

Inspecting Your Septic Tank

The Stick Test

Septic tanks are mainly settling chambers. They allow time for solids and scum to separate from the wastewater, so clear liquid can safely go to the drainfield. Over time, the floating scum and sinking sludge layers get thicker, leaving less space and time for the wastewater to settle before passing to the drainfield.

For every gallon entering the tank, one gallon is pushed out to the drainfield. So it is important to keep the level of scum and sludge from building up and nearing the inlet or outlet baffles, where the scum or sludge could plug them up or be carried out and clog up your drainfield.

Septic tanks should be checked for buildup every 1 to 3 years until you can get on a predictable pumping schedule. Most septic tanks need pumping every 3 to 5 years. How often depends on the size of the tank, the number of people in the household, and the amount and type of solids entering the tank. You can hire a professional or inspect your septic tank yourself.

The “stick test” procedure below will guide you through the steps of measuring the amount of scum and sludge in the tank and determining whether the tank needs pumping. A more complete inspection includes inspecting the condition of the baffles and the pipe seals into and out of the tank (see Step 4).

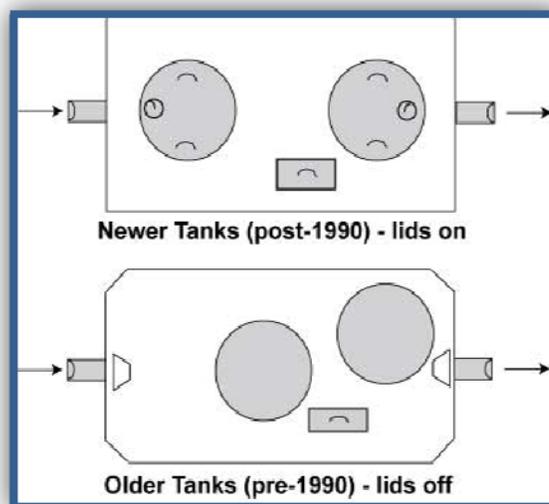
Step 1 — Opening Your Septic Tank

First uncover and remove the first manhole cover.

Some systems have “risers” that make this job easier by bringing the tank lids up to the ground surface. (We encourage you to have risers installed so you won’t need to dig down each time you inspect.)

The diagram at left shows the tops of the two most common septic tank configurations. The upper figure is found on newer tanks and the bottom one is usually found on older septic tanks.

In most cases, the hole closer to your home is the first compartment, which is larger than the subsequent second compartment, and the rectangular cover is to the crossover baffle. (Some tanks, 25 years or older, may have only one compartment with a lid that is round, oval, or square.)



CAUTION

NEVER enter a septic tank—fumes can be fatal!

NEVER leave an open tank unattended. Keep kids and pets away. Cover with a large board, if needed.

Step 2 — Measuring the Scum Level

This procedure determines the distance between the bottom of the scum layer and the bottom of the outlet baffle or tee.

