



SURFACE VEHICLE RECOMMENDED PRACTICE

J2092™

APR2021

Issued 1995-05
Reaffirmed 1999-01
Stabilized 2021-04

Superseding J2092 NOV1999

Testing of Wheelchair Lifts for Entry to
or Exit from a Personally Licensed Vehicle

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The compliance requirements for wheelchair lifts to assist persons with limited mobility in entering or leaving a vehicle are now mandatory in the Federal Motor Vehicle Safety Standards 49 CFR § 571.403 and 49 CFR § 571.404.

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Documents

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1. **Scope**—This test procedure is for Qualification Testing of electrically powered hydraulic or mechanically operated devices which permit a person in a manual or powered wheelchair to enter or exit a personally licensed vehicle.

It establishes minimum test requirements for compliance. A lift completing the test without failure under this procedure shall be considered in compliance. The tests in Section 3 shall be done in the sequence listed.

- 1.1 SAE J2093 is the recommended practice to which this test procedure is applicable.

2. References

- 2.1 **Applicable Publications**—The following publications form a part of this specification to the extent specified herein. The latest issue of SAE publications shall apply.

- 2.1.1 SAE PUBLICATIONS—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J211-1—Instrumentation for Impact Test—Part 1: Electronic Instrumentation
SAE J211-2—Instrumentation for Impact Test—Part 2: Photographic Instrumentation
SAE J2093—Design Considerations for Wheelchair Lifts

- 2.1.2 ASTM PUBLICATION—Available from ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

ASTM D 1005-51—Measurement of Dry Film Thickness of Organic Coatings

- 2.1.3 FMVSS PUBLICATION—Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-9371.

FMVSS 302—Flammability of Interior Materials

3. **Receiving Inspection Test**—A receiving inspection shall be conducted and shall include:

- 3.1 Weigh the lift and all installation hardware. The total weight shall not exceed 400 lb.
- 3.2 A visual inspection of the lift and furnished materials to assess compliance with standards for written information.

- 3.2.1 The manufacturer's literature shall be examined for information about the lift platform and roll stop dimensions. (SAE J2093, 6.4)
- 3.2.2 A visual inspection to determine the inclusion of the required owner's manual. The manual shall include instructions concerning user operation and required or recommended maintenance to be performed by the user, owner, or dealer. The maintenance instructions shall address at least the following areas: operation, lubrication, (types, frequency, and location) adjustments, calibration and alignment procedures, trouble shooting, parts lists, components requiring special attention and the name, address, and telephone number of the manufacturer or his representative.

In addition, instructions for the use of dual batteries, if applicable, and threshold warning systems shall be included.
- 3.2.3 A visual inspection shall be made to determine the inclusion of all electrical and hydraulic schematic diagrams necessary to properly maintain the lift.
- 3.2.4 Each lift shall be inspected for the inclusion of the required identification tag, evidence of manufacturer's quality control inspection, and for inclusion of the required warranty statement.
- 3.2.5 FLAMMABILITY—A visual inspection will be made of documentation from the manufacturer to insure a statement that FMVSS 302 for flammability has been met for all nonmetallic lift components such as protective coverings, housings, and paddings.
- 3.2.6 VEHICLE ALTERATIONS—The lift, the installation instructions, and the installation hardware shall be visually inspected to ensure that no vehicle alternations are required which would diminish the structural integrity of the vehicle.
- 3.2.7 A visual inspection shall be made of documentation from the manufacturer to insure there exists a failure mode analysis identifying all single point failures.

4. Visual Inspection of Installed Lift

- 4.1 Lift shall be installed in a test fixture per manufacturer's instructions using the installation hardware furnished with the lift.
 - 4.1.1 The test fixture need not be a replica or part of a van door but should be sufficiently similar in size and configuration to allow installation per the manufacturer's installation instructions using the hardware supplied with the lift.
 - 4.1.2 The test fixture shall have a small vertical surface nearby to allow installation of the external switches using the manufacturer's hardware.
 - 4.1.3 The test fixture should have a horizontal panel nearby to allow installation and testing of the threshold warning system.
- 4.2 Each lift and its installation hardware will be visually inspected to assess its conformance with applicable standards.
 - 4.2.1 ELECTRICAL COMPONENTS (SAE J2093, 5.1)
 - 4.2.2 CHAIN DRIVE COMPONENTS (SAE J2093, 5.2)
 - 4.2.3 HYDRAULIC COMPONENTS (SAE J2093, 5.3)