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(Reaffirmed 2018)

STANDARD FOR AUTOMOBILE FIRE FIGHTING APPARATUS

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CORPORATE HEADQUARTERS
Underwriters Laboratories of Canada
7 Underwriters Road
Toronto, Ontario M1R 3A9
Telephone: (416) 757-3611
Fax: (416) 757-9540

REGIONAL OFFICES

PACIFIC OFFICE
13775 Commerce Parkway, Suite 130
Richmond, British Columbia V6V 2V4
Telephone: (604) 214-9555
Fax: (604) 214-9550

EASTERN OFFICE
6505, Rte Transcanadienne, Suite 330
St-Laurent, Québec H4T 1S3
Telephone: (514) 363-5941
Fax: (514) 363-7014

For further information on ULC standards, please contact:
ULC STANDARDS
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Standard for Automobile Fire Fighting Apparatus, CAN/ULC-S515-13-R2018

Third Edition, Dated March 2013

Summary of Topics

This revision of CAN/ULC-S515 is being issued to update the title page to reflect the reaffirmation of this Third Edition National Standard of Canada. No changes in requirements are involved.

The revised requirements are substantially in accordance with Proposal(s) on this subject dated December 12, 2017.

PLEASE NOTE THAT CERTAIN CODES MAY REFER TO A SUPERSEDED VERSION OF THIS STANDARD. IN THOSE INSTANCES, THE RELEVANT VERSIONS ARE AVAILABLE FOR PURCHASE.

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D. Haithcock Associate Member	Underwriters Laboratories Inc.	U.S.A	Non-Voting
M. Ramlochan (Project Manager)	ULC Standards	Canada	Non-Voting

NOTE: This list represents the membership at the time the Committee balloted on the final text of this edition. Since that time, changes in the membership may have occurred.

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M. Ramlochan	ULC Standards, Canada

REFERENCE PUBLICATIONS

The documents shown below are referenced in the text of this Standard. Unless otherwise stated elsewhere in this Standard such reference shall be considered to indicate the edition and/or revisions of the document available at the date on which the Committee approved this ULC Standard.

Document Published by the American Society of Mechanical Engineers
ASME International
Three Park Avenue, M/S 10E, New York, NY 10016-5990 U.S.A.
Telephone: 1-800-843-2763, Fax: (973) 882-1717 www.asme.org/codes

• ASME BPVC-VIII-2 2011, Boiler and Pressure Vessel Code (BPVC), Section VIII, Division 2

• ASME B40.100-2005, Pressure Gauges and Gauge Attachments

Document Published by the American Society for Nondestructive Testing Inc.
1711 Arlingate Lane, PO Box 28518, Columbus, OH 43228-0518 U.S.A.
Telephone: 1-800-222-2768, Fax: (614) 274-6899 www.asnt.org

• ASNT CP-189-2011, Standard for Qualification and Certification of Nondestructive Testing Personnel

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Document Published by the American Society for Testing and Materials
100 Barr Harbor Drive, West Conshohocken, PA 19428-2959 U.S.A.
Telephone: (610) 832-9585, Fax: (610) 832-9555 www.astm.org

• ASTM D 4956 (Rev A)-11, Standard Specification for Retroreflective Sheeting for Traffic Control

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Document Published by the American Welding Society
550 N.W. LeJeune Road, Miami, FL 33126 U.S.A.
Telephone: (305) 443-9353, Fax: (305) 443-5951 www.awspubs.org

• AWS B1.10.2009, Guide for the Nondestructive Examination of Welds

• AWS D1.1 2010, Structural Welding Code – Steel

• AWS D1.2 2008, Structural Welding Code – Aluminum

• AWS D1.3 2008, Structural Welding Code – Sheet Steel

Document Published by the Canadian General Standards Board
Place du Portage, Phase III, 6B1, 11 Laurier Street, Gatineau, Quebec K1A 1G6 Canada
Telephone: (819) 956-0425, Fax: (819) 956-5644 www.pwgsc.gc.ca/cgsb

• CAN/CGSB 62-GP-11M AMD1 1987, Marking Material, Retroreflective, Enclosed Lens, Adhesive Backing

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Documents Published by CSA Group
5060 Spectrum Way, Suite 100, Mississauga, Ontario L4W 5N6 Canada

