

Home Fire Preparedness Campaign Smoke Alarm Installer Guide



September 2014

Purpose and Overview

Thank you for volunteering with the Home Fire Preparedness Campaign. Your dedication to this life-saving effort is greatly appreciated. By ensuring that households have working smoke alarms and teaching people how to prepare for disasters, you are helping others in your community increase their chance of survival when disasters happen.

This guide is designed to provide instructions on how to successfully install smoke alarms in accordance with current standard practices. Information contained within this guide is adapted from guidance issued by leading fire safety agencies, such as the U.S. Fire Administration, the National Fire Protection Association, Vision 20/20, UL, Washington State Fire Marshal's Association and the Mississippi State Fire Marshal's Office.

Before Visiting Homes

Decide who will take each of the following roles:

- Smoke Alarm Installer
- Disaster Safety Educator
- Reporter/Documenter

When choosing roles for each team member, keep in mind each individual's background and strengths. You can also take turns doing each role. If you have local firefighters on your team, it is strongly recommended that the firefighters carry out the activities related to smoke alarm placement, installation and testing.

If a Red Cross volunteer or employee is installing smoke alarms, the following requirements apply:

- Register as a Red Cross volunteer or employee;
- Complete background check;
- Read and follow this guide in its entirety;
- Complete required trainings for safety and smoke alarm installation; and
- Read and follow manufacturer's instructions regarding smoke alarm installation.

Plan for needed alarms and batteries by following these guidelines:

- On average 2.5 smoke alarms are needed for every home intervention. Some homes may require only one installation, while larger, multi-level homes may require up to three.
- If a local coalition partner is providing the smoke alarms, and they wish to install more than one smoke alarm per level or more than three alarms per home, defer to their guidelines.
- The number of battery replacements will vary per home. On average, plan to replace one or two batteries per home.

Tools and Supplies for Installing Smoke Alarms

Basic tools are needed to install smoke alarms. ***If you have any of these items, please bring them with you*** when you conduct home visits. Below are suggestions of what is* or may be needed:

- Cordless drills*, extra charged drill battery*
- Screwdrivers* (Phillips head and standard)

- Manufacturer's instructions for smoke alarm installation and maintenance (will be provided with each alarm)*
- Small flashlights
- Safety ladder/step stool* (4 ft minimum)
- Batteries (AA, AAA, 9v)*
- Pliers
- Small hammers
- Safety glasses or goggles*
- Extra (drywall) screws*
- Extension cord
- Hand broom, dust pan and trash bags*
- Sharpie (to put the date of installation on the back of the alarms)
- Electrical tape for disposing of old batteries
- Extra drill bits
- Tool belt or carrying case
- Measuring tape

Smoke Alarm Installation in Homes

In a client's home, the team will have three goals:

- Testing and (as needed) installing smoke alarms;
- Educating the client on fire safety and safety from other types of disasters; and
- Documenting client information, including the services provided.

Your job is to install smoke alarms; be sure to read and follow the manufacturer's instructions for smoke alarm installation and maintenance. You have approximately 20 minutes to complete the home visit, and some activities (smoke alarm installation and safety education) will take place concurrently. The amount of time needed for testing and installation of smoke alarms will vary by home. Remember, don't go into a home alone and while inside the home stay together as a group so that no individual is carrying out any activities alone.

Determining the Needs of a Home

After you have introduced yourselves and explained the Home Fire Preparedness Campaign, ask the resident(s) if they already have smoke alarms in the home.

If the answer is **yes**:

1. Ask them to show you the smoke alarm(s) and for permission to test the existing alarm(s).
2. For each smoke alarm in the home, do the following:
 - a. **Set up the ladder/step stool** below the smoke alarm and have one team member hold the ladder while the smoke alarm installer steps on the ladder and climbs *only as high as necessary* to reach the smoke alarm. See below for Ladder/Step Stool Safety Tips.
 - b. **Test the smoke alarm** by pushing the test button on the outside. Encourage the resident to test the alarm. Demonstrate how to use the 'hush' feature if the alarm is equipped with this functionality.

- c. Check the manufactured date on the back of each alarm. If no date can be found, ask the resident how old the alarm is. If the smoke alarm works but is more than 5 years old, **offer to install a new alarm**.
- d. If the smoke alarm does not work but is less than 5 years old, **offer to replace the batteries**. Once you replace the batteries, test the alarm again.
- e. If the alarm still does not work, **offer to install a new alarm** and retain the new battery for use in another alarm. Offer to take down the old smoke alarm. If you remove the old alarm, leave it with the resident. Do not remove hard-wired smoke alarms. Next, follow the instructions below for Installing Smoke Alarms.
- f. If in doubt about how old the smoke alarm is, replace it with a new one.

If the home is multi-level and does not have a working smoke alarm on each floor, follow the instructions below for Identifying Where to Install Smoke Alarms on each floor. If there aren't enough alarms, install one per level, but do not bring the building to code. It is unlikely that we will obtain enough smoke alarms of the correct type to bring residences into compliance with all local codes.