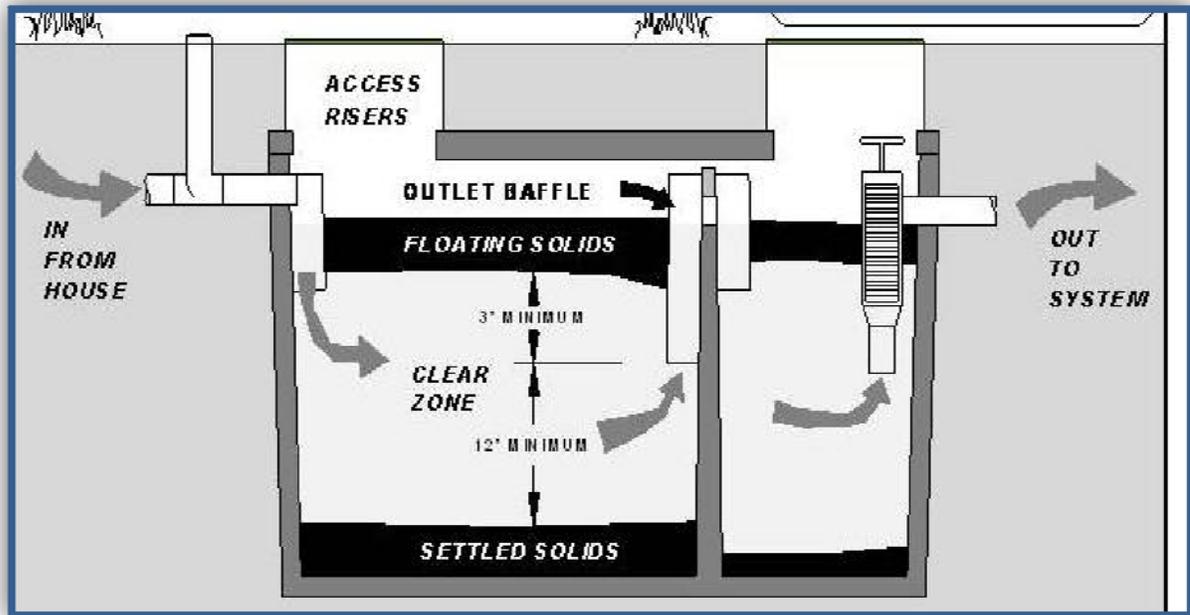
1. **Make a scum stick** — Measuring sticks can be made of wood or PVC pipe. For a wood scum stick, attach a 6-inch long board to the end of a 6-foot long stick. For a PVC pipe stick glue a 90° elbow to one end of a 6-foot long ½" Schedule 40 PVC pipe. Cut a 6-inch piece of PVC pipe and glue to elbow. Place end caps on open ends.
2. Establish a convenient reference point, such as a stick laying across the riser hole or the top of the tank.
3. At the outlet end of your tank's *first* compartment, carefully push the stick through the scum layer to find the bottom of the crossover baffle or tee.
4. Mark the stick at the reference point to indicate the bottom of the baffle or tee.
5. Raise the stick until you feel or see the stick contact the bottom of the scum layer.
6. Mark the scum stick again at the reference point to indicate the bottom of the scum layer.
7. If the two marks are 3 inches or less apart, the tank needs to be pumped. If the top of the scum layer is within 1 inch of the top of the outlet baffle the tank needs to be pumped.

Step 3 — Measuring the Sludge Level

This procedure determines the distance from the bottom of the crossover baffle or tee to the top of the sludge layer.

1. Dig a hole through scum, piling the material on top of the floating mat – do not stain the sludge stick with scum.
2. **Make a sludge stick** — For a wood sludge stick, use a stick at least 6 feet long. For a PVC sludge stick, cut a 10-foot PVC pipe into two 5-foot sections. Glue an adapter to each stick. Screw a coupler into one of the adapters. Connect the two sections to make a 10-foot stick.
3. Tightly wrap three feet of a white rag or old towel around the bottom of the stick. Fasten it with duct tape, staple gun (for wood) or PVC glue (for pipe).
4. Carefully lower the stick to the bottom of the tank. Hold the stick in the tank for at least five minutes to allow sludge particles to adhere to the towel. Mark the stick at the reference point to indicate the bottom of the tank.
5. Carefully remove the stick. There should be a distinct dark stain on the rag. This is the depth of the sludge layer.
6. Lay the sludge stick beside the scum stick. Line up the top marks.
7. Measure the distance from the bottom of the scum stick to the top of the dark stain on the sludge stick.
8. If the distance is 12 inches or less, your tank needs to be pumped. See figure below.





Step 4 — Inspect the Baffles

Remove the covers over the inlet, outlet, and crossover baffles. Inspect the baffles to ensure they are present and not severely corroded. If the baffles are concrete and molded into the rest of the tank, venting holes should be present and unobstructed.

- The inlet baffle should be un-obstructed and the pipe sealed to the tank.
- The outlet baffle should be un-obstructed and the liquid level should be at the bottom of the pipe not below the pipe or above the bottom of the pipe. The pipe must be well sealed to the tank.
- The crossover baffle should also be free of obstruction..



In this picture, looking down an outlet baffle, the effluent is below the pipe, indicating a bad seal.

Safety and Cleanup

- Wear gloves.
- Discard soiled gloves and sludge toweling in a plastic bag.
- Rinse sticks with bleach water to disinfect before storing. ($\frac{3}{4}$ cup bleach to 1 gallon water)

This document is adapted from a brochure produced by Thurston County Environmental Health