



Burlington Fire Department



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Section: 03 - Safety	
SOG Number: 03.16	Effective Date: June 1, 2020
Subject: Apparatus Out of Service Guidance	
By Order of Fire Chief Steven A. Locke	

I. Purpose:

The purpose of this document is to identify critical items rendering apparatus out of service until a mechanic has either fixed the issue or cleared the apparatus to return to service. This remains a guidance document and is not an exhaustive list of items, which may require the apparatus to be out of service. Driver/Operators and officers should continue to use sound judgement if they believe an apparatus needs to be taken out of service for a reason not found within this document.

II. Scope:

This guideline applies to all Burlington Fire Department personnel operating department apparatus.

III. Definitions:

Aerial Device - An aerial ladder, elevating platform, or water tower designed to position personnel, handle materials, provide continuous egress, or discharge water (NFPA 1901, 2016).

Critical Out of Service Criteria – Parts of an apparatus that have an identified defect rendering the part unusable and the apparatus out of service.

Fire Pump – A water pump with a rated capacity of 250 gpm (1000 L/Min) or greater at 150 psi (1000 kPa) net pump pressure mounted on a fire apparatus and used for fighting fires (NFPA 1901, 2016).

Ironing – Smoothing of a Base or Section rail surface on an aerial device

PTO – Acronym for Power Take-Off (NFPA 1901, 2016).

Stabilizer – A device integral with or separately attached to the chassis of a fire apparatus with an aerial device used to resist overturning the apparatus.

IV. Guidelines:

A. Conducting an Out of Service Evaluation

1. When emergency vehicles are out of service, an apparatus technician from the department of Public Works will provide guidance after thoroughly investigating the issue. The technician will provide one of three determinations:
 - a. The emergency vehicle shall be taken out of service.
 - b. The emergency vehicle shall remain in-service with specific limitations.
 - c. The emergency vehicle shall remain in-service without limitations.
2. If the emergency vehicle remains out of service after the technician evaluates the situation, the apparatus will remain out of service until the repair is complete and the apparatus re-tested for operational proficiency.
3. Out of service, emergency vehicles will have a conspicuous sign placed on the windshield in front of the driver's seat indicating "Out of Service".
4. All emergency vehicles placed out of service will be documented using the Burlington Fire Department Record Management System Firehouse®.
5. If an emergency vehicle remains in-service but a component of the vehicle is out of service, the component will be documented in the same Firehouse® program.

B. Critical Out of Service Criteria

1. Crew Areas, Emergency Vehicle Body, and Compartmentation
 - a. Cracked or broken windshield that obstructs the driver's view.
 - b. Missing or broken mirrors that obstruct the driver's view.
 - c. Missing or broken windshield wipers
 - d. Missing or broken door latches
 - e. Missing or broken foot throttle

2. Seatbelts

- a. If the driver's seatbelt is torn or has melted webbing, missing or broken buckles or loose mountings the entire vehicle will out of service for evaluation and repair.
- b. If the seat in a position other than the driver, the seat shall be marked as out of service with "caution" tape conspicuously located around the seat.

3. Cab

Deficiencies noted in any of the components below requires the vehicle be placed out of service and an evaluation conducted by a qualified technician.

- a. Body Mounting
- b. Cab Mounting
- c. Steering Wheel
- d. Cab Instrumentation
- e. Defrosters

4. Steering

- a. Any leaks from steering components
- b. Missing nuts, bolts, or cotter keys.
- c. Bent, loose, or broken steering box, steering column, loose or broken tie rods

5. Chassis, Axles, Suspension Systems, Driveline, Tires

- a. Tires with cuts in the sidewall that penetrate to the cord.
- b. Suspension components are loose broken or missing.
- c. Wheels or rims with the following deficiencies:
- d. Side rings that are bent, broken, cracked, improperly seated, sprung, or mismatched.
- e. Bolt holes that are cracked, broken, or elongated.
- f. Fasteners that are loose missing cracked, stripped, or damaged.
- g. Too much or too little air pressure and the inability to adjust correctly.
- h. Bulges other than repairs; bulges or knots associated with treads.

6. Wheel and Rims:

- a. Rims or tires cracked or damaged.
- b. Rust around any lug nuts.

- c. Welded wheels or rims.

7. Braking System:

- a. Air pressure drop greater than 2 psi in 1 minute with the engine stopped and the service *brakes released*.
- b. Leak-down rate of greater than 3 psi in 1 minute with the engine stopped and the *brakes applied*.
- c. Air compressor that cannot generate 85 psi – 100 psi in 45 seconds.
- d. Air compressor that cannot maintain 80 psi – 90 psi pressure in the system with the brake applied.
- e. Air gauge or audio low-air warning device that has failed.
- f. Cracked brake drums or rotors.
- g. Any braking components that are not operational.
- h. Brake pads with oil, grease, or brake fluid
- i. Shoes or pads worn thin, missing, or broken.

