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**MECHANICAL BRANCH MODELS**



**GENERAL INSTRUCTIONS**

**FOR**

**Assembly and Finishing**

**‘BRAKES’ LANDMARK SIGNAL KIT**

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**FROM 1st JULY, 2019  
(And Until Further Notice)**

**Revision 1.0**

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Photos: National Library of Australia

# I. Prototype information

There were few Tonnage Landmarks in use on the NSW system - but there was one at Katoomba on the Up and another at Werboldera on the Batlow line, also on the Up.

There's some evidence that there were two versions - a smaller disc and another type with a larger disc. Only one drawing has been found which shows the type that stood at Katoomba. However, photos suggest this used a post of old rail while the drawing shows a concrete post. This kit also uses a square-section post to resemble the concrete post shown on the drawing.

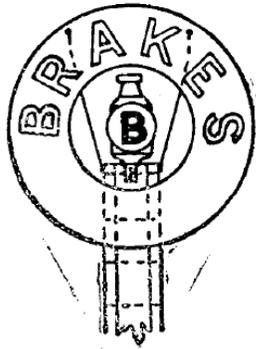
From the General Appendix, 1935:

(d) **Tonnage Landmark.**—Provided to indicate the places at which Goods trains are to stop, in accordance with the Regulations, for the purpose of pinning down or releasing brakes.

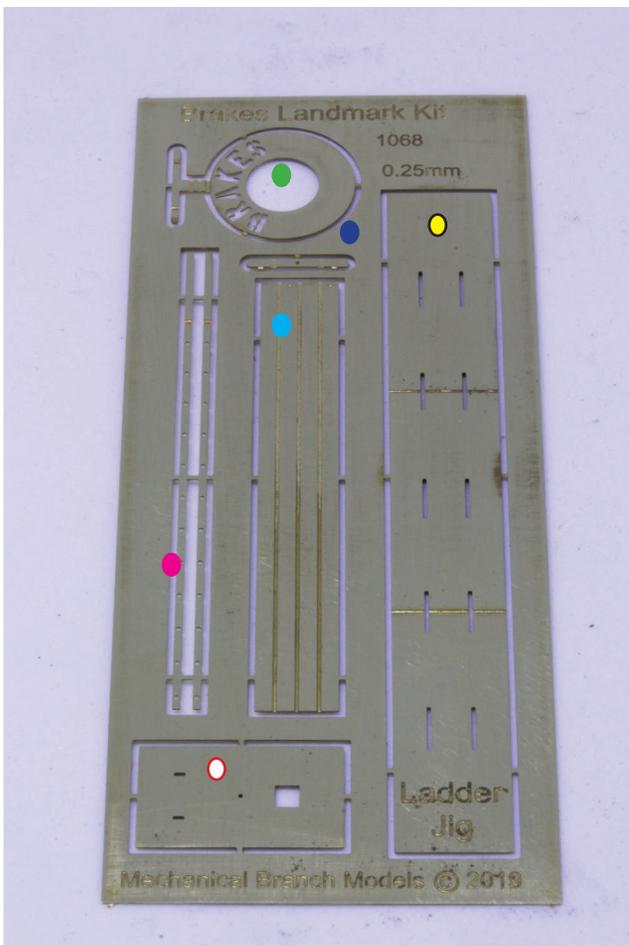
A large White disc fitted on a post, with the word “Brakes” cut out of the upper portion.

During dark, the indication is given by an illuminated “B,” showing on the front of a lamp.

DIAGRAM NO. 72.

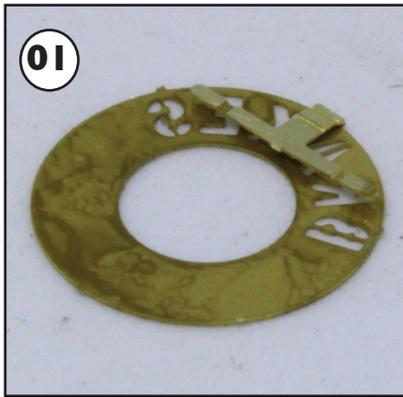


## 2. Identification of Parts

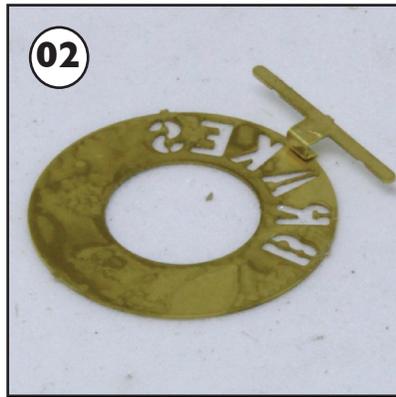


- Ladder assembly jig
- Ladder bracket
- “Brakes” ring
- Post
- Ladder stiles
- Base

