Plumbing Systems– You Can Do It Series
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You Can Do It, Too

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Plumbing Systems

Water Supply and Drainage System

~ Close and open the main water supply shutoff valve (periodically) to ensure that it has not stuck in the open position. Check fixture shutoff valves periodically as well. Both the main valve and fixture valves must be operable so water can be turned off in an emergency or when plumbing repairs are necessary.

~ Loud vibrating noises (water hammer) are common in plumbing supply lines. The condition occurs when you open and close faucets rapidly and can often be corrected by anchoring or fastening pipes more securely. Air chambers can be added at the end of long pipe runs to solve the problem, but their installation will probably require help from a professional (see Figure 1).

~ If hot water pipes are covered with insulation, inspect them to ensure that the insulation is secure and in good condition (annually). Replace or reposition loose insulation to cover any open areas.

~ Have well water analyzed for bacterial contamination and chemical pollution (every three to five years), or more often if an unusual taste or odor problem occurs.

~ Clean aerators on faucets (every three or four months, depending upon water hardness). You may need to use a rust or scale remover to return them to normal condition, or have them replaced.

~ Repair leaking faucets (as needed). If washer type, replace faucet washer and check washer seat for roughening; smooth if needed. If washerless, consult an installation manual or the personnel in a plumbing or hardware store for replacement procedures.

~ Turn off supply line to the outside faucets (sillcocks) and drain lines (late fall), unless they are frost-free hydrants and water lines are below the frost line or located in a heated space.

~ Remove garden hoses from all outside faucets (late fall). If any hose, even freeze-proof reinforced hose, is left connected to a sillcock (frost-free or regular), the faucet will not drain properly. It could freeze and burst during winter months.

~ Inspect distribution and drainage pipes for leakage or signs of weakness (annually). Look for rust, corrosion, greenish deposits, and mineral deposits around fittings, valves, house-

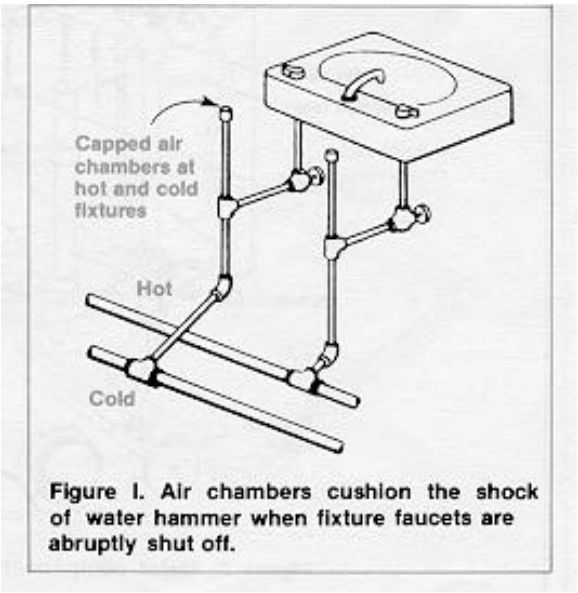


Figure I. Air chambers cushion the shock of water hammer when fixture faucets are abruptly shut off.

hold fixtures and along the length of the pipe. (Note: Water from small holes can evaporate before a drip forms, leaving only a telltale whitish or colored deposit.)

~ Check the bathroom stool for leaks by adding a small amount of red food coloring to the tank (annually). Check the toilet bowl later. If the toilet bowl water is colored red, water is seeping through from the tank. To prevent wasting water and the extra cost it produces, replace the tank ball (see Figure 2).

~ Inspect the septic tank (every three to five years or in the event of malfunction) by removing earth from the top of the tank and the lid or inspection hatch. When the depth of scum and solids exceeds one-half the liquid depth of the tank, it should be cleaned. Also, the outlet baffle should be visually inspected for deterioration. With age, baffles may wear or corrode to the point that they can no longer prevent floating scum from overflowing the tank and clogging the filter field. As a rule, septic tanks should be inspected and pumped every three to five years to help prevent costly replacement of the filter field. If a garbage disposal is connected to the septic tank system, it may require more frequent cleaning. Do not depend on chemical compounds or septic tank cleaners poured down drains to eliminate the need for periodic cleaning (see Figure 3).

