

# Fire Fighter Tools and Equipment

## Workbook Activities

The following activities have been designed to help you. Your instructor may require you to complete some or all of these activities as a regular part of your fire fighter training program. You are encouraged to complete any activity your instructor does not assign to you, as a way to enhance your learning in the classroom.

## Chapter Review

The following exercises provide an opportunity to refresh your knowledge of this chapter.

### Matching

Match each of the terms in the left column to the appropriate definition in the right column.

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|----------------------------------|---|
| _____ 1. Roofman's hook          | A. A long pole with a wooden or fiberglass handle and a metal hook on one end used for pulling  |
| _____ 2. Multipurpose hook       | B. The process of making openings so that the smoke, heat, and gases can escape vertically from a structure                           |
| _____ 3. Size-up                 | C. A team of fire fighters designated to stand by, in a ready state, for immediate rescue of injured or trapped fire fighters         |
| _____ 4. Ventilation             | D. A long, heavy hammer that requires the use of both hands   |
| _____ 5. Rapid intervention      | E. A long pole with a solid metal hook used for pulling   |
| _____ 6. Box-end wrench          | F. A tool made of hardened steel with handles on the sides used to force doors and to breach walls                                    |
| _____ 7. Sledgehammer            | G. A hand tool with a closed end used to tighten or loosen bolts  |
| _____ 8. Hydraulic spreader      | H. A lightweight, hand-operated tool that can produce up to 10,000 pounds of prying and spreading force                               |
| _____ 9. Battering ram           | I. The observation and evaluation of existing factors that are used to develop objectives, strategy, and tactics for fire suppression |
| _____ 10. Thermal imaging device | J. Electronic devices that detect differences in temperature based on infrared energy and then generate images based on those data    |

### Multiple Choice

Read each item carefully, and then select the best response.

- \_\_\_\_\_ 1. A pike pole
- A. is a lever used for prying.
  - B. is used for rotating.
  - C. is a pulling tool.
  - D. is a cutting tool.

- \_\_\_\_\_ 2. Which tool heats metal until it melts?
  - A. Hydraulic spreader
  - B. Power saw
  - C. Air bag
  - D. Cutting torch
- \_\_\_\_\_ 3. Proper personal protective equipment (PPE) includes
  - A. approved helmet.
  - B. eye protection.
  - C. firefighting gloves.
  - D. All of the above.
- \_\_\_\_\_ 4. Tools used for vertical roof ventilation include
  - A. shovels and brooms.
  - B. power saws and axes.
  - C. negative-pressure fans.
  - D. rakes and buckets.
- \_\_\_\_\_ 5. Which of the following is not considered part of a fire fighter's PPE?
  - A. Boots
  - B. Approved firefighting gloves
  - C. Approved firefighting prying tool
  - D. Personal alert safety system
- \_\_\_\_\_ 6. Which of these are prying tools?
  - A. Sledgehammer
  - B. Halligan bar and crowbar
  - C. K tool and chisel
  - D. Bucket and shovel
- \_\_\_\_\_ 7. Pike poles are commonly used for
  - A. pulling ceilings.
  - B. opening floors.
  - C. popping doors off hinges.
  - D. car fires.
- \_\_\_\_\_ 8. Which of the following tools is often used in vehicular crashes to gain access to a victim who needs care?
  - A. Spring-loaded center punch
  - B. Sledgehammer
  - C. Chainsaw
  - D. Crowbar
- \_\_\_\_\_ 9. After use, all hand tools should be completely cleaned and
  - A. scientifically tested.
  - B. inspected.
  - C. sharpened.
  - D. placed in the tool cabinet.

- \_\_\_\_\_ 10. Which of the following is considered a tool for cutting metal?
- A. Crowbar
  - B. Drywall hook
  - C. Pick-head axe
  - D. Hacksaw
- \_\_\_\_\_ 11. Which of the following is considered a rotating tool?
- A. Claw bar
  - B. Ceiling hook
  - C. Axe
  - D. Screwdriver
- \_\_\_\_\_ 12. Wood handles on tools should be
- A. sanded and painted.
  - B. sanded and varnished.
  - C. sanded and have linseed oil applied.
  - D. left alone.
- \_\_\_\_\_ 13. Which of the following is a basic piece of equipment for interior firefighting?
- A. Hand light or portable light
  - B. Thermal imaging device
  - C. Chain saw
  - D. Exhaust fan
- \_\_\_\_\_ 14. Which tool is used to cut chains or padlocks?
- A. Bolt cutter
  - B. Battering ram
  - C. Flat-head axe
  - D. K tool
- \_\_\_\_\_ 15. Which of the following is not a mechanical saw?
- A. Chain saw
  - B. Rotary saw
  - C. Reciprocating saw
  - D. Hacksaw
- \_\_\_\_\_ 16. Which of the following is considered a tool for striking?
- A. Crowbar
  - B. Drywall hook
  - C. Pick-head axe
  - D. Hacksaw
- \_\_\_\_\_ 17. Special equipment to be carried by a rapid intervention crew (RIC) should include
- A. a thermal imager.
  - B. prying tools.
  - C. striking tools.
  - D. All of the above.
- \_\_\_\_\_ 18. Which of the following is an example of a special use tool?
- A. Multipurpose hook
  - B. Air bags
  - C. Sledgehammer
  - D. Cutting torch
- \_\_\_\_\_ 19. Which of the following is not a basic search and rescue hand tool?
- A. Halligan tool
  - B. Axe
  - C. Hand light
  - D. K tool

- \_\_\_\_\_ 20. All power equipment should be left in a ready state, which includes
  - A. fuel tanks filled completely with fresh fuel.
  - B. hydraulic hoses, if applicable, cleaned and inspected.
  - C. the removal and replacement of any dull or damaged blades.
  - D. All of the above.

