



Fire Protection Training

Procedures Handbook 4300

POWER TOOLS

TOPIC: Inspection and Maintenance of Fire Service Power Tools

TIME FRAME: 2 Hours

LEVEL OF INSTRUCTION:

BEHAVIORAL OBJECTIVE:

Condition: A written quiz

Behavior: The student will identify the inspection and maintenance procedures for fire service power tools.

Standard: With a minimum of 70% accuracy

MATERIALS NEEDED:

- Appropriate visual aids
- Audio visual equipment
- Assorted power tools

REFERENCES:

- IFSTA, Essentials of Fire Fighting, 2nd Edition, Chapter 6
Manufacturer's Recommendations

PREPARATION:

Emergency operations involve the use of a variety of power tools. Regular inspection and maintenance of these tools is essential for safe and efficient fireground operations.



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INSPECTION AND MAINTENANCE OF
FIRE SERVICE POWER TOOLS

PRESENTATION	APPLICATION
<p>I. FIRE SERVICE POWER TOOLS</p> <p>A. Internal Combustion Engines</p> <ol style="list-style-type: none">1. Generators2. Chain saws3. Specialized pumps<ol style="list-style-type: none">a. Floto pumpsb. Portable pumps4. Blowers5. Ventilation saws6. Smoke ejectors <p>B. Pneumatic</p> <ol style="list-style-type: none">1. Air chisels2. Air bags3. Air hammers <p>C. Electric</p> <ol style="list-style-type: none">1. Cutting devices2. Blowers3. Smoke ejectors <p>D. Hydraulic</p> <ol style="list-style-type: none">1. Spreaders/wedges	<p>What power tools are used by your Department?</p>



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PRESENTATION	APPLICATION
<ul style="list-style-type: none">2. Rescue and extrication tools3. Cutters <p>II. INTERNAL COMBUSTION ENGINE INSPECTIONS AND MAINTENANCE</p> <p>A. Daily</p> <ul style="list-style-type: none">1. Check fluid levels<ul style="list-style-type: none">a. Fresh fuelb. Lubrication reservoirs full2. Clean all surfaces3. Check for leaks4. Check for rust <p>B. Weekly inspection</p> <ul style="list-style-type: none">1. Start engine and allow to warm up2. Replenish fluid reservoirs3. Check spark arrester <p>C. After each use</p>	<p>Refer to manufacturer's specifications</p> <p>Demonstrate using available equipment</p> <p>Refer to manufacturer's specifications</p>



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<ul style="list-style-type: none">b. Check for cracksc. Lubricate as needed <p>4. Air bags</p> <ul style="list-style-type: none">a. Keep dryb. Check for cracksc. Clean as needed <p>B. After Each Use</p> <ul style="list-style-type: none">1. Inspect for damage2. Clean3. Lubricate as needed4. Ensure air supply is replenished	<p>Maintain as per manufacturer's specifications</p>
<p>IV. ELECTRIC TOOLS</p> <p>A. Weekly</p> <ul style="list-style-type: none">1. Inspect cords and plugs for damage2. Run equipment to check operation3. Clean <p>B. After Each Use</p> <ul style="list-style-type: none">1. Clean thoroughly2. Inspect cords and plugs for damage	<p>Demonstrate using available equipment</p>



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<p>C. Grounding of Some Electrical Equipment May Be Required if Generator is not Protected by Ground Fault Interruption</p> <p>V. HYDRAULIC TOOLS</p> <p>A. Weekly Check</p> <ol style="list-style-type: none">1. Check for fluid leaks<ol style="list-style-type: none">a. Cracks in pumpb. Leaks at sealsc. Leaks in hosesd. Leaks at couplings2. Check fluid level in reservoir<ol style="list-style-type: none">a. Visualb. Dip stick <p>B. After Each Use</p> <ol style="list-style-type: none">1. Check for fluid leaks2. Check fluid levels in reservoir3. Check condition of hoses and couplings<ol style="list-style-type: none">a. Should be done in conjunction with cleaning4. According to manufacturer's recommendations <p>VI. INSPECTION OF POWER TOOL ATTACHMENTS</p> <p>A. Spreaders, Wedges, Cutters, and Blades</p> <ol style="list-style-type: none">1. Clean	<p>As per local policy</p>



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<ul style="list-style-type: none">2. Free of defects<ul style="list-style-type: none">a. Nicksb. Burrsc. Cracksd. Ruste. Pitsf. Chips3. Properly aligned4. Properly sharpenedB. Chains and Hooks<ul style="list-style-type: none">1. Clean2. Free of defects<ul style="list-style-type: none">a. Deformityb. Cracks3. Rust4. Pitting5. Excessive wear6. Chipped Teeth7. Evidence of overloading or other abuse8. Integrity and strength of attachment point and adapters9. Proper tension adjustment	



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SUMMARY:

Every firefighter should have the knowledge required to inspect and maintain the power tools used by their department. Whether powered by air, water, electricity, hydraulic pump or internal combustion engine each is essential to effective fireground operations and must be kept in good working order.

EVALUATION:

A written quiz.

ASSIGNMENT:

To be determined by instructor(s).