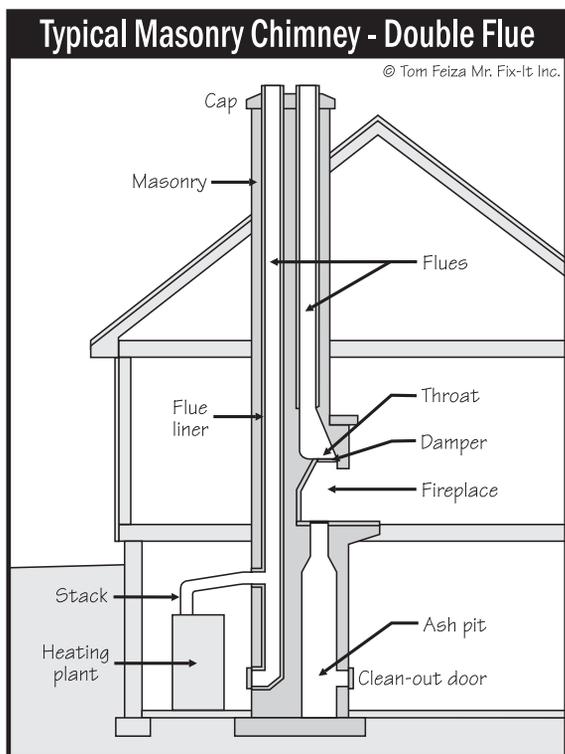


# Chapter 5 – Fireplace, Chimney

## MASONRY CHIMNEY

1. A masonry (brick or stone) chimney safely moves the products of combustion to the outdoors.
2. Modern masonry chimneys are lined with a clay tile flue to control the products of combustion.
3. A chimney is used for wood- and gas-burning appliances, such as a fireplace, a furnace, and a gas water heater.
4. Some homes may have a larger chimney with multiple flues, like the chimney shown here with one flue for a fireplace and another for the heating plant.
5. Some modern gas-burning appliances are directly vented through a side wall without a chimney.



F002



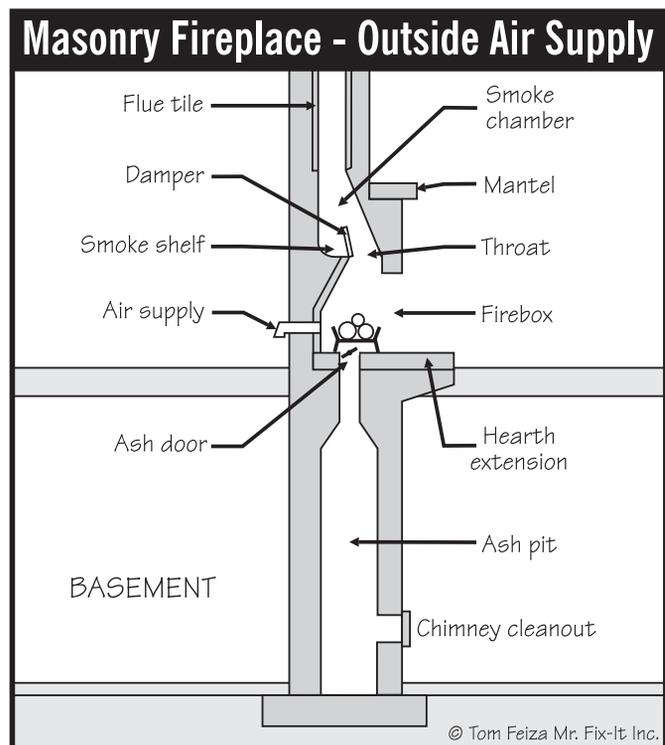
### MUST KNOW –

### MUST DO

1. A chimney should be cleaned and inspected on a routine basis.
2. The chimney must have a good crown and cap to protect it from water.

