



# FIRE PROTECTION TRAINING

Procedures Handbook 4300

HANDTOOLS

**TOPIC:** McLeod

**TIME FRAME:** :15

**LEVEL OF INSTRUCTION:** Level I

**BEHAVIORAL OBJECTIVE:**

*Condition:* Given a written quiz

*Behavior:* The student will identify, describe the basic use, care, maintenance, and safety precautions associated with the McLeod.

*Standard:* With a minimum of 80% accuracy

**MATERIALS NEEDED:**

- McLeod with guard
- Vise
- Wooden blocks
- Gloves
- File with a handle and a guard

**REFERENCES:**

- Teie, Firefighters Handbook on Wildland Firefighting 3<sup>rd</sup> Edition, Appendix: Use and Care of Hand Tools
- IFSTA, Wildland Firefighting for Structural Firefighters, 4<sup>th</sup> Edition, Chapters 3 and 6
- NFES 1571, NWCG Firefighters Guide, 1986

**PREPARATION:**

The McLeod can be used in both wildland firefighting, as a scraping tool and in structure fires during overhaul. It is important that you as a firefighter know the uses of the McLeod and the safety precautions associated with it.





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MCLEOD

PRESENTATION	APPLICATION
<ol style="list-style-type: none"><li>1. Obtain secure footing with feet approximately shoulder width apart</li><li>2. With the cutting edge down, locate the striking point on the target limb</li><li>3. Take a practice swing to insure an unobstructed striking arc is available</li><li>4. Repeat the swing in short sharp downward motions until the limb has been removed<ol style="list-style-type: none"><li>a. The highest point in the downward arc should be approximately eye level</li></ol></li></ol> <p>D. Raking - The McLeod's rake edge may be used to remove cut material or to remove leaves and duff. May also be used to move debris in a structure fire</p>	<p>Demonstrate the proper cutting motion</p>
<ol style="list-style-type: none"><li>1. Obtain secure footing</li><li>2. Extend head of McLeod outward from the body to full arms length rake side down</li><li>3. Pull head of the tool back toward the feet of the user while exerting sufficient downward force to move the debris or the vegetation</li></ol>	<p>Demonstrate the proper raking motion</p>
<p>E. Digging or Grubbing - The McLeod may be used to dig or grub in the dirt when a pulaski is not available</p>	<p>Demonstrate the proper digging or grubbing motion</p>
<ol style="list-style-type: none"><li>1. Obtain firm footing with feet approximately shoulder width apart</li></ol>	



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<p>2. With the cutting/grubbing edge downward, locate a striking point in the dirt</p> <p>3. Take a practice swing to ensure an unobstructed striking arc is available</p> <p>4. Tilt blade slightly to concentrate force of swing at corner of McLeod head</p> <p>5. Repeat the swing in a sharp downward motion until the trench or hole is complete</p> <p><b>III. CARE AND MAINTENANCE</b></p> <p>A. Inspect tools before and after each use:</p> <p>1. Handle</p> <p>a. <b><u>Smooth</u></b></p> <p>(1) Sand as necessary</p> <p>(2) Do not apply</p> <p>(a) Linseed oil</p> <p>(b) Wax</p> <p>(c) Paint</p> <p>b. <b>Straight</b></p> <p>(1) Place out of service if</p> <p>(a) Warped</p> <p>(b) Twisted</p> <p>(c) Not properly aligned with head</p> <p>c. <b>Sound</b></p>	<p>Demonstrate</p>



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<ul style="list-style-type: none"><li>(1) Free of cracks</li><li>(2) Free of burns</li><li>d. Clean and dry</li><li>2. Head<ul style="list-style-type: none"><li>a. Free of cracks<ul style="list-style-type: none"><li>(1) If found place out of service</li><li>(2) Do not paint head<ul style="list-style-type: none"><li>(a) Paint will hide cracks</li></ul></li></ul></li><li>b. Free of burrs or chips<ul style="list-style-type: none"><li>(1) File as necessary</li></ul></li><li>c. <b><u>Secure</u></b><ul style="list-style-type: none"><li>(1) Head is tightly fastened to the handle</li></ul></li><li>d. <b><u>Sharp</u></b><ul style="list-style-type: none"><li>(1) Cutting and scraping edge properly sharpened<ul style="list-style-type: none"><li>(a) Use a 12" flat mill bastard file</li><li>(b) Apply even pressure across full width of the cutting and scraping edge</li><li>(c) Sharpened at 45° angle</li><li>(d) Cutting and scraping edge even across full width</li></ul></li><li>(2) Free of dips or bows</li></ul></li></ul></li></ul>	