~ Inspect the leaching field of the septic system to determine if failure has occurred (in the spring). Strong odors or frequent wet spots may be an indication that the soil field is unable to absorb the septic tank effluent. Consult a professional if the condition persists or reoccurs regularly (see Figure 4).

~ If a grease trap exists in the waste disposal line of a septic system, inspect It for build-up (annually) and clean as needed. (Note: According to the Michigan Plumbing Code, the use of grease traps is not required.)

Hot Water Heater

Check the temperature and pressure relief valve on the hot water heater (annually) to be sure the lever is functioning. Consult the operating manual or ask a qualified plumber to show you the procedure. If the valve does not work, have it replaced. (Note: Water will drain from the line linked to this valve. Have a bucket handy to catch it.) According to the Michigan Plumbing Code,

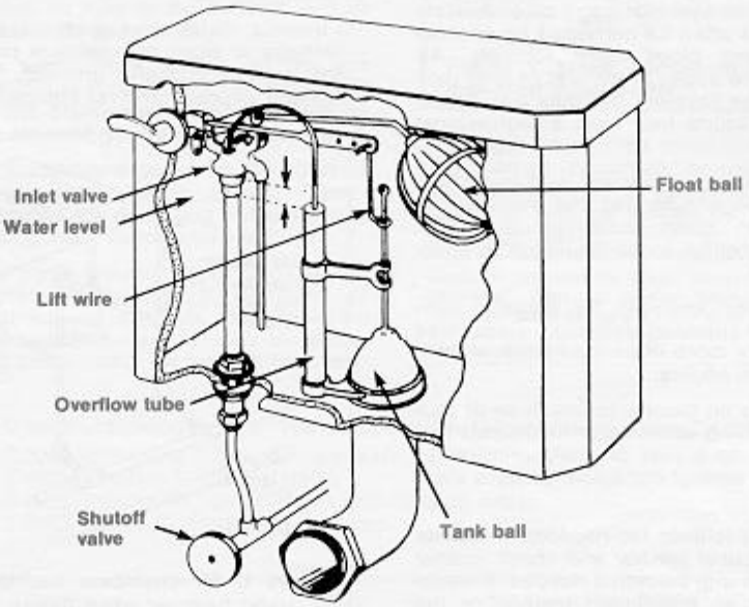
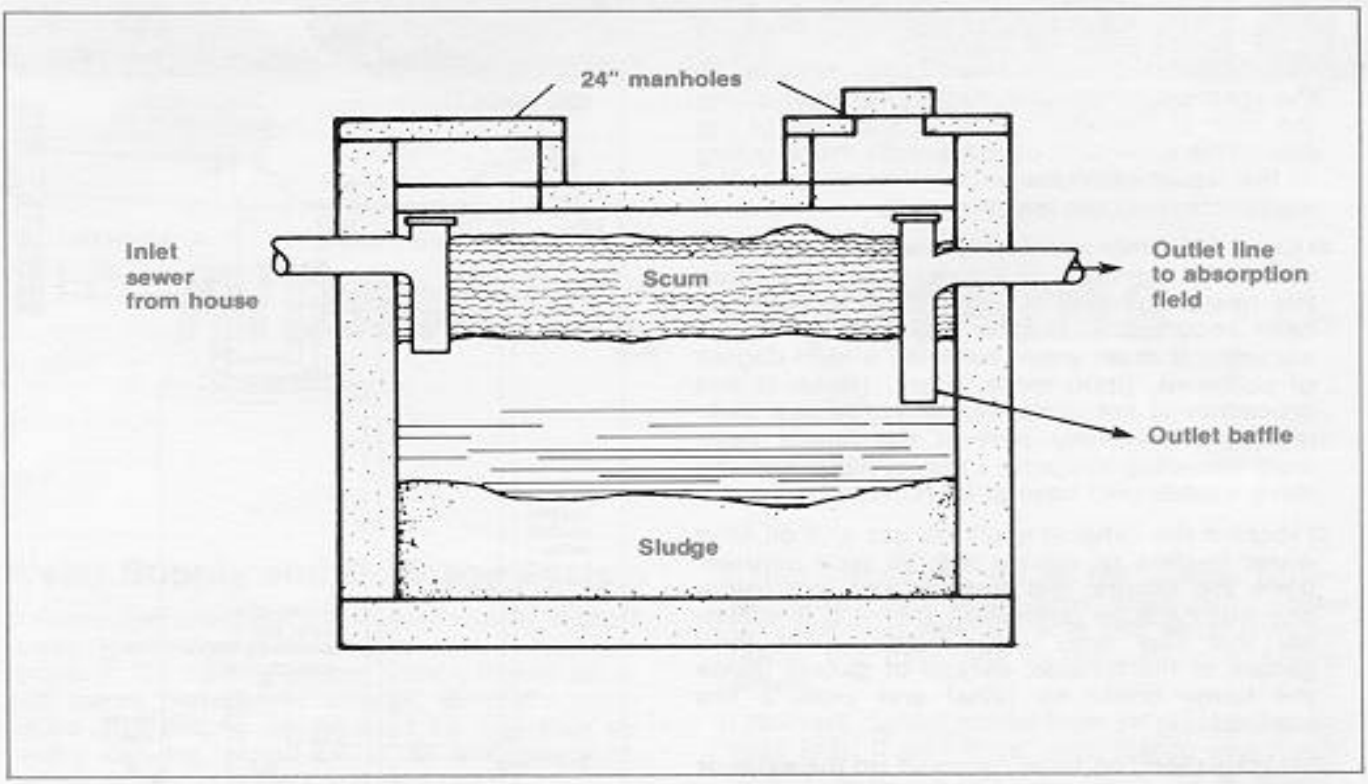


