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U.S. DEPARTMENT OF TRANSPORTATION

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

LABORATORY TEST PROCEDURE

FOR

FMVSS 404, Platform Lift Installations in Motor Vehicles

ENFORCEMENT
Office of Vehicle Safety Compliance
Room 6111, NVS-220
400 Seventh Street, SW
Washington, DC 20590

OVSC LABORATORY TEST PROCEDURE NO. 404
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REVISION CONTROL LOG
FOR OVSC LABORATORY TEST PROCEDURE

TP-404, Platform Lift Installations in Motor Vehicles

TEST PROCEDURE		FMVSS 404		DESCRIPTION
REV. No.	DATE	AMENDMENT	EFFECTIVE DATE	
00	7/15/2005	67FR79451 12/27/02	12/27/04	Final rule
		69FR58855 10/1/04	12/27/04	Final rule – response to petitions for reconsideration.
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1. PURPOSE AND APPLICATION OF LABORATORY TEST PROCEDURE

The Office of Vehicle Safety Compliance (OVSC) provides contractor laboratories with Laboratory Test Procedures as guidelines for obtaining compliance test data. The data are used to determine if a specific vehicle or item of motor vehicle equipment meets the minimum performance requirements of the subject Federal Motor Vehicle Safety Standard (FMVSS). The purpose of the OVSC Laboratory Test Procedures is to present a uniform testing and data recording format, and provide suggestions for the use of specific equipment and procedures. These Laboratory Test Procedures do not constitute an endorsement or recommendation for use of any product or method. If any contractor views any part of an OVSC Laboratory Test Procedure to be in conflict with a Federal Motor Vehicle Safety Standard or observes deficiencies in a Laboratory Test Procedure, the contractor is required to advise the Contracting Officer's Technical Representative (COTR) and resolve the discrepancy prior to the start of compliance testing.

Every contractor is required to submit a detailed test procedure to the COTR before initiating the compliance test program. The procedure must include a step-by-step description of the methodology to be used. The contractor's test procedure shall contain a complete listing of test equipment with make and model number and a detailed check-off sheet. The list of test equipment shall include instrument accuracy and calibration dates. All equipment shall be calibrated in accordance with the manufacturer's instructions. There shall be no contradictions between the Laboratory Test Procedure and the contractor's in-house test procedure. Written approval of the in-house test procedures shall be obtained from the COTR before initiating the compliance test program. The OVSC Laboratory Test Procedures are not intended to limit or restrain a contractor from developing or utilizing any testing techniques or equipment, which will assist in procuring the required compliance test data. However, the application of any such testing technique or equipment is subject to prior approval of the COTR.

NOTE: The OVSC Laboratory Test Procedures, prepared for the limited purpose of use by independent laboratories under contract to conduct compliance tests for the OVSC, are not rules, regulations or NHTSA interpretations regarding the meaning of a FMVSS. The Laboratory Test Procedures are not intended to limit the requirements of the applicable FMVSS(s). In some cases, the OVSC Laboratory Test Procedures do not include all of the various FMVSS minimum performance requirements. Recognizing applicable test tolerances, the Laboratory Test Procedures may specify test conditions that are less severe than the minimum requirements of the standard. In addition, the Laboratory Test Procedures may be modified by the OVSC at any time without notice, and the COTR may direct or authorize contractors to deviate from these procedures, as long as the tests are performed in a manner consistent with the standard itself and within the scope of the contract. Laboratory Test Procedures may not be relied upon to create any right or benefit in any person. Therefore, compliance of a vehicle or item of motor vehicle equipment is not necessarily guaranteed if the manufacturer limits its certification tests to those described in the OVSC Laboratory Test Procedures.

2. GENERAL REQUIREMENTS

Federal Motor Vehicle Safety Standard (FMVSS) No. 404 specifies performance requirements for platform lift (lift) installations in motor vehicles. The standard is applicable to motor vehicles that, as originally manufactured or altered (prior to the vehicle's first retail sale, see 49 CFR 567), were equipped with a lift designed to carry standing passengers who may be aided by canes or walkers, as well as, persons seated in wheelchairs, scooters and other mobility aids, into and out of the vehicle.

A vehicle subject to FMVSS No. 404 must be equipped with a lift as follows:

- Vehicles with a gross vehicle weight rating (GVWR) greater than 10,000 pounds that are buses, school buses and multipurpose passenger vehicles other than motor homes, must be equipped with a public use lift certified as meeting FMVSS No. 403, Platform Lift Systems for Motor Vehicles (49 CFR 571.403).
- All other vehicles must be equipped with a lift certified as meeting either the public use or private use lift requirements of FMVSS No. 403.

Additionally, FMVSS No. 404 requires that lifts be installed according to the lift manufacturer's instructions and continue to meet the performance requirements of FMVSS No. 403. FMVSS No. 404 further requires the vehicle to meet the following:

Equipped with a public or private use lift:

- The vehicle must have instructions regarding lift operating procedures, including backup operation, permanently affixed adjacent to a location adjacent to the controls.
- If the vehicle is equipped with an owner's manual, an insert from the lift manufacturer must be included that provides specific information about the lift (reference, FMVSS No. 403, S6.12).

Equipped with a public use lift:

- The vehicle must meet performance requirements for the lift's platform lighting.
- The lift controls must be positioned such that the operator has a direct, unobstructed view of the lift passenger and/or their mobility aid throughout the lift's range of passenger operation.

In this procedure, compliance with some FMVSS No. 403 dimensional and operational requirements will also be verified, i.e., unobstructed platform operating volume, and the operation of a threshold warning signal and interlocks.

METRIC SYSTEM OF MEASUREMENT

As a general rule, use of the metric system of weights and measures is preferred. Performance parameters and test conditions in FMVSS are now specified in metric units. In this Laboratory Test Procedure metric values may be followed by English units only

for reference (not necessarily equal). If test equipment is not available for direct measurement in metric units, the test laboratory shall calculate the exact metric equivalent by means of a conversion factor carried out to at least five significant digits before rounding consistent with the specified metric requirement. Metric units shall be used in the Final Test Reports.

TEST DATA LOSS

A compliance test is not to be conducted unless all of the test conditions specified in this Test Procedure have been met. Failure of a contractor to obtain the required test data or to maintain acceptable limits on test parameters in the manner outlined in this Test Procedure may require a retest at the expense of the contractor. The retest costs will include the cost of a replacement sample and all costs associated with conducting the retest, which may include the cost of an equivalent replacement vehicle and/or platform lift. The original vehicle and/or platform lift used for the invalid test shall remain the property of OVSC, and the retest vehicle and/or platform lift shall remain the property of the contractor. If there is a retest failure, the contractor shall retain the retest vehicle and/or platform lift for at least 180 days. If there is not a retest failure, the contractor may dispose of the retest specimen upon notification from the COTR that the final test report has been accepted.

The NHTSA Contracting Officer is the only person authorized to notify the contractor that a retest is required. The retest shall be conducted within two (2) weeks after receipt of notification by the Contracting Officer that a retest is required. If a retest is conducted, no test report is required for the original test.

3. SECURITY

The contractor shall provide appropriate security measures to protect the OVSC test vehicle and/or platform lift from unauthorized personnel during the entire compliance testing program. The contractor is financially responsible for any acts of theft and/or vandalism, which occur during the storage of test vehicles and/or platform lifts. Any security problems that arise shall be reported by telephone to the Industrial Property Manager (IPM), Office of Contracts and Procurement, within two working days after the incident. A letter containing specific details of the security problem shall be sent to the IPM (with copy to the COTR) within 48 hours. The contractor shall protect and segregate the photographs and data that evolve from compliance testing.

No information concerning the vehicle safety compliance testing program shall be released to anyone except the COTR, unless specifically authorized by the COTR or the COTR's Branch or Division Chief.

NOTE: NO INDIVIDUALS, OTHER THAN CONTRACTOR PERSONNEL DIRECTLY INVOLVED IN THE COMPLIANCE TESTING PROGRAM, SHALL BE ALLOWED TO WITNESS ANY VEHICLE AND/OR PLATFORM LIFT COMPLIANCE TEST UNLESS SPECIFICALLY AUTHORIZED BY THE COTR.

4. GOOD HOUSEKEEPING

The contractor shall maintain the indoor compliance testing area, test fixtures and instrumentation in a neat and clean condition with test instruments arranged in an orderly manner consistent with good test laboratory housekeeping practices.

5. TEST SCHEDULING AND MONITORING

The contractor shall submit a test schedule to the COTR prior to testing. Tests shall be completed as required in the contract. Scheduling shall be adjusted to permit sample motor vehicles to be tested to other FMVSS as may be required by the OVSC. All testing shall be coordinated to allow monitoring by the COTR.

6. TEST DATA DISPOSITION

The contractor shall make all vehicle preliminary compliance test data available to the COTR on location within four hours after the test. Final test data, including digital printouts and computer generated plots (if applicable), shall be made available to the COTR within five working days. Additionally, the contractor shall analyze the preliminary test results as directed by the COTR. All backup data sheets, strip charts, recordings, plots, technicians' notes, etc., shall be either sent to the COTR or destroyed at the conclusion of each delivery order, purchase order, etc.

7. GOVERNMENT FURNISHED PROPERTY (GFP):

7.1 ACCEPTANCE OF TEST VEHICLES

The contractor has the responsibility of accepting each GFP test vehicle whether delivered by a new vehicle dealership or another vehicle transporter. In both instances, the contractor acts in the OVSC's behalf when signing an acceptance of the test vehicle delivery. When a new GFP vehicle is delivered, the contractor must check to verify the following:

A. A certified platform lift of the correct type, public or private, was installed by the vehicle manufacturer or alterer and that there is no damage to the vehicle or lift

B. All options listed on the "window sticker" affixed by the vehicle manufacturer and alterer, if applicable, are present

C. Tires and wheels are new and the same as listed

D. There are no dents or other interior or exterior flaws

E. The vehicle has been properly prepared and is in running condition

F. Vehicle owner's manual, warranty document, consumer information, and extra set of keys are present

G. The warranty, owner's manual and any other information available from the lift manufacturer is included

H. Printed instructions in English are provided by the vehicle manufacturer, alterer, or COTR for installing the lift, as well as a diagram or schematic depicting proper lift installation and operation

If the GFP test vehicle is delivered by a government contracted transporter or leasing agent, the contractor shall check for damage that may have occurred during transit.

