

**First Revision No. 1-NFPA 1917-2013 [Global Input]**

Global change: Where in the document the word “oxygen” is used, replace with “medical gas”.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 08:32:54 EDT 2013

Committee Statement

Committee Statement: Critical care ambulance services carry medical gasses in addition to oxygen. As worded the current language suggests it would be prohibited for those other gasses to be stored in the oxygen compartment when that is not the case. The term oxygen is limiting. The replacement of the tem oxygen with medical gas will allow EMS operations to function in the manner they are authorized to by applicable State laws and regulations.

Response**Message:**

[Public Input No. 138-NFPA 1917-2013 \[Global Input\]](#)

[Public Input No. 267-NFPA 1917-2013 \[Global Input\]](#)

[Public Input No. 432-NFPA 1917-2013 \[Global Input\]](#)

**First Revision No. 187-NFPA 1917-2013 [Section No. 1.3.1]****1.3.1**

This standard shall apply to new ambulances that are contracted for on or after January 1, ~~2013~~ 2016 .

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Tue Dec 17 17:13:16 EST 2013

Committee Statement

Committee Statement: The committee has made this change to update the effective date of the document.

Response Message:

**First Revision No. 168-NFPA 1917-2013 [Section No. 2.2]****2.2 NFPA Publications.**

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471, www.nfpa.org.

NFPA 70[®], National Electrical Code[®], ~~2011~~ 2014 edition.

NFPA 1901, Standard for Automotive Fire Apparatus, ~~2009~~ 2016 edition.

NFPA 1906, Standard for Wildland Fire Apparatus, ~~2012~~ 2016 edition.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Tue Nov 19 10:51:03 EST 2013

Committee Statement

Committee Statement: These changes were made to update references.

Response Message:

**First Revision No. 166-NFPA 1917-2013 [Section No. 2.3.1]****2.3.1 AMECA Publications.**

Automotive Manufacturers Equipment Compliance Agency, 1025 Connecticut Avenue, NW, Suite # 1012, Washington, DC 20036, www.ameca.org .

AMECA Compliance Handbook for GSA and SAE Warning Lamp Systems, 2010 ~~2011~~ .

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Tue Nov 19 10:43:37 EST 2013

Committee Statement

Committee Statement: This change was made due to updating references.

Response Message:



First Revision No. 165-NFPA 1917-2013 [Sections 2.3.2, 2.3.3, 2.3.4, 2.3.5]

2.3.2 ANSI Publications.

American National Standards Institute, Inc., 25 West 43rd Street, 4th Floor, New York, NY 10036, www.ansi.org.

ANSI S1.4, *Specification for Sound Level Meters*, ~~2006~~, 1983, Revised 2006 .

ANSI Z535.4, *Product Safety Signs and Labels*, ~~2007~~, 2011 .

2.3.3 ASTM Publications.

ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, www.astm.org.

ASTM D 4956, *Standard Specification for Retroreflective Sheeting for Traffic Control*, ~~2009~~, 2011a .

ASTM E 661, *Standard Test Method for Performance of Wood and Wood-Based Floor and Roof Sheathing Under Concentrated Static and Impact Loads*, ~~2009~~, 2003, Revised 2009 .

2.3.4 IPC Publications.

IPC, ~~300~~ 3000 Lakeside Drive, 309 S, Bannockburn, IL 60015, www.ipc.org.

IPC ~~A-610D~~ A-610E, *Acceptability of Electronic Assemblies*, 2005.

2.3.5 ISO Publications.

International Organization for Standardization, 1, ch. de la Voie-Creuse, Case postale 56, CH-1211 Geneva 20, Switzerland, www.iso.ch.net.

ISO/IEC 17020, *General Criteria for the Operation of Various Types of Bodies Performing Inspection*, ~~1998~~, 2012 .

ISO/IEC 17025, *General Requirements for the Competence of Testing and Calibration Laboratories*, 2005.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Tue Nov 19 10:40:11 EST 2013

Committee Statement

Committee Statement: These changes were made due to updating references.

Response Message:

**First Revision No. 101-NFPA 1917-2013 [Section No. 2.3.6]****2.3.6 SAE Publications.**

Society of Automotive Engineers, 400 Commonwealth Drive, Warrendale, PA 15096, www.sae.org.

SAE J156, *Fusible Links*, ~~2005~~ 2010 .

SAE J551/1, *Performance Levels and Methods of Measurement of Electromagnetic Compatibility of Vehicles, Boats (up to 15 m), and Machines (16.6 Hz to 18 GHz)*; ~~2006~~ 2010 .

SAE J553, *Circuit Breakers*, 2004.

SAE J554, *Electric Fuses (Cartridge Type)*, ~~1987~~ 2010 .

SAE J575, *Test Methods and Equipment for Lighting Devices and Components for Use on Vehicles Less Than 2032 mm in Overall Width*, ~~2007~~ 2010 .

SAE J576, *Plastic Material or Materials for Use in Optical Parts Such as Lenses and Reflex Reflectors of Motor Vehicle Lighting Devices*, 2010.

SAE J578, *Color Specification*, 2006.

SAE J595, *Directional Flashing Optical Warning Devices for Authorized Emergency, Maintenance, and Service Vehicles*, 2005.

SAE J683, *Tire Chain Clearance — Trucks, Buses (Except Suburban, Intercity, and Transit Buses), and Combinations of Vehicles*, 1985.

SAE J689, *Curbstone Clearance, Approach, Departure, and Ramp ~~Break over Breakover~~ Angles*, 2009.

SAE J845, *Optical Warning Devices for Authorized Emergency, Maintenance, and Service Vehicles*, 2007.

SAE J994, *Alarm — Backup — Electric, Laboratory Performance Testing*, ~~2003~~ 2009 .

SAE J1127, *Low Voltage Battery Cable*, ~~2005~~ 2010 .

SAE J1128, *Low Voltage Primary Cable*, ~~2005~~ 2011 .

SAE J1292, *Automobile, Truck, Truck-Tractor, Trailer, and Motor Coach Wiring*, 1981.

SAE J1318, *Gaseous Discharge Warning Lamp ~~for Authorized Emergency, Maintenance, and Service Vehicles~~*, ~~1998~~ 2009 .

SAE J1330, *Photometry Laboratory Accuracy Guidelines*, 2007.

~~SAE J1690, *Flashers*, 1996.~~

SAE J1849, *Emergency Vehicle Sirens*, 2008.

SAE J1888, *High Current Time Lag Electric Fuses*, 1990.

SAE J1889, *L.E.D. Signal and Marking Lighting Devices*, ~~2005~~ 2011 .

SAE J2077, *Miniature Blade Type Electrical Fuses*, 1990.

SAE J2202, *Heavy Duty Wiring Systems for On-Highway Trucks* , 2004.

SAE J2420, *COE Frontal Strength Evaluation — Dynamic Loading Heavy Trucks*, 2003.

SAE J2422, *Cab Roof Strength Evaluation — Quasi-Static Loading Heavy Trucks*, 2003.

~~SAE J2917, *Occupant Restraint and Equipment Mounting Integrity — Frontal Impact System Level Ambulance Patient Compartment* , 2010.~~

SAE J3026, *Ambulance Patient Compartment Seating Integrity and Occupant Restraint* , 2014.

SAE J3027, *Ambulance Litter Integrity, Retention, and Patient Restraint* , 2014.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Tue Oct 22 09:26:23 EDT 2013

Committee Statement

Committee Statement: The committee has incorporated these documents into the requirements of the standard based on keeping chapter 9 within the document.

Response Message:

**First Revision No. 160-NFPA 1917-2013 [Section No. 2.3.7]****2.3.7** UL Publications.

Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096, www.ul.com.

ANSI/UL 153, *Standard for Portable Electric Luminaires*, 2002, ~~Revised~~ 2010 revised 2013 .

ANSI/UL 498, *Standard for Safety Attachment Plugs and Receptacles*, ~~2004~~ 2012 , ~~Revised 2010~~ revised 2013 .

ANSI/UL 969, *Standard for Marking and Labeling Systems*, 1995, ~~Revised~~ revised 2008.

ANSI/UL 1598, *Luminaires*, 2008, ~~Revised 2010~~ revised 2011 .

ANSI/UL 2034, *Standard for Safety, Single and Multiple Station Carbon Monoxide Alarms*, 2008, ~~Revised~~ revised 2009.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Wed Nov 13 12:29:28 EST 2013

Committee Statement

Committee Statement: The committee has updated the referenced documents with these changes.

Response Message:

**First Revision No. 167-NFPA 1917-2013 [Section No. 2.3.8]****2.3.8 U.S. Government Publications.**

U.S. Government Printing Office, Washington, DC 20402, www.gpo.gov.

~~Title 49, Code of Federal Regulations, Part 571, Subpart B, "Federal Motor Vehicle Safety Standards" (FMVSS), No. 108, "Lamps, reflective devices, and associated equipment—passenger cars, multipurpose passenger vehicles, trucks, busses, trailers, (except pole trailers and trailer converter dollies), and motorcycles." Federal Motor Vehicle Safety Standards (FMVSS).~~

~~Title 49, Code of Federal Regulations, Part 571, Subpart B, "Federal Motor Vehicle Safety Standards" (FMVSS), No. 202, "Head restraints for passenger vehicles."~~

~~Title 49, Code of Federal Regulations, Part 571, Subpart B, "Federal Motor Vehicle Safety Standards" (FMVSS), No. 206, "Door locks and door retention components—passenger cars, multipurpose passenger vehicles, and trucks."~~

~~Title 49, Code of Federal Regulations, Part 571, Subpart B, "Federal Motor Vehicle Safety Standards" (FMVSS), No. 210, "Seat belt assembly anchorages."~~

~~Title 49, Code of Federal Regulations, Part 571, Subpart B, "Federal Motor Vehicle Safety Standards," (FMVSS), No. 213, "Child restraint systems—passenger cars, multipurpose passenger vehicles, trucks, and busses, and child restraint systems for use in motor vehicles and aircraft."~~

~~Title 49, Code of Federal Regulations, Part 571, Subpart B, "Federal Motor Vehicle Safety Standards" (FMVSS), No. 302, "Flammability of interior materials—passenger cars, multipurpose passenger vehicles, trucks, and busses."~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Tue Nov 19 10:44:40 EST 2013

Committee Statement

Committee Statement: This committee has made these changes as the ambulance must meet all of the FMVSS, so the committee believes that rather than listing each individual one, which could create confusion and conflict if one of the FMVSS were accidentally forgotten, that is must meet the committee just referenced the entire document.

Response Message:

**First Revision No. 169-NFPA 1917-2013 [Section No. 2.4]****2.4** References for Extracts in Mandatory Sections.

NFPA 70[®], National Electrical Code[®], ~~2011~~ 2014 edition.

NFPA 1451, Standard for a Fire Service Vehicle Operations Training Program, ~~2007~~ 2013 edition.

NFPA 1901, Standard for Automotive Fire Apparatus, ~~2009~~ 2016 edition.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Tue Nov 19 10:52:23 EST 2013

Committee Statement

Committee Statement: These changes were made to update references.

Response Message:



First Revision No. 2-NFPA 1917-2013 [Section No. 3.3.3 [Excluding any Sub-Sections]]

A vehicle used for out- of- hospital medical care and patient transport, ~~which that~~ provides a driver's compartment; a patient compartment to accommodate an emergency medical services provider (EMSP) and at least one patient located on the primary cot positioned ~~so positioned~~ that the primary patient can be given emergency care during transit; equipment and supplies for emergency care at the scene as well as during transport; safety, comfort, and avoidance of aggravation of the patient's injury or illness; two-way radio communication; and audible and visual traffic warning devices.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 08:36:34 EDT 2013

Committee Statement

Committee Statement: This allows for the definition of ambulance to contemplate the potential for more than one patient to be transported in the back of the ambulance, and the addition of the phrase precludes an erroneous interpretation that the ambulance can be constructed to transport only one patient. The commas are editorial in nature and to ensure that there is not more than one patient on the primary cot.

Response Message:

[Public Input No. 65-NFPA 1917-2013 \[Section No. 3.3.3 \[Excluding any Sub-Sections\]\]](#)

[Public Input No. 315-NFPA 1917-2013 \[Section No. 3.3.3 \[Excluding any Sub-Sections\]\]](#)

[Public Input No. 434-NFPA 1917-2013 \[Section No. 3.3.3 \[Excluding any Sub-Sections\]\]](#)

**First Revision No. 103-NFPA 1917-2013 [New Section after 3.3.47]****3.3.49 Primary Patient Care Seat**

The seating position designated by the AHJ from which the EMSP is expected to provide primary patient care.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Tue Oct 22 10:23:51 EDT 2013

Committee Statement

Committee Statement: The committee has added this term to provide the end user with further clarification as the term is used throughout the document but has not been previously defined. This is new text being added to the document.

Response Message:

**First Revision No. 104-NFPA 1917-2013 [New Section after 3.3.58]****3.3.61 Substantially Similar Ambulance.**

One or more components or systems that are the same and that perform the same functions in vehicles or equipment sold or offered for sale in the United States, regardless of whether the part numbers are identical.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Tue Oct 22 10:27:34 EDT 2013

Committee Statement

Committee Statement: The committee has added this term to provide the end user with further clarification as the term is used throughout the document but has not been previously defined. This is new text being added to the document.

Response Message:

Public Input No. 214-NFPA 1917-2013 [Section No. 6.3.2]

**First Revision No. 105-NFPA 1917-2013 [New Section after 3.3.63]****3.3.67* Type Certificate.**

A document that is issued to certify the compliance of an ambulance design or component to a specific test.

Supplemental Information

<u>File Name</u>	<u>Description</u>
FR_105_Annex_text_for_3_3_XX.docx	

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Tue Oct 22 10:32:34 EDT 2013

Committee Statement

Committee Statement: The committee has provided this definition to provide the end user with further clarification. There is also annex material included that is to be added as well. This is new text being added to the main body of the document and the annex.

Response Message:

A.3.3.XX Type Certificate.

A certificate is usually issued on a production sample and used on subsequent units that are substantially similar.

**First Revision No. 102-NFPA 1917-2013 [New Section after 3.3.67]**

3.3.10* Common and Critical Equipment and Supplies.
Equipment and/or supply items that are frequently used for or are essential to providing patient care.

Supplemental Information

<u>File Name</u>	<u>Description</u>
FR_102_A.3.3.xx.docx	

Submitter Information Verification

Submitter Full Name: [Not Specified]
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Tue Oct 22 09:41:47 EDT 2013

Committee Statement

Committee Statement: A new requirement item about reach-ability of the interior storage for critical equipment/supplies is recommended. It is useful to provide a definition of common and critical equipment or supplies. The committee is also adding annex material, as noted in the attached document, to this term.

Response Message:

Public Input No. 260-NFPA 1917-2013 [New Section after 3.3.67]

A.3.3.xx

The specific list might differ between ambulance stations and/or by the particular needs of the call.

**First Revision No. 3-NFPA 1917-2013 [Section No. 3.3.67]****3.3.71 Wet Location (Related to Ambulances) .**

A location on a nonenclosed, exterior surface of an ambulance body or ~~driving driver~~ and crew compartment or a nonsheltered location inside a compartment with a door or cover that, while open, exposes the enclosure or panelboard to the environment.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 08:47:04 EDT 2013

Committee Statement

Committee Statement: The concept of wet location is used in multiple connotations, especially with regard to health care occupancies, where it usually refers to operating rooms. NFPA has several other definitions of "wet locations", including the following:

NFPA 1901: A nonsheltered location inside a compartment with a door or cover that, while open, exposes the electrical enclosure or panelboard to the same environmental conditions as the exterior of the fire apparatus. A location on a nonenclosed, exterior surface of a fire apparatus body or driving and crew compartment where the enclosure or panel is exposed to the environment.

NFPA 1906: A location on fire apparatus subject to saturation with water or other liquids and in unprotected locations exposed to the weather.

NFPA 79: Installations underground or in concrete slabs or masonry in direct contact with the earth; and in locations subject to saturation with water or other liquids, such as vehicle washing areas; and in unprotected locations exposed to weather.

I understand that this committee may want a unique definition for their use but, as the chair of the Technical Advisory Committee on the Glossary of Terminology, it is my responsibility to recommend that definitions of NFPA terms be unique.

Response Message:

[Public Input No. 282-NFPA 1917-2013 \[Section No. 3.3.67\]](#)

**First Revision No. 4-NFPA 1917-2013 [Section No. 4.3.1.2]****4.3.1.2**

~~The contractor's detailed description shall include a statement specifically describing each aspect of the delivered ambulance that will not be fully compliant with the requirements of this standard.~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 09:01:49 EDT 2013

Committee Statement

Committee Statement: This is redundant with 4.17 and the language in 4.17 is superior.

Response Message:

[Public Input No. 67-NFPA 1917-2013 \[Section No. 4.3.1.2\]](#)

[Public Input No. 317-NFPA 1917-2013 \[Section No. 4.3.1.2\]](#)

[Public Input No. 436-NFPA 1917-2013 \[Section No. 4.3.1.2\]](#)

**First Revision No. 106-NFPA 1917-2013 [Section No. 4.4.4]****4.4.4***

All bodies, systems, equipment, and interfaces with the chassis not otherwise specified in this standard shall be ~~done in~~ maintained in accordance with the ~~Chassis OEM Body Builders Guidelines~~ chassis original equipment manufacturer's (OEM) body builders guidelines.

Supplemental Information

<u>File Name</u>	<u>Description</u>
FR_106_A.4.4.4_nw.1390511604297_2_.docx	

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Tue Oct 22 10:48:08 EDT 2013

Committee Statement

Committee Statement: The committee has added this annex material to provide further clarification.

Response Message:

A.4.4.4

Chassis OEM body builders' guidelines and incomplete vehicle manuals are provided by each chassis manufacturer. These documents provide guidance on how to mount bodies and equipment on each chassis, what types of modifications are allowed, and how to avoid defeating features that are required to comply with Federal Motor Vehicle Safety Standards (FMVSS).

Purchasers should consult these documents prior to creating a purchase specification to ensure they are not asking for features that would contradict the chassis OEM's guidance.

Certain chassis OEMs do allow an ambulance built on their chassis to be used to tow a trailer even though their product might have the features necessary to install a tow package. Purchasers who intend to tow a trailer with their ambulance should be aware of any chassis restrictions and the potential of voiding the warranty.

**First Revision No. 5-NFPA 1917-2013 [Section No. 4.6.1]****4.6.1**

Initial type testing shall be conducted by a third-party test facility for test methods identified in Chapter 9.

4.6.2

Testing shall be witnessed or performed by an organization that is accredited for inspection of ambulances in accordance with ISO/IEC 17020, *General Criteria for the Operation of Various Types of Bodies Performing Inspection*, or accredited for testing ambulances to this standard in accordance with ISO/IEC 17025, *General Requirements for the Competence of Testing and Calibration Laboratories*.

4.6.2.1

The scope of accreditation for the laboratory shall include the tests as prescribed in Chapter 9.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 09:09:59 EDT 2013

Committee Statement

Committee Statement: The committee is adding this requirement for type testing believing they are meeting the intent of the submitted public inputs relating to this subject.

**Response
Message:**

Public Input No. 68-NFPA 1917-2013 [New Section after 4.6]

Public Input No. 204-NFPA 1917-2013 [Section No. 4.6]

Public Input No. 318-NFPA 1917-2013 [Sections 4.6. 4.7]

Public Input No. 387-NFPA 1917-2013 [Section No. 6.3.2]

Public Input No. 437-NFPA 1917-2013 [Section No. 4.6]

Public Input No. 486-NFPA 1917-2013 [Section No. 4.6]

**First Revision No. 107-NFPA 1917-2013 [Section No. 4.7.1]****4.7.1**

The ambulance manufacturer shall test each ambulance in accordance with the following:

- (1) Section 9.5
- (2) Section 9.9
- (3) Section 9.10
- (4) Section 9.15
- (5) Section 9.21
- (6) Section 9.25

4.7.2

A representative of the manufacturer shall witness all tests and shall refuse to certify any test results for a system unless all components of that system requiring testing pass the testing required by this standard. [1901: 4.8.1]

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Tue Oct 22 10:53:35 EDT 2013

Committee Statement

Committee Statement: The committee added this text to address the concerns regarding the testing of ambulances against certain testing requirements within chapter 9.

Response Message:

Public Input No. 70-NFPA 1917-2013 [Section No. 4.7]

Public Input No. 371-NFPA 1917-2013 [Section No. 4.7.8]

Public Input No. 372-NFPA 1917-2013 [Section No. 4.7 [Excluding any Sub-Sections]]

Public Input No. 438-NFPA 1917-2013 [Section No. 4.7]

Public Input No. 487-NFPA 1917-2013 [New Section after 4.7.1]



First Revision No. 190-NFPA 1917-2014 [Section No. 4.9]

4.9 Controls and Instructions.

4.9.1

Illumination shall be provided for controls, switches, gauges, and instruments necessary for the operation of the ambulance and the equipment on it.

4.9.2*

All required signs, instruction plates, and labels shall be permanent in nature, securely attached, and meet the requirements of 4.9.2.1 and ANSI/UL 969, *Standard for Marking and Labeling Systems*.

4.9.2.1

The signs, instruction plates, and labels shall be resistant to damage from the following:

- (1) Fluids to which they will normally be exposed
- (2) Temperatures between ~~-30°F and 176°F (-35°C and 80°C)~~ -30°F (-35°C) and 176°F (80°C)
- (3) Ultraviolet radiation

4.9.2.2*

The exterior-mounted labels relating to safety or critical operational instructions shall be reflective or illuminated.

4.9.2.3 Controls and Switches.

4.9.2.3.1

Controls and switches that are expected to be operated by the belted driver while the ambulance is in motion shall be visible and within reach.

4.9.2.3.2

Controls and switches that are expected to be operated by the belted emergency medical service provider (EMSP) while the ambulance is in motion shall be visible and within reach of the designated primary patient care position.

4.9.2.4

Lever controls, equipment, items, and devices shall be installed, located, and stowed for the convenience of the purpose intended and shall not interfere with the EMSP's or the patient's ingress into or egress from ~~respective~~ compartments.

4.9.2.5

Marking of switches, indicators, and control devices shall be perceptively and permanently identified with at least 12-point letters for the noun or function and 8-point letters for the remainder of the legend.

4.9.2.6

The identifications shall be contrasting colors etched or engraved in plastic or metal or printed and laminated translucent plastic, grouped according to function, and mounted in illuminated or backlit panel(s) or the console.

