 and 138 CRAWL SPACE® PUMPING SYSTEM PREINSTALLATION CHECKLIST



Zoeller Pump Company is one of the oldest and largest pump manufacturers in the U.S. and has a history of supplying innovative products and services to its customers.

Through research and development, design, testing and manufacturing, we have been able to bring products to the market that solve problems that plague consumers, industry, and the environment. This commitment to our customers has enabled them to enjoy returns of our joint efforts.

1. Inspect your unit. Occasionally, products are damaged during shipment. If the unit is damaged, contact your dealer before using. **DO NOT** remove the test plugs in the cover nor the motor housing.
2. Carefully read the literature provided to familiarize yourself with specific details regarding installation and use. These materials should be retained for future reference.

 WARNING SEE BELOW FOR LIST OF WARNINGS	 CAUTION SEE BELOW FOR LIST OF CAUTIONS
1. To reduce the risk of electrical shock, a properly grounded receptacle of grounding type must be installed and protected by a ground fault circuit interrupter (GFCI) and in accordance with national electrical code and local codes. 2. Make certain that the receptacle is within the reach of the pump's power supply cord. DO NOT USE AN EXTENSION CORD. Extension cords that are too long or too light do not deliver sufficient voltage to the pump motor. But more important, they could present a safety hazard if the insulation were to become damaged or the connection end were to fall into the sump. 3. 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 electrician. 4. For electrical safety, it is recommended that a GFCI be installed. 5. FOR YOUR PROTECTION, ALWAYS DISCONNECT PUMP FROM ITS POWER SOURCE BEFORE HANDLING. Single phase pumps are supplied with a 3-prong grounded plug to help protect you against the possibility of electrical shock. DO NOT, UNDER ANY CIRCUMSTANCES, REMOVE THE GROUND PIN. To reduce the risk of electrical shock, a properly grounded receptacle of grounding type must be installed and protected by a ground fault circuit interrupter (GFCI) in accordance with national electrical code and local codes. 6. Installation and checking of electrical circuits and hardware should only be performed by a qualified licensed electrician. 7. Risk of electric shock - These pumps have not been investigated for use in swimming pool and marine areas. 8. 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.	1. Check to be sure your power source is adequate for handling the voltage requirements of the motor, as indicated on the pump or basin plate. 2. Make sure the pump electrical supply circuit is equipped with fuses or circuit breakers of proper capacity. A separate branch circuit is recommended, sized according to the National Electrical Code for the current shown on the pump name plate. 3. Pump should be checked frequently for debris and/or build up which may interfere with the float "on" or "off" position. Repair and service should be performed by a Zoeller Pump Company Authorized Service Station only. 4. A CHECK VALVE MAY BE REQUIRED TO REDUCE UNNECESSARY CYCLING OF PUMP. 5. Dewatering pumps are not designed or intended for handling raw sewage. 6. Maximum operating temperature for Crawl Space Drain Pumps must not exceed 130°F (54°C). NOTE: Pumps with the "UL" mark and pumps with the "US" mark are tested to UL Standard UL778. CSA Certified pumps are certified to CSA Standard C22.2 No. 108.
REFER TO WARRANTY 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 one year from date of purchase by the end user, or 18 months from date of original manufacture of the product, whichever comes first. Parts that fail within the warranty period, one year from date of purchase by the end user, or 18 months from the date of original manufacture of the product, whichever comes first, 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 nature; 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.

