



Encinitas Fire Department

Presents

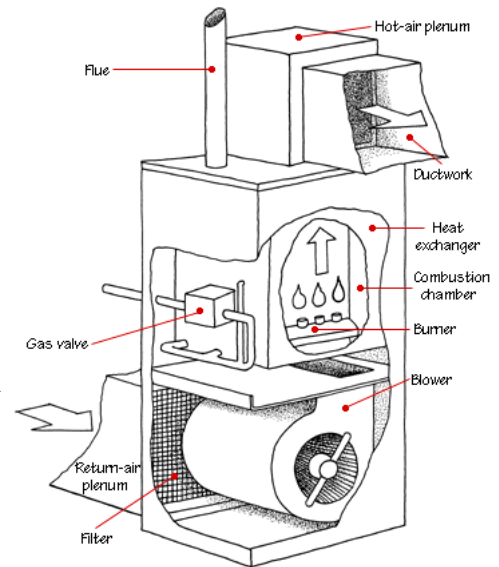
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Do you know how your Forced Air Furnace works?

Forced-air Systems

Forced-air heating systems can be combined with air conditioning for cooling, a humidifier for maintaining proper moisture balance and an air filter. Ductwork is generally metal, wrapped with insulation to help keep heat in. In some cases, flexible insulation-style ductwork is preferred.

With a forced-air system, a blower draws cool air in from rooms through ductwork. Inside the furnace, the air passes through a filter into a heat exchanger where the burner heats it, and then it's blown back to rooms through ducts and registers. The thermostat signals furnace to turn on when air temperature dips below a set level. When this happens, a gas valve regulates and delivers fuel to burners and-if there is one-the pilot light will light allowing gas to enter the combustion chamber. Once the burner is ignited inside combustion chamber, heat is created and is transferred to the heat exchanger. Combustion fumes are vented out through a flue out the rooftop or, with high-efficiency models, through the wall.



Thermostats

Conventional Thermostats

Inside a conventional thermostat, a bi-metal coil contracts when cold and expands when warm. The sensor's movement trips a switch to "On" or "Off." The switch may be simply an open contact that closes or it may be a mercury-activated switch. With the latter, mercury in a small, glass vial completes or breaks an electrical circuit when the vial is tilted by the bi-metal coil.