Supplemental Information

<u>File Name</u>	<u>Description</u>
FR_190_A_4_9_nw.mb.docx	

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 06 09:29:14 EST 2014

Committee Statement

Committee Statement: (1) EMSPs need to read labels as quickly and easily as possible so as not to delay while treating patients. The requirement is obtained from Section 5.4.2, Orientation, of MIL-STD 1472G, which recommends the appropriate text orientation. (2) Labels should always be within EMSPs visual access, irrespective of position or posture within the patient compartment. The requirement is obtained from Section 5.4.3.2, Obscuration, of MIL-STD1472G, which specifies conditions that would otherwise prevent the EMSPs from visually accessing the labels. (3)The human eye capacity to read signs accurately and easily depends on the quantity of light incident on the object, the color of characters, and the background. The requirement to ensure that the signs can be read is obtained from Section 5.4.6.1, Black Characters, of MIL-STD- 1472, Black Characters,that determines the nature of the background for the labels when ambient illuminance exceeds a particular level. (4)The character size, spacing, and orientation should be such that the EMSPs and other occupants can easily read then accurately irrespective of location in the patient compartment. The requirement is obtained from Table XXI, Character Heights Versus Luminance and Viewing Distance, of MIL-STD-1472G, which specifies the height of characters to enable easy reading that should be adopted in the ambulance industry. (5)The character size, spacing, and orientation should be such that the EMS providers and other occupants can easily read then accurately irrespective of where they are in the patient compartment. The requirement is obtained from Section 5.4.6.3.4, Letter Width, of MIL-STD-1472G, which specifies the width of the characters to enable easy reading that should be adopted in the ambulance patient compartment. (6)The character size, spacing, and orientation should be such that the EMS providers and other occupants can easily read them accurately irrespective of where they are in the patient compartment. The requirement is obtained from section 5.4.6.3.5, Numerical Width, of MIL-STD-1472G. (7)The character size, spacing, and orientation should be such that the EMS providers and other occupants can easily read then accurately irrespective of where they are in the patient compartment. The requirement is obtained from Section 5.4.6.3.7, Stroke Width, of MIL-STD-1472G. (8) In order to avoid confusion while reading labels that can lead to errors in treatment if the characters are not read properly, letters and numerals that have similar shapes should be easily distinguished from one another. The requirement is obtained from Section 5.4.6.3.2, Plain Style, of MIL-STD-1472G. (9)The character size, spacing, and orientation should be such that the EMS providers and other occupants can easily read then accurately irrespective of where they are in the patient compartment or state of motion of the ambulance. The requirement is obtained from Section 5.4.5.5.1, Accurate Reading, of MIL-STD-1472G.

Response Message:

[Public Input No. 200-NFPA 1917-2013 \[New Section after A.4.8.1\]](#)

A.4.9.2

Labels should follow certain parameters:

- (1) They should be positioned horizontally to read left to right.
- (2) They should be located where a control or a user's normal hand, arm position, or any other item will not obscure the label or not where the label obscures any other information.
- (3) Where the ambient illuminance is above 10 lux [0.9 footcandle (fc)], the label should be composed of black characters on a light background.
- (4) They should be composed of characters whose heights are between 0.12 in. and 0.20 in. times $D/28$ in. (between 3.0 mm and 5.0 mm times $D/710$ mm), where D is the viewing distance [in. (m)].
- (5) Alphanumeric characters should have a width-to-height ratio, where width should be 0.6 in. (15.24 mm) to 0.8 in. (20.32 mm) of the height except for single-stroke characters (e.g., I, 1), which should be between 0.1 in. (2.54 mm) and 0.2 in. (5.08 mm) of the height, and the number 4, which should be 0.8 in. (20.32 mm) of the height.
- (6)
- (7) They should be composed with characters that have stroke widths that meet the following parameters:
 - (a) ***For normal characters.*** For black characters on a white (or light) background, the stroke width should be 0.1667 in. (4.23 mm) to 0.1429 in. (3.63 mm) of the height. The stroke width should be the same for all letters and numerals of equal height.

- (b) ***For transilluminated characters.*** The stroke width should be 0.1 in. (2.54 mm) of the height.
- (c) ***Ratio.*** The stroke width ratios should apply regardless of how high characters are made for distance viewing. However, for certain applications characters with different stroke widths can be used on the same sign for emphasis. In this case, the thinnest character stroke should be no less than 0.125 in. (3.175 mm), and the thickest character stroke no greater than 0.2 in. (5.08 mm) of the respective character heights.
- (8) Composed with characters in a plain typeface without serifs (i.e., sans serif fonts) except as necessary to distinguish characters that could otherwise be confused [e.g., “l” (lowercase “ell”), “I” (uppercase “eye”), and “1” (“one”); “0” (“zero”) and “O” (uppercase “oh”)].
- (9) They should be easy to read accurately from operational reading distances and in the anticipated vibration, motion, and illumination environments.

**First Revision No. 6-NFPA 1917-2013 [Section No. 4.11.1]****4.11.1**

~~The ambulance shall meet the requirements of this standard at elevations up to 2000 ft (600 m) above sea level.~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 09:31:46 EDT 2013

Committee Statement

Committee Statement: Because the vast majority of ambulances in the US operate at elevations well below 2000 ft above sea level, the requirement to test at that elevation creates an unjustifiable additional expense. The number of tests affected by elevation is small. For those tests that are affected by elevation, it is more reasonable for customers that operate at high elevation or the states that regulate them to add requirements for high elevation testing to the extent they are warranted by their operating requirements.

Response**Message:**

[Public Input No. 74-NFPA 1917-2013 \[Section No. 4.11.1\]](#)

[Public Input No. 319-NFPA 1917-2013 \[Section No. 4.11.1\]](#)

[Public Input No. 439-NFPA 1917-2013 \[Section No. 4.11.1\]](#)

**First Revision No. 7-NFPA 1917-2013 [Section No. 4.11.2]****4.11.2**

~~The ambulance shall meet all the requirements of this standard while stationary on a grade of 6 percent in any direction.~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 09:34:08 EDT 2013

Committee Statement

Committee Statement: While we fully expect the ambulance to perform to this standard while parked on a 6 percent grade in any direction, there is no feasible way to validate that performance. The platforms for performing such tests are not available. But even if they were, there is no justification for multiplying the testing cost by a factor of five on account of performing all tests at four orientations other than horizontal.

Response Message:

[Public Input No. 75-NFPA 1917-2013 \[Section No. 4.11.2\]](#)

[Public Input No. 320-NFPA 1917-2013 \[Section No. 4.11.2\]](#)

[Public Input No. 440-NFPA 1917-2013 \[Section No. 4.11.2\]](#)



First Revision No. 8-NFPA 1917-2013 [Section No. 4.11.3 [Excluding any Sub-Sections]]

Where temperature requirements are not otherwise specified, the ambulance shall be designed to function in ambient temperature conditions between ~~20°F and 110°F (-29°C and 43°C)~~ 0°F (-18°C) to 110°F (43°C) .

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 09:42:58 EDT 2013

Committee Statement

Committee Statement: While the committee agrees with the submitters change on the lower end of the temperature range they believe that the higher end should stay as written in the document due to the high temperature ranges that exist.

Response Message:

[Public Input No. 77-NFPA 1917-2013 \[Section No. 4.11.3\]](#)

[Public Input No. 321-NFPA 1917-2013 \[Section No. 4.11.3 \[Excluding any Sub-Sections\]\]](#)

[Public Input No. 441-NFPA 1917-2013 \[Section No. 4.11.3\]](#)



First Revision No. 109-NFPA 1917-2013 [Section No. 4.12]

4.12 ~~Readability~~ Road Performance.

4.12.1

~~The ambulance when~~ When loaded to its ~~GVWR shall~~ gross vehicle weight rating (GVWR), the ambulance shall be capable of meeting the following performance while criteria on dry, paved roads that are in good condition:

- (1) From a standing start, the ambulance shall be able to attain a speed of 55 mph (88 km/hr) within 25 seconds on a level road.
- (2) The ambulance shall be able to maintain a speed of at least 5 mph (8 km/hr) on any grade up to 35 percent.
- (3) The ambulance shall be able to maintain a speed of at least 55 mph (88 km/hr) on any grade up to 3 percent.

4.12.2

The determination of road performance shall be made by actual test or ~~original equipment manufacturer's~~ (OEM)-certified computer prediction.

4.12.3

~~The maximum top speed of the ambulance shall not exceed 77 mph (124 km/hr) or the manufacturer's maximum service speed rating for the tires installed on the ambulance, whichever is lower.~~

4.12.3*

The ambulance shall be capable of a sustained speed of not less than 65 mph (105 km/hr) over dry, hard-surfaced, level roads, at sea level, and a passing speeds speed of 70 mph (112 km/hr) when tested under normal ambient conditions.

Supplemental Information

<u>File Name</u>	<u>Description</u>
FR_109_A.4.12_nw.docx	

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Tue Oct 22 11:56:16 EDT 2013

Committee Statement

Committee Statement: Members of the NFPA 1917 committee overwhelmingly feel that top speed is an important element of driving safety. While there was a desire to establish a minimum top speed, the committee could not agree that a maximum speed could be determined that would be appropriate for all areas across the nation. Variations in geography, population density, infrastructure, jurisdiction regulations or other factors would impact the selected speed limit. The proposed annex item suggests that agencies should consider controlling top speed appropriate for their region.

Also add the attached new annex material to the existing 4.12.

Response Message:

[Public Input No. 8-NFPA 1917-2013 \[Sections 4.12.3, 4.12.4\]](#)

[Public Input No. 78-NFPA 1917-2013 \[Section No. 4.12.3\]](#)

[Public Input No. 301-NFPA 1917-2013 \[Section No. 4.12.3\]](#)

[Public Input No. 322-NFPA 1917-2013 \[Section No. 4.12.3\]](#)

[Public Input No. 373-NFPA 1917-2013 \[Section No. 4.12.3\]](#)

[Public Input No. 442-NFPA 1917-2013 \[Section No. 4.12.3\]](#)

A.4.12.4

This standard does not specify a limit to the top speed of the ambulance. Purchasers might want to specify a speed limitation feature as a tool to augment their ambulance driver safety policy. Information and recommendations on ambulance operation training can be found in NFPA 1451. Information on ambulance crash statistics can be found in *Analysis of Ambulance Crash Data*, published by the NFPA Fire Protection Research Foundation.

**First Revision No. 130-NFPA 1917-2013 [Section No. 4.16.2.3]****4.16.2.3***

The contractor shall also deliver with the ambulance the following documentation for the entire ambulance and each major operating system or major component of the ambulance:

- (1) Manufacturer's name and address
- (2) Country of manufacture
- (3) Source for service and technical information
- (4) Parts replacement information
- (5) Descriptions, specifications, and ratings of the chassis
- (6) Wiring diagrams for low voltage and line voltage ambulance-specific systems to include the following information:
 - (a) Circuit logic for all electrical components and wiring
 - (b) Circuit identification
 - (c) Connector pin identification
 - (d) Zone location of electrical components
 - (e) Safety interlocks
 - (f) Alternator battery power distribution circuits
 - (g) Input/output assignment sheets or equivalent circuit logic implemented in multiplexing systems
- (7) Lubrication charts
- (8) Operating instructions for the chassis and any major components
- (9) Instructions regarding the frequency and procedure for recommended maintenance
- (10) Overall ambulance operating instructions
- (11) Safety considerations
- (12) Limitations of use
- (13) Inspection procedures
- (14) Recommended service procedures
- (15) Troubleshooting guide
- (16) Ambulance body, chassis, and other component manufacturer's warranties
- (17) Special data required by this standard
- (18) ~~Material safety~~ Safety data sheet (~~MSDS~~ SDS) for any fluid that is specified for use on the ambulance module

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 24 14:25:39 EDT 2013

Committee Statement

Committee Statement: OSHA has amended the Hazard Communication standard to bring it into concert with the worldwide Global Harmonization Standard. As a result the term "Material" has been deleted.

Response Message:

[Public Input No. 81-NFPA 1917-2013 \[Section No. 4.16.2.3\]](#)

[Public Input No. 324-NFPA 1917-2013 \[Section No. 4.16.2.3\]](#)

[Public Input No. 444-NFPA 1917-2013 \[Section No. 4.16.2.3\]](#)

**First Revision No. 108-NFPA 1917-2013 [Section No. 4.17]****4.17 Statement of Exceptions.**

The entity responsible for final assembly of the ambulance shall deliver with the ambulance ~~either~~ a certification that the ambulance ~~fully~~ complies with ~~all the~~ minimum requirements of this standard or, ~~alternatively, a Statement of Exceptions specifically describing each aspect of the completed ambulance that is not fully compliant with the requirements of this standard at the time of delivery. when exceptions to this standard are required by the purchaser, a statement of exceptions based on any exceptions to this standard that are required to meet the specifications of the purchaser shall be listed and attached to the owner's manual.~~

4.17.1

The ~~Statement~~ statement of ~~Exceptions~~ exceptions shall contain; for each exception at the time of delivery a separate listing of the section(s) of the applicable standard for which an exception has occurred. noncompliant aspect of the ambulance or missing required item, the following information:-

~~A separate listing of the section(s) of the applicable standard for which compliance is lacking~~

~~A description of the particular aspect of the ambulance that is not in compliance therewith or required equipment that is missing~~

~~A description of the further changes or modifications to the delivered ambulance that must be completed to achieve full compliance~~

~~Identification of the entity that will be responsible for making the necessary post-delivery changes or modifications or for supplying and installing any missing required equipment to the ambulance to achieve full compliance with this standard~~

4.17.2

~~Prior to, or at the time of, delivery of the ambulance, the Statement of Exceptions shall be signed by an authorized agent of the entity responsible for final assembly of the ambulance and by an authorized agent of the purchasing entity, indicating mutual understanding and agreement between the parties regarding the substance thereof.~~

4.17.3

~~An ambulance that is delivered subject to a Statement of Exceptions other than a certification of full compliance shall not be placed in emergency service until the ambulance has been modified as necessary to accomplish full compliance with this standard.~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Tue Oct 22 11:08:01 EDT 2013

Committee Statement

Committee Statement: The committee has made these changes based on TIA's that were submitted as well as several public inputs that were received.

Response Message:

[Public Input No. 7-NFPA 1917-2013 \[Section No. 4.17\]](#)

[Public Input No. 375-NFPA 1917-2013 \[Section No. 4.17.1\]](#)

[Public Input No. 376-NFPA 1917-2013 \[Section No. 4.17.3\]](#)



First Revision No. 134-NFPA 1917-2013 [Section No. 5.1.1]

5.1.2

The manufacturer shall establish the required GVWR during the design of the ambulance using the method and values specified in [Table 5.1.2](#).

Table 5.1.2 Required GVWR Calculation

<u>Component</u>	<u>Specification</u>	<u>Weight (lb)</u>
Chassis		
Ambulance body complete		
Automotive fluids		
Permanently mounted equipment		
Loose equipment	Type I	750
(Use one of these values unless the required loose equipment is specified by the purchaser)	Type I-AD	1250
	Type II	500
	Type III	750
	Type III-AD	1250
Belted occupant seating positions	(No. Seats) ×	171
Cot patient		171
Cot	Standard cot	100
	Power cot	150
Spare capacity		200
Minimum GVWR required		

Note: For SI units, 1 lb = 0.45 kg.

Supplemental Information

<u>File Name</u>	<u>Description</u>
FR_134_5.1.1_nw.docx	

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 31 10:45:41 EDT 2013

Committee Statement

Committee Statement: Please see and use the attached document as new text for a new section above the existing 5.1.1.

The committee has added this new text to provide the end user with further clarification as well as addressing the submitters concerns based on the ublic input that was submitted.

Response Message:

[Public Input No. 377-NFPA 1917-2013 \[Section No. 5.1.1\]](#)

5.1.1

The manufacturer shall design the ambulance so that the completed ambulance, when loaded to its required GVWR with all loose equipment distributed as closely as is practical to its intended in-service configuration, does not exceed the gross vehicle weight rating (GVWR) or gross axle weight rating (GAWR) of the chassis using the method and values specified in Table 5.1.1.

**First Revision No. 135-NFPA 1917-2013 [Section No. 5.1.3.2]****5.1.3.2***

The label shall show the height of the completed ambulance in feet and inches (meters), and the GVWR in tons and pounds (metric tons and kilograms).

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 31 10:53:13 EDT 2013

Committee Statement

Committee Statement: The committee agrees with the submitters intems but has chosen this text.

Response Message:

[Public Input No. 379-NFPA 1917-2013 \[Section No. 5.1.3.2\]](#)

**First Revision No. 133-NFPA 1917-2013 [Section No. 5.3.1.2]****5.3.1.2**

~~Compliance shall be validated by testing a substantially similar ambulance in accordance with Section [9.22](#) .~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Wed Oct 30 10:53:12 EDT 2013

Committee Statement

Committee Statement: The committee has chosen to delete this section as there is no 9.22 to test to.

Response Message:

**First Revision No. 111-NFPA 1917-2013 [Section No. 5.3.4]****5.3.4**

~~Idle reduction engine shutdown device shall be disabled if provided in accordance with federal and state exemptions.~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Tue Oct 22 12:07:45 EDT 2013

Committee Statement

Committee Statement: This should be locally determined if not regulated by the state. There may be cases where statute prohibits disabling the idle reduction shutdown device. In any case, there is no reason to stipulate disabling of the shutdown device as the ambulance manufacturers will do this automatically in order to sustain the required alternator output. The exception will be on ambulances with anti-idling systems with a voltage-monitoring, auto re-start feature, in which case the requirement to disable the shutdown device would be inappropriate.

Response**Message:**

[Public Input No. 82-NFPA 1917-2013 \[Section No. 5.3.4\]](#)

[Public Input No. 325-NFPA 1917-2013 \[Section No. 5.3.4\]](#)

[Public Input No. 445-NFPA 1917-2013 \[Section No. 5.3.4\]](#)

**First Revision No. 112-NFPA 1917-2013 [Section No. 5.4.1]****5.4.1 ***

An engine speed auxiliary control device (high-idle switch, throttle, or automatic voltage monitor) shall be installed to allow an increase in the engine speed to no more than 1600 revolutions per minute when the ambulance is parked.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Tue Oct 22 12:08:39 EDT 2013

Committee Statement

Committee Statement: The committee has made this change believing that they have addressed the submitters concerns raised with their public input.

Response Message:

[Public Input No. 381-NFPA 1917-2013 \[Section No. 5.4.1\]](#)

**First Revision No. 12-NFPA 1917-2013 [Section No. 5.5.2]****5.5.2**

~~Compliance of the engine's cooling system shall be validated by testing a substantially similar ambulance in accordance with Section [9.14](#) .~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 14:05:22 EDT 2013

Committee Statement

Committee Statement: This is already covered in 4.6

Response Message:

[Public Input No. 382-NFPA 1917-2013 \[Section No. 5.5.2\]](#)

**First Revision No. 113-NFPA 1917-2013 [Section No. 5.8.2]****5.8.2***

A traction control feature shall be provided if available from the OEM .

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Tue Oct 22 13:15:54 EDT 2013

Committee Statement

Committee Statement: The current wording restricts the use of some currently used chassis so the committee has chosen to make the suggested change.

Response Message:

[Public Input No. 383-NFPA 1917-2013 \[Section No. 5.8.2\]](#)

**First Revision No. 128-NFPA 1917-2013 [Section No. 5.9.3]****5.9.3**

~~Clearance for tire chains shall be provided for rear wheels in accordance with SAE J683, *Tire Chain Clearance — Trucks, Buses (Except Suburban, Intercity, and Transit Buses), and Combinations of Vehicles*.~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Wed Oct 23 15:07:12 EDT 2013

Committee Statement

Committee Statement: The committee has chosen to delete this requirement as they believe it creates a potential conflict or is not applicable.

Response Message:

[Public Input No. 488-NFPA 1917-2013 \[Section No. 5.9.3\]](#)

**First Revision No. 163-NFPA 1917-2013 [Section No. 5.11.2.8]****5.11.2.8*** Stepping Surface.**5.11.2.8.1**

The rear stepping surface shall withstand a load of 500 lb (227 kg) with no more than 1.0 in. (25.4 mm) of deflection or 0.25 in. (6.4 mm) of permanent deformation.

5.11.2.8.2

Compliance of the rear step surface shall be validated by testing a substantially similar ambulance or bumper and step structure in accordance with Section 9.17.

5.11.2.8.3

The distance from the road surface to the top surface of the first step shall not exceed 22 in. (559 mm) with the vehicle loaded to its GVWR and/or the suspension in the kneeling condition.

5.11.2.8.4

Steps shall be provided in the door openings.

5.11.2.8.5

Step wells shall be illuminated.

5.11.2.8.6

Step surfaces shall be constructed with anti-slip material.

5.11.2.8.7*

All steps shall have a minimum area of 35 in.² (22,580 mm²) and shall be of such a shape that a 5 in. (125 mm) diameter disk does not overlap any side when placed on the step.

Supplemental Information

<u>File Name</u>	<u>Description</u>
FR_163_A.5.11.2.8.docx	

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Nov 14 11:09:58 EST 2013

Committee Statement

Committee Statement: Entry to and exit points from the ambulance is where an accidental misstep by EMS providers and passengers can take place, especially when they are walking backwards and carrying the patient onto or off the ambulance. If such an accident should occur serious injuries can occur. To reduce the risk the practice recommended is that the width of the stairs should not be smaller than the width of the entry/exit opening.

Add the text in the attached document as a new annex item for 5.11.2.8

Response Message:

[Public Input No. 139-NFPA 1917-2013 \[New Section after 5.11.2.8.7\]](#)

A.5.11.2.8

Steps at doorway entries and exits should be at least the width of the doorway opening.

**First Revision No. 13-NFPA 1917-2013 [Section No. 5.14.4]****5.14.4**

~~Each side view mirror's reflective surface outboard edge shall extend at least 1 in. (25.4 mm) beyond the outside of the modular body.~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 14:28:20 EDT 2013

Committee Statement

Committee Statement: The committee has chosen to delete this as it is addressed by other documents. In by deleting the this subsection of text the committee believes they have met the submitters intent.

Response**Message:**

[Public Input No. 385-NFPA 1917-2013 \[Section No. 5.14.4\]](#)

[Public Input No. 326-NFPA 1917-2013 \[Section No. 5.14.4\]](#)

[Public Input No. 446-NFPA 1917-2013 \[Section No. 5.14.4\]](#)

[Public Input No. 83-NFPA 1917-2013 \[Section No. 5.14.4\]](#)

**First Revision No. 50-NFPA 1917-2013 [Section No. 6.1.1]****6.1.1***

Self-contained breathing apparatus (SCBA) mounts shall not be located in the patient compartment.

6.1.2

A minimum of 10 in. (254 mm) shall be provided from the nearest edge of the cot mattress to the loading door(s).

Supplemental Information

<u>File Name</u>	<u>Description</u>
FR_50_A.6.1.1_nw.docx	

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 08:53:05 EDT 2013

Committee Statement

Committee Statement: The committee has made these changes to provide further clarification. Also the committee is moving the existing annex item for 6.21.2 to this new section of text as well.