7.2 NOTIFICATION OF COTR

The COTR must be notified within 24 hours after a vehicle has been delivered. In addition, if any discrepancy or damage is found at the time of delivery, a copy of the Vehicle Condition form or equivalent information shall be sent to the COTR immediately via electronic transmittal.

A Vehicle Condition form will be supplied to the contractor by the COTR when the test vehicle is transferred from a new vehicle dealership, leasing agent or between test contracts. The contractor must complete a Vehicle Condition form for each vehicle and deliver it to the COTR with the Final Test Report or the report will not be accepted for payment.

7.3 VEHICLES NOT DELIVERED TO THE CONTRACTOR

Any commercial vehicle, i.e., a transit bus, or private vehicle, i.e., van, that is used for testing but is not delivered to the contractor is not considered GFP and the requirements above do not apply. However, the COTR must be advised before testing is initiated, concur with the selection, and provide a NHTSA No. for the vehicle.

8. CALIBRATION OF TEST INSTRUMENTS

8.1 Before the contractor initiates the safety compliance test program, a test instrumentation calibration system shall be implemented and maintained in accordance with established calibration practices. The calibration system shall include the following as a minimum:

A. Standards for calibrating the measuring and test equipment will be stored and used under appropriate environmental conditions to assure their accuracy and stability.

B. All measuring instruments and standards shall be calibrated by the contractor, or a commercial facility, against a higher order standard at periodic intervals NOT TO

EXCEED TWELVE (12) MONTHS! Records, showing the calibration traceability to the National Institute of Standards and Technology (NIST), shall be maintained for all measuring and test equipment.

C. All measuring and test equipment and measuring standards will be labeled with the following information:

(1) Date of calibration
(2) Date of next scheduled calibration
(3) Name of the technician who calibrated the equipment

D. A written calibration procedure shall be provided by the contractor, which includes as a minimum the following information for all measurement and test equipment:

(1) Type of equipment, manufacturer, model number, etc.
(2) Measurement range
(3) Accuracy
(4) Calibration interval
(5) Type of standard used to calibrate the equipment (calibration traceability of the standard must be evident)

E. Records of calibration for all test instrumentation shall be kept by the contractor in a manner that assures the maintenance of established calibration schedules. All such records shall be readily available for inspection when requested by the COTR. The calibration system will need the acceptance of the COTR before the test program commences.

8.2 Further guidance is provided in the International Standard ISO 10012-1, "Quality Assurance Requirements for Measuring Equipment" and American National Standard ANSI/NCSL Z540-1, "Calibration Laboratories and Measuring and Test Equipment - General Requirements".

9. SUGGESTED TEST EQUIPMENT

9.1 General

A. ILLUMINATION MEASUREMENT DEVICE

A device to measure the illumination in lux (lumen/m^2) of the platform lighting on public use lifts, 0-100 lux ±1 lux.

B. SOUND LEVEL METER

A sound level meter to measure noise level in decibels (dBA) of the audible threshold warning, 30-130 dBA range, Type 2 (+/-2 dBA).

C. LIGHT INTENSITY MEASURING DEVICE

A device to measure the intensity in candela (cd) of the visual threshold warning beacon, and threshold area edge marking.

D. WHEELCHAIR TEST DEVICE

An unloaded power wheelchair, appropriate for a 95th percentile male and has the following dimensions, configuration and components:

(1) a cross-braced steel frame,

(2) a sling seat integrated in the frame,

(3) a belt drive

(4) detachable footrests, with the lowest point of the footrest adjustable in a range not less than 25 mm (1 in) to 123 mm (5 in) from the ground,

(5) two pneumatic rear tires with a diameter not less than 495 mm (19.5 in) and not more than 521 mm (20.5 in) inflated to the wheelchair manufacturer's recommended tire pressure or if no recommendation exists, to the maximum pressure that appears on the sidewall of the tire,

(6) two pneumatic front tires with a diameter not less than 190 mm (7.5 in) and not more than 216 mm (8.5 in) inflated to the wheelchair manufacturer's recommended tire pressure or if no recommendation exists, to the maximum pressure that appears on the sidewall of the tire,

(7) a distance between front and rear axles not less than 457 mm (18 in) and not more than 533 mm (21 in),

(8) a horizontal distance between rear axle and center of gravity not less than 114 mm (4.5 in) and not more than 152 mm (6.0 in),

(9) a vertical distance between ground and center of gravity not less than 260 mm (10.25 in) and not more than 298 mm (11.75 in),

(10) a mass not less than 72.5 kg (160 lb) and not more than 86.0 kg (190 lb),

(11) batteries with a charge not less than 75% of their rated nominal capacity (for tests that require use of the wheelchair's propulsion system)

E. CLEARANCE TEST BLOCK

A block made out of a rigid material, 16 x 16 x 100 mm (0.625 x 0.625 x 4.0 in) with all corners having a 1.6 mm (0.0625 in) radius to measure gaps, transitions and openings. (Figure 3)

F. UNOBSTRUCTED PLATFORM OPERATING VOLUME FIXTURE ASSEMBLY

A fixture assembly consisting of an upper and lower portion to simulate a passenger in a wheelchair. The upper portion consists of a set volume, whereas the lower portion is bound in width and height, but varies with the length of the platform. The fixture must be aligned with the geometric center of the platform. To accommodate this alignment, a centrally located tube is placed in the upper and lower portions to provide a visual verification. (Figure 5)

G. TEST SPHERES

1. A sphere, 19 mm ± 0.2 mm in diameter, to measure gaps
2. A sphere, 13 mm ± 0.2 mm in diameter, to measure gaps
3. A sphere, 6.5 mm ± 0.2 mm in diameter, to measure gaps

H. INCLINOMETER

A device to determine angular orientation of a surface with a range of 0-360 º ± 1º.

10. PHOTOGRAPHIC DOCUMENTATION

Each final test report is required to include color digital still photographs (8 x 10 or 8 ½ x 11 inch color photographs focused for clear images). All still photographs required by the test procedure shall be included in the final test report. Proof-type photographs of all areas of the lift and vehicle that may be of importance to the test shall be taken in excess and included in the final test report only if the need arises. Use ***Data Sheet 5: Photographic Documentation*** as a check-off sheet.

A tag, label, or placard identifying the test item make and model, NHTSA number, and compliance test date are required to appear in each photograph and be legible. As a minimum the following photographs, photocopies, or digital videos are required to be included in the final test report:

1. Vehicle exterior, ¾ frontal and side showing lift

2. Vehicle certification label

3. Lift certification label

4. Stowed lift (3/4 view)

5. Deployed lift showing red beacon, if so equipped (3/4 view)

6. Vehicle floor level loading position (3/4 view)

7. Ground level loading position (3/4 view)

8. Lift operating procedures including backup operations permanently affixed to a location adjacent to the controls

9. Lift being operated in backup mode (3/4 view)

10. Specific portions of the vehicle owner's manual insert, if the vehicle has one, that provides specific information about the platform lift, which must be written in the English language and must include:
10.1. A maintenance schedule that includes maintenance requirements that has, at a minimum, some dependency on the number of cycles on the operations on the lift operations counter.
10.2. Lift operating procedures including backup operations.

Public Use Lifts

10.3. The statement "DOT-Public Use Lift" on the front cover of insert
10.4. The statement within the insert: "*DOT-Public Use Lift*' verifies that this platform lift meets the "public use lift" requirements of FMVSS No. 403. This lift may be installed on all vehicles appropriate for the size and weight of the lift, but must be installed on buses, school buses, and multi-purpose passenger vehicles other than motor homes with a gross vehicle weight rating (GVWR) that exceeds 4,536 kg (10,000 lb)."

Private Use Lifts

10.5. The statement "DOT-Private Use Lift" on the front cover of the vehicle owner's manual insert
10.6. The statement "*DOT-Private Use Lift*' verifies that this platform lift meets only the "private use lift" requirements of FMVSS No. 403. This lift may be installed on all vehicles appropriate for the size and weight of the lift, except for buses, school buses, and multi-purpose passenger vehicles other than motor homes with a gross vehicle weight rating (GVWR) that exceeds 4,536 kg (10,000 lb)."

11. Specific portions of the Lift Installation Instructions (provided by the vehicle manufacturer or COTR) that provide specific information about the platform lift, which must be written in the English language and must include:
11.1. The vehicles on which the lift is designed to be installed by make, model, and year, or by specifying the design elements that would make a vehicle an

appropriate host for a particular lift, and for which the platform lift manufacturer has certified compliance.

11.2. Procedures for operational checks that the vehicle manufacturer must perform to verify that the lift is fully operational. Such checks include, but are not limited to, platform lighting, the threshold-warning signal, and interlocks, including those that interface with vehicle systems.

11.3. Any informational material or labels that must be placed on or in the vehicle in order to comply with the requirements of this standard. Labels must be of a permanent nature that can withstand the elements of the outside environment.

Public Use Lifts

11.4. The statement "DOT-Public Use Lift" on the front cover of the installation instructions.

Private Use Lifts

11.5. The statement "DOT-Private Use Lift" on the front cover of the installation instructions.

12. Platform threshold area

13. Edges of the platform surface

14. Visible edge of the vehicle floor or bridging device adjacent to the platform lift

15. Designated standing area (if applicable)

16. Lift platform outline markings (Public Use Only)

17. Lift light(s) (Public Use Only)

18. Control panel face(s)

19. Wheelchair test device on threshold area

20. Close up of red beacon activated (if applicable)

21. Lift system controls (fixed and/or pendant)

22. Additional and backup controls

23. Lift structures attached to the vehicle used as edge guards (if applicable)

24. Test failure(s)

11. DEFINITIONS

BRIDGING DEVICE

The portion of a platform lift that is a transitional surface between the platform surface and the surface of the vehicle floor within the platform threshold area.

DEPLOY

To move a platform from a stowed position to an extended position or, one of the two loading positions.

GAP

A discontinuity in a plane surface, or between two adjacent surfaces.

