

Module 13: Fire Exercise Day

Topic 1: Introduction

Introduction

Narration Script: Before you can become certified as a wildland Firefighter Type 2, you are required to successfully pass field day exercises. These exercises require you to perform a series of tasks to demonstrate your abilities and competencies. All candidates undergo the same field day exercises, guaranteeing that the standards required for certification are the same for everyone. Evaluators will observe you in action and judge your performance using detailed checklists. Again, these checklists are the same for all candidates. The checklists are your guideline for preparing for the field day exercises. In this module, we'll look at the important aspects of the field day. You will learn what is required of you and how the exercise is conducted. We'll even step through each and every task you are required to complete in order to become a wildland Firefighter Type 2.

Welcome message

This module is largely intended to give instructors who will host the event an outline to follow—but for Firefighter Type 2 (FFT2) candidates, this is a great peek into the tasks you'll be asked to demonstrate.

In some sense, we're giving FFT2 candidates a “copy of the test.” Our goal is to set you up for success, and we encourage both candidates and instructors to view the field day as a hands-on teaching opportunity.

Once you demonstrate your proficiency during the fire exercise day, you'll be taking a significant step toward working on a *wildland fire*.

Narration Script: Welcome to the Fire Exercise Day Module. This module is unique in that it's designed for both Firefighter Type 2 candidates and the instructors who will host the fire exercise day. So, while at times some information will lean toward one group more than another—it's always a valuable experience to know “both sides of the coin.” The fire day exercises are not meant to trick or fool candidates—instead, consider the fire exercise day a hands-on learning experience where candidates get to take S-130 concepts into active fire fighting scenarios. Yes, veteran instructors will be present to evaluate candidates—but they are also there to assist, demonstrate, and help you truly understand the concepts you picked up in this course.

Fire exercise day objectives

Instructors and candidates will have a chance to participate in a multitude of fire exercise day activities, but the core objectives for students, given a live or simulated fire, are set in stone:

- **Demonstrate proper travel procedures en route to and from a fire**
- **Demonstrate proper use, handling, and maintenance of hand tools**

- **Construct *progressive* and leap frog handline**
- **Construct simple and *progressive hose lays***
- **Use *escape routes* to promptly retreat to a *safety zone***
- **Participate in an “after action review”**

Instructor responsibilities

It's the responsibility of each lead instructor to tailor this exercise to meet the needs of the local agency. If you're an instructor, there are a number of “must haves” to prepare for the fire exercise day.

Each coordinating instructor must establish the following elements:

- **Instructors**
- **Realistic exercise and helpful instruction**
- **Required equipment and training aids**
- **Checklists**

You can further investigate each element as follows.

Instructors

You'll need more than one field instructor for this exercise. There must be enough qualified instructors to ensure that each student is adequately evaluated. If you have to, break the students into individual squads or crews, with instructors filling supervisory roles. To determine instructor qualifications, visit the Field Manager's Course Guide at www.nwccg.gov/pms/training/fmcg.pdf.

Realistic Exercise and Instruction

The goal of the fire exercise day is to provide a realistic experience where students learn proper techniques in a safe and controlled environment. You have the option of setting up a station for each checklist item or blending tasks into one continuous exercise.

Instructors should demonstrate basic fire fighting tasks and have students pair up to practice the techniques all the while referring to the detailed checklists you'll find in the course resources. Have instructors correct or assist students on the spot as necessary.

Required Equipment and Training Aids

You'll need some basic equipment and training aids for the fire exercise day including:

- **Hand tools**
- **Engines and appropriate transportation**
- **Hose and fittings**
- **Radios**
- **Flagging material**

- Personal protective equipment (PPE)
- Backpack pumps
- Firing devices
- Practice fire shelters
- Incident Response Pocket Guide (IRPG)

Checklists

Checklists for the fire exercise day evaluation are your guide to establishing activities and evaluating each student's performance. Any element checked "no" should have an explanation in the comments section describing why the competency area was not successfully completed by the student.

An element checked "no" does not necessarily signify a failure of the entire course. It is up to the instructor to determine whether or not an individual possesses the skills to pass the course.

When evaluating students, consider the following:

- This is an introductory course.
- Students cannot learn everything there is to know in one afternoon.
- Any experience the students get will be beneficial.