The attached is the text that is to be associated with the new text that will be above the existing 6.1.1

Response Message:

A.6.1.1

It is not recommended that SCBA packs be stored in the patient compartment because of the risk of contamination. ~~If the purchaser does specify~~ The term SCBA as referenced in this section is defined in NFPA 1981. ~~storage in seat backs, the seat backs must meet the requirements in NFPA 1901.~~

**First Revision No. 136-NFPA 1917-2013 [Section No. 6.1.2]****6.1.3**

The compartment shall provide a minimum of 12 in. (300 mm) of clear aisle walkway on at least one side of the patient cot.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 31 11:03:48 EDT 2013

Committee Statement

Committee Statement: This change is being suggested as there is no rationale to the 12 inches and it could possibly be design restrictive. If a minimum width is ever specified, it should be driven by anthropomorphic/ergonomic studies such as those being conducted by NIOSH. There remains no specific reasoning for a minimum space for a clear aisle walkway in the patient compartment. With the increasing demand for ergonomics design criteria in the patient compartment, the current provision may be unnecessarily restrictive. The standard should be silent on this issue. The inside track dimension of the rear tires plus the required tire chain clearance pursuant to SAE J683 creates an absolute limit on the maximum aisle width between the wheel wells. Depending upon the cot dimensions—especially in the case of a bariatric cot—it may not be possible to provide a 12" clear aisle.

**Response
Message:**

[Public Input No. 84-NFPA 1917-2013 \[Section No. 6.1.2\]](#)

[Public Input No. 211-NFPA 1917-2013 \[Section No. 6.1.2\]](#)

[Public Input No. 302-NFPA 1917-2013 \[Section No. 6.1.2\]](#)

[Public Input No. 327-NFPA 1917-2013 \[Section No. 6.1.2\]](#)

[Public Input No. 447-NFPA 1917-2013 \[Section No. 6.1.2\]](#)

[Public Input No. 448-NFPA 1917-2013 \[New Section after 6.1.2\]](#)



First Revision No. 15-NFPA 1917-2013 [Section No. 6.3.1 [Excluding any Sub-Sections]]

Any Type I or Type I-AD ambulance body shall withstand a force equal to 2.5 times the curb weight of the vehicle applied to the roof of the vehicle's body structure, validated by testing a substantially similar ambulance in accordance with Section 9.1.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 14:49:56 EDT 2013

Committee Statement

Committee Statement: Makes consistent with definitions in chapter 3

Response Message:

[Public Input No. 213-NFPA 1917-2013 \[Section No. 6.3.1 \[Excluding any Sub-Sections\]\]](#)

[Public Input No. 386-NFPA 1917-2013 \[Section No. 6.3.1 \[Excluding any Sub-Sections\]\]](#)

**First Revision No. 16-NFPA 1917-2013 [Section No. 6.3.1.1]****6.3.1.1**

~~The modular body shall be tested in accordance with Section 9.4.~~ --

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 14:52:55 EDT 2013

Committee Statement

Committee Statement: This is already referenced within the document.

Response Message:

Public Input No. 212-NFPA 1917-2013 [Section No. 6.3.1.1]

**First Revision No. 18-NFPA 1917-2013 [Section No. 6.3.3]****6.3.3**

Any Type III or Type III-AD ambulance body shall withstand a force equal to 2.5 times the curb weight of the vehicle applied to the roof of the vehicle's body structure, validated by testing a substantially similar ambulance in accordance with Section 9.1.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 14:58:36 EDT 2013

Committee Statement

Committee Statement: Makes consistent with definitions in chapter 3

Response Message:

[Public Input No. 215-NFPA 1917-2013 \[Section No. 6.3.3\]](#)

[Public Input No. 388-NFPA 1917-2013 \[Section No. 6.3.3\]](#)

**First Revision No. 19-NFPA 1917-2013 [Section No. 6.4.1]****6.4.1**

Any Type I or Type I-AD ambulance body shall withstand a force equal to 2.5 times the curb weight of the vehicle applied to either the driver or passenger side of the vehicle's body structure, validated by testing a substantially similar ambulance in accordance with Section 9.1.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 15:02:20 EDT 2013

Committee Statement

Committee Statement: Makes consistent with definitions in chapter 3

Response Message:

[Public Input No. 217-NFPA 1917-2013 \[Section No. 6.4.1\]](#)

[Public Input No. 389-NFPA 1917-2013 \[Section No. 6.4.1\]](#)

**First Revision No. 137-NFPA 1917-2013 [New Section after 6.4.2]****6.4.3**

Each door of the vehicle shall be capable of being opened and closed during the full application of force and after release of force.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 31 11:19:19 EDT 2013

Committee Statement

Committee Statement: The committee believes that this text needs to be added and that the means of egress should be validated during the testing of side load structural integrity.

This is new text.

Response Message:

Public Input No. 219-NFPA 1917-2013 [New Section after 6.4.2]

**First Revision No. 20-NFPA 1917-2013 [Section No. 6.4.2]****6.4.2**

Any Type III or Type III-AD ambulance body shall withstand a force equal to 2.5 times the curb weight of the vehicle applied to either the driver or passenger side of the vehicle's body structure, validated by testing a substantially similar ambulance in accordance with Section [9.1](#).

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 15:03:13 EDT 2013

Committee Statement

Committee Statement: Makes consistent with definitions in chapter 3

Response Message:

[Public Input No. 218-NFPA 1917-2013 \[Section No. 6.4.2\]](#)

[Public Input No. 390-NFPA 1917-2013 \[Section No. 6.4.2\]](#)

**First Revision No. 21-NFPA 1917-2013 [Section No. 6.5.1.1]****6.5.1.1**

There shall be no water leakage into the cab, any exterior compartment, or the patient compartment ~~or through any door seal, light seal, or cab-to-module seal.~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 15:10:49 EDT 2013

Committee Statement

Committee Statement: This change was to provide clarification so that there is no area where water should be allowed to leak into the vehicle.

Response Message:

[Public Input No. 221-NFPA 1917-2013 \[Section No. 6.5.1.1\]](#)

**First Revision No. 138-NFPA 1917-2013 [Section No. 6.5.1.2]****6.5.1.2**

Compliance of the body sealing out water shall be validated by the manufacturer by testing each finished ambulance in accordance with Section 9.9.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 31 11:24:12 EDT 2013

Committee Statement

Committee Statement: The committee has made this change and believes they have addressed the submitters concerns based on the public input that was submitted.

Response Message:

Public Input No. 391-NFPA 1917-2013 [Section No. 6.5.1.2]

**First Revision No. 23-NFPA 1917-2013 [Section No. 6.6.1]****6.6.1**

Wheel housings of modular bodies shall include ~~metal or plastic~~ splash shields between the body wheel housing and the wheels, extending over the top of the tires to the bottom of the body side skirting.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 15:13:12 EDT 2013

Committee Statement

Committee Statement: There may be other materials other than metal and plastic that would be acceptable for use, which is the reason for the change.

Response Message:

[Public Input No. 223-NFPA 1917-2013 \[Section No. 6.6.1\]](#)

**First Revision No. 139-NFPA 1917-2013 [Section No. 6.7.2]****6.7.2**

The partition(s) shall be located ~~directly~~ behind the driver's seat and the cab passenger seat when in the rearmost position and the seat back is reclined a minimum of 15 degrees .

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 31 11:28:15 EDT 2013

Committee Statement

Committee Statement: All cab seats recline. The committee believes that if they do not specify a minimum recline angle the bulkhead could be positioned directly behind the seats with the seat back in a non reclined vertical position.

Response Message:

[Public Input No. 224-NFPA 1917-2013 \[Section No. 6.7.2\]](#)

**First Revision No. 192-NFPA 1917-2014 [Section No. 6.8.1]****6.8.1***

Interior or exterior access handrails or handholds shall be provided at each entrance to a driving or crew compartment and at each position where steps or ladders for climbing are located.

Supplemental Information

<u>File Name</u>	<u>Description</u>
NEW_A.6.8.1.docx	

Submitter Information Verification

Submitter Full Name: [Not Specified]
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 06 10:09:41 EST 2014

Committee Statement

Committee Statement: Please add the attached text as new annex material. The interior of the patient compartment needs to be kept clean. When surfaces get exposed to contaminants and soiling, the patient compartment's hygiene may be detrimental to the health of incoming patients and EMSPs. A requirement to make unclean surfaces distinguishable from clean is needed. Such a requirement will enhance the patient compartment's hygiene and cleanliness, and so the surface materials and their color should allow EMSPs to distinguish clean from soiled surfaces.

**Response
Message:**

[Public Input No. 177-NFPA 1917-2013 \[New Section after A.6.7.5\]](#)

A.6.8.1

Handrails that minimize striking hazards should be installed over each walking path.



First Revision No. 25-NFPA 1917-2013 [Section No. 6.8.2]

6.8.2

~~Exterior access handrails~~ An overhead handrail shall be constructed of or covered with a slip-resistant (e.g., cross-hatched stainless steel, rubberized), noncorrosive material, provided on the ceiling of the patient compartment.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 16:26:46 EDT 2013

Committee Statement

Committee Statement: The committee believes that the change in text in this requirement adds further clarification and addresses the submitted public inputs.

Response Message:

[Public Input No. 87-NFPA 1917-2013 \[Section No. 6.8.2\]](#)

[Public Input No. 88-NFPA 1917-2013 \[Section No. 6.8.4\]](#)

[Public Input No. 90-NFPA 1917-2013 \[Section No. 6.8.5\]](#)

[Public Input No. 146-NFPA 1917-2013 \[New Section after 6.8.6\]](#)

[Public Input No. 180-NFPA 1917-2013 \[Section No. 6.8.2\]](#)

[Public Input No. 227-NFPA 1917-2013 \[Section No. 6.8.4\]](#)

[Public Input No. 228-NFPA 1917-2013 \[Section No. 6.8.5\]](#)

[Public Input No. 330-NFPA 1917-2013 \[Section No. 6.8.2\]](#)

[Public Input No. 331-NFPA 1917-2013 \[Section No. 6.8.4\]](#)

[Public Input No. 332-NFPA 1917-2013 \[Section No. 6.8.5\]](#)

[Public Input No. 394-NFPA 1917-2013 \[Section No. 6.8.6.2\]](#)

[Public Input No. 449-NFPA 1917-2013 \[Section No. 6.8.2\]](#)

[Public Input No. 450-NFPA 1917-2013 \[Section No. 6.8\]](#)

[Public Input No. 451-NFPA 1917-2013 \[Section No. 6.8.4\]](#)

[Public Input No. 452-NFPA 1917-2013 \[Section No. 6.8.5\]](#)

**First Revision No. 33-NFPA 1917-2013 [Section No. 6.9.1]****6.9.1**

The patient compartment shall be equipped with at least one primary access door opening with minimum dimensions of 44 in. (1117 mm) wide by 46 in. (1168 mm) high.

6.9.2

Door handles shall be designed and installed to protect against accidental or inadvertent opening.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 17:17:19 EDT 2013

Committee Statement

Committee Statement: The committee has added this to provide further clarification to the requirement on the minimum size opening. This is new text to be added above the existing 6.9.1

Response Message:

**First Revision No. 140-NFPA 1917-2013 [Section No. 6.9.4]****6.9.5**

When doors are open, the hinges, ~~latches, and door checks~~ and latches shall not protrude into the access area.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 31 11:32:26 EDT 2013

Committee Statement

Committee Statement: This change in text was made for clarification purposes so that door checks, shocks, or brackets do protrude into the doorway clear space.

Response Message:

[Public Input No. 395-NFPA 1917-2013 \[Section No. 6.9.4\]](#)

**First Revision No. 27-NFPA 1917-2013 [Section No. 6.9.5]****6.9.6**

Doors shall ~~have hardware or devices to prevent inadvertent closing.~~ be equipped with a hold-open device.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 16:35:03 EDT 2013

Committee Statement

Committee Statement: This change was made to clarify the item to be used to meet the requirement.

Response Message:

Public Input No. 231-NFPA 1917-2013 [Section No. 6.9.5]

**First Revision No. 28-NFPA 1917-2013 [Section No. 6.9.8]****6.9.9**

~~If a key lock is provided, all~~ All patient compartment entry door locks shall be identically keyed.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 16:35:26 EDT 2013

Committee Statement

Committee Statement: The additional words are not needed

Response Message:

[Public Input No. 232-NFPA 1917-2013 \[Section No. 6.9.8\]](#)

**First Revision No. 141-NFPA 1917-2013 [Section No. 6.9.9]****6.9.10**

~~Doors shall~~ Patient loading doors shall be equipped with not less than 250 in.² (161,300 mm²) of safety glass area per door.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 31 11:35:11 EDT 2013

Committee Statement

Committee Statement: The patient needs to be unloaded as soon as the ambulance reaches the hospital. Therefore, in the event that there are obstacles outside the loading doors, then the ambulance occupants should be able to view them from inside and avoid packing next to them. Adequate safety glass also enables the condition of the traffic so as to take appropriate action with the car or the patient. The other doors on the ambulance are the driver compartment doors, which are small in size, and are out of scope.

Response

Message:

[Public Input No. 156-NFPA 1917-2013 \[Section No. 6.9.9\]](#)



First Revision No. 30-NFPA 1917-2013 [Section No. 6.9.11]

6.9.12

Doors shall, in addition to meeting applicable FMVSS standards, withstand the loads on the latches and hinges listed in [Table 6.9.12](#) when tested in accordance with Section [9.2](#).

~~Table 6.9.12 Loads Withstood on Ambulance Door Latches and Hinges~~

Latch or Hinge	Side Door				Rear Door			
	Transverse Load		Longitudinal Load		Transverse Load		Longitudinal Load	
	lbf	N	lbf	N	lbf	N	lbf	N
Fully latched position	2,500	11,120	2,500	11,120	2,500	11,120	2,500	11,120
Secondary latched position	1,500	6,672	1,500	6,672	1,500	6,672	1,500	6,672
Hinge	2,500	11,120	2,500	11,120	2,500	11,120	2,500	11,120

6.9.12.1

~~Compliance of the door shall be validated by testing on a patient compartment sample of a substantially similar design.~~

6.9.12.2

~~During the tests, the door(s) or its retention components shall not do either of the following:-~~

~~Open at any time during the test procedure~~

~~Fail at the latch, striker(s), hinge, or their points of attachment to the door or the body framework~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 17:07:09 EDT 2013

Committee Statement

Committee Statement: Currently, FMVSS 206 covers these requirements. There is no need to specify anything in addition to or different from FMVSS 206 which could create conflict and confusion.

Response Message:

[Public Input No. 91-NFPA 1917-2013 \[Section No. 6.9.11\]](#)
[Public Input No. 333-NFPA 1917-2013 \[Section No. 6.9.11\]](#)
[Public Input No. 453-NFPA 1917-2013 \[Section No. 6.9.11\]](#)

**First Revision No. 32-NFPA 1917-2013 [Section No. 6.10]**

6.10 Means of ~~Escape~~ Egress .

6.10.1

Any interior area to be occupied by personnel shall have a minimum of two means of ~~escape~~ egress .

6.10.2

Each means of ~~escape~~ egress opening shall be a minimum of ~~24~~ 30 in. ~~× 24 in.~~
(762 mm) by ~~46~~ in. (~~640~~ 1168 mm ~~× 640 mm~~).

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 17:15:27 EDT 2013

Committee Statement

Committee Statement: This change was made for document consistency.

Response Message:

**First Revision No. 35-NFPA 1917-2013 [Section No. 6.12.1]****6.12.1**

~~Doors shall provide secure closure properties.~~ All exterior compartment doors shall have latches with locks that hold the door in a closed position.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 18:52:00 EDT 2013

Committee Statement

Committee Statement: This change was made to clarify the item to be used to meet the requirement.

Response Message:

[Public Input No. 233-NFPA 1917-2013 \[Section No. 6.12.1\]](#)

**First Revision No. 36-NFPA 1917-2013 [Section No. 6.12.5]****6.12.5**

~~All~~ The interior of all exterior compartments greater than 4 ft³ (~~0.11~~ 1.2 m³) shall be automatically illuminated when a door is opened and shall meet the requirements of 7.11.7.1.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 18:59:49 EDT 2013

Committee Statement

Committee Statement: This change was made to clarify the item to be used to meet the requirement.

Response Message:

Public Input No. 235-NFPA 1917-2013 [Section No. 6.12.5]

**First Revision No. 37-NFPA 1917-2013 [Section No. 6.12.6]****6.12.6**

~~Any absorbent material, such as carpeting, fabric, or inside/outside plastic type carpeting, that resists cleaning and decontamination shall not be used. All surfaces shall be nonabsorbent.~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 19:01:51 EDT 2013

Committee Statement

Committee Statement: The committee has made this change to further clarify the requirement.

Response Message:

[Public Input No. 489-NFPA 1917-2013 \[Section No. 6.12.6\]](#)

**First Revision No. 131-NFPA 1917-2013 [Section No. 6.13.2]****6.13.2**

With the exception of cot retention hardware, the floor shall be ~~unencumbered~~ free of obstructions in the door(s) access and work area.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Tue Oct 29 14:31:19 EDT 2013

Committee Statement

Committee Statement: This change was made to clarify the item to be used to meet the requirement.

Response Message:

[Public Input No. 94-NFPA 1917-2013 \[Section No. 6.13.2\]](#)

[Public Input No. 236-NFPA 1917-2013 \[Section No. 6.13.2\]](#)

[Public Input No. 303-NFPA 1917-2013 \[Section No. 6.13.2\]](#)

[Public Input No. 336-NFPA 1917-2013 \[Section No. 6.13.2\]](#)

[Public Input No. 456-NFPA 1917-2013 \[Section No. 6.13.2\]](#)

**First Revision No. 39-NFPA 1917-2013 [Section No. 6.13.6]****6.13.6**

If the ambulance has a modular body, the subfloor shall be designed to prevent water penetration. ~~and shall include a heat shield.~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 19:18:58 EDT 2013

Committee Statement

Committee Statement: the committee deleted this text as they believe it was a vague reference.

Response Message:

[Public Input No. 490-NFPA 1917-2013 \[Section No. 6.13.6\]](#)

**First Revision No. 40-NFPA 1917-2013 [Section No. 6.14.1]****6.14.1**

Floor covering shall be nonpermeable, and seamless, ~~and easily cleaned.~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 19:31:39 EDT 2013

Committee Statement

Committee Statement: The committee has made this change in order to provide clearer requirements.

Response Message:

[Public Input No. 237-NFPA 1917-2013 \[Section No. 6.14.1\]](#)

**First Revision No. 191-NFPA 1917-2014 [Section No. 6.14.2]****6.14.2**

The floor covering shall cover the entire length and width of the compartment's exposed floor.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 06 09:57:56 EST 2014

Committee Statement

Committee Statement: Move associated annex material to 6.13.1 as it was incorrectly numbered in the existing standard.

Response Message:

[Public Input No. 178-NFPA 1917-2013 \[Section No. 6.14.2\]](#)

**First Revision No. 132-NFPA 1917-2013 [Section No. 6.16.1]****6.16.1**

The interior of the patient compartment shall provide enclosed storage ~~cabinetry,~~
~~compartment space, and shelf space.~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Tue Oct 29 14:41:06 EDT 2013

Committee Statement

Committee Statement: Evolving design considerations may not include cabinets or compartment space. As written, the language suggests cabinets and compartments are required. The designation of separate types of space is unnecessary. There is also no apparent justification for specifying or restricting the type of storage space provided.

Response Message:

[Public Input No. 98-NFPA 1917-2013 \[Section No. 6.16.1\]](#)

[Public Input No. 338-NFPA 1917-2013 \[Section No. 6.16.1\]](#)

[Public Input No. 458-NFPA 1917-2013 \[Section No. 6.16.1\]](#)

**First Revision No. 188-NFPA 1917-2013 [New Section after 6.16.6]****6.16.7**

Interior storage cabinets, shelves, and drawers designed for storing common and critical equipment or supplies shall be within a maximum functional reach of 26.7 in. (678 mm) to the EMSPs with height as short as 59.3 in. (1506 mm) while seated and restrained.

6.16.8

The securing mechanism of those interior storage cabinets and drawers, if provided, shall be capable of being accessed under the same reach condition.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Tue Dec 17 17:31:26 EST 2013

Committee Statement

Committee Statement: Since common and critical equipment/supplies are more likely to be used by the EMSPs or are more important or critical for certain patients, their storage locations should be given higher priority for EMSPs' reachability. By accommodating the functional required for these tools and their securing mechanisms to a shorter demographic with a smaller reach, EMSPs will have fewer difficulties in reaching the common and/or critical equipment. This will enhance their safety by allowing them to stay restrained more often and will also increase working efficiency. The human factors practices in MIL-STD 1472G, Design Criteria Standard Human Engineering (January 2012), have provisions for functional reach. Table B-I, Standing Body Dimensions – General Forces, of MIL-STD 1472G addresses functional reachability ranges for different size demographics.

Response Message:

Public Input No. 148-NFPA 1917-2013 [New Section after 6.16.6]

**First Revision No. 43-NFPA 1917-2013 [Section No. 6.17.2]****6.17.2**

~~All hangers or supports for equipment and devices shall be mounted as flush as possible with the surrounding surface.~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 20:21:16 EDT 2013

Committee Statement

Committee Statement: This is not measurable and impractical and the committee has chosen to delete the requirement.

Response Message:

[Public Input No. 197-NFPA 1917-2013 \[Section No. 6.17.2\]](#)

**First Revision No. 193-NFPA 1917-2014 [Section No. 6.17.3]****6.17.2***

The finish of the entire patient compartment and exterior storage, including interiors of storage cabinets, shall be as follows:

- (1) Impervious to soap, water, body fluids, and disinfectants
- (2) Mildew resistant
- (3) Fire resistant in compliance with FMVSS 49 CFR 571. FMVSS No. 302
- (4) Able to be cleaned and disinfected

Supplemental Information

<u>File Name</u>	<u>Description</u>
FR_193_A.6.17.2.docx	

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 06 10:14:07 EST 2014

Committee Statement

Committee Statement: Please add the attached document as new annex material for 6.17.3

The interior of the patient compartment needs to be kept clean. When surfaces get exposed to contaminants and soiling, the patient compartment's hygiene may be detrimental to the health of incoming patients and EMSPs. A requirement to make unclean surfaces distinguishable from clean is needed. Such a requirement will enhance the patient compartment's hygiene and cleanliness, and so the surface materials and their color should allow EMSPs to distinguish clean from soiled surfaces.

Response Message:

Public Input No. 170-NFPA 1917-2013 [New Section after A.6.16]

A.6.17.2

Surface materials and their colors used in the patient compartment should allow EMSPs to distinguish clean surfaces from soiled surfaces.

