



SURFACE VEHICLE RECOMMENDED PRACTICE

J3043™

MAY2025

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Superseding J3043 JUL2014

Ambulance Equipment Mount Device or Systems

RATIONALE

This revision of SAE J3043 was initiated to add reference SAE J3044, Occupant Restraint and Equipment Mounting Integrity - Rear Impact Ambulance Patient Compartment, and to clarify static testing requirements in the front, side, and rear direction relative to the front of the ambulance as described and illustrated in 11.3.

1. SCOPE

This SAE Recommended Practice describes the dynamic and static testing procedures required to evaluate the integrity of an equipment mount device or system when exposed to a frontal or side impact (i.e., a crash impact). Its purpose is to provide equipment manufacturers, ambulance builders, and end users with testing procedures and, where appropriate, acceptance criteria that, to a great extent, ensure equipment mount devices or systems meet the same performance criteria across the industry. Prospective equipment mount manufacturers or vendors have the option of performing either dynamic testing or static testing. Descriptions of the test setup, test instrumentation, photographic/video coverage, test fixture, and performance metrics are included.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue of SAE publications shall apply.

2.1.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

SAE J211-1	Instrumentation for Impact Test - Part 1: Electronic Instrumentation
SAE J211-2	Instrumentation for Impact Test - Part 2: Photographic Instrumentation
SAE J2917	Occupant Restraint and Equipment Mounting Integrity - Frontal Impact Ambulance Patient Compartment
SAE J2956	Occupant Restraint and Equipment Mounting Integrity - Side Impact Ambulance Patient Compartment
SAE J3044	Occupant Restraint and Equipment Mounting Integrity - Rear Impact Ambulance Patient Compartment

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2.2 Related Publications

The following publications are provided for information purposes only and are not a required part of this SAE Technical Report.

2.2.1 Other Publications

Center for Advanced Product Evaluation (CAPE) Report CTR06963 - NIOSH Dynamic-Static Factor, March 22, 2013. A copy of this publication can be acquired by contacting the National Institute for Occupational Safety and Health, Division of Safety Research, Protective Technology Branch, Morgantown, W.V.

3. DEFINITIONS

3.1 DYNAMIC AMPLIFICATION FACTOR

The dynamic amplification factor is a multiplier used to convert the peak dynamic load to an equivalent static load.

3.2 EQUIPMENT MOUNTING DEVICE OR SYSTEM

A retention system that utilizes a temporary or permanent means of fixation, which may have fixed or adjustable positions. Also includes all hardware provided for holding the intended device(s).

3.3 FRACTURE

Fracture means cracking or tearing of the equipment mount system.

3.4 LOAD BEARING

Load bearing means any component of the equipment mounting device or system, hardware and fixtures, or litter-mounted device or system that is required to maintain the equipment in a secured position.

3.5 LOAD PATH

Load path means a series of load bearing components.

3.6 MOUNTING HARDWARE

Fasteners and other associated components that are used to affix an equipment mounting device or system to the interior of an ambulance or to a litter.

3.7 PEAK ACCELERATION

Peak acceleration is the maximum "g" loading for the applicable pulse corridor as described in SAE J2917, SAE J2956, or SAE J3044.

3.8 QUASI-STATIC APPLIED LOAD (QSAL)

The quasi-static applied load is the load to be applied in the static test of an equipment mounting device or system in lieu of a dynamic test. The QSAL is defined mathematically as the equipment weight times the peak acceleration times the dynamic amplification factor.

3.9 TEST ANALOG/DEVICE

A rigid inert structure that represents the physical dimensions, weight, and center of gravity in all axes of the equipment for which the mounting device or system was designed to restrain. It provides connection points to attach to the intended mounting device or system that match those found on the actual piece of equipment to be mounted in the equipment mounting device or system.