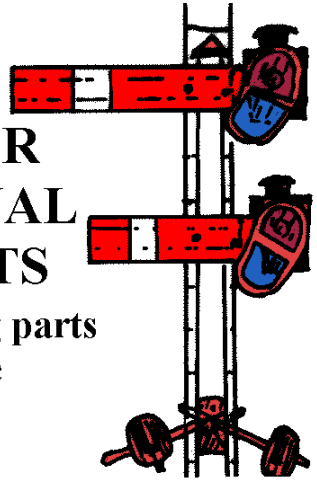
MODEL SIGNAL ENGINEERING
MSE
Part of WIZARD MODELS
PO BOX 70 BARTON upon HUMBER DN18 5XY
01652 635885 www.wizardmodels.co.uk

SCALE	CODE	
4 mm	S004	

LNWR SIGNAL PARTS

Moving parts for nine signals



These etched brass components represent the corrugated steel type of signal arm introduced by the London & North Western Railway in 1883. They remained in use through the LMS period and into BR days, but all have now been replaced by upper quadrant arms (often on the original posts) or by colour light signals.

Suitable posts (S006, S0017), brackets (S008/2W) and ladders (S009) are available in the MSE range to complement these parts. Study photographs of the prototype before you begin building.

Identification & quantity of components on fret:

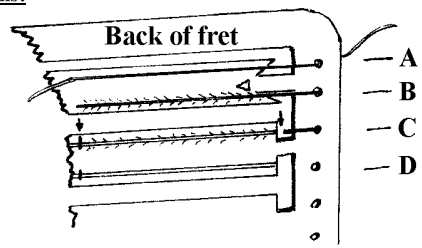
1. 5ft home (5) and distant (1) arms
2. Spectacle plates for 1 and 7 (8)
3. Backlight blinders (8)
4. Balance lever brackets (8)
5. Balance levers (6)
6. Rodding guides (6)
7. 3ft home arm (1)
8. Goods/slow line rings (2)

B. Calling on arms (2)

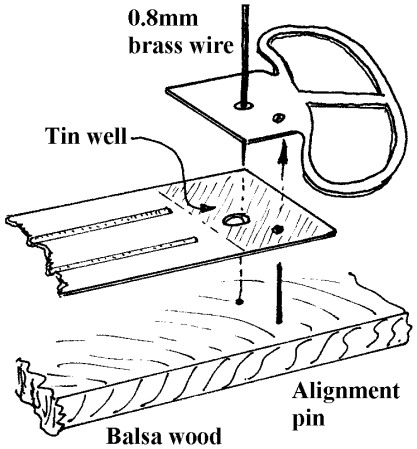
ASSEMBLY

Burnish the parts before removing them from the fret. It will often be easier to tin parts before removal.

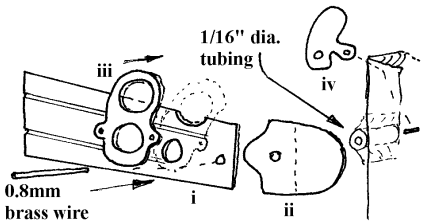
Arms:



The holes on the left-hand side of the fret align with the etched corrugations on the face of the arm. This enables 0.31mm brass wire to be bent through and stretched along the back of the arm (A). When soldered (B), trimmed off (C), and finished with wet & dry paper (D), this gives the appearance of a fully corrugated profile as in the prototype.

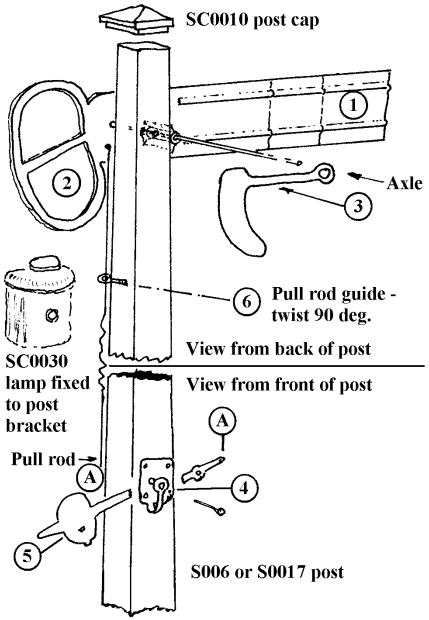


The arm components are produced individually and should be assembled by pre-tinning and placing the spectacle over the arm, with a 0.8mm brass wire axle through the pivot hole as shown. An oiled wire axle or the point of a needle (or anything that won't take solder) through the pull rod hole will help to keep things in correct alignment. The dwarf signal is assembled as shown below:

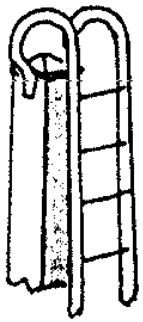


The arms are now ready for painting.

The post and other parts:



The arm is pivoted on a bearing on the left-hand side of the post. Remove the cast bearing if using the S0017 post. Solder a length of *T116* tubing to the post side, 4mm below the post top. For a standard signal, the bearing and lamp bracket will be on opposite sides of the post; for the dwarf arm, they will be on the same side. Add the lamp, post cap, pull rod guide and balance lever assembly as shown; the latter should be on the post's front face, with the axle 16mm above ground level.



LNWR signals had the ladder positioned to either the front or rear of the post. Check with photographs if modelling a particular location. The general arrangement is shown - the *S009* ladder has the correct radiused top. For a signal with the ladder at the front, it may be easier to fix the ladder after fitting the arm. Don't forget to add bracing struts between ladder and post. The post assembly is now ready for painting.

Painting & glazing:

Clean the post and arm assemblies by immersing in warm detergent water, rinse under a running tap, then allow to dry overnight. Spray overall with a white primer.

Post etc: Pre-1923, posts were painted white, with all ironwork (including the post cap) and the bottom 5' of the post in bauxite. Post-1923, the post should again be white, with all ironwork and the bottom 5' of the post in black. Some signals had the bottom 5' of the ladder painted white. Don't forget a dash of silver on the lamp lenses.

Arms: Pre-1911, all arms were red on the front face and white on the rear, with a white stripe on the front, and a black stripe on the rear. Some time after 1923 (sources vary), this arrangement continued for home arms, but the front face of distant arms was painted yellow, with a black chevron both front and rear.

Spectacle plates: These were painted bauxite prior to 1923, after which they were painted black. Home signals should be glazed with red in the top aperture and blue-green in the lower one. Distant signals should have blue-green glazing in the lower aperture, with the top aperture having red glazing (if the arm is red), or amber if the arm is yellow. Suitable glazing is available from MSE (quote *LENS*).

Final assembly:

Ensure the spindle moves freely in its bearing – clean off any paint that might have crept in. Remove any excess bearing and spindle length, but leave enough spindle protruding through the bearing to solder the back blinder on. Place an oiled paper washer over the spindle end, then place the back blinder on the spindle. Adjust its position so it just clears the lamp rear lens when the arm is horizontal, and push it sufficiently far on to the spindle to remove any fore and aft spindle motion. Once correctly in position, solder the back blinder to the spindle. Prime and paint it bauxite or black as detailed above.

Finally, bend up a pull rod from 0.31mm brass wire, to connect the hole under the arm, and the rear hole on the balance weight arm (if this is working, otherwise take it through the baseboard for direct connection to the operating mechanism). Ensure that the arm is "on" and the balance weight lowered (or vice versa) when doing this. The wire should be threaded through the rodding guide.