Figure 2. Major components of a typical toilet flush tank.



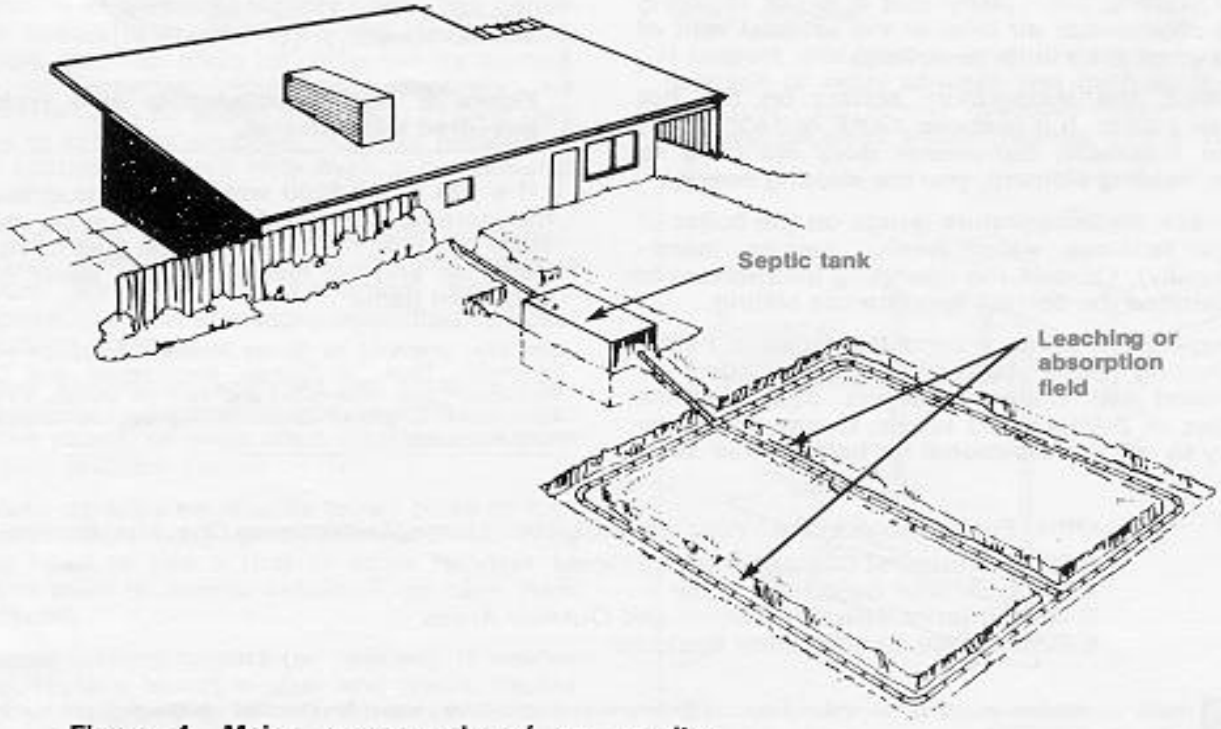


Figure 4. Major components of an on-site sewage disposal system.