GRASPABLE PORTION OF A HANDRAIL

Any portion of a handrail that falls between 30 and 38 inches from the lift platform, and intersects two planes that are perpendicular to the platform reference plane and to the direction of travel of a wheelchair on the lift when entering or exiting the platform. (Figure 4)

LOADING POSITION

A position at which a passenger can either embark or disembark the lift. The two loading positions for the purpose of this test procedure are at vehicle floor and ground level.

PLATFORM

That portion of a platform lift on which the mobility aid or passenger rests while being raised or lowered.

PLATFORM LIFT

A level change device, including any integration of existing vehicle components used to assist persons with limited mobility in entering or exiting a vehicle.

PLATFORM SURFACE

The passenger-carrying surface of the lift platform.

PLATFORM THRESHOLD AREA

The rectangular area of the vehicle floor defined by moving a line that lies on the portion of the edge of the vehicle floor directly adjacent to the platform, through a distance of 457

mm (18 inches) across the vehicle floor in a direction perpendicular to the edge. Any portion of a bridging device that lies on this area must be considered part of that area. (Figure 1)

PRIVATE USE LIFT

A platform lift certified to the requirements for private use lifts and requirements in this standard for all lifts.

PUBLIC USE LIFT

A platform lift certified to the requirements for public use lifts and requirements in this standard for all lifts.

RANGE OF PASSENGER OPERATION

The portion of the lift cycle during which the platform is at or between the vehicle floor and ground level loading positions excluding any stow and deploy operations.

STOW

A platform's movement from a position within the range of passenger operation to the position maintained during normal vehicle travel.

WHEELCHAIR RETENTION DEVICE

A device designed to prevent wheelchairs from leaving the edge of the platform used for ground level loading and unloading during the range of passenger operation.

12. PRETEST REQUIREMENTS

A. Verify COTR approval of contractor's detailed in-house test procedure.

B. Verify the calibration status of test equipment.

C. Review all pretest, safety standard performance, and test instrumentation requirements relating to this compliance test. Personnel supervising and/or performing the compliance test shall be thoroughly familiar with all of the requirements.

D. Review contents of Vehicle owner's manual insert, Lift Installation Instructions, Lift Mounting Kit Instructions, and Operating Instructions provided by the vehicle manufacturer, lift manufacturer or COTR.

E. Place the vehicle on a flat, horizontal floor surface. Check the vehicle's tire pressures and, if necessary, adjust to recommended pressure(s) on vehicle label.

13. COMPLIANCE TEST EXECUTION

13.1. General Requirements

1. Record vehicle information in ***Data Sheet 1: Vehicle and Lift Information and Verification.***

2. Record lift information in ***Data Sheet 1: Vehicle and Lift Information and Verification.***

3. To the extent that the installation of the platform lift according to the lift manufacturer's instructions can be verified by visual observation (e.g., without disassembly), compare the instructions with the applicable portion of the lift as installed on the vehicle. Verify that the lift performs its intended function throughout all operations. If the lift is not installed in accordance with the minimum specifications of the lift manufacturer, a failure has occurred. **Contact COTR** and note failure in ***Data Sheet 1: Vehicle and Lift Information and Verification.***

NOTE: Buses, school buses, and MPVs with a GVWR greater than 4,536 kg (10,000 lb.) must be fitted with a public use lift, certified by the manufacturer as meeting the requirements for public use lifts. Motor Homes may be fitted with either a public or private certified lift.

13.2. Platform Requirements

All Lifts (Steps 1 through 27)

1. Move the platform to the ground level position.

2. Mark the geometric center of the platform, and note in ***Data Sheet 2: Platform Requirements.***

NOTE: Measurements are made perpendicular to the ground.

Gaps, Transitions, Openings

3. Measure the vertical surface transition, perpendicular to the threshold area, of any surface a passenger may traverse to enter or exit the platform from the ground. Record the measurement in ***Data Sheet 2: Platform Requirements.*** If the measurement exceeds 6.5 mm (0.25 in), a test failure has occurred.

4. Measure the slope of any surface a passenger may traverse to enter or exit the platform between 6.5 mm (0.25 in) and 13 mm (0.5 in). Record the measurement in ***Data Sheet 2: Platform Requirements.*** If the measurement exceeds 1:2, a test failure has occurred.

5. Measure the slope of any surface a passenger may traverse to enter or exit the platform between 13 mm (0.5 in) and 75 mm (3 in). ***Data Sheet 2: Platform Requirements.*** If the measurement exceeds 1:8, a test failure has occurred. The rise of any sloped surface may not be greater than 75 mm (3 inches), else a test failure has occurred.

6. Verify any horizontal gap over which a passenger may traverse to enter or exit the platform prevents passage of a 13 mm (0.5 inch) diameter sphere. Photograph and record this verification in ***Data Sheet 2: Platform Requirements.***

7. Verify any gap between the inner roll stop and the lift platform prevents passage of the clearance test block (Figure 3) when its long axis is held perpendicular to the platform reference plane (Figure 1). Photograph and record this verification in ***Data Sheet 2: Platform Requirements.***

8. Move the platform lift to the vehicle floor loading level.

9. Measure the vertical surface transition, perpendicular to the threshold area, of any surface a passenger may traverse to enter or exit the platform from the vehicle floor to the platform. Record the measurement in ***Data Sheet 2: Platform Requirements.*** If the measurement exceeds 6.5 mm (0.25 in), a test failure has occurred.

10. Measure the slope, perpendicular to the platform threshold, of any surface a passenger may traverse to enter or exit the platform between 6.5 mm (0.25 in) and 13 mm (0.5 in). Record the measurement in ***Data Sheet 2: Platform Requirements.*** If the measurement exceeds 1:2, a test failure has occurred.

11. Measure the slope, perpendicular to the platform threshold, of any surface a passenger may traverse to enter or exit the platform between 13 mm (0.5 in) and 75 mm (3 in). Record the measurement in ***Data Sheet 2: Platform Requirements.*** If the measurement exceeds 1:8, a test failure has occurred. The rise of any sloped surface may not be greater than 75 mm (3 in), else a test failure has occurred.

12. Verify any gap between the outer barrier and the lift platform prevents passage of the clearance test block (Figure 3) when its long axis is held perpendicular to the platform reference plane. Photograph and record this verification in ***Data Sheet 2: Platform Requirements.***

13. Verify any gap between the platform sides and edge guards that move with the platform prevents passage of a 13 mm (0.5 in) diameter sphere. Photograph and record this verification in ***Data Sheet 2: Platform Requirements.***

14. ***If the lift structures attached to the vehicle are used as edge guards***, verify the horizontal gap between the platform side and the vehicle structure prevents

passage of a 6.5 mm (0.25 in) diameter sphere. Photograph and record this verification in ***Data Sheet 2: Platform Requirements.***

Platform Deflection

15. Place an inclinometer about its longitudinal centerline on the vehicle floor, coincident with the platform centerline. Record the angle in ***Data Sheet 2: Platform Requirements.*** Remove the inclinometer.

16. Place the inclinometer about its longitudinal centerline on the platform centerline, tangent with the outermost practicable barrier. Record the angle in ***Data Sheet 2: Platform Requirements.*** Remove the inclinometer.

17. Compare the unloaded platform angle with that of the vehicle floor angle. Record the difference in ***Data Sheet 2: Platform Requirements.*** If the angles differ by more than 1.8°, a test failure has occurred.

Edge Guards

18. Measure the height of edge guards that move with the platform, perpendicular from the platform surface. Record this measurement in ***Data Sheet 2: Platform Requirements.*** If the edge guard height is less than 38 mm (1.5 in), a test failure has occurred.

19. Verify the edge guards are continuous and parallel with the direction of wheelchair movement during loading and unloading. Photograph and record in ***Data Sheet 2: Platform Requirements.***

20. Measure the distance between the end of the platform, not including portions of an outer roll stop, and the closest parallel face of an edge guard. Record the measurement in ***Data Sheet 2: Platform Requirements.*** If the distance is greater than 75 mm (3 in), a test failure has occurred.

21. Lower the platform until the edge guards start to release, if so equipped. Measure the vertical distance from the ground to the platform surface. Record this measurement in ***Data Sheet 2: Platform Requirements.*** If the distance is greater than 75 mm (3 in), a test failure has occurred.

Handrails

NOTE: *Public use lifts* ***MUST*** have a handrail present on each side of the lift platform meeting the requirements tested below. *Private use lifts*, if so equipped, ***MUST*** have handrails meeting the requirements tested below:

22. Measure the horizontal extent of the graspable portion of the handrails (Figure 4). Record the measurement in ***Data Sheet 2: Platform Requirements.*** If the

horizontal extent of the handrail is less than 203 mm (8 in) apart, a test failure has occurred. Record the test failure in ***Data Sheet 2: Platform Requirements.***

23. Measure the height of the graspable portion of the handrail vertically from the platform surface. Record measurement in ***Data Sheet 2: Platform Requirements.*** If the vertical measurement is less than 760 mm (30 in) or more than 965 mm (38 in) above the platform surface, a test failure has occurred. Note the failure in ***Data Sheet 2: Platform Requirements.***

24. Measure the cross section of the graspable portion of the handrail. Record measurement in ***Data Sheet 2: Platform Requirements.*** If the cross section is less than 31.5 mm (1.25 in) or more than 38 mm (1.5 in) in diameter or width, a test failure has occurred. Note the failure in ***Data Sheet 2: Platform Requirements.***

25. Measure the radii on any corner. Record the measurement in ***Data Sheet 2: Platform Requirements.*** If the radii of any corner is less than 3.2 mm (0.125 in), a test failure has occurred. Note the failure in ***Data Sheet 2: Platform Requirements.***

26. Raise and lower the lift platform and verify the position of the handrails relative to the platform does not change. If the handrail position changes relative to the platform surface, a test failure has occurred. Digitally capture the position change, and note failure in ***Data Sheet 2: Platform Requirements.***

27. Measure the minimum horizontal distance between the outside of the handrail and the nearest portion of the vehicle if so installed. Record the distance in ***Data Sheet 2: Platform Requirements.*** If the clearance between each handrail and the nearest portion of the vehicle is less than 38 mm (1.5 in) a test failure has occurred. Note the failure in ***Data Sheet 2: Platform Requirements.***

28. *Public Use Lifts*

    Surface Protrusions

    28.1 Verify the platform has no protrusions that rise more than 6.5 mm (0.25 in) above the platform surface.

    28.2 If protrusions are suspected of not meeting requirements, measure protrusions perpendicular to the platform surface by a device with its base centered between 50-100 mm (2-4 inches) from the protrusion.