Telephone: 1-800-463-6727, Fax: (416) 747-2473 www.csa.ca

• CAN/CSA B339-08, Cylinders, spheres, and tubes for the transportation of dangerous goods

• CSA C22.1-09, Canadian Electrical Code, Part I, Safety Standard for Electrical Installations

• CSA C22.2 No. 42-10, General Use Receptacles, Attachment Plugs, and Similar Wiring Devices

• CSA W47.1-09, Certification of Companies for Fusion Welding of Steel

• CSA W47.2-11, Certification of Companies for Fusion Welding of Aluminum

• CSA Z11-12, Portable Ladders

• CSA Z94.4-11, Selection, Use, and Care of Respirators

• CSA Z180.1-00, Compressed Breathing Air and Systems

Documents Published by Compressed Gas Association
14501 George Carter Way, Suite 103, Chantilly, VA 20151 U.S.A.
Telephone: (703)-788-2700, Fax: (703) 961-1831 www.cganet.com

• CGA G-7, Compressed Air for Human Respiration

• CGA G-7.1, Commodity Specification for Air

Documents Published by the International Organisation for Standardization (ISO) available from:
ISO Central Secretariat: International Organisation for Standardization (ISO)
1, ch. de la Voie-Creuse, Case postale 56, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 749 01 11; Fax +41 22 733 34 30
www.iso.ch

• ISO/IEC Guide 65:1996, General Requirements for Bodies Operating Product Certification Systems

• ISO 3411:2007, Earth-moving machinery Human physical dimensions of operators and minimum operator space envelope

• ISO 17020:2012, Conformity assessment - Requirements for the operation of various types of bodies performing inspection

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Documents Published by the National Electrical Manufacturers Association
1300 North, 17th Street, Suite 1847, Rosslyn, VA 22209 U.S.A.
Telephone: (703) 841-3200, Fax: (703) 841-5900 www.nema.org

• NEMA Z535.4-2007, Product Safety Signs and Labels

Documents Published by the National Fire Protection Association
1 Batterymarch Park, Quincy, MA 02269-9101 U.S.A.
Telephone: (617) 770-3000, Fax: (617) 770-0700 www.nfpa.org

• NFPA 1901-2009, Standard for Automotive Fire Apparatus

• NFPA 1911-2012, Standard for Testing Fire Department Aerial Devices

• NFPA 1931-2010, Standard for Manufacturer's Design of Fire Department Ground Ladders

• NFPA 1961-2007, Standard on Fire Hose

• NFPA 1983-2006, Standard on Fire Service Life Safety Rope and System Components

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Documents Published by the Society of Automotive Engineers
SAE World Headquarters, 400 Commonwealth Drive, Warrendale, PA 15096-0001 U.S.A.
Telephone: 1-877-606-7323, Fax: (724) 776-0790 www.sae.org

• SAE J156-2010, Fusible Links

• SAE J541-1996, Voltage Drop for Starting Motor Circuits

• SAE J551-1-2010, Performance Levels and Methods of Measurement of Electromagnetic Compatibility of Vehicles, Boats (up to 15 m), and Machines (16.6 Hz to 18 GHz)

• SAE J553-2004, Circuit Breakers

• SAE J554-1987, Electric Fuses (Cartridge Type)

• SAE J560-2009, Primary and Auxiliary Seven Conductor Electrical Connector for Truck-Trailer Jumper Cable

• SAE J575-2010, Test Methods and Equipment for Lighting Devices and Components for Use on Vehicles Less Than 2032 mm in Overall Width

• SAE J578-2006, Color Specification

• SAE J595-2008, Flashing Warning Lamps for Authorized Emergency, Maintenance, and Service Vehicles

• SAE J683-1985, Tire Chain Clearance – Trucks, Buses (except Suburban, Intercity, and Transit Buses), and Combinations of Vehicles

• SAE J845-2007, Optical Warning Devices for Authorized Emergency, Maintenance, and Service Vehicles

• SAE J994-2009, Alarm – Backup – Electric Laboratory Performance Testing

• SAE J1127-2010, Low Voltage Battery Cable

• SAE J1128-2011, Low Voltage Primary Cable

• SAE J1292-2008, Automobile Motor Coach Wiring

• SAE J1330-2007, Photometry Laboratory Accuracy Guidelines

• SAE J1690-1996, Flashers

• SAE J1888-1990, High Current Time Lag Electric Fuses

• SAE J1889-2005, L.E.D. Lighting Devices

• SAE J2077-1990, Miniature Blade Type Electrical Fuses

• SAE J2180-1993 (R1998), A Tilt Table Procedure for Measuring the Static Rollover Threshold for Heavy Trucks

