

Suggested Reference Material:

NFPA 1911, Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus

2007 edition, including annexes National Fire Protection Association (800) 344-3555 or www.nfpa.org

OSHA 1926.550(a)(7) Crane and Derricks (wire rope section 1926.550(a)(7))

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10760

Meritor Preventive Maintenance and Lubrication. Chapters 2, 4, 6, 7 & 8, Download for no charge at:

http://www.meritorhvs.com/MeritorHVS_Documents/mm1.pdf

Meritor Maintenance Manual 4M Chapter 8, Download for no charge at:

http://www.meritorhvs.com/MeritorHVS_Documents/MM4M.PDF

Pumping Apparatus DRIVER/OPERATOR Handbook, 2nd edition, Oklahoma State University, Stillwater, OK. (800) 654-4055

or www.ifsta.org ; Chapters 2, 3,10, 16, & appendix C

LEARNING OBJECTIVES

1. Definitions and Terms

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|------------------|---------------------------------|------------------------------|
| a. Shall | i. Leak | q. Out of Service |
| b. Should | j. Leakage | r. Retired Fire Apparatus |
| c. Documentation | k. Class 1 Liquid Leakage | s. Reserve Fire Apparatus |
| d. Deflection | l. Class 2 Liquid Leakage | t. In-Service Fire Apparatus |
| e. Deformation | m. Class 3 Liquid Leakage | u. Ultrasonic Inspection |
| f. Drive Train | n. Qualified Person | v. Preventive Maintenance |
| g. Interlock | o. Non-Destructive Test (NDT) | w. Instability |
| h. Ironing | p. Magnetic Particle Inspection | |

2. General Requirements

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|--------------------------------|--|
| a. Federal, State & Local Laws | d. Qualification of Personnel to NFPA 1071 |
| b. Personal Protection | e. Lubrication-frequency, grade, amount |
| c. Documentation | f. Safety |

3. Out-of-Service Criteria

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|-----------------------------------|-----------------------------|
| a. Steering Components | j. Engine Oil Leakage |
| b. Out-of-Service Indicators | k. Transmission Oil Leakage |
| c. Minimum Brake Lining Thickness | l. Coolant Oil Leakage |
| d. Fluid Leak Classifications | m. Axle Oil Leakage |
| e. Air Pressure Drop | n. Brake Fluid Leakage |
| f. Low Air Warning | o. Fuel Leaking |
| g. Component Out-of-Service | p. Power Steering Leakage |
| h. Seat Belts | q. Wire Rope |
| i. Wheel & Tire Deficiencies | |

4. Inspection, Diagnostic Checks and Maintenance

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|---|---|
| a. Chassis | (15) Engine Service Intervals |
| (1) King Pins | (a) severe service |
| (a) lubrication of Meritor King Pin Bushing | (b) oil |
| (2) Steering Gear Box | (16) Transmission Heat Exchanger |
| (3) Steering Stops | (17) Drive Line |
| (4) Drive Belts | (18) Brake Lining & Drums |
| (5) Alternator | (19) filter intervals |
| (6) Ignition System | (a) air |
| (7) Work Lights | (b) hydraulic |
| (8) Air Leak Down Rates | (20) U-Joint movement |
| (9) Wheels & Tires | (21) Axle fluid level |
| (a) thread depth | (22) Tie rod ends |
| (10) Tire coding | (23) Automatic Slack Adjuster (ASA) |
| (11) Battery Conditioner | (24) Packing drip rate |
| (12) Frame Rails | (25) Idle RPM |
| (13) Engine Cooling | (26) Battery guts |
| (14) Engine Air Intake Systems | (27) Steering wheel free play |
| | (28) Instruction plates and warning signage |
| b. Low Voltage | (3) Apparatus Lighting |
| (1) Components | (4) Voltage Drop Test |
| (2) Alarm | |
| c. Water Pumping Systems and Water Tanks | (3) Pressure Controls |
| (1) Transfer valve | |
| (2) Priming System | |
| d. Aerial Devices | (3) Breathing Air |
| (1) Deformation | |
| (2) Nondestructive Testing | |

- e. Foam Proportioning Systems
 - (1) Foam Sampling
- f. Line Voltage
 - (1) Testing
 - (2) Power Sources
 - (3) GFCI
- g. Utility Air and Breathing Air
 - (1) Hydrostatic Bottle Testing
 - (2) Maintenance Requirements
- h. Winch Systems
 - (1) Wire Rope
 - (2) Inspections
 - (3) Out of service criteria as stated in OSHA 1926.550 (a)(7)

5. Road Tests

- a. Fire Apparatus Axle Weight Test
 - (1) Weight Verification
 - (2) Fully Loaded State
- b. Braking System
 - (1) Braking Test
 - (2) ABS Braking
 - (3) Performance Test
- c. Parking Brake System
 - (1) Testing
- d. Road Test
 - (1) Requirements
 - (2) Recording

6. Performance Testing

- a. Low Voltage Electrical Systems
 - (1) Voltage Regulator Testing
 - (2) Battery Testing
 - (3) Conductivity Test
 - (4) Voltage Drop Test
 - (5) Alternator Test
 - (6) Continuous Electrical Load
 - (7) Solenoid Voltage Drop Test
- b. Fire Pumps & Industrial Supply Pumps
 - (1) Gauges - Master
 - (2) Gauges Discharge
 - (3) Interlocks
 - (4) Flow meter
- c. Aerial Device
 - (1) Wire Rope inspection (OSHA 1926-550)
 - (2) Interlocks
 - (3) Inspections
 - (4) Testing Intervals
 - (5) Practical Testing
 - (6) Dye Penetrate Testing
 - (7) Breathing Air Supply
 - (8) Hydraulic Components
 - (9) Nondestructive Test
- d. Foam Proportioning Systems
 - (1) Operational testing
 - (2) Testing Methods
- e. Compressed Air Foam Systems (CAFS)
 - (1) Test Procedures
 - (2) Compressor Test
 - (3) Performance
- f. Line Voltage Electrical Systems
 - (1) Dielectric Test
 - (2) testing Procedures