    28.3 Record measurements in ***Data Sheet 2: Platform Requirements.*** If a protrusion, except as required for deployment or the wheelchair retention device and inner roll stop, rises greater than 6.5 mm (0.25 inches) above the platform surface, a test failure has occurred.

Unobstructed Platform Operating Volume

28.4 Center the Upper and Lower parts of the Unobstructed Volume test fixture (Figure 5) onto the platform.

28.5 Verify the Unobstructed Volume test fixture is contained within the lift platform. Record findings in ***Data Sheet 2: Platform Requirements.*** If the Unobstructed Volume test fixture cannot be contained within the lift platform, a test failure has occurred. Photograph failure.

28.6 Raise the lift to the vehicle loading level. Verify the Unobstructed Volume test fixture does not contact any other lift component during operation.

28.7 Remove Unobstructed Volume test fixture.

Platform Markings

28.8 Using an illumination measurement device, verify that all edges of the platform surface, the visible edge of the vehicle floor or bridging device adjacent to the platform lift, and any designated standing area on the lift have outlines of at least 25 mm (1 in) wide and of a color that contrasts with its background by 60 percent determined according to the following equation:

$$\text{Contrast} = 100 \times [(L1 - L2)/L1]$$

Where:
L1 = luminance of the lighter color or shade
L2 = luminance of the darker color or shade

Record findings in ***Data Sheet 2: Platform Requirements.***

NOTE: Luminance measurements are recorded with the lift in an environment where there is no apparent ambient light, with the sensor portion of the light meter within 50 mm (2 inches) of the surface being measured and with a light meter that has a range comparable to a minimum of 0 to 100 Lux in increments comparable to 1 Lux or less, an accuracy of ± 5 % of the actual reading and a sampling rate of at least 2 Hz."

28.9 Photograph all edges of the platform surface, the visible edge of the vehicle floor or bridging device adjacent to the platform lift, and any designated standing area.

Platform Lighting

28.10 Move the lift platform to the vehicle floor level.

28.11 Set up illumination measuring equipment.

28.12 Activate the lift light(s).

28.13 Measure the luminance at the points illustrated in Figure 6. Record the luminance in ***Data Sheet 2: Platform Requirements.*** If the lift has a light or set of lights that provide less than 54 lm/m^2 or 54 Lux (5 lm/ft^2 or 5 foot-candles), measured at the indicated points, a test failure has occurred.

28.14 Move the lift platform to the ground loading level.

28.15 Measure the luminance at the points illustrated in Figure 6. Record the luminance in ***Data Sheet 2: Platform Requirements.*** If the lift has a light or set of lights that provide less than 11 lm/m^2 or 11 Lux (1 lm/ft^2 or 1 foot-candles), measured at the indicated points, a test failure has occurred.

NOTE: Points 7-9 in Figure 6 are measured from the edge of the lift extents. (i.e. if the lift is equipped with an outer wheelchair retention device that doubles as a ramp transition, the measurement is taken 5 cm from the outermost edge of the ramp transition.)

13.3 Interlock Test

1. Chock wheels of vehicle, or provide adequate restraint such that the vehicle will be immobile regardless of transmission, braking, or acceleration activity.

2. Start the engine of the vehicle.

3. Set the parking brake or service brakes by means other than the operator depressing the service brake pedal, and move the shift selector to any forward or reverse position.

4. Move the lift “Power” control to the “On” state.

5. Attempt to deploy the lift using the lift control. If the lift deploys, a test failure has occurred. Note failure in ***Data Sheet 3: Interlock Test*.**

6. Set the transmission to “Park” or “Neutral” and deploy the lift platform to the vehicle loading position.

7. Release the brake and attempt to move the shift selector to any forward or reverse position. If the vehicle moves, or is capable of moving if unrestrained, a test failure has occurred. Note failure in ***Data Sheet 3: Interlock Test*.**

8. Set the parking brake or service brakes by means other than the operator depressing the service brake pedal, and move the shift selector to the “Park” or “Neutral” Position to activate the lift.

9. Return the lift to the stowed position, stop the engine of the vehicle, place the transmission selector in the "Park" or "Neutral" Position, set the parking brake, and remove the key.

13.4 Threshold warning signal test and Controls & Identifiers

1. Maneuver the lift platform to the vehicle floor level loading position.

2. Place one front wheel of the unloaded wheelchair test device on any portion of the platform threshold area defined in S4 of §571.403 of 49CFR. Photograph test device location on the platform threshold area.

3. Move the platform down until the required alarm(s) is actuated. Measure the vertical distance the platform has traveled and record in ***Data Sheet 4: Threshold warning signal test & Controls and Identifiers.*** If the vertical distance exceeds 25mm, a test failure has occurred.

Public Use Lifts

4. Verify a Flashing Red Beacon ***and*** Audible Alarm.

Private Use Lifts (Other than over the floor lifts)

5. Verify a Flashing Red Beacon ***or*** Audible Alarm.

Public Use Lifts

6. Oriented outward from and perpendicular to the control panel face, photograph the control panel face(s), capturing the lift platform and associated lift components.

7. Except for the backup operation lift controls, verify all control panel switches for lift function are positioned together, and a person facing the controls has a direct, unobstructed view of the platform lift passenger, and passenger's mobility aid, if applicable. If the controls are not positioned together or the view of the lift platform is obstructed, or not within the line of sight, a test failure has occurred. Note failure in ***Data Sheet 4: Threshold warning signal test & Controls and Identifiers.***

All Lifts

8. Photograph lift operating instructions on the vehicle:

    1) perpendicular to, and out from the face of the instruction location at a distance such that the wording of the instructions is clear and legible.

AND

2) at an orientation and distance such that the location of the instructions can be referenced from the location of the controls.

9. Verify the lift operating instructions, including backup operations, are located near the controls. If the instructions are not provided, not near the lift controls, or are not of the character type or language specified, a test failure has occurred. Note failure in ***Data Sheet 4: Threshold warning signal test & Controls and Identifiers.***

Public Use Lifts

10. Verify the statement "DOT-Public Use Lift" is included within the instructions. If the statement is not present, or not identical, a test failure has occurred. Note failure in ***Data Sheet 4: Threshold warning signal test & Controls and Identifiers.***

Private Use Lifts

11. Verify the statement "DOT-Private Use Lift" is included within the instructions. If the statement is not present, or not identical, a test failure has occurred. Note failure in ***Data Sheet 4: Threshold warning signal test & Controls and Identifiers.***

14. POST-TEST REQUIREMENTS

The contractor is required to re-verify all instrumentation and check data sheets, photographs, and recorded data. Make sure data is recorded in all data blocks on every compliance test data sheet.

15. REPORTS

15.1. Monthly Status Reports

The contractor is required to submit a monthly Test Status Report and an Equipment Status Report to the COTR. The Equipment Status Report is required to be submitted until all final reports are accepted.

15.2 Apparent Test Failure

Any indication of a test failure is required to be communicated by telephone to the COTR within 24 hours with written notification mailed within 48 hours (Saturdays and Sundays excluded). A Notice of Test Failure with a copy of the particular compliance test data sheet(s) is required to be included.

In the event of a test failure, a post test calibration check of some critically sensitive test equipment and instrumentation may be required for verification of accuracy. The necessity for the calibration shall be at the COTR's discretion and shall be performed without additional costs to the OVSC.

15.3 Final Test Reports

Contractors are required to submit the first Final Test Report in typed draft form within two weeks after the compliance test is conducted. The contractor and the COTR will then be able to discuss the details of both test conduct and report content early in the compliance test program.

Contractors are required to PROOF READ all Final Test Reports before submittal to the COTR. The OVSC will not act as a report quality control office for contractors. Reports containing a significant number of errors will be returned to the contractor for correction, and a "hold" will be placed on invoice payment for the particular test.

15.3.1 Copies

ONE hardcopy and, **ONE** PDF formatted copy of the Final Test Report are required to be submitted to the COTR for acceptance within three weeks of test completion. The Final Test Report format to be used by all contractors can be found in the attachment. Payment of contractor's invoices for completed compliance tests may be withheld until the Final Test Report is accepted by the COTR. Contractors are requested to NOT submit invoices before submitting copies of the Final Test Report.

15.3.2 Requirements

The Final Test Report, associated documentation (including photographs) are relied upon as the chronicle of the compliance test. The Final Test Report will be released to the public domain after review and acceptance by the COTR. For these reasons, each final report must be a complete document capable of standing by itself.

The contractor should use **detailed** descriptions of all compliance test events. Any events that are not directly associated with the standard but are of technical interest should also be included. The contractor should include as much **detail** as possible in the report.

Instructions for the preparation of the first three pages of the final test report are provided below for the purpose of standardization.

15.3.3 First Three Pages

A. FRONT COVER

A heavy paperback cover (or transparency) is required to be provided for the protection of the final report. The information required on the cover is as follows:

(1) Final Report Number such as 404-ABC-0X-001, where –

403 is the FMVSS tested

ABC are the initials for the laboratory

0X is the Fiscal Year of the test program

001 is the Group Number (001 for the 1st brand, 002 for the 2nd brand, etc.)

(2) Final Report Title And Subtitle such as

SAFETY COMPLIANCE TESTING FOR FMVSS 404

Platform Lift Installations in Motor Vehicles

* * * * * * * * * * * * * * * *

World Motors Corporation

200x Super Safe Transporter Truck

Equipped with Lift Manufacturer

Model XYZ

(3) Contractor's Name and Address such as

COMPLIANCE TESTING LABORATORIES, INC.