Narration Script: If you're a coordinating instructor, you'll be in charge of establishing the fire exercise day exercises. The goal is to ensure Firefighter Type 2 candidates can operate in a safe manner during a live fire fighting scenario. During the fire exercise day, you'll be actively teaching and explaining the key concepts for any novice wildland firefighter. The fire exercise day checklists will act as a guideline for the setup of activity stations or for the design of a continuous exercise. The checklists are available in the collection of resources available for this course.

Physical fitness

You won't do much good during the fire exercise day exercise if you physically can't pass muster. So, before you hit the S-130 fire exercise running, here's a caveat—all candidates must satisfactorily complete the Work Capacity Test or physical fitness test as required by the sponsoring agency or organization.

There are helpful guides on the National Wildfire Coordinating Group (NWCG) Web site. For more information on fitness requirements, refer to the Wildland Fire Qualification System Guide, PMS 310-1 at <http://www.nwcg.gov/pms/pms.htm>.

You'll also find details on the Work Capacity Test—Administrator's Guide and a host of useful material on the NWCG Web site.

Checklists for fire exercise day evaluations

Before actually participating in the fire exercise day exercises, it is always helpful to know precisely what you will be evaluated on—and for instructors, the checklists will help in the preparation for the fire exercise day. For that reason, the checklists used during the fire exercise day exercises should be available at all times.

You will investigate fire exercise day evaluation checklists in turn. You can also access these checklists in the collection of resources available for this course.

Narration Script: The checklists spell out what instructors and candidates alike need to know to prepare for the fire exercise day. To access a copy of the checklists, refer to the course resources. Additionally, we've also provided an example of a typical fire exercise day order of events as well as a list of all the key elements to attempt to cover. Remember, you have the option of reviewing the checklists in the collection of resources at any time. It's good information—so use it.

Topic summary

Evaluating candidates is an essential part of the FFT2 certification process. The fire exercises are designed to provide all candidates with the same opportunities in a safe environment, ensuring they will be evaluated by the same rules. This level of standardization enhances both performance reliability and overall effectiveness of the wildland fire fighting emphasis.

In this topic, we covered:

- **Fire exercise objectives**
- **Instructor requirements**
- **Physical fitness information**
- **Checklist sources**

In the next topic, we'll identify the specific required evaluation items you'll encounter during the fire exercises.

Narration Script: Performance evaluation is an essential part of the certification process, but it must be conducted in a standardized fashion. The fire exercise day evaluation process is designed to provide all candidates with the same opportunities in an environment that ensures that they will be evaluated by consistent standards. This level of standardization enhances both performance reliability and overall effectiveness of the wildland fire fighting emphasis.

In the next topic, we'll describe the required fire exercise activities in detail.

Topic 2: Required Performance Evaluation

Fire exercise introduction

Narration Script: Everyone knows the saying, “practice makes perfect.” But really, “only perfect practice makes perfect.” So before taking the performance test, you should practice every task listed on the performance test checklists until you have each task down perfectly. Since you have the performance test checklists available to you at all times during the course of study, you will know precisely what you are going to be tested on. And so, you should take the time to practice until all tasks are second nature to you. Those checklists may look a little daunting to you now. So before attempting to wade through them yourself, let’s look at exactly what you will be tested on and what the criteria will be for passing the performance test. In this topic, we’ll demonstrate how candidates should perform each task and how evaluators will observe candidates during the performance test.

Fire exercise overview

Let’s start by looking at how the fire day exercises are broken down. You will face several different skills tests either presented as stations or as if you are participating in one continuous exercise, each of which is made up of several tasks.

Keep in mind that you will have the opportunity to run through each of these tasks with an instructor and clear up any uncertainties before performing them in front of an evaluator.

In this topic, we’ll look sequentially at each required performance item for more information on the tasks you must perform.

Narration Script: One of the more difficult challenges experienced wildland instructors will face during the fire day exercises is trying to limit their time spent teaching. Rightfully so, instructors will want to instruct candidates on proper technique and maybe even tell a few applicable “war stories”—and well they should. However, you won’t be able to cover everything in one day—that is a given. Therefore, there are six required performance elements candidates must demonstrate—after that, instructors will have the opportunity to give additional instruction. We’ll cover some of those optional items in the next topic.

Activities to cover, part 1

Instructors should begin the fire exercises by briefing students about the day’s activities. There are many content areas to cover—you will recognize them as names of modules in this course:

- Preparedness, ICS, and resources
- “Watch out!” situations and LCES
- Fire shelter
- Potential hazards and human factors on the fireline
- Transportation safety
- Hand tools

- **Firing devices**
- **Water use**

Review each content area by reading the following details. Cover as many of these activities as possible during the fire day.

