8. APTA PR-M-S-007-98
Standard for Conductor’s Valve-New Passenger Car/MU Locomotives

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Abstract: This document gives standards for the application and functionality of emergency brake valves for new passenger cars/MU locomotives for the passenger railroad industry.

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Participants

The American Public Transportation Association greatly appreciates the contributions of the following individual(s), who provided the primary effort in the drafting of the Standard for Conductor’s Valve—New Passenger Car/MU Locomotives:

John Casale
Greg Gagarin
Paul Jamieson

Christian Stuckart
Rich Walz

At the time that this standard was completed, the PRESS Mechanical Committee included the following members:

Dave Carter, Chair

Asuman Alp
Gordon Bachinsky
Gilbert Bailey
R. Bailey
Walter Beard
George Binns
B.A. Black
Chris Brockhoff
Dave Brooks
Mark Campbell
Gary Carr
David Carter
John Casale
Al Cheren
George A. Chipko
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Greg Dvorachak
Ed Deitt
Terry Duffy
James D. Dwyer
Magdy El-Sibaie
John Elkins
Rod Engelbrecht
Ronald L. Farrell
Andrew F. Farilla
Benoit Filion
Chuck Florian
Matt Franc
Greg Gagarin
John Goliber
Jeff Gordon
Thomas Grant
Harry Haber
Francois Henri
Ken Hesser

Chris Holliday
Cornelius Jackson
Paul Jamieson
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Sunil Kondapalli
John Kopke
Frank Lani
Bob Lauby
Rick Laue
John Leary
H. B. Lewin
Jason Lipscomb
Ben Lue
William Lydon
Frank Maldari
George Manessis
Valerie Marchi
James Martin
Tom McCabe
Thomas McDermott
Lloyd McSparran
Cornelius Mullaney
Ed Murphy
Dak Murthy
Larry Niemond
Frank Orioles
James Parry
George Payne
Tom Peacock
John Pearson, Jr.
Ian Pirie
Richard Polley
John Posterino
Chuck Prehm
Alfred Pucci

John Punwani
Jim Rees
Jack Reidy
Al Roman
John Rutkowski
Tom Rusin
Radovan Sarunac
Fred Schaerr
Dave Schanee
Pete Schumacher
Kevin Simms
Tom Simpson
Mark Stewart
James Stoetzel
Philip M. Strong
Chris Studcart
Ali Tajaddini
Joe Talafous
Richard Trail
Mike Trosino
Ron Truitt
Tom Tsai
Richard Vadnal
David H. VanHise
John Wagner
Rich Walz
David Warner
Douglas Warner
Herbert Weinstock
Charles Whalen
Brian Whitten
James Wilson
Bruce Wigod
Werner Wodtke
Steve Zuiderveen
Clifford Woodbury, 3rd
Eric Wolf
Alan Zarembski
John Zolock
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1. Overview

1.1 Scope

This document gives standards for the application and functionality of emergency brake valves for new passenger cars/MU locomotives for the passenger railroad industry.

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

The purpose of this standard is to provide for common configuration and operation of emergency brake valves on passenger rail equipment as it promotes safe and reliable initiation of an emergency brake application.

2. References

For items 4.1 & 4.2 - 49 CFR, Part 238, Passenger Equipment Safety Standards

For item 5.5 - MIL-STD-1472E, October 31, 1996, Table XIX Anthropometric Data For Common Working Positions - 5th Percentile Woman

For item 5.6 - MIL-STD-1472E, October 31, 1996, Table XXV Static Muscle Strength - 5th Percentile Woman

For item 5.8 - 49 CFR, Part 229.47, Locomotive Safety Standards

3. Definitions, abbreviations and acronyms

3.1 Definitions

3.1.1 brake pipe pressure: Air pressure that exists in a system of piping (including branch pipes, angle cocks, cut-out cocks, dirt collectors, hoses and hose couplings) used for connecting locomotives and all cars for the passage of air to control the locomotives and car air brakes.

3.1.2 emergency brake application: An irretrievable brake application resulting in the maximum retarding force available from the train brake system.

4. Technical information

A minimum of two emergency brake valves shall be installed on each passenger car/MU locomotive with at least one valve located at either each end or each side of the car/MU
locomotive. These valves shall also be accessible to passengers in the passenger compartment.

Single-actuated valves shall be directly attached to a slip-resistant operating handle.

Dual-actuated valves shall be connected to slip-resistant operating handles by cables or linkage designed to preclude the possibility of jamming, loosening or other malfunctions that could impede the valves operation. Cords of any type are not permissible.

With a properly charged system each valve shall be capable of reducing brake pipe pressure at a sufficient rate to initiate an emergency brake application under all operating conditions including when brake systems employ a brake pipe pressure maintaining feature.

The distance from the floor to the top of the valve operating handle shall not exceed 73" (1.85 m). Valve actuation shall not require more than 30 lbs. (134 newtons) of force applied to its operating handle.

The means to reset the valve after actuation, shall be performed manually from the point of actuation.

The words "Emergency Brake Valve" shall be legibly stenciled or marked near each valve’s handle or shall be shown on an adjacent badge plate.

Valve installation shall be arranged to prevent actuation from accidental contact.