



GENERAL ORDER

GENERAL ORDER 620.02

Project: S.A.F.E. (Smoke Alarms for Everyone)

OFFICE OF THE FIRE MARSHAL

Issue Date: March 20, 2015

Revision Date: N/A

1 APPLICABILITY

2 All career, volunteer, and protective service contingent personnel

3 POLICY

4 The Howard County Department of Fire and Rescue Services (Department) will participate in a County
5 wide initiative providing fire and life safety education to all Howard County residents, with a focus on
6 smoke alarm education and installation. The initiative will be called "Project: S.A.F.E." (Smoke Alarms for
7 Everyone). The goal of Project: S.A.F.E. is to continue providing public education to Howard County
8 residents by issuing and installing smoke alarms to homes that have no alarms or have malfunctioning
9 alarms.

10 DEFINITIONS

- 11 ➤ **Ionization Smoke Alarms** - Feature a harmless radioactive source within a dual detection
12 chamber. Ionization alarms respond to the invisible by-products of combustion. They operate
13 by sensing for a change in the electrical conductivity across the detection chamber.

14 PROCEDURES

15 **While in a residence on an incident, when applicable, or while evaluating a residence as part of a**
16 **Department wide event, members shall evaluate the adequacy of smoke alarms, both function and**
17 **number.**

18 **INCIDENT DRIVEN INSTALLATIONS:**

19 If possible, members shall evaluate each residence for the presence of a working smoke alarm on each
20 incident they respond to. Particular attention shall be paid to ensuring that there is a properly
21 functioning alarm in each of the sleeping areas of the home.

- 22
- 23 • Should a residence be in need of a working smoke alarm, the members shall install an alarm
24 following the guidelines stipulated in Attachment A: Project: S.A.F.E., A Smoke Alarm
25 Educational Program.
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27 **DEPARTMENT SPONSORED EVENTS (CANVASSING):**

28 There may be times that the Department wishes to ensure that a specific neighborhood, or several
29 neighborhoods, has properly functioning alarms in residences.



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- Should a residence be found in need during one of these events, members installing the alarm(s) shall follow the guidelines stipulated in Attachment A: Project: S.A.F.E., A Smoke Alarm Educational Program.

REFERENCES

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- MD. CODE ANN., PUBLIC SAFETY ART. §9-101 – 9-109 (2013).

SUMMARY OF DOCUMENT CHANGES

36

New General Order.

FORMS/ATTACHMENTS

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- Attachment A: Project: S.A.F.E., A Smoke Alarm Educational Program
- Attachment B: Smoke Alarm Worksheet
- Attachment C: Smoke Alarm Installation Waiver

APPROVED

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John S. Butler, Fire Chief
Office of the Fire Chief

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Author:

Assistant Chief Daniel Merson
Office of the Fire Marshal

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Attachment A

Project: S.A.F.E.
A Smoke Alarm Educational Program

If you have any questions, please call:

Howard County Department of Fire & Rescue
Office of the Fire Marshal
410-313-6040

GO IN PAIRS:

This Project requires that there be at least two (2) installers and/or representatives from your local Department present anytime you are with a resident or enter a resident's home. This is for your safety as well as the resident(s).

DEAF OR HARD OF HEARING:

Smoke alarms for the Deaf or Hard of Hearing are available. Please contact the Fire Marshal's Office for these alarms and installation.

CARBON MONOXIDE:

Carbon monoxide alarms are recommended for all homes with gas, oil heat, fireplaces or attached garages to their homes. Carbon monoxide is a colorless and odorless gas that comes from the combustion of fossil fuels. These alarms do not detect leaks from natural or propane gas. The Department does not issue carbon monoxide alarms.

IONIZATION ALARMS:

Ionization smoke alarms feature a harmless radioactive source within a dual detection chamber. Ionization alarms respond to invisible by-products of combustion. They operate by sensing for a change in the electrical conductivity across the detection chamber. The advantage of the ionization alarm is that the smoke can be invisible to the human eye, while remaining very much visible to the ionization alarm. In tests, ionization alarms have performed more effectively with fast, flaming fires which rapidly consume combustibles and spread quickly emitting tiny particles. These types of fires include flammable liquids, loosely packed light combustibles, and kitchen grease.

Currently, we only issue ionization smoke alarms.

TYPES OF SMOKE ALARMS:

Unique smoke alarms are on the market that may or may not have a testing agency listing. If you find an alarm of this nature, take the information and contact the Fire Marshal's Office.