Ten Helpful Hints For Easy Installation

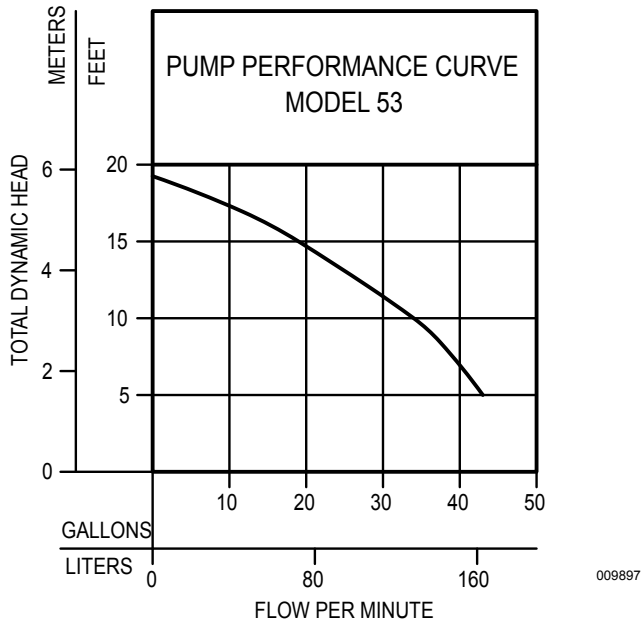
1. Read all instructions before beginning installation.
2. Be sure the installation does not exceed a maximum vertical lift of 16 feet (Model 108) or 21 feet (Model 138).
3. Be sure the basin is level within 1/8" across the diameter.
4. Do not over torque extension tank attachment bolts.
5. Use backfill gravel that is larger than the slots in the basin.
6. Test operation of pump per STEP 5.
7. Do not over tighten bushing, check valve, or hose clamp.
8. Plug pump into a properly grounded, constant voltage source.
9. Do not plug into a device that runs intermittently.
10. Obtain model number and date code prior to calling factory.

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

1. DO read all installation material included with the pump.
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 pump reservoir.
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 NOT carry or lift pump by its power cord. DO NOT use an extension cord with this Crawl Space Pumping System.
5. DO NOT use a discharge pipe smaller than the diameter of the hose kit.
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.
8. DO inspect and test system for proper operations at least every 3 months.

Performance Characteristics

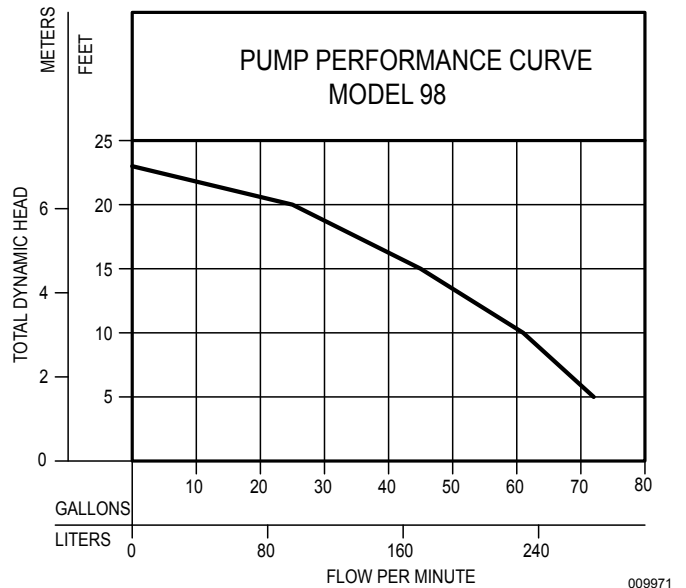
Model 108



MODEL		53	
Feet	Meters	Gal.	Liters
5	1.5	43	163
10	3.0	34	129
15	4.6	19	72
Shut-off Head:		19.25 ft.(5.9m)	

009897

Model 138



MODEL		98	
Feet	Meters	Gal.	Liters
5	1.5	72	273
10	3.0	61	231
15	4.6	45	170
20	7.1	25	95
Shut-off Head:		23 ft.(7.0m)	

009971

STEP 1

Site Selection for Drain Basin

Note: If freezing of the discharge line is possible, refer to Step 6.

- 1.1) Select a location that is a "low spot" or an area that naturally collects water. Refer to Figure 1.1. Grade crawl space so water will drain toward pit. Place plastic sheeting on ground.

Note: If weep tiles or drain lines are to be used, then select a basin location that will provide the most efficient drainage.