4335 West Dearborn Street

Detroit, Michigan 48090-1234

NOTE: DOT SYMBOL WILL BE PLACED BETWEEN ITEMS (3) AND (4)

(4) Date of Final Report completion

(5) The words "FINAL REPORT"

(6) The sponsoring agency's name and address as follows:

U. S. DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

Enforcement

Office of Vehicle Safety Compliance

Room 6111 (NVS-220)

400 Seventh Street, SW

Washington, DC 20590

B. FIRST PAGE AFTER FRONT COVER

A disclaimer statement and an acceptance signature block for the COTR are required to be provided as follows:

This publication is distributed by the U. S. Department of Transportation, National Highway Traffic Safety Administration, in the interest of information exchange. The opinions, findings and conclusions expressed in this publication are those of the author(s) and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade or manufacturers' names or products are mentioned, it is only because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

Prepared By: _____

Approved By: _____

Approval Date: _____

FINAL REPORT ACCEPTANCE BY OVSC:

Accepted By: _____

Acceptance Date: _____

C. SECOND PAGE AFTER FRONT COVER

A completed Technical Report Documentation Page (Form DOT F1700.7) is required to be completed for those items that are applicable with the other spaces left blank. Sample data for the applicable block numbers of the title page follows.

Block 1 — REPORT NUMBER

404-ABC-0X-001

Block 2 — GOVERNMENT ACCESSION NUMBER

Leave blank

Block 3 — RECIPIENT'S CATALOG NUMBER

Leave blank

Block 4 — TITLE AND SUBTITLE

Final Report of FMVSS 404 Compliance Testing of Platform Lift Installations in Motor Vehicles from Vehicle Manufacturer with Lift Manufacturer, Model XYZ

Block 5 — REPORT DATE

March 1, 200X

Block 6 — PERFORMING ORGANIZATION CODE

ABC

Block 7 — AUTHOR(S)

John Smith, Project Manager / Bill Doe, Project Engineer

Block 8 — PERFORMING ORGANIZATION REPORT NUMBER

ABC-DOT-XXX-001

Block 9 — PERFORMING ORGANIZATION NAME AND ADDRESS

ABC Laboratories
405 Main Street
Detroit, MI 48070-1234

Block 10 — WORK UNIT NUMBER

Leave blank

Block 11 — CONTRACT OR GRANT NUMBER

DTNH22-0X-D-12345

Block 12 — SPONSORING AGENCY NAME AND ADDRESS

U.S. Department of Transportation
National Highway Traffic Safety Administration
Enforcement
Office of Vehicle Safety Compliance (NVS-220)
400 Seventh Street, SW, Room 6111
Washington, DC 20590

Block 13 — TYPE OF REPORT AND PERIOD COVERED

Final Test Report
Feb. 15 to Mar. 15, 200X

Block No. 14--SPONSORING AGENCY CODE

NVS-220

Block 15 — SUPPLEMENTARY NOTES

Leave blank

Block 16 — ABSTRACT

Compliance tests were conducted on a [Lift Manufacturer] Platform Lift Installation in a [Vehicle Manufacturer, model] in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-404-0X for the determination of FMVSS 404 compliance. Test failures identified were as follows:
None

NOTE: Above wording must be shown with appropriate changes made for a particular compliance test. Any questions should be resolved with the COTR.

Block 17 — KEY WORDS

Compliance Testing
Safety Engineering
FMVSS 404

Block 18 — DISTRIBUTION STATEMENT

Copies of this report are available from —

National Highway Traffic Safety Administration
Technical Information Services (NPO-405)
400 Seventh Street, SW, Room 2336
Washington, DC 20590

E-mail: tis@nhtsa.dot.gov
Fax No.: 202-493-2833

Block 19 — SECURITY CLASSIFICATION OF REPORT

Unclassified

Block 20 — SECURITY CLASSIFICATION OF PAGE

Unclassified

Block 21 — NUMBER OF PAGES

Add appropriate number

Block 22 — PRICE

Leave blank

15.3.4 TABLE OF CONTENTS

Final test report Table of Contents is required to include the following:

Section 1 — Purpose of Compliance Test

Section 2 — Compliance Test Data Summary

Section 3 — Test Data

Section 4 — Test Failure Details (if applicable)

Appendix A — Photographs

Appendix B — Test Equipment List and Calibration Information

One sample of each Compliance Data Sheet is included in this section. More than one copy of a Data Sheet may be needed for a complete compliance test series. Record test data in standard engineering units, determine compliance, and record PASS, FAIL, N/A (not applicable), or SEE REMARKS in the spaces provided. Any noncompliance should be explained under REMARKS.

16. DATA SHEETS

Data Sheet 1: *Vehicle and Lift Information and Verification*

Vehicle information (Cert date on and after 7/1/2005; use cert label info as much as possible):

Mfr: _____ Cert date: _____ NHTSA No: _____

Make/Model: _____ VIN: _____

Vehicle Type: _____ GVWR: _____ kg _____ lb

Alterer (if applicable): _____ Cert date: _____

If different, Vehicle Type: _____ GVWR: _____ kg _____ lb

Motor home? ☐ YES ☐ NO Lift installed by alterer? ☐ YES ☐ NO ☐ N/A

Platform lift information:

Mfr: _____ Mfr date: _____ S/N: _____

Make/Model: _____

Certification label statement:

( ) DOT–Public Use Lift ( ) DOT–Private Use Lift ( ) other: _____ ( ) none

Correct lift installed?

For a bus, school bus, or MPV other than a motor home, GVWR > 10,000 lb, was a Public Use Lift installed? ☐ YES ☐ NO, possible labeling or performance failure, contact COTR

For any other vehicle, did the lift manufacturer certify the lift as ( ) Public Use ( ) Private Use?

Does the vehicle have an owner's manual? ☐ YES ☐ NO, contact COTR

If yes, is an insert available providing information about the lift? ☐ YES ☐ NO

Are installation instructions from lift manufacturer available? ☐ YES ☐ NO, contact COTR

If yes, does it appear from visual observation that the lift was installed in accordance with the instructions? ☐ YES ☐ NO, describe _____

RECORDED BY: _____ DATE: _____

APPROVED BY: _____ DATE: _____

Data Sheet 2: *Platform Requirements (Sheet 1 of 6)*

NHTSA NO.:_____ TEST DATE:_____ VEHICLE:_____ LIFT:_____

PLATFORM AT GROUND LEVEL

1. Platform Geometric Center Location (Measured from inward surface of wheelchair retention device and inner edge guard) x: _____ mm y: _____mm

2. Vertical surface transition:_____ mm
(Record additional measurements on a separate sheet)

3. Slope between 6.5 mm and 13 mm of surface _____
(Record additional measurements on a separate sheet)

4. Slope between 13 mm and 75 mm of surface _____
(Record additional measurements on a separate sheet)

5. Do all horizontal gaps over which a passenger may traverse to enter or exit the platform prevent passage of a 13 mm diameter sphere?

☐ YES ☐ NO (fail)

6. Do all gaps between the inner roll stop and the lift platform prevent passage of the clearance test block?

☐ YES ☐ NO (fail)

PLATFORM AT VEHICLE FLOOR LEVEL

7. Threshold vertical surface transition height _____ mm

8. Do all vertical surface transitions over which a passenger may traverse to enter or exit the platform have a height of 6.5 mm or less?

☐ YES ☐ NO (fail)

9. Slope between 6.5 mm and 13 mm of surface over which a passenger may traverse to enter or exit the platform _____
(Record additional measurements on separate sheet)

10. Are all slope measurements 1:2 or less on the portion of the rise between 6.5 mm and 13 mm?

☐ YES ☐ NO (fail)

Data Sheet 2: *Platform Requirements (Sheet 2 of 6)*

NHTSA NO.:_____ TEST DATE:_____ VEHICLE:_____ LIFT:_____

11. Slope between 13 mm and 75 mm of surface over which a passenger may traverse to enter or exit the platform _____
    (Record additional measurements on a separate sheet)

12. Are all slope measurements 1:8 or less on the portion of the rise between 13 mm and 75 mm?

    ☐ YES ☐ NO (fail)

13. Do all sloped surfaces have a rise of 75 mm or less?

    ☐ YES ☐ NO (fail)

14. Do all gaps between the outer barrier and the lift platform prevent passage of the clearance test block?

    ☐ YES ☐ NO (fail)

15. Do all horizontal gaps over which a passenger may traverse to enter or exit the platform prevent passage of a 13 mm diameter sphere?

    ☐ YES ☐ NO (fail)

16. Do all gaps between the platform sides and edge guards which move with the platform prevent passage of a 13 mm diameter sphere?

    ☐ YES ☐ NO (fail)

17. Do all horizontal gaps between the platform side and the vehicle structure prevent passage of a 6.5 mm diameter sphere? (If Applicable)

    ☐ YES ☐ NO (fail) ☐ N/A

18. Inclinometer angle on vehicle floor: _____ °

19. Inclinometer angle on lift platform: _____ °

20. Difference angle (ABSOLUTE (Vehicle Floor Angle) – ABSOLUTE (Lift Platform Angle) = _____ °

21. Is the difference angle 1.8° or less?

    ☐ YES ☐ NO (fail)

Data Sheet 2: *Platform Requirements (Sheet 3 of 6)*

NHTSA NO.:_____ TEST DATE:_____ VEHICLE:_____ LIFT:_____

22. Edge Guard Height: _____ mm

23. Does the Edge Guard have a minimum height of 38 mm?

☐ YES ☐ NO (fail)

24. Are all edge guards continuous and parallel with the direction of wheelchair movement during loading and unloading?

☐ YES ☐ NO (fail) ☐ N/A

25. Horizontal distance between end of platform and closest parallel face of an edge guard: _____ mm

26. Is the horizontal distance 75 mm or less?

☐ YES ☐ NO (fail)

27. Vertical distance from the ground to the platform surface at edge guard release (if applicable): _____ mm

28. Is the vertical distance 75 mm or less?

☐ YES ☐ NO (fail)

Failure Notes:

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Data Sheet 2: *Platform Requirements (Sheet 4 of 6)*

