

Baltimore County Fire Department Emergency Vehicle Operator Guidebook



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Reference Materials and Web Links

Baltimore County Emergency Vehicle Operator Policies and Procedures

Maintenance

400-04: Automobile Service by Vehicle Operations and Maintenance

400-09: Apparatus and Related Equipment (Maintenance and Care)

400-17: Reserve Apparatus

400-18: Care and Maintenance of Reserve B.C. and E.M.S Vehicles

400-27(A): Respiratory Protection Program

600-11: Inventory, Inspection and Maintenance of medic Units and EMS Vehicles

600-25: Oxygen Delivery Systems: Inventory, Inspection and Maintenance of Transfilling Stations & Oxygen Cylinders

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400-01: Fuel Accountability

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400-21: Response Procedures

400-21(A): Roadway Incident Safety Procedures

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400-25: Drivers Record Notification Program

700-15: Emergency Vehicle Operator (EVO) Program

Personnel 28- Loss/ Damage to Departmental Property

Inspection Checklists

Form 330 A: Daily Driver Inspection Report (Engine/Truck/Brush)

Form 330 B: Aerial/ Tower Weekly Inspection Report

Form 330 C: Aerial/Tower Monthly Inspection Report

Form 330 F: Medic Unit Daily Inspection Report (E-shift)

Form 332: Equipment and Vehicle Quality Assurance Document

National Fire Protection Association Standards

NFPA 10: Standard for Portable Fire Extinguishers

NFPA 11: Standard for Low-, Medium-, and High Expansion Foam

NFPA 11C: Standard for Mobile Foam Apparatus

NFPA 1002: Standard for Fire Apparatus/ Driver Operator Professional Qualifications

NFPA 1071: Standard for Emergency Vehicle Technician Professional Qualifications

NFPA 1142: Standard on Water Supplies for Suburban and Rural Fire Fighting

NFPA 1401: Recommended Practice for Fire Service Training Reports and Records

NFPA 1451: Standard for a Fire and Emergency Service Vehicle Operations Training Program

NFPA 1500: Standard on Fire Department Occupational Safety, Health and Wellness Program

NFPA 1901: Standard for Automotive Fire Apparatus

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

NFPA 1914: Standard for Testing Fire Department Aerial Devices

NFPA 1915: Standard for Fire Apparatus Preventive Maintenance Program

NFPA 1932: Standard on Use, Maintenance, and Service Testing of In-Service Fire Department
Ground Ladders

NFPA 1962: Standard for the Care, Use, Inspection, Service Testing, and Replacement of Fire
Hose, Couplings, Nozzles, and Fire Hose Appliances

NFPA 1071: Standard for Emergency Vehicle Technician Professional Qualifications

Maryland CDL Manual Review

Commercial Motor Vehicle; means a motor vehicle or combination of motor vehicles used to transport passengers or cargo if the vehicle fits any of the following conditions.

- Any combination of vehicles with a Gross Combination Weight Rating (GCWR) of 26,001 or more pounds.
- A vehicle with a Gross Vehicle Weight Rating (GVWR) of 26,001 or more pounds (GVWR for a single vehicle or GCWR for a combination of vehicles means: The value specified by the manufacturer as the maximum gross weight).
- Any vehicle which is designed to transport 16 or more passengers, including the driver.
- A vehicle of any size which transports hazardous materials, which requires placarding.

Note: GROSS COMBINATION WEIGHT RATING (GCWR) AND GROSS VEHICLE WEIGHT RATING (GVWR) MEANS THE VALUE SPECIFIED BY THE MANUFACTURER. This is determined from the manufacture plate on the vehicle/trailer

Emergency vehicle: is equipped with audible and visual signals (fire apparatus); and operated by a member of, or a person in the employ of, a volunteer or paid fire or rescue organization;

Maryland Commercial Driver License Classes

Class A License: Authorizes the licensee to operate Tractor/Trailer or Combination of vehicles with a GCWR of 26,001 or more pounds if the GVWR of the vehicle being towed is in excess of 10,000 pounds.

Class B License: Authorizes the licensee to operate any single vehicle with a GVWR of 26,001 or more pounds; Any such vehicle towing a vehicle not in excess of 10,000 pounds GVWR.

Class C License: Authorizes the licensee to operate any single vehicle less than 26,001 pounds GVWR; or any such vehicle towing a vehicle not in excess of 10,000 pounds GVWR, and is designed to transport 16 or more passengers including the driver, or is used in the transportation of materials found to be hazardous for the purpose of the Hazardous Materials Transportation Act and which requires the motor vehicle to be placarded under the Hazardous Materials Regulations

Baltimore County Fire Department Apparatus and Vehicle by class

Class A: Tiller trucks, USAR

Class B: Engines, Rear or mid-mount trucks/tower, Hazmat, Decon. Foam Unit and **FRA Bus (with passenger endorsement)**

Class C: Support/Utility Vehicles, Brush Trucks, Ambulance Unit, Air Unit

CDL Manual Information for Review

The following sections shall be reviewed in preparation for EVO license testing as well as for continuing education purposes as it applies to operating emergency vehicles in the state of Maryland for the Baltimore County Fire Department.

Section List

Section 2: Driving Safely

Section 3: Transporting Cargo Safely

Section 5: Air Brakes

Section 6: Combination Vehicles

Section 11: Pre-Trip Vehicle Inspection

Section 12: Basic Vehicle Control Skills Test

Section 13: On Road Driving

Maryland Laws

Section TR 11-118: Emergency Vehicle Definition

Section TR 11-162: Definition of Stop

Section TR 19-103: Liability for Negligent Operation of Emergency Vehicle

Section TR 21-106: Emergency Vehicle Privileges

Section TR 21-405: Operation of Vehicles on Approach of Emergency Vehicles

Section TR 21-510: Pedestrians to Yield Right-of-Way to Emergency Vehicles

Section TR 21-706: Overtaking & Passing School Vehicle

Section TR 21-801: Basic Rules for Operation of Vehicles

Section TR 21-1003: Stopping, Standing, or Parking Prohibited in Specified Places

Section TR 21-1109: Following Fire Apparatus Prohibited

Section TR 21-1110: Crossing Fire Hose

Section TR 21-1120: Wearing Earphones, Headsets, etc., Prohibited (Exception 9e0 for EVOs)

Section TR 21-1408: Prohibited Turns

Section TR 23-218: Audible and Visual Signals on Vehicles

Section TR 22-401: Horns and Warning Devices

Section TR 22-412.4: Seat Belts or Restraining Devices in Emergency Vehicles

Section CJ 5-399.5: Personal Liability Negligent Operation of Emergency Vehicle

Key Terms

True Emergency—a situation in which there is a high probability of death or serious injury of an individual or significant property loss.

Due Regard/Care—the degree of care that a prudent person would use under similar circumstances

Negligence—the legal deficiency or wrong that results whenever a person fails to exercise a degree of care that a prudent person would use under similar circumstances.

Gross Negligence—Reckless disregard of the consequences of an act to another person

Willful and Wanton—intentional or with careless indifference, considered the most serious form of negligence

Vicarious Liability—legal liability placed on one person for the acts committed by another person

Ordinances—enacted by a governing body or its agent (a city or county)

Agency Rules and Regulations—enacted by local agencies or jurisdictions

Regulation—a rule or order prescribed by an authority to regulate conduct

Constitutional Laws—laws that come from the U.S. Constitution and guarantee the rights of the individuals involved

Statutory Laws—laws that come from legislative acts

Guideline—a statement, indication, or outline of policy by which to determine a course of action.

Rule—a principle set up by an authority prescribing or directing actions or forbearance

Policy—a principle or course of action adopted toward an objective.

Procedure—prescribes specific ways of doing specific activities which regulates the formal steps in an action, or a series of steps followed in a particular order

Notes

Pre-Trip Inspection (General Walk Around) Overview



Common Vehicle Inspection Terminology

When inspecting, you must identify the presence and function of applicable systems and parts. Utilizing the terms and phrases below to identify said systems may assist in reinforcing competence:

- **Parts:** broken, loose, cracked, bent or missing
- **Hoses:** bent, split, frayed, loose or leaking
- **Belts:** broken, loose, cracked, split or frayed (3/4 play at center of belt)
- **Wiring:** loose, exposed, frayed or ripped
- **Tires:** cords showing, bulging, flat or wear spots, appropriate tread
- **Lights:** broken, cracked, water logged, not functional
- **Fluids:** Present, appropriate level and color
- **Gauges:** All systems should be operating within manufacturer recommended limits.

Some examples are listed for reference:

| Gauge | Range/ Measurement |
|----------------------------|--------------------|
| Oil Pressure | |
| Fuel | |
| Diesel Exhaust Fluid (DEF) | |
| Temperature | |
| Ammeter/Voltmeter | |
| RPM | |
| Speedometer | |
| Air Pressure | |

| Fluid | Appropriate temperature to check |
|----------------------------|----------------------------------|
| Motor Oil | |
| Transmission Fluid | |
| Coolant | |
| Hydraulic | |
| Power Steering | |
| Diesel Exhaust Fluid (DEF) | |
| Hub Oil | |

Pre and Post Trip Walk Around Inspection

Materials Required:

- Personal Protective Equipment
- Manufactures Manual
- Department Inspection Forms
- Knowledge of all department policies and procedures regarding general walk around inspections

Inspection Sections

- Engine Compartment inspection
- In-Cab inspection
- Outside of Vehicle inspection
- Air Brake Test (if applicable)

Ensure the following prior to inspection:

- Motor is off
- Vehicle/ apparatus is parked on a flat surface
- Emergency Brake is engaged
- Wheels are chocked

General Vehicle Assessment

- Vehicle is not leaning when parked on a flat surface.
- There are no visible fluid leaks, no wires hanging, equipment is properly affixed/ attached, all visible equipment is properly stowed in designated location and no damage to the vehicle of any type.

