

Side by Side Presentation

Checklist

Prior to the date:

Visit <https://homefiresprinkler.org/product-category/free-materials/complete-kits/> and download a copy of **The HFSC Fire and Sprinkler Burn Demonstration Kit** which will give you information about running a live demonstration, provide educational messages and sample releases to use.

- Has the organizer and narrator reviewed the most recent demonstration video?
- Is the demonstration area level with adequate room for audience safety and equipment access?
- Is there electrical service onsite? If not, has a generator been provided?
- Have all furnishings been gathered? (See DFS for this)
- Is there a torch lighter ready?
- Is the engine company available and scheduled for the demonstration?
- Is a water supply for the sprinkler available?
- Are all personnel available?
- Is there an adequate supply of literature available for distribution?
- Have local officials and the media been contacted?
- Has a dumpster been made available on site?

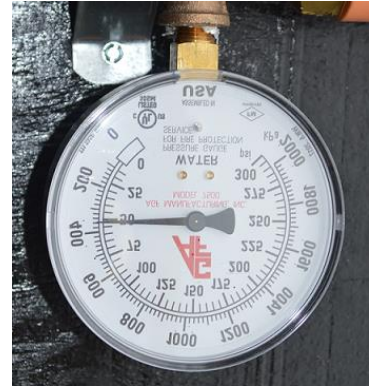


Mass Department of Fire Services Side by Side Sprinkler Demonstration Trailer Kit

- Review one of the demonstrations that are available on line
- Can the trailer be moved shortly after the demonstration?

Before the Demonstration:

- Is the narrator prepared? Script present?
- Are the furnished rooms complete?
- Is there adequate newspaper available?
- Do the smoke alarms have fresh batteries?
- Does the generator have fuel?
- Has the sprinkler been replaced?
- Is the water supply for the sprinkler turned on and set at the correct pressure? Pressure #
 50
- Is the speaker system plugged in? Fresh batteries in the microphone?
- Has a sound check been done?
- Is the timer set to 0?
- Are all personnel onsite and ready? (2 firefighters ready to extinguish the fires?)



Sprinkler Burn Demonstration Trailer

Equipment list

The following must be provided by the fire department and have on hand:

- One dumpster to handle furniture
- One engine company for the demonstration with a 1 ¾ hand line charged to extinguish the flashover fire

Mass Department of Fire Services Side by Side Sprinkler Demonstration Trailer Kit

- One backup line of equivalent size should be stretched and available for use. If an engine is used to supply the sprinkler system, idle pressure is usually sufficient.
- One qualified apparatus engineer to confirm the water supply to the sprinklered unit.
- Two (minimum) firefighters dressed in full protective gear, including SCBA and who will assist in salvage/clean-up
- Pressurized water extinguisher
- Educational materials and handouts
- At least two extension cords for outdoor use
- Sound system with microphone
- Timer
- Newspaper to put under the coffee table leg
- Video/photographer
- Narrator for the demonstration.



Personnel

Designate:

- **Photographer and/or videographer**
- **Narrator – use script and also know when to signal to have the firefighters put out the non-sprinklered room**
- **Someone to light the fires – behind the trailer**
- **Firefighters – prepped prior to the burn**
- **Someone who will run the timer/recorder**

Mass Department of Fire Services Side by Side Sprinkler Demonstration Trailer Kit

Prepare the rooms

The trailer will come fully furnished but you may need to complete the room with lamps, tables, magazines, or anything else that would fit in a room. You will be directed to do this during the agreement process.

Prepare the firefighters. (Prior to the demonstration take the time to review what the firefighters will be doing in this activity)

1. For the sprinklered room:

- Just do a minimal overhaul – the idea is to show that there is very little damage with fire sprinkler operations.

2. For the un-sprinklered room -Tell firefighters to watch for your signal to attack the un-sprinklered room fire.

- Have a method to determine flashover. The president of the NFSA uses a newspaper placed under the coffee table leg closest to the chair as a guide. When it moves around and begins to burn it's time to put out the fire



Mass Department of Fire Services Side by Side
Sprinkler Demonstration Trailer Kit

- Have someone take pictures of the flashover.
3. Advise the crews to use a straight stream and use a brief indirect attack followed by direct application on any material still on fire. (If they use a fog, you will have everything coming back onto you and the crowd.
 4. Advise the crew to use caution when overhauling the un-sprinklered side. Try not to get the melting plexiglass on their turnout gear.

Script

“I’d like to thank _____ for (sponsoring, assisting) in this presentation. I’d like to introduce _____ (legislatures, fire department personnel, dignitaries, and anyone else who needs to be acknowledged) who has been _____.”

This is an opportunity to promote those who are in attendance, or promote the importance of home sprinklers. Take advantage of this moment.

