# Newburgh Heights Fire Department

## Carbon Monoxide Detector Placement

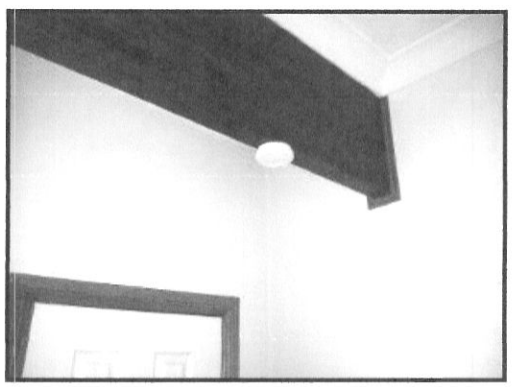
There are a number of important factors to take into account when selecting the best place to install a carbon monoxide detector, and we will take you through the process step by step. Please read all of this information about where to install carbon monoxide detector carefully; after all when you consider that throughout the developed world Carbon Monoxide is the single largest cause of accidental poisoning, lives are depending on it.

### *Places within the Home*

1. Every Floor of your Home
   a. If your home has several levels, including basements and any attics that are used, then you will need detectors on each level.
   b. The reason for this is that a dangerous buildup of CO gas will often be trapped within a single level of your home. Your main living level might be quite safe, but you might go down to the basement only to receive a dangerous dose of Carbon Monoxide because you failed to have a detector there - don't make this mistake.
2. Near Bedrooms
   a. As is the case with smoke detectors, you want your CO detectors to wake you during the night if something goes wrong. This means that the most important place is near your bedrooms.
   b. We recommend that you have a carbon monoxide detector within 15 feet of each bedroom door, 10 feet is even better if you can afford more detectors. If two bedroom doors are 30 feet apart or less, then place one in the middle. If however they are more than 30 feet apart you will need more than one detector.
3. Homes with attached Garages
   a. If you have an enclosed garage directly attached to the home, then you should also place a detector within 10 feet of the internal door to your garage. If a motor vehicle is left running in the garage, then a dangerous level of Carbon Monoxide can quickly build up inside your home. You should also place a detector in any room situated directly above your garage.

### *What height should carbon monoxide detector be installed?*

1. You must ensure you get your carbon monoxide detector installation height right. While some guides might recommend placing your detectors on the ceiling, we don't agree.
   a. The specific gravity of Carbon Monoxide is 0.9657 (with normal air being 1.0), this means that it will float up towards the ceiling because it is lighter than regular air. However, when a buildup of dangerous levels of CO gas is taking place, this is nearly always due to a heat source that is not burning its fuel correctly (motor vehicle exhaust fumes are an exception). This heated air can form a layer near your ceiling which can prevent the Carbon Monoxide from reaching a ceiling detector.
   b. For this reason we strongly suggest that it is best to mount your detectors on the walls at least a couple of feet below the height of the ceiling.
   c. If your detector has a digital read-out, then we recommend placing it at about eye level so you can easily read it.
   d. If you have some other structure, like the exposed beam in this photograph which is positioned below the ceiling level, then you can attach your carbon monoxide detectors to it instead.



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### *Places to Avoid*

1. Most importantly you want to avoid false positive readings from your detectors. To ensure your alarm goes off only when needed, you should place your detectors at least 15 feet away from any fossil fuel burning appliances such as:
   a. Gas powered Kitchen Stove/Oven
   b. Heating Furnace
   c. Fireplace
2. Carbon Monoxide Detectors are designed to work within certain tolerances for temperature and humidity. For this reason you must avoid placing your detectors in any locations such as:
   a. Bathrooms
   b. In Direct Sunlight
   c. Close to Appliances that generate heat
3. Other places to avoid include:
   a. Anywhere children can reach
   b. Open windows or anywhere else there might be a strong draft
   c. Behind curtains or any structure that might prevent Carbon Monoxide from reaching the sensor

### *How does Carbon Monoxide get into the house?*

1. Carbon Monoxide (CO) is an odorless, colorless, tasteless gas that is deadly.
2. It is a by-product of a fuel burning process.
3. It can cause symptoms that mimic the flu, such as headache, nausea, fatigue, dizziness, confusion, and can also cause unconsciousness and death.
4. Many appliances around the home are capable of producing carbon monoxide when a faulty or unusual conditions exists.
5. Most accidental deaths to CO Poisonings are due to:
   a. Indoor-heating systems.
   b. Stoves and other appliances.
   c. Water heaters.
   d. Automobile exhaust.
   e. Gas-powered electrical generators
   f. Charcoal grills.
   g. Camp stoves.
   h. Boat exhausts
   i. House fires.

### *If your Carbon Monoxide Detector goes off?*

1. Newburgh Heights Fire Department will responded to investigate a Carbon Monoxide Detector Activation and investigate your Carbon Monoxide problem.
2. Using our MSA Altair 5X Multi-Gas Meter we will investigate and document our findings. We will advise you of what you will need to do to alleviate the Carbon Monoxide problem.