

# BARROWMORE MODEL RAILWAY GROUP

*"Modelling to a high standard amongst friends"*

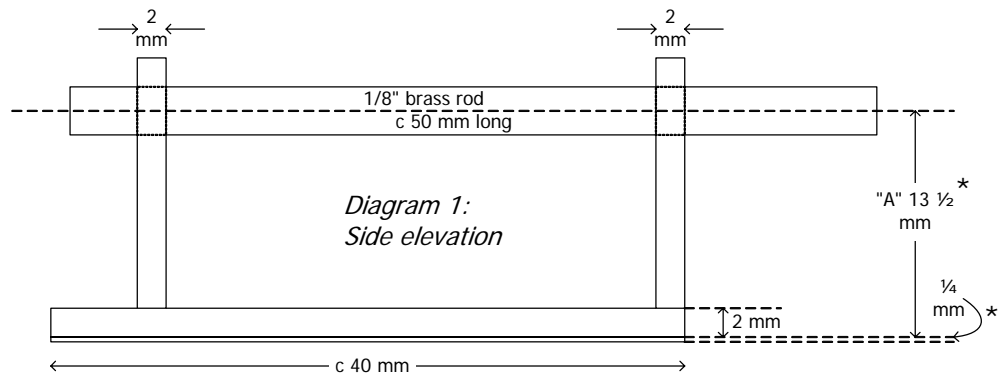


## Workshop Notes: Buffer Height Gauge

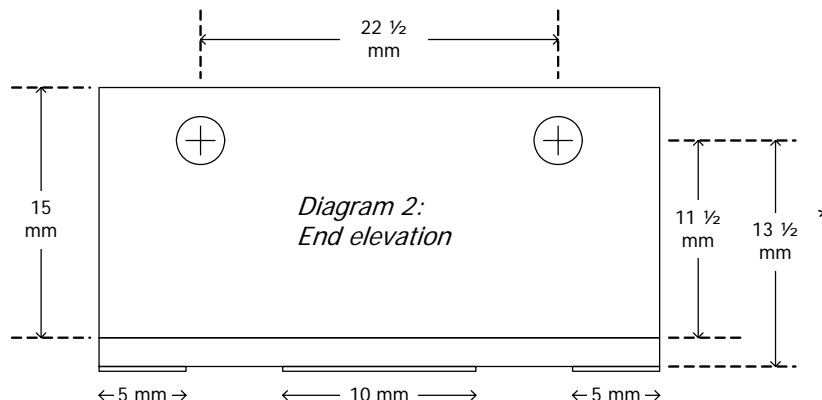
[The genesis of this little piece was a chance remark by a colleague that he didn't understand a reference to 'buffer height'. I then remembered that several years ago I had written a short article on this topic for another modelling periodical, and made a batch of the gauges, milled from light alloy angle. And when recently I wanted to use one . . . (you guessed!): I couldn't find one. So I made another batch, with a different design. So here it is ...]:

Anyone who makes kit or scratch built wagons fitted with 3-link or similar couplings has to take care to get all buffers to something like the same height above the rail, and the same distance apart. Failure to do this can result in buffer-locking on curves when vehicles are being propelled, and consequent derailment.

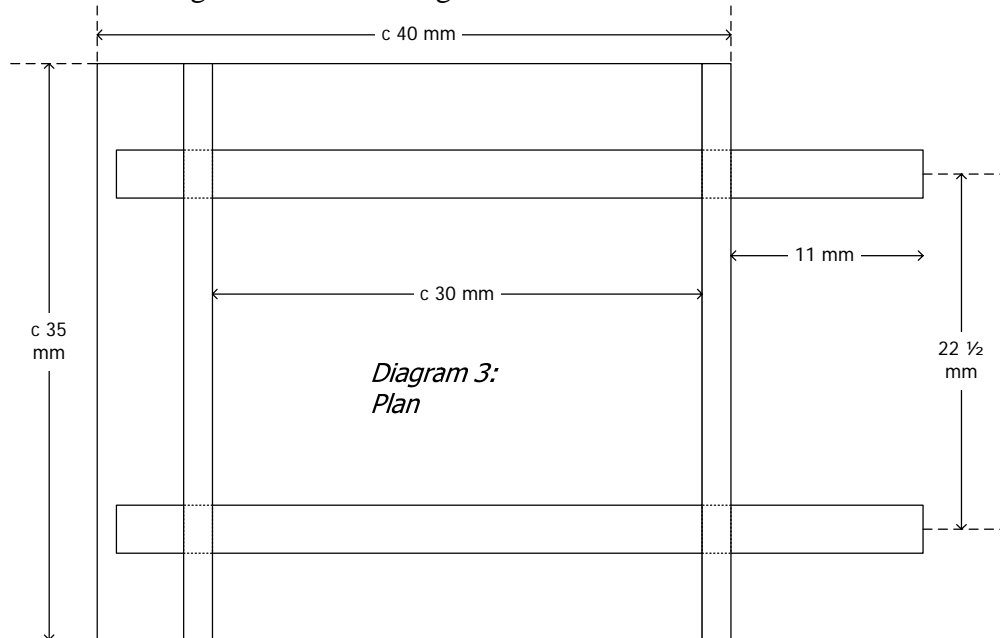
The Railway Clearing House (the body which regulated many aspects of design standards of railway rolling stock) made regulations giving permitted heights of wagon buffers in different conditions. My copy of the I 947 revision of the R.C.H. "Regulations respecting the repairing & rebuilding of wagons .." gives figures for buffer height which varied between 3ft1in and 3ft6in. Of course the full-size railways did not have to cope with the severity of curves that we have to use on our layouts, so we have to choose an even more restricted range of heights - about a scale 1½in either side of a scale 3ft4½in seems a reasonable compromise.



With regard to the buffer centres dimension: modern wagons (for British standard gauge track) are mostly built to 5ft7½in centres. Previous standards tended to be up to an inch or so wider - but hardly noticeable in 4mm scale!



The best way of ensuring the necessary compatibility of buffer heights is to make and use a simple height gauge. Mine is made of 2mm Plastikard and 1/8in brass rod - diagrams below assume construction in these materials. Dimensions are given for 4mm:1ft scale. 18.83mm gauge and P4 tyre flange; but the gauge will also work with 00 and EM track gauges as long as it is used with the stock placed on the track. Conversion to other scales should be easy. The gauge must be used before the running gear is finally attached: put the wagon loosely on its wheels on a piece of track and run it up to the gauge. The buffer centres (or the centres of their mounting holes in the headstock) should be level with the brass rod ends - if they are not, then more (or less) packing is necessary under the W-irons etc. Aim for an error of less than 0.5mm (20 thou), and make sure each end of the wagon is the same height.



Note that only two dimensions are critical, and these are marked with asterisks in the diagrams. You may have to alter the design to accommodate some proprietary couplings: and the reason for adding the strips along the underside of the gauge the same thickness as the P4 tyre flange depth, is so that you can also use the gauge with the wheels on a flat surface. The easiest way to get the dimensions correct is obviously to use a pillar drill and compound table. Using only hand tools is more difficult - perhaps the best method is to drill the holes for the brass rod first, then cut the Plastikard roughly oversize, then file to the height marked "A" in the diagram. Alternatively, ask a friend who has the necessary machinery to do the job for you!