NHTSA NO.:_____ TEST DATE:_____ VEHICLE:_____ LIFT:_____

LIFT TYPE ☐ PUBLIC ☐ PRIVATE

NOTE: *For the following measurements refer to* **FIGURE D1*:***

29. Is the vertical projection (horizontal extent of the handrail) (l) less than 203 mm apart?

☐ YES (Fail) ☐ NO

Vertical projection of graspable portion of handrail (l): _____ mm

Height of the graspable portion of the handrail (h): _____ mm

30. Is the vertical measurement (height) (h) less than 760 mm or more than 965 mm above the platform surface?

☐ YES (Fail) ☐ NO

Cross section of the graspable portion of the handrail (a): _____ mm

31. Is the cross section less than 31.5 mm or more than 38 mm?

☐ YES (Fail) ☐ NO

Minimum radii of any graspable portion of the handrail (r): _____ mm

32. Is these radii less than 3.2 mm? ☐ YES (Fail) ☐ NO

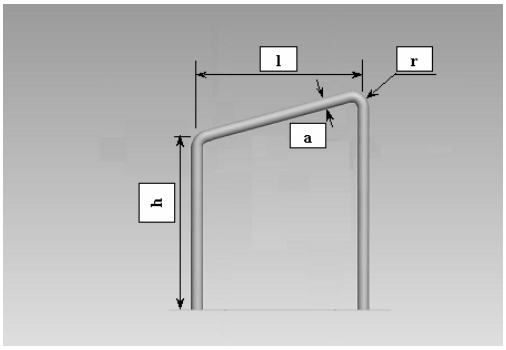

FIGURE D1

33. Minimum clearance between handrail and nearest portion of vehicle (if so installed): _____ mm

34. Is this clearance at least 38 mm?

☐ YES (fail) ☐ NO

35. Does handrail position change relative to the platform surface when the platform is raised and lowered?

☐ YES (fail) ☐ NO

Data Sheet 2: *Platform Requirements (Sheet 5 of 6)*

NHTSA NO.:_____ TEST DATE:_____ VEHICLE:_____ LIFT:_____

Vehicle Date of Manufacture:_____ VIN: _____

Vehicle MY/Make/Model:_____

PUBLIC USE LIFTS

29. Do all platform protrusions have a height of 6.5 mm or less?

☐ YES ☐ NO (fail)

30. Platform protrusion height (if applicable) _____ mm

☐ YES ☐ NO (fail)

31. Is the Unobstructed Volume test fixture contained within the lift platform?

☐ YES ☐ NO (fail)

32. Are all edges of the platform surface, the visible edge of the vehicle floor or bridging device adjacent to the platform lift and any designated standing area outlined?

☐ YES ☐ NO (fail)

33. Are all outlines at least 25 mm wide?

☐ YES ☐ NO (fail)

34. Minimum outline width of marked lift and vehicle edges, and any designated operator standing area _____ mm

35. Luminance contrast of outlines and background colors:

    a. Luminance of lighter color: L1=_____ Lux (lm/m^2)

    b. Luminance of darker color: L2=_____ Lux (lm/m^2)

    c. Are the outlines of a color that contrasts with its background by at least 60%

    ☐ YES ☐ NO (fail)

    d. Contrast = 100 x [(L1 – L2)/L1]: _____

Data Sheet 2: *Platform Requirements (Sheet 6 of 6)*

NHTSA NO.:_____ TEST DATE:_____ VEHICLE:_____ LIFT:_____

Vehicle Date of Manufacture:_____ VIN: _____

Vehicle MY/Make/Model:_____

PUBLIC USE LIFTS

36. Platform lighting Luminance test: Vehicle Level
    a. Point 1: L1=_____ Lux (lm/m^2)
    b. Point 2: L1=_____ Lux (lm/m^2)
    c. Point 3: L1=_____ Lux (lm/m^2)
    d. Point 4: L1=_____ Lux (lm/m^2)
    e. Point 5: L1=_____ Lux (lm/m^2)
    f. Point 6: L1=_____ Lux (lm/m^2)
    g. Point 7: L1=_____ Lux (lm/m^2)
    h. Point 8: L1=_____ Lux (lm/m^2)
    i. Point 9: L1=_____ Lux (lm/m^2)

37. Platform lighting Luminance test: Ground Level
    a. Point 1: L1=_____ Lux (lm/m^2)
    b. Point 2: L1=_____ Lux (lm/m^2)
    c. Point 3: L1=_____ Lux (lm/m^2)
    d. Point 4: L1=_____ Lux (lm/m^2)
    e. Point 5: L1=_____ Lux (lm/m^2)
    f. Point 6: L1=_____ Lux (lm/m^2)
    g. Point 7: L1=_____ Lux (lm/m^2)
    h. Point 8: L1=_____ Lux (lm/m^2)
    i. Point 9: L1=_____ Lux (lm/m^2)

Failure Notes:

_____
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_____

RECORDED BY: _____ DATE: _____

APPROVED BY: _____ DATE: _____

Data Sheet 3: *Interlock Test*

NHTSA NO.:_____ TEST DATE:_____ VEHICLE:_____ LIFT:_____

Vehicle Date of Manufacture:_____ VIN: _____

Vehicle MY/Make/Model:_____

1. Is the lift immobilized while the vehicle transmission is in any forward or reverse gear?

   ☐ YES ☐ NO (fail)

   If "YES" which forward or reverse gear?: _____

2. Does the vehicle move, or is it capable of moving unrestrained, with the lift deployed to the vehicle floor loading position?

   ☐ YES (fail) ☐ NO

Failure Notes:

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RECORDED BY: _____ DATE: _____

APPROVED BY: _____ DATE: _____

Data Sheet 4: ***Threshold warning signal test & Controls and Identifiers (Sheet 1 of 2)***

NHTSA NO.:_____ TEST DATE:_____ VEHICLE:_____ LIFT:_____

Vehicle Date of Manufacture:_____ VIN: _____

Vehicle MY/Make/Model:_____

LIFT TYPE

☐ PUBLIC ☐ PRIVATE

LIFT HEIGHT MEASUREMENT

Vertical distance between the platform and the platform threshold area at alarm(s) activation: _____ mm

1. Is the vertical distance greater than 25 mm?

   ☐ YES(fail) ☐ NO

2. If a Public Use Lift, is there a visible alarm in the form of a flashing red beacon ***and***, an audible alarm meeting the requirements of FMVSS 403?

   ☐ YES ☐ NO (fail)

3. If a Private Use Lift, is there a visible alarm in the form of a flashing red beacon ***or*** an audible alarm with backing instructions meeting the requirements of FMVSS 403?

   ☐ YES ☐ NO (fail)

PUBLIC LIFTS **CONTROLS & IDENTIFIERS**

4. Are all controls for lift function positioned together, and a person facing the controls has a direct, unobstructed view of the platform lift passenger, and passenger's mobility aid, if applicable?

   ☐ YES ☐ NO (fail)

5. Is the statement "DOT-Public Use Lift" included within the lift operating instructions?

   ☐ YES ☐ NO (fail)

PRIVATE LIFTS **CONTROLS & IDENTIFIERS**

6. Is the statement "DOT-Private Use Lift" included within the lift operating instructions?

   ☐ YES ☐ NO (fail)

Data Sheet 4: ***Threshold warning signal test & Controls and Identifiers (Sheet 2 of 2)***

NHTSA NO.:_____ TEST DATE:_____ VEHICLE:_____ LIFT:_____

Vehicle Date of Manufacture:_____ VIN: _____

Vehicle MY/Make/Model:_____

Backup Operation Notes:

Failure Notes:

RECORDED BY: _____ DATE: _____

APPROVED BY: _____ DATE: _____

Data Sheet 5: ***Photographic Documentation (Sheet 1 of 4)***

NHTSA NO.:_____ TEST DATE:_____ VEHICLE:_____ LIFT:_____

Vehicle Date of Manufacture:_____ VIN: _____

Vehicle MY/Make/Model:_____

1. The lift in the condition it was received (front, rear, and both sides)

☐ YES ☐ NO ☐ N/A

2. Vehicle certification label

☐ YES ☐ NO ☐ N/A

3. Lift certification label

☐ YES ☐ NO ☐ N/A

4. Stowed lift

☐ YES ☐ NO ☐ N/A

5. Deployed lift showing red beacon, if so equipped

☐ YES ☐ NO ☐ N/A

6. Vehicle floor level loading position

☐ YES ☐ NO ☐ N/A

7. Ground level loading position

☐ YES ☐ NO ☐ N/A

8. Vehicle owner's manual insert

8.1. Maintenance schedule

☐ YES ☐ NO ☐ N/A

8.2. Lift operating procedures

☐ YES ☐ NO ☐ N/A

Data Sheet 5: ***Photographic Documentation (Sheet 2 of 4)***

Public Use Lifts

8.3. The statement "DOT-Public Use Lift" on the front cover of insert

☐ YES ☐ NO ☐ N/A

8.4. The statement "*DOT-Public Use Lift*" verifies that this platform lift meets the "public use lift" requirements of FMVSS No. 403. This lift may be installed on all vehicles appropriate for the size and weight of the lift, but must be installed on buses, school buses, and multi-purpose passenger vehicles other than motor homes with a gross vehicle weight rating (GVWR) that exceeds 4,536 kg (10,000 lb)."

☐ YES ☐ NO ☐ N/A

Private Use Lifts

8.5. The statement "DOT-Private Use Lift" on the front cover of the vehicle owner's manual insert

☐ YES ☐ NO ☐ N/A

8.6. The statement "*DOT-Private Use Lift*" verifies that this platform lift meets only the "private use lift" requirements of FMVSS No. 403. This lift may be installed on all vehicles appropriate for the size and weight of the lift, except for buses, school buses, and multi-purpose passenger vehicles other than motor homes with a gross vehicle weight rating (GVWR) that exceeds 4,536 kg (10,000 lb)."

☐ YES ☐ NO ☐ N/A

9. Lift Installation Instructions

9.1. The vehicles on which the lift is designed to be installed by make, model, and year, or by specifying the design elements that would make a vehicle an appropriate host for a particular lift, and for which the platform lift manufacturer has certified compliance.

☐ YES ☐ NO ☐ N/A

9.2. Procedures for operational checks that the vehicle manufacturer must perform to verify that the lift is fully operational.

☐ YES ☐ NO ☐ N/A

Data Sheet 5: ***Photographic Documentation (Sheet 3 of 4)***

9.3. Any informational material or labels that must be placed on or in the vehicle in order to comply with the requirements of this standard. Labels must be of a permanent nature that can withstand the elements of the outside environment.

