

SOG – 705

Standard for Care, Use, Inspection and Maintenance of Ground Ladders

The purpose of this standard is to give direction for the use, care, inspection, maintenance, and deployment techniques of ECFR ground ladders.

ECFR has a diverse compliment of Fire service ground ladders. A ground ladder is any Fire service ladder, portable in nature, not permanently affixed to a fire apparatus. These ladders are provided for use in various emergent and non-emergent evolutions. While it is not possible to list every feasible use, some common uses include:

Fire attack, Ventilation, Rescue, Above/below-grade ingress/ Egress, Secondary Egress, and Training.

ECFR has adopted a set of common practices used throughout the county for ladder deployment or, "Throwing." These techniques and evolutions are commonly taught methods used by neighboring agencies in the county. The rationale behind the adoption of the techniques was to allow for common language and technique in regards to a marked increase in mutual aid response. For a detailed description of the techniques, Reference the, "ECFR Ladder Manual."

I. Inspection

Reference:

- WAC 296-305-06005
- NFPA 1932
- Alco-lite ladder care and maintenance procedures

All ladders shall meet or exceed NFPA 1931 design specs.

All ladders shall be service tested annually as a minimum, or after damage has occurred that may have weakened the ladder structurally to the point of causing a dangerous piece of equipment with potential for catastrophic failure.

Service testing shall be performed by fire department personnel, or a designated third party agent.

Per NFPA 1932, all ladders shall be inspected to the guidelines herein at least monthly. It is the intent of this guide that inspection be performed to the standards outlined in NFPA 1932 in concurrence with weekly apparatus inspections.

Any damage or function issues shall be reported to the shift lead immediately, and the ladder be placed out of service until repaired.

The following are the minimum items to be checked during weekly apparatus checks. The following list should also be referenced anytime a ladder inspection is required.

A. Inspection of ground ladders

1. A visual inspection shall include, but not limited to, the following:

- Heat sensor labels on metal and fiberglass ladders on wood ladders if provided, for a change indicating heat exposure.
- All rungs, for snugness and tightness
- All bolts and rivets, for tightness; bolts on wood ladders, for snugness and tightness without crushing wood
- Welds, for any cracks or apparent defects
- Beams and rungs, for cracks, splintering, breaks, gouges, checks, wavy conditions, or deformation
- Butt spurs, for excessive wear or other defects
- Halyards for fraying, kinking, mildew, or indicators of heat exposure.
- Roof hooks, for sharpness and proper operation
- Rungs, for punctures wavy conditions, worn serrations in the foot contact areas, serrations worn down to base metal in any location, or deformation
- Loss of base material due to corrosion
- Ladder slide areas, for galling or absence of wax, if required by manufacturer
- Loss of gloss on fiberglass and wood ladder beams, damage to the varnish finish on wood ground ladders
- Correct operation of pawl assemblies
- Wire rope on 3 and 4 section ladders for snugness when the ladder is in the bedded position, to ensure proper synchronization of upper sections during operation
- Labels present and legible
- Ladders clean with no buildup of grease, dirt, or grime on the beams
- The diagonal brace on the base of a folding ladder for damage

- The hinge assembly and locking pin assemblies on a multi-purpose ladder for the presence of any visual damage and for their proper operation

2. All conditions found unacceptable during the subject visual inspection shall be corrected prior to the ladder being returned to service.

3. The ground ladder shall be removed from service if there are any signs of damage beyond gouges or dents or if:

4. Defective parts or welds are discovered during the visual inspection

5. If the ground ladder is removed from service, it shall be obviously marked as out-of-service (Via 'Red-Tag') with the date and a description of the defect requiring the ladder being removed from service.

6. The ladder shall be repaired in accordance with the manufacturer's instructions, and service tested in accordance with NFPA 1932.

B. Gouges and Dents

1. If gouges and dents are discovered in a beam during the visual inspection, the ladder shall be subjected to the appropriate service test.

2. Gouges and dents in a beam shall not be cause to fail a ladder if it passes the applicable load test.

3. If gouges or dents are discovered in a rung, the manufacturer shall be consulted regarding the need for repair prior to the ladder being returned to service.

II. Care

Care of apparatus- mounted fire service Ground Ladders is an on-going, and largely as-needed process. The following items are common in the continual care of fire service ladders.

Ladders shall be stored in the, "Service-ready" position.

Ladders shall be kept clean, without buildup of dirt, grease, grime, or other contaminants. Mild detergent and water with a stiff bristle brush can be used to clean fire ladders. Alternatively, fine steel wool can be used.

All ladders will be waxed on a semi-annual basis. Specifically, the areas of the beams that contact one another will be coated in paraffin wax. The rest of the beams can be coated in a light, liquid car wax. DO

NOT WAX THE RUNGS. In the event that wax is found to be degraded in between scheduled waxing, the surface will be cleaned, and fresh wax will be applied.

Pawls/locks/pulleys can be lubricated with a graphite powder on an as-needed basis.

Do NOT use petroleum-based products (WD40, Etc...).

Halyards will be inspected and replaced if they are found to have mildew, be kinked, or display heat exposure.

Heat sensor labels shall be present, and show no signs of heat exposure.

Any burrs can be filed down with a fine grade file.

All ladders will be cleaned and inspected per the standard set forth herein.