Emergency Equipment

Vehicles must be equipped with emergency equipment to include:

- Fire Extinguisher
- Spare electrical fuses (unless equipped with circuit breakers)
- Warning devices for parked vehicles (for example, three reflective warning triangles)

Engine Compartment Inspection

Engine

Leaks/Hoses

- Look for puddles on the ground
- Look for dripping fluids on underside of engine and transmission
- Inspect all hoses for condition and leaks

Wires

- Are properly insulated, no obstructions, not loose, frayed and in-tact.

Motor

- No leaks, visible damage or missing parts

Oil Level

- Indicate where dipstick is located
- See that oil level is within safe operating range
- Explain how and when oil level is checked. (Engine should be cool to allow the oil to drain back into the oil pan for an appropriate reading)
- Indicate where oil can be added if required

Radiator

- Is properly mounted, affixed, no leaks, or damage. Ensure no obstructions are present to air flow

Fan

- Ensure is properly mounted, blades (not bent, broken, or loose) free of any obstructions
- Shroud is present (properly mounted, not bent, broken or loose)

Coolant Level

- Indicate where coolant level can be visually checked (sight glass/reservoir/visual in radiator)
- Explain the different level indicators (hot and cold)
- Indicate where coolant can be added if required

Air Intake and Dryer

- Properly mounted, affixed, not bent, broken or loose and good condition

Air Conditioning Compressor

- Properly mounted, affixed, not bent, broken or loose

Air Compressor (Belt/Gear)

- Properly mounted, affixed, not bent, broken or loose

Air Compressor Governor

- The governor controls when the air compressor will pump air into the air storage tanks.
- When air tank pressure rises to the “cut out” level (around 125 pounds per-square inch or “PSI”, the governor stops the compressor from pumping air.
- When the tank pressure falls to the “cut-in” pressure (around 100 psi), the governor allows the compressor to start pumping again

Engine Compartment Belts

Check the following belts for snugness (up to $\frac{3}{4}$ inch play at center of belt), cracks, or frays:

- Power steering belt
- Water pump belt
- Alternator belt
- Air compressor belt

Electrical Components

Starter

- Properly mounted and affixed with no loose wires or broken parts

Alternator (Belt/ Gear)

- Properly mounted and affixed with no loose wires or broken parts

Batteries/ Battery Box

- Ensure the batteries are secure, connections are tight and cell caps are present
- Connections do not show signs of excessive corrosion
- Box is properly mounted, not bent, broken or loose.

Drivetrain

Transmission

- Present and in good working condition with no visible leaks or damage

Driveshaft

- Ensure that drive shaft is not bent, broken or cracked
- Ensure that all u-joints appear to be secure and free of foreign objects

Power Steering Fluid

- Indicate where power steering fluid dipstick is located
- Explain how you would check for adequate power steering fluid level

Power Steering (Belt/Gear)

Water Pump (Belt/ Gear)

- Present with no visible leaks, damage or missing parts

Steering System

Steering Box: Column/ Linkage/ Knuckle/ Cotter Pins

- Check that steering box is securely mounted and not leaking. Look for any missing bolts, nuts or cotter pins
- Checking for power steering fluid leaks or damage to power steering hoses

Steering Hoses

- Check for any visible damage, leaks and overall condition

Steering Linkage

- Ensure the connecting draglink, pittman arm, tie rod end from the steering box to the wheel are not worn or cracked

Exhaust System

- Check to ensure the system is intact and functional. Ensure there is no damage, signs of leaks present. Some indicators may be excessive carbon soot or rust.

In-Cab Inspection- Function

Mechanisms

Seatbelt

- Present, functional with no rips, tears or excessive play

Door handle

- Present, functional and with no visible damage

Window crank

- Present, functional and with no visible damage

Mirrors and Windshield

- Present, good seal with no obstructions to vision or damage

Wiper/Washer

- Ensure wipers are functional, good condition and washer fluid works as indicated

Steering Wheel

- With the engine running, check for excessive play by turning the steering wheel back and forth. Play should not exceed 10 degrees (or about two inches on a 20-inch wheel)

Gear Shifter

- Ensure there is full function with no binding of the transmission (in all gears)

Safe Start

- Ensure all gauges and monitoring equipment process and register

Gauges/ Monitoring Systems

On Board Control Module (Computer/Tablet)

Oil Pressure Gauge: indicates the delivery pressure of lubricating oil to the engine

Temperature Gauge: indicates the temperature of the engine coolant

Air Pressure Gauge: shows the amount of air in the air brake system

Fuel Gauge: shows the amount of fuel in the tanks

Speedometer: indicates the speed of the vehicle when moving

Odometer: records miles traveled

Hour Meter: registers the number of hours the engine has been running

Tachometer: registers the speed of the engine in RPM

Voltmeter (or Ammeter): indicates battery voltage and shows if the alternator is charging the system

Indicators

- Right/Left Light Indicator
- Hazard Light Indicator
- High Beam Indicator

Systems

Horn- City

- Operational and audible

Horn- Air

- Operational and audible

Defroster/ Heat/ AC

- System controls are present, functional and no obstructions are present to allow for proper function

Back Up Alarm

- Audible, operating appropriately when transmission engages into reverse

Outside of Vehicle Inspection- Presence/ Function

Lights

Front of Vehicle

- Headlights- Low Beam
- Headlights- High Beam
- Turn Signal (Right and Left)
- Hazard Lights
- Clearance Lights

Side(s) of Vehicle

- Turn Signal (Right and Left)
- Hazard Lights
- Clearance Lights
- Reflectors/ Reflective Tape

Rear of Vehicle

- Turn Signal (Right and Left)
- Hazard Lights
- Clearance Lights
- Reverse Lights
- Tag Lights

Doors and Compartments

- Ensure all doors, compartments show no visible damage or missing parts
- The inside and outside of the door or compartment are damage free with full movement as indicated
- Ensure the affixed hinges or parts are functional and clear of obstructions

The following are the doors/compartments you are required to check:

- Driver's Door
- Passenger Door
- Compartment Doors

Mirrors

- Ensure mirrors are properly affixed and mounted with no visible damage

- Mirrors are adjustable and provide clear view of coverage area

Windshield/ Windows

Windshield

- The windshield is in-tact, clear field of vision, no illegal stickers or damage
- Weather seal is present with no dry rot, damage or tears

Wipers

- Properly mounted and affixed to the vehicle
- In good working condition with no dry rot, appropriate tension and movement

Fuel System

Fuel Tank

- No visible leaks, damage or rust to the tank and tank straps

Fuel Cap

- Present, secure and functional with no damage (gasket is present)

Diesel Exhaust Fluid (DEF) Tank

- No visible leaks, damage, corrosion to the tank or cap

Body

Frame

- Check for cracks, broken welds, holes, or other damage to longitudinal frame members, cross members, box and floor.
- Ensure there are no missing or loose bolts on the frame
- Ensure the frame is inspected completely and not bent or torqued

Fenderettes

- Properly mounted and affixed to the vehicle. In good condition with no damage

Splash Guards/Mud Flaps

- Properly mounted and affixed to the vehicle. In good condition with no damage

Exhaust System

- Check system for damage and signs of leaks such as rust or carbon soot
- Ensure there are no holes, cracks or severe dents
- System is connected tightly with no loose clamps and properly mounted

Wheels and Tires

Front Axle

Tire Inflation

- Properly inflated to apparatus manufacturer recommended pressure
- Valve stem is not damaged, bent, broken or loose

Tire Condition

- No cracks, bulges, abrasion, wires showing with even wear patterns
- Inside/outside/top/bottom of all tires present

Tire Tread Depth

- Need at least 4/32-inch tread depth in every major groove (Steering Tires)

Rim

- Rust or steaking around wheel indicate nuts are loose, ensure you check tightness.
- Wheels or rims that have had welding repairs/paint are not safe and illegal.
- Ensure rim is not bent or has signs of visible damage

Lug Nuts

- Check that all lug nuts are present, free of cracks and distortions, and show no signs of looseness such as rust trails or shiny threads

Axle/ Hub Oil Seal

- Ensure the seals are not leaking or damaged
- If sight glass is present, level is appropriate

Rear Axle

Tire Inflation

- Properly inflated to manufacturer recommended pressure
- Valve stem is not damaged, bent, broken or loose

Tire Condition

- No cracks, bulges, abrasion, wires showing with even wear patterns
- Inside/outside/top/bottom of all tires present

Tandem Tires

- Verify that both tires are the same size and manufacture
- Ensure spacing is adequate with no uneven wear or damage

Tire Tread Depth

- Need at least 2/32-inch tread depth in every major groove (Drive Tires)

Rim

- Rust or steaking around wheel indicate nuts are loose, ensure you check tightness.
- Wheels or rims that have had welding repairs/paint are not safe and illegal
- Ensure rim is not bent or has signs of visible damage

Lug Nuts

- Check that all lug nuts are present, free of cracks and distortions, and show no signs of looseness such as rust trails or shiny threads

Axle/ Hub Oil Seal

- Ensure the seals are not leaking or damaged
- If sight glass is present, level is appropriate

Brakes

Brake Hoses/Lines

- Present, not cracked, worn or leaking and visible for inspection

Brake Chamber

- See that there are no leaks, cracks or dented and mounted securely

Slack Adjustor/Push Rod

- Ensure there are no missing or broken parts
- When pulled by hand there is no more than one inch of play (brakes released)
- The angle between the push rod and adjuster arm should be a little over 90 degrees when the brakes are released and not less than 90 degrees when the brakes are applied

Brake Drum/ Rotor

- Check that drums/rotors are secured, not cracked, dented or missing any bolts

Brake Linings/ Pads

- Ensure that linings or pads are not worn dangerously thin, damaged or missing parts

Suspension

Shocks

- Ensure they are properly secured with sign of leakage or failure

Leaf Springs (Shackles-Keepers-U Bolts)

- Look for missing, shifted, cracked, or broken leaf springs
- Ensure there are no illegal welds present

Mounts

- Look for cracked or broken spring hangers, missing or damaged bushings and broken, loose, or missing bolts.
- U-bolts and other axle mounting parts are present and in good condition
- Each mount should be inspected to ensure they are secure to the vehicle frame and axle

Additional

Grill

- Present and free of obstructions to allow for air flow
- Properly mounted and affixed to the vehicle

Front Bumper

- Properly mounted and affixed with no visible damage

Rear Bumper

- Properly mounted and affixed with no visible damage

License Plate

- Present, secured with no visible damage

Air Tank Drains

- Manually operated by turning a quarter turn or by pulling a cable. You must drain the tanks yourself at the end of each day of driving.

