

Septic tank systems are very much like people. They need periodic check-ups and proper care to remain healthy and function properly. Also like humans, they must have a proper diet and cannot over indulge to excess without the homeowner suffering dire consequences (repair bills).

CARE

Often overlooked or neglected is the fact that a septic tank system should have an annual check-up. The holding or septic tank traps the solids in the wastewater and should be checked to determine whether or not it is time for it to be pumped out. The inspection port should be opened and the baffles checked to ensure that they have not been damaged since the last check up (see Figure 1).

The absorption field should be checked for soggy areas or flooding, indicating improper drainage, a clogged system or excessive water use. The entire area containing the system should be checked for damp or soggy areas or odors, indicating a leak in the system.

A properly designed septic tank system will have a holding tank with sufficient space to accumulate solids for up to three years. When the level of solids fills too much space in the holding tanks, the wastewater has less time to settle properly and too many solid particles flow into the absorption field. This will eventually clog it to the point where a new field will be needed.

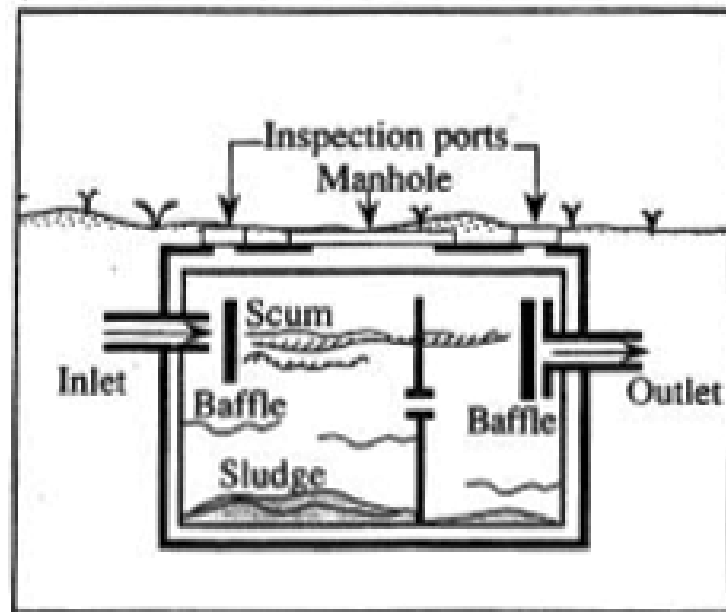


Figure 1. Cross Section of Septic or Holding Tank

THE HOLDING TANK

How often you need to pump the solids out of your holding tank depends upon *three major factors*. *First* is the size or capacity of the tank itself. If more people are living in the home than when the system was installed, or if new high water technologies such as a hot tub or whirlpool are now in use, then the capacity could be too small. It would then be necessary to pump out the system more frequently. Too large a system should not be a problem. It simply means you have to empty the solids less often.

The number of people in the household also is related to the *second* factor, the flow of wastewater. Obviously, the more people in the household, the more water will flow through the system. The *third* factor for determining how often

you must pump the solids out of your holding tank is the volume of solids in the wastewater. If you have a garbage disposal, for example, you will have to pump out your system more frequently than persons disposing of their food wastes through other means. If the occupation of someone in the household results in their having excessively soiled clothes, a construction worker or coal miner, for example, the washing of these kinds of clothes also will add solids to your tank at a higher rate than normal.

Table 1 lists how often you need to pump out your holding tank on average, given the size of the tank and the number of persons living in the household. These figures were calculated assuming there was no garbage disposal unit hooked up to the system. The use of a garbage disposal will increase the amount of solids in the holding tank by as much as percent.

You can make a specific determination of when it is time to pump out the solids by occasionally checking the depth of solids and the level of scum build up on top of the water in the tank. But because this is an unpleasant task, the best solution is to have the tank routinely pumped by a certified contractor every three years.