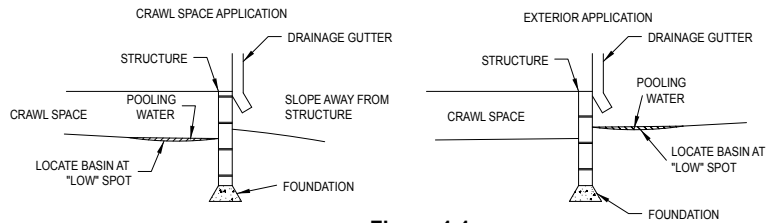


Figure 1.1

SK1798

STEP 2

Installation of Basin (Typical Crawl Space Application)

Note: Proceed to **STEP 2A** if installing "Slotted" basin with extension kit.

- 2.1) Excavate the site to the dimension shown in Figure 2.1.

Note: If weep tiles or drain lines are to be used, rough-in plumbing should be completed at this time.

- 2.2) Lower basin into pit (Refer to Figure 2.2). Complete installation of weep or drain lines.

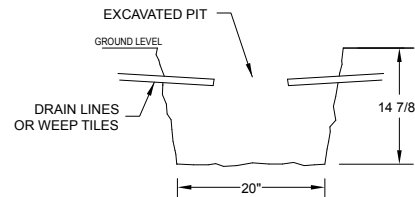


Figure 2.1

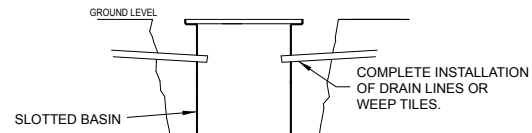


Figure 2.2

SK1800

STEP 2A

Installation of "Slotted" Basin with Optional Extension Kit

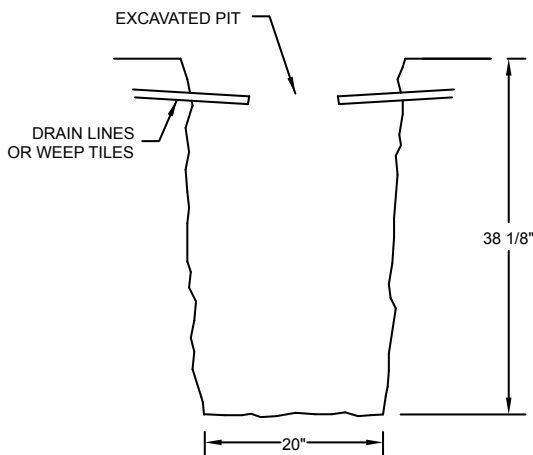
- 2A.1) Excavate the site to the dimensions shown in Figure 2A.1.

Note: If weep tiles or drain lines are to be used, rough-in plumbing should be completed at this time.

- 2A.2) Attach the extension to the basin with the four bolts provided in the extension kit. Refer to Figure 2A.2.

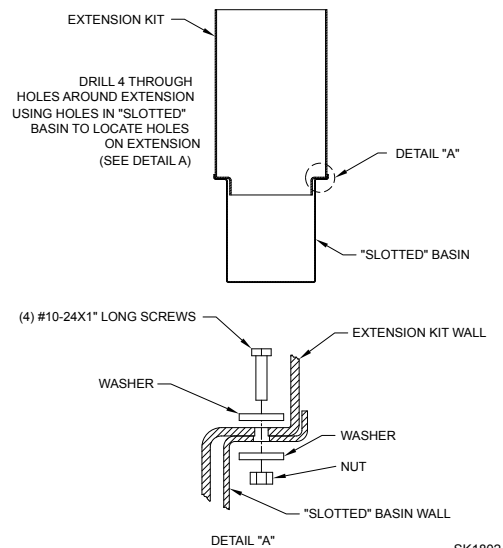
- 2A.3) Lower basin into pit and complete the installation of weep tiles or drain lines. Refer to Figure 2A.3.

Note: If concrete is to be poured around the top of the extension, then make the pit depth 34 1/2" to provide for access.