Preparedness, ICS, and Resources

Make sure students are familiar with the incident command system (ICS) and how to follow the chain of command. They also need to be thoroughly familiar with their personal protective equipment (PPE).

“Watch Out!” Situations and LCES

When dealing with “Watch out!” situations as well as lookouts, communications, escape routes, and safety zones (LCES), be sure students know how to:

- **Identify anchor points, escape routes, and safety zones**
- **Call out hazards**
- **Retreat to a safety zone**

Fire Shelter

On the fire day, students need to demonstrate how to inspect and deploy a practice fire shelter.

Potential Hazards and Human Factors on the Fireline

During the fire day, be sure to discuss:

- **Maintaining situational awareness and managing risk during incidents**
- **Following procedures when accidents and injuries occur**
- **Participating in after action reviews**

Transportation Safety

Students need to know how to travel by foot. This includes being able to hike in a line while maintaining safe spacing.

Hand Tools

Students must be able to inspect and maintain their hand tools as well as be able to use them safely and effectively.

Firing Devices

Students must demonstrate techniques for igniting a fusee, igniting wildland fuel, and extinguishing the fusee.

Water Use

Students must be able to:

- Use a backpack pump
- Establish simple and progressive hose lays
- Describe how engines are used in wildland fire fighting
- Describe retardant and water drop procedures

Narration Script: If you're an instructor, here are some items you'll want to incorporate into the fire day, given you have the time to do so. If you are a student, have a look at these terms and ask yourself if they all "ring a bell." There is ample time for you to review any of the modules in this course.

Activities to cover, part 2

The most extensive areas for "hands-on" content that instructors will want to cover during the fire exercise day activities relate to suppression, communication, mop-up, and patrol.

Read the following material to discover more about the "hands-on" skills to cover.

Suppression

Students need to be in the know about suppression activities, including:

- Implementing a method of attack—direct versus indirect
- Constructing progressive and leap frog lines
- Communicating fireline commands, such as bump, take more, take less, hold and improve, lick and go, and reverse tool order
- Following dozer procedures

Communication

Students need some "hands-on" training about how to use radios and how to maintain good communication.

Mop-Up and Patrol

Students must be skilled and knowledgeable about:

- Hotspotting teams and patrolling
- Cold trailing
- Trenching
- Securing the perimeter after containment
- Setting up grids in the green for spot fires
- Following spot fire protocols—containing, securing, mopping up, and flagging
- Following slopover procedures
- Mopping up using both dry and wet techniques

Live fire or flag exercises

Using a live practice fire is the best-case scenario for the fire exercises—but sometimes logistics or environmental conditions just won't allow for it. If that's the case, consider using a flag fire scenario.

Here are suggested tips for a flag fire exercise:

- Move the *perimeter* flags frequently to simulate dynamic fire conditions or to indicate the fire's growth
- Use pre-identified colored flagging to represent *spot fires*; place spot fires out in the *green* prior to the exercise, and take advantage of likely areas where spot fires will occur
- Take advantage of student mistakes such as incomplete *line construction* or poor *trenching*—so-called “mistakes” or misconceptions are valuable instructional opportunities

Required fire exercises

There are six required performance elements for candidates. Candidates must be able to demonstrate:

- Transportation safety to an incident
- Preparedness including inspection, wear, and use of PPE
- Suppression and hand tool techniques including inspection and tool safety, construction of control lines including those on steep slopes, and the demonstration of procedures when caught in an airdrop
- Inspection and operation of backpack pumps and ability to perform simple and progressive hose lays
- Fire shelter inspection and use
- Radio communication techniques

You will investigate each of these performance elements in turn.

Transportation safety

Given a real or simulated *incident*, you will travel to and from an incident via foot, vehicle, or a combination of both.

When traveling, you must be able to:

- Wear *PPE* properly
- Maintain safety measures, such as seat belts or life vests
- Ensure the proper separation of tools from personnel by securing tools in compartments
- Follow the directions of appropriate personnel
- Maintain proper spacing during foot travel
- Use eye protection when necessary

Narration Script: As we discussed in the Transportation Safety Module, your safety is paramount—and that begins on your way to a fire and doesn't end until you are back home. During the field day, you must demonstrate the proper wearing of your PPE and observing of safety rules when traveling to a fire, including wearing your safety belt and storing your gear and equipment in a safe and secure manner. You'll need to follow the orders and observations of your supervisor, the driver, and appropriate Command staff. And when traveling by foot to a location, you must observe a minimum of 10 feet spacing between crew members. Last but not least, always protect your eyes when working with tools or on the fireline.

