



## **Wheel Gauge and Car Weight**

(How to eliminate many derailments)  
From the Modeler's Aid Committee

All of us have had the vexing problem of showing off our trains to relatives and friends, only to have a derailment and usually at a most inconvenient spot. While derailments can be caused by many things, such as bad track, objects left on the track or miss-aligned switches, two of the most common causes are wheel sets that are too narrow or too wide, and improper car weights.

Most of us have learned from embarrassing moments to check the gauge of all wheels, from the most expensive brass imports to the most basic freight car kit. The number of wheel sets out of gauge will startle you. This is an easy fix for most freight cars, and even passenger cars. The locomotives may take a bit of doing.

The first thing to do with any and every kit is to check the gauge of the wheels. You will need the handy NMRA Gauge. This small but highly useful tool checks wheel gauge, track gauge, coupler height and clearance for your rolling stock around structures and scenery. The specific directions for checking each of these are shown in the information sheet that comes with the gauge. If you are not sure, any of the Modeler's Aid Committee will be happy to show how it is done.

Let's assume you have checked the wheel sets and found one or more wheels out of gauge. How do you correct the problem? First, as most trucks have plastic side frames, it is an easy matter to gently slightly spread the side frame out and slip the offending wheel out. Next, gently but firmly grasp the two wheels, twist them on the axel (one will twist) and pull in or out to correct the problem. Check the gauge again to insure you haven't made a new problem by going too far. This is common and just reverses the process if you have. Make sure the gauge is correct before you slip the wheel set back into the frame.

It can be difficult to do this with metal or brass trucks unless they come apart. Call for help if you are not sure. It's cheaper than buying new trucks.

The second major issue is the weight of the cars. Again, most kit build cars that are too light and light cars are more prone to derail. The NMRA developed a Standard for car weights years ago that has proven its value over and over again. The standard for HO scale cars is one ounce of weight plus one half-ounce for each inch in length. This is easy to figure out but as an aid, we have listed the common car lengths and the recommended weight for each. Note; this is only for HO standard gauge. Other scales and narrow gauge cars have different standards. Please refer to the NMRA Standards packets for these.

**The car length and weight chart is on the back side of this sheet.**

## HO Standard Car Weights

<u>Scale Car Length</u>	<u>Length in inches</u>	<u>Recommended Weight</u>
36 foot car	5 inches	3 ½ ounces
40 foot car	5 ½ inches	4 ounces
50 foot car	7 inches	4 ½ ounces
60 foot car	8 ¼ inches	5 ¼ ounces
70 foot car	9 ½ inches	5 ¾ ounces
80 foot car	11 inches	6 ½ ounces

N.M.R.A. Standards packs are available by contacting:  
National Model Railroad Association 4121 Cromwell Road, Chattanooga, TN 37421-2119  
Or visit the N.M.R.A. website at [www.nmra.org](http://www.nmra.org)

**This information compiled by Pat Homan  
of  
Division 7 - Modelers Aid Department**

**Contact our Modelers Aid Department**  
Visit the Division 7 website [www.cincy-div7.org](http://www.cincy-div7.org) and click on "Modelers Aid"

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Cincinnati Division 7 of the Mid-Central Region, National Model Railroad Association  
Meets the 2<sup>nd</sup> Sunday of every month around the greater Cincinnati area.

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