You may want to invite:

- **Mayor/Town Manager**
- **State senator or representative**
- **Building officials**
- **Planner or members of the planning board**
- **Building inspector**
- **Local media**

WHAT YOU WILL SEE TODAY

Describe what you will see – the effects of a residential fire sprinkler system and what many people will never see live – a flashover. (Refer to the video demonstration prior to managing this activity – being able to see how it’s done is necessary to your success)

Temperatures in a flashover reach 1100 degrees Fahrenheit and we know that **No One Survives A Flashover**

In the 1970's, it was estimated that a person had 17 minutes to escape from a home fire. Through the years and because of the change of furnishings to plastics and foam rubber products, it is estimated that you have **only 1 to 3 minutes to escape.**



If you remember one thing today, it's that Fire Sprinklers Save Lives

In Massachusetts, in the past 10 years, 74% of total fire deaths occurred in residential dwellings. 245 people died in one-and two-family home fires **without** sprinklers. 1,247 civilian injuries, 1,971 firefighter injuries and three firefighter deaths occurred in one-and two-family home fires without sprinklers. By limiting the fire with residential fire sprinklers, firefighter's risk of death and injury is lessened and exposure to carcinogens is reduced.

There were no fire deaths in homes protected with sprinklers!

People make assumptions about sprinklers based on myths and Hollywood descriptions of what sprinklers do in and to a home. Here are two of the most common myths:

Mass Department of Fire Services Side by Side Sprinkler Demonstration Trailer Kit

1. Don't fire sprinklers operate all at once flooding every room in the house? - Only the fire sprinkler closest to the fire will operate. Neither smoke nor a smoke alarm can cause the fire sprinkler system to activate.
2. If there's a fire, water damage from fire sprinklers will be worse than the fire damage. – A fire sprinkler controls a fire with only a tiny fraction of the water that is used by fire department hoses and under far less pressure.

Description of the rooms

Let me describe what is in this trailer. There are two rooms that are exactly the same, furnished like a sitting room. New furniture is being used – no accelerants are applied to the furniture to help it burn.

For demonstration purposes these could be furnished like a dorm, hotel, motel, office or any room in your home. On one side is a sprinkler –quick response head meant for



life safety – which flows about 13 gallons of water a minute. Sprinklers will not go off if we burn the toast. As you will see it has to be a significant fire. Only the sprinkler closest to the fire will go off. Sprinklers in other rooms in the house will not go off. Each sprinkler is individually heat activated. There is a bulb or a fuse that will go off at 155 degrees. Some are concealed, others are not.

3 Keys to Life Safety: Early Warning, Early Suppression & Emergency Response

We have smoke alarms in these rooms. Our early warning is a smoke alarm so the message is “get out, stay out and close the door.” That’s what we want everyone to know. Get out, stay out and close the door. Closing the door limits the air getting to the fire. We have early suppression in the sprinklers.

We have heard that kids under 14 may not hear the alarms. What about our parents, pets? **Fire is fast and that’s what we have to convince people about.** Early warning, early suppression. What does this mean? Early warning – smoke alarm. Early suppression – sprinklers.

Emergency response – firefighters. The likelihood that fire fighters get there in time is not true anymore. (Use personal story). The goal for a fire department’s response time to an emergency is 4-6 minutes. However, the life safety clock begins when

the fire starts, not when the 9-1-1 call is made. A fire can be burning inside a home, producing toxic smoke and heat without being noticed from the outside by passersby. Occupants asleep inside the house may be unaware of the danger if their smoke alarms are not functional due to poor maintenance or removed batteries. Check your smoke alarms and if they are not the sealed 10-year batteries, replace batteries twice a year when we change our clocks. If your alarms are more than 10 years old they need to be replaced.

The window for survival is closing because of synthetics and how tight our houses are. ***Fire Sprinklers Buy Time – Time Buys Life***

Explanation of experience

There is a waste basket with paper in each room that will be ignited. Both rooms have smoke alarms, and the newspaper placed under the leg of the coffee table will be the “flashover signal.” (As the room is burning, notice the paper will move around. When it ignites call the firefighters to put out the fire.) These are our high tech temperature monitors.

Begin the demonstration with the non-sprinklered side

Ignite the non-sprinklered side

Ignite the paper. Using the clock, announce the time when things are occurring:

- When smoke is visible. You'll see my newspaper that will let me know that flashover is happening.
- When flame first shows. People say fire doubles in size – that's not true. Fire grows exponentially.
- When curtains ignite
- At what time the smoke alarm is activated. There's our early warning (smoke alarm sounded – 21 sec.) **NOTICE TIME**. As you see with this fire it will likely go to a flaming combustion meaning the flames will go up the curtains and across the ceiling. It's probably already 500 degrees at the ceiling.
- Notice the color of the smoke; just think about black smoke and what it does to someone's lungs – **maybe mention the high rate of cancer in the fire service. Fire sprinklers also protect firefighters.**
- Notice what is burning. If we call 911 now, the 911 process is 90 seconds plus. You can see the flames dropping down. **Note Time**. We



Mass Department of Fire Services Side by Side Sprinkler Demonstration Trailer Kit

have 3 dimensional fire now... on top of couch, on the couch and under the couch. You can feel the heat and see my newspaper move around. Watch the chair and the teddy bear – you'll see that chair start to peel and start to catch on fire in the back. **Now the fire dept. would just be getting dispatched and we are at (state the time).** Comment about super-heated air and survival rate. This smoke is probably over 1000 degrees at the ceiling.

