



NMRA RP	
Standards Gauge	
Aug 19, 2023	RP-2

1 General

The NMRA currently sells five styles of the Type I gauge as follows: N-Scale – Mark VI; HOn3-Scale – Mark III; HO-Scale – Mark V; Sn3-Scale – Mark III and O-Scale – Mark V. The Type II gauge (square gauge) is available for On3, On30, OO, S and Sn3. The difference in the four styles of Type I gauges (III, IV, V & VI) is primarily the location of the tabs and slots on the gauge. Also the tabs on the top of the gauge for the Mark III and IV have been renamed from “Flangeways” to “Checkgage” for the Mark V.

1.1 Introduction and Intended Use (Informative)

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1.2 References

This standard should be interpreted in the context of the following NMRA Standards, Technical Notes, and Technical Information.

1.2.1 Normative

- S-2 Couplers
- S-3.2 Track-Work Standard Scales
- S-4.2 Wheels Standard Scales

1.2.2 Informative

- None

1.3 Terminology

Term	Definition
Gauge	Device for measuring the magnitude, amount, or contents of something
Track gage	Distance between the rails.
Checkgage	The back to back distance between wheels plus the flange width. This dimension is used to keep a wheel properly aligned when traversing a turnout frog or a crossing.
Stock rail	The outside rails of a turnout.
Points	The end of a turnout where one track nestles into the stock rail to determine the route of the train.
Frog	The place where the two rails intersect in a turnout or crossing.
Flangeway	A clearance between the rails where the wheel flange is captured.
Wing rail	A flangeway near the turnout frog.
Guard rail	A short section of rail parallel to the stock rail forming a flangeway to prevent a wheel from derailling at the frog or a turnout or a crossing.

2 Use of the Gauge

2.1 This GAUGE checks the following dimensions;

- | | | |
|----|--|--------------------------|
| 25 | Dimensions G, C, S, F, H, and P | STANDARD S-3.2 |
| | Dimensions K, B, N, and D | STANDARD S-4.2 |
| | Dimensions A, B, C, D, E, F, G, H, and P | RECOMENDED PRACTICE RP-7 |