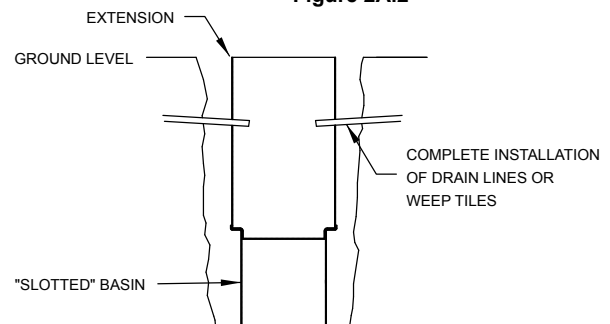
SK1801

Figure 2A.1



SK1802

Figure 2A.2



SK1803

Figure 2A.3

STEP 3

Installation of Pump and Cover

- 3.1) Attach the flexible discharge hose to pump and lower into pit.
- 3.2) Attach lid and complete discharge line connections.

Note: Attach the lid to the extension with O-ring (included).

CAUTION DO NOT USE LID SUPPLIED WITH SLOTTED BASIN IF USING EXTENSION KIT.

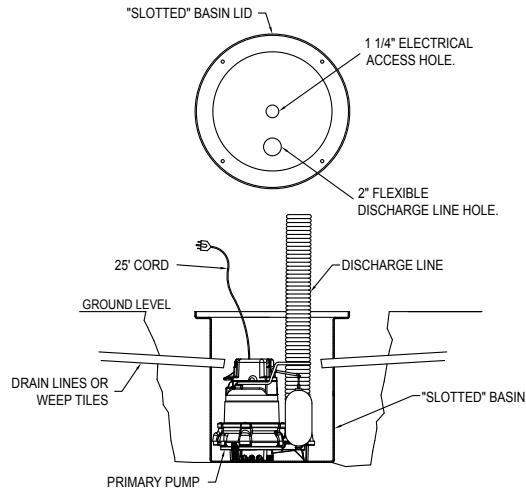


Figure 3.1

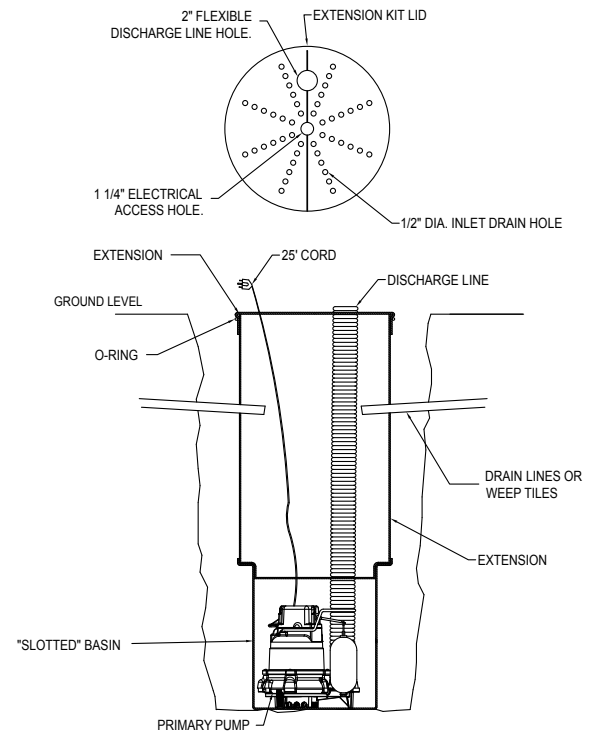


Figure 3.2

SK1799

STEP 4

Backfill Pit

- 4.1) Backfill pit as shown in Figure 4.1 & 4.2.