- State when the chair is on fire
- State When the smoke alarm melts and falls from the ceiling
- Announce when flashover occurs – remember the time. **NO one could survive this fire.**
- **Firefighters begin extinguishing the fire**
- **After the burn they can pull the furniture out to make sure the fire is out.**
- Announce that a good response time for a fire department to arrive on scene is about 4-5 minutes. Having the firefighters present is accelerated for the demonstration.
- Make a connection at what time flashover occurred and response time of the fire department, reminding everyone that the 4-5



minutes does not include getting set up to attack the fire.

Now light the sprinklered side

Ignite the paper. **Using the clock, announce the time when things are occurring.** Again, we equip these rooms the same, we use modern BRAND NEW furnishings because we want to show the impact of how synthetic materials perform in fire. There is water to the single sprinkler head that covers a 12 ft. by 12 ft. room - they can go up to 20 ft. by 20 ft. so you can see them or hide them. That's the only way to get a firefighter in every room in your house, on duty 24/7/365 day giving you protection for instant response to a fire.

Announce:

- When smoke first shows
- When flame first shows.
- When curtains ignite
- At what time is the smoke alarm activated - There's our early warning
- Remind everyone: notice the color of the smoke – mention again about that toxic, poisonous fire gases often kill victims before occupants are contacted by flames.



Mass Department of Fire Services Side by Side Sprinkler Demonstration Trailer Kit

- At what time does the sprinkler activate.
NOTE TIME And again, remind people that it's the sprinkler closest to the fire that activates. It's flowing about 13 gallons of water a minute. It keeps the fire to that area of origin. It's not designed to fully extinguish the fire. Residential fire sprinklers contain and control the fire to give you time to escape.
- Smoke alarm early warning. Sprinkler – early suppression. This is early response.
- We still need to have the firefighters come and put out the fire. **SPRINKLERS BUY TIME, TIME BUYS LIFE.** It gives you time to get out, and gives fire fighters time to get there. It's designed to keep the fire from spreading. It is what we know as a wall wetting capability, meaning it's going to wet the furniture in the room. Let's get the firefighters in here to put the fire out and mop up. *People will comment about water damage.* The fire hose used by the fire department flows from 150 to 250 gallons of water each minute, at a pressure of 80 to 150 pounds per square inch, causing much more damage than a fire sprinkler head operating at a low pressure and flowing 13



Mass Department of Fire Services Side by Side Sprinkler Demonstration Trailer Kit

gallons per minute. That which gets wet will eventually dry out. **Nothing Unburns.**

- We are going to take this furniture out and dry everything out. We'll re-use this furniture in the other side. The furniture goes through two burns.
- Review the damage done in the room. What was the extent of any damage noted?
- When the fire is out, have the audience compare the damage in each room.



Note: you may or may not want to mention these two stories. :

Ask if anyone remembers a fire in a nightclub in 2003 where there was a rock band and pyrotechnics. Most will think of the Station night club fire. It's not! It's the Fine Line Café in

Mass Department of Fire Services Side by Side Sprinkler Demonstration Trailer Kit

Minneapolis MN where a fire occurred on Feb. 17th, 2003. There was a rock band and they used pyrotechnic and it set the ceiling on fire. No deaths, one injury. One Sprinkler head controlled the fire.

NOTE: If you want, you could tape off a 75' x 54 ft. area. You can explain that it is to keep everyone safe, but the area is a little over 4000 sq. feet. It is the same area that 100 people lost their lives in about three minutes in the Warwick Station night club fire on Feb. 20th, 2003. Computer models and an actual mockup of the exact area proved that 2 sprinkler heads would have controlled the fire even if it were designed as a light hazard.

Closing:

- Remind people how important it to have working smoke and CO alarms in their home
- A practiced home escape plan – remind them you have 1-3 minutes to get out of your home so you need to know where your exits are.
- Remind people how dark smoke is. It is hard to see in smoke. That is why early detection from working smoke alarms is critical to survival.
- Sprinklers provide us with time in order to get out of our homes. Most fatal fires happen at night, and sprinklers buy us time to escape.

Mass Department of Fire Services Side by Side Sprinkler Demonstration Trailer Kit

Can you respond quickly immediately upon waking up out of a sound sleep?

Leave them with this quote: “Sprinklers buy time, time buys life.”

Conclusion and Questions

Remind your audience what they just witnessed.

Provide your fire safety messages one more time – Sprinklers buy time, Time buys life. Smoke alarms and home escape plans are necessary to survival.

Invite the audience to come up and compare each side and look at the damage the unsprinklered fire did in a short amount of time.



Thank the fire fighters who extinguished the fire, and anyone else in attendance who sponsored, etc. Refer to first part of script.

Mass Department of Fire Services Side by Side
Sprinkler Demonstration Trailer Kit