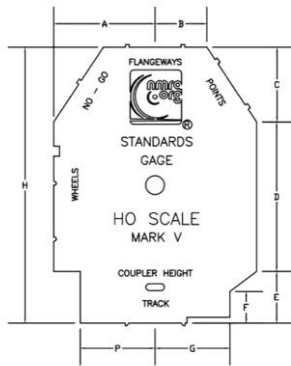


Fig 1

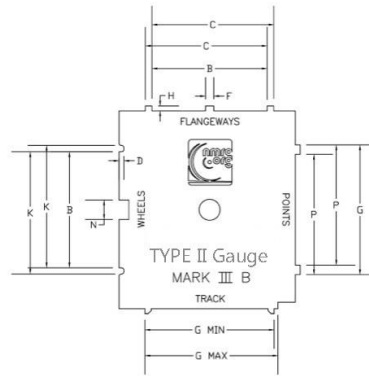


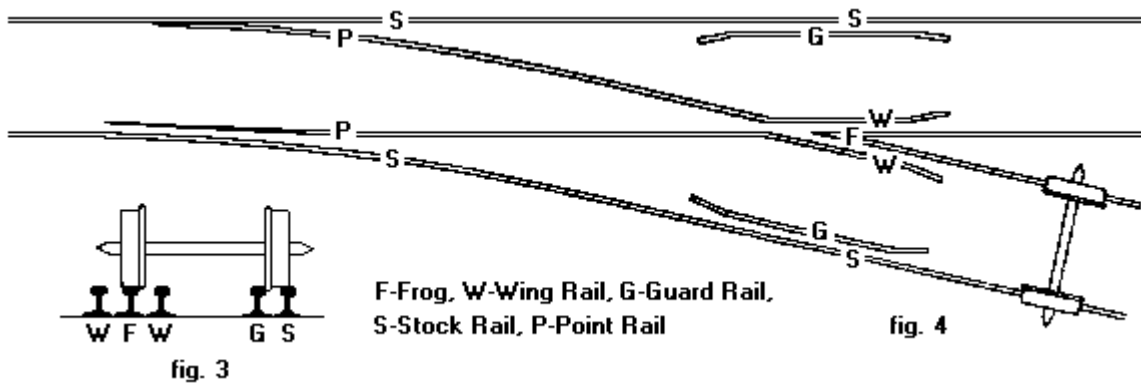
Fig 2

- 30 The Type I, Mark III gauge is not drawn in this RP but has the Flangeway NO-GO tab between the Flangeway tabs along the top of the gauge.

NOTE: This GAUGE is intended only for checking STANDARD dimensions. For proto and fine scale dimensions refer to S-4.1.

2.2 Components of a turnout

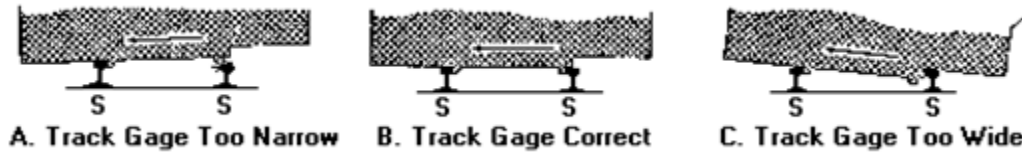
- 35 Figures 3 and 4 below identify the different Components of a turnout for use with the Instructions on the reverse side.



NOTE: The drawings on how to use the NMRA Gauge are for the Type I, Mark V and Type II Mark III B gauge. Please check your gauge to insure you know which tab to use when checking a measurement.

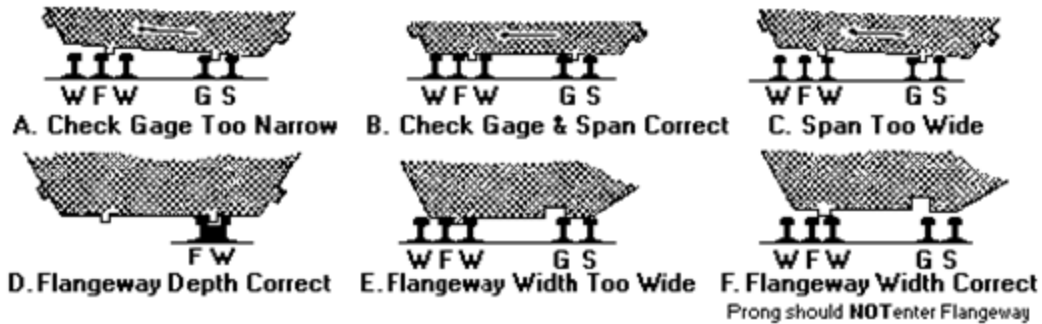
2.3 Checking track gage

40 TRACK marks the side of the gauge used for checking Track Gage through all track-work, including turnouts and other special work. Apply light pressure in the direction of the arrow. See figures A, B and C for interpretation of results. (Note that the prongs of the Gauge must clear spikes.)



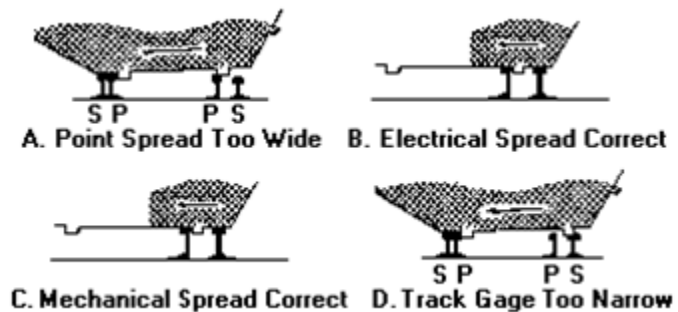
2.4 Checkgage

45 Spacing of Guard Rails, Wing Rails and Frogs are checked with this side of the Gauge. Apply light side pressure toward the Frog and against the Guard Rail (see arrow). See figures A, B and C for interpretation of results. Gauge prongs must clear all obstructions below the rail head as in figure D. Use NO-GO prong of Gauge to check Flangeway width at the Frog in figures E and F.



