

Pacific Southern Railway Company

PS STD No. 1
Revised: Sept. 27, 2007
Supersedes: Jan. 25, 1978
Prepared by: S. Nadbielny
Approved by: BOT

Rolling Stock

1. Purpose

To provide as uniform equipment as practical to facilitate interchange operation.

2. Scope

All rolling stock operating at any time over the Pacific Southern trackage must conform to this standard.

3. Car Weight:

3.1 All rolling stock, except as otherwise provided for in this standard, must conform to the following weight limits (NMRA RP 20.1):

$\frac{1}{2}$ ounce per inch of car length plus 1 ounce, +/- $\frac{1}{4}$ ounce. Since the club balance weighs in grams the formula is 2 grams per scale foot of car length plus 25 grams, +/- 15 grams.

HO ft.	grams	inches	ounces	inches	ounces
30	85	4-1/16	3-0	4.1	3.1
36	97	4-15/16	3-7/16	4.8	3.4
40	105	5-1/2	3-3/4	5.5	3.75
45	115	6-3/16	4-1/8	6.2	4.1
50	125	6-7/8	4-7/16	6.9	4.5
55	135	7-9/16	4-5/8	7.6	4.8
60	145	8-1/4	5-1/8	8.3	5.1
65	155	8-15/16	5-7/16	9.0	5.5
70	165	9-5/8	5-15/16	9.7	5.8
75	175	10-5/16	6-3/16	10.4	6.2
80	185	11-0	6-1/2	11.0	6.5
85	195	11-11/16	6-7/8	11.7	6.9

Length is the nominal scale length or as measured over end sills.

This standard provides for the optimum weight. Extra weight does not add to the ability of a car to roll downgrade but will add to the drag of a train. Cars of lesser weight do not track as well, especially when mixed into a train of heavier cars.

- 3.2 Cars that are overweight due to materials of construction, such as all brass, will be permitted provided they meet PS STD No. 1 & 3. However the total number of such cars in a train should be limited to avoid stalling on a grade, and such cars should be positioned at the head end of the train.
 - 3.3 Car weights should be made with a suitable material and kept as low in the car as possible. Top-heavy cars and loose weights are not permitted. Carloads are considered as part of the weight.
 - 3.4 The club balance is the standard and will be tested with standard weights from time to time.
4. Rolling
- 4.1 All cars should roll down a 2.25% grade unassisted from a standing start. (The test track in the shop has this grade.)
 - 4.2 Exceptions to paragraph 4.1 will be granted for the following special equipment:
 - Non-powered cars of articulated trains having only one truck
 - Non-powered cars permanently coupled with powered cars
 - Cabooses with pickup wipers
 - Track cleaning equipment
 - MOW equipment.
5. Trucks
- 5.1 Trucks must be securely attached to the car frame with a minimum of wobble, and swing sufficiently freely to track properly in operation.
 - 5.2 Trucks must carry all axles for which they were designed. Talgo trucks are not permitted.
6. Wheels
- 6.1 Wheels must be securely mounted on axles.
 - 6.2 Wheels must be in gauge and conform to NMRA S-4 or RP-25 as checked with the NMRA standards gauge (RP-2).

- 6.3 Wheels must be round and kept free of dirt and oil accumulations. Wheels with sharp flanges are not permitted.
 - 6.5 All cars must have metal wheels.
 - 6.6 To operate the detection circuits, each car should have at least one resistance wheelset (10k ohm recommended).
 - 6.7 Each cabin car (caboose) or tail car should have two resistance wheelsets, lights, or a lighted End-of-Train device.
7. Couplers
- 7.1 Kadee MKD couplers are the standard for all cars, with the exception of cars in permanently coupled unit trains that are not intended to be run separately.
 - 7.1.1 Knuckle height must match the Kadee gauge $\pm 1/64$ inch.
 - 7.1.2 Glad-hand height must be $1/32$ inch above the railhead (or pass over the Kadee gauge).
 - 7.1.3 Couplers must be centered on the end of the car and return to center when moved to either side.
 - 7.1.5 Couplers must be electrically insulated from the wheels.
8. Clearance
- 8.1 All rolling stock must conform to the limits of the NMRA Standards gauge (RP 2).
 - 8.2 Nothing should protrude lower than $1/32$ inch above the rail, track-cleaning cars excepted.
9. Loads
- 9.1 All freight car loads, whether removable or not, should be securely fastened to the car to preclude their shifting or loss during normal operation.

10. "X" Designated Equipment

Special purpose equipment other than that already covered in this specification may be exempted from one or more of the requirements of PS STD No. 1 provided they meet one or more of the following criteria and the "X" designation is approved by the Car Committee.

