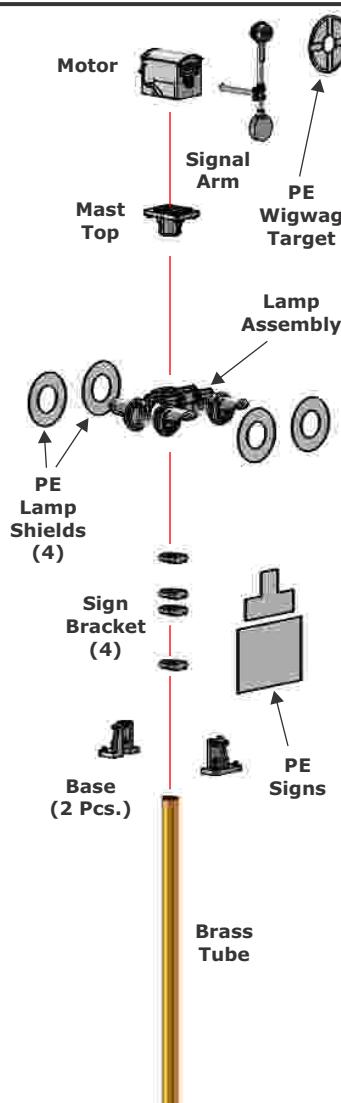


Parts Included**Tools You May Need:**

1/32" Drill Bit
Needle Files
Dremel Tool
CA (Super Glue)
Flat-Nose Pliers

We recommend using Duro brand Super Glue to assemble the parts.

Optional Tools That May be Helpful:

Photo-Etch Bending Tool

(We recommend The Small Shop brand of tools and is available at Showcase Miniatures)

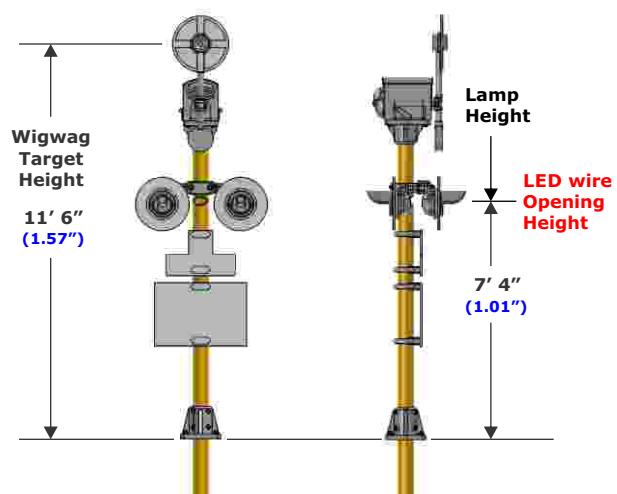
Clean and Deburr all Parts before beginning assembly.

Do Not Remove the Photo-Etch Parts from their fret yet - Painting Recommendations on back.

Before Applying Glue
Test fit all parts.

Drill Opening In Motor

With 1/32" Drill Bit
(available on our website)

**Prepare the Opening**

For the LED Leads.

A **Mark the locations** of the opening on the mast using the **Diagram**.

B **Using a Dremel Cut-Off Disk** or triangle file, cut a groove where the LED wire leads will enter the mast.

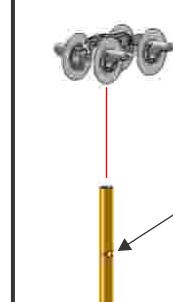
Be Sure Not to Cut More than $\frac{1}{2}$ way through the tube

C **Drill the center of the Groove,** with a 1/32" Drill Bit.