Brake Tests

Parking Brake Check:

1. Ensure the parking brake is engaged;
2. Wheel chocks in place;
3. Shift vehicle into low gear;
4. Attempt to slowly accelerate to ensure the parking brake holds.

Service Brake Check:

1. Unchock the wheels;
2. Place vehicle in Drive;
3. Pull forward slowly not to exceed 5mph and apply the service brake.
4. Ensure the vehicle does not pull to either side upon application.

Air Brake Check: Air Brake Pressure/ Air Brake Low Alarm/ Air Brake Protection Valve Activation

1. Ensure the wheels of the vehicle are chocked.
2. Shut down the motor, turn power back on to the vehicle.
3. Ensure the air pressure is built up to governor shut off (120 PSI- 140 PSI)
4. Release the parking brake;
5. Depress the service brake pedal for a duration of one minute;
6. During the minute ensure there is not a loss of 4 pounds (combination vehicle) 3 pounds (single vehicle)
7. Begin to fan off air pressure by rapidly applying and releasing the foot brake. At 60 PSI you shall hear an audible alarm. Continue to fan the foot brake, at no less than 20-40 pounds the parking brake valve should pop.
8. Once this has occurred, conduct a safe start of the vehicle to build air pressure back to manufacture recommended range (120-140 PSI). At 60 PSI

the audible alarm should silence, and the governor will cut out between 120-140 PSI.

Hydraulic Brake Check (if applicable):

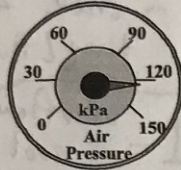
1. Pump the brake pedal three times, then hold it down for five seconds.
2. The brake pedal should not move (depress) during the five seconds

4 Point Air Brake Check Visual Aid

Step 1

Start the engine and build the air Pressure to governed cut-out 120 - 125 PSI).

Check that the compressor shuts off between 120 - 125 PSI.



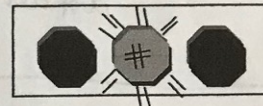
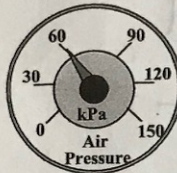
You should not hear any leaks or the sound of air coming from any part of the air-brake system.

Step 3

Fan off the air pressure by rapidly applying and releasing the foot brake.



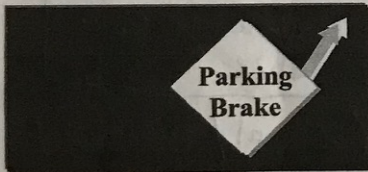
Check that the low air pressure warning light and or alarm goes off at approximately 60 PSI.



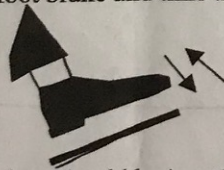
Step 2

Turn off the engine then turn the key back on so the gauges work.

Release the brake.

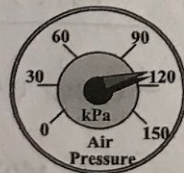


Fully apply the foot brake and time the pressure drop.



The air pressure loss should be less than:
Should listen for air leaks!

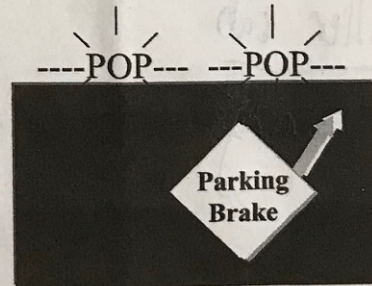
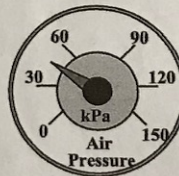
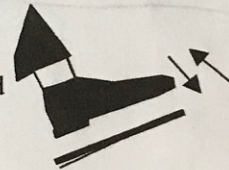
✓ 3 PSI in one minute for a Straight Truck.



Step 4

Continue to fan off the air pressure.

At approximately 20 to 40 PSI the truck protection valve should go from the normal to the emergency position. The truck brakes should lock.



Note: When at normal air pressure level, check the parking brake by putting on the brake. Put the truck into gear and slowly engage the clutch to see if the parking brake holds.

Class A Vehicles ONLY

Tractor/ Coupling

Permanent Mounted Trailer Connection

- All nuts and bolts are in place and mounted securely
- Both pivot pins are in place with all nuts and bolts and securely mounted

Air/Electrical/Hydraulic Lines and Connections

- Check that all air hoses are secure, not worn, cracked or leaking
- Check that all electrical lines are secure, insulation is not cut, cracked or worn
- Check that all hydraulic lines are secure, not worn, cracked or leaking.

Steps

- Present, properly mounted and affixed to the vehicle with no damage or missing parts

Cat Walk Area

- No visible damage, secure with no obstructions for operators

Landing Gear/ Outriggers

- Ensure that all landing gear/outriggers are fully raised and have no missing parts. Support frame and landing pads are not damaged.
- Hydraulic operated outriggers show no signs of leaking or damage

Lights

Side(s) of Vehicle

- Turn Signal (Right and Left)
- Hazard Lights
- Clearance Lights
- Reflectors/ Reflective Tape

Rear of Vehicle

- Turn Signal (Right and Left)
- Hazard Lights
- Clearance Lights
- Reverse Lights

- Tag Lights

Doors and Compartments

- Driver's Door
- Compartment Doors

Windshield/ Windows (Tiller Cab)

Windshield

- The windshield is in-tact, clear field of vision, no illegal stickers or damage
- Weather seal is present with no dry rot, damage or tears

Wipers

- Properly mounted and affixed to the vehicle
- In good working condition with no dry rot, appropriate tension and movement

Body

Frame

- Check for cracks, broken welds, holes, or other damage to longitudinal frame members, cross members, box and floor.
- Ensure there are no missing or loose bolts on the frame
- Ensure the frame is inspected completely and not bent or torqued

Fenderettes

- Properly mounted and affixed to the vehicle. In good condition with no damage

Splash Guards/Mud Flaps

- Properly mounted and affixed to the vehicle. In good condition with no damage

Wheels and Tires

Tire Inflation

- Properly inflated to manufacturer recommended pressure
- Valve stem is not damaged, bent, broken or loose

Tire Condition

- No cracks, bulges, abrasion, wires showing with even wear patterns
- Inside/outside/top/bottom of all tires present

Tire Tread Depth

- Need at least 2/32-inch tread depth in every major groove (Drive Tires)

Rim

- Rust or steaking around wheel indicate nuts are loose, ensure you check tightness.
- Wheels or rims that have had welding repairs/paint are not safe and illegal
- Ensure rim is not bent or has signs of visible damage

Lug Nuts

- Check that all lug nuts are present, free of cracks and distortions, and show no signs of looseness such as rust trails or shiny threads

Axle/ Hub Oil Seal

- Ensure the seals are not leaking or damaged
- If sight glass is present, level is appropriate

Brakes

Brake Hoses/Lines

- Present, not cracked, worn or leaking and visible for inspection

Brake Chamber

- See that there are no leaks, cracks or dented and mounted securely

Slack Adjustor/Push Rod

- Ensure there are no missing or broken parts
- When pulled by hand there is no more than one inch of play (brakes released)
- The angle between the push rod and adjuster arm should be a little over 90 degrees when the brakes are released and not less than 90 degrees when the brakes are applied

Brake Drum/ Rotor

- Check that drums/rotors are secured, not cracked, dented or missing any bolts

Brake Linings/ Pads

- Ensure that linings or pads are not worn dangerously thin, damaged or missing parts

Suspension

Shocks

- Ensure they are properly secured with sign of leakage or failure

Leaf Springs (Shackles-Keepers-U Bolts)

- Look for missing, shifted, cracked, or broken leaf springs
- Ensure there are no illegal welds present

Mounts

- Look for cracked or broken spring hangers, missing or damaged bushings and broken, loose, or missing bolts.
- U-bolts and other axle mounting parts are present and in good condition
- Each mount should be inspected to ensure they are secure to the vehicle frame and axle

Air Bags

- Are present with no visible damage, tears, rips or leaks in the air bags

Air Bag Mounts

- No visible damage, properly affixed and mounted with no missing nuts/bolts

Steering

Steering Box: Column/ Linkage/ Knuckle/ Cotter Pins

- Check that steering box is securely mounted and not leaking. Look for any missing bolts, nuts or cotter pins
- Checking for power steering fluid leaks or damage to power steering hoses

Steering Hoses

- Check for any visible damage, leaks and overall condition

Steering Linkage

- Ensure the connecting draglink, pittman arm, tie rod end from the steering box to the wheel are not warn or cracked

Class C Driver/Operator Overview



| Equipment Specifications |
|--|
| Equipment: |
| |
| Year/Model/Make: |
| |
| Placard Information: |
| |
| Stretcher/ Stair chair Specifications: |
| |

Minimum Standards for Brush Units

A. Brush units shall consist of at least the following items carried on a motorized apparatus of sufficient capacity to carry same without exceeding the gross vehicle weight rating of the vehicle. All personnel shall have available regulation fire department protective clothing. The unit shall be so designed as to perform the following functions:

1. The unit must be self-supporting, not dependent on a Class A pumper to operate.
2. Special attention must be given to prevent designing a brush unit around a small chassis so that the fully equipped unit does not exceed the gross vehicle weight rating of the vehicle.
3. The unit must be equipped with four-wheel drive for off-road capability.

B. HOSE

1. Minimum of 50' of 1 1/2" hose
2. Minimum of 200' of 5/8" or 3/4" booster line on a reel or 1" forestry line pre-connected to the pump.