• SAE J2394-2007, Seven-Conductor Cable for ABS Power – Truck and Bus

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Documents Published by the Tire and Rim Association, Inc.
175 Montrose West Avenue, Suite 150, Copley, OH 44321 U.S.A.
Telephone: (330) 666-8121, Fax: (330) 666-8340 www.us-tra.org

• 2004 Year Book

Documents Published by Transport Canada
330 Sparks Street, Ottawa, Ontario, Canada K1A 0N5 Canada
Telephone: (613) 990-2309, Fax: (613) 954-4731 www.tc.gc.ca

• CMVSS No. 209, Seat Belt Assemblies, Regulations Respecting Safety for Motor Vehicles and Motor Vehicle Components, C.R.C., c.1038, Motor Vehicle Safety Act, M-10.01

• CMVSS No. 210, Seat Belt Anchorages, Regulations Respecting Safety for Motor Vehicles and Motor Vehicle Components, C.R.C., c.1038, Motor Vehicle Safety Act, M-10.01

• CMVSS No. 302, Flammability, Regulations Respecting Safety for Motor Vehicles and Motor Vehicle Components, C.R.C., c.1038, Motor Vehicle Safety Act, M-10.01

• CMVSS No. 1106, Noise Emission Tests, Regulations Respecting Safety for Motor Vehicles and Motor Vehicle Components, C.R.C., c.1038, Motor Vehicle Safety Act, M-10.01

• Regulations Respecting Safety for Motor Vehicles and Motor Vehicle Components, C.R.C., c.1038, Motor Vehicle Safety Act, M-10.01

Documents Published by Underwriters Laboratories of Canada (ULC)
7 Underwriters Road, Toronto, ON M1R 3A9 Canada
Telephone: (416) 757-3611, ext. 61744; FAX (613) 231-5977, “ATTN: Publications”
E-mail: publications@ulc.ca
www.ulc.ca

• CAN/ULC-S511-07, Standard for Lined Fire Hose for Interior Standpipes and Municipal and Industrial Fire Protection Services

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Documents Published by ULC Standards
440 Laurier Avenue West, Suite 200, Ottawa, ON K1R 7X6 Canada
Telephone: (416) 757-3611, ext. 61744; Fax (613) 231-5977, “ATTN: Publications”
E-mail: publications@ulc.ca

www.ulc.ca

• CAN/ULC-S504-12, Standard for Dry Chemical Fire Extinguishers

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Documents Published by Underwriters Laboratories Inc.
333 Pfingsten Road, Northbrook, IL 60062-2096 U.S.A.
Telephone: 1-847-272-8800, Fax: 1-847-272-8129 www.ul.com

• UL 969-1995, Standard for Marking and Labeling Systems

STANDARD FOR AUTOMOBILE FIRE FIGHTING APPARATUS

PREFACE

This is the Reaffirmation of the Third Edition of the Standard for Automobile Fire Fighting Apparatus, CAN/ULC-S515.

This Edition of the Standard has been formally approved by the ULC Standards Committee on Fire Protection Equipment and Systems.

This Standard has been developed in compliance with the requirements of SCC for accreditation of a Standards Development Organization.

Materials extracted from NFPA 1901-2009, Standard for Automotive Fire Apparatus, are copyrighted by NFPA and appear with permission of NFPA. It is recommended that NFPA 1901-2009, Standard for Automotive Fire Apparatus, be used in conjunction with this Standard.

This Standard has been derived from NFPA 1901-2009, Automotive Fire Apparatus, under license from the NFPA and contains material taken directly from or based on that NFPA standard. All Materials taken from NFPA 1901 are copyrighted by NFPA and are used under license.

