

RETROFIT Improvements

Fuel Tank Anchoring

Making
Homes
Safer in
Disasters

Retrofit Opportunity

- Fuel tanks can be reinforced against high winds and heavy rain at anytime without a concurrent remodeling activity
- Installation of a new fuel tank
- Servicing a fuel tank

Purpose

- To secure fuel tank against movement by flood water, seismic activity, or wind

Benefits

- Prevents tank from becoming detached during extreme weather conditions which could cause damage to your home or your neighbor's home
- Prevents leakage and environmental contamination caused by forceful damage to supply line

Hazards

Wind



Rain



Flood



Seismic



Fire



Snow



Summary

An unanchored LP gas, propane, or fuel oil tank can become a significant physical and environmental hazard during a flood or earthquake. If left unanchored, the fuel tank outside of your house can be swept away from its base by flood waters and crash into the walls of your home. Much worse, it could be carried downstream and cause serious damage to neighboring properties. Similarly, if an unanchored fuel tank in your basement is moved by flood waters or seismic activity, the supply line can detach and contaminate your home with oil or present a fire hazard. Buried fuel tanks are also at risk and should be anchored to resist the buoyancy effects of saturated soil. Tying down a fuel tank is fairly simple and can be achieved using just a few straps and anchors.

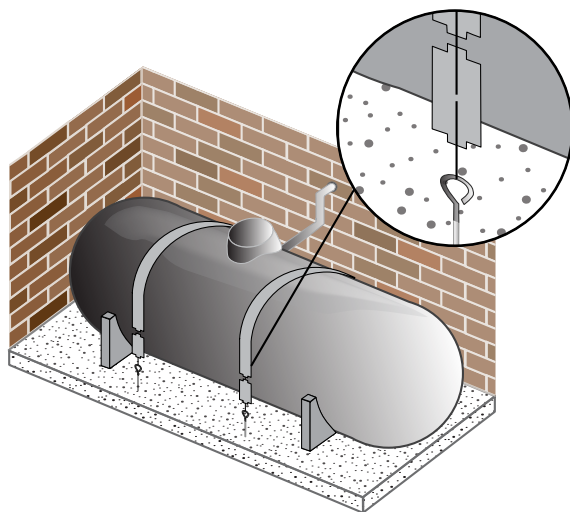
Illustrations

Retrofit

Option 1:

Tank attached to anchors in slab

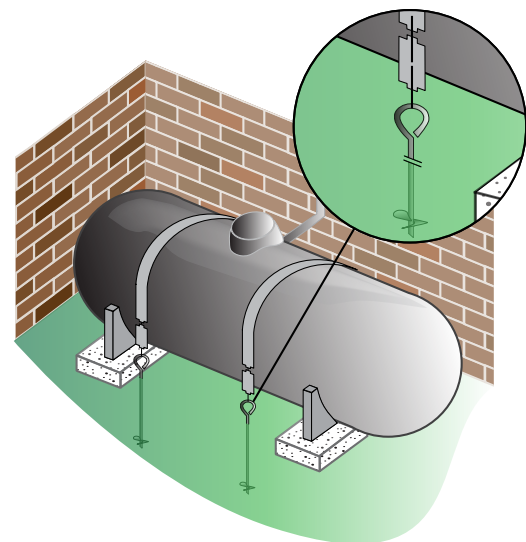
If the fuel tank is located on or near a sufficiently sized concrete slab, the fuel tank can be anchored to the slab.



Option 2:

Tank attached to soil anchors

The fuel tank can also be strapped to the ground using soil anchors.



Potential Damage



Photo: www.fema.gov

Key Steps

- Consult the supplier of your tank or distributor of fuel for approved measures and methods for securing the tank.
- Before anchoring the tank, determine the location of underground utilities by contacting Miss Utility to have them marked, so they can be avoided.
- Connectors should be installed in accordance with the manufacturer's specifications.
- If possible, consider converting to natural gas.
- Your contractor may have additional ideas on how to improve the safety of your home.
- For more details about this retrofit improvement, please refer to the list of Resources in the section below.

Resources

FEMA, *Anchor Fuel Tanks*

<http://www.braintreema.gov/documents/AnchorFuelTanks.pdf>

FEMA, *Homebuilders' Guide to Earthquake-Resistant Design and Construction*

<http://www.fema.gov/library/viewRecord.do?id=2103>

