



## **Minimum Equipment on Aerial Apparatus NFPA 1901 2009**

### NFPA 1901 Chapter 8 Aerial Fire Apparatus

If the apparatus is to function as a pumper with an aerial device, it shall meet all the requirements of NFPA 1901 Chapter 5 instead of Chapter 8.

#### **Aerial Device**

The apparatus shall be equipped with an aerial ladder, elevating platform, or water tower that meets the requirements of Chapter 19.

#### **Fire Pump**

If the apparatus is equipped with a fire pump, the pump shall meet the requirements of Chapter 16.

Provisions shall be made to ensure that the pump operator is not in contact with the ground.

Signs shall be placed to warn the pump operator of electrocution hazards.

If the aerial fire apparatus is equipped with a fire pump that is intended to supply water to a permanently mounted waterway, the fire pump shall be capable of supplying the flow requirements of 19.6.1, 19.12.1, or 19.16.1 with a maximum intake gauge pressure of 20 psi.

#### **Water Tank**

If the aerial fire apparatus is equipped with a water tank, it shall meet the requirements of Chapter 18.

#### **Equipment Storage**

A minimum of 40 cubic feet of enclosed weather-resistant compartmentation meeting the requirements of Section 15.1 shall be provided for the storage of equipment.

#### **Hose Storage**

Any space on the aerial fire apparatus designed to carry fire hose shall meet the requirements of Section 15.10.

If the apparatus is equipped with a fire pump and a water tank, two areas, each a minimum of 3.5 cubic feet, to accommodate 1.5 in. or larger preconnected fire hose lines, shall be provided.

### **Ground Ladders**

A minimum of 115 ft of ground ladders shall be supplied and installed by the contractor.

As a minimum, the following types of ladders shall be provided:

1. One attic ladder
2. Two straight ladders with folding roof hooks
3. Two extension ladders

The contractor shall provide such brackets or compartments as are necessary to mount the equipment.

The ground ladders shall meet the requirements of NFPA 1931, Standard on Design of and Design Verification Tests for Fire Department Ground Ladders.

Stepladders and other types of multipurpose ladders meeting ANSI A14.2, Ladders - Portable Metal - Safety Requirements, or ANSI A14.5, Ladders - Portable Reinforced Plastic - Safety Requirements, with duty ratings of Type 1A or 1AA shall be permitted to be substituted for the folding ladder required in 9.7.1.1.

Stepladders and other types of multipurpose ladders shall be permitted to be carried in addition to the minimum fire department ground ladders specified in 9.7.1.1 provided they meet either ANSI A14.2 or ANSI A14.5 with duty ratings of Type 1A or 1AA.

### **Minor Equipment**

The equipment listed in 8.8.2 and 8.8.3 shall be available on the aerial fire apparatus before the apparatus is placed in service.

Brackets or compartments shall be furnished so as to organize and mount the specified equipment.

A detailed list of who is to furnish the items and the method for organizing and mounting these items shall be supplied by the purchasing authority.

Aerial fire apparatus shall be equipped with at least the following equipment:

1. Two 6 lb flathead axes mounted in brackets fastened to the apparatus
2. Three 6 lb pickhead axes mounted in brackets fastened to the apparatus
3. Four pike poles mounted in brackets fastened to the apparatus

4. Two 3 ft to 4 ft plaster hooks with D handles mounted in brackets fastened to the apparatus
5. Two crowbars mounted in brackets fastened to the apparatus
6. Two claw tools mounted in brackets fastened to the apparatus
7. Two 12 lb sledgehammers mounted in brackets fastened to the apparatus
8. Four portable hand lights mounted in brackets fastened to the apparatus
9. One approved dry chemical portable fire extinguisher with a minimum 80-B:C rating mounted in a bracket fastened to the apparatus
10. One 2.5 gal or larger water extinguisher mounted in a bracket fastened to the apparatus
11. One SCBA complying with NFPA 1981 for each assigned seating position, but not fewer than four, mounted in brackets fastened to the apparatus or stored in containers supplied by the SCBA manufacturer
12. One spare SCBA cylinder for each SCBA carried, each mounted in a bracket fastened to the apparatus or stored in a specially designed storage space(s)
13. One first aid kit
14. Six salvage covers, each a minimum size of 12 ft x 18 ft
15. Four combination spanner wrenches mounted in brackets fastened to the apparatus
16. Two scoop shovels mounted in brackets fastened to the apparatus
17. One pair of bolt cutters, 24 in. minimum, mounted in a bracket fastened to the apparatus
18. Four ladder belts meeting the requirements of NFPA 1983, Standard on Fire Service Life Safety Rope and System Components
19. One 150 ft light-use life safety rope meeting the requirements of NFPA 1983, Standard on Fire Service Life Safety Rope and System Components
20. One 150 ft general-use life safety rope meeting the requirements of NFPA 1983, Standard on Fire Service Life Safety Rope and System Components
21. Two 150 ft utility ropes having a breaking strength of at least 5000 lb
22. One box of tools to include the following:
  - One hacksaw with three blades
  - One keyhole saw
  - One 12 in. pipe wrench
  - One 24 in. pipe wrench
  - One ballpeen hammer
  - One pair of tin snips
  - One pair of pliers
  - One pair of lineman's pliers
  - Assorted types and sizes of screwdrivers
  - Assorted adjustable wrenches
  - Assorted combination wrenches
23. Two wheel chocks, mounted in readily accessible locations, each designed to hold the apparatus, when loaded to its maximum in-service

