

Below are tools from Kadee, Micro Mark and Harbor Freight, that you should have on hand if you are working on freight cars, and locomotives. These are in addition to having the standard screwdrivers, pliers, Exacto knife etc. There are other places to buy these tools from I just use them as an example.

Listed below are a couple of web sites for 2-56 screws. They have free shipping. You will need 1/8", 3/16", 1/4". You may need some longer ones but these 3 are the most common needed. I used to get the screws locally but HMS has been sold and they now have a \$15 minimum. The prices online are pretty good if you buy them by the 100. ACE is getting a nickel each but bolt depot has a box of 100 for \$2.64.

Weights. I listed Micro Mark as a supplier because they are lead. Harbor Freight has some also but are something other than lead and really hard to cut. There is also sheet lead by Heavyweights by T&J rail services in Rancho Cordova CA. Amazon also carries sheet lead. I Made my own weights years ago from car wheel weights. And still are using them. I just make more when I run out. Not sure you can get wheel weights now for free but ask at any tire shop. You may find them at Trailer Supply off of Ajo here in town. You can also use nuts. As in nuts and bolts. There are some manufactures of rolling stock that use nuts for weights. I have used them before and work good in box cars. Reboxx carriers custom weights for freight cars.

Attaching the weights. I use Walthers GOO and super glue. Goo most of the time. There are other bonding glues on the market. I just like Goo. I never use epoxy. Too messy and you will destroy the car if you try and remove the weight at a later date.

Also below are the NMRA specs for the car weight for both standard gauge and narrow minded cars. Any car that goes on the SASME layout MUST be weighed to NMRA specs. If you are doing one for your own layout you really need to have the car weighted to NMRA specs. They work so much better.

Wheel sets. Our club standards call for nickel silver wheel sets. We are using Intermountain wheels and some Atlas, Proto 2000 and Accurail wheels. But, no Kadee wheels. Kadee wheels are sintered, not nickel silver and collect dirt. So Kadee wheels not welcome on the SASME layout. Reboxx wheel sets are also an option. They are semi proto width, .088" wide, they look more prototypical. Most wheels are .100" wide. You can get them in different axel lengths. You can even get the wheelsets by manufacturer of the freight car truck. Go to their web site, [www.reboxx.com](http://www.reboxx.com) and take a look.

Freight trucks. The club only uses plastic truck. No metal trucks. The reason, electrical shorts if they derail. If your equipment is using Kadee trucks and you are having electrical problems, check to make sure you wheels sets are in the truck correctly. IE, all the insulators on the wheels facing the same way. Just ask Frank!

There is a great video on YouTube by the Le Mesa club on how they set up their rolling stock. I pretty much use their methods. There is a 10 min and one hour video. Some good info in the video. Watch the 10 min video first. If you are still interested watch the hour long video.

<https://www.youtube.com/watch?v=brSGhEbQBmM> 10 min

[https://www.youtube.com/watch?v=8ISc\\_XMbTnU](https://www.youtube.com/watch?v=8ISc_XMbTnU) 1 hour

<http://www.aftfasteners.com/machine-screws/#/Screws-C121/Machine-Screws-C2492/?Diameter-Thread+Size=%232-56-F7272&Drive+Style=Phillips-F7286&Head+Style=Pan-F7408&noidx=>

[https://www.boltdepot.com/Machine\\_screws\\_Phillips\\_pan\\_head\\_Zinc\\_plated\\_steel\\_2-56.aspx](https://www.boltdepot.com/Machine_screws_Phillips_pan_head_Zinc_plated_steel_2-56.aspx)

#### KADEE TOOLS



HO Scale Coupler Height Gauge      1      \$6.95



\$2.90



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#246 Tap (2-56) and Drills (#50 & #43)

1 Set \$8.25



240 "Pin Vise"

Double headed pin vise 1 \$7.10

## MICRO MARK TOOLS



Bulls Eye Drill Jig

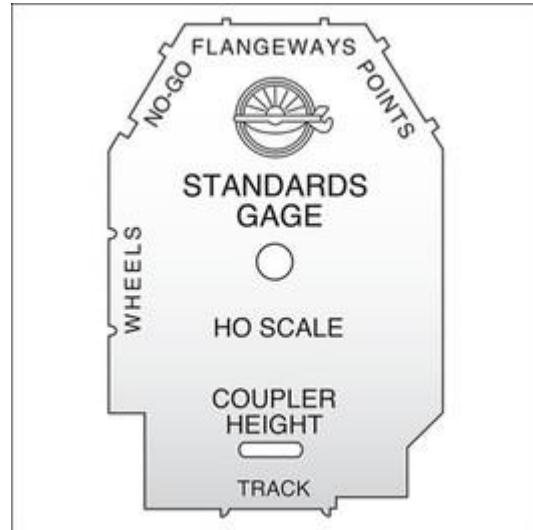
# 85315 Online Price \$14.45



Acrylic Paint Mask For Ho Scale Wheel. # 86225 List Price

\$21.90

Online Price \$18.95



NMRA

Gage, HO Scale

# 80752 Online price \$18.95



HO Truck Tuner # 82838   Online Price \$19.95



Trip Pin Bending Plier, HO and O Scale

# 80600

Online Price \$12.95



Extra Stick-On Weights, 1/4 oz. Each (Pkg. of 48)

# 82330

Online Price \$10.95

HARBOR FREIGHT



Digital Scale

Cen-Tech® - item#95364

This digital scale weighs precisely in ounces, grams or pounds. \$19.99

## 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 2 d 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

**APPENDIX I****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.

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#### 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.