**First Revision No. 44-NFPA 1917-2013 [New Section after 6.17.5]****6.17.5**

Countertop horizontal surfaces shall be surrounded by a lip of not less than $\frac{1}{2}$ in. (12 mm) in height.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 20:28:37 EDT 2013

Committee Statement

Committee Statement: The committee has added this new text for further clarification. Add as new section of text after the existing 6.17.5

Response Message:

[Public Input No. 165-NFPA 1917-2013 \[New Section after 6.17.5\]](#)

**First Revision No. 45-NFPA 1917-2013 [Section No. 6.18.1]****6.18.1 Medical Supplies and Equipment Storage Mounting.**

Supplies, devices, tools, and ~~so forth~~, other equipment shall be stored in enclosed compartments or fastened to secure them during vehicle motion.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 20:41:27 EDT 2013

Committee Statement

Committee Statement: This change was made as "and so forth" should not be in a specification/standard.

Response Message:

[Public Input No. 240-NFPA 1917-2013 \[Section No. 6.18.1\]](#)

**First Revision No. 129-NFPA 1917-2013 [Section No. 6.18.3]****6.16.9**

Each patient compartment cabinet shall be permanently labeled with its maximum load capacity.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 24 13:37:44 EDT 2013

Committee Statement

Committee Statement: This text is in the incorrect place and needs to be moved to just after the existing 6.16.6.

**Response
Message:**

[Public Input No. 111-NFPA 1917-2013 \[Section No. 6.18.3\]](#)

[Public Input No. 238-NFPA 1917-2013 \[Section No. 6.18.3\]](#)

[Public Input No. 270-NFPA 1917-2013 \[Section No. 6.18.3\]](#)

[Public Input No. 305-NFPA 1917-2013 \[Section No. 6.18.3\]](#)

[Public Input No. 341-NFPA 1917-2013 \[Section No. 6.18.3\]](#)

[Public Input No. 461-NFPA 1917-2013 \[Section No. 6.18.3\]](#)



First Revision No. 48-NFPA 1917-2013 [Section No. 6.21.1]

6.21.1 Seat Integrity.

Any seat mounted on an adjustable seat device shall be dynamically tested along the direction of the adjustment using the crash pulse in SAE J2917, *Occupant Restraint and Equipment Mounting Integrity — Frontal Impact System-Level Ambulance Patient Compartment* - in a patient compartment shall comply with SAE J3026, *Ambulance Patient Compartment Seating Integrity and Occupant Restraint*.

6.21.1.1

The test shall be conducted with the seat oriented in the direction of adjustment for both the forward-facing and rear-facing directions.

6.21.1.2

During and after the test, the seat shall remain securely attached to the adjustment device.

6.21.1.3

Seat belt anchorages on side facing seats shall be tested in accordance with the strength requirements of FMVSS 210.

6.21.2*

Seat belt anchorages on side facing seats shall be tested in accordance with the strength requirements of 49 CFR 571, FMVSS No. 210.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 08:28:09 EDT 2013

Committee Statement

Committee Statement: The committee has added this text as they believe that this better addresses the requirements.

Response Message:

[Public Input No. 112-NFPA 1917-2013 \[Section No. 6.21.1\]](#)

[Public Input No. 273-NFPA 1917-2013 \[Section No. 6.21.1.1\]](#)

[Public Input No. 274-NFPA 1917-2013 \[New Section after 6.21.1.1\]](#)

[Public Input No. 275-NFPA 1917-2013 \[Section No. 6.21.1.2\]](#)

[Public Input No. 276-NFPA 1917-2013 \[New Section after 6.21.1.2\]](#)

[Public Input No. 306-NFPA 1917-2013 \[Section No. 6.21.1\]](#)

[Public Input No. 342-NFPA 1917-2013 \[Section No. 6.21.1\]](#)

[Public Input No. 462-NFPA 1917-2013 \[Section No. 6.21.1\]](#)

**First Revision No. 49-NFPA 1917-2013 [Section No. 6.21.2]****6.21.2*** ~~SCBA Storage.~~

~~SCBA packs shall not be stored in the seat backs of seats in the patient compartment.~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 08:50:21 EDT 2013

Committee Statement

Committee Statement: The committee has chosen to delete this as they have developed new text in FR 50 to address this along with moving the associated annex material as part of FR 50.

Response Message:

**First Revision No. 52-NFPA 1917-2013 [Section No. 6.21.3]****6.21.3* ~~Seat Belts~~ Occupant Crash Protection .****6.21.3.1***

Each designated seating position shall be provided with ~~a seat belt~~ occupant crash protection .

6.21.3.2

If the occupant crash protection is a seat belt system, the seat belt shall comply with 6.21.3.3.1 and 6.21.3.3.2 .

6.21.3.3

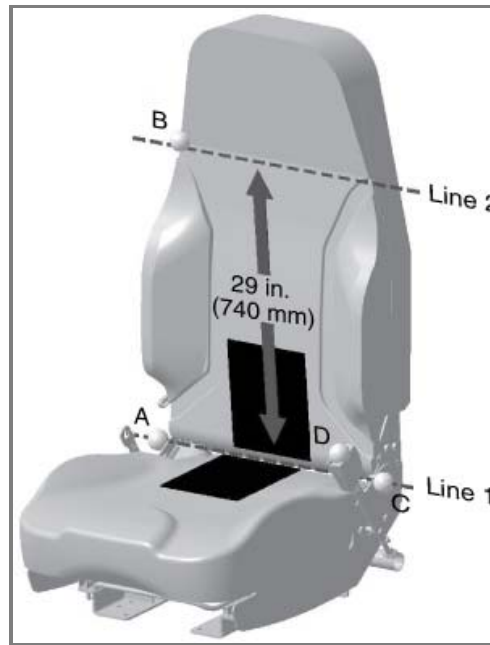
Ambulances above 19,500 lb (8845 kg) GVWR shall provide seat belts in accordance with 6.21.3.3.1 ~~6-21-3-2-1~~ and 6.21.3.3.2 ~~6-21-3-2-2~~ in the cab .

6.21.3.3.1

The effective seat belt web length for a Type 1 lap belt for pelvic restraint shall be a minimum of 60 in. (1524 mm) with the seat adjusted all the way back and down when measured using the following procedure and referring to Figure 6.21.3.3.1 ~~Figure 6-21-3-2-1~~ :

- (1) Locate an imaginary line where the plane of the center of the seat back surface intersects the plane of the center of the seat cushion surface (see line 1 in Figure 6.21.3.3.1 ~~Figure 6-21-3-2-1~~).
- (2) Locate point A on line 1 at the outside of the seat on the retractor side of the seat.
- (3) Locate point C on line 1 at the outside of the seat on the receiver side of the seat.
- (4) Locate point D at the tip of the receiver.
- (5) Pull the seat belt webbing entirely out of the retractor and measure along the webbing between point A and the male seat belt buckle.
- (6) Record this length as AD.
- (7) Measure from point C to point D and record this length as CD.
- (8) Add AD and CD for the effective seat belt web length.

Figure 6.21.3.3.1 Dimension Lines for Measuring Seat Belt Effective Length.



6.21.3.3.2

The effective seat belt web length for a Type 2 pelvic and upper torso ~~restraint-style restraint-style~~ seat belt assembly shall be a minimum of 110 in. (2800 mm) with the seat adjusted all the way back and down when measured using the following procedure:

- (1) Locate an imaginary line where the plane of the center of the seat back surface intersects the plane of the center of the seat cushion surface (see line 1 in [Figure 6.21.3.3.1](#) ~~Figure 6.21.3.2.1~~).
- (2) Locate an imaginary line parallel with line 1 and lying on the center of the seat back surface 29 in. (740 mm) from line 1 (see line 2 in [Figure 6.21.3.3.1](#) ~~Figure 6.21.3.2.1~~).
- (3) Locate point A on line 1 at the outside of the seat on the retractor side of the seat.
- (4) Locate point B on line 2 at the shoulder strap edge of the seat back.
- (5) Locate point C on line 1 at the outside of the seat on the receiver side of the seat.
- (6) Locate point D at the tip of the receiver.
- (7) Pull the seat belt webbing entirely out of the retractor and measure along the webbing between points A and B.
- (8) Record this length as AB.
- (9) Measure from point C to point D and record this length as CD.
- (10) Add AB and $2 \times$ CD for the effective seat belt web length.

6.21.3.4

Signs that read "Occupants Must Be Seated and Belted When Ambulance Is in Motion" shall be visible from each seated position.

Supplemental Information

<u>File Name</u>	<u>Description</u>
FR_52_A.6.21.3_nw.docx	

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 09:06:44 EDT 2013

Committee Statement

Committee Statement: The committee believes that these changes provide further clarification. Also please add the attached document as new annex material associated with 6.21.3

Restraint systems have the potential to become unsanitary or even contaminated. Consequently, restraint systems need to have some sort of mechanism to enable them to be easily sanitized. Keeping the patient compartment hygienic and clean is important for avoiding the spread of disease or unsanitary work practices, and this goal can be further met by using restraint systems that should be able to become fully exposed for sanitation and cleaning.

It is essential for the occupants to be able to quickly and easily get out of the patient compartment seats. Allowing the occupants to unfasten their restraint system with only one motion or click using only one hand will help them quickly exit their seat and the patient compartment. It is important for the occupants to be able to quickly and easily fasten their restraint systems when the ambulance is in motion or will soon be in motion. The EMSP will want to ingress and fasten their seat's restraint system as soon as possible. This will in turn help them be able to provide healthcare to the patient more quickly. Requiring that the restraint system's fastening mechanism only needs minimal steps to operate will allow them more time to spend on the patient. Restraint systems need to adhere to standard human factors practices. With a more ergonomic design, EMSPs will be able to practice their healthcare skills more safely and also perform work activities more efficiently. They need to avoid pressure points and sensitive body areas.

Response Message:

[Public Input No. 96-NFPA 1917-2013 \[Section No. 6.21.3\]](#)

[Public Input No. 171-NFPA 1917-2013 \[New Section after A.6.21.2\]](#)

[Public Input No. 314-NFPA 1917-2013 \[New Section after A.6.21.3.1\]](#)

[Public Input No. 496-NFPA 1917-2013 \[Section No. 6.21.3.2\]](#)

A.6.21.3

Restraint systems should be as follows:

- (1) The restraint system's unfastening mechanism should require only one motion or click with only one hand to operate.
- (2) The restraint system's fastening mechanism should require minimal steps to operate.
- (3) The restraint system should be adjustable to prevent pressure on the throat or other sensitive areas.
- (4) The restraint system should be fully exposable for sanitation and cleaning.

**First Revision No. 53-NFPA 1917-2013 [New Section after 6.21.7]****6.21.7.1**

The seat bottom cushion height shall be a maximum of 21 in. (533 mm) measured from the floor.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 09:55:57 EDT 2013

Committee Statement

Committee Statement: The seat height should accommodate the different heights of the occupants for comfortable seating. The human factors practices in MIL-STD 1472G has provisions for an appropriate seating height for work that involves seated operations. Requirement 5.10.3.2.7 of MIL-STD 1472G addresses the seat heights. In addition, an asterisk has been added to correspond with additional material provided in annex.

Response Message:

Public Input No. 108-NFPA 1917-2013 [New Section after 6.21.7]

**First Revision No. 195-NFPA 1917-2014 [Section No. 6.21.7.2]****6.21.7.3***

Seat bottom cushions shall be between 15 in. ~~and 19~~ (380 mm) and 19 in. (380 mm ~~and~~ 483 mm) from the front of the cushion to the face of the seat back.

Supplemental Information

<u>File Name</u>	<u>Description</u>
FR_195_A.6.21.7.2_nw.docx	

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 06 11:00:12 EST 2014

Committee Statement

Committee Statement: Please add the attached document as new annex text for this section.

The seating in the patient compartment needs to conform to different heights and sizes of occupants. The seating depth should be able to accommodate individuals with height as short as 59.3 in. (1506 mm), allowing them to sit with ease and be able to perform work activities. The human factors practices in MIL-STD 1472G, Design Criteria Standard Human Engineering (January 2012), addresses the seating depths required for work that involves seated operations. Section 5.10.3.2.4, Seating, of MIL-STD 1472G addresses the seating dimensions.

Response Message:

[Public Input No. 292-NFPA 1917-2013 \[New Section after A.6.21.3.1\]](#)

A.6.21.7.2

Purchasers should consider that seats deeper than 15.9 in. (404 mm) might not accommodate 5th percentile females.

**First Revision No. 54-NFPA 1917-2013 [Sections 6.21.7.3, 6.21.7.4]****6.21.7.4**

~~A back cushion that extends from the seat bottom cushion vertically at least 7 in. (460 mm) and that is a minimum of 18 in. (460 mm) wide at the base shall be provided.~~

6.21.7.4*

~~Each seat shall provide back and head support, beginning no more than 24 in. (610 mm) above the seat bottom cushion and continuing to at least 32 in. (813 mm) above the seat bottom cushion.~~

Supplemental Information**File Name****Description**

FR_54_A.6.21.7.3.docx

Submitter Information Verification**Submitter Full Name:** [Not Specified]**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Fri Oct 18 10:08:09 EDT 2013**Committee Statement**

Committee Statement: The committee believes that these changes better meets the intent of what the committee is trying to accomplish.

Seats need to adhere to standard human factors practices that preclude short-term or long-term musculoskeletal injuries. With a more ergonomic design, EMS providers will be allowed to perform work activities more efficiently with less risk of injury. An ergonomic, appropriately wide backrest will give EMSP an extra provision to comfortably stay in a seated position. Although minimum back support is identified at 18 in, 20 in provides support for a large EMSP. The human factors practices in MIL-STD 1472G, Design Criteria Standard Human Engineering (January 2012), have provisions for the seat backrest. Requirement 5.6.2.1, Dimensions and Clearance, of MIL-STD 1472G, Design Criteria Standard Human Engineering (January 2012), addresses the seating backrest widths.

Seats need to adhere to standard human factors practices. With a more ergonomic design, EMS providers will be allowed to perform work activities more efficiently. An ergonomic, appropriately-sized backrest and headrest that accommodate a wide range of EMSPs and patients heights will give them an extra support to comfortably stay in a seated position. The human factors practices in MIL-STD 1472G, Design Criteria Standard Human Engineering (January 2012) Table B-I, Standing Body Dimensions –General Forces, of MIL-STD 1472, have provisions for anthropometrics that are relevant to the seat backrest and headrest. In addition, a lumbar support will give EMS workers an extra provision to comfortably stay in a seated position. The human factors practices in MIL-STD 1472G, Design Criteria Standard Human Engineering (January 2012), have provisions for supporting seat backrest and lumbar supports, targeted for work that involves seated operations. Requirement 5.10.3.2.8 in this standard addresses the vehicle seating backrests.

Please add the attached text as new annex material for this section.

**Response
Message:**

[Public Input No. 243-NFPA 1917-2013 \[Section No. 6.21.7.3\]](#)

[Public Input No. 244-NFPA 1917-2013 \[Section No. 6.21.7.4\]](#)

[Public Input No. 290-NFPA 1917-2013 \[New Section after A.6.21.3.1\]](#)

[Public Input No. 291-NFPA 1917-2013 \[New Section after A.6.21.3.1\]](#)

[Public Input No. 296-NFPA 1917-2013 \[Section No. 6.21.7.4\]](#)

[Public Input No. 297-NFPA 1917-2013 \[Section No. 6.21.7.3\]](#)

[Public Input No. 497-NFPA 1917-2013 \[Section No. 6.21.7.3\]](#)

A.6.21.7.3

Back support should be at least 18 in. (457 mm) in width. Back and head support should accommodate occupants with heights that range from 59.3 in. (1506 mm) to 74.3 in. (1887 mm). In addition, the back support should include lumbar support.

**First Revision No. 55-NFPA 1917-2013 [Section No. 6.21.8.1]****6.21.8.1**

If the primary patient care seat is at the patient torso position, it shall be capable of being adjusted such that the ~~nearest edge of the~~ seat bottom cushion is within 6 in. (152 mm) of the ~~nearest edge of the~~ patient cot.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 10:24:46 EDT 2013

Committee Statement

Committee Statement: The committee believes that these changes provide further clarification.

Response Message:

[Public Input No. 245-NFPA 1917-2013 \[Section No. 6.21.8.1\]](#)

**First Revision No. 172-NFPA 1917-2013 [Section No. 6.21.9.1]****6.21.9.1**

Any seat with a built-in system suitable for transporting a child or an infant shall not be oriented designed for operation in a side-facing forward-facing or rear-facing direction during transport.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Tue Dec 17 11:24:42 EST 2013

Committee Statement

Committee Statement: Improve the grammar by changing from a negative to a positive statement. Change this to a design requirement as this is a standard for ambulance construction rather than ambulance operation.

Response Message:

[Public Input No. 499-NFPA 1917-2013 \[Section No. 6.21.9.1\]](#)

**First Revision No. 56-NFPA 1917-2013 [New Section after 6.21.10.3]****6.21.10.3.1**

The audible portion of the warning system shall comply at a minimum with 49 CFR 571, FMVSS No. 208.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 10:56:29 EDT 2013

Committee Statement

Committee Statement: The committee believes that provides the highest level of safety regarding audible warning systems.

Response Message:

[Public Input No. 115-NFPA 1917-2013 \[Section No. 6.21.10\]](#)

[Public Input No. 246-NFPA 1917-2013 \[Section No. 6.21.10\]](#)

[Public Input No. 345-NFPA 1917-2013 \[Section No. 6.21.10\]](#)

[Public Input No. 465-NFPA 1917-2013 \[Section No. 6.21.10\]](#)

**First Revision No. 57-NFPA 1917-2013 [Sections 6.22.1, 6.22.2]****6.22.1**

~~Each patient cot retention system shall not fail or release when subjected to the greater of the cot manufacturer's recommended retention force or a minimum retention force of 2200 lb (998 kg) applied in the longitudinal, lateral, and vertical directions. Patient cots shall be mounted in compliance with SAE J3027.~~
Ambulance Litter Integrity, Retention, and Patient Restraint .

6.22.2

~~Compliance of the cot retention system shall be validated by testing a sample retention device using a substantially similar ambulance or body structure in accordance with Section 9.4 .~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 11:00:39 EDT 2013

Committee Statement

Committee Statement: the committee has made this change as they believe it provides a higher level of protection.

Response Message:

Public Input No. 116-NFPA 1917-2013 [Section No. 6.22]

Public Input No. 181-NFPA 1917-2013 [Section No. 6.22]

Public Input No. 247-NFPA 1917-2013 [Section No. 6.22.1]

Public Input No. 278-NFPA 1917-2013 [Section No. 6.22.1]

Public Input No. 279-NFPA 1917-2013 [New Section after 6.22.1]

Public Input No. 280-NFPA 1917-2013 [Section No. 6.22.2]

Public Input No. 346-NFPA 1917-2013 [Section No. 6.22]

Public Input No. 466-NFPA 1917-2013 [Section No. 6.22]



First Revision No. 58-NFPA 1917-2013 [Sections 6.23.3.1, 6.23.3.2, 6.23.3.3, 6.23.3.4]

6.23.3.1

~~Ventilation system(s) in the patient compartments shall provide a change of ambient air with the vehicle stationary. A patient care compartment air exhaust fan shall be provided.~~

6.23.3.2

Ventilation shall be separately controlled within the cab and the patient ~~compartments~~ compartment .

6.23.3.3

Fresh air intakes shall be provided and shall not be located near the engine exhaust outlet.

~~6.23.3.4~~

~~A fresh air exhaust fan shall be provided.~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 11:23:29 EDT 2013

Committee Statement

Committee Statement: The committee believes these changes provide further clarification.

Response Message:

Public Input No. 500-NFPA 1917-2013 [Section No. 6.23.3.1]



First Revision No. 200-NFPA 1917-2014 [Section No. 6.25.1]

6.25.1 *

A retroreflective stripe or combination of stripes shall be affixed to the ambulance in the following proportions:

- (1) 25 percent of the ~~width~~ length of the ~~front~~ each of the ~~ambulance-visible cab~~ side surfaces when approached from ~~the front~~ each side
- (2) ~~50~~ 75 percent of the ~~overall ambulance-length-visible~~ patient compartment side surfaces when approached from each side

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 06 12:03:30 EST 2014

Committee Statement

Committee Statement: These changes are being made as the back of an ambulance is configured differently than a fire truck. The AHJ has the authority to determine the design of all safety markings on the vehicle. Science has established that chevrons are not the only design that provides conspicuity. The intended desire in the existing standard to be consistent between fire & EMS may actually conflict with local culture and preferences. Scientific research and the FEMA study on conspicuity does not dictate one design or color pair, and the color red is highly inconspicuous during daylight and nighttime hours.

Response Message:

[Public Input No. 117-NFPA 1917-2013 \[Section No. 6.25\]](#)

[Public Input No. 308-NFPA 1917-2013 \[Section No. 6.25.1\]](#)

[Public Input No. 347-NFPA 1917-2013 \[Sections 6.25.1, 6.25.2, 6.25.3\]](#)

[Public Input No. 467-NFPA 1917-2013 \[Sections 6.25.1, 6.25.2, 6.25.3\]](#)

**First Revision No. 201-NFPA 1917-2014 [Section No. 6.25.2]****6.25.2**

The stripe or combination of stripes shall be a minimum of 4 6 in. (~~400~~ 152 mm) in total vertical width.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 06 12:11:09 EST 2014

Committee Statement

Committee Statement: These changes are being made as the back of an ambulance is configured differently than a fire truck. The AHJ has the authority to determine the design of all safety markings on the vehicle. Science has established that chevrons are not the only design that provides conspicuity. The intended desire in the existing standard to be consistent between fire & EMS may actually conflict with local culture and preferences. Scientific research and the FEMA study on conspicuity does not dictate one design or color pair, and the color red is highly inconspicuous during daylight and nighttime hours.

Response Message:

[Public Input No. 248-NFPA 1917-2013 \[Section No. 6.25.2\]](#)

[Public Input No. 309-NFPA 1917-2013 \[Section No. 6.25.2\]](#)

**First Revision No. 202-NFPA 1917-2014 [Section No. 6.25.3]****6.25.3**

The 4 ~~6~~ in. (400 ~~152~~ mm) wide stripe or combination of stripes shall be permitted to be interrupted by objects (e.g., receptacles, cracks between slats in roll-up doors), provided the full stripe is conspicuous as the ambulance is approached.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 06 12:12:15 EST 2014

Committee Statement

Committee Statement: These changes are being made as the back of an ambulance is configured differently than a fire truck. The AHJ has the authority to determine the design of all safety markings on the vehicle. Science has established that chevrons are not the only design that provides conspicuity. The intended desire in the existing standard to be consistent between fire & EMS may actually conflict with local culture and preferences. Scientific research and the FEMA study on conspicuity does not dictate one design or color pair, and the color red is highly inconspicuous during daylight and nighttime hours.

**Response
Message:**

[Public Input No. 249-NFPA 1917-2013 \[Section No. 6.25.3\]](#)

[Public Input No. 310-NFPA 1917-2013 \[Section No. 6.25.3\]](#)

**First Revision No. 199-NFPA 1917-2014 [Section No. 6.25.4]****6.25.4**

A graphic design shall be permitted to replace all or part of the required striping material if the design or combination thereof covers at least the same perimeter length(s) required by [6.25.1](#) ~~6.28.1~~ .