☐ YES ☐ NO ☐ N/A

Public Use Lifts

9.4. The statement "DOT-Public Use Lift" on the front cover of the installation instructions

☐ YES ☐ NO ☐ N/A

Private Use Lifts

9.5. The statement "DOT-Private Use Lift" on the front cover of the installation instructions.

☐ YES ☐ NO ☐ N/A

10. Threshold area

☐ YES ☐ NO ☐ N/A

11. Edges of the platform surface

☐ YES ☐ NO ☐ N/A

12. Visible edge of the vehicle floor or bridging device adjacent to the platform lift

☐ YES ☐ NO ☐ N/A

13. Designated standing area (if applicable)

☐ YES ☐ NO ☐ N/A

14. Lift platform outline markings (Public Use Only)

☐ YES ☐ NO ☐ N/A

15. Lift light(s) (Public Use Only)

☐ YES ☐ NO ☐ N/A

Data Sheet 5: ***Photographic Documentation (Sheet 4 of 4)***

16. Wheelchair test device on threshold area

☐ YES ☐ NO ☐ N/A

17. Flashing red beacon

☐ YES ☐ NO ☐ N/A

18. Horizontal gap between the platform side and the vehicle structure if applicable

☐ YES ☐ NO ☐ N/A

19. Lift system control (fixed and/or pendant)

☐ YES ☐ NO ☐ N/A

20. Control panel face(s)

☐ YES ☐ NO ☐ N/A

21. Lift structures attached to the vehicle used as edge guards (if applicable)

☐ YES ☐ NO ☐ N/A

22. Lift being operated in backup mode

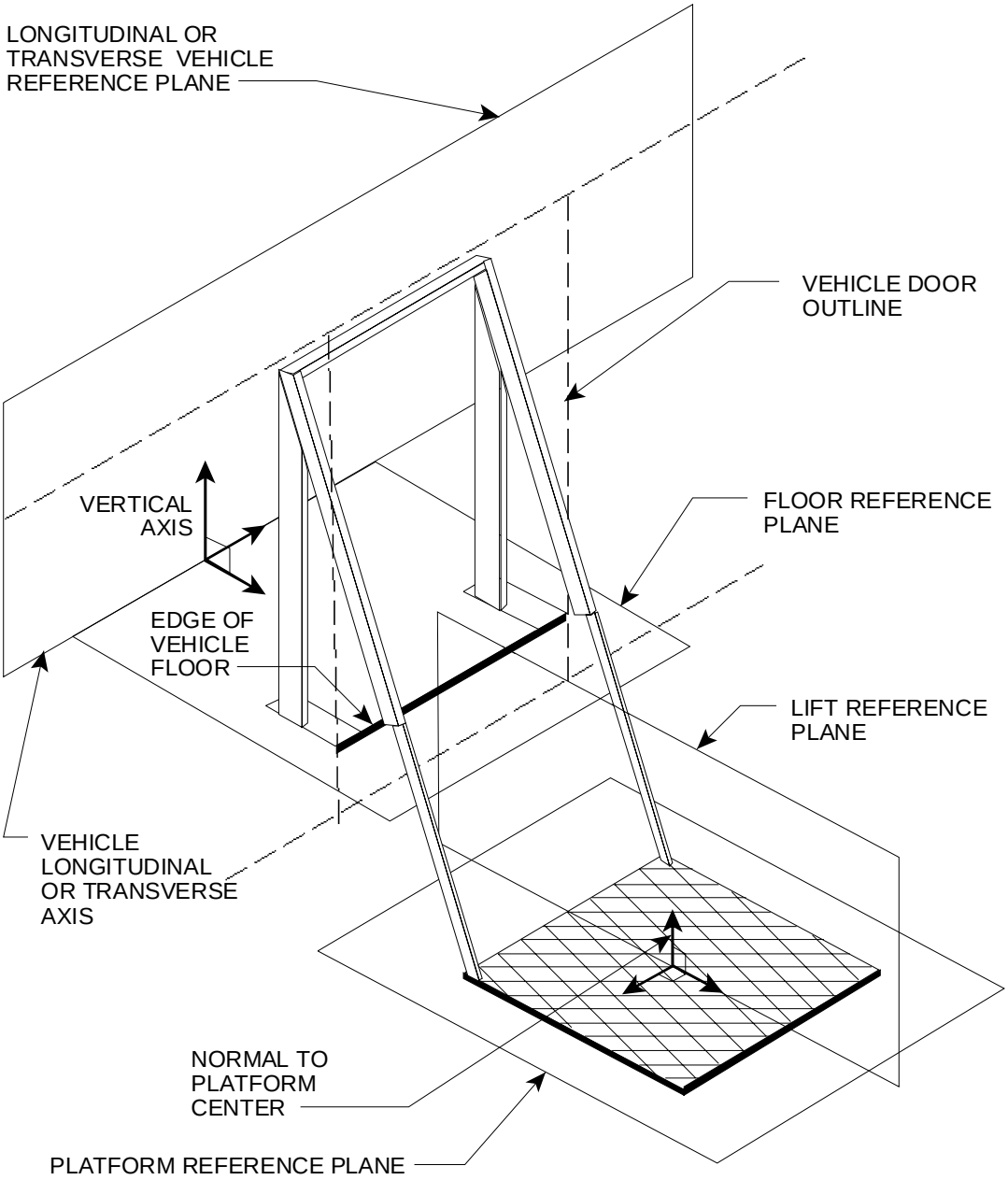
☐ YES ☐ NO ☐ N/A

RECORDED BY: _____ DATE: _____

APPROVED BY: _____ DATE: _____

17. FIGURES

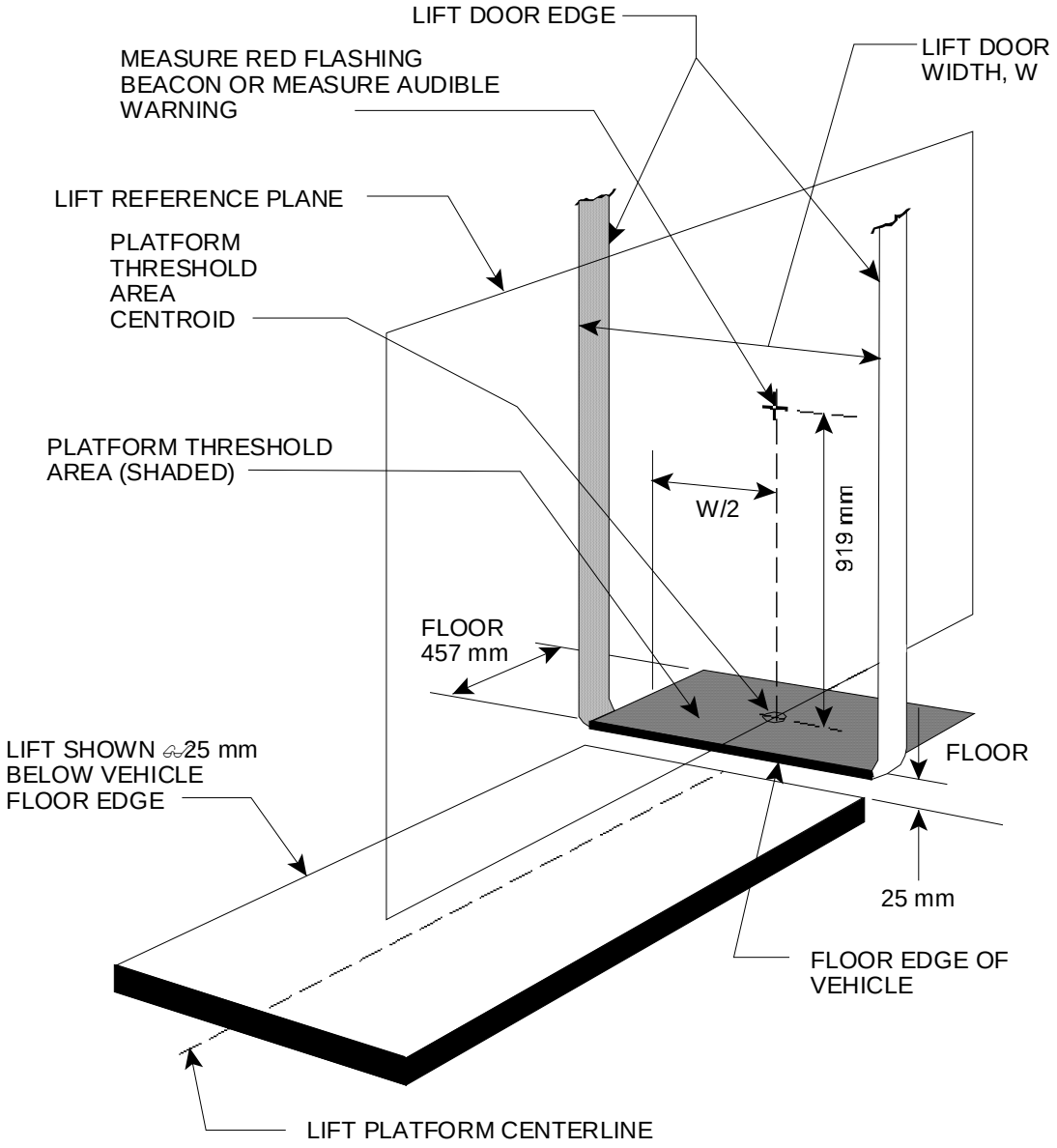
1. FIGURE 1: Planes of Reference



PLANES OF REFERENCE

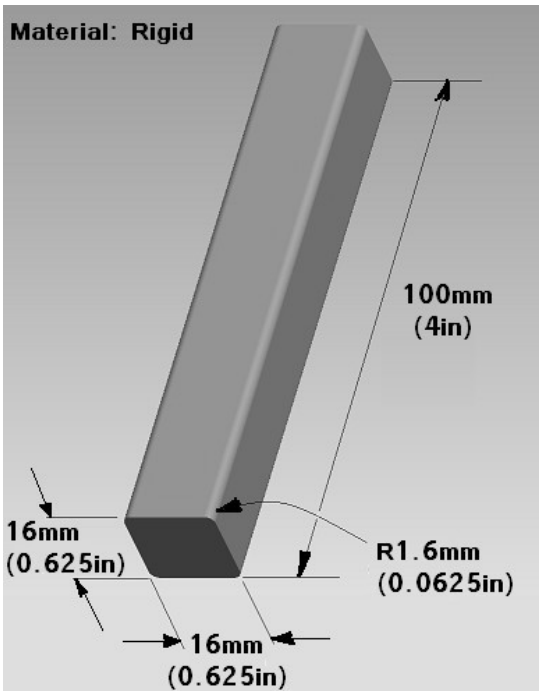
