

Scale and Gauge

One of the first questions that usually comes up when someone gets involved in garden railroading is “What is G Gauge?”. To answer this we have to discuss both gauge and scale.

Gauge refers to the distance between the rails on any railroad. Almost all of the full size North American railroads today are built to what is called standard gauge, 4' 8" & 1/2" between the rails. At one time many narrow gauge railroads existed in North America. In the U.S. there were several different narrow gauges, 3' and 2' having been the most popular. In Europe meter gauge, which is slightly larger than 3 foot gauge was a popular narrow gauge.

The answer, then, to the first part of the question “What is G gauge?” is that it is 45 millimeters between the rails. All G gauge equipment will run on the same track.

Scale, however is a more complex issue in our hobby, largely for historical reasons. Scale is the ratio between the dimensions of the model and the real life thing you are modeling. Different manufacturers have adopted different scales for use on G gauge track. LGB, a German company that popularized the garden railroading hobby generally uses a scale of 1:22.5. This ratio means that for every 22.5 feet of a locomotive, or car, or even of a house, the model will be 1 foot long. Said another way every inch on the model represents 22.5 inches on the prototype.

Many people found that measure to be awkward to use in modeling and adopted a ‘nearly the same’ ratio of 1:24. In this scale every model inch represents 24 inches of the real thing. This was a fast and easy scale and has many adherents including Delton, a company that used to use this scale for all of its models.

Other people took the prototype dimension of 3 feet between the rails and divided it by 45 millimeters and found that to correctly represent a 3 foot railroad a scale of 1:20.3 was required. Bachmann and Accucraft (rather expensive) have recently begun offering models in this scale. Still others wanted to model standard gauge and divided the 4' 8.5" prototype by 45 mm and came to the conclusion that 1:32 was the correct ratio. MTH is beginning to bring out some models in this scale and Aristocraft has produced models in a ‘nearly the same’ 1:29 scale for some years.

The rather confused situation was further compounded by variations caused by manufacturers failing to reflect exact prototype measurements on their models and by their desire to reach the broadest market. The desire for wider markets led to painting locomotives and rolling stock of both standard gauge and narrow gauge prototypes with lettering of both standard and narrow gauge railroads.

If this all seems very confusing, it is to modelers who worry about exact scale representation of a certain prototype. Most of us, however, just prefer to run trains and enjoy them.

Further, since real life narrow gauge equipment was generally smaller than real life standard gauge equipment the difference in scales works to shrink the standard gauge cars and grow the narrow gauge cars to the point that they can be mixed in a single train. Purists will cavil at the idea, but many of us regularly run 1:29 standard gauge cars in the same train with 1:24 and 1:22.5. Further the 1:29 cars may have come from the manufacturer lettered for a narrow gauge railroad while the 1:22.5 and 1:24 cars may have been lettered for a standard gauge railroad.

As with so many other aspects of our hobby there is no single correct way to go.