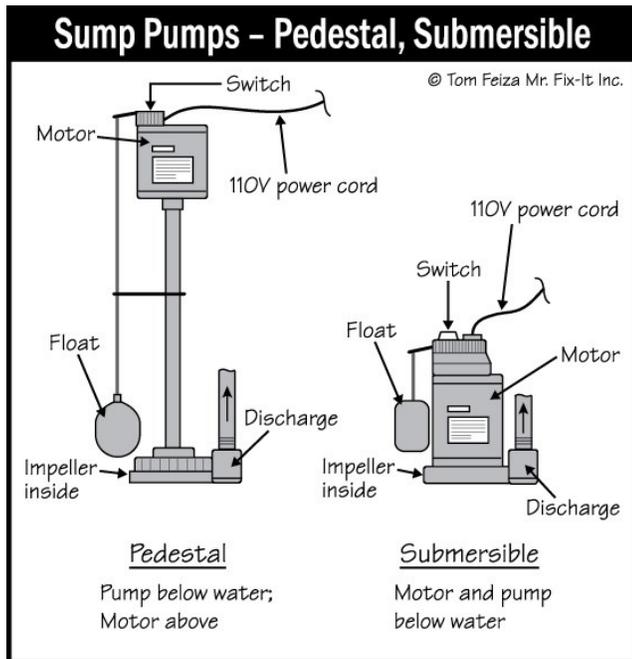


Sump Pumps

Sump pumps are common components of modern basement construction. They are designed to collect water from perimeter drain systems and/or the surrounding soil and pump it up and away from the house before it can cause a flood. If your home has a sump pump, it is important to understand why you have one, how it works, and how to maintain it.



Typical sump pump installation, with submersible pump, bypass float switch and white outlet pipe. Note the sealed crock cover with white inspection port plug.

Why do I have a sump pump if I don't have a wet basement?

Having a sump pump in your basement does not necessarily mean there is a water problem. Sump pumps have been around since 1946, but were usually only installed if the builder suspected there may be issues with ground water entering the basement. However, in recent years it has become standard to include at least a sump crock and power supply when building a home, since it can be expensive to add such a system after the house is complete.

How often should a sump pump operate?

This depends greatly on the amount of water that needs to be discharged. Some pumps operate hourly or even more often than that; some pumps are only needed after heavy storms. Frequent operation can also mean the pump is not the right size for the amount of water or the height it has to be pumped to.

What are all those pipes?

Most sump crocks have a single pipe (usually white PVC plastic) rising from the crock to somewhere above ground level, where the pipe discharges outside onto the ground (the discharge pipe should have an extension pipe on it, similar to one for a gutter downspout, to prevent water from reentering the foundation). For these pumps, the cover is usually loose to allow for access to the pump.

There may be a larger (4") white PVC plastic pipe extending from the crock to the exterior. This is usually for the house's radon remediation system. In this case, the cover of the crock is sealed to ensure a proper negative pressure under the slab. However, there is typically a view port on the lid. If not, it can be difficult to test or properly service the system.

There will also be power cords leading from the pump to the outlet nearby. This outlet should be on an individual branch circuit; that is, the sump pump should be the only thing powered by that circuit. The pump should never be plugged into an extension cord.

Why do I have two sump pumps in the same crock?

Backup sump pumps are often installed in cases where there is a known issue with groundwater, or where the homeowner does not want to take any chances on there being flood damage in the basement. These backup pumps are usually battery-operated, so the basement will still be protected during a power outage.

Should I have a back-up sump pump?

If your sump pump operates frequently, or you have had water issues in the basement in the past, a back-up sump pump may be prudent.

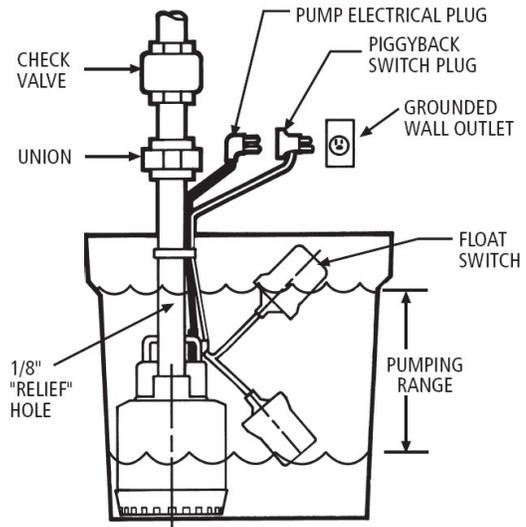
The secondary pump is powered by a heavy-duty marine-grade battery, which sits in a protective case near the sump crock. The pump will operate during a power failure, or if the primary pump fails. The float switch for the backup is set just a little higher than the primary pump.

What maintenance is needed?

Sump pumps should be tested at least once a year, just before the rainy season hits. Follow the steps in the manufacturer's instructions; these typically include the following:

- Remove any mud or debris from the crock. Any kind of foreign matter in the crock can clog the pump, causing it to fail.
- Fill the sump crock with water to make sure the pump operates. If there is a back-up pump, make sure to run that as well to make sure it works properly. Don't forget to plug the primary pump back in after completing the test.
- When testing the pump, go outside to make sure it is discharging water. In some cases, the pump can run but not pump any water. This can be due to the impeller being broken or disconnected.

- Check the operation of the float to make sure it is not restricted.
- Clean out the relief hole in the discharge line.
- Listen for any unusual noises when the motor is running.
- If you have a battery backup system, replace the battery every two to three years.
- You can also test a switched float by unplugging the piggyback switch plug and plugging the pump directly into the outlet.



What should the sump pump be plugged into?

The pump's manufacturer will specify whether the pump should be on a 15- or 20-amp circuit. This circuit should feed only the sump pump.

Current building standards now call for the sump pump receptacle to be GFCI-protected. We recommend installing an alarmed GFCI, which will alert you if the circuit has tripped. Without an alarm, the circuit may trip and you could be unaware of the problem, until the crock overflows and you have a flood.

How long do sump pumps last?

It depends upon how often they are used. A lightly-used pump could last up to 15 years or more; one that is called on to operate frequently could last less than five years. We always recommend keeping a spare pump on the shelf in the event of a sudden failure; pumps rarely fail when it's bright and sunny and the hardware stores are open.