a pipe should be connected to the pressure relief valve, extending down along the side of the tank to within 6 inches of the floor. This extension pipe prevents the spraying of hot water when the valve is released or if a malfunction occurs (see Figure 5).

~ Open the drain valve at the water heater tank bottom and drain 2 or 3 gallons of water from the heater to remove any sediment that may have accumulated in the tank bottom (semiannually; if drain water contains a high degree of sediment, drain more often). (Note: If this, procedure is not done regularly, residual sediment particles may prevent the faucet valve from reseating properly upon closing and the valve washer may have to be replaced.)

~ Inspect the exhaust stack on gas and oil fired water heaters to ensure that all pipe connections are secure and free of rust, corrosion, and obstructions (annually). (Note: It is essential that fuel fired water heaters vent their gasses to the outside; escape of gasses inside the home could be lethal and pose a fire hazard.)

~ If insulation has been mounted on the exterior of the water heater tank, inspect it to ensure that the insulation remains in the proper position, noting particularly that it is not blocking the combustion air inlet or the exhaust vent of gas or oil fired units (quarterly).

~ Check the temperature setting on the hot water heater. If it is above 120°F or 140°F, or if your automatic dishwasher does not have its own heating element, you are wasting energy.

~ Check the temperature gauge on the boiler of your tankless water heater system (semiannually). Consult the operating instructions to determine the correct temperature setting.

~ Inspect the joints around the tankless heater mounting plate (annually). If corroded or covered with mineral deposits, determine the cause of the leak and repair. It may be necessary to call a professional for help on this item.

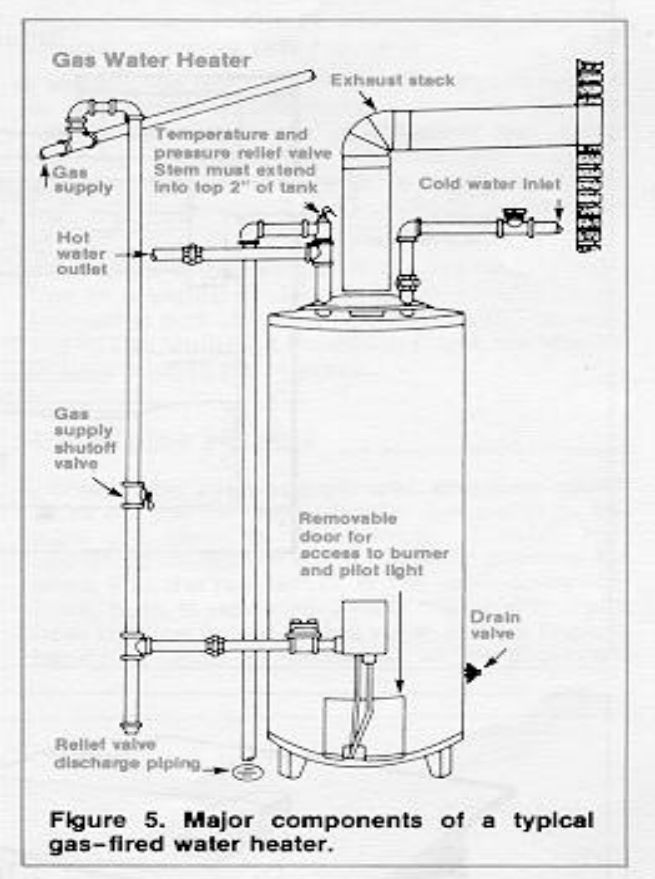


Figure 5. Major components of a typical gas-fired water heater.

~ If a gas or oil fired water heater is located in the garage, basement, or utility area, do not store gasoline in the same area. Gas fumes can build up and be ignited by the water heater pilot light flame.

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