## MASONRY FIREPLACE PARTS

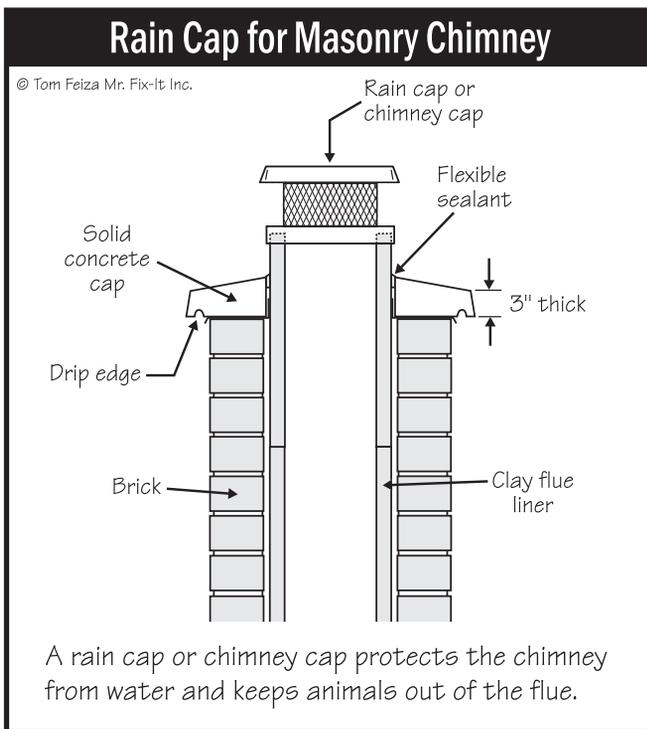
1. A masonry (brick, stone) fireplace starts with a masonry foundation for support.
2. The fireplace is constructed with fire-resistant brick in the firebox.
3. The firebox controls combustion and allows combustion gas to flow up the chimney while reflecting heat into the room.
4. A metal damper controls the opening to the flue.
5. A hearth extension protects the wood frame from sparks and heat.
6. As an option, a fireplace may have an outside air supply to limit the amount of air and heat going up the chimney from the living space.
7. In general, a masonry fireplace creates big heat losses as heated air moves up the chimney.
8. A fireplace and chimney should be professionally cleaned on a routine basis.
9. Always close the damper when the fireplace is not in use to prevent heat loss up the chimney.



F009

## MASONRY CHIMNEY PARTS

1. The exposed top of a masonry chimney is subjected to weather extremes.
2. The top of a chimney must be watertight and able to shed water, or it will be damaged.
3. Water intrusion and freeze-thaw cycles are very damaging.
4. The chimney is protected from water and animals with a rain cap over the flue opening.
5. A solid concrete or stone cap that overhangs the chimney protects it from water.
6. A continuous clay tile liner protects the masonry from the products of combustion.



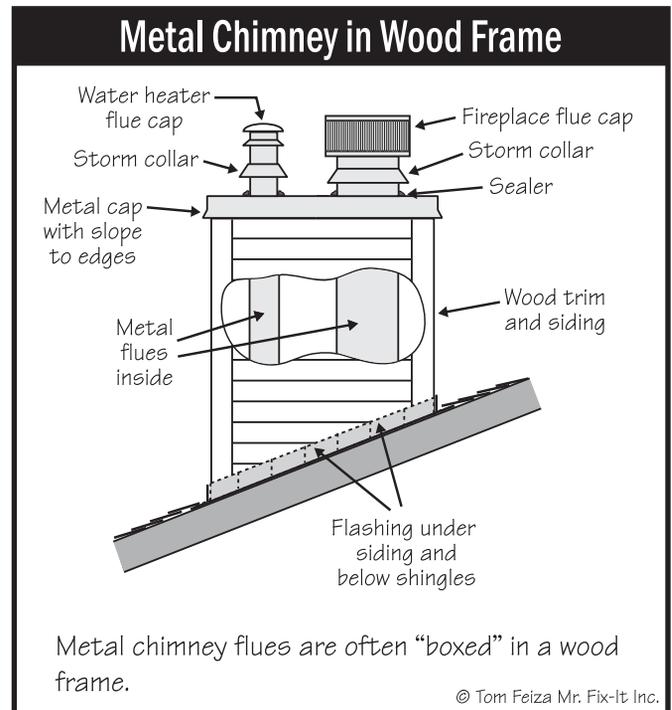
F030

### MUST KNOW – MUST DO

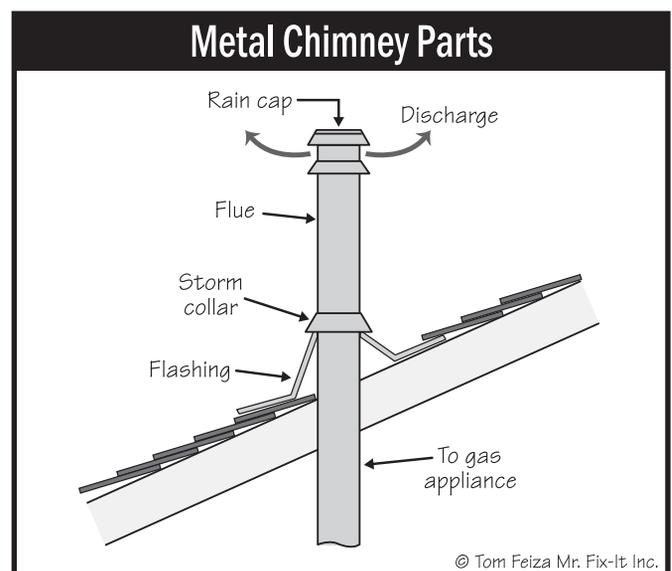
1. From the ground, using binoculars, inspect your chimney annually.
2. All mortar joints and brick should appear solid and tight.
3. If the chimney is used for a wood-burning appliance, it should be cleaned and checked on a routine basis.

