

MODEL SIGNAL ENGINEERING



Part of WIZARD MODELS LIMITED  
 PO BOX 70 BARTON upon HUMBER DN18 5XY  
 01652 635885 www.wizardmodels.ltd

SCALE	CODE	
4 mm	GS008	

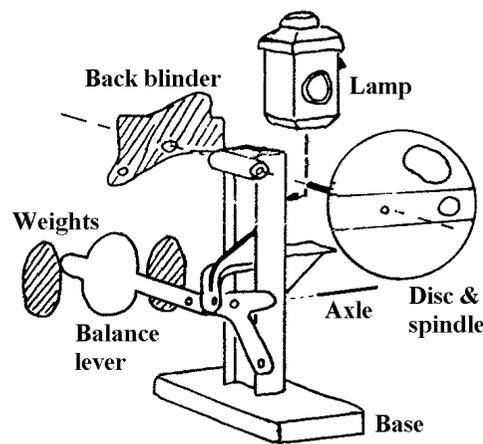


Cast & etched parts for two signals

This signal was introduced by the LNER in 1938 as a replacement for the various pre-Grouping designs. Many are still in use on Network Rail today.

**Assembly instructions:**

The parts are designed for soldered assembly. Use a 25-40W pencil bit iron with 70° and 188° solders and a liquid flux. If the signal is required to work, carefully consider how the linkage from the actuator is to be made, and whether it pulls or pushes to move the signal “off” (this is an upper quadrant signal). You may need to drill extra holes in the back blinder and/or balance lever for the operating linkage, which is best done before removing these parts from the fret.



Before removing any parts, burnish the fret and open out all the holes as follows: disc 0.7mm; back blinder 0.7mm for spindle, 0.4mm for operating wire; balance lever 0.5mm for axle, 0.4mm for operating wires. If you are going to use a rod to mount the signal on the layout, drill a suitable hole in the bottom of the base casting.

Solder (188°) a 0.7mm wire spindle into the disc. This is best done by drilling a perpendicular hole into a wooden block, inserting the spindle into the hole, and dropping on the disc face down. Tidy up the rear face of the disc, and file the spindle flush on the front face to give an invisible joint. Leave the rear spindle overlong for now to act as a painting handle.

Remove any moulding lines from the base casting and lamp, and the casting sprue from the latter, but do not throw this away. Open out the hole in the bearing tube to 0.7mm. Thin the side of the base casting opposite to the bearing, and the corresponding mating face of the lamp, so that when the lamp is offered up to the base, the lamp lens falls in line with the disc apertures (note that the lamp bracket is too low – do not rest the lamp on it). Solder the base and lamp together. Use a small piece of the waste casting sprue to fill in the gap between the lamp base and the bracket.

Tin the balance weights and solder (188°) them one each side of the balance lever. Offer up the lever to its mounting bracket and carefully drill 0.6mm through the bracket and base. Solder (70°) in a pre-tinned (188°) 0.5mm brass wire axle, trapping the lever in place, with it pointing slightly downwards and with the weights to the rear (oil the lever to prevent straying solder if you require the lever to work). The signal box operating wire thus always finally approaches from behind the signal. If the signalman faces the front of the disc, then the wire would be taken round a nearby pulley to reverse its direction.

Wash the two assemblies thoroughly in warm water. Spray the disc assembly (and the back blinder) with white matt car primer. Add the appropriate bar transfer (waterslide): red; red with Rule 55 diamond for track-circuited lines; or yellow for signals that could be passed at danger, e.g. into a head shunt. Cut the transfer film closely to the top and bottom of the bar, but leave a couple of millimetres on the ends, as the colour is designed to wrap around the disc edges – use setting solution to give a neat finish to the bends. Poke out the small spectacle using a needle or similar sharp instrument, then seal the transfer with matt or satin varnish. Using the material supplied and MSE's *GSA* adhesive or gloss varnish, glaze the small spectacle red or yellow to match the stripe, and the large one blue-green.

Spray the body assembly with matt black car primer, and also blacken the disc's rear face and the rear of the back blinder. Add a touch of silver to the front lens and the centre of the rear lens.

Use a broach to clean out any paint that may have crept inside the bearing and also clean paint off the spindle. Insert the spindle into the bearing and check for free operation. For a non-working signal, the disc may now be superglued in place, “off” or “on” as desired. There should be a gap between the disc's

rear face and the front of the lamp lens equal to the depth of the lens from the front of the lamp body.

Clean a small area of paint off the back blinder around and inside the spindle hole. For a non-working signal, simply superglue the back blinder in place, with the minimum of gaps between the blinder and the lamp. If the signal is “on”, the back blinder should be horizontal and the back lens should be visible; if “off”, it should be inclined downwards, covering the back lens. For a working signal, place an oiled paper washer on the spindle, drop on the back blinder and carefully solder it in place. You will need to align the disc and the back blinder parallel to each other and maintain the gap between the disc and lens whilst doing this! When finished, cut off the excess spindle and tidy up.

Make a hook in the top of the 0.3mm brass operating wire, and insert it into the back blinder hole from the rear. Viewing the signal from the left-hand side, mark the wire level with the hole in the balance lever, and bend it 90° away from you. Insert the bent portion into the hole, cut it to length and form a small hook to retain it. Finally, blacken the wire using a proprietary blackening solution – painting risks gumming up the holes.

The signal may now be installed on the layout.

© Wizard Models Limited 2021