DRESS CODE:

The preferred dress code for smoke alarm installations is: Departmental Class "C" Uniform for incident driven installations and Class "B" Uniform for Department-wide events.

ARRIVAL AT THE RESIDENCE:

When you arrive at the resident's home, handle the emergency you were dispatched for first then, if applicable, inform the resident(s) on smoke alarm safety and that you are going to test their smoke alarms and, if needed, install one as part of Project: S.A.F.E. It is important to establish a rapport with the resident. **Smoke alarms may be part of resident's security system or monitored, make sure you have the resident notify the alarm company before testing.**

GENERAL SAFETY:

Please follow general safety practices when installing the smoke alarm:

- Wear protective glasses when drilling a hole.
- Do not stand on a chair or stool, use a ladder.

CODE REQUIREMENTS:

We are installing a single smoke alarm in the hallway of the sleeping areas to provide a minimum level of safety to the occupants of the home. State and local fire codes have additional requirements for smoke alarms. The homeowner is required to meet the code requirements.

The chart on the next page indicates the State and Howard County smoke alarm requirements for when the home was constructed (permit issued). Home businesses or other situations may have additional smoke alarm code requirements, such as daycare facilities.

Dates Home Constructed		Requirements
Residential One, two, and three family (includes townhouses)		
Prior to 7/1/1982		Smoke alarm shall be either battery or hard wired directly to the building's power supply.
7/1/1982	1/1/1989	At least one electric powered smoke alarm permanently wired, installed in the sleeping area.
1/1/1989	7/1/1990	Electric powered alarms installed outside each sleeping area, on each level of the home including a basement and interconnected to alarm simultaneously.
7/1/1990	10/10/2001	Electric powered alarms with battery backup installed outside each sleeping area, on each level of the home and interconnected to alarm simultaneously.
10/10/2001	present	A long lasting (10 year) alarm with battery backup installed outside each sleeping area, on each level of the home, in each sleeping room and interconnected to alarm simultaneously.
Residential Multi-family (Apartments, Condo's)		
Prior 1/1/1989		Multi-family residential buildings shall have smoke alarms hardwired to the buildings power supply.

1/1/1989		All requirements same as stated in dates above for Single family Residential
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MAIN POINTS FOR INSTALLATION:

- Complete the Installation Worksheet and Waiver with resident.
- Please refer to the manufacturer’s, user’s or owner’s manual included with the smoke alarm(s) you are installing.
- Do not install the alarm near ceiling fans, vents for heat/air conditioning and drafty areas.
- Avoid installing near damp, humid areas or near bathrooms with showers.
- Do not install the alarm next to light fixtures and at least twelve inches from fluorescent lights.
- Do not install in dead air spaces, see illustration beginning on page five (5).

SPECIAL NOTE FOR MOBILE HOMES AND RECREATIONAL VEHICLES:

Smoke alarms will be installed in the following locations:

- Many older mobile homes (especially those built before 1978) have little or no insulation in the walls or ceilings. If the mobile home is not well insulated, or if you are unsure of the amount of insulation, it is important to install smoke alarms on inside walls only and not on the ceiling or an outside wall.
- Avoid installing a smoke alarm in dead air space by following the illustrations beginning on page five (5).

RESIDENT EDUCATION:

- Let the resident see and hold the smoke alarm before you install it.
- Explain that the smoke alarm is battery powered.
- The smoke alarm has a long lasting (10 year), sealed-in lithium battery with a battery back-up.
- It is recommended that smoke alarms be replaced after ten (10) years.
- Explain that the smoke alarm provides early warning of a fire, especially at night when you are sleeping.
- Explain how to clean the alarm. The alarm can be dusted or vacuumed.
- Review the Home Fire Safety Messages with the resident.
- Recommend a home escape plan for the resident and their family.

- Recommend practicing the plan.
- Instruct the resident on how to test the smoke alarm (monthly).

