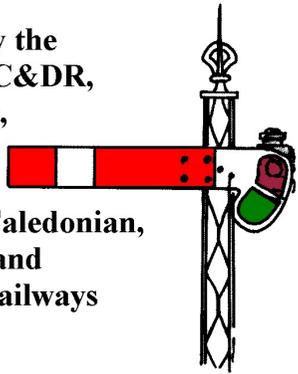


STEVENS & Co. 10'6" & 7' LATTICE SIGNAL DOLLS

As used by the
LSWR, LC&DR,
SR, BR(S),
H&BR,
NBR,
GNoSR, Caledonian,
G&SWR and
overseas railways



Note: this pack contains two dolls only. For a complete signal, you will need: an arm (S011 lower quadrant or S012 series upper quadrant); a finial (SC02/13/17); a lamp (SC01/6/11/25); possibly a ladder (S09 series); and a suitable base post and bracket.

Stevens & Co. supplied lattice dolls to many pre-grouping companies, most notably those shown above. The SR also used them on both the lattice and rail-built styles of bracket. They were also found in lesser numbers on the NER, LNWR, SECR, LYR, and the CLC.

ASSEMBLY INSTRUCTIONS

General:

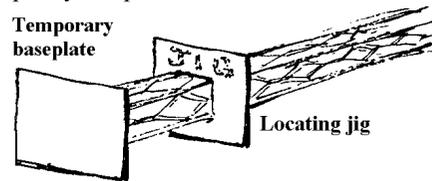
You will need a 25-50W soldering iron or resistance soldering unit, 188° solder and flux, minidrill and slitting disc, various files, pliers, drills etc, and tinsnips and small scissors for cutting out the frets. In these instructions left- and right-hand mean as viewed from the front of the signal. A selection of prototype photographs will help, and these should be easy to find, as this type of signal doll was very common.

Burnish both sides of the frets before removing any parts. It may help to tin some of the smaller parts before removal. Grip the smaller parts in smooth pliers when filing off tags to avoid bending them.

The Dolls:

Lightly tin the lattice edges on all four sides, on both sides of the fret. Cut out the two doll halves, but don't bother filing off the remains of the tags - being staggered, they help to locate the doll halves when soldering. Use flat-nosed pliers to correct any distortion caused by cutting out. Accurately fold each half-doll to 90°, **with the half etch on the inside**. Solder along the inside of the bend to fill the gap as much as possible, although complete coverage is not vital at this stage.

Cut out the locating jig from the fret, and a similarly sized piece of scrap brass to act as a temporary baseplate.



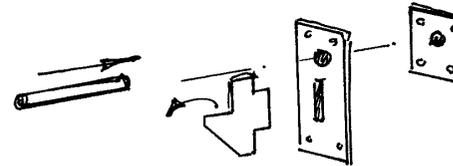
Bring the two half-dolls together, and slip on the jig to hold them in place. Ensure the two halves are level by tack soldering them to the baseplate. Now make the two long joints along the doll, applying light pressure from pliers to help close the gap. When done, remove the jig and baseplate and retain for the next doll. Tidy up the joints, and file the top and bottom of the doll level. Don't worry about any remaining small gaps along the doll corners - these can be filled in before painting

with 145° or 70° solders, which have better gap-filling properties than 188° solder.

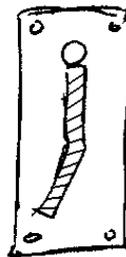
Cut the doll to length if required, removing material from the bottom of the doll, not the top.

Fittings:

For an upper quadrant signal, attach 2mm arm bearing tube(s) to the left-hand side of the post at right angles to the vertical post axis. The top most arm's bearing position below the post top seems to vary between 2.5-9mm, so check with photographs of your chosen prototype. Any second arm bearing should normally be placed 35mm (SR) or 42mm (LMS, LNER) below this. Leave the bearing tube overlong at the rear, but use the minidrill and slitting disc to trim the front so it projects just over 1.5mm in front of the post.



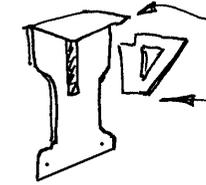
Lower quadrant signals use the supplied etched motion plates. Before removing the plates from the fret, open out the two larger holes to 2.0mm to accept the bearing tube. Solder the larger plate to the front of the post, in the orientation shown, so that the bearing hole is 10.5mm below the post top. Solder the smaller plate to the rear of the post, aligning it by using the bearing tube. When square, solder the tube to the two bearing plates, leaving an equal amount of material projecting from each face. Thin wire may be soldered through the small holes in the plates to represent bolt heads. Note that this bearing suits a 1.0mm rod arm spindle.



Solder the arm stop into the slot in the front bearing plate as shown. The front face of the stop will eventually be twisted to the left to prevent the arm from falling too far.

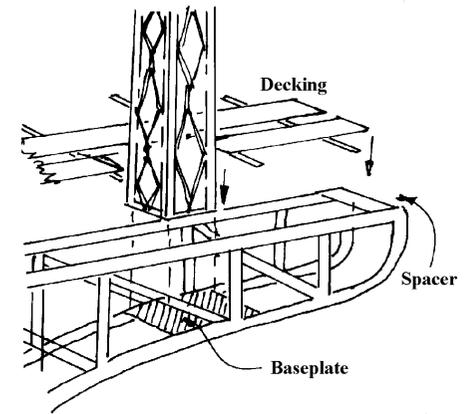
If modelling a lower quadrant signal, then the lamp bracket will be fixed to the right-hand side of the post, whereas it will be on the left-hand

side for an upper quadrant arm. Fold the lamp bracket as shown, with the half-etched line on the outside for a lower quadrant arm, and on the inside for an upper quadrant. Finally, solder in the triangular support plate as shown. Do not solder the bracket to the post until the arm has been assembled and test fitted to the bearing. This allows the bracket to be correctly positioned before fixing, so the lamp lens falls exactly behind the "on" spectacle aperture.



Finishing the Signal:

The doll can now be added to its bracket, according to any instructions supplied with that component; a typical arrangement is shown below.



Complete the doll by adding the lamp bracket and lamp, and any balance weight or ladder. Suitable components are available in the MSE range. Do not fit the arm until after the painting stage.

Painting:

Degrease the signal by washing in detergent water and leaving to dry. Spray overall with white car primer, mounting the arm in its bearing to avoid painting the spindle and inside of the bearing tube. Detail paint according to your prototype photographs.