

Figure A-8-1.2.1(a) A smoke detector should be located between the sleeping area and the rest of the family living unit.

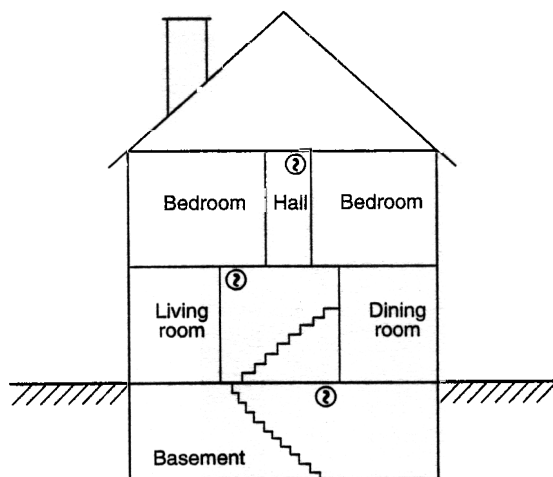


Figure A-8-1.2.1(c) A smoke detector should be located on each story.

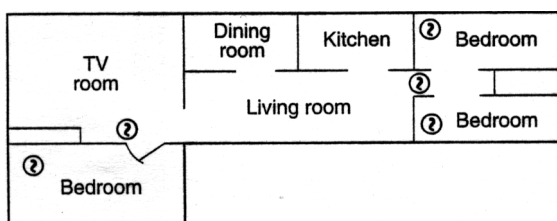


Figure A-8-1.2.1(b) In family living units with more than one sleeping area, a smoke detector should be provided to protect each sleeping area in addition to detectors required in bedrooms.

In addition to smoke detectors outside of the sleeping areas, Chapter 8 requires the installation of a smoke detector on each additional story of the family living unit, including the basement. These installations are shown in Figure A-8-1.2.1(c). The living area smoke detector should be installed in the living room or near the stairway to the upper level, or in both locations. The basement smoke detector should be installed in close proximity to the stairway leading to the floor above. Where installed on an open-joisted ceiling, the detector should be placed on the bottom of the joists. The detector should be positioned relative to the stairway so as to intercept smoke coming from a fire in the basement before the smoke enters the stairway.

(b) *Where to Locate the Required Smoke Detectors in New Construction.* All of the smoke detectors specified in A-8-1.2.1(a) for existing construction are required, and, in addition, a smoke detector is required in each bedroom.

(c) *Are More Smoke Detectors Desirable?* The required number of smoke detectors might not provide reliable early warning protection for those areas separated by a door from the areas protected by the required smoke detectors. For this reason, it is recommended that the householder

consider the use of additional smoke detectors for those areas for increased protection. The additional areas include the basement, bedrooms, dining room, furnace room, utility room, and hallways not protected by the required smoke detectors. The installation of smoke detectors in kitchens, attics (finished or unfinished), or garages is not normally recommended, as these locations occasionally experience conditions that can result in improper operation.

8-1.2.2* Fire warning equipment for dwelling units shall provide a sound that is audible in all occupiable dwelling areas. Audible fire alarm signals shall meet the performance requirements of 4-3.4. If the dwelling unit is occupied by people with hearing deficiencies, visible appliances shall be provided in all dwelling areas to meet the requirements of Section 4-4.

Because many more residential fire deaths occur as a result of smoke inhalation rather than burns, the National Fire Protection Association recommends sleeping with bedroom doors closed to limit the spread of smoke in the event of a fire at night. To ensure that smoke alarms or notification appliances can be heard by occupants inside closed sleeping areas, detectors must be tested with bedroom doors shut and in conditions as similar as possible to those conditions normally occurring in the home at night. For example, if air conditioning units or humidifiers are routinely used in a home, those appliances should be operating when the detectors are tested. Chapter 4 requires a minimum of 15 dBA above the average ambient sound pressure level (SPL) or a minimum of 5 dBA above the maximum sound pressure level that lasts 1 minute or longer, or 70 dBA in the bedroom at pillow level, whichever is greater. These measurements