

1911

NFPA® 1911

Standard for the Inspection,
Maintenance, Testing, and
Retirement of In-Service
Automotive Fire Apparatus
Handbook 2012



NFPA®, 1 Batterymarch Park, Quincy, MA 02169-7471, USA
An International Codes and Standards Organization

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NFPA® 1911 Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus Handbook 2012

Annotated by Ryan Depew



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An International Codes and Standards Organization

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NFPA® 1911
Standard for the
Inspection, Maintenance, Testing, and Retirement of In-Service
Automotive Fire Apparatus
2012 Edition

This edition of NFPA 1911, *Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus*, was prepared by the Technical Committee on Fire Department Apparatus. It was issued by the Standards Council on December 13, 2011, with an effective date of January 2, 2012, and supersedes all previous editions.

This edition of NFPA 1911 was approved as an American National Standard on January 2, 2012.

▲ Origin and Development of NFPA 1911

The 2007 edition of NFPA 1911, *Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus*, combined three standards into a single document: NFPA 1911, *Standard for Service Tests of Fire Pump Systems on Fire Apparatus*; NFPA 1914, *Standard for Testing Fire Department Aerial Devices*; and NFPA 1915, *Standard for Fire Apparatus Preventive Maintenance Program*. A chapter was added on the retirement of fire apparatus. The out-of-service criteria in NFPA 1915 were reevaluated to define some conditions that require a fire apparatus to be taken out of service immediately and some conditions that a technician needs to evaluate on a case-by-case basis to determine if the apparatus is safe for continued use. The term *service test* was changed to *performance test*, and new testing requirements were added for the apparatus chassis, low-voltage electrical system, foam proportioning system, compressed air-foam system, line voltage electrical system, and breathing air-compressor system.

The 2012 edition of this standard is a general update and review of the document with minor editorial clarifications.

History of NFPA 1911

The first edition of NFPA 1911 was issued in 1987 and was titled *Standard on Acceptance and Service Tests of Fire Department Pumping Apparatus*. It incorporated much of the material formerly included in the pamphlet *Fire Department Pumper Tests and Fire Stream Tables*, published by the National Board of Fire Underwriters and later by the Insurance Services Office.

In 1991, the requirements for the testing of fire pumps on new fire apparatus were transferred to the standards for new fire apparatus. Material previously referenced from other documents was added to make this document self-contained. The requirements were changed to include pumps of 250 gpm (1000 L/min) and larger capacity rated at 150 psi (1000 kPa).

The 1997 edition expanded the tables to include data for pumps to 3000 gpm (12,000 L/min), added accuracy requirements for flow and speed measuring equipment, and required a tank-to-pump flow-rate check. The name of the standard was changed to *Standard for Service Tests of Fire Pump Systems on Fire Apparatus* to reflect that components of the pumping system, such as the tank-to-pump piping, were being checked.

The 2002 edition added requirements for testing the priming device, the intake relief valve system, and, for pumps rated at 750 gpm (3000 L/min) or more, the pumping engine overload capability.

History of NFPA 1914

The first edition of NFPA 1914 dates to 1954, when the Fire Department Equipment Committee presented a document titled *Standard Procedure for Aerial Ladder Testing*, which was designated as NFPA 193 for tentative adoption. In 1955, it received final adoption. The document contained separate tests for wood and metal aerial ladders.

In 1958, material covering the use, maintenance, and testing of in-service ground ladders was added to the document, and a single procedure for testing both wood and metal aerial ladders was approved. The 1959 edition added requirements for new aluminum ground ladders for fire department use. The 1972 edition introduced tests for evaluating platforms.

In 1975, NFPA 193 was separated into two documents, one for aerial ladders and the other for ground ladders. The new *Recommended Practice for the Maintenance, Care, Testing, and Use of Fire Department Aerial Ladders and Elevating Platforms* was designated as NFPA 1904. The ground ladders were covered in NFPA 1931, *Standard on Fire Department Ground Ladders*.

A complete revision in 1980 changed the document to a standard and renamed it *Standard for Testing Fire Department Aerial Ladders and Elevating Platforms*. In 1988, more details on required inspections were included and requirements for nondestructive testing of critical components and the testing of water towers were added. The document was renumbered and renamed NFPA 1914, *Standard for Testing Fire Department Aerial Devices*.

The 1991 edition added clarification to the acceptance criteria for weld and other nondestructive testing inspections, revised the requirements for water system tests, and included required testing of additional components of the aerial devices. The 1997 edition added text to provide repair recommendations when the manufacturer is no longer in business, required that free weights be used in testing, allowed for acoustic emission testing, added requirements for testing secondary operating controls, and added a suggested form for recording the inspection and test results.

The 2002 edition revised the qualifications for testing personnel, added additional requirements for the inspection and testing of tractor-drawn components, and more clearly delineated when nondestructive testing is required in addition to the inspections, operational tests, and load tests.

History of NFPA 1915

The National Transportation Safety Board (NTSB) report “Special Investigation Report—Emergency Fire Apparatus,” adopted March 19, 1991, raised concerns about the quality and type of service and repair being done on fire apparatus. Subsequent inquiries from the Federal Department of Transportation (DOT) about the different types, uses, and weights of apparatus and how they are maintained prompted the International Association of Fire Chiefs (IAFC) Apparatus Maintenance Section to petition NFPA to write a preventive maintenance standard for fire apparatus. While NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, requires fire departments to establish a preventive maintenance program for their apparatus and equipment, there was no standard for such a program.

The first edition of NFPA 1915, *Standard for Fire Apparatus Preventive Maintenance Program*, was issued in 2000 to establish the minimum requirements for a preventive maintenance program for fire apparatus. These requirements were designed to improve the safety and reliability of fire apparatus and support the requirements in other NFPA standards related to emergency vehicle maintenance programs.



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