INTRODUCTION

Model railway layouts are normally constructed on baseboards which may be either permanently joined, or arranged for ease of assembly or dismantling. Whether or not the layout is intended to be exhibited it is important that the design of the baseboard system should allow simple and positive assembly without any need to adjust trackwork at the joints.

The problems of track alignment at baseboard joints, whatever the nature of the baseboard system, are solved through the use of Protofour Baseboard Joiners. The use of these joiners automatically ensures alignment of rails at baseboard joints; additionally, the system is designed to permit simple adjustments should the baseboards expand or contract in service.

PROTOFOUR BASEBOARD JOINERS

The baseboard joiners consist of pairs of jig-drilled resin-bonded ply sections fitted with nylon dowels to ensure accurate mating. Holes are provided to accommodate countersunk wood screws for fixing the joiners to the baseboards, and also to accept $\frac{1}{4}$in. Whitworth bolts for securing the baseboards to each other when the dowels have been mated. The dowels must be secured to the joiners before use by means of the 1in. No.8 countersunk steel screws provided.

Joiners should be selected so that their length is at least equal to the baseboard width. They are positioned at the baseboard ends so that the TOP edges of the joiners lie flush with the top of the baseboard. First, secure the nylon dowels to the ply using the $\frac{1}{4}$in. No.4 screws provided, three per dowel. To assemble, select the first joiner and position it against the baseboard end. If the plain baseboard is laid upside down on a flat surface the joiner may be positioned directly against the end; if however the baseboard is already partially completed, the joiner must be clamped in position. Check that the screw holes and bolt holes are not located opposite existing screws or obstructions in the baseboard. When satisfactorily positioned, attach the joiner to the baseboard by means of the 1in. No.8 steel countersunk screws provided.

With the first joiner in position, ensure that the dowels are correctly matched and gently position the second joiner on the first. Then check the location of the second joiner in relation to the second baseboard. If satisfactory, remove the second baseboard and apply a small amount of 'Evostick', or similar impact adhesive, to the mating surfaces of the baseboard and joiner, and re-position. The second joiner and baseboard together, may now be carefully prised away from the first, and secured by means of the No.8 screws. At all stages check that the basebaord and joiner are correctly aligned. If necessary, trim the ends of the joiners flush with the baseboards.

It is assumed that in all cases an end batten forms the edge of the baseboard framework, and that this is the part of the structure to which the joiner is attached.

Using the joiner bolt holes as guides, drill 9/64in., or larger, holes through the battens to accept the $\frac{1}{4}$in. Whitworth bolts. The baseboards may then be assembled simply by mating the joiner dowels, passing the bolts through the battens and joiner holes, and tightening the nuts.

When the baseboards are required for use under conditions of extreme temperature or humidity variation, such as are often encountered at exhibitions, it may be found that the baseboard material expands or contracts over a period of time. In such cases it is advisable to place a 1/8in. packing between the baseboard and the joiner on initial assembly. The packing may be of ply, card, plastic or Dural. When shrinkage or expansion occurs, as indicated at the rail joints at the baseboard ends, the packing may be removed and replaced by the correct thickness of material without the need to modify the layout.