C. PUMP

1. The pump must be driven by the vehicle engine or separate fuel powered motor with an extra
2. During the weekly equipment testing, all brush units shall demonstrate the ability to pump.
3. The pump must be capable of delivering no less than 60 gallons per minute (gpm).

D. TANK

1. Brush units shall have a minimum booster tank capacity of 60 gallons

E. NOZZLES, FITTINGS, ADAPTORS, ETC.

1. Minimum of 5/8" or 3/4" booster nozzle, combination straight stream and spray(fog).
2. One, adjustable hydrant wrench.
3. Two, combination spanner wrenches for 2 1/2." and 1 1/2" couplings.
4. One 2 1/2" female to 1 1/2" male reducer

F. TOOL AND MISC. EQUIPMENT

1. One, pointed shovel.
2. One, fire broom and one fire rake.

G. WINCH

1. A winch and cable rated at least the GVW of the vehicle.

2. One pulley of winch cable size.

H. HANDLIGHTS

1. Minimum of one battery powered hand light (3-volt minimum)

I. EXTINGUISHERS

1. One, approved portable fire extinguisher, fire department type, the variety shall be suitable for Class A, B, and C fires, 5 lb. Minimum size.

2. One, 5-gallon backpack pump (Indian Tank)

J. BACK-UP ALARM: All brush units shall be equipped with an operative back-up alarm

K. SAFETY DEVICES

1. If the passenger compartment is not enclosed, a roll bar will be installed

2. A seat belt will be provided for all occupants,

L. AUTHORIZATION: Every brush unit must be certified as an authorized emergency vehicle, under the requirements of the Transportation Article of the Annotated Code of Maryland by the Department of Transportation. The unit shall be equipped with emergency lighting, and audible warning devices.

M. COMMUNICATIONS: Brush Units shall be equipped to Baltimore County Fire Services specifications.

| Equipment Specifications |
|--|
| Equipment: |
| |
| Year/Model/Make: |
| |
| Placard Information: |
| |
| Stretcher/ Stair chair Specifications: |
| |

Minimum Standards for Ambulance/Medic Units

A. VEHICLE

Ambulances shall be enclosed motor vehicles of sufficient capacity and condition to safely and properly carry at least two adult, prone full backboard patients and a two-person crew with all the required equipment. Any new unit purchased after January 1, 2006 must meet the above requirement.

B. STRETCHER, CARRYING DEVICES, LINEN & SUPPLIES

1. One, cot with mattress and four (4) wheels with adjustable head position and at least two safety straps
2. One, auxiliary stair chair
3. Two, pillows
4. Four, sheets
5. Two, pillow cases
6. Four, towels
7. One, Orthopedic stretcher

C. OXYGEN, RESUSCITATION, AIRWAY MAINTENANCE & SUPPLY

1. One, fixed liter flow system
2. One portable liter flow system
3. Three, spare portable oxygen bottles with wrench (size "D" minimum) with current hydrostatic test dates.
4. Six, nasal cannula - adult
5. Four nasal cannula - pediatric
6. Six, oxygen masks, adult non-rebreathing
7. Four, oxygen masks, pediatric rebreathing
8. Two, complete set of oropharyngeal airways
9. Two, complete sets of nasopharyngeal airways
10. One, bag mask resuscitator - adult with mask
11. One, bag mask resuscitator - pediatric with mask
12. One, bag mask resuscitator - infant with mask
13. One, fixed suction unit - complete
14. One, portable suction unit battery powered - complete
15. Four, suction catheters, large (adult)
16. Four, suction catheters, small (pediatric)

17. Two, oxygen connecting tubing 7 ft
18. Four, suction catheters, Yankauer
19. Eight, water soluble lubricant
20. One pulse oximeter

D. IMMOBILIZATION AND SPLINTING EQUIPMENT

1. Two, full back boards
2. One, half back board
3. One, KED, complete (or equivalent)
4. Eight, nine foot straps (or equivalent)
5. Two, adult Hare traction splints with ankle hitch
6. One, pediatric Hare transaction splint with ankle hitch
7. One, set padded board splints (2 each: 15", 36", 54")
8. Twelve, rigid cervical collars (2 each size)
9. Two, foam head blocks (or equivalent)
10. One, spider strap (or equivalent)

E. INTRAVENOUS THERAPY EQUIPMENT & SURPLUS

1. Six, lactated ringers' solution
2. Six, administration sets, macro-drip
3. Four, 24-gauge catheters
4. Four, 22-gauge catheters
5. Twelve, 20-gauge catheters
6. Twelve, 18-gauge catheters
7. Four, 16-gauge catheters
8. Four, 14-gauge catheters
9. Two, Red top vacutainer
10. Two, Purple top vacutainer
11. Six, IV Med-locks
12. Six, IV saline flushes
13. Twenty Bio-occlusive dressings
14. Two, vacutainer barrel
15. Two (2) luer adapters
16. Six, arm boards (18")
17. One box alcohol prep pad
18. Six, non-latex constricting bands
19. One, disposable sharps container
20. Four, plastic bag with biohazard label, for blood tubes

F. DRESSING & BANDAGING SUPPLIES

1. One, box plastic bandage strips
2. Forty-eight, sterile gauze pads (4 x 4's)
3. Four, burn sheets, sterile
4. Ten, cold packs
5. Twenty, triangular bandages (cravats)
6. Thirty-six, four-inch-wide bandages (Kling or Kurlex)

7. Nine, multi-trauma dressings
8. Six, sanitary napkins (or equivalent)
9. Six, rolls 2" tape
10. Ten, rolls 1" tape
11. One, piece, of non-adherent material for occlusive dressing

G. ADVANCED CARDIAC LIFE SUPPORT EQUIPMENT & SUPPLIES

1. One, ECG monitor/defibrillator with pacing capability approved by the Medical Director
2. One, patient cable
3. One, multi-function cable
4. Thirty, patient electrode sets
5. Two, Adult multi-function pads
6. Two, Pediatric multi-function pads
7. Two batteries for monitor
8. One Battery charging unit (may be kept at station)
9. Two, rolls EKG paper
10. Two, telemetry radio or 800 MHz portable radio
11. Two, Heimlich valves or complete chest decompression kits
12. Two, Intraosseus needles

H. MISCELLANEOUS EQUIPMENT

1. Complete triage tag kit
2. Two, emesis basin
3. Four, sterile water, 250 ml. bottles
4. One, poison kit complete with activated charcoal
5. One Adult Epi-Pen
6. One Pediatric Epi-Pen
7. Two, O.B. kit, complete
8. One, marking pen
9. Two, trauma shears
10. Two, penlights
11. Two, stethoscopes, adult
12. One, stethoscope, pediatric (or interchangeable with an adult)
13. One, adult BP cuff, large/obese
14. Two, adult BP cuff, regular
15. One, pediatric BP cuff is
16. One, box facial tissue
17. One, insect sting swabs
18. Four, bottles eye wash
19. Two, bottles hydrogen peroxide
20. One, shroud sheet
21. Two, bottles alcohol, rubbing
22. One, ring cutter
23. Four, paper cups
24. Six, tongue depressors
25. Four, sugar packets (or tube or glucose supplement)

26. Six, vital pads
27. One, maps, complete (box area and ADC)
28. One, clipboard with appropriate forms
29. One, set bags or boxes, appropriate for carrying the necessary equipment to the patient (i.e., medical, trauma, airway, pediatrics, etc.)

I. INTUBATION KIT

1. One, laryngoscope handle, adult
2. One, laryngoscope, handle, pediatric
3. One, set batteries, extra for each of above
4. One, set assorted adult laryngoscope blades, straight
5. One, set assorted adult laryngoscope blades, curved
6. One, set, assorted pediatric laryngoscope blades, straight
7. One, set, assorted pediatric laryngoscope blades, curved
8. Two, stylette, adult
9. One, stylette, pediatric
10. One, set assorted cuffed endotracheal tubes
11. One, set assorted uncuffed endotracheal tubes
12. One, set Magill forceps (adult and pediatric)
13. Six, water soluble lubricant
14. Two, 10cc syringes
15. Two endotracheal tube holders
16. One, roll 1" tape
17. One, tube lidocaine jelly
18. One, Xylocaine spray
19. Two, BAAM

J. TOOLS AND EXTRICATION EQUIPMENT

1. One, screwdriver 12 inch straight
2. One, screwdriver 12 inch, Phillips
3. One, wrench, adjustable, 12 inch
4. One, pliers, 8" Channel lock adjustable
5. One 10" self locking (Visegrip)
6. One, Halligan bar
7. Two hand lights
8. Two Personal Floatation Devices (PFD)

K. SAFETY EQUIPMENT

1. One, fire extinguisher, 5-pound ABC
2. One, road safety triangles
3. One, "NO SMOKING" sign in patient compartment

L. PERSONAL PROTECTIVE EQUIPMENT

1. One set of issued personal protective equipment per person

M. BIOHAZARD SUPPLIES

1. One, box each size nitrile gloves
2. Six, face mask with eye shield
3. Six, protective gowns
4. Two, spray bottles of germicidal solution
5. One, box antimicrobial wipes (Vionex or equivalent)
6. Six, HEPA masks
7. Six sealable biohazard bags
8. Six large red biohazard bags

N. DRUGS AND ADMINISTRATION EQUIPMENT

Each medic unit will carry a quantity of each approved medication. by the B.Co.F.D. Fire Surgeon.

1. Four, Albuterol, 15 mg./3 ml. 2. Four, Atrovent
3. Four, Nebulizer
4. Four, Atropine 0.01%
5. Four, Dextrose 50%
5. Ten, Epinephrine, 1:10,000 - 10 ml.
6. Two, Epinephrine, 1:1000 - 1 ml.
7. One, Epinephrine, 1:1000 - 25 ml.
8. Four, Lidocaine, 2%
9. Five, Narcan, 0.4 mg./nil.
10. Two, bottles Nitro spray or tablets
11. Two, Sodium Bicarbonate
12. Two, activated charcoal
13. Four, Furosemide
14. Two, Glucagon
15. Three, Adenocard
16. Two, Diltiazem (Cardizem)
17. Two, 10cc syringe
18. Two, 20cc syringe
19. Four, 1cc syringe
20. Two, 3/5cc syringe

O. CONTROLLED DANGEROUS SUBSTANCES

1. Two Morphine Sulfate (10 mg each)
2. One Valium (10 mg)

P. COMMUNICATIONS

Unit shall be equipped to Baltimore County Fire Service specifications.

