



APTA STANDARDS DEVELOPMENT PROGRAM

STANDARD

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APTA Passenger Rail Equipment
Safety Standards (PRESS) Inspection
& Maintenance Working Group

Passenger Car Exterior Periodic Inspection and Maintenance

Abstract: This document establishes a standard for carbody exterior inspection and maintenance.

Keywords: carbody, carbody exterior, carbody exterior maintenance, carbody exterior periodic inspection and maintenance, passenger car exterior, passenger car exterior maintenance

Summary: This standard covers the basic procedures for the periodic inspection and maintenance of the carbody exteriors of passenger cars, with an emphasis on maintenance of safety appliances and other safety-critical systems.

Scope and purpose: This standard for carbody exterior inspection and maintenance applies to all passenger cars. This standard is designed to help organizations incorporate safety considerations during the maintenance process; to identify those maintenance standards and inspection criteria that provide a high level of passenger safety; to identify those maintenance standards and inspection criteria that provide a high level of crew safety; and to identify the skills and training requirements necessary for maintenance personnel to apply these standards.

This document represents a common viewpoint of those parties concerned with its provisions, namely operating/planning agencies, manufacturers, consultants, engineers and general interest groups. The application of any standards, recommended practices or guidelines contained herein is voluntary. In some cases, federal and/or state regulations govern portions of a transit system's operations. In those cases, the government regulations take precedence over this standard. The North American Transit Service Association and its parent organization APTA recognize that for certain applications, the standards or practices, as implemented by individual agencies, may be either more or less restrictive than those given in this document.

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Participants

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Introduction

This introduction is not part of APTA-PR-IM-S-007-98, Rev. 2, "Passenger Car Exterior Periodic Inspection and Maintenance."

This standard describes the basic inspection and maintenance functions for carbody exteriors on passenger rail equipment. APTA recommends the use of this standard by:

- individuals or organizations that maintain passenger car exteriors;
- individuals or organizations that contract with others for the maintenance of passenger car exteriors; and
- individuals or organizations that influence how passenger car exteriors are maintained.

Passenger Car Exterior Periodic Inspection and Maintenance

1. Frequency of conduct

The frequency of conduct of this task shall be as specified in and in compliance with the requirements of Section 4 of APTA-PR-IM-S-013-99, Rev. 1, "Passenger Car Periodic Inspection and Maintenance" (previously known as APTA-SS-I&M-13-99, Rev. 1).

2. Inspection and maintenance requirements

2.1 Tools/materials

Standard tools carried by maintenance personnel are sufficient for this inspection task. No specific materials are required.

2.2 Safety/personal protective equipment

Personal protective equipment, as required by the railroad, shall be worn at all times in the performance of this maintenance task.

2.3 Training requirement

Operating properties and their contractors shall develop and execute training programs that equip employees with the knowledge and skills necessary to safely and effectively perform the tasks outlined in this standard.

3. Inspection and maintenance procedures

CAUTION: Verify that equipment is secured against uncontrolled movement before commencing inspection and maintenance procedures. Follow proper blue flag protection of worker procedures as required by the Railroad and in accordance with applicable regulations.

3.1 Carbody exterior

The inspection and maintenance procedure for the carbody exterior consists of the following steps:

- a) Verify that all number signs, authority logos, emergency markings/signage, etc. are in place and legible.
- b) Visually inspect all passenger and operator cab windows for damage/defects.
- c) Check for damage that may have resulted from vandalism or striking/being struck by an object enroute.
- d) Inspect under car securements for loose mountings, worn or damaged mounts, or missing hardware. Verify that equipment boxes are in place and closed securely.
- e) Visually inspect air grilles. Verify that they are free of obstructions and properly secured.
- f) Visually inspect headlights and rear-end marker lights for damage
- g) Visually inspect the mechanical coupler for damage/defects.