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 06 11:59:13 EST 2014

Committee Statement

Committee Statement: This change was made to correct the numbering.

Response Message:

[Public Input No. 250-NFPA 1917-2013 \[Section No. 6.25.4\]](#)

**First Revision No. 203-NFPA 1917-2014 [Section No. 6.25.6****[Excluding any Sub-Sections]]**

At least 50 percent of the rear-facing vertical surfaces, visible from the rear of the ambulance, shall be equipped with retroreflective ~~striping in a chevron pattern sloping downward and away from the centerline of the vehicle at an angle of 45 degrees~~ material .

Supplemental Information

<u>File Name</u>	<u>Description</u>
FR_203_A.6.25.6.docx	

Submitter Information Verification

Submitter Full Name: [Not Specified]
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jan 06 12:13:45 EST 2014

Committee Statement

Committee Statement: These changes are being made as the back of an ambulance is configured differently than a fire truck. The AHJ has the authority to determine the design of all safety markings on the vehicle. Science has established that chevrons are not the only design that provides conspicuity. The intended desire in the existing standard to be consistent between fire & EMS may actually conflict with local culture and preferences. Scientific research and the FEMA study on conspicuity does not dictate one design or color pair, and the color red is highly inconspicuous during daylight and nighttime hours. It also allows for more flexibility by the AHJ.

Add the attached document as new annex material for this section.

Response Message:

[Public Input No. 207-NFPA 1917-2013 \[Section No. 6.25.6\]](#)
[Public Input No. 252-NFPA 1917-2013 \[Section No. 6.25.6\]](#)
[Public Input No. 311-NFPA 1917-2013 \[Section No. 6.25.6\]](#)
[Public Input No. 348-NFPA 1917-2013 \[Section No. 6.25.6\]](#)
[Public Input No. 468-NFPA 1917-2013 \[Section No. 6.25.6\]](#)

A.6.25.6

Retroreflective material included in the calculation includes any combination of graphics, lettering, a chevron pattern sloping downward and away from the centerline of the vehicle at an angle of 45 degrees, or Battenburg markings.

**First Revision No. 204-NFPA 1917-2014 [Section No. 6.25.6.1]****6.25.6.1**

~~Each Where chevrons are used, each stripe in the chevron shall be a single color alternating between red and either yellow, fluorescent yellow, or fluorescent yellow-green two high-contrast colors .~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 06 12:19:12 EST 2014

Committee Statement

Committee Statement: These changes are being made as the back of an ambulance is configured differently than a fire truck. The AHJ has the authority to determine the design of all safety markings on the vehicle. Science has established that chevrons are not the only design that provides conspicuity. The intended desire in the existing standard to be consistent between fire & EMS may actually conflict with local culture and preferences. Scientific research and the FEMA study on conspicuity does not dictate one design or color pair, and the color red is highly inconspicuous during daylight and nighttime hours. It also allows for more flexibility by the AHJ.

Response**Message:**

[Public Input No. 6-NFPA 1917-2013 \[Section No. 6.25.6.1\]](#)

[Public Input No. 251-NFPA 1917-2013 \[Section No. 6.25.6.1\]](#)

**First Revision No. 205-NFPA 1917-2014 [Section No. 6.25.6.2]****6.25.6.2**

Each stripe shall be 6 in. (~~450~~ 152 mm) in width.

6.25.6.3

Where Battenburg markings are used, each box in the Battenburg markings shall be 144 in² (92,903 mm²).

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 06 12:20:58 EST 2014

Committee Statement

Committee Statement: This change is editorial in nature and these changes are being made as the back of an ambulance is configured differently than a fire truck. The AHJ has the authority to determine the design of all safety markings on the vehicle. Science has established that chevrons are not the only design that provides conspicuity. The intended desire in the existing standard to be consistent between fire & EMS may actually conflict with local culture and preferences. Scientific research and the FEMA study on conspicuity does not dictate one design or color pair, and the color red is highly inconspicuous during daylight and nighttime hours. It also allows for more flexibility by the AHJ.

Response Message:

Public Input No. 253-NFPA 1917-2013 [Section No. 6.25.6.2]

**First Revision No. 194-NFPA 1917-2014 [Section No. 6.28.3]**[Global FR-1](#) [Hide Deleted](#)**6.28.3***[Global FR-1](#) [Hide Deleted](#)

All ~~oxygen~~ medical gas system controls shall be accessible from inside the vehicle.

Supplemental Information**File Name****Description**

FR_194_A.6.28.3_nw.docx

Submitter Information Verification**Submitter Full Name:** [Not Specified]**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Mon Jan 06 10:56:07 EST 2014**Committee Statement**

Committee Statement: Please add the attached document as new annex material for this section.

Providing easy access to essential devices, equipment, tools, or ports in the patient compartment can increase the efficiency of the working environment, and result in less time that the EMSP has to spend for obtaining their work needs. O₂ and suction devices and ports are critically important to patient care and frequently used. Difficult reaches behind the EMSP can also increase the risk of musculoskeletal injuries. Easing access to these two devices should be a requirement, avoiding the EMSPs from having to reach behind themselves or bypass a structure and/or piece of equipment to access the ports.

Response Message:

[Public Input No. 163-NFPA 1917-2013 \[New Section after A.6.25\]](#)

A.6.28.3

Oxygen and suction ports should be located so that EMSPs do not have to reach behind themselves, a structure, or a piece of equipment to access the ports.

**First Revision No. 59-NFPA 1917-2013 [Section No. 6.28.11.1]****6.28.11.1**[Global FR-1](#) [Hide Deleted](#)

The ~~oxygen~~ medical gas system of each ambulance shall be tested prior to delivery in accordance with Section 9.15 .

6.28.11.1.1[Global FR-1](#) [Hide Deleted](#)

The ~~oxygen system~~ medical gas system shall lose no more than 5 psi (34 kPa) of pressure in a 2-hour period.

6.28.11.1.2[Global FR-1](#) [Hide Deleted](#)

Each outlet shall be capable of delivering at least 26.4 gpm (100 L/min) of ~~oxygen~~ medical gas .

6.28.11.1.3[Global FR-1](#) [Hide Deleted](#)

~~Compliance of the oxygen system integrity shall be validated by testing a sample system in a substantially similar ambulance in accordance with Section 9.15~~ .

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 11:38:03 EDT 2013

Committee Statement

Committee Statement: The prior section called for type testing and the committee believes that 100% testing by the manufacturer in accordance with Section 9.15.

Response Message:

Public Input No. 254-NFPA 1917-2013 [New Section after 6.28.7]

**First Revision No. 60-NFPA 1917-2013 [Section No. 6.29.1]****6.29.1**

~~An electrically powered~~ A suction aspirator system shall be furnished.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 12:03:25 EDT 2013

Committee Statement

Committee Statement: The committee believes this allows for greater flexibility.

Response Message:

Public Input No. 502-NFPA 1917-2013 [Section No. 6.29.1]

**First Revision No. 142-NFPA 1917-2013 [Section No. 6.29.9.3]****6.29.9.3**

Compliance of the aspirator system shall be validated by ~~testing a sample the~~
~~manufacturer by testing each individual~~ aspirator system installed in ~~a substantially~~
~~similar ambulance in~~ accordance with Section [9.20](#).

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 31 11:50:13 EDT 2013

Committee Statement

Committee Statement: The committee believes the standard should specify by passage the tests that are required on each individual ambulance by the manufacturer and those tests required by third party testing with a 7 year duration for testing a substantially similar vehicle types.

Response Message:

[Public Input No. 398-NFPA 1917-2013 \[Section No. 6.29.9.3\]](#)

**First Revision No. 143-NFPA 1917-2013 [Section No. 7.1.1.1]****7.1.1.1**

~~When~~ Where printed circuits are utilized, they shall conform to IPC A-610D 610E ,
“ *Acceptability of Electronic Assemblies.*”

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 31 11:57:16 EDT 2013

Committee Statement

Committee Statement: The IPC A-610E is the current document published 04/01/2010.

Response Message:

Public Input No. 21-NFPA 1917-2013 [Section No. 7.1.1.1]



First Revision No. 164-NFPA 1917-2013 [Section No. 7.1.1.2]

7.1.1.2

~~Printed circuit assemblies provided shall qualify under IPC A-610D, "Acceptability of Electronic Assemblies," Classification 1.4.1 as Class 2 "For Commercial and Industrial Assemblies" or better. Printed circuit assemblies shall be qualified in accordance with one of the following:~~

- (1) ~~Non-life saving systems shall comply with IPC A-610E, Acceptability of Electronic Assemblies, Classification 1.4.1 as Class 2, For Commercial and Industrial Assemblies, or better.~~
- (2) ~~Life-saving systems shall comply with IPC A-610E, Acceptability of Electronic Assemblies, Classification 1.4.1 as Class 3, High Performance Electronic Products, or better.~~

Supplemental Information

<u>File Name</u>	<u>Description</u>
FR_164_7.1.1.2_nw.docx	

Submitter Information Verification

Submitter Full Name: [Not Specified]
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Fri Nov 15 10:26:54 EST 2013

Committee Statement

Committee Statement: This revision is necessary as Class 3 High Performance Electronic Products includes products where continued high performance or performance-on-demand is critical, equipment downtime cannot be tolerated, end-use environment may be uncommonly harsh, and the equipment must function when required such as life support or other critical systems. The proposed language restores the caliber of the circuit assemblies as it has been established by the KKK specifications. A higher rate of failure is not acceptable in an ambulance.

Response Message:

[Public Input No. 22-NFPA 1917-2013 \[Section No. 7.1.1.2\]](#)
[Public Input No. 120-NFPA 1917-2013 \[Section No. 7.1.1.2\]](#)
[Public Input No. 350-NFPA 1917-2013 \[Section No. 7.1.1.2\]](#)
[Public Input No. 399-NFPA 1917-2013 \[Section No. 7.1.1.2\]](#)
[Public Input No. 470-NFPA 1917-2013 \[Section No. 7.1.1.2\]](#)

7.1.1.2

Printed circuit assemblies shall comply with/conform to one of the following:

- (1) Non-life saving systems shall comply with IPC A-610E, *Acceptability of Electronic Assemblies*, Classification 1.4.1 as Class 2, For Commercial and Industrial Assemblies, or better.
- (2) Life-saving systems shall comply with IPC A-610E, *Acceptability of Electronic Assemblies*, Classification 1.4.1 as Class 3, High Performance Electronic Products, or better.

This revision is necessary because Class 3 high performance electronic products include products in which continued high performance or performance-on-demand is critical, equipment downtime cannot be tolerated, the end-use environment might be uncommonly harsh, and the equipment must function when required to supply life support or other critical systems. The proposed language restores the caliber of the circuit assemblies established by Federal Specification KKK-A-1822. A higher rate of failure is not acceptable in an ambulance.

**First Revision No. 63-NFPA 1917-2013 [Section No. 7.1.1.3]****7.1.1.3**

~~Printed circuit board connections and components shall conform to all other specification requirements.~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 12:14:35 EDT 2013

Committee Statement

Committee Statement: There are no "other specification requirements" identified. Suggestion is to delete this item.

Response Message:

[Public Input No. 23-NFPA 1917-2013 \[Section No. 7.1.1.3\]](#)



First Revision No. 64-NFPA 1917-2013 [Section No. 7.2.1 [Excluding any Sub-Sections]]

All electrical circuit ~~feeder~~ wiring supplied and installed by the ambulance manufacturer shall meet the requirements of [7.2.1.1](#) through [7.2.1.6](#).

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 12:15:00 EDT 2013

Committee Statement

Committee Statement: All added conversion wiring should be copper conductor sized for 125% of the rated current load intended. Currently the passage only requires the feeder portion of the circuit to be copper. Current AMD and KKK standards require the use of copper wiring.

Response Message:

[Public Input No. 403-NFPA 1917-2013 \[Section No. 7.2.1 \[Excluding any Sub-Sections\]\]](#)

**First Revision No. 70-NFPA 1917-2013 [Section No. 7.2.1.2]****7.2.1.2**

Voltage drops in all wiring from the power source to the ~~using device~~ load shall not exceed ~~0.5 volt~~ 5 percent of the nominal source voltage.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 12:38:57 EDT 2013

Committee Statement

Committee Statement: The industry standard allowance for voltage drop in a branch circuit is 5%. (Refer to the NEC, NFPA 70.) Specifying a lower allowed voltage drop will in some cases necessitate the use of larger conductors.

There is no justification for this ambulance standard to deviate from standard industry practice in a way that compels higher cost to the customer for unnecessarily large conductor.

The issue should be resolved by changing the allowable drop to 5% of the source voltage.

Response Message:

Public Input No. 503-NFPA 1917-2013 [Section No. 7.2.1.2]

**First Revision No. 144-NFPA 1917-2013 [Section No. 7.2.1.3]****7.2.1.3**

The use of star washers by the final-stage ambulance manufacturer for circuit ground connections shall not be permitted. [~~1901:~~ 13.2.1.2]

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 31 11:59:40 EDT 2013

Committee Statement

Committee Statement: Some chassis manufacturers utilize star washers in their manufacturing process. The original statement would require that those chassis would not be allowed, or those connections would require replacement.

**Response
Message:**

[Public Input No. 24-NFPA 1917-2013 \[Section No. 7.2.1.3\]](#)

[Public Input No. 121-NFPA 1917-2013 \[Section No. 7.2.1.3\]](#)

[Public Input No. 351-NFPA 1917-2013 \[Section No. 7.2.1.3\]](#)

[Public Input No. 401-NFPA 1917-2013 \[Section No. 7.2.1.3\]](#)

[Public Input No. 471-NFPA 1917-2013 \[Section No. 7.2.1.3\]](#)

**First Revision No. 207-NFPA 1917-2014 [Section No. 7.2.1.4]****7.2.1.4**

All circuits shall otherwise be wired in conformance with SAE J1292, ~~Automobile, Truck, Truck Tractor, Trailer, and Motor Coach Wiring.~~ [~~1901:~~ 13.2.1.3] J2202, Heavy Duty Wiring Systems for On-Highway Trucks .

Submitter Information Verification

Submitter Full Name: Michael Beady

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Feb 06 14:53:37 EST 2014

Committee Statement

Committee Statement: The committee has made this change in order to update referenced documents and requirements.

Response Message:

**First Revision No. 71-NFPA 1917-2013 [Section No. 7.2.1.5]****7.2.1.5**[Global FR-1](#) [Hide Deleted](#)

Only electrical components directly related to the delivery of on-board ~~oxygen medical gas~~ and other circuits needed for required lighting or medical gas tank lifts shall terminate in the ~~oxygen medical gas~~ storage compartment.

Submitter Information Verification**Submitter Full Name:** [Not Specified]**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Fri Oct 18 12:40:32 EDT 2013**Committee Statement**

Committee Statement: Lighting and door sensors are a requirement of 7.11.7.1 and should not be excluded from this compartment. Electric oxygen lifts are a significant benefit to operator safety when changing oxygen tanks and properly designed and protected systems should be allowed.

Response Message:

[Public Input No. 25-NFPA 1917-2013 \[Section No. 7.2.1.5\]](#)

[Public Input No. 402-NFPA 1917-2013 \[Section No. 7.2.1.5\]](#)

**First Revision No. 145-NFPA 1917-2013 [Section No. 7.2.2.1****[Excluding any Sub-Sections]]**

All insulated wire and cable shall conform to SAE J1127, *Low Voltage Battery Cable*, or SAE J1128, *Low Voltage Primary Cable*, type SXL, ~~GXL, or TXL~~,
~~[1901: 13.2.2.1]~~ and/or GXL.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 31 12:02:03 EDT 2013

Committee Statement

Committee Statement: TXL is an inferior wire compared to the current requirements in the KKK standard which is SXL or GXL. The insulation thickness on SXL is .037, GXL is .023 and TXL is .016.

Response Message:

[Public Input No. 122-NFPA 1917-2013 \[Section No. 7.2.2.1 \[Excluding any Sub-Sections\]\]](#)

[Public Input No. 352-NFPA 1917-2013 \[Section No. 7.2.2.1 \[Excluding any Sub-Sections\]\]](#)

[Public Input No. 472-NFPA 1917-2013 \[Section No. 7.2.2.1 \[Excluding any Sub-Sections\]\]](#)

**First Revision No. 146-NFPA 1917-2013 [Section No. 7.2.2.7]****7.2.2.7**

~~Connections at exterior~~ Exterior connections for lights and fixtures shall utilize sealed connectors or sealed splices.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 31 12:03:47 EDT 2013

Committee Statement

Committee Statement: There is no reason for the increased expense of exterior sealed connectors on devices where the connector is inside the patient compartment. The logical intent is to ensure that all connections that are potentially exposed to moisture are properly protected against moisture. Many exterior light connections are interior connections that are not exposed to moisture and therefore do not need such protection. Conversely, there are connections for devices other than exterior lights and fixtures that are exterior connections that do need to utilize sealed connectors or sealed splices.

Response Message:

[Public Input No. 27-NFPA 1917-2013 \[Section No. 7.2.2.7\]](#)

[Public Input No. 125-NFPA 1917-2013 \[Section No. 7.2.2.7\]](#)

[Public Input No. 355-NFPA 1917-2013 \[Section No. 7.2.2.7\]](#)

[Public Input No. 407-NFPA 1917-2013 \[Section No. 7.2.2.7\]](#)

[Public Input No. 475-NFPA 1917-2013 \[Section No. 7.2.2.7\]](#)

**First Revision No. 147-NFPA 1917-2013 [Section No. 7.3.2.2]****7.3.2.2**

Compliance of the minimum electrical load test conditions shall be validated by testing ~~a substantially similar~~ each ambulance in accordance with [9.4.3.3](#).

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 31 14:16:37 EDT 2013

Committee Statement

Committee Statement: Testing of each ambulance as opposed to a substantially similar ambulance ensures each ambulance is operational and configured properly.

Response Message:

[Public Input No. 29-NFPA 1917-2013 \[Section No. 7.3.2.2\]](#)

**First Revision No. 72-NFPA 1917-2013 [Section No. 7.3.4.2]****7.3.4.2**

Compliance of the high-idle alternator output shall be validated by ~~testing a substantially similar ambulance in the final-stage ambulance manufacturer by~~ testing each ambulance in accordance with [9.4.3.4](#).

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 13:30:57 EDT 2013

Committee Statement

Committee Statement: The alternator testing needs to be verified by the manufacturer on each unit produced prior to the vehicle being placed into service.

Response Message:

[Public Input No. 30-NFPA 1917-2013 \[Section No. 7.3.4.2\]](#)

[Public Input No. 414-NFPA 1917-2013 \[Section No. 7.3.4.2\]](#)

**First Revision No. 148-NFPA 1917-2013 [Section No. 7.4.2]****7.4.2**

If the ambulance is equipped to tow a trailer, an ~~additional 45~~ additional 20 amperes shall be added to the minimum continuous electrical load to provide electrical power for the federally required clearance and marker lighting and the optical warning devices mounted on the trailer.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 31 14:22:54 EDT 2013

Committee Statement

Committee Statement: The 45-amp requirement of this section far exceeds the actual load for a fully-compliant trailer. In the same way that this ambulance standard should specify minimum requirements for a basic ambulance, electrical load allowance for a trailer should be based upon a realistic, basic trailer rather than a worst case trailer electrical load. Typical load requirements for an FMVSS-compliant trailer would total less than 15 amperes as shown below.

The electrical load allowance for a trailer should be reduced to 20 amperes (which provides a 7A or 35% capacity margin).

Light Description and Quantity Total Electrical Load

Tail Lamps, 2 ea @ 0.03A = 0.06A

Stop Lamps, 2 ea @ 0.38A = 0.76A

Turn Lamps, 2 ea @ 0.38A = 0.76A

License Plate Lamp, 1 ea @ 0.5A = 0.50A

Rear Side Marker Lamps, 2 ea @ 0.05A = 0.10A

Front Side Marker Lamps, 2 ea @ 0.05A = 0.10A

Rear Clearance Lamps, 2 ea @ 0.05A = 0.10A

Rear Identification Lamps, 3 ea @ 0.05A = 0.15A

Front Clearance Lamps, 2 ea @ 0.05A = 0.10A

Side Flashers, 4 ea @ 0.60A = 2.40A

Rear Flashers, 2 ea @ 0.60A = 1.20A

Dome lights, 4 ea @ 1.5A = 6.00A

Total of all above loads = 12.23A

Response Message:

[Public Input No. 31-NFPA 1917-2013 \[Section No. 7.4.2\]](#)

[Public Input No. 504-NFPA 1917-2013 \[Section No. 7.4.2\]](#)

**First Revision No. 149-NFPA 1917-2013 [Section No. 7.4.3.2.2]****7.4.3.2.2**

Compliance of the voltage alarm shall be validated by testing ~~a substantially similar~~ each ambulance in accordance with [9.4.3](#).

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 31 14:24:40 EDT 2013

Committee Statement

Committee Statement: The cross reference in 7.4.3.2.2 to section 9.5.3 is incorrect, the Low voltage alarm testing is section 9.5.4

Response Message:

[Public Input No. 13-NFPA 1917-2013 \[Section No. 7.4.3.2.2\]](#)

[Public Input No. 32-NFPA 1917-2013 \[Section No. 7.4.3.2.2\]](#)

[Public Input No. 415-NFPA 1917-2013 \[Section No. 7.4.3.2.2\]](#)

**First Revision No. 150-NFPA 1917-2013 [Section No. 7.5.3.1]****7.5.3.1**

An engine speed auxiliary control device (high-idle switch or throttle) shall be installed to allow an increase in the engine speed, not to exceed the chassis manufacturer's recommendations, when the ambulance is parked in park or neutral with the parking brake applied.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 31 14:26:40 EDT 2013

Committee Statement

Committee Statement: Extended operation of an engine at elevated idle in order to comply with this section outside of the manufacturer's recommendations could shorten the life of the engine.

Response Message:

[Public Input No. 33-NFPA 1917-2013 \[Section No. 7.5.3.1\]](#)

[Public Input No. 416-NFPA 1917-2013 \[Section No. 7.5.3.1\]](#)

**First Revision No. 174-NFPA 1917-2013 [New Section after 7.6.5]****7.6.5.1**

The onboard charger shall be tested to the requirements of [9.8.6](#) .

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Tue Dec 17 12:50:02 EST 2013

Committee Statement

Committee Statement: To be provided

Response Message:

**First Revision No. 151-NFPA 1917-2013 [Section No. 7.6.7]****7.6.7***

A master load disconnect shall be provided between ~~the starter solenoid(s) and~~
~~the~~ the main power source and the patient compartment electrical loads.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 31 14:34:56 EDT 2013

Committee Statement

Committee Statement: Requiring that power must be taken from the starter solenoid is not a recommended practice by some chassis manufacturer's and is not necessary when wiring can directly be connected to the battery system.