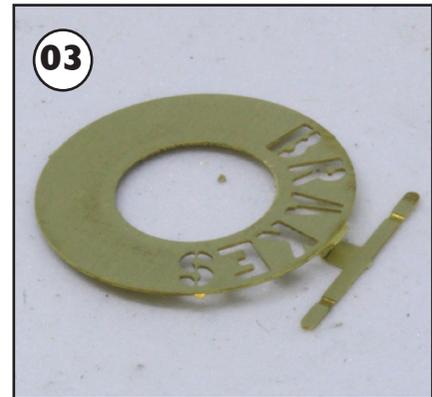
### 3. Assembly



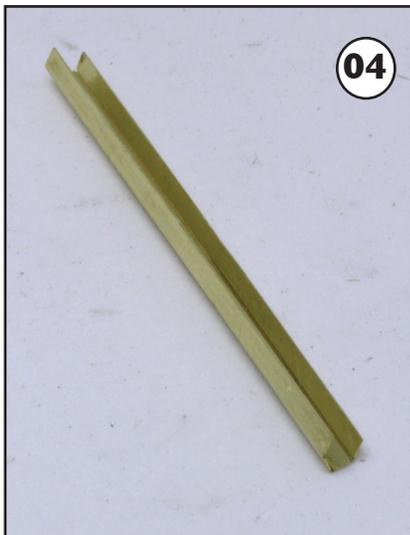
**Figure 1.** Remove the circular sign from the etch. Be careful not to damage the 'T' bracket. Fold the 'T' bracket back along the fold line as shown.



Fold the bracket back as shown in **Figure 2.**



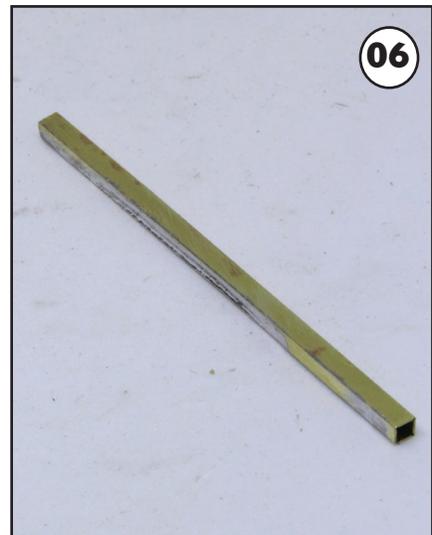
When the sign is turned over it should appear as in **Figure 3.**



**Figure 4.** Remove the post from the etch. Using flat nose pliers carefully form the sheet into a post.



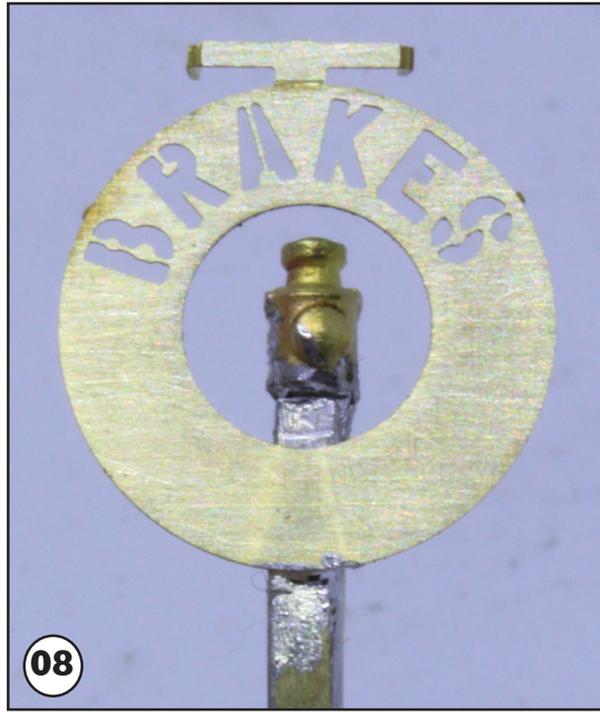
**Figure 5.** Continue to form and bend along its length until the post is square and even.



**Figure 6.** When satisfied with the shape and smoothness of the post, and the edges meet up evenly at the joint, apply solder to the joint. File smooth.



**Figure 7:** Solder the signal lamp to the top of the post. The signal lamp holds some heat so hold it in place until the solder solidifies. Ensure it's square in all directions.



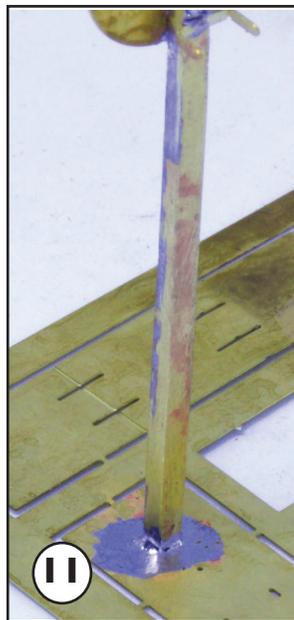
**Figure 8:** Solder the sign to the top of the post. The signal lamp should be in the centre of the sign. Also, the characters should be symmetrical about the vertical centreline of the post. The sign can be sweated to the post, but be careful not to dislodge the signal lamp.