- weight, on a 10 percent grade with the transmission in neutral and the parking brake released.
24. One traffic vest for each seating position, each vest to comply with ANSI/ISEA 207, Standard for High-Visibility Public Safety Vests, and have a five-point breakaway feature that includes two at the shoulders, two at the sides, and one at the front.
  25. Five fluorescent orange traffic cones not less than 28 in. in height, each equipped with a 6 in. retroreflective white band no more than 4 in. from the top of the cone, and an additional 4 in. retroreflective white band 2 in. below the 6 in. band.
  26. Five illuminated warning devices such as highway flares, unless the five fluorescent orange traffic cones have illuminating capabilities
  27. One automatic external defibrillator (AED)

If the aerial fire apparatus is equipped with a fire pump, the requirements of 8.8.3.1 through 8.8.3.3 shall apply.

The following equipment shall be provided:

1. One double female 2.5 in. adapter with National Hose threads, mounted in a bracket fastened to the apparatus
2. One double male 2.5 in. adapter with National Hose threads, mounted in a bracket fastened to the apparatus
3. One rubber mallet, for use on suction hose connections, mounted in a bracket fastened to the apparatus
4. Two hydrant wrenches mounted in brackets fastened to the apparatus

If the supply hose carried does not use sexless couplings, an additional double female adapter and double male adapter, sized to fit 2.5 in. or larger fire hose, shall be carried mounted in brackets fastened to the apparatus.

If none of the pump intakes required by 16.6.1 are valved, a hose appliance that is equipped with one or more gated intakes with female swivel connection(s) compatible with the supply hose used on one side and a swivel connection with pump intake threads on the other side shall be carried. Any intake connection 3.5 in. or larger shall include a pressure relief device that meets the requirements of 16.6.6.

If the apparatus does not have a 2.5 in. intake with NH threads, an adapter from 2.5 in. NH female to a pump intake shall be carried, mounted in a bracket fastened to the apparatus if not already mounted directly to the intake.

If the supply hose carried has other than 2.5 in. NH threads, adapters shall be carried to allow feeding the supply hose from a 2.5 in. NH thread male discharge and to allow the hose to connect to a 2.5 in. NH female intake, mounted in

brackets fastened to the apparatus if not already mounted directly to the discharge or intake.

If the aerial fire apparatus does not have a prepped waterway provided, the following equipment shall be furnished:

1. Manual ladder pipe with 1.1/4 in., 1 3/8 in., and 1 1/2 in. tips or electric ladder pipe with automatic nozzle that can be attached to the aerial ladder
2. Sufficient length(s) of 3 in. or larger attack hose complying with the requirements of NFPA 1961, Standard on Fire Hose, to reach between the installed ladder pipe and the ground with at least 10 ft of hose available on the ground with the ladder at full extension
3. One hose strap for each ladder section
4. Halyards to control the ladder pipe from ground level (for manual ladder pipe only)

A bracket for carrying the detachable ladder pipe shall be provided on the apparatus and shall be designed so that the ladder pipe clamps will not have to be readjusted to secure the pipe to the aerial ladder.

The horizontal traverse of the detachable ladder pipe shall not exceed the aerial ladder manufacturer's recommendations.

The ladder pipe shall be capable of swiveling 135 degrees from a line parallel to the ladder and down.