COMPLETING THE INSTALLATION:

- Clean up.
- Ask the resident if they have any additional questions or concerns.
- Leave the following information with the resident:
 - Home Fire Safety Messages with the Department's contact information
 - Smoke Alarm Manufacture's, User's/Owner's Manual
- Do not remove any existing smoke alarms! Be sure to tell the resident the smoke alarm you have installed is only a temporary solution until the resident can replace their existing non-functioning smoke alarms.
- If you hear a low battery alarm, it is safe to replace the battery as long as the smoke alarm is NOT greater than 10 years. If the smoke alarm IS greater than 10 years, issue one new smoke alarm in the hallway outside of the sleeping areas and educate the resident on to replace the other smoke alarms that are greater than 10 years.
- Say good-bye to the resident, return the Waiver to the Office of the Fire Marshal and complete the incident report in RMS via Smoke Alarm tab.
- Once you return to the station, the Smoke Alarm Worksheet/Waiver (Attachment B) shall be sent to the Public Education Specialist in the Office of the Fire Marshal by interoffice mail or scanned and emailed.

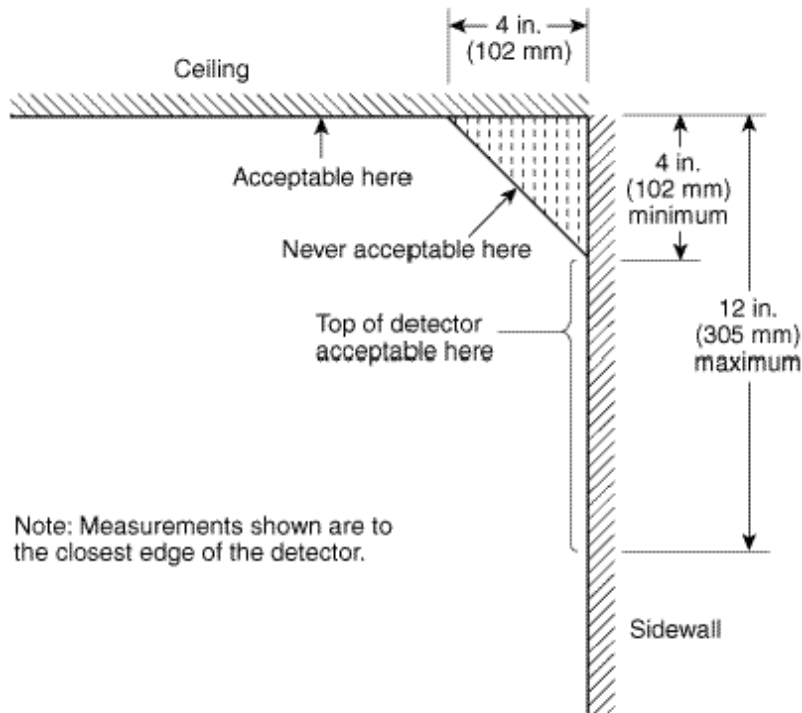
RMS REPORTING

- RMS is currently scheduled to be updated on March 26, 2015 which will include an additional Smoke Alarm tab.
- With this upgrade, the Smoke Alarm tab will become a mandatory field to be completed on each response to a residential property.
- There will be a mandatory Smoke Alarm tab in RMS to be completed on each incident.
- If the incident is not appropriate to check for working smoke alarms then check the "not appropriate for incident" and document why it could not be completed in the remarks field.
- The following are examples of incidents where smoke alarm inspection might not take place but are not limited to:
 - Cardiac arrest
 - Emotional state of residents

- Limited manpower
- If the incident does not allow checking of working smoke alarms, if the situation permits, leave with the resident or in a visible location one of the smoke alarm brochures issued by the Office of the Fire Marshal.

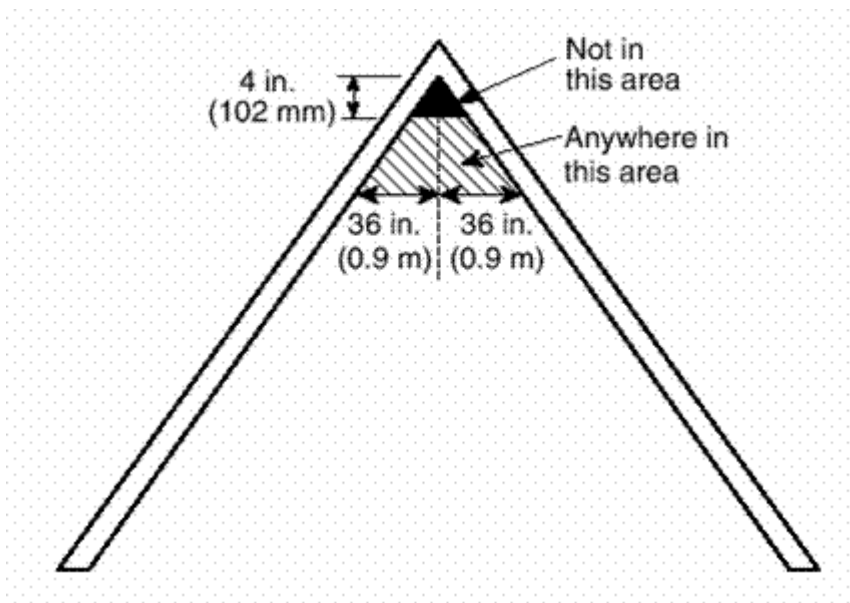
SMOKE ALARM INSTALLATION TO AVOID DEAD AIR SPACE:

