

SOUTHERN ARIZONA SOCIETY OF MODEL ENGINEERS

CLUB STANDARDS

The following are standards for club track work, motive power and rolling stock. These standards apply to any member owned motive power and rolling stock wishing to operate on the SASME Club layout.

These standards have been adopted by a unanimous vote of the membership present at the regular business meeting on October 1, 2008.

Part 1: GENERAL RULES

THESE STANDARDS WILL BE IN EFFECT AT ALL TIMES

A standards inspection station has been installed at the workbench. Every piece of equipment to be run on the club layout will be subjected to a "first-time" inspection, and upon meeting all standards, it will be marked in a manner agreeable to the owner. Re-inspection of marked equipment will not be required unless reoccurring operational problems are observed.

All individually owned trains are to be set-up on the staging track in the town of Rincon. Members are responsible for managing the switches on either end of the staging track in order to protect any equipment that may already be in operation on the layout.

For the safety of operating trains and to protect scenery, no boxes, tools, soda cans or other items are to be placed on the layout.

Part 2: TRACKWORK

Section 1. STANDARD GAUGE

1. Track Code
 - a. All areas of new construction shall be Atlas Code 83.
 - b. All areas of repair or replacement shall match existing track work.
2. Turnouts
 - a. All turnouts in areas of new construction shall be Shinohara, Peco, or hand laid Code 83, with a frog size of No. 6 or larger. All new commercial turnouts shall be DCC compliant.
 - b. All turnouts in areas of repair or replacement on the main lines or in the yards shall be Peco, either medium or long radius and shall be DCC compliant.
 - c. All turnouts in areas of repair or replacement in industrial sidings may use short radius Peco switches and shall be DCC compliant.

3. All clearances on the standard gauge portion of the layout must conform to NMRA standards.

Section 2. NARROW GAUGE

1. Track Code
 - a. All track shall be commercial flex or hand-laid Code 70.
2. Turnouts
 - a. All turnouts in areas of new construction shall be Shinohara or hand laid Code 70, with a frog size of No. 6 or larger. All new commercial turnouts shall be made DCC compliant.
3. All clearances on the narrow gauge portion of the layout must conform to NMRA standard gauge standards.

Part 3: ROLLING STOCK

Section 1. Couplers

All rolling stock must be equipped with Kadee brand couplers, adjusted to the correct height as defined by the Kadee brand coupler gauge.

1. Size
 - a. The default Kadee brand coupler shall be #5.
2. Exception
 - a. The only exception to this standard is "unit trains" (including passenger trains that are not uncoupled for switching).
 - b. Unit trains may use other couplers if:
 - i. The cars on both ends have properly installed Kadee brand couplers.
 - ii. The inside couplers do not come uncoupled during operation.
 - iii. No requirement is made for un-coupling, except that the uncoupling hook must clear all track work.

Section 2. Wheel Sets

All Rolling Stock run on the layout must have metal wheels. No plastic wheels are allowed on rolling stock.

Wheel sets such as those available from Kadee must have the black coating removed from the tread before operation on the layout.

Section 3. Operation

All rolling stock must have all wheels in gauge and must roll freely down a 2% grade.

Section 4. Weight

All rolling stock must follow the NMRA STANDARD: WEIGHT OF ROLLING STOCK located in Appendix 1.

Section 5. Numbering

Revenue car

The 1st and 2nd digits are car type (see list below). The 3rd, 4th, and 5th digits are the owner number (see right hand column on membership list). The 6th digit (0-9) is a serial number for more than one of a type by that owner.

10	Box
11	Open Hopper
12	Covered hopper
13	Flat
14	Gondola
15	Tank
16	Bulkhead Flat
17	Center Beam Flat
18	Piggyback
19	Refrigerator
20	Stock
21	Auto Rack
22	Gunderson Container
23	Thrall Container

Others will be assigned as needed.

Example: There is a T&SW tank car (15) owned by Richard Dick (144) and it is the first one he painted for the T&SW (0). Therefore the car number is 151440.