Response

Message:

[Public Input No. 34-NFPA 1917-2013 \[Section No. 7.6.7\]](#)

**First Revision No. 117-NFPA 1917-2013 [Section No. 7.6.8.1]****7.6.8.1**

~~The starter solenoids shall be connected directly to the chassis batteries.~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Wed Oct 23 09:17:19 EDT 2013

Committee Statement

Committee Statement: This should be a chassis manufacturer's engineering determination not a minimum requirement for an ambulance specification.

Response Message:

[Public Input No. 35-NFPA 1917-2013 \[Section No. 7.6.8.1\]](#)

**First Revision No. 118-NFPA 1917-2013 [Section No. 7.6.9]****7.6.9**

~~The alternator. Alternators shall not be wired directly to the batteries through the ammeter shunt(s), if one is provided, and not through the master load disconnect switch. [1901: 13.4.6.3]~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Wed Oct 23 09:27:34 EDT 2013

Committee Statement

Committee Statement: Ammeter shunts, as opposed to a more modern Hall-effect sensor, should not be a requirement for taking amp readings of an alternator if requested. Alternators should not be required to be wired directly to batteries as many chassis manufacturers wire them to power distribution centers.

Response

Message:

[Public Input No. 36-NFPA 1917-2013 \[Section No. 7.6.9\]](#)

**First Revision No. 119-NFPA 1917-2013 [Section No. 7.6.11****[Excluding any Sub-Sections]]**

Two automotive power point= type connectors shall be furnished in the patient compartment. ~~for charging all portable battery-powered devices (e.g., suction units, hand lights, defibrillators, and portable radios).~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Wed Oct 23 09:28:46 EDT 2013

Committee Statement

Committee Statement: The word "all" over reaches the intention of the requirement for the two outlets.

Response Message:

[Public Input No. 37-NFPA 1917-2013 \[Section No. 7.6.11 \[Excluding any Sub-Sections\]\]](#)

**First Revision No. 76-NFPA 1917-2013 [Section No. 7.6.12]****7.6.12**

~~An additional tagged, identified lead shall be furnished in both the cab and the module for connection of additional (future) portable equipment that requires recharging.~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 13:48:01 EDT 2013

Committee Statement

Committee Statement: Without a defined load, prewiring for any unknown device is unsafe and can not be designed to ensure proper breaker size or 125% of the rated capacity.

or

Define the maximum amperage load of the prewire, i.e. 20 Amps.

Response Message:

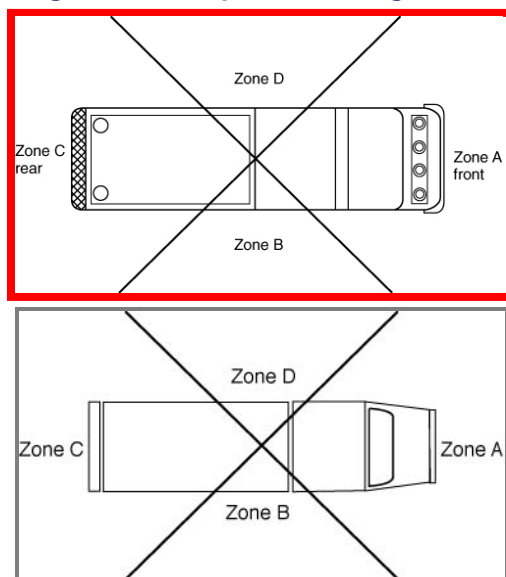
[Public Input No. 38-NFPA 1917-2013 \[Section No. 7.6.12\]](#)

[Public Input No. 417-NFPA 1917-2013 \[Section No. 7.6.12\]](#)

**First Revision No. 120-NFPA 1917-2013 [Section No. 7.9.3.2]****7.9.3.2**

The four zones shall be designated A, B, C, and D in a clockwise direction, with zone A to the front of the ambulance, as shown in [Figure 7.9.3.2](#).

Figure 7.9.3.2 Warning Zones for Optical Warning Devices.

**Supplemental Information****File Name**

Figure_7.9.3.2_Warning_Zones_for_Optical_Warning_Devices.jpg

Description**Submitter Information Verification**

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Wed Oct 23 09:31:54 EDT 2013

Committee Statement

**Committee
Statement:**

Suggestion to use an image of an ambulance as opposed to a fire truck or rescue.

The committee is deleting the existing figure and replacing with the attached figure, which is that of an ambulance.

**Response
Message:**

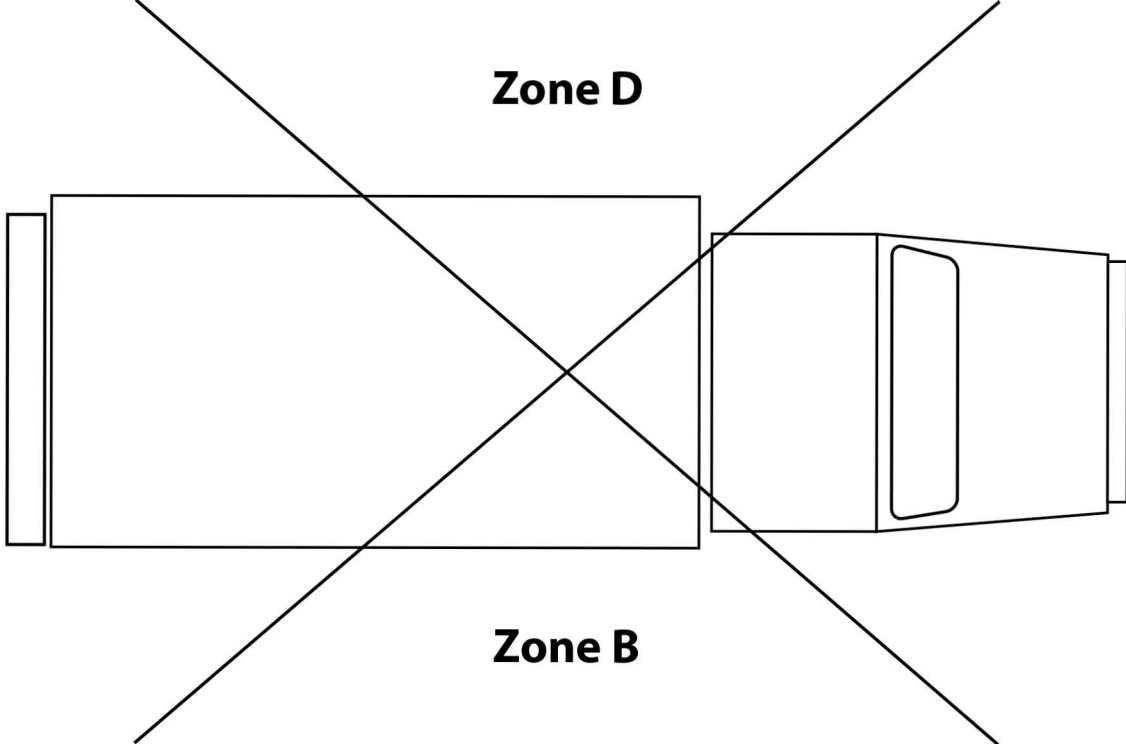
[Public Input No. 39-NFPA 1917-2013 \[Section No. 7.9.3.2\]](#)

Zone D

Zone B

Zone C

Zone A



**First Revision No. 152-NFPA 1917-2013 [Section No. 7.9.7.1]****7.9.7.1**

When the master optical warning system switch ~~is closed~~ is enabled and the parking brake is released or the automatic transmission is not in park, the warning devices signaling the call for the right-of-way shall be energized. [~~1901: 13.8.7.1~~]

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 31 14:38:32 EDT 2013

Committee Statement

Committee Statement: Clarification to aid in interpretation.

Response Message:

[Public Input No. 40-NFPA 1917-2013 \[Section No. 7.9.7.1\]](#)

**First Revision No. 153-NFPA 1917-2013 [Section No. 7.9.7.2]****7.9.7.2**

When the master optical warning system switch ~~is closed~~ is enabled and the parking brake is on or the automatic transmission is in park, the warning devices signaling the blockage of the right-of-way shall be energized. [~~1901: 13.8.7.2~~]

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 31 14:40:21 EDT 2013

Committee Statement

Committee Statement: Clarification to aid in interpretation.

Response Message:

[Public Input No. 41-NFPA 1917-2013 \[Section No. 7.9.7.2\]](#)

**First Revision No. 79-NFPA 1917-2013 [Section No. 7.9.10]****7.9.10***

~~The optical sources on each level shall be of sufficient number and arranged so that failure of a single optical source does not create a measurement point in any zone on the same level as the failed optical source without a warning signal at a distance of 100 ft (30 m) from the geometric center of the ambulance. Failure of a single optical device should not impede the visibility of the vehicle at 100 ft (30 m) from the geometric center of the ambulance.~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 13:50:47 EDT 2013

Committee Statement

Committee Statement: Simplified requirement. Originally stated, it appears that an additional warning device/signal is required to identify if an optical source has failed.

Response

Message:

Public Input No. 42-NFPA 1917-2013 [Section No. 7.9.10]

**First Revision No. 121-NFPA 1917-2013 [Section No. 7.9.11.1]****7.9.11.1**

The minimum flash rate of any optical source shall be 75 flashes per minute, ~~and the minimum number of flashes at any measurement point shall be 150 flashes per minute.~~ [1901: 13.8.11.1]

7.9.11.1.1

Steadily burning, nonflashing optical sources shall be permitted to be used.
[1901:13.8.11.1.1]

7.9.11.1.2

~~The~~ Only the optical energy provided by ~~nonflashing~~ flashing optical sources shall not be included in the calculations of the zone's total optical power.
[1901: 13.8.11.1.2]

7.9.11.1.3

The minimum number of flashes at any measurement point shall be 150 flashes per minute.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Wed Oct 23 09:37:38 EDT 2013

Committee Statement

Committee Statement: The committee has made this change to address the submitters intent in public input 505 and public input 43.

Response Message:

Public Input No. 43-NFPA 1917-2013 [Section No. 7.9.11.1.2]

Public Input No. 505-NFPA 1917-2013 [Section No. 7.9.11.1 [Excluding any Sub-Sections]]

**First Revision No. 80-NFPA 1917-2013 [Section No. 7.9.11.2]****7.9.11.3**

~~The flasher of any current-interrupted flashing device shall otherwise meet the requirements of SAE J1690, *Flashers*. [1901: 13.8.11.2]~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 13:52:11 EDT 2013

Committee Statement

Committee Statement: SAE J1690 is not current with today's more common lightheads with integrated flashing circuitry.

The SAE J1690 document assumes the flasher is external to the light and does not

address if the flashers are integral to the light. This document has not been updated since 1996, and has not kept pace

with many lightheads now incorporating internal flash circuitry.

Response Message:

[Public Input No. 44-NFPA 1917-2013 \[Section No. 7.9.11.2\]](#)

**First Revision No. 81-NFPA 1917-2013 [Section No. 7.9.17.1.2]****7.9.17.1.2**

~~The ambulance standard warning light system shall not impose a continuous average electrical load exceeding 40 amperes at 14.2 volts.~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 13:53:41 EDT 2013

Committee Statement

Committee Statement: A maximum ampere limit should not be imposed if the vehicle is designed for and capable of supporting the necessary load.

Response Message:

[Public Input No. 48-NFPA 1917-2013 \[Section No. 7.9.17.1.2\]](#)

**First Revision No. 175-NFPA 1917-2013 [Section No. 7.9.17.2****[Excluding any Sub-Sections]]**

The ambulance standard emergency warning light system shall contain 12 fixed red lights, 1 fixed ~~clear~~ white light, and 1 or more fixed ~~amber~~ yellow lights ~~(s)~~.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Tue Dec 17 13:00:51 EST 2013

Committee Statement

Committee Statement: In Table 7.9.12.1 the word yellow and white are used and in section 7.9.12.2 the word yellow and white are used. The committee needs to decide what Terminology to use. Updates also made to Figure 7.9.17.2.1.

Response Message:

[Public Input No. 15-NFPA 1917-2013 \[Section No. 7.9.17.2 \[Excluding any Sub-Sections\]\]](#)

**First Revision No. 208-NFPA 1917-2014 [Section No. 7.9.17.2.3****[Excluding any Sub-Sections]]**

The single ~~clear~~ white light shall be centered between the two front-facing, red, upper corner lights or in a dedicated housing mounted forward of the body on the cab roof.

Submitter Information Verification

Submitter Full Name: Patrick Foley

Organization: NFPA

Street Address:

City:

State:

Zip:

Submittal Date: Mon Feb 10 14:31:33 EST 2014

Committee Statement

Committee Statement: This change was made for document consistency based on FR 175.

Response Message:

**First Revision No. 82-NFPA 1917-2013 [Section No. 7.9.17.2.3.1]****7.9.17.2.3.1**

~~If due to limited body dimensions and physical size of the outboard forward-facing lights, the lights shall also be mounted in dedicated housings on the cab roof.~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 13:58:46 EDT 2013

Committee Statement

Committee Statement: The committee did not believe that this was necessary.

Response Message:

[Public Input No. 49-NFPA 1917-2013 \[Section No. 7.9.17.2.3.1\]](#)

**First Revision No. 209-NFPA 1917-2014 [Section No. 7.9.17.2.5]****7.9.17.2.5**

The ~~amber~~ yellow light shall be symmetrically located between the two rear-facing red lights.

Submitter Information Verification

Submitter Full Name: Patrick Foley

Organization: NFPA

Street Address:

City:

State:

Zip:

Submittal Date: Mon Feb 10 14:33:19 EST 2014

Committee Statement

Committee Statement: This change was made for document consistency based on FR 175.

Response Message:

**First Revision No. 122-NFPA 1917-2013 [Section No. 7.9.17.2.7]****7.9.17.2.7**

The lateral-facing intersection lights shall be mounted as close as possible to the front upper edge of each front fender and shall be ~~able to be~~ angled forward a maximum of between 0 and 30 degrees.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Wed Oct 23 09:48:22 EDT 2013

Committee Statement

Committee Statement: The committee has made this change to provide the end used with further clarification to the requirement.

Response Message:

[Public Input No. 50-NFPA 1917-2013 \[Section No. 7.9.17.2.7\]](#)

**First Revision No. 154-NFPA 1917-2013 [Section No. 7.10.3]****7.10.3**

Audible warning equipment shall not be mounted on the roof, on the front of the module, or behind the ambulance operator .

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 31 14:50:48 EDT 2013

Committee Statement

Committee Statement: Audible warning devices above or behind the vehicle operator could impare the hearing of the vehicle operator and create long term hearing damage.

Response Message:

[Public Input No. 51-NFPA 1917-2013 \[Section No. 7.10.3\]](#)

**First Revision No. 155-NFPA 1917-2013 [Section No. 7.11.3.4]****7.11.3.4**

Load lights shall turn on whenever the rear patient entry doors are opened and the module power is on .

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 31 14:52:34 EDT 2013

Committee Statement

Committee Statement: This change was made for the purposes of clarification. Currently stated, the lights would be hot at all times and could potentially drain the vehicle batteries.

Response Message:

[Public Input No. 52-NFPA 1917-2013 \[Section No. 7.11.3.4\]](#)

**First Revision No. 85-NFPA 1917-2013 [Section No. 7.11.4.2]****7.11.4.2**

~~The lower front and rear side marker lights shall flash in conjunction with the directional signals.~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 14:02:14 EDT 2013

Committee Statement

Committee Statement: This would require modifying the OEM flashing systems that are already FMVVS compliant. Chrysler and International will operate as currently written in this passage. Ford, GM, and Mercedes-Benz will not comply as the front marker lights and the turn signal are separate bulbs and do not flash in conjunction. Mercedes rear lights are also independent.

Response Message:

[Public Input No. 418-NFPA 1917-2013 \[Section No. 7.11.4.2\]](#)

**First Revision No. 123-NFPA 1917-2013 [Section No. 7.11.6.3.2]****7.11.6.3.2**

Any lighting circuit shall ~~not consume more than 25 amperes and shall~~ have separately protected and controlled circuits.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Wed Oct 23 10:02:13 EDT 2013

Committee Statement

Committee Statement: If a lighting circuit is properly designed and the vehicle electrical system is capable of supporting it, it should not have a maximum limit.

Response Message:

[Public Input No. 53-NFPA 1917-2013 \[Section No. 7.11.6.3.2\]](#)

**First Revision No. 124-NFPA 1917-2013 [Section No. 7.11.6.3.5]****7.11.6.3.5**

The patient compartment lighting shall be automatically activated ~~in the low setting~~ when the side entry or rear entry patient compartment doors are opened and the modular power is on .

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Wed Oct 23 10:06:03 EDT 2013

Committee Statement

Committee Statement: The committee has made this change for further clarification. Currently stated, these lights would be hot all the time and could unintentionally drain the batteries if the door was left open.

Response Message:

[Public Input No. 54-NFPA 1917-2013 \[Section No. 7.11.6.3.5\]](#)

**First Revision No. 125-NFPA 1917-2013 [Section No. 7.11.7.1]****7.11.7.1**

Each ~~enclosed tool and equipment compartment~~ exterior storage compartment that is greater than 4 ft³ (0.1 1.2 m³) in volume and having an opening greater than 144 in.² (92,900 mm²) shall have sufficient compartment lighting to provide a minimum of 1 fc (10.764 lx) at any location on the floor of the compartment without any shelves, dividers, or equipment in the compartment.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Wed Oct 23 10:07:59 EDT 2013

Committee Statement

Committee Statement: The committee has made this change to provide further clarification and the believe they meet the submitters intent with regards to the public input.

Response Message:

Public Input No. 419-NFPA 1917-2013 [Section No. 7.11.7.1]

**First Revision No. 126-NFPA 1917-2013 [Section No. 7.11.7.2]****7.11.7.2**

~~Switches for all compartment~~ Compartment lighting shall be ~~readily accessible~~ automatically enabled when the compartment door is opened and module power is on .

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Wed Oct 23 10:38:16 EDT 2013

Committee Statement

Committee Statement: The committee has made this change in order to provide further clarification and believes these changes meet the intent of the submitters input. Allows for automation and identifies whom the switch is accessible by.

Response Message:

Public Input No. 55-NFPA 1917-2013 [Section No. 7.11.7.2]

**First Revision No. 86-NFPA 1917-2013 [Section No. 7.12.1]****7.12.1 ***

A red flashing or rotating light or electronic display within the forward view of the driver shall be illuminated automatically whenever the ambulance's ignition switch is in the run position, the parking brake is not fully engaged, and ~~any either~~ of the following conditions ~~exist~~ exists :

- (1) Any passenger door , patient entry door , or equipment compartment door is not closed.

~~Any equipment rack is not in the stowed position.~~

- (2) Any other device permanently attached to the ambulance is open, extended, or deployed in a manner that is likely to cause damage to the ambulance if the ambulance is moved.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 14:11:13 EDT 2013

Committee Statement

Committee Statement: The committee has made this change and believes it addresses the submitters inputs.

Response Message:

[Public Input No. 129-NFPA 1917-2013 \[Section No. 7.12.1\]](#)

[Public Input No. 359-NFPA 1917-2013 \[Section No. 7.12.1\]](#)

[Public Input No. 420-NFPA 1917-2013 \[Section No. 7.12.1\]](#)

[Public Input No. 479-NFPA 1917-2013 \[Section No. 7.12.1\]](#)

**First Revision No. 87-NFPA 1917-2013 [Section No. 7.13.2]****7.13.2**

The backup alarm shall ~~not have capacity to be turned off or disconnected~~ be enabled any time the vehicle is in reverse .

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 14:14:08 EDT 2013

Committee Statement

Committee Statement: The committee believes this provides clearer direction as it relates to the requirement.

Response Message:

[Public Input No. 56-NFPA 1917-2013 \[Section No. 7.13.2\]](#)

[Public Input No. 506-NFPA 1917-2013 \[Section No. 7.13.2\]](#)

**First Revision No. 88-NFPA 1917-2013 [New Section after 7.14.4]****7.14.5***

Emergency warning lights shall not be used as brake lights, tail lights, or turn signals if they exceed the maximum candela output requirements in 49 CFR 571, FMVSS No. 108.

Supplemental Information

<u>File Name</u>	<u>Description</u>
A_7_14_5_text.docx	

Submitter Information Verification

Submitter Full Name: [Not Specified]
Organization: [Not Specified]
Street Address:
City:
State:
Zip:
Submittal Date: Fri Oct 18 14:18:43 EDT 2013

Committee Statement

Committee Statement: The committee has added this new text as they believe that safety concern where warning lights are being used as brake lights and causing a visual impairment of following motorists.

This is new text.

**Response
Message:**

Public Input No. 57-NFPA 1917-2013 [New Section after 7.14.4]

A.7.14.5

Warning lights, even if meeting the height and candela requirements of this standard, would have to stop flashing to be used as auxiliary brake lights. However, once the warning lights stop flashing the zone flashing requirement would not be met. The purchaser must consider the loss of the flashing warning lights in each of these zones if they plan to use warning lights as auxiliary brake lights.

**First Revision No. 89-NFPA 1917-2013 [New Section after 7.14.4]****7.14.6**

Warning lights that do not exceed the maximum candela rating in 49 CFR 571, FMVSS No. 108 and are used as primary or auxiliary brake lights shall not be mounted higher than 72 in. (1829 mm) above the ground nor lower than 15 in. (381 mm) from the ground.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 14:19:51 EDT 2013

Committee Statement

Committee Statement: The committee has added this new text as they believe that brake lights mounted over 72" are not permitted per FMVSS 108 and pose a visibility safety concern for some following motorists such as semi's and RV's.

This is new text.

Response

Message:

Public Input No. 58-NFPA 1917-2013 [New Section after 7.14.4]



First Revision No. 198-NFPA 1917-2014 [Section No. 8.2.2]

8.2.2 ~~Shoreline~~ Shorepower Inlet.

8.2.2.1 *

The ambulance shall be equipped with a line voltage power inlet known as a ~~shoreline~~ shorepower inlet.

8.2.2.2

The ~~shoreline~~ shorepower inlet shall be a permanently mounted with a male recessed-type receptacle with cover, having a minimum rating of 15 amps and conforming to the National Electrical Manufacturers Association (NEMA) configuration appropriate for the voltage rating.

8.2.2.3

The ~~shoreline~~ shorepower inlet shall be wired directly to the system or device to be powered or wired to a transfer switch where required by 8.8.2.

8.2.2.4

Where an external power source is connected to the ~~shoreline~~ shorepower receptacle, it shall energize the vehicle's internal line voltage circuit.

8.2.2.5

Where more than one shorepower inlet is provided on the same circuit, the unused shorepower inlet shall be de-energized.

8.2.2.6

A proper-mating, weatherproof, female connector body conforming to the NEMA configuration provided in 8.2.2.2 shall also be furnished without cable and ~~tagged~~ specifying labeled with the size, the type of wire necessary, and the polarity of the future hookup.