8. Suspension System:

- a. Spring hangers that allow movement of the axle from its original position.
- b. Cracked, broken or missing leaf springs or spring hangers.
- c. Leaking shock absorber (*This will present with an oil like film on the outside of the shock*).
- d. Axle positioning parts that are cracked, broken, or missing.
- e. Air suspension system leaking or damaged.
- f. Cracked, broken, or missing frame bolts or members.

9. Exhaust System:

- a. Loose, broken, or missing exhaust pipes, mufflers, tailpipes, or vertical stacks.
- b. Loose, broken, or missing mounting brackets, clamps, bolts, or nuts.
- c. Exhaust system parts rubbing against fuel system parts, tires, or other moving parts of apparatus.
- d. Leaking exhaust system parts.

10. Emergency Equipment:

- a. Apparatus must be equipped with emergency equipment.
 - i. Fire extinguisher(s)
 - ii. Spare electrical fuses (unless equipped with circuit breakers).
 - iii. Warning devices for parked apparatus (for example, three reflective warning or six fuses or three (3) liquid burning flares).
 - iv. Complete loss of emergency lights or sirens.

11. Dashboard Engine Indicators:
 - a. Stop Engine Light
 - b. Check Engine Light that doesn't reset
 - c. Low or High Pressure Light
 - d. Coolant Level Light
 - e. Turbo Failure

The following issues are outlined in NFPA 1911, Chapter 6., given the equipment's direct ability to have an adverse effect on the safety of employees on the fire ground, the pump and aerial out of service requirements have been explicitly stated.

12. Fire Pump Systems:

The following deficiencies of the fire pump system shall cause the pumping system to be taken out of service:

- a. Pump that will not engage
 - b. Pump shift indicators in cab and on operator's panel not function properly
 - c. Pressure control system that is not operational
 - d. Pump transmission components leaking fluid
 - e. Pump operator's panel throttle that is not operational
 - f. Pump operator's engine speed advancement interlock not operational.
13. If there are deficiencies of the following systems or components, a qualified technician shall conduct an out of service evaluation and make a written report.
 - a. Pump transmission lubricant
 - b. Valves
 - c. Valve controls
 - d. Pump piping
 - e. Pressure indicating devices
 - f. Water tank
 - g. Water level indicator
 14. If pump shaft seals leak beyond the manufacture's specification tolerances a qualified technician shall conduct an out of service evaluation of the problem and make a written report
 15. If the daily pump test indicates a deficiency, a qualified technician shall conduct an out of service evaluation and make a written report.

Aerial Device Systems:

16. The following deficiencies of an aerial device and its systems shall cause the aerial device to be evaluated by a qualified technician and make a written report.
 - a. PTO that will not engage
 - b. Stabilizer system that is not operational
 - c. Aerial device that is not operational
 - d. Hydraulic system components that are not operational
 - e. Frayed cables
 - f. Cable sheaves that are worn or not operational
 - g. Base and section rails that show ironing beyond the manufacturer's recommendations
 - h. Aerial device that is structurally deformed
 - i. Broken or missing torque box fasteners
 - j. Broken or missing turntable fasteners

17. If there are deficiencies of the following systems or components a qualified technician shall conduct an out of service evaluation and make a written report:
 - a. Hydraulic relief valve
 - b. Hydraulic system components
 - c. Emergency hydraulic system
 - d. Visual and audible alarm systems
 - e. Aerial lighting system
 - f. Labels or warning signs
 - g. Aerial water delivery system
 - h. Hydraulic leak

18. A qualified technician shall conduct an out of service evaluation of the following problems and make a written report:
 - a. Rollers and sliders that are worn beyond manufacturer's recommendations
 - b. Rotation bearing that has clearances beyond the manufacturer's recommendations

Trailers

The following deficiencies of a trailer and its system shall cause the trailer to be taken out of service:

- a. Cracked trailer frame
- b. Damaged or inoperable hitch

- c. Damaged or missing safety chain or clip
- d. Tires that have cuts in the sidewall that penetrate to the chord
- e. Suspension system components that are loose, broken, or missing
- f. Wheels or rims with the following:
 - i. Damaged or mismatched side rings
 - ii. Cracked or elongated bolt holes
 - iii. Damaged fasteners
 - iv. Damaged welds
- g. Braking system components that are not operational
- h. Grease or oil on any portion of the braking surface including pads and shoes
- i. Any brake fluid leak
- j. Inoperative or damaged breakaway brake system
- k. Inoperative lighting systems
- l. Damaged or missing lighting plug

B. PROCEDURES

1. When apparatus deficiencies identified in this document are found the company officer shall be immediately notified and the apparatus taken out of service and dispatch notified.
2. The company officer will contact Battalion One. The Battalion One officer will contact the DC of Operations and DC of Administration for operational considerations and a repair plan.
3. Documentation of the issue and out of service reporting will occur in the Firehouse® Record Management System (RMS) according to current practices.

V. Responsibility:

It is the responsibility of all members to read, understand and follow this Standard Operating Guideline

Revision History			
Revision Date	Section	Summary	Principal Author
Issued	Safety	Apparatus Out of Service Guidance	DC Brown/DC Plante