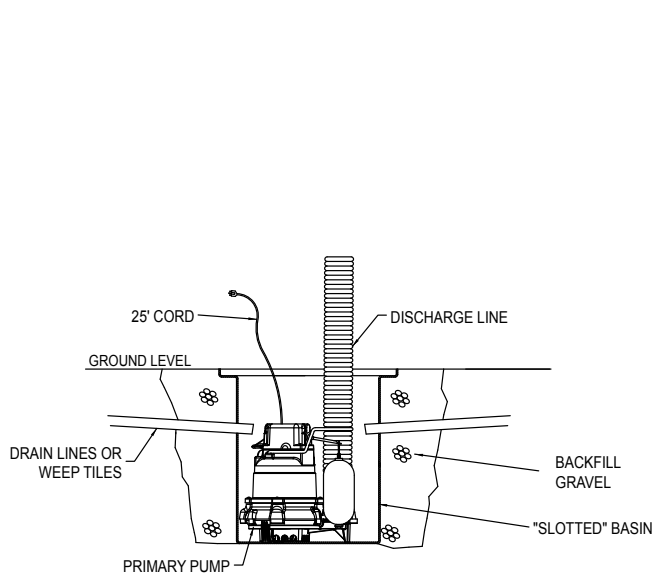


Figure 4.1

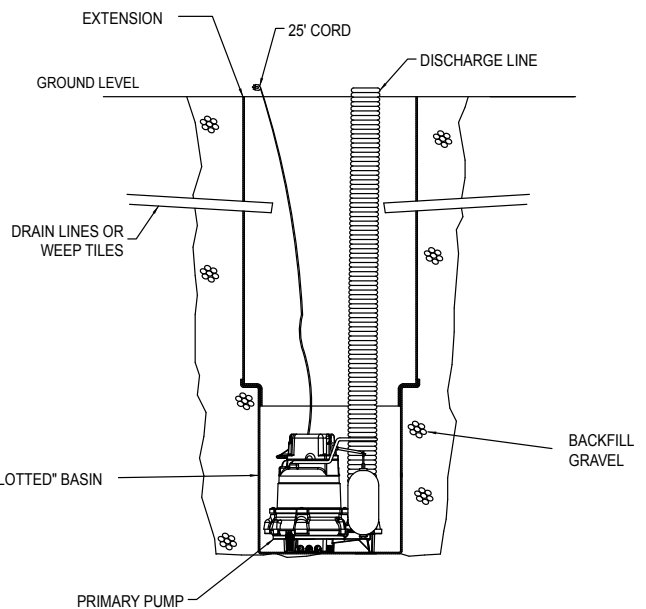


Figure 4.2

SK1807

STEP 5

Testing of System

- 5.1) Plug in pump.
- 5.2) Pour water through lid until pump comes on.
- 5.3) Check all discharge line connections for leaks or obstructions.
- 5.4) If the pump begins to “short cycle” as described in part “C” of the troubleshooting guide, then it will be necessary to install a check valve in the discharge line. This will prevent water from draining from the discharge line back into the pit. Refer to Figure 5.1. If a check valve is installed, the discharge pipe must be protected from freezing. Refer to Step 6 for freezing protection.
- 5.5) If after completing the above procedures the system is not operating properly, refer to the Trouble Shooting Guide.

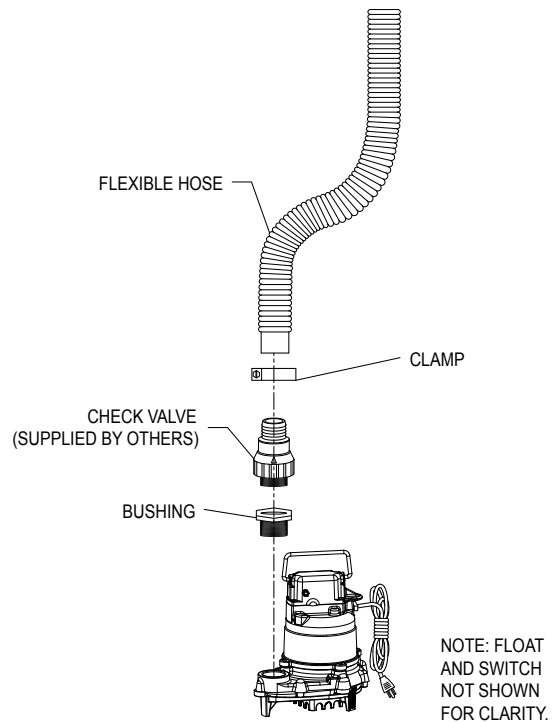


Figure 5.1

SK1805

STEP 6

Freezing Protection

Note: If there is the possibility of the discharge line freezing, then install the discharge line as recommended in Figure 6.1.