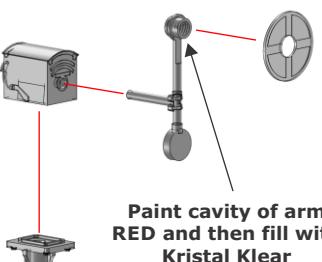
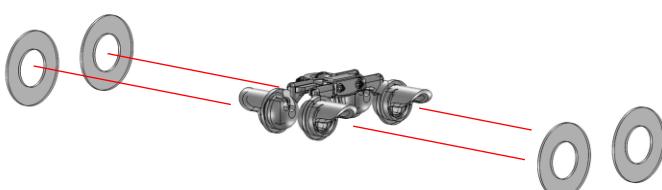
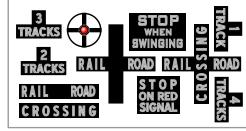
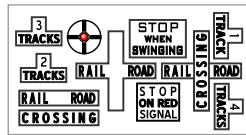
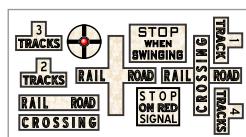
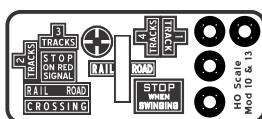
D **Pivot the Drill,** vertically while drilling to create an angled hole and to smooth the edge of the opening. This will aid in routing the Fiber Optic Strand into the mast.

E **Finished Opening,** ready for insertion of the LED wire leads.

Use this same technique for other openings in the mast.



Thread LED wires through opening as you slide the Lamp Assembly onto the tubing.

Motor Assembly**Lamp Assembly****Printed Graphics**

Painting / Finishing

Provided in the kit is a variety of options to finish the model.

Printed graphics (both weathered and un-weathered) are included. These can be cut out and attached with CA type super glue.

For finest detail, the photo-etched parts can be used. Below are the steps we used to get crisp black and white finish on signs and the wigwag target disk.

For Reflective Silver Lettering on Black Background:

Paint the entire fret Flat Black and, once the paint has COMPLETELY dried, carefully scrape away the black paint to reveal the raised detail.

The Magnetic Wigwag Flagman Model 13

The Model 13 Highway Crossing Signal Assembly displays the combined attention arresting warning features and has the individual merits of both the standard wigwag and the standard alternate flashing light type signals. Location of wigwag banner at increased height over the alternate flashing light signal units provides animated warning protections which can be seen when the lower flashing light units may be hidden from view of approaching motorists behind large trucks or heavy highway traffic.

The animated swinging movement of wigwag banner protects against possibilities of poor indication under bright sunlight and other adverse conditions which decrease the daytime effectiveness of flashing lights. Use of the two separate signal indications provides increased protection against operating failures in either signal aspect. Possible burnout of any of the light units of this arrangement does not destroy the meaning or effectiveness of the warning display.

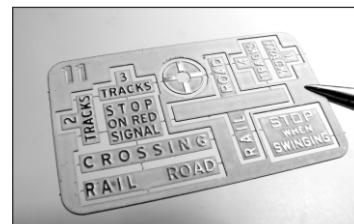
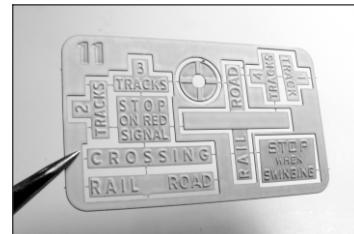
To provide independent operation, standard flasher relay is recommended for operation of the Lower Alternate Flashing Light Signal Units. Wigwag Banner Lamps are independently flashed by wigwag mechanism lamp contacts. The track circuit or other control system required is identical to normal crossing signal installation. No further duplication of control or operating equipment is necessary.

The improved results obtained in displaying a more arrestive and more reliable warning to approaching motorists warrant the use of the Model 13 Highway Crossing Signal for required further reduction of accidents, especially at the most hazardous crossings. This protection is available at only a proportionate small increase over the complete cost of usual railroad crossing signal installations and at only a minor small increase in operating and maintenance expense.

....*The Magnetic Signal Co. Manual.*

For Black Lettering on a White Background:

The entire Fret
was spray painted **Flat White**.



Once the paint is COMPLETELY Dry
the paint on the raised detail was carefully scraped off the surface using a curved knife blade or 600 grit emery cloth (sand paper).



The Entire Fret was dipped
into a solution of Black Oxide
for Stainless Steel from
EPI (Electrochemical Products Inc.)

www.epi.com

This sample size will last for many projects.

Directions from EPI were **closely** followed to achieve very satisfactory results. We used it at full strength.
The product number is
Insta-Blak SS-370
(not the gel)



You will need to call them because the sample (which is \$20 at this time) is not listed in the drop down menu online but they can assist you by phone at 262-786-9330