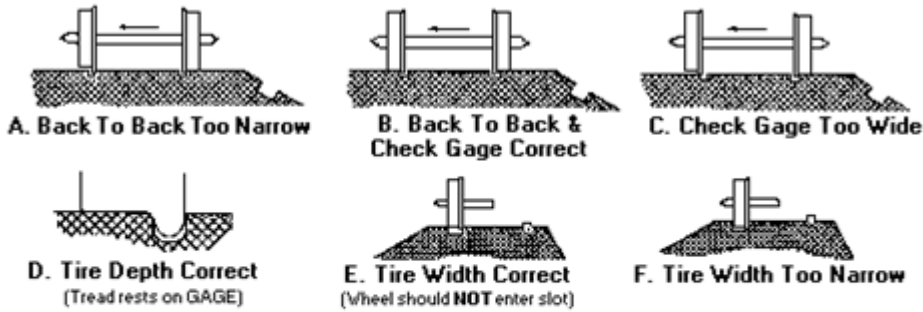
2.5 Points

50 POINTS are checked against excessive Spread by applying light side pressure against the Gauge side of the closed switch point rail as shown by the arrow. The opposite prong on the GAUGE dropping fully into the gap between the open switch point rail and the adjacent stock rail ensures adequate “Electrical Spread”, while dropping only to the step on the inside of the prong shows adequate Mechanical Spread. Clearance of the outside of the prong checks Track Gage. Make this check along the entire length of the switch point rail.



60 2.6 Wheels

Wheels are checked by applying light side pressure in the direction of the arrow. Each wheel must be checked - reverse the direction of pressure and check the other wheel. See figures A, B, C and D for interpretation of results. Use the wide NO-GO slot to check Tire Width as in E and F.



In checking wheels be sure that:

Wheel treads and flanges are free of "flash" and other projections.

Wheel flanges have proper contour (see D).

Wheels spin freely and "true" in their trucks without excessive wobble.

Where wobble is observed, check wheels at several points to insure the entire wheel is within limits.

65 **2.7 Clearance**

Clearance may be checked only with the Type I GAUGE in the position shown in 2.3B above, seeing that no obstruction interferes with passage of the GAUGE along the track. CAUTION: This check is valid only for tangent track and curves of very wide radius. Refer to NMRA STANDARD RP-7.3 for increased Clearances in sharper curvatures.

70 For oversized rolling stock and modern equipment snap on the plastic modern clearance gauge for your scale.

2.8 Coupler height

Coupler height is checked by mounting a coupler of your choice in the center of the slot and matching all other couplers to this height when the GAUGE is in the position shown in figure 1.B. section 2.3 above.

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WARNING: WHILE THESE GAUGES ARE VERY DURABLE, THEY ARE MEASURING DEVICES AND NOT METAL CUTTING TOOLS. THE USE OF THE GAUGE TO REMOVE METAL (EVEN SOFT SOLDER) WILL CAUSE WEAR ON THE MEASURING SURFACES AND DESTROY THE DEVICE AS A MEASURING INSTRUMENT.

3 Document History

Date	Description
July 2019	Previous release
19-Aug-2023	Migrated to new template. Spelling, punctuation errors corrected and various clarifications added. New Fig 1 and Fig 2. Added a Note that the gauge is for standard dimensions check. Added text that for modern equipment add snap on plastic clearance gauge to check RP-7. For fine scale or proto refer to S-4.1 Created TN-2 from this version of RP-2 to have a two page one sheet of paper instruction to pack with gauges for shipping. Errors on gauge envelope were addressed. Approved by Board of Directors.

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