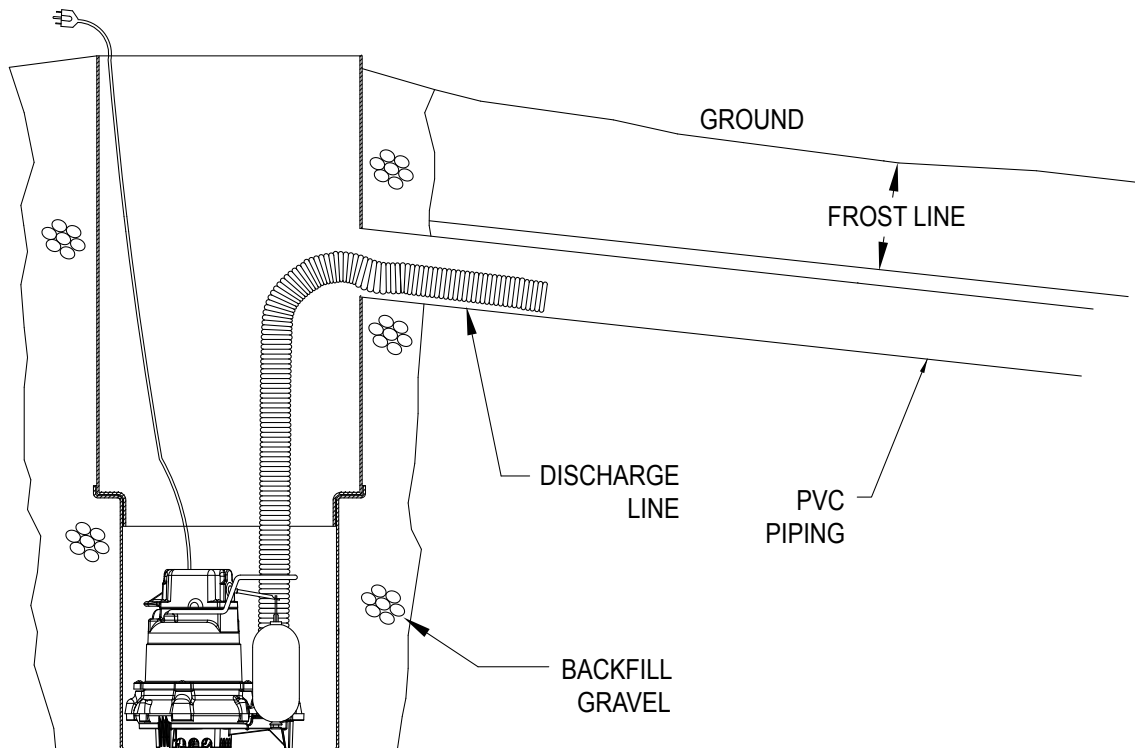


Figure 6.1

SK1822

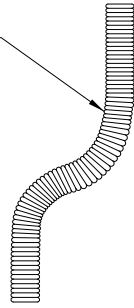
Replacement Parts List For Models "108" And "138"

REF. NO.	DESCRIPTION	QTY	NOTES	MODELS: 108-A	138-A
				6/98 to Present	6/98 to Present
1	Pump	1		012319	012320
2	"Slotted" Basin	1		012172	012172
3	Lid	1		012173	012173
4	Hose Kit	1		1010-0117	1010-0117

ACCESSORIES			
ITEM	P/N	DESCRIPTION	QTY
5	10-0786	Extension Kit and Lid	1
6	10-0770	Weather Tight Junction Box	1
7	10-4012	Alarm	1