Preparedness—inspection, wear, and use of PPE

You must demonstrate the proper inspection, wear, and use of the PPE assigned to you. PPE may include:

- **Fire resistant pants**
- **Fire resistant shirt**
- **Boots**
- **Hard hat with chin strap**
- **Gloves**
- **Goggles**
- **Shroud**
- **Brush jacket**
- **Ear plugs**
- *Fire shelter*
- **Headlamp**
- **Fire-line pack (web gear)**
- **Canteens**

Refer to the Preparedness Module to review the specifics on wildland PPE.

Narration Script: You must be able to demonstrate the proper inspection, wear, and use of the wildland PPE assigned to you.

Hand tool inspection

Compliant with manufacturers' specifications and local policies and procedures, you must demonstrate the proper inspection and maintenance of cutting, scraping, and smothering tools. First, let's deal with *inspection* tasks. For each type of tool, inspect the tool head *and* the handle.

Inspect tool heads for:

- **Cracks**
- **Rust**
- **Damaged cutting edges (when applicable)**
- **Safety guards**

Inspect tool handles for:

- **Smoothness**
- **Cracks and splinters**
- **Proper alignment**
- **Secure attachment of tool head**

Narration Script: The next performance test deals with inspection and maintenance of the various types of tools you use for wildland fire fighting. Starting with the tool head, be sure to inspect it for cracks and rust. And for tools with cutting edges, check for damaged cutting edges and that appropriate safety guards are in place during storage. Moving on to the tool handle, check it for smoothness with no rough edges, such as cracks and splinters. Look for proper alignment between the tool head and the handle and that the attachment from the tool head to the handle is secure.

Hand tool maintenance

When dealing with cutting, scraping, and smothering tools, you must also demonstrate proper maintenance. This involves sharpening the tool heads and maintaining the handle.

Sharpen tool heads:

- **Wear safety glasses, gloves, and a long-sleeved shirt**
- **Secure tool for sharpening**
- **Clear working area**
- **Ensure sharpening file has a handle and guard in good repair**
- **Use palm of hand flat against file, fingers not wrapped**
- **Visually inspect sharp edges**

Maintain tool handles:

- **Sand handle smooth**
- **Replace properly if needed**
- **Apply protective coating**
- **Ensure handle is secure in tool head**

Narration Script: Now, read about the *maintenance* tasks for the tool head *and* the handle. For these tasks, you must have on a long-sleeved shirt and gloves and be wearing safety glasses. Then begin by securing your tool for sharpening and making sure the work area is cleared off and there is no clutter. Evaluators will look to make sure you use the palm of your hand flat against the sharpening file so that you won't be wrapping your fingers over the edge. Finish the sharpening process by inspecting the edge to make sure there are no rough edges.

When dealing with the handles, make sure they are sanded smooth or replace them properly if necessary. Apply a suitable protective coating, and take a second look where the handle and the tool head come together to make sure it is secure.

Specific sharpening guidelines

Specific sharpening guidelines vary according to the tool type.

For this evaluation item, you must know the proper procedures for these tools:

- **Axe and Pulaski**
- **Shovel**
- **McLeod**
- **Combi tool**

Refer to the Hand Tools Module to review inspection and maintenance issues for hand tools. Read the following items to discover the sharpening procedures you must follow.

Axe and Pulaski

For axes, the cutting edge must have an even bevel tapered 2 1/2-in. (63 mm) wide on each side. For Pulaskis, the beveled taper must be 2 in. (50 mm).

The Pulaski has a grubbing edge too that must be sharpened with a 3/8-in. (10 mm) bevel on one side at a 45-degree angle.

Shovel

Shovels must be sharpened starting 1.5 in. (38 mm) from the heel on each side of the blade until a subtle point is formed at the tip of the blade.

McLeod

McLeods must be sharpened so that the cutting edge has a 45-degree, square bevel.