It is intended that *fire fighting apparatus* encompassed in this Standard be certified by an independent third-party certification organization accredited by the Standards Council of Canada and/or in accordance with ISO/IEC Guide 65 or ISO/IEC 17065 when implemented, in conformance to the requirements detailed in this Standard. As an alternate to third party certification, *fire fighting apparatus* encompassed in this Standard can be inspected and tested by Type A inspection bodies accredited by the Standards Council of Canada and /or in accordance with ISO/IEC 17020 in conformance to the requirements detailed in this Standard. It is recommended that any *purchaser*-specified optional equipment shall be separately tested and certified by a third-party certification organization.

Metric SI unit of measurement is the primary unit of measurement used in this Standard. If a value for measurement is followed by a value in other units in parentheses, the second value may be approximate. The first stated value is the requirement. Unless otherwise stated, values in brackets used in this Standard refer to imperial units, and when followed by another unit within the bracket, US gallons.

Appendices A and B, identified as informative, are for informational purposes only.

In Canada, there are two official languages, English and French. All safety warnings must be in French and English. Attention is drawn to the possibility that some Canadian authorities may require additional markings and/or installation instructions to be in both official languages.

This Third Edition National Standard of Canada has now been reaffirmed.

Attention is drawn to the possibility that some of the elements of this Canadian standard may be the subject of patent rights. ULC Standards shall not be held responsible for identifying any or all such patent rights.

Requests for interpretation of this Standard should be sent to ULC Standards. The requests should be worded in such a manner as to permit a “yes” or “no” answer based on the literal text of the requirement concerned.

The review and action to revise or reaffirm this Standard will not exceed 5 years from the date of publication, unless the Standard is identified as fitting within a stabilized category, whereby the review will commence within the appropriate time frame set out by ULC Standards.

This Standard is intended to be used for conformity assessment.

1 SCOPE

1.1 This Standard defines the minimum performance requirements for new automobile fire fighting apparatus such as pumpers, water tank trucks, ladder trucks, aerial devices and combinations of these, as used for structural fire fighting in the municipal fire service.

1.2 This Standard defines the minimum requirements for the common types of fire fighting apparatus and the requirements for each of the components provided therein.

1.3 This Standard does not cover optional equipment typically carried by the various types of fire fighting apparatus and the variety of combinations and functions of this equipment.

2 GLOSSARY

NOTE: In the interest of consistency, various terms are drawn from NFPA 1901, Standard for Automotive Fire Apparatus. Terms used in this Standard that are in *italics* are defined as follows:

ACCEPTANCE TESTS – Tests performed on the *fire fighting apparatus* at the time of delivery to determine that the specifications and terms and conditions agreed upon between the *purchasing authority* and the *contractor*, as stated in a contract, have been complied with.

AERIAL DEVICE – An *aerial ladder*, *elevating platform*, or *water tower* that is designed to position personnel, handle materials, provide *continuous egress*, or discharge water.

AERIAL FIRE FIGHTING APPARATUS – A vehicle equipped with an *aerial ladder*, *elevating platform*, *aerial ladder* platform, or *water tower* that is designed and equipped to support fire fighting and rescue operations by positioning personnel, handling materials, providing *continuous egress*, or discharging water at positions elevated from the ground.

AERIAL LADDER – A self-supporting, *turntable-mounted*, power-operated ladder of two or more sections permanently attached to a self-propelled automobile *fire fighting apparatus* and designed to provide a *continuous egress* route from an elevated position to the ground.

ANGLE OF APPROACH – The smallest angle made between the road surface and a line drawn from the front point of ground contact of the front tire to any projection of the *fire fighting apparatus* in front of the front axle.

ANGLE OF DEPARTURE – The smallest angle made between the road surface and a line drawn from the rear point of ground contact of the rear tire to any projection of the *fire fighting apparatus* behind the rear axle.

AUTHORITY HAVING JURISDICTION (AHJ) – The government body responsible for the enforcement of any part of this Standard or the official or agency designated by that body to exercise such a function.

AUTOMATIC ELECTRICAL LOAD MANAGEMENT SYSTEM – A device that continuously monitors the electrical system voltage and automatically sheds predetermined loads in a selected order to prevent over discharging of the *fire fighting apparatus*' batteries.

AUXILIARY BRAKING SYSTEM – A braking system in addition to the service brakes, such as an engine retarder, transmission retarder, driveline retarder, or exhaust retarders.

AUXILIARY PUMP – A water pump mounted on the *fire fighting apparatus* in addition to a *fire pump* and used for fire fighting either in conjunction with or independent of the *fire pump*.