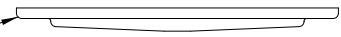
④

24' FLEXIBLE HOSE KIT



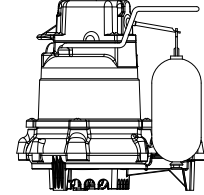
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LID



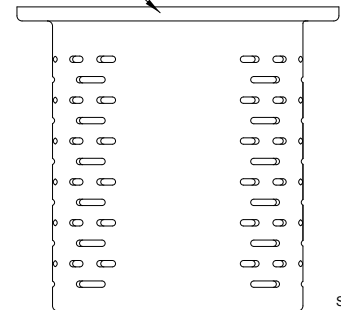
①

PUMP



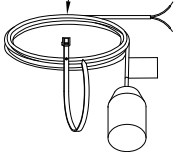
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"SLOTTED" BASIN



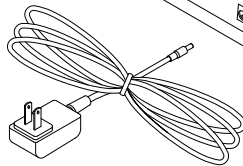
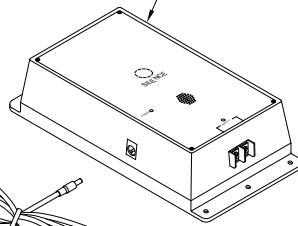
SK1824

VARIABLE LEVEL
FLOAT SWITCH

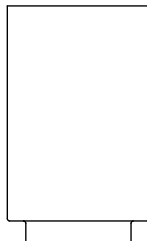
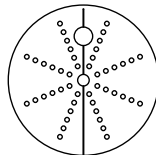


⑦

ALARM
PANEL



SK1858

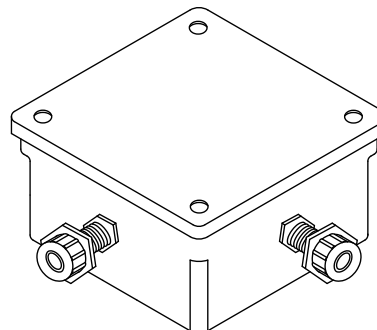


⑤

EXTENSION KIT
AND LID

⑥

WEATHER TIGHT
JUNCTION BOX



SK1823

Trouble Shooting Guide

Condition	Possible Cause	Remedy
A. PUMP WILL NOT START OR RUN.	Blown fuse.	Have a qualified electrician check circuit.
	Low voltage.	
	Thermal overload open.	Contact a Zoeller Authorized Service Station.
	Impeller bound.	
	Motor or wiring shorted.	
	Switch defective.	
	Damaged float.	
	Float assembly bound.	Check for debris around float.
B. PUMP TRIPS OVERLOAD OR BLOWS FUSE.	Incorrect voltage.	Have qualified electrician check circuit.
	Impeller bound.	Contact a Zoeller Authorized Service Station.
	Motor shorted.	
C. PUMP STARTS AND STOPS TOO OFTEN.	Short cycling (No check valve in discharge line to prevent water from draining back into pit).	Refer to STEP 5 for installation of check valve.
	Defective float.	Contact a Zoeller Authorized Service Station.
D. PUMP WILL NOT SHUT OFF.	Debris under float.	Remove debris as necessary.
	Switch defective.	Contact a Zoeller Authorized Service Station.
	Switch out of adjustment.	
E. PUMP OPERATES BUT DELIVERS LITTLE OR NO WATER.	Weep hole plugged (Air-locked).	Clear weep hole as necessary.
	Obstruction in discharge line.	Clear lines as necessary.
	Discharge head exceeds capacity.	Refer to pump performance chart on page 3, or contact factory.
	Low voltage.	Have qualified electrician check circuit.
	Discharge line frozen.	Clear and protect from freezing (See STEP 6).

⚠ 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 above checklist does not solve the problem, consult Zoeller Pump Company Technical Service Department at 1-(800) 928-7867. **Do not** attempt to service or otherwise dis-assemble pump.