### Vocabulary

Define the following terms using the space provided.

1. Claw bar:

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2. Reciprocating saw:

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3. Overhaul:

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4. Gripping pliers:

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5. Crowbar:

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6. Seat belt cutter:

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7. Spanner wrench:

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8. Kelly tool:

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9. Cutting torch:

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10. Hydrant wrench:

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11. Ceiling hook:

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12. Pike pole:

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## Fill-In

Read each item carefully, and then complete the statement by filling in the missing word(s).

1. A fire fighter must know how to use tools \_\_\_\_\_, efficiently, and safely.
2. \_\_\_\_\_ is the phase during which fire fighters start thinking about the possible tools or equipment they may need during an incident.
3. \_\_\_\_\_ is a prime consideration when using any tools and equipment.
4. A(n) \_\_\_\_\_ is a specialized striking tool with an axe on one end of the head and a sledgehammer on the other end.
5. \_\_\_\_\_ or \_\_\_\_\_ tools allow a fire fighter to increase the power exerted upon an object and extend the fire fighter's reach.
6. A(n) \_\_\_\_\_ has a pointed "pick" on one end of the head and an axe blade on the other end.
7. To reduce the total number of tools needed to achieve a goal, a fire fighter may carry a tool that has a number of uses. This tool is categorized as a(n) \_\_\_\_\_ tool.

8. \_\_\_\_\_ are tools that use extremely high-temperature flames to cut through an object.
9. A salvage tool known as a \_\_\_\_\_ is designed to cover a section of carpet or hardwood flooring.
10. A flat-head axes and a Halligan tool are collectively called the \_\_\_\_\_.

## True/False

If you believe the statement to be more true than false, write the letter "T" in the space provided. If you believe the statement to be more false than true, write the letter "F."

1. \_\_\_\_\_ One of the most popular prying tools is the Halligan tool.
2. \_\_\_\_\_ One of the three primary types of mechanical saws is the combination saw.
3. \_\_\_\_\_ Department guidelines or standard operating procedures usually guide the decision for which tool to use during an incident.
4. \_\_\_\_\_ Air bags can be used to lift heavy objects.
5. \_\_\_\_\_ Striking tools should be assigned to crews only during the forcible entry phase of a response.
6. \_\_\_\_\_ The K tool is used to pull the lock cylinder out of a door.
7. \_\_\_\_\_ Interior attack can be orchestrated by any response member at any time during an emergency response.
8. \_\_\_\_\_ Mechanically powered equipment is more powerful than manually powered equipment.
9. \_\_\_\_\_ New fire fighters are often surprised by the strength and energy required to perform many tasks.
10. \_\_\_\_\_ A RIC should carry self-contained breathing apparatus (SCBA) and spare air cylinders.

## Short Answer

Complete this section with short written answers using the space provided.

1. What are two advantages of using pushing/pulling tools? Give five examples of pushing/pulling tools.

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2. Why is it important to know which tools are needed for each phase of an incident?

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3. Identify the tools used during salvage and overhaul operations.

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4. Identify the basic set of tools used for interior firefighting.

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5. Identify the basic set of tools used for search and rescue.

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## Fire Alarms

The following real case scenarios will give you an opportunity to explore the concerns associated with fire fighter tools and equipment. Read each scenario, and then answer each question in detail.

1. It is 6:00 on a Monday morning when your engine is dispatched to a commercial structure fire in a warehouse.

You are the fifth engine to arrive at the scene. The IC assigns your engine to the RIC group. Your Lieutenant tells you to gather the RIC equipment and place it in the staging area. How should you proceed?

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2. It is 7:30 on a Sunday morning and your Lieutenant is conducting a shift meeting. The Lieutenant tells you to ensure the power tools and equipment are clean and inspected. After the meeting, you start with the ladder truck by pulling off the chainsaws. How should you proceed?

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## Skill Drills

### Skill Drill 8-1: Cleaning and Inspecting Hand Tools Fire Fighter I, NFPA 1001:4.5.1

Test your knowledge of this skill drill by filling in the correct words in the photo captions.



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1. Clean and dry all \_\_\_\_\_ parts. Metal tools must be dried completely, either by \_\_\_\_\_ or by \_\_\_\_\_, before being returned to the apparatus. Remove \_\_\_\_\_ with steel wool. Coat unpainted metal surfaces with a light film of \_\_\_\_\_ to help prevent rusting. Do not \_\_\_\_\_ the striking surface of metal tools, as this treatment may cause them to slip.
2. Inspect \_\_\_\_\_ handles for damage such as cracks and splinters. Repair or replace any damaged handles. \_\_\_\_\_ the handle if necessary. Do not paint or varnish a wood handle; instead, apply a coat of \_\_\_\_\_. Check that the tool head is tightly fixed to the handle.
3. Clean \_\_\_\_\_ handles with soap and water. Inspect for damage. Repair or replace any damaged handles. Check that the tool head is tightly fixed to the handle.
4. Inspect \_\_\_\_\_ for nicks or other damage. Cutting tools should be sharpened after each use. File and sharpen as needed. \_\_\_\_\_ may weaken some tools, so hand sharpening may be required.