## METAL CHIMNEYS

1. In newer construction, metal chimneys and metal flues are often used in place of masonry chimneys.
2. A metal chimney and metal flue are specially designed for the connected fireplace or gas appliance.
3. Often, a wood structure surrounds the metal flue.



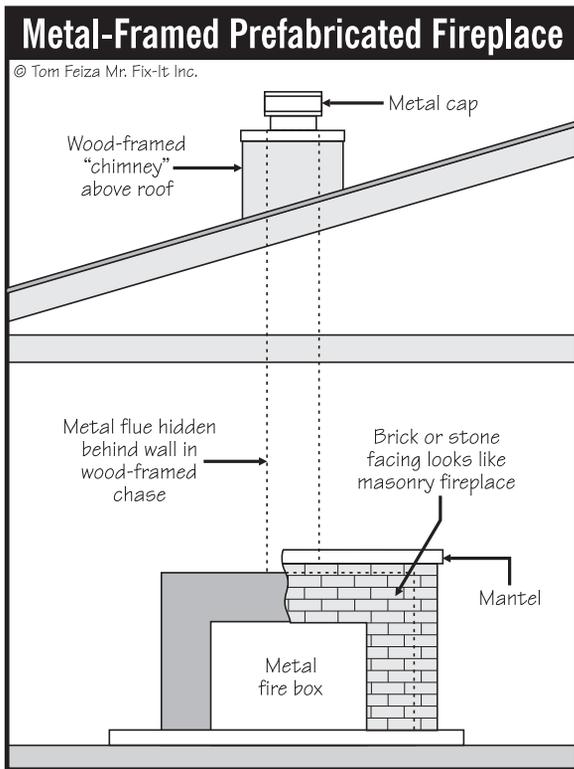
F031



F029

## METAL PREFABRICATED FIREPLACE

1. In modern construction, most fireplaces are prefabricated in a factory and then installed in a home.
2. These prefabricated fireplaces use a metal box and special flue.
3. The fireplace may be rated to burn wood or gas. Look for the label on the unit.
4. Many units use an outside air supply for combustion.
5. Some units have a circulating fan that moves room air around the metal firebox to transfer heat into the room.
6. Many units have faces of brick, stone or faux stone. These appear to be masonry fireplaces.



FO07

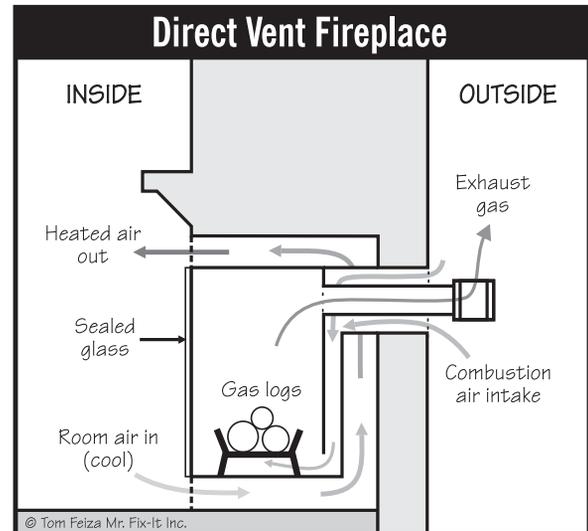


### MUST KNOW – MUST DO

1. Know how to operate the damper, as well as the outside air supply and gas valve if they are used on your fireplace.
2. Have the unit cleaned and checked on a routine basis.

## DIRECT VENT FIREPLACE

1. Some modern gas fireplaces have a sealed combustion chamber and can be vented through a side wall.
2. Sealed combustion fireplaces are specially designed with a combustion air supply and a metal vent for the products of combustion.
3. Outside, on the wall adjacent to the fireplace, the metal vent will appear as a rectangular metal box with slots.
4. Many systems use one connection to the outside for an air supply and vent.
5. These units are very efficient heating appliances and often include a fan that circulates room air around the firebox to heat the living space.
6. Units are designed for a specific gas log set and controls.
7. A remote control or a room thermostat controls some units.
8. When the unit first starts, some condensation or fog may appear inside the glass cover.



FO01



### MUST KNOW – MUST DO

1. Always follow the manufacturer's directions for operations and maintenance.
2. Be aware that the glass cover will be hot and can cause burns.