8.2.2.7

The connection shall be permanently labeled as shown in ~~Figure 8.2.2.6~~ Figure 8.2.2.7.

Figure 8.2.2.7 ~~Shoreline~~ Shorepower Inlet Power Label.

Shorepower Inlet	
Line voltage	_____ volts
Current rating	_____ amps

8.2.2.8

The protective ground from the ~~shoreline~~ shorepower inlet shall be bonded to the vehicle frame.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Mon Jan 06 11:31:55 EST 2014

Committee Statement

Committee Statement: The committee has made these changes as reflect commonly used terms.

Response Message:

**First Revision No. 156-NFPA 1917-2013 [Section No. 8.2.4.3]****8.2.4.3**

Any fixed line voltage power source shall produce a maximum voltage output of no more than ~~40~~ 110 percent of the power source's full-rated voltage.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 31 14:57:58 EDT 2013

Committee Statement

Committee Statement: This change was to correct a typo.

Response Message:

[Public Input No. 510-NFPA 1917-2013 \[Section No. 8.2.4.3\]](#)

**First Revision No. 92-NFPA 1917-2013 [Section No. 8.3.1.7]****8.3.1.7**

~~Any bonding.~~ Bonding screws, straps, or buses in the distribution panelboard or in other system components between the neutral and the equipment-grounding conductor shall be removed and discarded, except for the ground-to-neutral bond at an onboard electrical power source .

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 14:39:43 EDT 2013

Committee Statement

Committee Statement: The essential requirement here is that there must be one and only one point of connection between the neutral and ground. This connection normally occurs at the power distribution panel that supplies shorepower to the ambulance. However, when AC power is provided from an inverter or generator, it is imperative that the inverter or generator provide a bond between ground and neutral.

An exception should be added to this section to clarify that the ground-to-neutral bond should not be removed from the inverter or generator.

Response Message:

Public Input No. 511-NFPA 1917-2013 [Section No. 8.3.1.7]

**First Revision No. 93-NFPA 1917-2013 [Section No. 8.3.2.2.5]****8.3.2.2.5**

Cord-connected appliances shall be grounded by means of an approved cord with an equipment-grounding conductor and grounding attachment plug, unless they are double-insulated tools or appliances supplied with an approved two-wire cord and plug.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 14:41:11 EDT 2013

Committee Statement

Committee Statement: NEC section 250.114 provides an exception for double-insulated tools and appliances. It would be inappropriate for the ambulance standard to require modification of tools and appliances by installing a 3-wire cord and plug on devices that are legitimately and properly supplied with a 2-wire cord and plug.

An exception should be added to make this section consistent with the NEC.

Response Message:

[Public Input No. 512-NFPA 1917-2013 \[Section No. 8.3.2.2.5\]](#)

**First Revision No. 95-NFPA 1917-2013 [Section No. 8.3.3.3.5]****8.3.3.3.5**

The ambulance body and exterior covering shall be considered bonded ~~when the following criteria have been met:~~ if the metal panels overlap or are welded to one another and are securely attached to the chassis frame by metal fasteners, metal straps, or welding.

~~The metal panels overlap one another and are securely attached to the metal frame parts by metal fasteners or welding.~~

~~The lower panel of the metal exterior covering is secured by metal fasteners at each cross member of the chassis, or the lower panel is bonded to the chassis by a metal strap.~~

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 14:46:32 EDT 2013

Committee Statement

Committee Statement: The intent of this section is to ensure proper electrical bonding. Because welding panels to one another provides a bond equal or superior to overlapping, the option of welding should be added to item (1) of this section.

The intent of item (2) of this section is unclear, and the language is confusing. Ambulance exterior metal walls are typically one piece from top to bottom; there is not a separate lower panel. The cross members of the chassis (presuming that this is referring to the chassis frame cross members as opposed to the module support laterals) have no bearing whatsoever upon fastener location.

Item (2) appears to have no clear relevance and therefore should be eliminated.

Response Message:

Public Input No. 513-NFPA 1917-2013 [Section No. 8.3.3.3.5]

**First Revision No. 94-NFPA 1917-2013 [Section No. 8.4]****8.4*** Ground-Fault Circuit Interrupters.

All line voltage ac circuits and receptacles of the ambulance shall be protected by listed ground-fault circuit interrupters (GFCIs) in accordance with ANSI/UL 498, *Standard for Safety Attachment Plugs and Receptacles*.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 14:43:31 EDT 2013

Committee Statement

Committee Statement: Except for underwater pool lights, the NEC calls for GFCI protection only for receptacles. Because the intent of this ambulance standard is to compel compliance with the NEC, the NEC requirements should not be altered by this standard.

The language of this section should be revised to bring it into conformity with NEC section 210.8.

Response Message:

[Public Input No. 515-NFPA 1917-2013 \[Section No. 8.4\]](#)



First Revision No. 196-NFPA 1917-2014 [Sections 8.5, 8.6, 8.7, 8.8, 8.9, 8.10]

8.5 Power Source General Requirements.

The requirements in [8.5.1](#) through [8.5.10](#) shall apply to all line voltage power sources. ~~[1901: 22.4]~~

8.5.1

All power source system mechanical and electrical components shall be sized to support the continuous duty nameplate rating of the power source.

~~[1901: 22.4.1]~~

8.5.2

The power source shall be shielded from contamination that would prevent the power source from operating within its design specifications. ~~[1901: 22.4.2]~~

8.5.3 Generators.

If the power source is mechanically driven and mounted on the vehicle, it shall comply with Article 445, "Generators," of *NFPA 70*.

8.5.4 Power Source Rating.

8.5.4.1 *

For power sources of 8 kW or larger, the power source manufacturer shall declare the continuous duty rating that the power source can provide when installed on the ambulance according to the manufacturer's instructions and run at 120°F (49°C) air intake temperature at 2000 ft (600 m) above sea level.

8.5.4.2

The rating on the power source specification label shall not exceed the declared rating from the power source manufacturer. ~~[1901: 22.4.3.2]~~

8.5.5

Access shall be provided to permit both routine maintenance and removal of the power source for major servicing. ~~[1901: 22.4.4]~~

8.5.6

The power source shall be located such that neither it nor its mounting brackets interfere with the routine maintenance of the ambulance.

8.5.7 Instrumentation.

8.5.7.1

If the power source is rated at less than 3 kW, a "Power On" indicator shall be provided. ~~[1901: 22.4.6.1]~~

8.5.7.2

If the power source is rated at 3 kW or more but less than 8 kW, a voltmeter shall be provided. ~~[1901: 22.4.6.2]~~

8.5.7.3 *

If the power source is rated at 8 kW or more, the following instrumentation shall be provided at an operator's panel:

Voltmeter

Current meters for each ungrounded leg

Frequency (Hz) meter

Power source hourmeter

~~[1901: 22.4.6.3]~~

8.5.7.4

~~The instrumentation shall be permanently mounted at an operator's panel.~~

~~[1901: 22.4.6.4]~~

~~8.5.7.4.1~~

~~The instruments shall be located in a plane facing the operator.~~

~~[1901: 22.4.6.4.1]~~

~~8.5.7.4.2~~

~~Gauges, switches, or other instruments on this panel shall each have a label to indicate their function. [1901: 22.4.6.4.2]~~

~~8.5.7.4.3~~

~~The instruments and other line voltage equipment and controls shall be protected from mechanical damage and not obstructed by tool mounting or equipment storage. [1901: 22.4.6.4.3]~~

~~8.5.8~~

~~An instruction plate(s) that provides the operator with the essential power source operating instructions, including the power up and power down sequence, shall be permanently attached to the ambulance at any point where such operations can take place. [1901: 22.4.7]~~

~~8.5.9 Operation.~~

~~8.5.9.1~~

~~Provisions shall be made for placing the generator drive system in operation using controls and switches that are identified and within reach of the operator while seated in the driver's seat or standing upright on the ground.~~

~~8.5.9.2~~

~~Where the generator is driven by the chassis engine and engine compression brakes or engine exhaust brakes are furnished, they shall be automatically disengaged for generator operations. [1901: 22.4.8.2]~~

~~8.5.9.3*~~

~~Any control device used in the generator system power train between the engine and the generator shall be equipped with a means to prevent unintentional movement of the control device from its set position in the power generation mode. [1901: 22.4.8.3]~~

~~8.5.10~~

~~If there is permanent wiring on the ambulance that is designed to be connected to the power source, a power source specification label that is permanently attached to the ambulance at the operator's control station shall provide the operator with the information detailed in [Figure 8.5.10](#).~~

~~8.6 Power Source Type Specific Requirements.~~

~~8.6.1* Direct Drive (PTO) Generators.~~

~~If the generator is driven by any type of PTO, it shall meet the requirements of [8.6.1.1](#) through [8.6.1.3](#).~~

~~8.6.1.1~~

~~The transmission's PTO port and PTO, or the split shaft PTO, and all associated driveshaft components shall be rated to support the continuous duty torque requirements of the generator's continuous duty rating as stated on the power source nameplate. [1901: 22.5.1.1]~~

~~8.6.1.2~~

~~The direct drive generator shall be mounted so that it does not change the ramp breakover angle, angle of departure, or angle of approach as defined by other components, and it shall not extend into the ground clearance area. [1901: 22.5.1.4]~~

~~8.6.1.3~~

~~The direct drive generator shall be mounted away from exhaust and muffler areas or provided with a heat shield to reduce operating temperatures in the generator area. [1901: 22.5.1.5]~~

~~8.6.2* Hydraulically Driven Generators.~~

If the generator is driven using hydraulic components, it shall meet the requirements of ~~8.6.2.1~~ through ~~8.6.2.3.4~~.

~~8.6.2.1*~~

A means shall be provided to activate the hydraulic generator system.
[~~1901: 22.5.2.1~~]

~~8.6.2.2~~

If the hydraulic generator system is not capable of output as stated on the power source specification label at all engine speeds, an automatic engine speed control system shall be provided. [~~1901: 22.5.2.2~~]

~~8.6.2.3 Hydraulic Components.~~

~~8.6.2.3.1~~

A hydraulic system filter and strainer shall be provided and shall be located in a readily accessible area. [~~1901: 22.5.2.4.1~~]

~~8.6.2.3.2~~

Hydraulic hose shall meet the hydraulic pump manufacturer's recommendations for pressure, size, vacuum, and abrasion resistance. [~~1901: 22.5.2.4.2~~]

~~8.6.2.3.3~~

Hydraulic fittings shall meet the hydraulic pump manufacturer's recommendations for pressure, size, and the type of hose used. [~~1901: 22.5.2.4.3~~]

~~8.6.2.3.4~~

Where the hydraulic hose comes into contact with other surfaces, the hose shall be protected from chafing. [~~1901: 22.5.2.5~~]

~~8.6.3* Fixed Auxiliary Engine Driven Generators.~~

If the generator is driven by a fixed auxiliary engine, it shall meet the requirements of ~~8.6.3.1~~ through ~~8.6.3.9.4~~.

~~8.6.3.1~~

The generator shall be installed so that fumes, vapors, heat, and vibrations do not enter the driving or patient compartment.

~~8.6.3.2*~~

Generators rated at 8 kW or more shall be equipped with a high temperature automatic shutdown system and a low oil (pressure or level) automatic shutdown system. [~~1901: 22.5.3.2~~]

~~8.6.3.3~~

The generator shall be installed in accordance with the generator manufacturer's requirements for ventilation and service accessibility. [~~1901: 22.5.3.3~~]

~~8.6.3.4~~

If the generator is installed in a compartment and the compartment doors need to be open during its operation, the generator shall be equipped with an interlock system to prevent its operation if the doors are not open, or the compartment shall be equipped with a high temperature alarm. [~~1901: 22.5.3.4~~]

~~8.6.3.5~~

If the generator is installed in a compartment on a slide tray and the slide tray must be in the extended or out position during operation, an interlock shall be provided to prevent operation unless the tray is in the correct position, or the compartment shall be equipped with a high temperature alarm. [~~1901: 22.5.3.5~~]

~~8.6.3.6~~

Permanently installed generators shall have readily accessible engine oil drain provisions or piping to a remote location for oil changing. [~~1901: 22.5.3.6~~]

~~8.6.3.7~~

If the generator is located in a position on the ambulance where the operator cannot see the instrumentation and operate the controls while standing at ground level or positioned at a specifically designated operator station, an operating panel with the required instrumentation, start and stop controls, and other controls necessary for safe operation shall be provided at a remote operator's panel.

~~8.6.3.7.1~~

~~A visual and audible warning shall be provided in the ambulance cab, visible from the operator's seat to do the following:-~~

~~Visually indicate that the generator engine is operating~~

~~Visually and audibly indicate that the generator engine is in operation when the ambulance ignition is off~~

8.6.3.7.2

~~The audible warning shall be permitted to be equipped with an override function that resets automatically when the ignition is cycled on.~~

8.6.3.7.3

~~The generator engine shall shut down and be prevented from restarting automatically when connection to an external source of electrical power ("shore power") is established.~~

8.6.3.8 Fuel System.

8.6.3.8.1

~~Fuel lines shall be protected from chafing at all wear points. [1901: 22.5.3.8.1]~~

8.6.3.8.2

~~If the fuel source is shared with the ambulance engine, a separate fuel pickup system shall be provided that is arranged to ensure that the generator cannot utilize more than 75 percent of the fuel tank's capacity.~~

8.6.3.9 Exhaust System.

8.6.3.9.1*

~~The exhaust piping and discharge shall be located or shielded to prevent thermal damage to the ambulance or equipment.~~

8.6.3.9.2

~~The exhaust shall be piped to the exterior of the vehicle and discharged at a location away from any operator's position. [1901: 22.5.3.9.2]~~

8.6.3.9.2.1

~~The exhaust system for the generator shall comply with Section 5.6 .~~

8.6.3.9.3

~~Where parts of the exhaust system are exposed so that they can cause injury to operating personnel, protective guards shall be provided. [1901: 22.5.3.9.3]~~

8.6.3.9.4

~~Silencing devices shall be provided and shall not create exhaust backpressure that exceeds the limits specified by the engine manufacturer. [1901: 22.5.3.9.4]~~

8.6.4* Line Voltage Power Derived from the Ambulance Low Voltage Power Supply Systems.

~~If the power source derives its input energy from the ambulance low voltage electrical system, it shall meet the requirements of 8.6.4.1 and 8.6.4.2 .~~

8.6.4.1

~~The low voltage power supply system shall be installed in compliance with the requirements of Chapter 7 .~~

8.6.4.2*

~~The alternator and/or battery system shall be adequate to provide power for continuous operation for a minimum of 2 hours at full output. [1901: 22.5.5.2]~~

8.6.5 Power Sources Requiring Elevated Engine Speed.

~~If the power source requires the chassis engine to be operating at a specific fixed speed or a specific speed range, it shall meet the requirements of 8.6.5.1 through 8.6.5.3 .~~

8.6.5.1

~~The main propulsion engine shall have a governor capable of maintaining the engine speed within the limits required by the power source to meet the frequency control, voltage control, and power output specifications. [1901: 22.5.6.1]~~

8.6.5.2

~~An interlock shall prevent engagement of the generator unless the parking brake is engaged and the transmission is in neutral or not connected to the drive wheels.~~
~~[1901: 22.5.6.2]~~

~~8.6.5.3*~~

~~Where the chassis engine drives the generator and electronic engine throttle controls are provided, an interlock shall prevent engine speed control from any other source that would interfere with the generator while the generator is operating.~~ [1901: 22.5.6.3]

~~8.6.6*~~ Waveform Created Electronically.

~~If the power output waveform is electronically created (as with invertors and some generators), the purchaser shall specify whether modified sine wave or pure sine wave output is required.~~

~~8.7*~~ Portable Generator Installations.

~~The generator shall comply with Article 445, "Generators," of NFPA 70 .~~

~~[1901: 22.6]~~

~~8.7.1~~

~~Any portable generator that can be operated while mounted on the ambulance shall be as follows:-~~

~~Installed so that fumes, vapors, heat, excessive noise, and vibrations do not enter interior driving or crew compartments or damage the generator during operation~~

~~Have the exhaust outlet located so that exhaust is directed away from any operator station located on the ambulance and guarded to protect the operator~~

~~Installed in a location that directs the exhaust and heat at least 12 in. (300 mm) away from the fuel fill, oxygen system, entry doors, and ventilation inlets~~

~~8.7.2~~

~~If the portable generator is remotely mounted, it shall have a remote operator's control station that shall provide a means for starting and stopping the generator and monitoring the same instrumentation as is required for fixed power sources.~~
~~[1901: 22.6.2]~~

~~8.7.3~~ Wiring for Portable Generator Installations.

~~Wiring installed for the purpose of facilitating the distribution of power from a portable generator installation to fixed wiring on the ambulance shall conform to the additional requirements of 8.7.3.4 through 8.7.3.5 :~~

~~8.7.3.1~~

~~Circuit conductors shall be sized in relation to the power source specification label rating and shall be protected by an overcurrent device commensurate with their ampere capacities.~~ [1901: 22.6.3.1]

~~8.7.3.2~~

~~There shall be a single output connector cord with all of the conductors in the cord sized to carry a minimum of 115 percent of the nameplate amperage.~~
~~[1901: 22.6.3.2]~~

~~8.7.3.3~~

~~If there is not an overcurrent protection device at the power source, the output connector cord shall not exceed 72 in. (1830 mm) in length and shall be connected to an overcurrent protection device.~~ [1901: 22.6.3.3]

~~8.7.3.4~~

~~The rating of an external main overcurrent protection device shall equal the rated amperage on the power source specification label or the next larger available size overcurrent protection device where so recommended by the power source manufacturer.~~ [1901: 22.6.3.4]

~~8.7.3.5~~

If a connecting plug is required, it shall be sized in relation to the system and conform to NEMA configurations for plugs. [~~1901:~~ 22.6.3.5]

8.8 Transfer Switch Applications.

8.8.1

A transfer switch shall be required to isolate one power source from the other where a circuit(s) is intended to be supplied from more than one power source. [~~1901:~~ 22.7.2.1]

8.8.2

Transfer equipment, including transfer switches, shall operate such that all ungrounded conductors of one power source are disconnected before any ungrounded conductors of the second power source are connected. [~~1901:~~ 22.7.2.2]

8.8.3

The neutral conductor shall be switched through the transfer switch. [~~1901:~~ 22.7.2.3]

8.9 Power Supply Assembly.

8.9.1

The conductors used in the power supply assembly between the output terminals of the power source and the main overcurrent protection device shall not exceed 12 ft (4 m) in length. [~~1901:~~ 22.8.1]

8.9.2

All power supply assembly conductors, including neutral and grounding conductors, shall have an equivalent ampere rating and shall be sized to carry not less than 115 percent of the ampere of the nameplate current rating of the power source. [~~1901:~~ 22.8.2]

8.9.3*

If the power supply assembly connects to the vibrating part of a generator (not a connection on the base), the conductors shall be flexible cord or other fine-stranded conductors enclosed in metallic or nonmetallic liquidtight flexible conduit rated for wet locations and temperatures not less than 194°F (90°C). [~~1901:~~ 22.8.3]

8.10 Overcurrent Protection.

Manually resettable overcurrent devices shall be installed to protect the line voltage electrical system components. [~~1901:~~ 22.9]

8.10.1 Power Source Protection.

A main overcurrent protection device shall be provided that is either incorporated in the power source or connected to the power source by a power supply assembly. [~~1901:~~ 22.9.1]

8.10.1.1

The size of the main overcurrent protection device shall not exceed 100 percent of the rated ampereage stated on the power source specification label or the rating of the next larger available size overcurrent protection device, where so recommended by the power source manufacturer. [~~1901:~~ 22.9.1.1]

8.10.1.2

If the main overcurrent protection device is subject to road spray, the unit shall be housed in a Type 4 rated enclosure. [~~1901:~~ 22.9.1.2]

8.10.2 Branch Circuit Overcurrent Protection.

Overcurrent protection devices shall be provided for each individual circuit and shall be sized at not less than 15 amperes in accordance with 240.4, "Protection of Conductors," of *NFPA 70*. [~~1901:~~ 22.9.2]

8.10.2.1

Any panelboard shall have a main breaker where the panel has six or more individual branch circuits or the power source is rated 8 kW or larger. [~~1901:~~ 22.9.2.1]

8.10.2.2

~~Each overcurrent protection device shall be marked with a label to identify the function of the circuit it protects. [1901: 22.9.2.2]~~

~~8.10.2.3~~

~~Dedicated circuits shall be provided for any large appliance or device that requires 60 percent or more of the rated capacity of the circuit to which it is connected, and that circuit shall serve no other purpose. [1901: 22.9.2.3]~~

~~8.10.3 Panelboards.~~

~~All fixed power sources shall be hardwired to a permanently mounted panelboard unless one of the following conditions exists:-~~

~~All line voltage power connections are made through receptacles on the power source, and the receptacles are protected by integrated overcurrent devices.~~

~~Only one circuit is hardwired to the power source, which is protected by an integrated overcurrent device.~~

~~[1901: 22.9.3]~~

~~8.10.3.1~~

~~The panel shall be visible and located so that there is unimpeded access to the panelboard controls. [1901: 22.9.3.1]~~

~~8.10.3.2~~

~~All panelboards shall be designed for use in their intended location. [1901: 22.9.3.2]~~

~~8.10.3.3~~

~~The panel(s) shall be protected from mechanical damage, tool mounting, and equipment storage. [1901: 22.9.3.3]~~

~~8.10.3.4*~~

~~Where the power source is 120/240 volts, and 120-volt loads are connected, the ambulance manufacturer or line voltage system installer shall consider load balancing to the extent that it is possible.~~

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Organization: [Not Specified]

Street Address:

City:

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Zip:

Submittal Date: Mon Jan 06 11:21:19 EST 2014

Committee Statement

Committee Statement: The committee is deleting these sections as they have developed new text in a new chapter to address the subject of generators.

Please delete all associated annex material with these sections.

Response Message:

**First Revision No. 96-NFPA 1917-2013 [Section No. 8.12.5.2]****8.12.5.2**

~~Receptacles shall be near flush, vertically mounted.~~

Submitter Information Verification

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Organization: [Not Specified]

Street Address:

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Submittal Date: Fri Oct 18 14:58:17 EDT 2013

Committee Statement

Committee Statement: The committee believes that this is already addressed.

Response Message:

**First Revision No. 157-NFPA 1917-2013 [Section No. 8.12.5.10.2]****8.6.5.9.2**

If the receptacle is dc or other than single phase, that information shall also be marked on the label. [1901:22.11.5.5.2]

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Submitter Full Name: [Not Specified]

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City:

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Submittal Date: Thu Oct 31 15:05:11 EDT 2013

Committee Statement

Committee Statement: This change was editorial in nature.