FIGURE 1

2. FIGURE 2: Platform Threshold Area Audible Warning Measurement Point

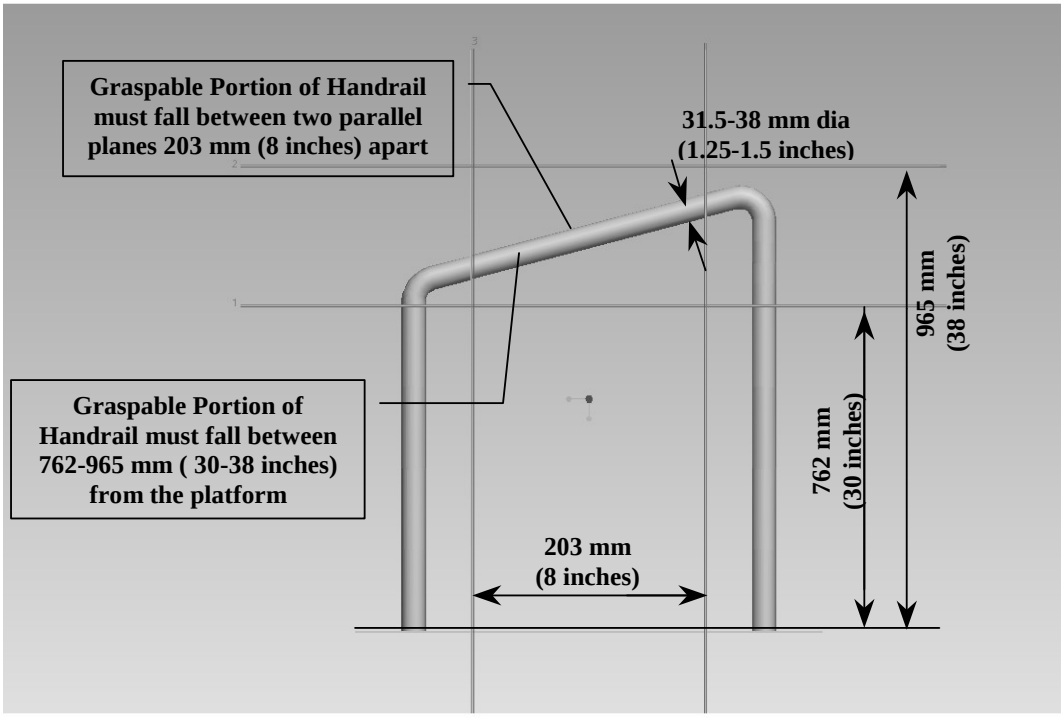


PLATFORM THRESHOLD AREA AUDIBLE WARNING MEASUREMENT POINT

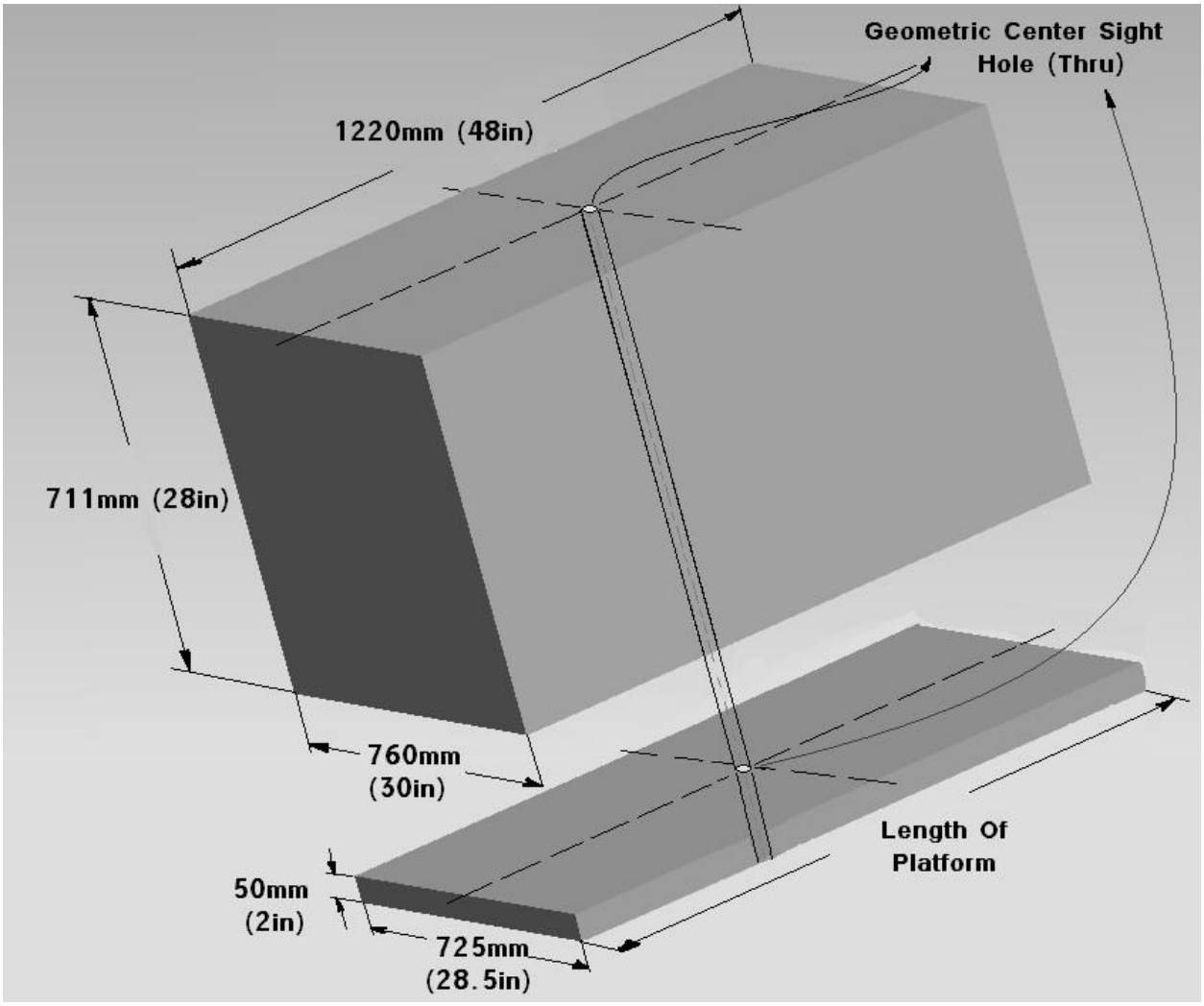
3. FIGURE 3: Clearance Test Block For Gaps, Transitions, and Openings



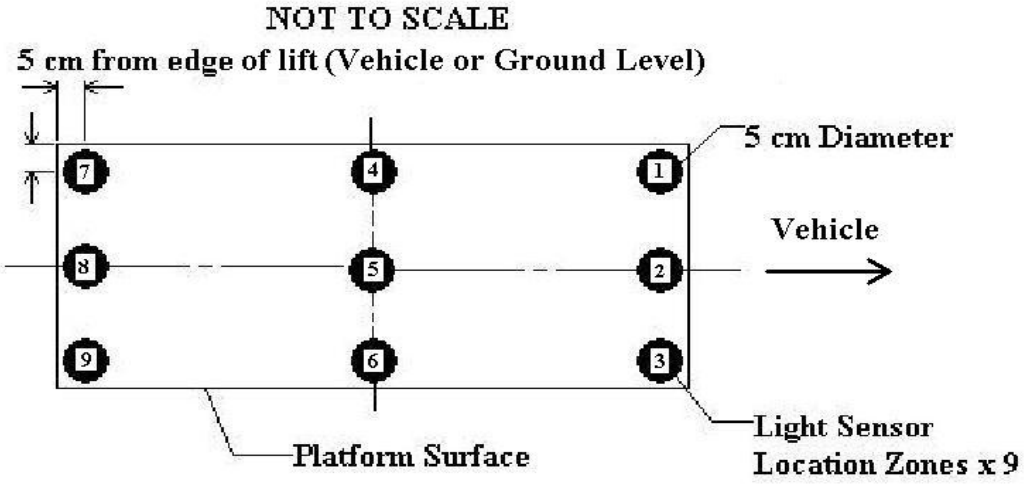
4. FIGURE 4: Handrail Requirements



5. FIGURE 5: Unobstructed Platform Operating Volume Fixture Assembly



6. FIGURE 6: Light Measurement Locations



18. FORMS

LABORATORY NOTICE OF TEST FAILURE TO OVSC

FMVSS NO.: 404 TEST DATE: _____

LABORATORY: _____

CONTRACT NO.: _____; DELV. ORDER NO: _____

LAB. PROJECT ENGINEER'S NAME: _____

TEST SPECIMEN DESCRIPTION:

VEHICLE NHTSA NO.: _____; VIN: _____

PART NO.: _____ MFR: _____

TEST FAILURE DESCRIPTION:

FMVSS REQUIREMENT, PARAGRAPH § _____ :

NOTIFICATION TO NHTSA (COTR): _____

DATE: _____ BY: _____

REMARKS:

18. FORMS

MONTHLY TEST STATUS REPORT

FMVSS No. 404

DATE OF REPORT: _____

NO.	VEHICLE NHTSA NO., MAKE & MODEL	COMPLIANCE TEST DATE	PASS/ FAIL	DATE REPORT SUBMITTED	DATE INVOICE SUBMITTED	INVOICE PAYMENT DATE
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						

18. FORMS

MONTHLY VEHICLE STATUS REPORT

FMVSS No. 404

DATE OF REPORT: _____

NO.	VEHICLE NHTSA NO., MAKE & MODEL	DATE OF DELIVERY	ODOM. READING	TEST COMPLETE DATE	VEHICLE SHIPMENT DATE	ODOM. READING
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						