Combi Tool

Combi tools must be sharpened by following these procedures:

- **Stabilize tool by sticking the pick end in the ground**
- **Sharpen blade to a point at a 45-degree angle**
- **Sharpen pick at a 45-degree angle**

Assemble and prepare for a response

You must demonstrate how to assemble and prepare for a response to a wildland fire incident by:

- **Walking and working 10 ft. (3 m) or more away from other firefighters**
- **Carrying tools and equipment properly**
- **Wearing safety glasses at all times**
- **Keeping your eyes on what is being cut**
- **Ensuring a proper cutting angle to prevent ricochet**

- **Demonstrating proper grip and stance**
- **Passing other workers safely**
- **Transferring the tool handle first**
- **Storing tools safely when not in use**
- **Not running with hand tools**

Refer to the Hand Tools Module to review how to safely carry and use hand tools.

Narration Script: This task involves the proper and safe use of hand tools. No matter what tool you use, you must demonstrate proper technique during the performance test. It starts with maintaining at least a 10-foot clearance from your fellow firefighters at all times. You must carry tools and equipment properly, using these guidelines: holding the tool at its balance point, on the downhill side, and keeping the cutting edge away from your body. You must wear your safety glasses at all times, keeping your eyes focused on what you are cutting. When you are using your tool, you must demonstrate a proper cutting angle to prevent your tool from ricocheting and hold it with a proper grip and stance. When you are passing other firefighters, you must do so safely by signaling that you're "coming through" and then waiting for the person you're passing to give you the right of way. When passing a tool to another firefighter, you must transfer the tool handle first. When you're done with a tool, you must store it safely in the proper location. And you must never run with tools!

Guidelines for use of specific tools

Some tools have specific guidelines for proper use. For this evaluation item, you must know the proper way to use Pulaskis, shovels, and McLeods.

Pulaski

Use the cutting edge of a Pulaski on the same things you might use an axe for. However, the grubbing edge is for digging roots and trenching.

Shovel

When using a shovel for scraping, you must use your knee for a brace. During the performance evaluation, you must also demonstrate how to properly throw dirt with both the over-the-shoulder or side-swing methods.

McLeod

When using a McLeod, you must demonstrate the use of:

- **A cutting and pulling motion, while maintaining downward pressure on the handle**
- **A scraping motion (not a chopping motion)**

Constructing a fireline

You must demonstrate the ability to construct a *fireline*. However, before you begin construction, you must determine the fireline's *anchor point* and proper width.

Construct or select a suitable anchor point:

- Road
- Stream
- Cliff
- Previously burned section of the fire
- Hose lay

Determine the proper fireline width by assessing:

- *Fuel*
- *Slope*
- *Weather*
- **Part of the fire**
- *Fire intensity*

Narration Script: You must demonstrate the ability to construct a fireline conforming to your agency's standards, recognizing hazards and unsafe situations, and communicating those hazards to your supervisor or taking appropriate actions.

Fireline construction techniques

You must demonstrate the ability to properly construct a fireline by:

- Using proper hand tools and mechanized equipment
- Removing surface and subsurface fuels down to *mineral soil*
- Removing any *snags* and other *aerial fuels*
- Scattering charred or burning material inside the *burn area*
- Cooling adjacent fires with water or dirt
- Covering rotten logs and stumps with dirt
- Constructing a fireline as close to the *fire edge* as safety permits
- Building control lines correctly for a fire burning *up* and *down* a slope
- Recognizing all hazards and communicating them to the supervisor
- Taking appropriate actions

Refer to the Suppression, Communication, and Mop-Up Module to review how to construct a fireline.

Getting stuck in the drop zone

You must demonstrate the procedures to follow if you are caught in a *retardant* or water drop by:

- Getting behind a solid object such as a tractor, brush guard, boulder, or large, living tree
- Securing your helmet and goggles

For scenarios when you are caught in the open, demonstrate procedures by:

- Getting to where there is little loose rock and surface *litter*
- Wearing your helmet and goggles
- Lying face down with your head *toward* the approaching aircraft
- Holding your helmet or something solid with one hand and your tools with the other hand to the side away from your body
- Spreading your feet apart for stability

Refer to the Suppression, Communication, and Mop-Up Module to review additional air drop procedures.

Narration Script: If you get stuck in the drop zone, the good news is that you can protect yourself. If you're out in the open, find someplace that has as little loose rock and litter on the ground as possible. But the best bet is to get behind a solid object, such as a boulder or large, living tree. In either case, make sure to have your helmet and goggles on securely. When caught in the open, lie face down with your head pointing toward the aircraft. Hold your helmet or chin strap in place with one hand and your hand tool with the other hand away from the side of your body. Make sure your feet are spread apart to help with stability.