Class B Driver/Operator Overview



Engine Driver/ Operator Overview

| Equipment Specifications |
|--------------------------|
| Equipment: |
| |
| Year/Model/Make: |
| |
| Placard Information: |
| |
| Pump Specifications: |
| |

Assigned Equipment List

Every Pumper or Pumper/Tanker Combination placed in service after January 1, 2005 shall have:

- Class A pump rated no less than 1000 gpm and a water tank of no less than 500 gallons for pumper and no less than 1000 gallons for pumper/tanker combination.
- Every pumper and pumper/tanker combination must carry the following equipment:

A. HOSE

1. 1000 feet of 4 inch or 5-inch Supply hose,
2. 400 feet of 1-3/4 or 2-inch hose. Must be double jacket rubber lined fire hose coupled.
3. 200 feet of 2 1/2-inch hose. Must be double jacket rubber lined fire hose coupled.
4. 200 feet of 3-inch Supply Hose.
5. Two, Hard sleeves 10-foot length, minimum diameter to be determined by the rating of the pump.
 - a. 750 gpm; 4 1/2-inch diameter
 - b. 1000 gpm: 5-inch or 6-inch diameter
 - c. 1250 gpm or greater; 6-inch diameter

B. NOZZLES, FITTINGS, ADAPTERS, ETC,

1. Three, 1-3/4-inch shutoff nozzles
2. One, 2- 1/2-inch shutoff nozzle

3. One Stack tip shut off nozzle with 1 inch, 1-1/8 inch and 1-1/4-inch tips
4. One, 2-1/2-inch single gate valve
5. One, Humat or Hydrant Device
6. One, 2-1/2 inch to 1 1/2-inch gated Wye or one water thief.
7. Two 2' inch to 1 1/2-inch reducers
8. Two, 2 1/2-inch double female connection.
9. Two, 2 1/2-inch double male connections.
10. Two, 4-inch stortz to 5-inch stortz adapters
11. Two, adjustable hydrant wrenches
12. Four, combination spanner wrenches for 2 'A inch and 1-1/2-inch couplings.
13. Four, 4 inch or greater spanner wrenches
14. One, 2 1/2-inch female to 4-inch stortz or 5-inch stortz
15. One, 2 1/2-inch male to 4-inch stortz or 5-inch stortz
16. One, 1 1/2-inch double male
17. One, 1 1/2-inch double female
18. One, rubber hammer

C. LADDERS, PIKE POLES, AXES, ETC. (Minimum)

1. One, 24-foot fire department extension ladder (solid or truss beam)
2. One, 12-foot or 14-foot roof ladder (solid or truss beam).
3. One, 10-foot folding ladder (attic ladder)
4. Two, pike poles (one 6 foot and one 8 foot minimum)
5. Two, axes, one pick head and one flathead (61b.).
6. One, claw tool (halligan tool) or pry ax.
7. One, crowbar (36-inch minimum) or a pry bar.
8. One, pair of bolt cutters (24-inch minimum)

D. BREATHING APPARATUS

1. Four, Baltimore County Approved self-contained positive pressure breathing apparatus.
(Minimum of 45 min. rating).
2. One, spare air cylinder shall be carried for each SCBA.

E. HANDLIGHTS

1. Three, Rechargeable hand lights

F. EXTINGUISHERS, ETC.

1. One, CO2 extinguisher (no less than 20lbs)
2. One, dry chemical extinguisher (no less than 20 lbs.)
3. One, pressurized water extinguisher (2 1/2 gallon)

G. SALVAGE AND MISCELLANEOUS EQUIPMENT

1. Two, salvage covers (8 foot by 8 foot minimum)
2. One, flat shovel.
3. One, pointed shovel
4. One, broom
5. One, forestry rake (metal)
6. One, 12-quart metal bucket
7. One, 100-foot length of 1/2 inch nylon rope (Utility)
8. One, exhaust fan capable of 3200 CFM or higher (explosion proof) or PPV fan
9. Absorbent/5-gallon pale of Absorbent or 2' Bags of Fluff
10. Four, Red Bin-Hazmat waste bags
11. Reflective Safety Vests, one for each riding position

H. EMERGENCY MEDICAL EQUIPMENT: Emergency medical supplies meeting the First Responder Equipment Standard.

I. TOOL BOX OR BOXES CONTAINING THE FOLLOWING

1. Assortment of screwdrivers (common and. Phillips head).
2. One, 8-inch adjustable wrench
3. One pair, vice-grips.
4. One pair, lineman's pliers or diagonal cutters
5. One, 14-inch pipe wrench.
6. One, 2-pound ball-peen hammer.
7. One, claw hammer.
8. One set, open-end box wrenches (suggest 1/2 to 1 1/2 inch)
9. One pair, 8-inch common slip joint pliers,

J. HIGH-RISE PACK

1. 100 feet of 2 inch or 1 3/4-inch hose
2. One, 5-foot length of 2 1/2- or 3-inch hose
3. One, Adjustable Shutoff nozzles with minimum flow of 150 gpm
4. One, 2-1/2-inch wye to (2) 1/2-inch gated male
5. Two, Combination spanners wrenches (2 1/2 to 1 1/2 inch)
6. Eight, Doorstops

K. WARNING BELL: All apparatus shall have a means of communication from the rear of the engine to the driver (bell, buzzer, intercom, portable/mobile radio etc.)

L. BACK-UP ALARM: Unit shall be equipped with an operative back-up alarm.

M. AUTHORIZATION: Every Pumper/Pumper Tanker must be certified as an authorized emergency vehicle, under the requirements of the Transportation article of the Annotated code of Maryland by the Department of Transportation. The unit shall be equipped with emergency lighting and audible warning devices.

N. COMMUNICATIONS: The unit shall be equipped to Baltimore County Fire Service Specifications.

0. OPTIONAL EQUIPMENT:

1. K-tool, Rabbit Tool or Hydra-Ram
2. CO Meter (Single to four gas). Document calibration date during inspection
3. Hydraulic Rescue Tools/Equipment. Document Make & Model during inspection.
4. Thermal Imaging Camera.
5. Personal Flotation Devices (PFDs)

P. Baltimore County Fire Department Equipment/ Materials

1. Fuel Card
2. Knox Box Key
3. PAT Collector Ring
4. Applicable Baltimore County Fire Department Forms
5. DOT Emergency Response Guide
6. Tablet with mount
7. Bucket, brush and soap for gross decontamination
8. MSA SCBA approved cleaning solution

Class A Driver/ Operator Overview



Truck Driver/ Operator Overview

| Equipment Specifications |
|--------------------------|
| Equipment: |
| |
| Year/Model/Make: |
| |
| Placard Information: |
| |
| Aerial Specifications: |
| |

Assigned Equipment List

Truck Companies shall consist of at least the minimum following items, carried on a motorized apparatus of sufficient capacity to carry same with four (4) crew members without being overloaded.

- The unit shall be equipped with a hydraulically operated aerial and/or platform (basket). Minimum height fully extended shall be not less ninety (90) feet and shall be complete with not less than one hundred sixty-three (163) feet of ground ladders.
- The aerial device shall be subject to a yearly non- destructive test performed by a certified aerial ladder testing firm and provided a certificate of certification.

A. BREATHING APPARATUS (S.C.B.A.)

1. Five, self-contained positive pressure breathing apparatus (Bureau of Mines approved for fire service use with forty-five minutes rating minimum) with low pressure alarm and/or timer. Each S.C.B.A. will be equipped with a P.A.S.S. device meeting NFPA specifications.
2. One, spare air cylinder shall be carried for each S.C.B.A.

B. FIRE EXTINGUISHERS

1. One, 10-pound B/C carbon dioxide
2. One, 20-pound B/C dry powder/chemical
3. One, Pressurized Water, two and one-half gallon

C. FANS

1. One, Exhaust type (explosive proof), minimum airflow rating 5000 CFM each.
2. One, positive-pressure fan (gas or electric)

D. AXES

1. Three, pick-head 6 lbs.
2. Two, flathead

E. BARS

1. Two, Halligan type
2. One, 30" (short) pinch point
3. One, 60" (long) pinch point

F. HOOKS

1. Two, pike poles, 6 feet, hook end
2. Two, pike poles, 8 feet, hook end
3. Two, pike poles, 12 feet, hook end
4. One, Closet hook

G. FORCIBLE ENTRY

1. One, K-Tool or equivalent
2. One, Rabbit tool type hydraulic forcible entry door opener or equal

H. SAWS

1. One, gasoline or electric chain saw
2. One, gasoline powered circular saw with assorted spare blades and fuel
3. One, Reciprocating saw

I. SLEDGE HAMMERS

1. Two 12-pound steel

J. COMMUNICATIONS

1. Unit to be equipped to Baltimore County Fire Service specifications
2. Intercom between turntable and top of aerial or platform

K. ELECTRICAL

1. One, 6-kilowatt generator
2. Unit must have at least 200 watts of exterior lighting.
3. Two, 200-foot wire reels with minimum 12/3 braided wire
4. Two hundred feet, minimum 14/3 braided wire divided into suitable working lengths.
5. Two, junction boxes
6. Three, floodlights
7. Five, hand-lights (battery or rechargeable)
8. Assorted pigtail adapters.