Non-revenue car

600 – 699	Open
700 – 799	Caboose/Way Car/Cabin
800 – 899	Passenger
900 – 999	Maintenance of Way

Part 4: MOTIVE POWER

Section 1. Corporate Colors

Santa Fe Yellow - toward the front; Western Pacific Orange - toward the rear; and Aluminum (optional): trucks and fuel tank. There are no precise locations for the colors, but see charts on Bulletin board, examples of engines already painted, or ask others what they think.

Section 2. Couplers

Steam engines must have a properly installed Kadee brand coupler on the tender at the least. Diesel engines must have Kadee brand couplers on both ends; multiple motive power that are permanently run as one unit (MU) shall have a Kadee brand coupler on either end of the set.

Section 2. Wheel sets

Locomotives may have plastic wheels where necessary to allow reliable operation.

Example: The center set of wheels of a 6 wheel locomotive truck.

Section 3. Wheel Gauge

All engine wheels must be in gauge as defined by the NMRA Standards Gauge.

Section 4. Cleaning

Wheels on all motive power must be cleaned before use on the club layout. A Kadee brand wheel cleaner is available at the inspection station.

Section 5. Operation

All motive power operating on the layout must be equipped with an NMRA conforming DCC decoder.

Section 6. Numbering

Locomotive

1 – 99	Steam
100 – 199	Switchers
200 – 299	First Generation Diesels (GP/SD7, 9, 18, etc.)
300 – 349	F Units
400 -- 499	Second Generation Diesels (GP/SP30, 35, 38, etc.)
500 -- 599	Third Generation Diesels (GP/SD50, 60, etc.)
600 -- 699	Open

APPENDIX 1

SASME STANDARD - WEIGHT OF ROLLING STOCK

The following table of rolling stock weights is shown as a guide to SASME members to assist in meeting the weight standard adopted by the membership on April 13, 1988. The data is based on NMRA Recommended Practice 20.1 which calls for a basic one ounce weight for any HO car plus an additional one-half ounce of weight for each inch of car length. The data shown has been rounded-off to the nearest 1/4" of length, 1/4 ounce and one gram of weight. For more precise measurement, refer to the March 1987 NMRA Bulletin, page 37.

STANDARD GAUGE WEIGHT STANDARD TABLE

HO FEET	LENGTH IN INCHES	WEIGHT IN OUNCES	WEIGHT IN GRAMS
30	4.00	3.00	87
35	4.75	3.50	97
40	5.50	3.75	107
45	6.25	4.00	116
50	7.00	4.50	126
55	7.50	4.75	136
60	8.25	5.00	146
65	9.00	5.50	156
70	9.75	5.75	165
75	10.25	6.25	175
80	11.00	6.50	185
85	11.75	7.00	195
90	12.50	7.25	204

Regardless of the above, the minimum weight of any car shall be 3 1/2 ounces.

Tolerance permitted is 1 ounce overweight or 1/2 ounce underweight, with the following exceptions:

1. Those cars which are overweight and there is no practical way to remove excess weight (brass or die-cast metal cars, for example)
2. Those cars which are underweight and there is no practical way to increase weight without adversely affecting the appearance of the car running empty in normal operation (flat cars for example). Such cars may be required to have a weighted load (removable or attached) which will bring it to the proper weight.
3. In either of the above situations the car may be permitted to run on the club layout, subject to being immediately removed if troublesome operation results.

NARROW GAUGE WEIGHT STANDARD TABLE

HO FEET	LENGTH IN INCHES	WEIGHT IN OUNCES	WEIGHT IN GRAMS
20	2.75	1.75	50
25	3.50	2.00	57
30	4.25	2.25	64
35	4.75	2.50	71
40	5.50	2.75	78

Regardless of the above, the minimum weight of any car shall be 2 1/2 ounces.

Tolerance permitted is 1/2 ounce overweight or 1/2 ounce underweight, with the following exceptions:

1. Those cars which are overweight and there is no practical way to remove excess weight (brass or die-cast metal cars, for example)
2. Those cars which are underweight and there is no practical way to increase weight without adversely affecting the appearance of the car running empty in normal operation (flat cars for example). Such cars may be required to have a weighted load (removable or attached) which will bring it to the proper weight.
3. In either of the above situations the car may be permitted to run on the club layout, subject to being immediately removed if troublesome operation results.