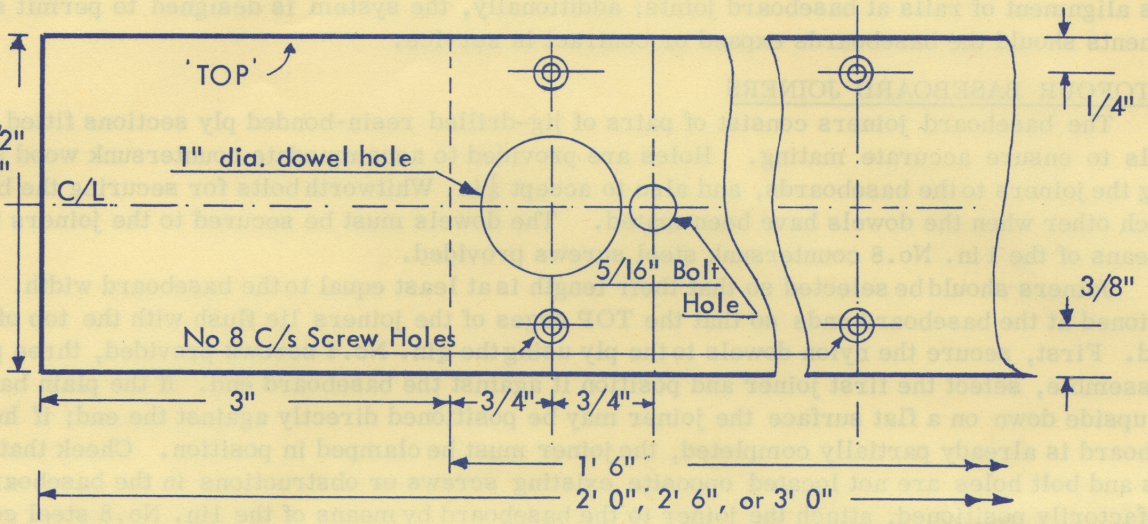
The purpose of the joiners is always to present the tracks of adjacent baseboards in alignment with one another. To maintain this alignment, the ends of the rails should be positively located on the joiner surface. This may be achieved in a number of ways:

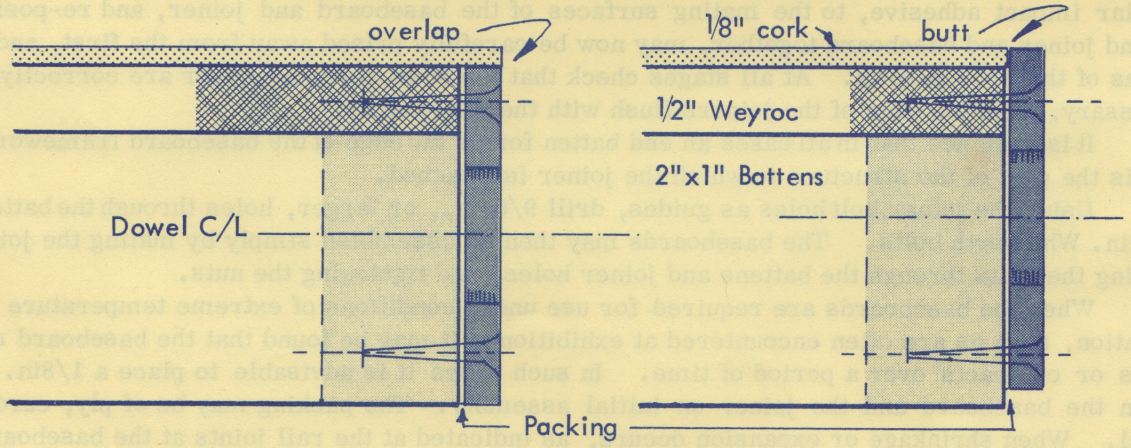
1. Baseboard top and joiner flush. Underlay (1/8in. cork) carried over top of joiner -
   a) rail ends may be soldered to screws driven into the joiners, and adjusted to the correct depth.
   b) rails may be soldered to pins driven alongside the rail outer edge,
   c) special depth sleepers may be carried through a slot in the underlay and fixed to the top surface of the joiner.
2. Baseboard top and joiner not flush. Underlay carried up to the edge of the joiner. (In this case the joiner may have to be fitted in the inverted position to give exact positioning of the securing screw holes.) -

a) and b) as in 1. above.
c) standard sleeper secured to the top of the joiner.

In all soldering operations the use of 'Wescolite' silver based solder is recommended for maximum joint strength.

MAIN DIMENSIONS AND METHOD OF USE





NORMAL METHOD OF USE

ALTERNATIVE METHOD