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- h) Visually inspect the electric coupler and cover for damage/defects.
- i) Inspect trainline hoses, piping, angle cocks, and cut-out cocks for damage and proper operation.
- j) Inspect end gates for condition and proper operation.
- k) Visually inspect roof access ladders
- l) Visually inspect that the roof and gutters are not damaged.
- m) Visually inspect that roof-mounted equipment is in place, not damaged and, if applicable, with covers secured.
- n) Visually inspect exterior carbody reflective strip markings to ensure that they are in place, undamaged and secure.

3.2 Safety appliances

3.2.1 Handholds

The inspection and maintenance procedure for handholds consists of the following steps:

- a) Verify that all handholds are in place and secure with proper clearances and that there is no indication of loose bolts or fasteners.
- b) Verify that the handholds are not bent.
- c) Verify that there are no obstructions to the handholds.

3.2.2 End gates and safety chains

The inspection and maintenance procedures for end gates and safety chains (if applicable) consist of the following steps:

- a) Verify that end gates are in place. Inspect end gates to verify that they are in proper working condition.
- b) Verify that safety chains are in place. Inspect safety chains for any spread or broken links.
- c) Verify that all end-of-car and between-car safety appliances are in place and in serviceable condition.

3.2.3 Emergency door release mechanisms and door pull covers

NOTE: Perform the following if there are emergency door release mechanisms mounted on the exterior side wall adjacent to each side door.

The inspection and maintenance procedure for emergency door pull covers (if applicable) consists of the following steps:

- a) Verify that transparent emergency door pull covers are in good condition, not cracked or broken and that the cover frames are securely held in place.

- b) Visually inspect the pull hand to ensure that it is present and undamaged.
- c) Verify that nontransparent emergency door pull covers, are in good condition, not broken, and functions as intended.

3.3 Diaphragms, walk plates and curtains

3.3.1 Diaphragms and walk plates (both ends of car)

The inspection and maintenance procedure for diaphragms and walk plates consists of the following steps:

- a) Visually inspect the diaphragms for defects per the operating property and its contractors' criteria. Verify that they are properly mounted.
- b) When inspecting a car in a consist, verify that the wear surfaces of each diaphragm meet evenly with the diaphragm of the adjoining car.
- c) Inspect top and side wear plates where possible for signs of deterioration.
- d) Inspect walk plates for bends or buckling. Verify that retaining pins are present and not protruding upward above the walkway plate creating a tripping hazard. Verify that anti-slip material is in serviceable condition.
- e) Inspect buffer assemblies and verify that they are free of visible defects.

3.3.2 Diaphragm curtains (if applicable)

The inspection and maintenance procedure for diaphragm curtains (if applicable) consists of the following steps:

- a) Inspect diaphragm curtains and verify that the handle assembly firmly grips the adjacent car stationary bracket.
- b) Inspect curtains for tears and cuts.
- c) Verify that the fabric is taut and that the curtain spring tension is adequate.
- d) Verify that the handle end support rod is straight.

3.4 Steps

3.4.1 Exterior sill steps

The inspection and maintenance procedure for exterior sill steps consists of the following steps:

- a) Verify that sill steps are clear of ice, snow and debris.
- b) Check for damage resulting from vandalism or from striking/being struck by an object enroute.
- c) Verify that step grates are properly secured.
- d) Verify that anti-slip edge material, if applicable, is in place and is not worn.
- e) Verify if edge warning striping, if applicable, is in place and not worn or delaminating.
- f) Visually inspect any Stepwell light units for damage
- g) Inspect all trap doors and associated release latches and hinges for damage/defects as applicable per APTA-PR-IM-S-003-98, Rev. 1, "Door System Periodic Inspection and Maintenance."

3.4.2 Side steps

The inspection and maintenance procedure for side steps consists of the following steps:

- a) Verify that all side steps are secure with no indication of loose bolts or fasteners.
- b) Verify that the side steps are not bent or cracked.
- c) Verify that the step wells are not bent and that the footholds are not obstructed.

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- d) Verify that all side steps are not obstructed from having safe footholds.
- e) Verify that anti-slip edge material, if applicable, is in place and not worn.