Response Message:

[Public Input No. 61-NFPA 1917-2013 \[Section No. 8.12.5.10.2\]](#)

**First Revision No. 158-NFPA 1917-2013 [Section No. 8.12.5.12]****8.6.5.11**

Receptacles used for dc voltages shall be rated for dc service. [1901:22.11.5.7]

Submitter Information Verification

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Organization: [Not Specified]

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Committee Statement

Committee Statement: These changes were editorial in nature.

Response Message:

[Public Input No. 60-NFPA 1917-2013 \[Section No. 8.12.5.12\]](#)

**First Revision No. 31-NFPA 1917-2013 [Section No. 9.2]****9.2 Body Door Test (Type I and Type III Only).****9.2.1**

~~The following steps shall be performed during the body door test:~~

~~Position the test structure or ambulance on a level, horizontal surface.~~

~~Employ force application fixtures in such a manner that the opposing forces are supported by the body structure.~~

~~Apply force for 10 seconds in all required directions and/or positions after the installation of associated body door retention components.~~

~~Apply force for 10 seconds to a continuous hinge so that the load will be distributed equally from top to bottom.~~

~~Apply force for 10 seconds to individual (strap type) hinges so that the load will be distributed proportionally on each hinge.~~

~~Apply force so that it will be equally distributed as near the latch or hinge as practical.~~

9.2.2

~~The patient compartment shall be structurally complete but need not include interior panels or cabinet installation.~~

9.2.3

~~Employ force application fixtures in such a manner that the opposing forces shall be supported by the body structure.~~

9.2.4

~~Apply force for 10 seconds in all required directions and/or positions after the installation of associated body door retention components.~~

9.2.5

~~Apply force for 10 seconds to a continuous hinge so that the load will be distributed equally from top to bottom.~~

9.2.6

~~Apply force for 10 seconds to individual (strap type) hinges so that the load will be distributed proportionally on each hinge.~~

9.2.7

~~Apply force so that it will be equally distributed as near the latch or hinge as practical.~~

Submitter Information Verification

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Organization: [Not Specified]

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Submittal Date: Thu Oct 17 17:09:03 EDT 2013

Committee Statement**Committee
Statement:**

The committee has deleted this as it is no longer part of the requirements.

Response Message:

**First Revision No. 99-NFPA 1917-2013 [Section No. 9.5.3.1****[Excluding any Sub-Sections]]**

The ~~three~~ tests defined in 9.4.3.2 through 9.4.3.4.4 shall be performed in the order in which they appear.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Fri Oct 18 15:11:44 EDT 2013

Committee Statement

Committee Statement: The committee has made this change to allow for a potential to increase the number of tests that need to be done, whereas the way the requirement is written now is restrictive to only three.

Response Message:

[Public Input No. 422-NFPA 1917-2013 \[Section No. 9.5.3.1 \[Excluding any Sub-Sections\]\]](#)

**First Revision No. 176-NFPA 1917-2013 [Section No. 9.9.6.2]****9.8.6.2**

The testing of any power source greater than 3 8 kW shall be witnessed, and the results of the tests of the power source shall be certified by an independent third-party certification organization.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Tue Dec 17 13:56:02 EST 2013

Committee Statement

Committee Statement: This change was made based on the addition of Chapter 10 and is done for consistency.

Response Message:

**First Revision No. 189-NFPA 1917-2014 [New Section after 9.9.6.3.9]****9.8.7 Inverter Test.**

If the ambulance has an inverter, then the ambulance inverter shall be tested as follows:

- (1) The ambulance engine shall be running during the inverter test.
- (2) The inverter shall be subjected to a load equal to the manufacturer's nominal listed power output for a minimum of 1 hour.
- (3) If the manufacturer has a specific full power output test, that test shall be performed.
- (4) A load bank shall be permitted to be used.
- (5) The test shall be considered a failure if the output of the inverter drops below the manufacturer's specifications or more than 10 percent of nominal listed output.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Jan 02 14:15:55 EST 2014

Committee Statement

Committee Statement: The committee has added this new test procedure for inverters and on-board battery chargers to ensure the items are tested in the correct manner.

Response Message:

**First Revision No. 100-NFPA 1917-2013 [Section No. 9.15.1]****9.14.1 Pressure Test.**

The following steps shall be performed during the engine cooling system test:

- (1) Ensure that the ambulance temperature has stabilized in an environment between 34°F and ~~110°F~~ (1°C and 43°C) and 110°F (43°C).
- (2) Charge the system with approximately ~~200~~ 80 psi (1380 kPa) of test gas.
- (3) Close system valves to trap pressure in the lines that contain the vent valve.
- (4) Record the system pressure with an accuracy of ±0.1 psi (0.7 kPa).
- (5) Allow the system to rest without disturbance for 2 hours.
- (6) Record the system pressure.

Submitter Information Verification

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Street Address:

City:

State:

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Submittal Date: Fri Oct 18 15:21:00 EDT 2013

Committee Statement

Committee Statement: 9.15.1 Several of the commercial O2 components comprising the systems cannot tolerate the 200 psi requirement. AMD standards have been updated to compensate for the testing procedure error.

Response

Message:

[Public Input No. 430-NFPA 1917-2013 \[Section No. 9.15.1\]](#)

**First Revision No. 197-NFPA 1917-2014 [New Section after 9.25.3]****Chapter 10** Line Voltage Power Source**10.1** Line Voltage Power Derived from an Inverter**10.1.1**

If the power source derives its input energy from an inverter, the power source shall meet the requirements of [10.1.2](#) through [10.1.4](#) .

10.1.2

The low voltage power supply system shall be installed in compliance with the requirements of [Chapter 7](#) .

10.1.3

The alternator and the battery system shall be adequate to provide power for continuous operation for a minimum of 1 hour at nominal listed power output.

10.1.4

The inverter shall be tested to the requirements of [9.8.7](#) .

10.2 Generators Rated Below 8 kW General Requirements.**10.2.1**

If the power source is mechanically driven and mounted on the vehicle, it shall comply with [NFPA 70](#) , Article 445.

10.2.2

If the generator is less than 8 kW, it shall meet the requirements of [10.2.2.1](#) through [10.2.2.8](#) .

10.2.2.1

Access shall be provided to permit both routine maintenance and removal of the power source for major servicing. [**1901:** [22.4.4](#)]

10.2.2.2

The power source shall be located so that neither it nor its mounting brackets interfere with the routine maintenance of the ambulance.

10.2.2.3

If the power source is rated at less than 3 kW, a "Power On" indicator shall be provided. [**1901:** [22.4.6.1](#)]

10.2.2.4

If the power source is rated at 3 kW or more but less than 8 kW, a voltmeter shall be provided. [**1901:** [22.4.6.2](#)]

10.2.2.5

The rating on the power source specification label shall not exceed the declared rating from the power source manufacturer. [**1901:** [22.4.3.2](#)]

10.2.2.6

An instruction plate(s) that provides the operator with the essential power source operating instructions, including the power-up and power-down sequence, shall be permanently attached to the ambulance at any point where such operations can take place. [**1901:** [22.4.7](#)]

10.2.2.7

If there is permanent wiring on the ambulance that is designed to be connected to the power source, a power source specification label that is permanently attached to the ambulance at the operator's control station shall provide the operator with the information detailed in [Figure 10.2.2.7](#) .

Figure 10.2.2.7 Power Source Specification Label. [1901:Figure 22.4.9]

Power Source Specifications	
Operational Category	Continuous Duty Rating
Rated voltage(s) and type (ac or dc)	
Phase	
Rated frequency	
Rated amperage	
Continuous rated watts	
Power source engine speed	

10.2.2.8

The power source, at any load, shall not produce a noise level that exceeds 90 dBA in any driving compartment or patient compartment with windows and doors closed or at any operator's station on the ambulance.

10.3 Power Sources of 8kW or Larger.

Power sources of 8 kW or larger shall meet the requirements of NFPA 1901 , 22.4.3.1.

10.3.1

Instrumentation shall meet the requirements of NFPA 1901 , 22.4.6.3 through 22.4.6.4.3.

10.3.2

Operation shall meet the requirements of NFPA 1901 , 22.4.8.

10.3.3 Power Source–Type Specific Requirements.**10.3.3.1 Direct-Drive (PTO) Generators.**

If the generator is driven by any type of power take-off (PTO), it shall meet the requirements of NFPA 1901 , 22.5.1.

10.3.3.2 Hydraulically Driven Generators.

If the generator is driven using hydraulic components, it shall meet the requirements of NFPA 1901 , 22.5.2.

10.3.3.3 Fixed Auxiliary Engine–Driven Generators 8 kW and Larger.

If the generator is driven by a fixed auxiliary engine, it shall meet the requirements of NFPA 1901 , 22.5.3.

10.4 Wiring for Portable Generator.

Installations shall meet the requirements of NFPA 1901 , 22.6.3.

Supplemental Information

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Committee Statement

**Committee
Statement:**

The committee has developed new text for this chapter to address the subject of generators.

Please see attached document for new text.

**Response
Message:**

[Public Input No. 59-NFPA 1917-2013 \[Section No. 8.6.4.2\]](#)

[Public Input No. 130-NFPA 1917-2013 \[New Section after 8.5.3\]](#)

[Public Input No. 131-NFPA 1917-2013 \[Sections 8.5.4, 8.5.5, 8.5.6, 8.5.7, 8.5.8, 8.5.9, 8.5.10, ...\]](#)

[Public Input No. 132-NFPA 1917-2013 \[Section No. 8.6\]](#)

[Public Input No. 133-NFPA 1917-2013 \[Section No. 8.7\]](#)

[Public Input No. 135-NFPA 1917-2013 \[Section No. 8.8\]](#)

[Public Input No. 136-NFPA 1917-2013 \[Section No. 8.9\]](#)

[Public Input No. 137-NFPA 1917-2013 \[Section No. 8.10\]](#)

[Public Input No. 208-NFPA 1917-2013 \[Section No. 8.5.11\]](#)

[Public Input No. 360-NFPA 1917-2013 \[Section No. 8.5\]](#)

[Public Input No. 361-NFPA 1917-2013 \[Section No. 8.6\]](#)

[Public Input No. 362-NFPA 1917-2013 \[Section No. 8.7\]](#)

[Public Input No. 363-NFPA 1917-2013 \[Section No. 8.8\]](#)

[Public Input No. 364-NFPA 1917-2013 \[Section No. 8.9\]](#)

[Public Input No. 365-NFPA 1917-2013 \[Section No. 8.10\]](#)

[Public Input No. 480-NFPA 1917-2013 \[Sections 8.5.3, 8.5.4, 8.5.5, 8.5.6, 8.5.7, 8.5.8, 8.5.9, 8...\]](#)

[Public Input No. 481-NFPA 1917-2013 \[Section No. 8.6\]](#)

[Public Input No. 482-NFPA 1917-2013 \[Section No. 8.7\]](#)

[Public Input No. 483-NFPA 1917-2013 \[Section No. 8.8\]](#)

[Public Input No. 484-NFPA 1917-2013 \[Section No. 8.9\]](#)

[Public Input No. 485-NFPA 1917-2013 \[Section No. 8.10\]](#)

Chapter 10 Line Voltage Power Source

10.1 Line Voltage Power Derived from an inverter

10.1.1 If the power source derives its input energy from an inverter, it shall meet the requirements of 10.1.2 through 10.1.4

10.1.2 The low voltage power supply system shall be installed in compliance with the requirements of Chapter 7.

10.1.3 The alternator and battery system shall be adequate to provide power for continuous operation for a minimum of 1 hour at nominal listed power output.

10.1.4 The inverter shall be tested to the requirements of section 9.9.7

10.2 Generators rated below 8 KW general requirements.

10.2.1 If the power source is mechanically driven and mounted on the vehicle, it shall comply with Article 445, “Generators,” of *NFPA 70*.

10.2.2 If the generator is less than 8 kw it shall meet the requirements of sections 10.2.2.1 through 10.2.2.8

10.2.2.1 Access shall be provided to permit both routine maintenance and removal of the power source for major servicing. [1901:22.4.4]

10.2.2.2 The power source shall be located such that neither it nor its mounting brackets interfere with the routine maintenance of the ambulance.

10.2.2.3 If the power source is rated at less than 3 kW, a “Power On” indicator shall be provided. [1901:22.4.6.1]

10.2.2.4 If the power source is rated at 3 kW or more but less than 8 kW, a voltmeter shall be provided. [1901:22.4.6.2]

10.2.2.5 The rating on the power source specification label shall not exceed the declared rating from the power source manufacturer. [1901:22.4.3.2]

10.2.2.6 An instruction plate(s) that provides the operator with the essential power source operating instructions, including the power-up and power-down sequence, shall be permanently attached to the ambulance at any point where such operations can take place. [1901:22.4.7]

10.2.2.7 If there is permanent wiring on the ambulance that is designed to be connected to the power source, a power source specification label that is permanently attached to the ambulance at the operator's control station shall provide the operator with the information detailed in Figure 10.2.2.7

******INSERT FIGURE HERE******

FIGURE 10.2.2.7 Power Source Specification Label. [1901:Figure 22.4.9]

10.2.2.8 The power source, at any load, shall not produce a noise level that exceeds 90 dBA in any driving compartment or patient compartment with windows and doors closed or at any operator's station on the ambulance.

10.3 Power sources of 8 kW or larger shall meet the requirements of NFPA 1901 Section 22.4.3.1

10.3.1 Instrumentation shall meet the requirements of NFPA 1901 section 22.4.6.3-22.4.6.4.3

10.3.2 Operation shall meet the requirements of NFPA 1901 section 22.4.8

10.3.3 Power Source–Type Specific Requirements.

10.3.3.1 Direct Drive (PTO) Generators. If the generator is driven by any type of PTO, it shall meet the requirements of NFPA 1901 section 22.5.1

10.3.3.2 Hydraulically Driven Generators. If the generator is driven using hydraulic components, it shall meet the requirements of NFPA 1901 Section 22.5.2

10.3.3.3 Fixed Auxiliary Engine Driven Generators 8 kw and larger. If the generator is driven by a fixed auxiliary engine, it shall meet the requirements of NFPA 1901 22.5.3

10.4 Wiring for Portable Generator Installations shall meet the requirements of NFPA 1901 section 22.6.3.

Chapter 10 Line Voltage Power Source

10.1 Line Voltage Power Derived from an Inverter

10.1.1

If the power source derives its input energy from an inverter, the power source shall meet the requirements of 10.1.2 through 10.1.4.

10.1.2

The low voltage power supply system shall be installed in compliance with the requirements of Chapter 7.

10.1.3

The alternator and the battery system shall be adequate to provide power for continuous operation for a minimum of 1 hour at nominal listed power output.

10.1.4

The inverter shall be tested to the requirements of 9.9.7.

10.2 Generators Rated Below 8 kW General Requirements.

10.2.1

If the power source is mechanically driven and mounted on the vehicle, it shall comply with *NFPA 70*, Article 445.

10.2.2

If the generator is less than 8 kW, it shall meet the requirements of 10.2.2.1 through 10.2.2.8.

10.2.2.1

Access shall be provided to permit both routine maintenance and removal of the power source for major servicing. [1901:22.4.4]

10.2.2.2

The power source shall be located so that neither it nor its mounting brackets interfere with the routine maintenance of the ambulance.

10.2.2.3

If the power source is rated at less than 3 kW, a “Power On” indicator shall be provided. [1901:22.4.6.1]

10.2.2.4

If the power source is rated at 3 kW or more but less than 8 kW, a voltmeter shall be provided. [1901:22.4.6.2]

10.2.2.5

The rating on the power source specification label shall not exceed the declared rating from the power source manufacturer. [1901:22.4.3.2]

10.2.2.6

An instruction plate(s) that provides the operator with the essential power source operating instructions, including the power-up and power-down sequence, shall be permanently attached to the ambulance at any point where such operations can take place. [1901:22.4.7]

10.2.2.7

If there is permanent wiring on the ambulance that is designed to be connected to the power source, a power source specification label that is permanently attached to the ambulance at the operator's control station shall provide the operator with the information detailed in Figure 10.2.2.7.

******INSERT FIGURE HERE******

FIGURE 10.2.2.7 Power Source Specification Label. [1901: Figure 22.4.9]

10.2.2.8

The power source, at any load, shall not produce a noise level that exceeds 90 dBA in any driving compartment or patient compartment with windows and doors closed or at any operator's station on the ambulance.

10.3 Power Sources of 8kW or Larger

Power sources of 8 kW or larger shall meet the requirements of NFPA 1901, 22.4.3.1.

10.3.1

Instrumentation shall meet the requirements of NFPA 1901, 22.4.6.3 through 22.4.6.4.3.

10.3.2

Operation shall meet the requirements of NFPA 1901, 22.4.8.

10.3.3 Power Source–Type Specific Requirements.

10.3.3.1 Direct-Drive (PTO) Generators.

If the generator is driven by any type of power take-off (PTO), it shall meet the requirements of NFPA 1901, 22.5.1.

10.3.3.2 Hydraulically Driven Generators.

If the generator is driven using hydraulic components, it shall meet the requirements of NFPA 1901, 22.5.2.

10.3.3.3 Fixed Auxiliary Engine–Driven Generators 8 kW and Larger.

If the generator is driven by a fixed auxiliary engine, it shall meet the requirements of NFPA 1901, 22.5.3.

10.4 Wiring for Portable Generator.

Installations shall meet the requirements of NFPA 1901, 22.6.3.

**First Revision No. 178-NFPA 1917-2013 [Section No. A.4.12.4]**[Global FR-109](#) [Hide Deleted](#)**A.4.12.3**[Global FR-178](#) [Hide Deleted](#)

This standard does not specify a limit to the top speed of the ambulance. Purchasers might want to specify a speed limitation feature as a tool to augment their ambulance driver safety policy. Information and recommendations on ambulance operation training can be found in NFPA 1451. Information on ambulance crash statistics can be found in *Analysis of Ambulance Crash Data* , published by the NFPA Fire Protection Research Foundation. Although this standard recognizes the need for the ambulance to be able to accelerate to a high speed while traveling on public roads, caution should be taken with regard to how fast the ambulance can travel.

~~Where the ambulance has to operate off paved roads, all-wheel drive, a two-speed rear axle, an auxiliary transmission, an automatic transmission, or any combination of these might enhance the ambulance's off road capability.~~

Submitter Information Verification**Submitter Full Name:** [Not Specified]**Organization:** [Not Specified]**Street Address:****City:****State:****Zip:****Submittal Date:** Tue Dec 17 15:01:33 EST 2013**Committee Statement**

Committee Statement: This is being deleted as the committee feels it does not add any value for the end user.

Response Message:

[Public Input No. 9-NFPA 1917-2013 \[Section No. A.4.12.4\]](#)

**First Revision No. 161-NFPA 1917-2013 [Section No. A.5.14]****A.5.14**

Purchasers might want to consider specifying that all mirror head faces be independently adjustable from the driver's position (if this feature is available from the OEM) . Medium- and heavy-duty vehicles (>14,400 GVW) should be equipped with a camera at the rear of the vehicle that can be seen and monitored by the driver when the vehicle is in reverse.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Wed Nov 13 15:09:52 EST 2013

Committee Statement

Committee Statement: The committee has made this change as with larger ambulances, when in reverse, it is near impossible to see what is immediately behind the vehicle. However, when in the reverse position the ambulance camera automatically activates and the person is easily visible to the driver. The committee agrees with the submitters intent but have chosen to add it as an annex item instead.

Response Message:

Public Input No. 313-NFPA 1917-2013 [New Section after 5.14]

**First Revision No. 47-NFPA 1917-2013 [Section No. A.6.19]****A.6.19**

Each disposable container meeting 29 CFR 1910.1030 (OSHA) should be mounted inside a fixed container capable of withstanding a moderate crash without dispersing its contents into the patient compartment.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Thu Oct 17 20:48:20 EDT 2013

Committee Statement

Committee Statement: This was added for further clarification.

Response Message:

**First Revision No. 159-NFPA 1917-2013 [Section No. B.1.1]****B.1.1 NFPA Publications.**

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

[Analysis of Ambulance Crash Data](#) ,2011.

[NFPA 70®](#), [National Electrical Code®](#), ~~2011~~ [2014](#) edition.

[NFPA 1451](#) , [Standard for a Fire and Emergency Service Vehicle Operations Training Program](#) ,2013 edition.

NFPA 1901, [Standard for Automotive Fire Apparatus](#), ~~2009~~ [2016](#) edition.

[NFPA 1981](#) , [Standard on Open-Circuit Self-Contained Breathing Apparatus \(SCBA\) for Emergency Services](#) , 2013 edition.

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Wed Nov 13 12:05:12 EST 2013

Committee Statement

Committee Statement: The committee has added this reference due to it being referenced in FR-51.

Response Message:

**First Revision No. 171-NFPA 1917-2013 [Section No. B.1.2.3]****B.1.2.3 SAE Publications.**

Society of Automotive Engineers, 400 Commonwealth Drive, Warrendale, PA 15096, www.sae.org.

SAE J551/1, *Performance Levels and Methods of Measurement of Electromagnetic Compatibility of Vehicles, Boats (up to 15 m), and Machines (16.6 Hz to 18 GHz)*, ~~2006~~ 2010 .

SAE J1349, *Engine Power Test Code — Spark Ignition and Compression Ignition — Net Power Rating*, ~~2004~~ 2008 .

Submitter Information Verification

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Wed Nov 20 11:50:15 EST 2013

Committee Statement

Committee Statement: These changes were made just to update references.

Response Message:

**First Revision No. 206-NFPA 1917-2014 [Section No. B.1.2.4]****B.1.2.4 U.S. Government Publications.**

U.S. Government Printing Office, Washington, DC 20402.

Title 29, Code of Federal Regulations, Part 1910.1030, "Bloodborne Pathogens," 2010.

Title 49, Code of Federal Regulations, Part 571, ~~Subpart B,~~ "Federal Motor Vehicle Safety Standards" (FMVSS), ~~No. 210, "Seat belt assembly anchorages," 2012.~~

Submitter Information Verification

Submitter Full Name: Michael Beady

Organization: [Not Specified]

Street Address:

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Submittal Date: Fri Jan 24 16:15:51 EST 2014

Committee Statement

Committee Statement: Editorial revision to cite referenced text.

Response Message:

**First Revision No. 170-NFPA 1917-2013 [Sections B.2, B.3]****B.2 Informational References.**

~~NFPA 70, National Electrical Code[®], 2011 edition.~~

~~Grant, C. E. and Brian Merrifield, *Analysis of Ambulance Crash Data*, NFPA Fire Protection Research Foundation, 2011.~~

B.3 References for Extracts in Informational Sections.

~~NFPA 70[®], National Electrical Code[®], 2011 2014 edition.~~

~~NFPA 1901, *Standard for Automotive Fire Apparatus*, 2009 2016 edition.~~

DELETED**Submitter Information Verification**

Submitter Full Name: [Not Specified]

Organization: [Not Specified]

Street Address:

City:

State:

Zip:

Submittal Date: Tue Nov 19 10:55:23 EST 2013

Committee Statement

Committee Statement: These changes were made to update references.

Response Message: