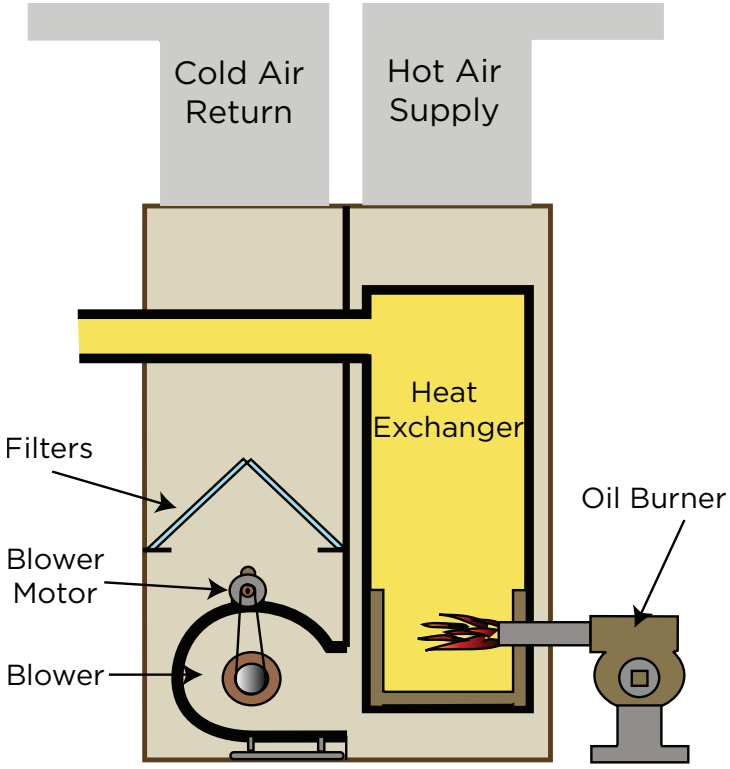
# Oil Furnaces

Oil fired furnaces are the second most common heating type in North America. In some areas, oil furnaces are more common than gas.

Oil is delivered to the home and pumped into a storage tank. A common tank size is 275 gallons but some home have much larger tanks. The oil company can predict your oil usage and deliver oil before you run out, usually when the tank is still 1/3 full.

Oil from the storage tank is drawn into the burner. The burner atomizes the oil (turns it into a mist of tiny oil droplets), mixes it with air and ignites it with a spark. The resulting flame shoots out of the blast tube and into the burner chamber. Combustion gasses move through the heat exchanger where heat is transferred to the household air stream. The combustion gasses then make their way up the flue and out of the house.




## Furnace Efficiency

The efficiency of an oil fired forced air furnace is a combination of the design of the furnace itself and the burner efficiency. Let's look at the efficiencies:

### Old Furnace Standard Burner

The seasonal efficiency is about 60%. This means for each dollar you spend on oil, you are getting sixty cents worth of heat into the home.

### Old Furnace with an Upgraded Burner

An old furnace can be improved by replacing the burner. New burners mix the air and oil better to create more efficient combustion and higher efficiency. This burner is called a flame retention head burner, named after the more compact shape of the flame that ejects from the burner. This upgrade may achieve a seasonal efficiency of about 70% to 78%.

**Modern Furnace**

A modern furnace with a modern burner (flame retention head) will have a seasonal efficiency of about 78% to 86%.

**Mid Efficiency Furnace**

A mid efficiency furnace utilizes more advanced technology for the burner, called a high static burner. These furnaces achieve a seasonal efficiency of 83% to 89%.

## Oil Leaks

Because of the possibility of an oil leak, some insurance companies will require that your oil tank be replaced if it is more than 20 years old, even if it appears to be in perfect condition.

There may be regulations in your area that require upgrades such as replacement of the oil feed tube, double walled tanks, spill containment.

An oil tank that is buried in the ground may eventually leak. The problem is that not only is this likely to go un-noticed but it can create an enormous and costly environmental mess. This is beyond the scope of a home inspection. Consult the local oil supplier or have an environmental assessment done.

## Maintenance

Oil fired forced air furnaces have greater maintenance requirements than gas furnaces. Oil furnaces must be serviced every year. The maintenance should be done by a qualified technician.

There are some things you can do yourself:

- Inspect oil tank, piping and tubing for leaks.
- Maintain air filter. The air filter not only reduces the amount of dust that gets blown around the house but it also protects the heating equipment.
- If you see black soot on the heating registers, call a service technician.
- If you smell combustion products in the home, call a service technician to investigate.
- If your furnace fails to run, press the re-set button. This may be located on the flue pipe near the furnace or on the burner. You should only press this one time. If the furnace still fails to ignite, call a service technician. Pressing the re-set button repeatedly will cause raw oil to squirt into the burner chamber. This is dangerous. Some modern oil furnaces do not have a re-set button like this. It is all automatic.