L. SALVAGE

1. Five, covers, 10 x 10 feet minimum
2. Two, floor runners, 3 x 18 feet minimum
3. Two, brooms, sweep
4. Two, mops, cloth type with handles
5. Two, squeegees, with handles
6. One roll of tar paper and/or plastic
7. One, quantity of wood lathes (optional)
8. Two, rolls of tape, 2 inches wide (duct type)

M. SEARCH EQUIPMENT

1. One thermal imager

N. SHOVELS

1. Two, flat long handle
2. Two, scoop long handle

O. PICKS

P. MISCELLANEOUS

1. Two, pitch forks
2. One, chimney ball on chain and/or scraper
3. One, electric submersible pump

Q. ROPE RESCUE EQUIPMENT

1. Utility type, nylon or dacron construction (not to be used for high angle rope rescue).
2. Two, lengths, 1/2" x 100 feet
3. Four lengths, 1/2" x fifty feet.
4. Rescue grade for high rope rescue (static kernmantle) minimum diameter 1/2" meeting NFPA standard.
5. Two lengths, 1/2" x 300 feet
6. Four, figure eight devices, 10,000 pounds rated (aluminum).
7. Six, carabiners, 9,000 pounds rated (steel)
8. Two, NFPA class II seat style harnesses
9. Two, NFPA class III harnesses
10. Six, webbing, nylon 1", assorted lengths
11. Three, sets, Prussiks (53" and 65")
12. Two pulleys, (two inches minimum)
13. Pulley assembly or "Thayer-Plane" for stokes basket evolution (optional)

R. LADDER BELTS

1. Four, pompier belts, assorted sizes

S. RESCUE CHAINS

1. One, length, 15' each, 10mm (3/8"), 6600-pound test at 90 degrees with hooks and/or rings
2. One, length, 10' each, 10mm (3/8"), 6600-pound test at 90 degrees with hooks and/or rings

T. CHISELS

1. Two, cold chisels, 8 inches
2. Assorted masonry chisels

U. STABILIZATION: Units shall carry the following sections of suitable hardwood for cribbing.

1. Twelve, 4" x 4" x 12"
2. Eight, 4" x 4" x 18"

3. Four, 6" x 6" x 12"
4. Four, 6" x 6" x 18"
5. Four, 4" x 4" wedges
6. Two Rescue Struts (Optional but Recommended)

V. CUTTING TOOLS

W. GEAR, LIFT/RESCUE

1. One, Come-A-Long, 1 'A ton capacity, chain type
2. One, four-ton Porta-Power with basic attachments or "Rabbit Tool" (Optional)
3. One, ten-ton Porta-Power with basic attachments (Optional) 4, One, twelve-ton hydraulic jack or high-pressure air bag
5. One, twenty-ton hydraulic jack or high-pressure air bag.

X. WATER RESCUE EQUIPMENT

1. Five, USCG approved, type III personal floatation device, equipped with whistles and visual identification markers (i.e., cyalume light sticks, battery powered strobes, etc.)
2. Four, Polypropylene rope throw bags
3. One, 300' Polypropylene rope with 5000# 'breaking strength

Y. VEHICLE/MACHINERY RESCUE TOOLS

1. One, rescue tool, gasoline or electric powered to include the following attachments:
2. One, Power Unit
3. Spreading jaws with 18,000 pounds of force
4. Cutting tool with 38,000 pounds of force
- 5: One, ram 30" inch minimum with 29,000 pounds of force
6. All necessary hoses, chains, shackles and fluid
7. Necessary equipment to operate 2 tools simultaneous

Z. ELEVATOR RESCUE EQUIPMENT

1. One, elevator pole
2. Assorted elevator keys
3. One, Lock-out/Tag-out Kit

AA. BUCKETS

1. Two, 14-quart metal type

BB. BOLT CUTTERS

1. Two, bolt cutter, manual or hydraulic, capable of cutting 5/8" of hardened steel.

CC. BLANKETS

1. One, wool

DD. AIR MONITORING EQUIPMENT

1. One, Multi-gas Meter (LEL, O₂ & CO)

EE. SEARCH MANAGEMENT EQUIPMENT

1. One, Binoculars 7 x 35 Power
2. One, ADC Map Book Baltimore County

FF. RIT EQUIPMENT

1. RIT bag per Baltimore County Fire Service Specifications
2. One Master search rope bag with knotted rings at every 10' (100')
3. Four 50' personal search rope bags (50')
4. RIT Tarp

GG. SMALL TOOLS

1. Two, 24-ounce ball-peen hammer
2. One, Claw hammer
3. One, electrician's pliers
4. One, 12-inch channel-lock pliers
5. One, 7-inch vise-grip pliers
6. One, 8-inch slip joint pliers
7. One, hacksaw with spare blades
8. Six, assorted screwdrivers (Phillips and straight)
9. One, 12-inch Stilson wrench
10. One, 14-inch Stilson wrench
11. One, 12-inch adjustable wrench
12. One, 3/8-inch electric drill and assorted bits
13. One, 3/8-inch drive standard socket set
14. One, 3/8-inch drive metric socket set
15. One, open end wrenches (3/8 inch to 1 inch)
16. One, set of Allen wrenches
17. One, key hole saw
18. One, tin snips

HH. EMERGENCY MEDICAL EQUIPMENT: Emergency medical supplies meeting the First Responder Equipment standard of the Baltimore County Volunteer Firemen's Association.

II. STRETCHERS

1. One, Stokes basket with 4-point sling
2. One, full backboard
3. One, LSP half backboard or KED

II. HOSE AND HOSE APPLIANCES

1. One, ladder pipe and/or fixed monitor (600 gpm minimum) to the basket with stream discharge pipe. (Tips 1 1/4", 1 Y2", 1 'A")
2. One, master stream variable pattern nozzle. GPM flow by aerial unit specifications.
3. Two, eighty (80) feet lengths of rope with hooks for aerial ladder pipe ground operations, unless equipped with a remote nozzle,
4. One, two inlet 2 1/2" clapped siamese with drain, unless equipped with a waterway.

5. One, minimum 2 1/2" gate type shut off valve for Siamese, unless equipped with a waterway.
6. One, 100-foot length double jacketed, rubber lined hose for aerial ladder pipe operations, unless equipped with a waterway.
7. Four, hose straps, unless equipped with a waterway.
8. One, hose or equipment hoist.
9. One, hydrant wrench.
10. Four, combination spanner wrenches.
11. One, 2 1/2" cellar nozzle with applicator.
12. Two, 2 1/2" double male.
13. Two, 2 'A" double female.
14. One, 2 1/2" to 1 'A" reducer.
15. One, 50-foot length of hose to fit submersible pump discharge.

KK. Baltimore County Fire Department Equipment/ Materials

1. Fuel Card
2. Knox Box Key
3. PAT Collector Ring
4. Applicable Baltimore County Fire Department Forms
5. DOT Emergency Response Guide
6. Tablet with mount
7. Bucket, brush and soap for gross decontamination
8. MSA SCBA approved cleaning solution

Specialty Equipment and Apparatus Operator Overview

Equipment and Apparatus List

Hazmat 114

2011 Spartan Gladiator LTDR/Rosenbauer



Foam Unit 14

2001 Freightliner FL112/ALF/National Foam 1250/250/750



Decon 54

2006 Pierce Enforcer MFDR/ACSI



USAR 17

2007 Freightliner M2-112 XC/Hackney 18 bay TT



Hazmat Support 13/15

2018 Ford F250 XC Pick Up/ Cap 4x4



Course and Road Skills Evaluation Overview



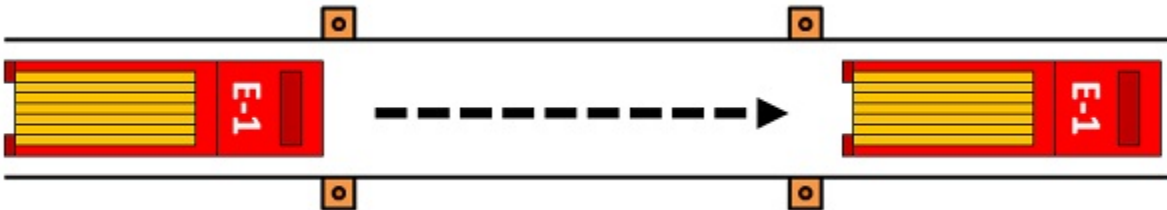
Driving Course Skills Overview

Basic Vehicle Control

For the basic control skills test, the candidate will demonstrate their ability to move the vehicle forward, backward, and turn it within a defined area. The candidate will have 10 minutes to complete each exercise and must complete the exercise as directed. The candidate will lose points for any of the errors listed below.

- **Encroachments** - The examiner will score the number of times the candidate touches or crosses over an exercise boundary line with any portion of the vehicle. Each encroachment will count as an error.
- **Pull-ups** - When the candidate stops and reverses to get a better position, it is scored as a "pull-up." Stopping without changing direction does not count as a pull-up.
- **Final Position** - It is important that the candidate finishes each exercise exactly as the examiner has instructed. If the vehicle is not maneuvered into its final position as described by the examiner, the candidate will be penalized and risks failing the basic skills test.

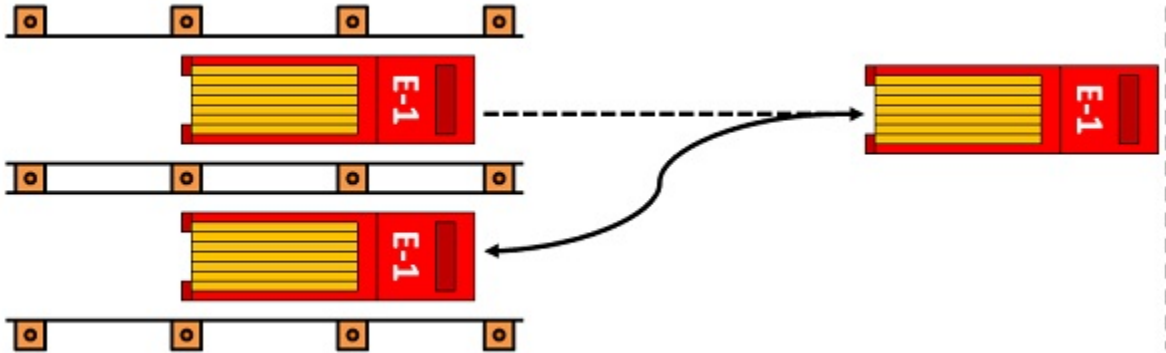
Forward Stop - The candidate must drive forward between two rows of cones and bring the vehicle to a complete stop within 18 inches of an end line or set of cones without going over.



