



City of Carmel-by-the-Sea
Building Safety Division
Standard Operating Guidance

18-01 HVAC Appliances in Attics and Crawl Spaces

Background

Occasionally, owners and designers wish to locate HVAC appliances (furnaces, air conditioners, etc.) in attics or crawl spaces that limit the accessibility of the appliance for service. The California Mechanical Code, in Section 304.4 allows for this practice provided that access and other features are included as described in the Mechanical Code. SOG 18-01 provides guidance on the requirements for equipment placed in attics or crawl spaces.

Citations

Carmel Municipal Code Title 15, Buildings and Construction

CA Mechanical Code (CMC), Section 304.4

National Fire Protection Association Standard 54, Chapter 9.

Guidance

CMC Section 304 requires that appliances installed in attics or underfloor areas be accessible as follows:

- A. **Access Opening.** An access opening (through ceiling, floor or wall) and passageway (wood, concrete, etc.) sized to allow for removal of the largest component of the appliance, and not less than 22 inches by 30 inches, shall be provided.
- B. **Length of Passageway.** Where the height of the passageway is less than 6 feet, the distance from the passageway access to the appliance shall not exceed 20 feet measured along the centerline of the passageway.
- C. **Width of Passageway.** The passageway shall be unobstructed and shall have solid flooring not less than 24 inches wide from the entrance opening to the appliance.
- D. **Work Platform.** A level working platform (wood, concrete, etc.) not less than 30 inches by 30 inches shall be provided in front of the service side of the appliance.
 - Exception: A working platform need not be provided where the furnace is capable of being serviced from the required access opening. The furnace service side shall not exceed 12 inches from the access opening.
- E. **Lighting and Convenience Outlet.** A permanent 120-volt receptacle outlet and a lighting fixture shall be installed near the appliance. The switch controlling the lighting fixture shall be located at the entrance to the passageway.
- F. **Equipment disconnect switch.** When an appliance required an external source of electrical power for its operation, it shall be provided with a readily accessible electrical disconnect means within sight of the appliance.
- G. **Appliance**

Additional considerations:

- H. **Clearance from combustible construction.** The appliance shall be separated from combustible construction in accordance with the manufacturer's installation instructions.

- I. Trusses. Where trusses are used as attic floor framing, they shall be designed for bearing the load from the appliance. Plans shall specifically indicate the truss loading limitations.
- J. Insulation. Insulation and ventilation space is required below the equipment.
- K. Combustion air. Combustion air shall be provided in accordance with the appliance listing information and manufacturers specifications. Plans shall specifically indicate how combustion air will be provided.
- L. Seismic support and attachment. In attic appliance installations, where the unit is not rigidly attached to the structure, lateral bracing must be provided. Bracing is typically straps running at a 45 degree angle from each corner of the unit to rigid framing members. Straps shall be tight enough to prevent horizontal movement. Concerns about vibration must be addressed with isolation devices, not by omitting required supports.

The following sample detail shows equipment installed in an attic or crawl space. Compliance with the referenced code provisions shall be documented on the plans submitted with the permit application.

