



FIRE CREW FIREFIGHTER TRAINING

Procedures Handbook 4200

TOOLS AND EQUIPMENT

TOPIC: SCRAPING TOOLS

TIME FRAME: 0:30

LEVEL of INSTRUCTION: Level II

BEHAVIORAL OBJECTIVE:

Condition: Given a written quiz

Behavior: The student will confirm a knowledge of the basic scraping tools and their use in handline construction, proper maintenance procedures, and the basic safety rules associated with using scraping tools

Standard: With a minimum 70% accuracy

MATERIALS NEEDED:

- Writing board with markers/erasers
- Appropriate audio visual equipment and screen
- Scraping tools with guards
- Gloves and file with guard
- Video: "Scraping Tools For Firefighters" (14 min.)
- Slides/overhead transparencies for this lesson
- Student Information Sheet 4205.4
- Topic Quiz

REFERENCES:

- CDF Fire Protection Training Handbook 4300

PREPARATION:

Scraping tools are used primarily for removing grass, litter, leaves and duff while constructing fireline, and for assisting other tools in mop-up operations. It requires skill in the use and maintenance of each tool to ensure a safe and effective working environment.



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SCRAPING TOOLS

PRESENTATION

APPLICATION

I. INTRODUCTION

VIDEO: "Scraping Tools for Firefighters" (14 min.)

II. MCLEOD

NOTE: Demonstrate each tool

A. Nomenclature

NOTE: Hand out Student Information Sheet 4205.4-1 and have students refer to page 1. (Page numbers hereafter refer to this Student Information Sheet)

Display graphic 4205.4-1, page 1

1. Handle
2. Head
 - a) Scraping edge
 - b) Rake (tines)
3. Shank
4. Rivets
5. Rivet (safety pin)

B. Use

1. Scraping
 - a) Use pulling motion
 - b) Downward pressure on handle



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PRESENTATION	APPLICATION
<ul style="list-style-type: none">c) Scraping the fireline of all loose burnable material <p>2. Cutting</p> <ul style="list-style-type: none">a) Use short, chopping motion<ul style="list-style-type: none">1) Or slight sideways motion2) Or turn head to a 45° angle creating a pointed toolb) The scraping edge is used for cutting<ul style="list-style-type: none">1) Grass, deep litter, light brush (under 1 inch diameter)2) Trenching3) Blade sides and corners can be used for chopping and digging <p>3. The tines are very effective in raking pine needles, duff and leaf mold</p> <p>C. Sharpening</p> <p>NOTE: Refer students to page 2</p> <ul style="list-style-type: none">1. Keep cutting edge straight and square2. Bevel outside of face at 45 degree angle <p>III. SHOVEL</p> <p>A. Nomenclature</p> <p>NOTE: Refer students to page 3</p>	<p>Display graphic 4205.4-1, page 2</p>



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PRESENTATION	APPLICATION
<ul style="list-style-type: none">1. Handle2. Head or blade<ul style="list-style-type: none">a) Pointb) Facec) Heeld) Cutting edge3. Shank4. Rivet <p>B. Use</p> <ul style="list-style-type: none">1. Most versatile hand tool in wildland firefighting2. Grip <p>NOTE: Demonstrate</p> <ul style="list-style-type: none">a) Firm enough to prevent slippageb) Strong hand at end of handlec) Weak hand down handle for leverage 3. Stance<ul style="list-style-type: none">a) Firm, balanced footingb) Strong side foot back, weak side foot forward 4. Digging<ul style="list-style-type: none">a) Use thighs for leverage	<p>Display graphic 4205.4-1, page 3</p>



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<ul style="list-style-type: none">b) Use weak side foot on heel of shovel for digging <p>5. Smothering</p> <ul style="list-style-type: none">a) With dirtb) With shovel <p>6. Scraping</p> <ul style="list-style-type: none">a) Use thighs for leverageb) Tilt shovel onto cutting edge <p>7. Cutting</p> <ul style="list-style-type: none">a) Cut small limbs and stemsb) Use forward half of cutting edgec) Short chopping motion <p>8. Throwing dirt</p> <ul style="list-style-type: none">a) Over the shoulder<ul style="list-style-type: none">1) For hitting distant or high targetsb) Side arm<ul style="list-style-type: none">1) For scattering dirt as when extinguishing a grass firec) Underhand<ul style="list-style-type: none">1) For moving dirt, as to a pile for someone to throw <p>C. Sharpening</p> <p>NOTE: Refer students to page 4</p>	



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V. SAFETY

NOTE: ALWAYS WEAR GLOVES WHEN HANDLING HAND TOOLS

A. Inspection - inspect prior to using

NOTE: Refer students to page 6

1. Handle
 - a) Smooth
 - b) Straight
 - c) Strength
2. Tool head
 - a) Cracks
 - b) Rust
 - c) Dull cutting edge
 - d) Secure wedges and head
3. Shank
 - a) Rivets
 - b) Rivet (safety pin)
 - c) Screws/bolt and nut

B. Carrying procedure

1. At your side
2. Horizontal

Display graphic
4205.4-1, page 6



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<ul style="list-style-type: none">3. Balance point4. Cutting edge down<ul style="list-style-type: none">a) Except McLeodb) Carry with rake tines toward body and blunt side of tool (between scraping surface and rake) up5. Downhill sideC. Working procedures<ul style="list-style-type: none">1. Minimum 10 Foot spacing while working or walking<ul style="list-style-type: none">a) Announce “coming through”, when approaching within 10’ of a working tool2. Have a firm grip and a balanced stance3. Have a clear swinging path<ul style="list-style-type: none">a) Check overheadb) Check location of other workers4. When not in use, scraping tools are placed flat on the ground<ul style="list-style-type: none">a) Except McLeod - stood up<ul style="list-style-type: none">1) Not during shelter deployment<ul style="list-style-type: none">• Will not/can not stand up2) To avoid tripping over or falling on head of tool	<p>Ask students why you stand McLeod up</p>



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<p>5. Take tool at the balance point with the thumb down</p> <p>6. Never pass a tool so you or the receiver has to reach across the head of the tool</p> <p>VI. CARE AND MAINTENANCE</p> <p>A. Sharpening</p> <ol style="list-style-type: none">1. Always wear gloves2. Use flat mill bastard file<ol style="list-style-type: none">a) Use forward strokes onlyb) Never slap file down on the cutting edge3. Always use a file guard and handle4. Secure tool tightly5. Maintain minimum clearance6. Always file away from the cutting edge7. Keep your palm flat on the top of the forward end of the file. Do not wrap fingers around8. Never run your fingers along the cutting edge to check for sharpness9. Sharpen to proper angle10. Care of handle<ol style="list-style-type: none">a) Sandpaper for smoothing rough spots and sliversb) Report broken or cracked handles <p>B. Storage</p> <ol style="list-style-type: none">1. In field	



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<ul style="list-style-type: none">a) "Wagon wheel" formationb) Individually - out of path <p>2. CCV</p> <ul style="list-style-type: none">a) In proper rackb) Secured	<p>Administer Topic Quiz</p>



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SUMMARY:

Hand tools play an important part in the control and suppression of wildland fires each year. How effectively you use the tool depends upon your knowledge of it, your ability to use it properly (practice) and the care taken of it. The finest tool is of little value if it is improperly used or maintained.

EVALUATION:

The student will complete a written quiz at a time determined by the instructor.

ASSIGNMENT:

Review your notes and Student Information Sheet(s) in preparation for the upcoming quiz. Study for the next session.