If the answer is **no**, follow the below instructions to Identify Where to Install Smoke Alarms.

****Ladder/Step Stool Safety Tips****

- Set up the ladder on a flat surface that is free from furniture, clutter or rugs that may slide. Keep all legs of the ladder on the same surface to ensure stability – i.e. all legs on hard floor or all legs on carpet.
- Assign one person to hold the ladder and pass materials up to the person installing the smoke alarm.
- Caution! Never walk under an open ladder.
- Caution! Never stand on the highest step of a ladder.
- Only climb as high as necessary to reach the alarm placement location.

Identifying Where to Install Smoke Alarms

For this campaign, **install smoke alarms on each level of the home** where there is not already a working alarm. On average 2.5 alarms are utilized per household, the number of alarms required for each household will vary.

Install no more than three smoke alarms per household. For large residences, do your best to identify the best locations based on the list below.

Where to install in the home?

- At a minimum, ensure that there is a working smoke alarm on every level of the home, including the basement (excluding attics and crawl spaces)
- Once each level of the home has a working smoke alarm, install any additional alarms (not to exceed a total of three alarms per home). Consider these locations for placement:
 - In a hallway outside a group of bedrooms and/or inside bedrooms or sleeping areas;
 - On the ceiling at the bottom of stairways leading to the next level; or
 - On levels without bedrooms, install alarms in the living room (or den or family room).

Where specifically?

- The preferred location to install smoke alarms is on the ceiling, close to the center of the room, but never closer than 4 inches from any sidewall.

- If not possible because of a ceiling fan, place the smoke alarm at least 4 inches from the fan and 3 feet away from the air vents.
- If the ceiling installation is not practical, wall mounts are also permitted. Ensure wall mounts are a minimum of 4 inches and a maximum of 12 inches from the ceiling.
- For vaulted ceilings, install the alarm 12 inches vertically down from the highest point of the ceiling as close to the center of the room as possible.
- Install alarms away from the kitchen and at least 10 feet from a cooking appliance to avoid false alarms.
- When installing an alarm on the basement level of a home, install the alarm at the bottom of the staircase leading to the next level. This will help the sound of the alarm carry up to the next floor and helps to ensure that the alarm will be triggered by rising smoke if a fire starts.
- You may also ask the resident where they would like the alarm placed after providing a few options (see section above – Where to install in the home).

Where NOT to install smoke alarms?

False alarms are the main reason smoke alarms are disabled. When identifying locations for smoke alarms, avoid these locations:

- Near the stove or oven;
- In attics, bathrooms or garages;
- Within six feet of furnaces or water heaters;
- Within three feet of forced air heating or cooling vents;
- Within three feet of fluorescent lights;
- Near exterior doors, windows or particularly drafty areas; and
- In extremely dusty areas.

Installing Smoke Alarms

Once you have identified where to install each smoke alarm and have received the resident's permission to install them, follow the steps below:

1. **Before installing, test each alarm according to the alarm manufacturer's instructions to ensure it is in working order.** If the alarm works, but the resident is unable to hear the alarm, ask the resident if they would be interested in an adaptive alarm that would provide alternative alert methods to better meet their needs. If so, take the resident's contact information and work with your local coalition to identify resources to meet this need.
2. **Set up the ladder/step stool** and have one team member hold the ladder while the Smoke Alarm Installer steps on the ladder and climbs *only as high as necessary* to reach the installation point. See above for Ladder/Step Stool Safety Tips.
3. Wear eye protection (safety glasses) when operating drills or screwdrivers to take down old alarms or install new ones.
4. **Install each smoke alarm according to the alarm manufacturer's instructions.** (Hint: Before installing new alarms, you may want to test all alarms in the home to determine if each is working).
5. Have the team member holding the ladder hand tools to the smoke alarm installer who is on the ladder. You may only need a screwdriver to install most alarms.
6. **Once installed, test each alarm in the presence of the resident and according to the alarm manufacturer's instructions to ensure that it is in working order.**

****Do not leave new smoke alarms with residents under any circumstance - even if they promise to do the installations themselves in the future. We have a limited supply of alarms and want to ensure that all alarms are installed and ready to save lives.****

Additional Information about Smoke Alarm Installation:

1. Hard-wired smoke alarms will not be removed or installed as part of this campaign. However, hard-wired smoke alarms may be tested to determine operational status if they have a test button. Back up batteries in hard-wired alarms may be replaced if the battery site is accessible without removing the alarm.
2. Smoke alarms for the hearing impaired will not be removed or installed during the campaign launch; with the resident's permission, we will collect information on where they are needed and work with coalitions to arrange installation at a later date, as resources allow.

Returning to Your Staging Location

After you have returned to your staging location, please make sure that you and your team:

- Check in;
- Organize and return unused program materials;
- Organize and return all required program documentation; and
- Debrief with your local coalition leadership.

Thank You!

Thank you very much for your time and attention. If you have any questions, please ask your campaign contact before conducting home visits. Have a great time and stay safe!