



FIRE PROTECTION TRAINING

Procedures Handbook 4300

HANDTOOLS

TOPIC: Brush Hook

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 brush hook.

Standard: With a minimum of 80% accuracy

MATERIALS NEEDED:

- Brush hook with guard
- Vise
- Wooden blocks
- Gloves
- File with handle and guard
- Appropriate visual aids

REFERENCES:

- Firefighters Handbook on Wildland Firefighting, Teie 3rd Edition, Appendix: Use and Care of Hand Tools
- IFSTA, Fundamental of Wildland Firefighting, 3rd Edition, Chapters 3 and 6
- NFES 1571, NWCG Firefighters Guide, 1986

PREPARATION:

The brush hook is an excellent tool for cutting brush and small trees on wildland fires. It is important to you as a firefighter to know the capabilities of this tool and the safe method in which to use this dangerous tool.



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BRUSH HOOK

| PRESENTATION | APPLICATION |
|--|-----------------------------|
| <p>I. TYPES</p> <ul style="list-style-type: none">A. Strap brush hookB. Blood brush hook <p>II. PARTS AND NOMENCLATURE</p> <ul style="list-style-type: none">A. Handle<ul style="list-style-type: none">1. Butt2. ShoulderB. Head<ul style="list-style-type: none">1. Cutting edge<ul style="list-style-type: none">a. Heelb. Throatc. Point or toeC. EyeD. Strap and boltsE. Rivets <p>III. BASIC USE</p> <ul style="list-style-type: none">A. Used with a downward pulling motion or a Low horizontal swing with sharp hooking motion at the end of the stroke. Cut at 45° angle.B. Used to cut heavy brush and small trees <p>IV. CARE AND MAINTENANCE</p> <ul style="list-style-type: none">A. Inspect tools before and after each use: | <p>Information Sheet #1</p> |



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| <ul style="list-style-type: none">1. Handle<ul style="list-style-type: none">a. <u>Smooth</u><ul style="list-style-type: none">(1) Sand as necessary(2) Do not apply<ul style="list-style-type: none">(a) Linseed oil(b) Wax(c) Paintb. <u>Straight</u><ul style="list-style-type: none">(1) Place out of service if<ul style="list-style-type: none">(a) Warped(b) Twisted(c) Not properly aligned with headc. <u>Sound</u><ul style="list-style-type: none">(1) Free of cracks(2) Free of burnsd. Clean and dry2. Head<ul style="list-style-type: none">a. Free of cracks<ul style="list-style-type: none">(1) If found place out of service(2) Do not paint head<ul style="list-style-type: none">(a) Paint will hide cracks | <p>Demonstrate</p> |



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| <ul style="list-style-type: none">b. Free of burrs or chips<ul style="list-style-type: none">(1) File as necessaryc. <u>Secure</u><ul style="list-style-type: none">(1) Head is tightly fastened to the handled. <u>Sharp</u><ul style="list-style-type: none">(1) Cutting edge properly sharpened to maintain curve of cutting edge<ul style="list-style-type: none">(a) Use a 12" flat mill bastard file(b) Apply even pressure across full width of the cutting edge. Do not sharpen point or toe(c) Cutting edge taper<ul style="list-style-type: none">(i) 1" on straight portion of cutting edge(ii) 3/4" on curved portion of cutting edge(2) Free of nicks or chips(3) Permissible to treat with a rust inhibitor(4) Tool guard in place whenever tool is not in use | <p>Information Sheet #2</p> |



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| <p>V. SAFETY PRECAUTIONS</p> <p>A. When using tool</p> <ol style="list-style-type: none">1. Maintain 10 foot interval<ol style="list-style-type: none">a. “Maintain Your Dime “2. Maintain firm footing3. Watch for obstruction<ol style="list-style-type: none">a. Overheadb. Within arc of swing4. Wear gloves and full appropriate PPE<ol style="list-style-type: none">a. Pay particular attention when gloves are wet5. Do not allow head of tool to get too near body6. Concentrate on impact area to:<ol style="list-style-type: none">a. Prevent ricochet or glancing blowb. Avoid rocks and other hard objectsc. Avoid hazards<ol style="list-style-type: none">(1) Beehives(2) Electrical wires(3) Barbed wire7. Pace yourself8. Use proper tool for the job <p>B. When carrying tool</p> | <p>Demonstrate</p> |



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| <ul style="list-style-type: none">1. Grasp at balance point with head forward2. Carry on downhill side3. Carry horizontally (parallel) to the ground4. Sound off when passing another person with "coming through" and wait for that person to yield right of way5. Cutting edge facing downward (hook down) C. When passing tool<ul style="list-style-type: none">1. Pass handle (butt) first2. At arms length from other person<ul style="list-style-type: none">a. Never toss D. When grounding tool<ul style="list-style-type: none">1. Place head of tool toward center of circle with handle outward in a group or flat on ground covered with shovel if alone 2. Shield the head of the tool to the extent possible<ul style="list-style-type: none">a. Use tool guards whenever practicable3. Place all crew tools in the same area E. When sharpening tool<ul style="list-style-type: none">1. Secure tool in vise<ul style="list-style-type: none">a. Utilize wooden blocks orb. Newman tool holder2. Use gloves | <p>"Wagon wheel"</p> |



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| <ul style="list-style-type: none">3. Use file with handle and a file guard in place<ul style="list-style-type: none">a. Never use a grinderb. “Bluing” weakens tempered steel4. Rest the palm of one hand on the tip of the file<ul style="list-style-type: none">a. Do not wrap the fingers over the tip of the file5. Sharpen in a motion away from the body6. Remove tools from the vise if leaving the area7. Make visual check for sharpness, do not run finger cutting edge <p>F. When storing tool</p> <ul style="list-style-type: none">1. Store in a clean, cool, dry area2. Store in a secure area or in the proper compartment3. Separate in-service and out-of-service tools4. Always keep the tool guards in place5. Secure tools properly in tool racks <p>VI. REHANDLING</p> <p>A. Removing handle</p> <ul style="list-style-type: none">1. Place head in blocks when placing in vise. (Do not put tool head in vise without wood blocks.)2. Saw off handle next to head with a hacksaw3. Drill out rivets or take off strap | <p>Demonstrate</p> |



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| <ul style="list-style-type: none">4. Drive out remaining wood in direction it was inserted B. Installing new handle<ul style="list-style-type: none">1. Inspect eye for cracks, breaks, or burrs and defects2. Rasp handle down to fit the eye of the head3. During the course of fitting the handle, never pound directly on the head or handle with a metal hammer4. When completed, there should not be any gaps between the metal eye and the wood handle<ul style="list-style-type: none">a. Length of shoulder should not exceed 1/2"5. Two types of wedges are used to expand the handle in the eye to insure a tight fit<ul style="list-style-type: none">a. Drive a softwood wedge into the split as far as possible but avoid splitting the handle. Saw off excess wedge with hacksaw and file smoothb. Drive two metal wedges at a 45° angle to the wooden wedge being careful not to spread the eye6. After handle and wedge installation, it is important that the handle be checked for tightness and alignment | <p>Demonstrate</p> |



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SUMMARY:

As a firefighter you are required to maintain the equipment at your station and on your apparatus. A sharp and well maintained cutting tool such as the brush hook is essential to accomplishing your mission. A dull and poorly maintained tool jeopardizes your safety and makes a difficult task even more difficult.

EVALUATION:

A written quiz.

ASSIGNMENT: To be determined by instructor(s).