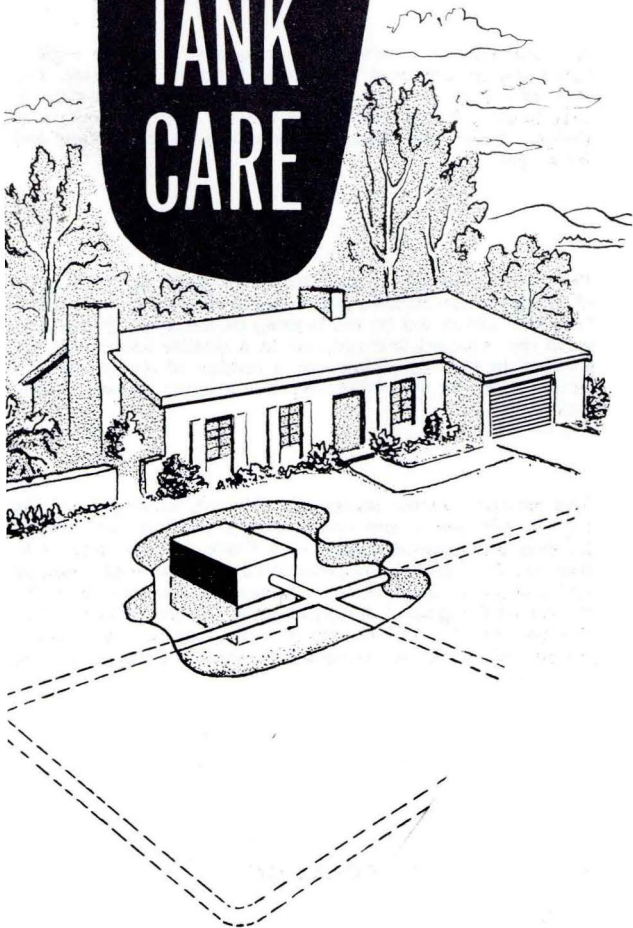


# SEPTIC TANK CARE



Environmental Engineering Service  
**IOWA STATE DEPARTMENT OF HEALTH**  
LUCAS STATE OFFICE BUILDING  
DES MOINES, IOWA 50319

## SEPTIC TANK CARE

Residential sewage disposal systems are generally used in rural and unsewered suburban areas. A septic tank system must be properly designed, installed and maintained if reasonable service is to be expected.

A septic tank is a water tight structure in which organic solids are decomposed by natural bacterial processes. The flow of sewage is slowed in its passage through the tank so that larger solids settle to the bottom and accumulate as sludge. Grease and lighter particles rise to the surface and form scum.

The bacteria present in a tank are able to thrive in the absence of oxygen. Such decomposition in the absence of air is called "septic," which led to the naming of the tank. Solids and scum are digested and reduced to a smaller volume by the bacteria in the tank. However, a residue of sludge remains which must be stored during the interval between tank cleanings.

The partially treated sewage, or effluent, flowing from the tank is still septic and contains large numbers of harmful bacteria and organic matter in a finely divided state or in solution. Foul odors, unsightly conditions and health hazards will develop if this effluent is ponded on the surface of the surface of the ground or carried away in open ditches. Final disposal of the effluent in a subsurface soil absorption system or filter is necessary to avoid these problems.

## LOCATION

To facilitate inspection and maintenance, it is imperative that the homeowner knows the location of all parts of the disposal system. Such information may be obtained from the contractor who built the system, or from the local officials. Details and accurate measurements including the location of the tank, pumps, underground piping, and the absorption system should be shown on a sketch for future reference.

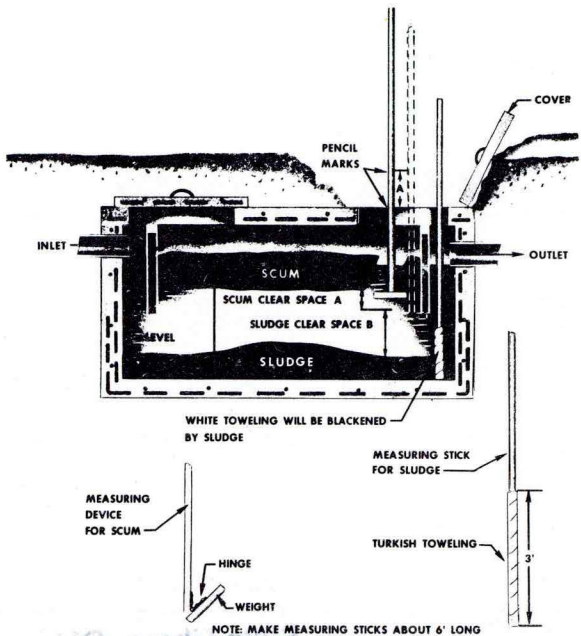
Local officials should be consulted to determine the minimum requirements relating to distance between disposal systems and water supply facilities.

## MAINTENANCE

The frequency of cleaning depends on the size of the septic tank and the number of people it serves. When a garbage grinder is used, more frequent cleaning will be required. With ordinary use and care, a septic tank may require cleaning every 2 or 3 years. However, in many cases septic tanks can be satisfactorily operated even longer. The homeowner should determine for himself when his tank needs cleaning.

Actual measurement of sludge deposit and scum accumulation is the only method of determining when a tank needs to be cleaned.

Scum can be measured with a stick to which a weighted flap has been hinged, or with any device that can be used to feel out the bottom of the scum mat. The stick is forced through the mat, the hinged flap falls into a horizontal position, and the stick is raised until resistance from the bottom of the scum is felt. With the same tool, the distance to the bottom of the outlet device can be found (see accompanying sketch.)



NOTE: CLEAN WHEN A IS 3" OR LESS, AND WHEN B IS WITHIN THE LIMITS SPECIFIED

A long stick wrapped with rough, white toweling and lowered to the bottom of the tank will show the depth of sludge and the liquid depth of the tank. The stick should be lowered behind the outlet device to avoid scum particles. After several minutes, if the stick is carefully removed, the sludge line can be distinguished by sludge particles clinging to the toweling.

In two-compartment tanks, measurements should be taken near the outlet of the first compartment.

The tank should be cleaned if either: (a) The bottom of the scum mat is within 3 inches of the bottom of the outlet device; or (b) sludge comes within the limits specified in the accompanying table.

LIQUID CAPACITY OF TANK GALLONS	LIQUID DEPTH		
	3 Feet	4 Feet	5 Feet
	Distance from bottom of outlet device to top of sludge, inches.		
750. . . . .	6	10	13
900. . . . .	4	7	10
1,000. . . . .	4	6	8

Septic tanks are usually cleaned by companies who make this operation a business. The homeowner should check with the local health department for the names of reputable companies in the area.

There are no known chemicals, yeasts or other substances capable of eliminating or reducing the solids in a septic tank so that cleaning is unnecessary. The use of such products is not necessary for the proper operation of a septic tank.

Septic tanks and absorption systems frequently are damaged by heavy trucks or equipment moving over them. Reference to the location sketch of the system will be found helpful in directing heavy vehicles away from the critical areas. If there is no way to avoid crossing a sewer line, cast iron should be used under the crossing.

The roots of trees and shrubbery may enter the tile lines and clog them completely. When this occurs, the roots can be removed only by digging up and cleaning the tile lines.

Neglect of the septic tank is the most common cause of damage to soil absorption systems. When the tank is not cleaned, solids build up and are carried over into the absorption system causing clogging of the soil. When this happens, the absorption system must be relocated and rebuilt.

SKETCH OF SYS

TANK INSPECTION RECORD

Date	Cost	Contractor	Description of Work

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