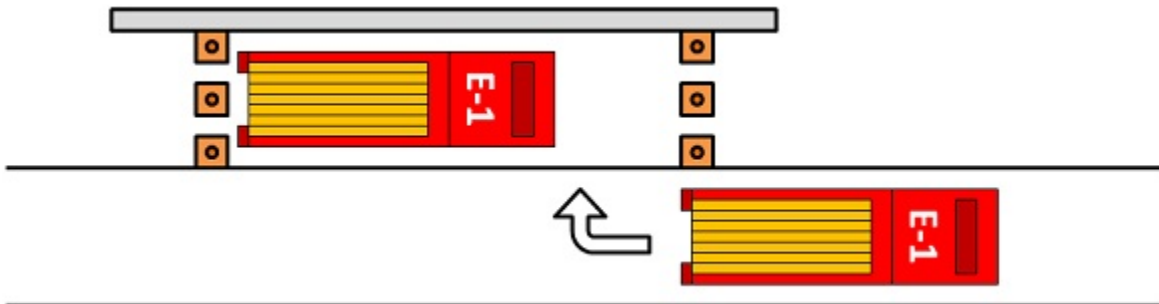
Straight Line Backing - The candidate will back the vehicle in a straight line between two rows of cones for 100 feet without touching or crossing over the exercise boundaries



Offset Backing Right Side - The candidate will back into a space that is to the right rear of the vehicle. The candidate will drive straight forward and back the vehicle completely into the space without crossing boundaries marked by cones.



Parallel Parking Drivers Side - The candidate will park in a parallel parking space that is on the left side of the vehicle. The length of the space is the vehicle plus fifteen (15) feet. The candidate is to drive past the parking space and back into it. The entire vehicle (or trailer, if combination vehicle) must go completely into the space without crossing the side or rear boundaries marked by cones.



Road Course Skills Overview

Road Skills Evaluation

During this portion, the candidate will demonstrate their ability to operate a vehicle in a variety of road situations including left and right turns, intersections, railroad crossings, curves, up and down grades, single or multi-lane roads, streets, or highways. During the road test, the candidate is to continue straight ahead unless otherwise directed. The evaluator will give directions as far in advance as possible.

If the candidate does not understand the directions, they are to ask for further clarification. The evaluator will not ask the candidate to do anything that is unsafe or illegal. The candidate is responsible for the safe operation of the vehicle at all times. During the test, the evaluator will be making comments on the test form. This should not be construed as an indication as to the candidate's success or failure of any portion of the on-road test.

Topics of interest:

Railroad Crossings

Emergency Pullover Procedures

Highway Driving

Urban Driving

Rural Driving

Merging- Highway

Exiting- Highway

Lane Changes

Reference Materials and Web Links



Web Links

Baltimore County Fire Rescue Academy EVO Procedures

<http://baltimorecountyfra.org/inferno/index.php/evodriver-training/evo-card-procedures/>

Maryland Commercial Driver License Manual

<http://baltimorecountyfra.org/inferno/wp-content/uploads/2017/09/Maryland-CDL-Manual.pdf>

Appendix A

NFPA Standard NFPA 1002 (2017)- Chapter 4

Preventive Maintenance

4.2.1: Perform the visual and operational checks on the systems and components specified in the following list, given a fire department vehicle, its manufacturers' specifications, and policies and procedures of the jurisdiction, so that the operational status of the vehicle is verified:

- Batteries
- Braking system
- Coolant system
- Electrical system
- Fuel
- Hydraulic Fluids
- Oil
- Tires
- Steering System
- Belts
- Tools, appliances, and equipment
- Built in safety features

4.2.2: Document visual and operational checks on the systems, given maintenance and inspection forms, so that all items are checked for operation and deficiencies are reported

Driving/ Operating

4.3.1: Operate a fire apparatus, given a vehicle and a predetermined route on a public way that incorporates the maneuvers and features that the driver/operator is expected to encounter during normal operations, so that the vehicle is operated in compliance with all applicable state and local laws and departmental rules and regulations.

The following driving situations are essential to driver/operator skills:

- (1) Four left turns and four right turns
- (2) A straight section of urban business street or a two-lane rural road at least 1 mi (1.6 km) in length
- (3) One through-intersection and two intersections where a stop has to be made
- (4) One railroad crossing
- (5) One curve, either left or right
- (6) A section of limited-access highway that includes a conventional ramp entrance and exit and a section of road long enough to allow two lane changes
- (7) A downgrade steep enough and long enough to require down-shifting and braking
- (8) An upgrade steep enough and long enough to require gear changing to maintain speed
- (9) One underpass or a low clearance or bridge

4.3.2: Back a vehicle from a roadway into restricted spaces on both the right and left sides of the vehicle, given a fire apparatus; a spotter where the spotter assists the driver in performing the maneuver; and restricted spaces 12 ft (3.7 m) in width, requiring 90-degree right-hand and left-hand turns from the roadway; so that the vehicle is parked within the restricted areas without having to stop and pull forward and without striking obstructions.

4.3.3: Maneuver a vehicle around obstructions on a roadway while moving forward and in reverse, given a fire apparatus; a spotter where the spotter assists the driver in performing the maneuver; and a roadway with obstructions, so that the vehicle is maneuvered through the obstructions without stopping to change the direction of travel and without striking the obstructions.

4.3.4: Turn a fire apparatus 180 degrees within a confined space, given a fire apparatus; a spotter where the spotter assists the driver in performing the maneuver; and an area in which the vehicle cannot perform a U-turn without stopping and backing up, so that the vehicle is turned 180 degrees without striking obstructions within the given space.

4.3.5: Maneuver a fire apparatus in areas with restricted horizontal and vertical clearances, given a fire apparatus and a course that requires the operator to move through areas of restricted horizontal and vertical clearances, so that the operator judges the ability of the vehicle to pass through the openings and so that no obstructions are struck.

4.3.6: Operate a vehicle using defensive driving techniques, given an assignment and a fire apparatus, so that control of the vehicle is maintained

4.3.7: Operate all fixed systems and equipment on the vehicle not addressed elsewhere in this standard, given systems and equipment, manufacturer's specifications and instructions, and departmental policies and procedures for the systems and equipment, so that each system or piece of equipment is operated in accordance with the applicable instructions and policies

Communications

4.4.1: Initiate the response to a reported emergency, given the report of an emergency, fire department SOPs, and communications equipment, so that all necessary information is obtained, communications equipment is operated correctly, and the information is relayed promptly and accurately to the dispatch center. [1001:5.2.1]

4.4.2: Receive a telephone call, given a fire department phones, so that procedures for answering the phone are used and the caller's information is relayed [1001:5.2.2]

4.4.3: Transmit and receive messages via the fire department radio, given a fire department radio and operating procedures, so that the information is accurate, complete, clear, and relayed within the time established by the AHJ [1001:5.2.3]

4.4.4: Activate emergency procedures, given an emergency situation and department SOPs, so that emergency actions can be initiated

Appendix B

Brake Overview

Brake Types

Drum Brakes: A braking system that has a circular wheel hub with two semicircular brake shoes installed inside

Disc Brakes: A braking system designed with a disc and a brake caliper installed over the disc.

Hydraulic Brakes: A braking system that uses fluid to charge and activate the brakes.

Air Brakes: A braking system that uses air as a medium for applying the brakes.

Parking Brake: The main brake that prevents a fire apparatus from moving even when it is turned off and there is no one operating it.

Brake Systems

Anti-lock Brakes: A computerized braking system that prevents wheel lockup, helping the vehicle maintain directional control.

Auxiliary Braking Systems

Compression Brake: The compression brake is a mechanical system added to the engine valve train that is electronically actuated. This system alters the operation of the engine's exhaust valves so that the engine works as a power-absorbing air compressor.

Transmission Retarder: An efficient means of slowing a vehicle down, the transmission retarder utilizes the transmission fluid to create backpressure that assists in slowing the fire apparatus. The application of this type of device will help avoid engine damage. If the transmission fluid is overheated, however, major transmission damage can result.

Exhaust Brake: A shutter valve activated in the exhaust system just behind the turbocharger will engage this type of device. The closed valves cause a build-up of pressure in the exhaust system, which then passes back through the turbocharger and the valves and into the combustion chamber of the cylinder. The pressure build-up creates braking horsepower, which is then used to slow the vehicle down. With a transmission that offers the same type of direct interface, this system is quite efficient because the same horsepower used to keep the vehicle in motion can help slow it down. The maximum efficiency is reached at the maximum engine speed (RPM) for which the exhaust brake is rated.

Electromagnetic Retarder: This device is the most efficient, but most expensive, means of slowing a fire apparatus. When engaged, the electromagnet around the driveshaft creates an opposing magnetic field around the driveshaft that causes the driveshaft to resist turning, thereby slowing the fire apparatus. The system may be applied in stages either manually or by

combinations of brake and accelerator pedal settings. Any heat that is generated by this system is dissipated by cooling fins on the retarder

Brake Tests

Parking Brake Check:

5. Ensure the parking brake is engaged;
6. Wheel chocks in place;
7. Shift vehicle into low gear;
8. Attempt to slowly accelerate to ensure the parking brake holds.

Service Brake Check:

5. Unchock the wheels;
6. Place vehicle in Drive;
7. Pull forward slowly not to exceed 5mph and apply the service brake.
8. Ensure the vehicle does not pull to either side upon application.