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<ul style="list-style-type: none"><li>(3) Permissible to treat with a rust inhibitor</li><li>(4) Tool guard in place whenever tool is not in use</li></ul>	
<p><b>IV. SAFETY PRECAUTIONS</b></p> <p>A. When using tool</p> <ul style="list-style-type: none"><li>1. Maintain 10 foot interval<ul style="list-style-type: none"><li>a. <b>“Maintain Your Dime”</b></li></ul></li><li>2. Maintain firm footing</li><li>3. Watch for obstructions<ul style="list-style-type: none"><li>a. Overhead</li><li>b. Within arc of swing</li></ul></li><li>4. Wear gloves and appropriate PPE<ul style="list-style-type: none"><li>a. Pay particular attention when gloves are wet</li></ul></li><li>5. Do not allow head of tool to get too near body</li><li>6. Concentrate on impact area to:<ul style="list-style-type: none"><li>a. Prevent ricochet or glancing blow</li><li>b. Avoid rocks and other hard objects</li><li>c. Avoid hazards<ul style="list-style-type: none"><li>(1) Beehives</li><li>(2) Electrical wires</li><li>(3) Barbed wire</li></ul></li></ul></li></ul>	<p>Demonstrate</p>



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<ul style="list-style-type: none"><li>7. Pace yourself</li><li>8. Use proper tool for the job</li><li>B. When carrying tool<ul style="list-style-type: none"><li>1. Grasp at balance point with head forward</li><li>2. Carry on downhill side</li><li>3. Carry horizontally (parallel) to the ground</li><li>4. Sound off when passing another person with <b>"coming through"</b> and wait for that person to yield right of way</li><li>5. Carry with rake tines toward body and blunt side of tool (between scraping surface and rake) up</li></ul></li><li>C. When passing tool<ul style="list-style-type: none"><li>1. Pass handle (butt) first</li><li>2. At arms length from other person<ul style="list-style-type: none"><li>a. Never toss</li></ul></li></ul></li><li>D. When grounding tool<ul style="list-style-type: none"><li>1. Place head of tool flat on ground with handle upright<ul style="list-style-type: none"><li>a. Center of the "Wagon Wheel"</li></ul></li><li>2. Shield the head of the tool to the extent possible<ul style="list-style-type: none"><li>a. Use tool guards whenever practicable</li></ul></li><li>3. Place all crew tools in the same area</li></ul></li><li>E. When sharpening tool</li></ul>	



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<ul style="list-style-type: none"><li>1. Secure tool in vise<ul style="list-style-type: none"><li>a. Utilize wooden blocks or</li><li>b. Newman tool holder</li></ul></li><li>2. Use gloves</li><li>3. Use file with handle and a file guard in place</li><li>4. Rest the palm of one hand on the tip of the file<ul style="list-style-type: none"><li>a. Do not wrap the fingers over the tip of the file</li></ul></li><li>5. Sharpen in a motion away from the body</li><li>6. Remove tools from the vise if leaving the area</li><li>7. Make visual inspection of sharpness, do not run finger across cutting edge</li><li>F. When storing tool<ul style="list-style-type: none"><li>1. Store in a clean, cool, dry area</li><li>2. Store in a secure area or in the proper compartment</li><li>3. Separate in-service and out-of-service tools</li><li>4. Always keep the tool guards in place</li><li>5. Secure tools properly in tool racks</li></ul></li></ul>	



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## **SUMMARY:**

The McLeod is arguably the most widely used tool in the Department's inventory. Whether on emergency incidents or in routine station maintenance assignments, the tool is of less value if it is not properly maintained and cared for.

## **EVALUATION:**

A written quiz.

## **ASSIGNMENT:**

To be determined by instructor(s).