Specifications for SAR timber sleeper spacing 1600 mm broad gauge — staggered joints

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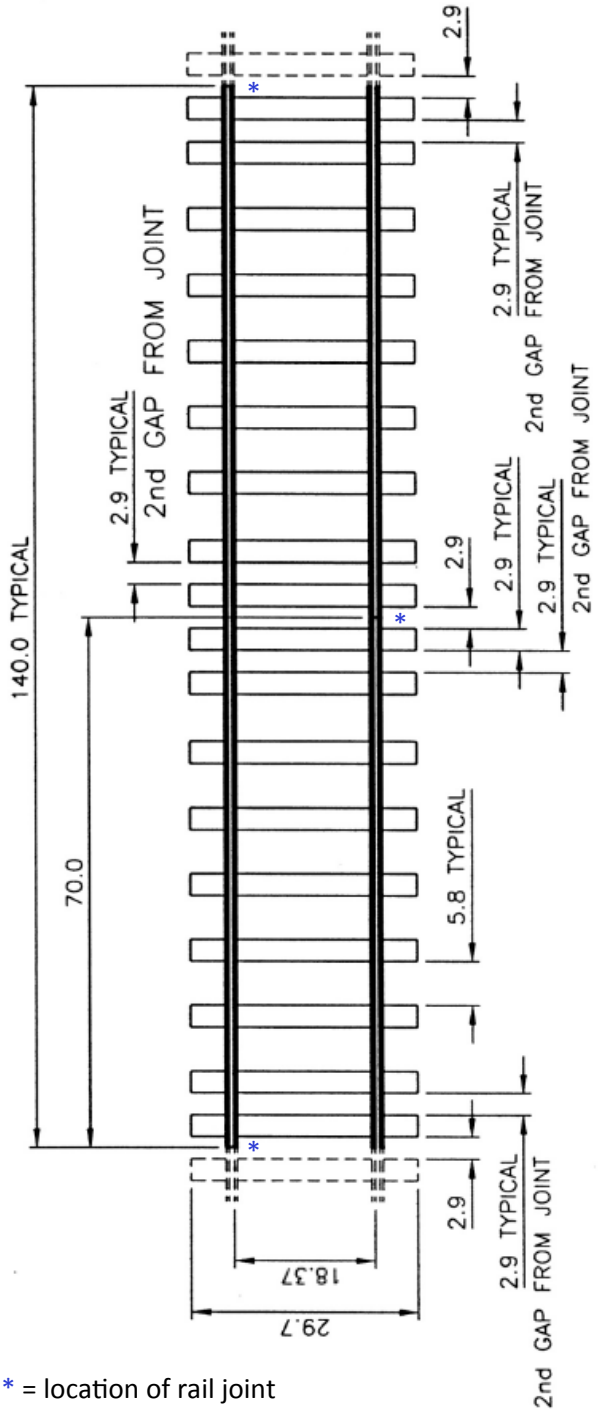
Derived from SAR drawing E27/18 dated 20/6/1927

Dimensions shown are millimetres for 1:87.1 scale



* = location of rail joint

Sleeper size (timber) for broad gauge in 1:87.1 scale is 29.7 mm x 2.9 mm.

Features of this drawing

Staggered joints are generally placed on curves. Gaps between the two sleepers on each side of the (staggered) joint are half the size of the gaps between other sleepers. (Note: this is the gap between sleepers, not the sleeper centres.) Therefore, in a 40 foot / 12.2 m track panel, there are 12 @ 500 mm gaps and 6 @ 250 mm — the latter dimension being dictated by the notches for dog-spikes in the fishplate. (In HO scale, these figures are 5.8 mm and 2.9 mm.)

Ensure this diagram is the right size

Having an exact-scale drawing is especially useful when making a jig to ensure accuracy of sleeper spacing. The original of this diagram was drawn to HO scale (1:87.1). However, your computer and printer may not reproduce it at this scale exactly. You can easily correct this.

After printing this page, measure the actual length of the line labelled "140.0 typical". If it is 144 mm, for example, reprint the page or photocopy it at 140 ÷ 144 = 97%.

Simulating broad gauge at 16.5 mm

Note that this drawing is for 1600 mm broad gauge track at HO scale, which gives a model gauge of 18.37 mm. If you want to retain a gauge of 16.5 mm but give the impression of broad gauge, simply set your printer or photocopier to 90% (i.e., 16.5 ÷ 18.37). Modelling your track at 90% of HO scale in all components will ensure it has broad gauge proportions, which the eye picks up far more readily than actual sizes. If you do that, however, remember to write new values (x 0.9) for all the numbers shown.

Similarly, broad gauge can be simulated by reproducing this sheet in N scale at 49% and O scale at 174%.