Smoke alarm placement high on the sidewall or on the ceiling to avoid the dead air space.



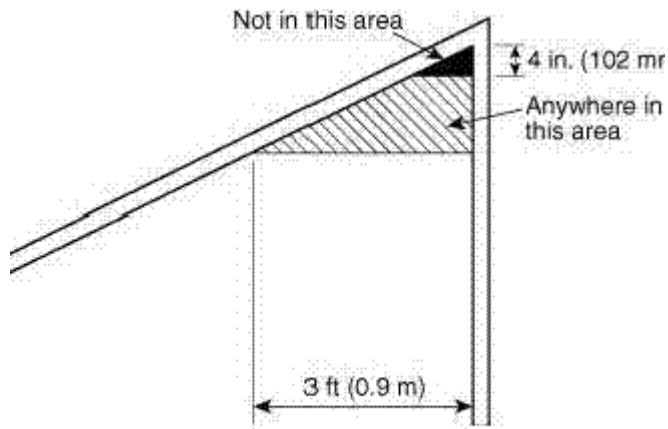
The graphic above shows the measurements for placing a smoke alarm on the sidewall or ceiling of a home, to avoid dead air space. The smoke alarm should be placed either on the ceiling (at least four (4) inches away from the corner where the sidewall meets the ceiling), or, on the sidewall (at least four (4) inches, but not more than twelve (12) inches, below the corner where the sidewall meets the ceiling). Placing the smoke alarm directly in the corner is never acceptable.

SMOKE ALARM PLACEMENT FOR SLOPED CEILING – PEAKED TYPE:



The graphic above shows the measurements for placing a smoke alarm in a home with a peaked ceiling, to avoid dead air space. The smoke alarm should be placed on either side of the peaked ceiling, more than four (4) inches, but less than 36 inches, away from the top of the peak. The smoke alarm should never be placed in the upper four (4) inches of the peak.

SMOKE ALARM PLACEMENT FOR SLOPED CEILING OR SHED TYPE:



The graphic above shows the measurements for placing a smoke alarm in a home with a sloped, shed type ceiling. The smoke alarm should be placed either on the sloped ceiling, or on the side wall. If the alarm is placed on the sidewall, it should be placed more than four (4) inches, but not more than twelve (12) inches, below the corner where the ceiling meets the sidewall. If the alarm is placed on the ceiling, it should be more than four (4) inches, but no more than 36, inches away from the corner where the ceiling and the sidewall meet. The smoke alarm should never be placed in the upper four (4) inches, where the wall and ceiling meet.

Installation Checklist for Installers

BEFORE ARRIVAL:

Make sure you have reviewed and are familiar with the following materials:

- ✓ Smoke Alarm Manufacturer's, User's or Owner's Manual.
- ✓ Home Fire Safety Messages specific for the resident.

AFTER ARRIVAL:

- ✓ Verify you are at the correct address and the correct home.
- ✓ Introduce yourself and explain that you are here to install the smoke alarm(s).
- ✓ Give appropriate materials to resident: Smoke Alarm Manufacturer's, User's or Owner's Manual and Fire Safety Messages.
- ✓ Show the smoke alarm to the resident, let them look at and hold the smoke alarm and activate the alarm to allow the resident to become familiar with the sound.
- ✓ Identify the location(s) outside of all sleeping area(s) and on each level of the home to install the alarm(s).
- ✓ Write the date of the installation on the back of each smoke alarm before you install.
- ✓ Install the smoke alarm(s).
- ✓ Clean up any mess made by installing the alarm, vacuum drywall dust, etc.
- ✓ Explain and show how the alarm(s) work.
- ✓ Show how to test the smoke alarm and have the resident test the alarm while you are there.
- ✓ Remind the homeowner of the emergency number.
- ✓ Discuss the importance of a home escape plan and review the materials for the home escape plan with the resident.
- ✓ Recommend practicing the plan, even in the dark. It is important to discuss two ways out of every room, and never go back inside once out.
- ✓ Tell the resident if they have any questions after you leave they can call (410) 313-6040 or Email Howardfirecode@howardcountymd.gov.