Inspection and maintenance of backpack pumps

Compliant with manufacturers' specifications and local policies and procedures, you must demonstrate the proper inspection and maintenance of backpack pumps by:

- Assembling the pump properly
- Filling the pack with clean or strained water
- Lifting and carrying the pump properly
- Maintaining proper footing and stance while using the pump
- Demonstrating the use of straight and spray streams
- Clearing a clogged nozzle
- Cleaning the quick connect

Refer to the Water Use Module to review inspection and maintenance issues for backpack pumps.

Hose lays

You must be able to demonstrate your ability to set up both *progressive* and simple hose lays by:

- Using proper hand signals as illustrated in the Incident Response Pocket Guide (IRPG)
- Identifying commonly used fittings and hose
- Identifying potential hazards to a *hose lay*

- Restricting the water flow of a charged line by using hose clamps
- Using various nozzle settings
- Demonstrating proper water application
- Retrieving and storing hoses

Refer to the Water Use Module to review inspection and maintenance issues for backpack pumps.

Inspection and use of fire shelters

Compliant with manufacturers' specifications and local policies and procedures, you must demonstrate the proper inspection and use of the fire shelter assigned to you.

There are six aspects to this performance task item:

- Inspection
- Site selection
- Site improvement
- Removing from case
- Deployment
- Entrapment procedures

Narration Script: Be sure to inspect your fire shelter according to the manufacturer's instructions and according to your agency's policies and procedures. Stay tuned as we discuss the remaining five issues on the pages that follow.

Site selection and improvement

After shelter inspection, selecting the right site for the fire shelter and improving the site are the first things you will need to demonstrate for this evaluation item.

You must select a site for your fire shelter that is:

- Away from readily combustible fuels
- Away from items that might fall on you
- In a wide area
- Away from topographic features that put you at risk of being overrun by fire

Once a suitable site has been selected, you must improve it by scraping ground fuels so the cleared area is at least 4 by 8 ft. (1.2 by 2.4 m) down to mineral soil.

Keep reading to discover more of the details.

Fuels

Find a shelter site that is away from fuels, such as:

- Thick vegetation

- Tall grass
- Small trees
- Brush

Fall Hazard

Find a shelter site that is away from anything that might present a fall hazard, such as trees and snags.

Wide Area

Find a shelter site in a wide area, such as a:

- Dozer line
- Roads
- Burned area that has no re-burn potential
- Lee side of a ridge top
- Flat area on a slope, like a bench or road cut

Topography

Find a shelter site that is away from draws, chimneys, and saddles.

Fire shelter deployment

Once you have selected and improved the site for your fire shelter, you must remove it from its case and be able to deploy it:

- Remove shelter from packaging
- Open and shake out shelter completely
- Demonstrate proper hand and foot positioning throughout the deployment process
- Lie face down with your feet toward the fire
- Use your feet, legs, hands, and elbows to secure the edges of the shelter
- Push out the top and sides of the shelter to maximize insulating space

Narration Script: To pass this performance test item, you must remove your shelter from its case, open it, and shake it out completely using the technique appropriate for the shelter your agency has provided to you. Then, you will need to deploy the shelter, showing proper hand and foot positioning so that you get inside the shelter, in a face-down position, and with your feet toward the fire. You must use your extremities to secure the edges of the shelter. Finally, when you are on the ground and properly in your shelter, you must push out the top and sides of the shelter so the interior space is as large as possible.

Practice fire shelter deployment

When it comes to fire shelter deployment, perfect practice makes perfect.

Do this procedure over and over, because during the performance evaluation, you will be expected to deploy your shelter in all kinds of situations:

- From a standing position
- From a prone position
- While escaping
- In windy conditions

Fire shelter entrapment procedures

After you deploy your shelter, you must demonstrate what you will do during the time you may be entrapped.

You must be able to:

- Move the shelter once it has been deployed
- Communicate with others in your crew
- Stay in the shelter until you receive orders from your supervisor

Refer to the Fire Shelter Module to review fire shelter deployment techniques.

