6. APTA PR-IM-S-006-98
Standard for Passenger Car Draft Gear Periodic Inspection and Maintenance

Approved October 14, 1998
APTA PRESS Task Force

Authorized March 17, 1999
APTA Commuter Rail Executive Committee

Abstract: This standard covers the basic procedures for the periodic inspection and maintenance of passenger car draft gears, with emphasis on the maintenance of safety appliances and other safety critical systems.

Keywords: draft gear, draft gear periodic inspection and maintenance
Introduction

(This introduction is not a part of APTA PR-IM-S-006-98, Standard for Passenger Car Draft Gear Periodic Inspection and Maintenance.)

This introduction provides some background on the rationale used to develop this standard. It is meant to aid in the understanding and application of this standard.

This standard describes the basic inspection and maintenance functions for draft gears on passenger cars. It is intended for the following:

a) Individuals or organizations that maintain draft gears on passenger cars;

b) Individuals or organizations that contract with others for the maintenance of draft gears on passenger cars; and

c) Individuals or organizations that influence how draft gears are maintained on passenger cars.

This standard is designed to help organizations incorporate safety considerations during the maintenance process.

This standard is intended to satisfy the following objectives:

– Incorporate safety considerations during the inspection and maintenance process;

– Identify those maintenance standards and inspection criteria that provide a high level of passenger safety;

– Identify those maintenance standards and inspection criteria that provide a high level of crew safety; and

– Identify the skills and training requirements necessary for maintenance personnel to apply these standards.
Participants

The American Public Transportation Association (APTA) greatly appreciates the contributions of the following individual(s), who provided the primary effort in the drafting of the Standard for Passenger Car Draft Gear Periodic Inspection and Maintenance:

Michael Dorsi

At the time that this standard was completed, the Passenger Rail Equipment Safety Standards (PRESS) Maintenance Committee included the following members:

Rich Conway, Chair

John Condrasky
Michael Dorsi
Tom Grant
Edward Henderson
Tom Lutz

Chuck Prehm
Tom Rowbottom
Robert Scarola
Michael Scutero
James Stoetzel
Table of Contents

1. Overview .......................................................................................................................................................6.2
   1.1 Scope.......................................................................................................................................................6.2
   1.2 Purpose ...................................................................................................................................................6.2

2. References .....................................................................................................................................................6.2

3. Definitions, abbreviations, and acronyms.....................................................................................................6.2
   3.1 Definitions ..............................................................................................................................................6.2
   3.2 Abbreviations and acronyms ..................................................................................................................6.3

4. Frequency of conduct ....................................................................................................................................6.3

5. Draft gear periodic inspection and maintenance requirements .................................................................6.3
   5.1 Tools/materials .......................................................................................................................................6.3
   5.2 Safety/personal protective equipment ....................................................................................................6.3
   5.3 Training requirement ..............................................................................................................................6.3

6. Inspection and maintenance procedures........................................................................................................6.3
   6.1 Yokes ......................................................................................................................................................6.4
   6.2 Draft gears ..............................................................................................................................................6.4
1. Overview

This document establishes a standard for draft gear inspection and maintenance.

1.1 Scope

This standard for draft gear inspection and maintenance applies to all passenger cars. It is intended to be used by railroads for cyclic inspection, and maintenance of passenger draft gears.

The passenger rail industry phased this standard into practice over the six-month period from July 1 to December 31, 1999. The standard took effect January 1, 2000.

1.2 Purpose

This standard is intended for railroads in order to apply basic procedures for the periodic inspection and maintenance of draft gears of passenger cars, with emphasis on maintenance of safety appliances and other safety critical systems.

These systems (if applicable) are essential to the safe operation of passenger cars.

2. References

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


Original equipment manufacturer instructions (OEM).

Standard maintenance procedure (SMP). (See 3.1.3)


3. Definitions, abbreviations, and acronyms

3.1 Definitions

For the purpose of this recommended practice, the following terms and definitions apply:
3.1.1 **original equipment manufacturer (OEM):** The technical documentation produced by the organization that built or manufactured a specific piece of passenger rail equipment describing maintenance procedures and frequencies for that piece of equipment.

3.1.2 **periodic maintenance:** The performance of selected inspection and maintenance actions on systems or sub-systems. Regulatory agencies or the railroad may set the frequency of these actions. The frequency may be expressed as a function of time (i.e., days, weeks, or months) or of utilization (i.e., mileage, cycles, etc.).

The scope of these inspection and maintenance actions must be in full compliance with all applicable federal, state, and local regulations.

3.1.3 **standard maintenance procedure (SMP):** The internal railroad document giving specific instruction on how to perform maintenance on a specific system or compound.

3.2 **Abbreviations and acronyms**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>APTA</td>
<td>American Public Transportation Association</td>
</tr>
<tr>
<td>CFR</td>
<td>Code of Federal Regulations</td>
</tr>
<tr>
<td>OEM</td>
<td>original equipment manufacturer instructions</td>
</tr>
<tr>
<td>PRESS</td>
<td>Passenger Rail Equipment Safety Standards</td>
</tr>
<tr>
<td>SMP</td>
<td>standard maintenance procedure (unique to individual railroads)</td>
</tr>
</tbody>
</table>

4. **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, Standard for Passenger Car Periodic Inspection and Maintenance*.

5. **Draft gear periodic inspection and maintenance requirements**

5.1 **Tools/materials**

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

5.2 **Safety/personal protective equipment**

Personal protective equipment as required by the operating property shall be worn at all times in the performance of this inspection task.

5.3 **Training requirement**

Railroads 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.

6. **Inspection and maintenance procedures**

---

1 For references in Italics, see Section 2.
CAUTION--Safety hazard
Ensure that equipment is secured against uncontrolled movement before commencing inspection and maintenance procedures.

NOTE - these procedures are intended to be a visual inspection. No disassembly is required unless defects are found.

6.1 Yokes

6.1.1 Wear limits, cause for renewal
   a) Bent, broken, or cracked yokes are cause for replacement.
   b) Yoke straps worn more than 25% of its cross sectional area are cause for renewal.

6.1.2 Inspection
   The inspection and maintenance procedure for yokes consists of the following steps:
   a) Yoke pin and bushings shall be inspected for excessive wear, as defined by original equipment manufacturer (OEM) instructions and/or standard maintenance procedure (SMP).
   b) Yoke components excessively worn, cracked, broken and/or with portions missing must be replaced.
   c) Carriers and pin retainer plates must be inspected for wear and proper securement. Loose plates should be tightly secured.
   d) Carriers and/or pin retainer plates that are cracked, broken, or worn more than 50% of original thickness must be replaced.

6.2 Draft gears

6.2.1 Wear limits, cause for renewal
   a) Outer rubber rings completely broken or pulled away from the center plate must be replaced.
   b) Draft gears removed from car for any reason should be inspected in accordance with the OEM and renewed or replaced as needed, prior to reinstallation.
   c) Draft gear followers that are bent, broken, or excessively worn shall be replaced.

6.2.2 Inspection
   The inspection and maintenance procedure for draft gears consists of the following step:
   a) Inspect pin and bushing for any visible defects.