- 10.1 Special purpose cars, such as circus train cars, or foreign prototype cars, which will not be placed in general service, but will run only as special trains.
- 10.2 Cars used primarily as scenery items in conjunction with an industry and which will not leave that industry or operate in general service.
- 10.3 Cars built specifically to test new equipment or construction methods, to be used only for a limited time while test is being conducted.

Pacific Southern Railway Company

PS STD No. 2
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Prepared by: S. Nadbielny
Approved by: BOT

Motive Power

1. Purpose

To provide as uniform equipment as practicable to facilitate interchange operation.

2. Scope

All motive power, including self-powered rail cars and unit trains, operating at any time over Pacific Southern trackage must conform to this standard.

3. Couplers

3.1 Kadee MKD are the standard and should be mounted as follows:

- 3.1.1 Self-powered rail cars with no trailer car – couplers optional.
- 3.1.2 Unit trains permanently coupled – couplers optional.
- 3.1.3 Steam locomotives, passenger service – tender coupler required, pilot coupler optional.
- 3.1.4 Steam locomotives, through freight service – tender coupler required, pilot coupler optional.
- 3.1.5 Steam locomotives, way freight, switcher or helper service – tender and pilot coupler required.
- 3.1.6 Diesel locomotives – coupler required at both ends

Mounting:

- 3.2.1 Knuckle height must match the Kadee gauge $\pm 1/64$ inch.
- 3.2.2 Glad-hand height must be $1/32$ inch above the railhead (or pass over the Kadee gauge).

- 3.2.3 Couplers must be centered on the end of the equipment and return to center when moved to either side.

Couplers must be free to move to either side and not have excessive vertical play.

Couplers must be electrically insulated from the wheels.

4. Trucks

- 4.1 Trucks must be securely attached to the locomotive or tender frame and swing sufficiently freely to track properly in operation.
- 4.2 Trucks must carry all axles for which they were designed.

5. Wheels

- 5.1 Tires must be securely attached to the wheels, which must be securely mounted on the axles.
- 5.2 Wheels must be in gauge and conform to NMRA S-4 or RP-25 as checked with the NMRA Standards gauge (RP-2).
- 5.3 Wheels must be round and kept free of dirt and oil accumulations. Wheels with sharp flanges are not permitted.

6. Clearance

- 6.1 All motive power must conform to the clearance limits of the NMRA Standards Gauge (RP-2).
- 6.2 Nothing must protrude lower than 1/32 inch above the rail, auxiliary wipers excepted.

7. Operation

- 7.1 All equipment must be kept lubricated and adjusted to provide smooth operation without hitches or excessive current requirements. Units with constant lighting are acceptable.
- 7.2 Equipment should be weighted to provide sufficient tractive effort for the purpose for which the equipment is intended.
- 7.3 DCC locomotives must be programmed so that the forward direction on the locomotive matches the throttle setting, which is the DCC equivalent of the right-rail-positive convention.

- 7.4 Non-powered units (dummies) must meet standards of PS STD No. 1.
- 8. "X" Designated Equipment
 - 8.1 Special purpose motive power used primarily as scenery items in conjunction with an industry and which will not be used in general service may be exempted from one or more of the requirements of this specification at the discretion of the Motive Power Committee.
 - 8.2 Equipment manufactured to other than the wheel standards of the NMRA will be exempted from the requirements of paragraphs 5.1 and 5.4, provided it would be unreasonably difficult or expensive to modify, and provided it presents no operational difficulties.

Roster

- 9.1 All motive power including description, number and owner, must be entered into the Pacific Southern card file before being placed on the railroad.

Pacific Southern Railway Company

PS STD No. 3

Issued: Sept. 15, 1974

Appearance

1. Purpose

To provide a general up-grading of and standards for equipment.

2. Scope

All rolling stock or motive power operating over Pacific Southern trackage during public shows or club visitations are subject to this standard.

3. General Requirements

3.1 Paint should be neatly applied and not obscure detail or have excessive build-up. Model should present a workmanlike and neat appearance.

3.2 Paint should not be chipped or smeared.

3.3 Weathering, if done, should be reasonable and neatly applied.

3.4 Lettering should be neatly applied, reasonably straight, and present no missing or partly missing letters. Decals should not stand out visually.

3.5 All detail parts should be present with no part obviously broken or missing.

4. Passenger Equipment

4.1 Diaphragms should be provided if used on the prototype.

4.2 Car spacing should be as close as possible, with no excessive space between cars.

5. Aesthetic Judgment

Aesthetic judgment will be made by the Car or Motive Power Inspection Committee, who will inform the owner of any reason for rejection or acceptance on correction of specified defects.

6. Judgment Review

Any member who disagrees with any judgment of the Car or Motive Power Committees may appeal such judgment to the Club President, who will act as Arbitrator and/or Final Authority.