



Fire Protection Training

Procedures Handbook 4300

POWER TOOLS

TOPIC: How To Inspect A Chain Saw

LEVEL OF INSTRUCTION: II

TIME FRAME: 2 Hours

BEHAVIORAL OBJECTIVE:

Condition: Chain saw, srench, and grease gun

Behavior: The student will demonstrate the inspection, chain removal and replacement on a chain saw while wearing proper safety clothing.

Standard: With a minimum 70% accuracy, within 8 minutes, according to the job breakdown

MATERIALS NEEDED:

- Chain saw
 - Chain saw srench
 - Ear and eye protection
 - Gloves
 - Chain saw chaps
 - Grease gun with grease
- (Ear protection and chaps not needed if the saw is not run)

REFERENCES:

- Wild Fire Power Saws S-212, Chain Saw Owners Guide

PREPARATION:

Chain saws in the fire service today have become an integral part of firefighting operations. They are used in line construction, ventilation and heavy rescue applications. The ability to do a competent and effective inspection will ensure that when needed the chain saw will operate efficiently and correctly.



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HOW TO INSPECT A CHAIN SAW

OPERATIONS

KEY POINTS

- | | |
|--|---|
| 1. Don gloves | 1a. Leather
b. Both hands |
| 2. Ground chain saw | 2a. On level working surface
b. Upright position
c. Do not drop |
| 3. Loosen bar-nut(s) | 3a. With scrench
b. Counter clockwise |
| 4. Release chain tension | 4a. With scrench
b. Turning tension screw counter clockwise |
| 5. Remove bar nut(s) | 5a. Placing on clean and secure location |
| 6. Remove chain brake side cover | 6a. Placing on clean and secure location
b. Ensuring guide bar and chain do not fall during this sequence |
| 7. Remove exterior chain guide plate | 7a. If not attached to cover |
| 8. Remove chain | 8a. From guide bar
b. Placing on clean and secure location |
| 9. Remove guide bar | 9a. Placing on clean and secure location |
| 10. Remove interior side plate | 10a. Placing on clean and secure location |
| 11. Inspect drive sprocket clutch assembly and chain catcher | 11a. For excessive wear
b. For damage
c. For missing parts |
| 12. Inspect and test bar oiler | 12a. On side of chain saw
b. Passage free of debris and obstructions
c. Observe free flow (squirt) of oil |
| 13. Inspect guide bar | 13a. For sharp burrs
b. Driver channel for debris build up |

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OPERATIONS

KEY POINTS

- | OPERATIONS | KEY POINTS |
|--|---|
| 14. Replace interior side plate | c. Tip sprocket for missing teeth, free moving, or excessive wear |
| 15. Place guide bar on saw | d. Check for clear lubrication hole |
| 16. Place chain on drive sprocket | 14a. Ensure lubrication hole alignment |
| 17. Place chain on guide bar | 15a. Aligning bar with mounting studs |
| 18. Slide guide bar forward | 16a. Ensure rotational direction of chain is appropriate |
| 19. Align chain tensioner with guide bar | 17a. Looping chain onto tip of guide bar |
| 20. Replace exterior chain guide plate | b. Laying drivers into guide bar groove |
| 21. Replace chain brake side cover | c. Ensure drivers are on or in drive sprocket |
| 22. Replace bar nut(s) | 18a. To remove chain slack |
| 23. Raise tip of bar | 19a. If on motor head |
| 24. Adjust chain tension | 20a. If not attached to cover |
| | b. Curved side out |
| | 21a. Aligning chain tensioner if applicable at this time |
| | b. Ensure side plate fits flat to motor body |
| | 22a. On to studs |
| | b. Finger tight |
| | 23a. To maximum travel point |
| | b. With hand |
| | 24a. With srench |
| | b. Turning clockwise |
| | c. To chain saw manufacturers specifications |

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25. Check chain tension

25a. Chain tension is to be tight

b. Turning chain freely with one gloved hand

c. In operating direction

26. Tighten bar nut(s)

26a. With scrench (two finger grip)

b. Clockwise

c. While holding bar tip up fully

d. To manufacturer specification

27. Lubricate bar tip

27a. With bar tip grease gun

b. Until grease shows outside of tip sprocket

c. For each tooth of sprocket

28. Remove gloves (optional)

28a. From one or both hands

29. Close choke

29a. Preventing contaminants from falling into carburetor

30. Remove air cleaner cover

30a. Loosening the fasteners

b. Counter clockwise

31. Remove air cleaner

31a. From carburetor housing

b. Carefully

c. Avoiding damage

32. Inspect air cleaner

32a. For cleanliness

b. For damage

c. For gasket (if applicable)

d. Replacing as necessary

33. Inspect carburetor

33a. For debris and dirt in carburetor

b. Clean or repair as necessary

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KEY POINTS

34. Inspect engine compartment	34a. For loose wires, nuts, screws b. Rubbing hoses, wires c. Loose or damaged spark plug
35. Install air cleaner	35a. To carburetor housing b. Ensure proper seat
36. Inspect exhaust muffler	36a. Loose parts b. Exhaust deflector in place (if applicable) c. Damage
37. Inspect spark arrestor	37a. For proper size b. Clean c. Not damaged d. Ensure of proper seal
38. Install air cleaner cover	38a. Tightening all fasteners b. Tight seal
39. Open choke	39a. Fully
40. Check ignition switch	40a. Confirm in "OFF" position
41. Ground chain saw	41a. On ground b. In upright position
42. Place foot into handle	42a. Toe of boot through handle opening b. Holding chain saw in control
43. Grasp handle bar	43a. Firmly b. With thumb around bar c. Non-working hand
44. Grasp starter rope handle	44a. With working hand
45. Pull starter rope	45a. Upward b. Slowly



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KEY POINTS

- | OPERATIONS | KEY POINTS |
|--|--|
| 46. Inspect starter rope | <ul style="list-style-type: none">c. Until fully extendedd. This will be an uneven pull as piston goes up and down |
| 47. Return starter rope | <ul style="list-style-type: none">46a. Loose knot<ul style="list-style-type: none">b. Frays or cuts in ropec. Length (as per manufacture)47a. Returning to start position<ul style="list-style-type: none">b. While maintaining controlc. Check that the rope returns all the way |
| 48. Flip ignition switch to on and start saw | 48a. Follow saw operation procedures |
| 49. Check chain operation | 49a. Chain does not move at idle <ul style="list-style-type: none">b. Chain moves freely when throttle is opened |
| 50. Check oiler operation | 50a. Move bar tip until it is close to ground (4") <ul style="list-style-type: none">b. Check for oil spray line on ground. (comes from tip) |
| 51. Check chain brake operation | 51a. Push brake lever forward |
| 52. Open throttle | 52a. The chain should not move |
| 53. Release brake | 53a. Pull back on brake handle <ul style="list-style-type: none">b. Be careful not to pinch fingers |
| 54. Open throttle | 54a. Chain turns freely |
| 55. Flip stop switch | 55a. To "Off" position |



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HOW TO INSPECT A CHAIN SAW

APPLICATION:

The student will practice chain saw inspection while being supervised and coached by the Instructor.

EVALUATION:

Manipulative Performance Examination which requires a minimum of 70%, and completion of all critical operations noted with an asterisk on the score sheet.

ASSIGNMENT:

Practice skills until proficient within the allotted time standard.