3.4.3 Roof equipment

In addition to steps g) and h) in Section 3.1, “Carbody exterior,” visually inspect all roof-mounted equipment, including but not limited to antennas, current transformers, cabling, HVAC units, pantograph equipment, dynamic brake grids, air vents, bells and signage are in place and not damaged.

4. Exterior emergency signage

Verify that all exterior emergency signage is properly applied and legible as per 49 CFR Part 238, Passenger Equipment Safety Standards; 49 CFR Part 239, Passenger Train Emergency Preparedness; and APTA-PR-PS-S-002-98, Rev. 3, “Standard for Emergency Signage for Egress/Access of Passenger Railroad Equipment” (previously known as APTA-SS-PS-002-98, Rev. 2).

Related APTA standards

APTA-PR-IM-S-003-99, Rev. 1, “Door System Periodic Inspection and Maintenance.”

APTA-PR-IM-S-013-99, Rev. 1, “Passenger Car Periodic Inspection and Maintenance” (previously numbered as APTA-SS-I&M-013-99, Rev. 1).

APTA-PR-PS-002-98, Rev. 3, “Emergency Signage for Egress/Access of Rail Passenger Equipment” (previously numbered as APTA-SS-PS-002-98, Rev. 2).

References

This standard shall be used in conjunction with the following publications. When the following references are superseded by an approved revision, the revision shall apply.

Code of Federal Regulations:

- 49 CFR Part 229, Railroad Locomotive Safety Standards
- 49 CFR Part 231, Railroad Safety Appliance Standards
- 49 CFR Part 238, Passenger Equipment Safety Standards
- 49 CFR Part 239, Passenger Train Emergency Preparedness

Definitions

periodic maintenance: The performance of selected inspection and maintenance actions on systems or subsystems. Regulatory agencies or the operating property may set the frequency of these actions. The frequency may be expressed as a function of time (e.g., days, weeks or months) or of utilization (e.g., mileage or cycles). The scope of these inspection and maintenance actions must be in full compliance with all applicable federal, state and local regulations.

Abbreviations and acronyms

APTA	American Public Transportation Association
CFR	Code of Federal Regulations
HVAC	heating, ventilation and air conditioning
NATSA	North American Transportation Services Association
PRESS	Passenger Rail Equipment Safety Standards

Summary of document changes

- Document formatted to the new APTA standard format.
- Sections have been moved and renumbered.
- Scope and summary have been moved to the front page.
- Sections of definitions, abbreviations and acronyms moved to the rear of the document.
- New section added: “Summary of document changes.”
- Some global changes to section headings and numberings resulted when sections dealing with references and acronyms were moved to the end of the document, along with other cosmetic changes, such as capitalization, punctuation, spelling, grammar and general flow of the text.
- Addition of blue flag protection to note at the beginning of Section 3.
- Addition of Sections 3.1 b), f)–h), and k)–n).
- Wording changes to Sections 3.2.2 a) and b).
- Addition of wording to address nontransparent emergency door release mechanisms and pull covers in Section 3.2.3.
- Wording changes to Sections 3.3.1 a) and b).
- Addition of retaining pin inspection to Section 3.3.1 d).

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- Wording changes to Section 3.3.2 c).
- Wording changes to Sections 3.4.1 a), b), and c).
- Addition of “debris” to Section 3.4.1 a).
- Addition of Sections 3.4.1 e)–g).
- Addition of anti-slip check to Section 3.4.2 e).
- Addition of Section 3.4.3, “Roof equipment.”
- List of participants updated.
- “Annex A: Bibliography” merged into “References”.
- References updated to reflect current (as of May 1st, 2017) information.
- Addition of HVAC and NATSA to “Abbreviations and acronyms.”
- Participants list updated.

Document history

Document Version	Working Group Vote	Public Comment/ Technical Oversight	CEO Approval	Policy & Planning Approval	Publish Date
First published	Oct. 14, 1999	—	—	March 17, 1999	March 1999
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