

APTA SS-M- 006-98 Rev.2

Explanation of Changes

These changes have been made to this revision 1 of this document:

1.1 Scope: Deleted the last paragraph implementation date.

2. References

AAR RP-023 was relocated to appendix A Bibliography as the document does not appear in the text.

MIL-STD-1472E was deleted as the 5th percentile female is no longer referenced in the text.

APTA PRESS M-016 Standard for Safety Appliances was added.

5. General conditions

Changed title to “General requirements” as this document is a standard

Paragraph 3 added “passenger” to car for clarity

6. Grade holding capability

Title was changed to include the word “calculation” for clarity.

Paragraph 1 added “operating” to grade to clarify the difference between the ruling grade in operations and the yard/siding grades that may be encountered. Changed “Fully seated” to “fully loaded” and added determination of “fully seated”

Paragraph 2 and 3 were added regarding the consideration of yard/siding grades. The car weight was reduced to the empty condition as a fully loaded car would not be placed on these grades.

Paragraph 4 Changed to utilize the minimum static friction as provided by the friction material supplier and deleted the previous table to avoid concerns regarding the value to be utilized. Based on the original values in the standard may have resulted in using more parking brake actuators than required.

Paragraph 5 added consideration of actuator efficiency in the calculation.

Paragraph 6 added consideration of mechanical parking brake (wheel, lever, chain and/or cable) efficiency in the calculation.

Paragraph 7 added consideration of wheel to rail adhesion.

Paragraph 8 Note: added for consideration when more stringent grades are specified over that when the car was originally designed.

7. Spring applied / air release parking brake

Paragraph 2 changed the release force from the 5th percentile female to 50 lbs force in the pulling direction.

8. Manual operated mechanical parking brake

Paragraph 1 changed input force for 74 to 125 pounds. Updated metric equivalent values.

Paragraph 2 added cable to chains for clarity.

Paragraph 3 deleted previous paragraphs regarding installation clearances as the information is now contained in the new safety appliance standard.

Paragraph 5 added cable to chains for clarity.

Paragraph 7 Added statement that the parking brake system shall be designed with a safety factor.

10. Parking Brake Test

A new section was added to describe methods for validation of the parking brake force.

Appendix A

Section was added to contain reference information used in developing this standard.