Radio communication, inspection, and operation

Compliant with manufacturers' specifications and local policies and procedures, you must demonstrate the proper inspection and operation of portable radios by:

- Turning on the radio and adjusting volume
- Finding the correct frequency
- Using scan, radio groups, squelch, and repeater functions
- Demonstrating troubleshooting for common problems, such as radio traffic overload, poor location, and battery change out
- Starting each transmission with receiver's call sign followed by your own call sign
- Waiting for a response before sending a message
- Using a break message every 30 seconds
- Using *clear text*
- Closing a call with the proper identifier

Refer to the Suppression, Communication, and Mop-Up Module to review how to operate portable radios.

Fire exercise summary

Now that you've completed this topic, you've discovered information on how a performance evaluation actually takes place and stepped through the tasks you will be evaluated on.

Specifically, you viewed all required tasks for:

- Transportation safety to an incident

- **Inspection, wear, and use of PPE**
- **Suppression and hand tool techniques**
- **Backpack pumps and ability to perform simple and progressive hose lays**
- **Fire shelter inspection and use**
- **Radio communication**

As we have said before, you should study and practice every task listed on the performance checklists in order to successfully complete the performance evaluation.

Narration Script: Now you have an idea of how the fire day exercises will go. You've read a lot of information on how a performance test actually takes place and stepped through the tasks you will be tested on. The best way to get through these tasks while being followed around by an evaluator is to practice, practice, and practice everything on your checklists. Make them second nature. Now, hold on—your fire day exercises aren't over yet. These are the required performance items, but if the day goes well, instructors will throw a few more scenarios at you. In the next topic, we describe a few optional fire day exercises.

Topic 3: Optional Performance Evaluation

Introduction

If you went through the Required Performance Evaluation Topic, you know there is a lot to cover during one day of fire exercises. While there are six required performance items, both instructors and students alike should be prepared for an even greater level of participation if time and conditions permit.

In this topic, we'll cover optional performance evaluation items including:

- Demonstrating firing devices
- Reducing fire exposure threats to improved properties
- Performing *mop-up* operations

We'll cover each of these items in turn.

Narration Script: In this topic, we describe optional performance items for instructors and students. You may or may not be able to set up these activities for a number of reasons including logistics, environmental conditions, or time constraints.

Securing the fireline with a fusee

You must demonstrate the ability to secure a *fireline* so that burning materials and unburned *fuels* that threaten the integrity of the fireline are located and abated. This involves the use of basic ignition devices according to manufacturers' specifications and local policies and procedures.

During the optional performance evaluation, you may be asked to demonstrate the safe use of a *fusee* by:

- Wearing proper personal protective equipment (PPE)
- Gripping the fusee by the handle
- Removing the striker cap
- Using the striker with a downward movement away from the body with your head turned to the side, upwind from the fusee
- Holding the fusee away from your body
- Carrying the fusee in a downward position
- Keeping the fusee on the burn side of the fireline
- Extinguishing the fusee safely

Narration Script: One method of securing the fireline involves the use of a fusee. When you demonstrate the proper use of a fusee, you must wear appropriate PPE. You must grip the fusee properly in one hand and remove the striker cap. You must scrape the striker end sharply against the ignition end of the fusee in a downward motion, away from your body and with your head turned to the side. All the while, you must hold the fusee downwind with the lighted end down.

When using the fusee, you must keep the fusee on the burn side of the fireline. And, when you're done, you must extinguish and dispose of it properly.

Preparing a drip torch

You must safely prepare the drip torch for use by:

- **Wearing proper PPE**
- **Shaking the torch to mix fuel**
- **Unscrewing the lock ring**
- **Removing and securing the flow plug**
- **Removing the spout from the tank**
- **Inspecting the rubber gasket and fuel supply**
- **Setting the spout upright with the wick facing opposite and away from the handle**
- **Screwing the lock ring on tightly**
- **Opening the air vent three-fourths of the way**
- **Cleaning spilled fuel**

Narration Script: Another method of securing the fireline involves the use of drip torches. When you demonstrate the proper use of a drip torch, you must wear appropriate PPE. You must shake the drip torch vigorously to mix the fuel. After mixing the fuel, you must unscrew the lock ring and remove and secure the flow plug. Then you must remove the tube from the fuel tank and inspect the rubber gasket and the fuel level. You must set the spout upright on the torch with the wick facing opposite and away from the handle and screw the lock ring on tightly. Then you must open the air vent three-fourths of the way and wipe any spilled fuel from the exterior of the torch.