Air Brake Check:

9. Ensure the wheels of the vehicle are chocked.
10. Shut down the motor, turn power back on to the vehicle.
11. Ensure the air pressure is built up to governor shut off (120 PSI- 140 PSI)
12. Release the parking brake;
13. Depress the service brake pedal for a duration of one minute;
14. During the minute ensure there is not a loss of 4 pounds (combination vehicle) 3 pounds (single vehicle)
15. Begin to fan off air pressure by rapidly applying and releasing the foot brake. At 60 PSI you shall hear an audible alarm. Continue to fan the foot brake, at no less than 20-40 pounds the parking brake valve should pop.
16. Once this has occurred, conduct a safe start of the vehicle to build air pressure back to manufacture recommended range (120-140 PSI). At 60 PSI the audible alarm should silence, and the governor will cut out between 120-140 PSI.

(Includes Air Brake Leakage Test/ Low Air Warning Test/ Spring Brake Test)

Hydraulic Brake Check (if applicable):

3. Pump the brake pedal three times, then hold it down for five seconds.
4. The brake pedal should not move (depress) during the five seconds

Response Considerations

Total Stopping Distance: The distance that it takes for the driver/operator to recognize a hazard, process the need to stop the fire apparatus, apply the brakes, and then come to a complete stop.

Reaction Distance: The distance that fire apparatus travels after the driver/operator recognizes the hazard, removes his or her foot from the accelerator, and applies the brake.

Braking Distance: The distance that the fire apparatus travels from the time the brakes are activated until the fire apparatus makes a complete stop.

Factors Affecting Braking Ability

The size and weight of the fire apparatus

The fire apparatus' overall condition, including brakes, tires, and suspension

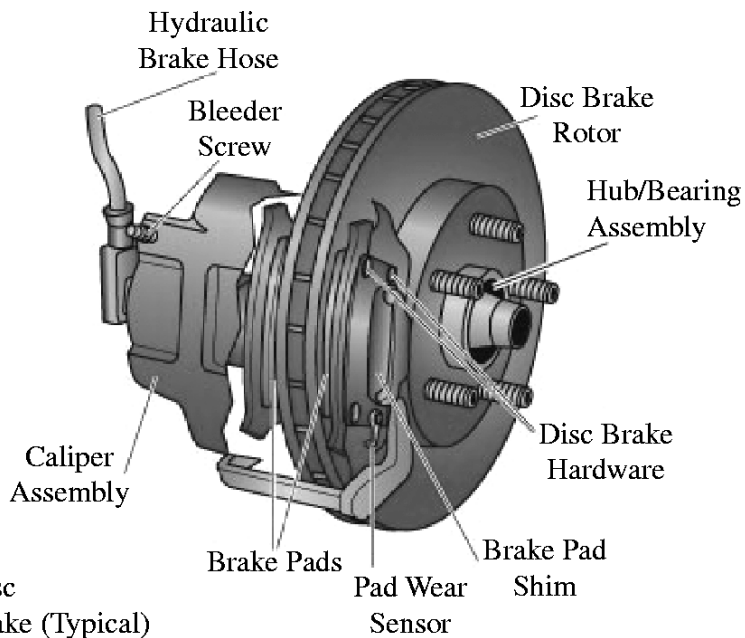
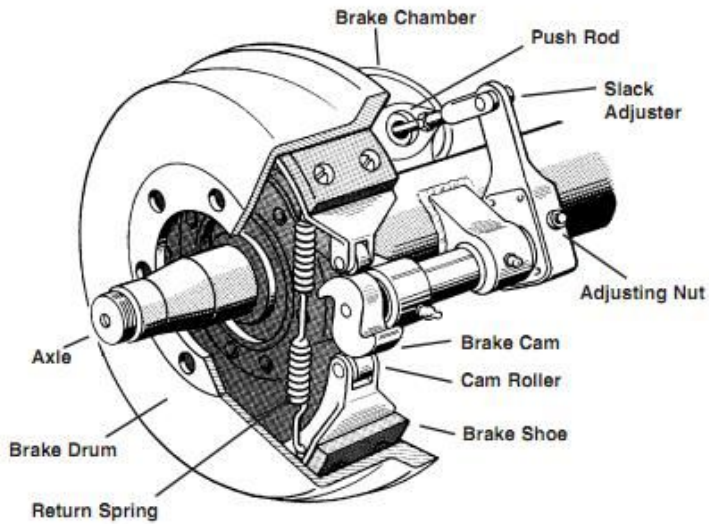
The speed at which the fire apparatus is traveling

The surface condition of the road

Brake Fade: Reduction in stopping power that can occur after repeated application of the brakes, especially in high-load or high-speed conditions.

Appendix C

Drum Brake



Source: www.midas.com/midas_u/brakes_howitworks.aspx

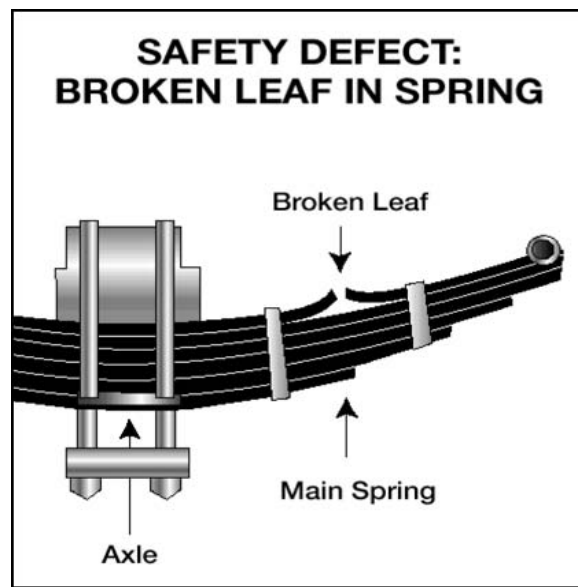
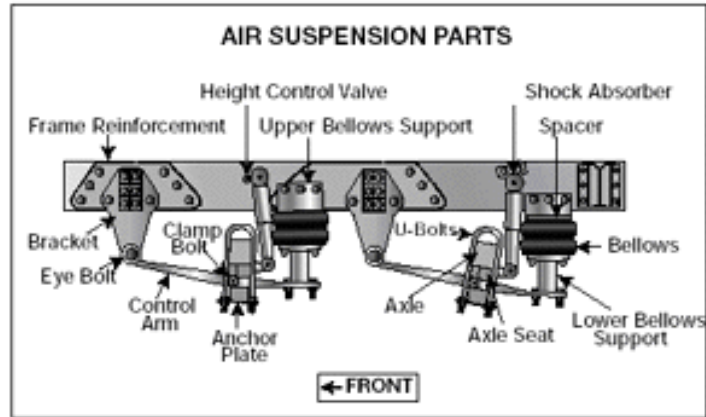
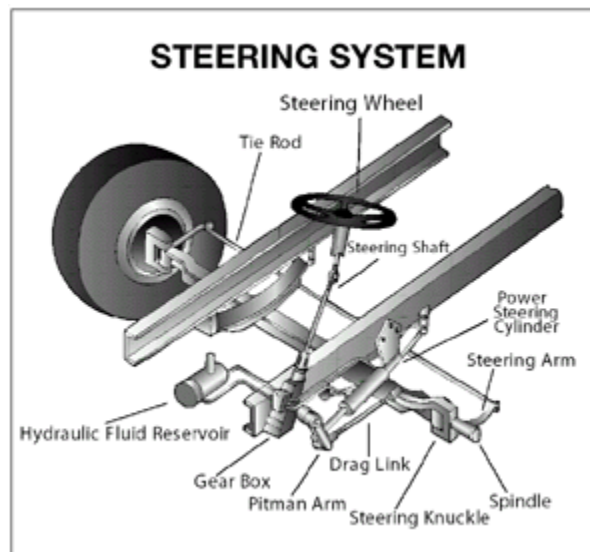


Figure 2.3



Lug Nuts:

- None are missing
- Tight – no shiny threads, or rust trails

Rim:

- Not bent
- Not cracked
- No welding repairs

Outer Hub Oil Seal:

- Not leaking
- No missing bolts
- Proper oil level

Valve stem:

- No cuts
- No damages
- No missing.

Space:

- Check for objects between wheels
- Check for proper spacing

Splash Guards:

- Not missing or torn and properly mounted



Leaf Springs:

- Not shifted or out of place
- Not cracked, broken or missing

Spring Mounts:

- Mounted securely – front, back, and U-bolts
- Not cracked, or broken

Torque Rod:

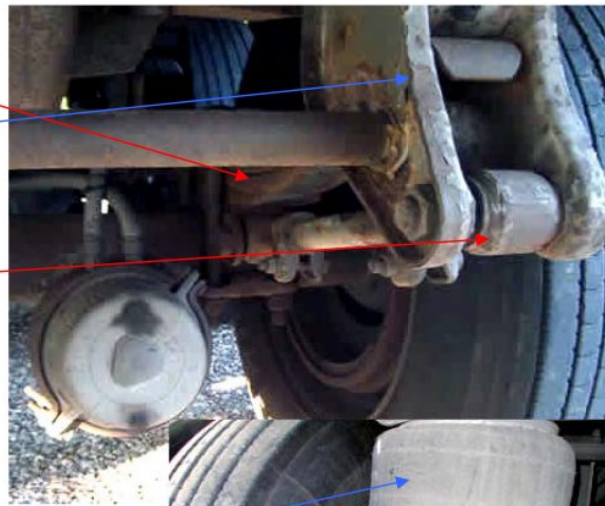
- Mounted Securely
- Not bent, broken or damaged

Shock Absorber (If Equipped):

- Mounted Securely
- Not bent, dented or leaking

Air Bags (If Equipped):

- Mounted Securely
- Not leaking



Marker Lights:

(Five lights on a top of the tractor)

- Proper color
- Working
- Not broken
- Not cracked

Winshield:

- Clean
- Not broken
- Not cracked

Winshield Wipers:

- In good condition
- Working properly

Hood:

- Not damaged
- Not broken
- In good condition
- Securely locked

Grill:

- Must be present
- Stably mounted
- Not broken
- In good condition
- Clean

Mirrors:

- Must be clean
- Not broken
- Adjustable from inside.
- Mirrors brackets must be well mounted to the door