Frequently Asked Questions

What is the difference between an Ionization and Photoelectric Smoke Alarm?

Ionization alarms are generally more responsive to flaming fires and photoelectric alarms are more responsive to smoldering fires.

What are the causes of most home fires?

1. Cooking
2. Heating Equipment
3. Intentional
4. Candles
5. Smoking

Should I put rescue stickers on my windows and doors for children and pets?

No, the program is no longer in existence in Maryland.

What type of fire extinguisher should I have in my home?

2A10BC

Should I purchase an escape ladder?

It is a personal choice. Children and the elderly have a hard time functioning on the ladders. Practice EDITH and if you have one, use the escape ladder. Make sure the ladder is readily available.

Do all the sprinklers operate when they go off?

No, only heat can open a sprinkler (smoke can't melt metal or burst glass) and only a threatening fire can generate enough heat to open a sprinkler. Ninety three percent (93%) of the fires are controlled by one sprinkler; two sprinklers handle an additional four percent (4%).

Do sprinklers work? I have Smoke Alarms.

The National Fire Protection Association reports that people with smoke alarms in their home have a 50 percent better chance of surviving a fire. Adding sprinklers and smoke alarms increases your chances of surviving a fire by over 97 percent.

Does the Fire Department refill fire extinguishers?

No, check the yellow pages for a company that refills extinguishers. If the extinguisher has a plastic handle it is usually cheaper to replace than have refilled.

Attachment B:

Smoke Alarm Worksheet

Please complete one copy of this form for **each** residence in which you install a smoke alarm(s).

Installer Information

Name(s): _____

Station: _____ Date of Installation: _____

Time of Arrival: _____ Time of Completion: _____

Resident Information

Last Name: _____ First Name: _____

Street Address: _____

City: _____ Zip Code: _____

New Smoke Alarm(s) Information Circle Response

Number of new smoke alarms installed: One Two Three or more

Residence Information Circle Response

Type of Residence: Single family Multi-family Apartment Mobile home

Number of levels in the home: One Two Three or more

Number of smoke alarms currently in the home: Zero One Two Three or more

Was there at least one smoke alarm on every level of the home? Yes No

If no, which level(s) did not have a smoke alarm? Basement First floor
Second floor other: _____

Was there at least one smoke alarm near all sleeping areas? Yes No

If smoke alarms did not work, please indicate how many alarms had the following problems: Disconnected alarm _____ Dead battery _____

Missing battery _____ other: (specify) _____

Attachment C

SMOKE ALARM INSTALLATION WAIVER

Recognizing the importance of working smoke alarms in every home, the Howard County Department of Fire & Rescue (“Department”) Smoke Alarm Program endeavors to install smoke alarms in residences throughout Howard County. At my request, Department representatives have agreed voluntarily to install one or more smoke alarms in my home located at:

_____.

In consideration for the Program, voluntarily providing and installing battery-powered smoke alarm(s) in my home, without charge, I hereby waive any actions or claims of any nature that I have or might in the future have against any and all individual or organizational participants in the above referenced program, including but not limited to the Department, Howard County Government and their officers, agents, employees and volunteers, in connection with this undertaking, including claims arising from the installation and/or failure of the smoke alarms and/or battery. I further agree to indemnify, release, and hold harmless any and all organizational and individual participants in the above referenced program from and against all costs, fees, claims or damages of any kind, to persons or property, out of or resulting from the installation and failure of such smoke alarms and/or battery in my home. By signing this document, I certify that the smoke alarms were tested in my presence and are in good working order. I acknowledge that I have received information from the installer regarding proper smoke alarm maintenance, (including battery replacement), and I understand that the maintenance is my responsibility. I acknowledge that I have been advised that installation by the Department of the smoke detector(s) will not necessarily satisfy the requirements of the law, and I have been provided references for sources of more information about those requirements.

I acknowledge having read, understood, and agree to the above.

Print name	Signature	Date
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Witness (print name)	Signature	Date
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