Securing the fireline with a drip torch

You must demonstrate the safe use of a drip torch by:

- **Carrying the torch upright**
- **Spreading fuel on ground litter**
- **Igniting the torch from the ground fire**
- **Tilting the torch downward when using**

Narration Script: Once you have prepared the drip torch, you must demonstrate its proper use. Always carry the drip torch upright until you reach the place you intend to use it. When you get to the ignition point, spread a small amount of the fuel on some ground litter, ignite it, and then use the flame from that material to light the torch. Then, you must tilt the torch downward to dispense fuel to start the burn-out operation.

Drip torch storage

After you are done with the drip torch, you must demonstrate how to properly store it by:

- **Extinguishing or letting the wick burn dry**
- **Removing the lock ring**

- Reversing the spout and putting it inside the tank
- Replacing the lock ring securely
- Replacing the flow plug
- Closing the breather valve

Refer to the Firing Devices Module to review how to use drip torches and fusees.

Reducing fire exposure threats to improved properties

During the optional performance evaluation, you may be asked to describe the methods for reducing fire exposure threats to improved properties so that the improvements are protected. This involves gathering information on the incident conditions and reporting them properly. As a result of *size-up* information, you must be able to gather information on these conditions at or around the structure(s):

- Distance from the fire
- *Terrain*
- Fuels
- Construction features
- Spacing between buildings
- Accessibility
- Power lines
- Wind conditions
- *Terrain aspect*
- Time of day
- Defensible space
- *Structural triage*

Narration Script: For this performance test item, your evaluator will supply a scenario that you will work from in order to describe and report on incident conditions.

Mop-up

During the optional performance evaluation, you may be asked to demonstrate the ability to mop up and *patrol* a fire area so that burning fuels threatening escape are located and extinguished. We'll start with general guidelines for mop-up issues and move on to more specifics.

You must demonstrate these items when performing mop-up:

- Start mop-up as soon as line construction and *burn out* are complete
- Mop up the most threatening areas first
- Allow quickly burning fuel to burn itself out
- Mop up the entire area of small fires
- Mop up far enough into the *black* on large fires to be certain no fire could blow, *spot*, or roll over the fireline

- Search for smoldering *spot fires*
- Use the back of your hand to feel for possible *smoldering* spots close to the line

Narration Script: We've covered drip torches and how to protect properties in the wildland/urban interface. Now let's turn our attention to mop-up tasks.

Water application when doing mop-up

For the performance evaluation item on mop-up, you may be asked to use water in conjunction with hand tools where possible and practical. When you do so, make sure that you:

- Use water sparingly, matching the amount of water used to the job
- Scrape or stir the fuel while applying water when mopping up deep burning fuels, such as peat, *duff*, or needles
- Add *wetting agents* or *foam* to water to increase its effectiveness

Specific mop-up situations

When completing the performance evaluation, you may be asked to face some special mop-up situations.

When dealing with *snags*, roots, stumps, and materials burning near the fireline, you must demonstrate these tasks when performing mop-up:

- Fell all snags that could cause spotting or fire spread across the line
- Consider the potential problems from snags, punky logs (those with rotten or soft interiors), and fuel concentrations outside the *control line*
- Search for and dig out burning roots and stumps near the fireline
- Cut unburned or partially burned *brush* near the line
- Scatter concentrations of burning fuels to reduce heat and danger of spotting
- *Trench* below, block, or turn logs, stumps, or similar material so they cannot roll

Patrol

While demonstrating mop-up tasks, you may be asked to demonstrate the ability to patrol a fire by:

- Watching for spot fires and preventing *hot spots* from breaking over the control line
- Extinguishing any smoldering material you discover
- Throwing smoldering materials into the black and allowing them to burn
- *Cold trailing* where applicable

Refer to the Suppression, Communication, and Mop-Up Module to review how to perform mop-up and patrol.

Optional fire exercise summary

This concludes the Optional Performance Evaluation Topic. Though optional, we encourage instructors to touch on as many bases as possible as there is no substitute for student interactions with an experienced wildland firefighter. Any exposure to the host of scenarios students might encounter during an actual fire is beneficial to their foundational knowledge.

In this topic, we described the basics of:

- **Drip torches**
- **Protecting properties**
- **Mopping up**

Good luck and good studying!

Narration Script: When you combine the required performance elements with the optional items we detailed in this topic, you can understand the busy scope of the fire exercise day. If you're a student, you might be feeling overwhelmed, but understand that field day instructors are there to help you with your single greatest task—learning.