Be sure that when the tank is pumped out, the contractor uses the large manhole, usually located in the center of the tank. Using one of the inspection ports could damage the baffles inside the tank (see Figure 1). Damage to the baffles could result in the wastewater flowing directly into the

absorption field without the opportunity for the solids to settle out.

Remember, commercial septic tank additives will not eliminate the need for periodic clean out. Be sure the holding tank is completely emptied. It is not necessary to retain any of the solids to restart the digestive process. Although commercial products are available for “seeding” the septic with desirable bacteria, biological or chemical additives are not needed for successful operation of your septic system.

| Tank Size (gals.) | Household Size (number of people) | | | | | |
|-------------------|-----------------------------------|------|------|-----|-----|-----|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 500 | 5.8 | 2.6 | 1.3 | 1.0 | 0.7 | 0.4 |
| 750 | 9.1 | 4.2 | 2.6 | 1.8 | 1.3 | 1.0 |
| 900 | 11.0 | 5.2 | 3.3 | 2.3 | 1.7 | 1.3 |
| 1000 | 12.4 | 5.9 | 3.7 | 2.6 | 2.0 | 1.3 |
| 1250 | 15.6 | 7.5 | 4.8 | 3.4 | 2.6 | 2.0 |
| 1500 | 18.9 | 9.1 | 5.9 | 4.2 | 3.3 | 2.6 |
| 1750 | 22.1 | 10.7 | 6.9 | 5.0 | 3.9 | 3.1 |
| 2000 | 25.4 | 12.4 | 8.0 | 5.9 | 4.5 | 3.7 |
| 2250 | 28.6 | 14.0 | 9.1 | 6.7 | 5.2 | 4.2 |
| 2500 | 31.9 | 15.6 | 10.2 | 7.5 | 5.9 | 4.8 |

Table 1. Estimated Septic Tank Pumping Frequencies in Years.

ABSORPTION FIELD

An absorption field generally does not require any maintenance. However, to protect and prolong the life of the absorption field, follow these simple rules:

- Do not drive over the absorption field with cars, trucks or heavy equipment.
- Do not plant trees or shrubbery in the absorption field area. The roots will get into the lines, plugging them up.
- Do not cover the absorption field with a hard surface such as concrete or asphalt. Grass is the best cover for the field. The grass will not only prevent erosion, but will help remove excess water.
- Divert surface runoff water from roofs, patios, driveways and other areas away from the absorption field.

FEEDING

What you put into your septic tank system will have a direct effect on whether or not you have a healthy, long lasting and trouble-free system. Your septic tank system is not a dispose-all.

THE DIET

Keep all toxic and hazardous chemicals out of your septic systems. Even small amounts of paints, varnishes, thinners, waste oil, photographic solutions, pesticides and other organic chemicals can destroy the biological digestion taking place within your system.

Plastics, cat box litter, cigarette filters, sanitary napkins, paper towels and facial tissues should not be disposed of in your septic system. These items quickly fill your holding tank with solids, decrease the efficiency and will require that you pump out the tank more frequently.

Avoid dumping grease or fats down your kitchen drains. They solidify and accumulation may contribute to blockage in your system.

If you have a water softener, the size of the absorption field must be increased to accept the additional flow.

OVERFEEDING

Another way to prolong the life of your septic tank system is to be conservative with your use of water. For example, up to 53

gallons of water are discharged into your system with each load of laundry. If several loads are done in one day, it can put considerable stress on your system. A better practice would be to space out your laundry washing throughout the week.

The new ultra low flush toilet uses between 1-1.6 gallons of water and will provide a 30 percent water saving. Low flow faucet aerators on sink faucets and reduced flow shower heads will save additional water. **FIX ALL LEAKS IMMEDIATELY.**

Following these simple rules regarding the maintenance and operation of your septic system will keep your problems to a minimum. It is really not a complicated or sophisticated system. A minimum amount of care will result in many years of trouble free operation.



THE CARE AND FEEDING OF YOUR SEPTIC TANK



Prepared by West Virginia University's
Department of Technology Education for
the National Small Flows Clearinghouse
Morgantown, WV 26506-6064
1-800-624-8301

