MODEL SIGNAL ENGINEERING
MSE
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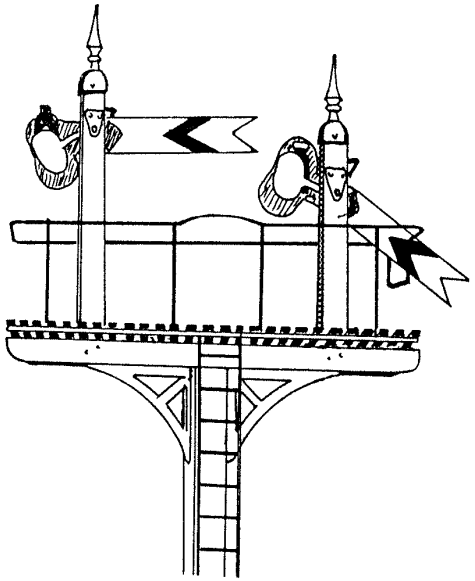
SCALE 4mm CODE S008/2M

MIDLAND RAILWAY SIGNAL BRACKETS



Suitable for 2 or 3 doll brackets (equal tee or offset), offset single dolls, and gantries

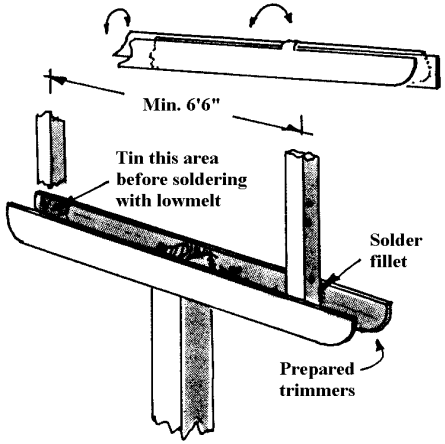
Note: this kit contains bracket and landing components only. For a complete signal, you will need: a base post (S0017); dolls (S0033 series); signal arms (S005 MR lower quadrant or S0012 LMS/BR upper quadrant); finials (SC0012); lamps (SC0023 lower quadrant or SC0011 upper quadrant); and a ladder (S009 etc. series).

Obtain good photographs before starting work. Choice examples may be found in the *Midland Record* series. Remember that many changes took place during the lifetime of signal brackets, from their earliest installation by the Midland Railway, when the signal would have been in the original lower quadrant condition, to later modification when Board of Trade changes were needed, then through the Grouping and Nationalisation, which would have seen the renewal of components with more up-to-date items, including upper quadrant fittings in later days.

ASSEMBLY INSTRUCTIONS

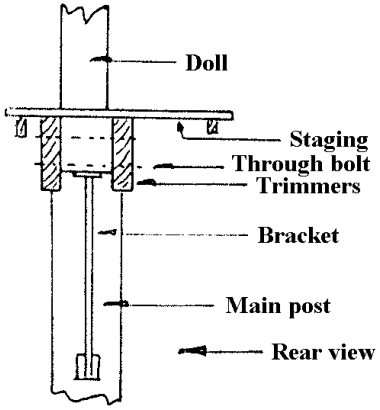
Burnish both sides of the frets, then tin all parts before removing.

Prepare a length of base post S0017 by removing the top bearing and if reducing height, ensuring that you have a minimum of 13'6" clearance remaining between rail head and the underside of the proposed cantilever bracket, at any point where it will foul a running line. Cut to length sufficient S0033 dolls, remembering that the bottom of the doll should be level with the bottom of the trimmers. Complete the dolls by adding arms and lamps. Finials should be left until last to avoid breakage.

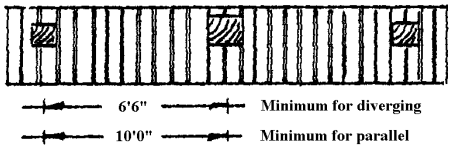


Remove sufficient trimmers from the frets to suit the width of the prototype and split them into linked pairs. Fold each pair back-to-back (half-etched lines on the inside) and sweat together. Remove the resulting "tags". Cut the trimmers to length, and file to the correct end profile (square top corner, round bottom corner).

Tin with low-melt solder what will be the inside surfaces of the trimmers, then solder them to either side of the base post top. It is a good idea to line and pin everything up on a balsa block so the job remains square in all directions.

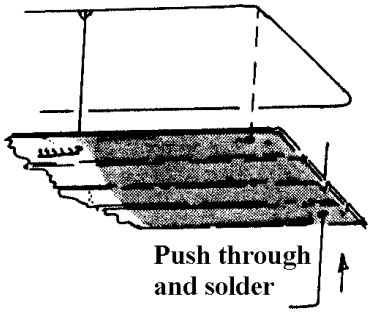


Select the appropriate size and number of brackets (e.g. two small brackets for an equal tee signal). Solder the bracket flanges to the brackets, and the resulting assemblies to the post and trimmers, with the single-holed flange being adjacent to the post. Finally, add the landings; the front should be flush with the trimmer, with the entire overhang thus being at the rear.
Carefully make holes in the landing to accommodate the dolls. For a junction signal, these should be at least 6'6" apart; dolls applying to parallel roads should be at least 10' apart.



Solder in the dolls, using scrap etch to pack the gap between the dolls and the brackets/trimmers.

All working motion should now be undertaken to a satisfactory stage, before the addition of handrails, so as not to impede access. Small cranks tend to lose their efficiency due to poor bearings, so it is wise to provide small tubular bearings soldered unobtrusively into the bracket frame, and then to put the cranks onto short lengths of nickel silver wire as axles, with a washer soldered on the rear end to give a good movement. The wire linkages will perform that much better. Check the balance weight positions with photographs.



(Planks actually run at 90deg to those shown)

Establish the handrail stanchion positions from your prototype photographs, as they do vary a great deal. Drill the landing perimeter at the chosen intervals with a no.75 drill, and insert scale 3' to 4' lengths of wire (no more than 0.33mm diameter) into each hole, from below, with a short "L" turned on the bottom of each one. A quick solder joint on each one will fix them in place, then they can be aligned by eye, and a handrail of soft iron wire fixed around, one stanchion at a time. Leave a hoop at the rear where the ladder will be attached. Finally, trim off all excess wire.

Solder the chosen ladder to the landing rear, adding two bracing stays from thin brass strip midway up the base post.

Nearly all bracket signals had bracing wires and posts, so don't forget to add these once the signal is installed on the layout.

PAINTING

Clean the signal by immersing in warm detergent water, rinse under a running tap, then allow to dry overnight. Spray overall with primer. In general terms, in MR days wood was painted lemon chrome, and ironwork bauxite. In LMS/BR days, wood was white (with the bottom 4' of the base post black) and all ironwork black. However, there are many exceptions, so beware!