


MODEL SIGNAL ENGINEERING



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

SCALE	CODE	
7mm	GS05/1	

## MIDLAND RAILWAY ROTATING GROUND SIGNALS

(Two complete kits)



### Contents:

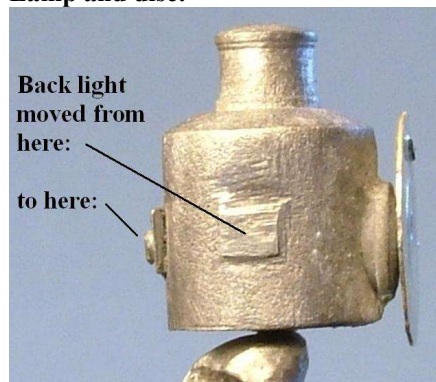
Brass fret of parts  
 2 cast whitmetal bases  
 2 cast whitmetal lamps  
 2 cast whitmetal balance weights  
 2 x 1.0mm brass spindles  
 2 x 2.0mm ground tubes  
 0.45mm axle wire

This kit represents the standard MR rotating ground signal, installed in the period 1900 to 1910. The signals are intended to operate.

### Assembly Instructions

Burnish both sides of the fret before removing any parts. You may find it easier to tin the parts before removal.

#### Lamp and disc:

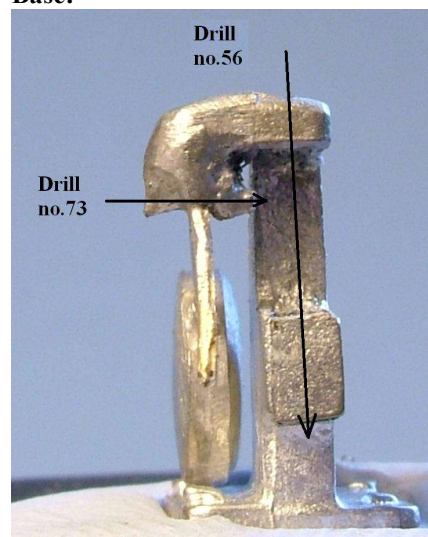


As supplied, the lamp represents the early design which exhibited a small back light when the signal was off (i.e. if you view the lamp from the top, when the front lens is at the bottom, the back light is to the left). For the later design, where a back light was shown when the signal was on, use a piercing saw to carefully remove the backlight. Solder it to the rear of the lamp, on the horizontal centre-line, so it is now at 180° to the front lens. Tidy up the old back light position, but do not remove it completely, as shown above.

Cut off the casting sprue and file off any visible mould lines. Also file a flat on the front lens. Drill the centre of the base 1.0mm) to suit the brass spindle. Solder in the spindle, ensuring it is perpendicular to the base.

Note that the discs have a "hand" on them to show which track the signal applies to. Select the correct disc, and solder it centrally to the front lens. Note that in areas with restricted clearances, the left and right hand sides of the disc were sometimes removed.

#### Base:



Open out the hole in the top of the base to 1.0mm, and continue drilling through the bottom spindle bearing. Drill 0.6mm through the sides of the balance lever bracket, and use a piercing saw to open out the slot.

Open out the hole at the elbow of the balance lever to 0.6mm. Solder the weight to the lever, fill the resulting channel with solder, and file to shape. Tin the axle wire, and push it through the bracket holes, trapping the balance lever in place. Ensure that the axle does not block the spindle's path, and solder it in place. The balance weight should be to the rear, and resting on the base foot.

#### Painting:

You will probably find it easier to paint the two units made so far before final assembly. Wash in detergent water to remove all traces of flux, rinse under a running tap, then allow to dry thoroughly.

Prime both units bauxite (MR days) or black (LMS) then detail paint as follows:

Red: disc front face.

White: disc hand, a sighting rectangle around the back light (of variable size, but the full depth of the lamp body and around 3mm either side of the centre line was common), and (sometimes) the disc rear face.

Green: a similar sighting rectangle around the side lens.

Silver: lamp lenses.

#### Final Assembly:

Drill a 2.0mm hole through the baseboard in the correct location, ensuring that the signal will not foul any passing traffic. Fix the ground tube in place. Pass the spindle through the base bearings and into the ground tube (you may need to broach out the holes now that the spindle is painted). Secure the base to the baseboard. Note that ground signals adjacent to pointwork were often mounted on extended point timbers, and that sometimes, the lamp was mounted at 180° to the position shown in the photo, so the disc was at the rear of the base. Finally, solder a retaining collar onto the spindle as it leaves the tube (place a paper washer between collar and tube to avoid straying solder!).

The spindle can now be connected to your chosen means of operation.

#### Acknowledgements:

Wizard Models thanks Bob Essery and Tony Overton of the Midland Railway Society for providing drawings and photographs to enable production of this kit.

© Wizard Models Limited 2017