**Figure 9:** From the side the signal lamp lens should be just poking through the plane of the 'BRAKES' disc.

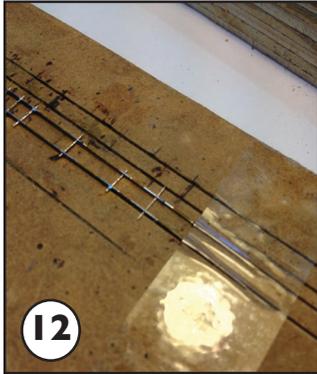


**Figure 10:** Solder the ladder bracket to the post. This is approximately 3mm from the top of the post.

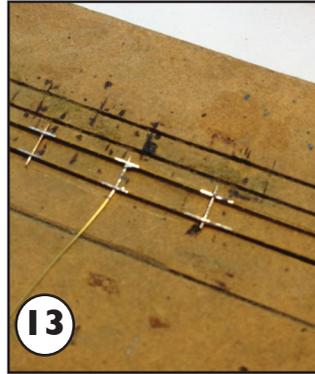


**Figure 11:** Solder the post to the base etch. Ensure the post is square to the base in each direction.

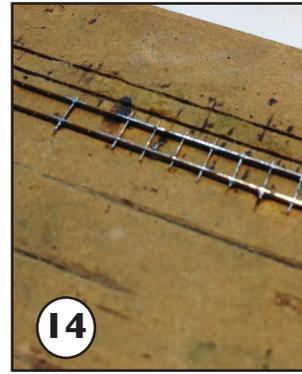
## Assemble ladder



**Figure 12:** Fabricate the ladder. It is recommended to use a small length of 12mm MDF with shallow parallel grooves cut into it with a razor saw. These grooves are 10" (2.9mm) apart which is the separation between the ladder stiles.



**Figure 13:** Tape down the ends of the ladder stiles and pass some 0.18mm brass wire through opposing holes, at the top and bottom ends of the ladder and one or two at the middle. Check that the rungs are square to the stiles before adding the remaining rungs. Overheating the brass will cause distortion.



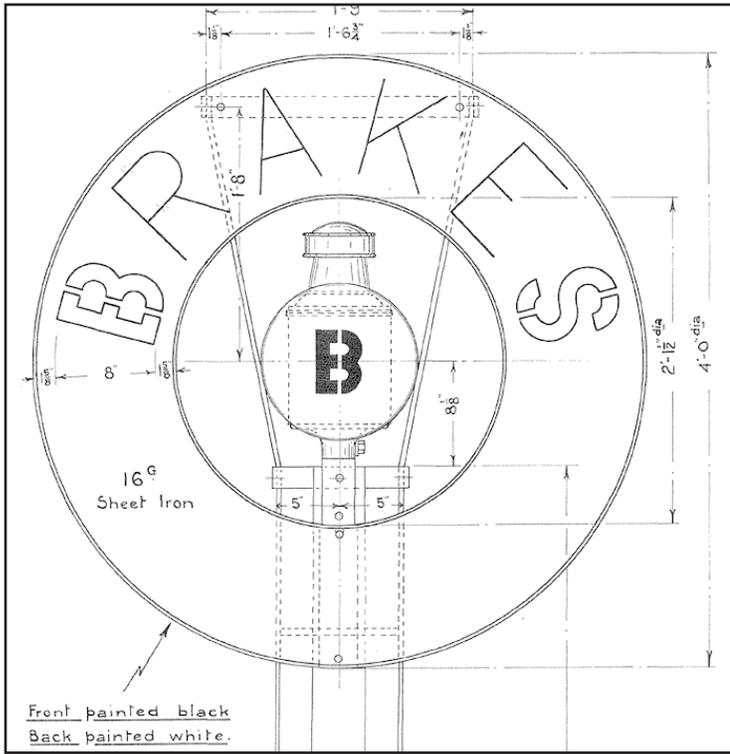
**Figure 14:** Ensure that the solder joints are sound before trimming the excess wire either side of the stiles. Solder wick is useful for removing excess solder. Carefully file the stiles to remove excess wire and solder. File and wash when complete.



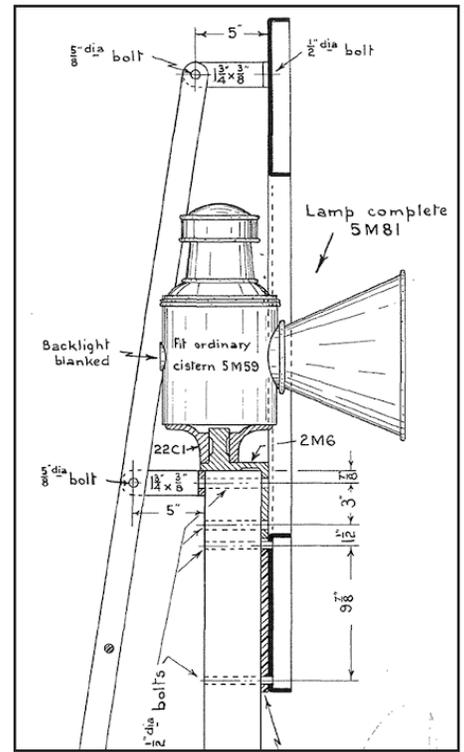
**Figure 15:** Attach the ladder base (3d printed part) to the bottom of the ladder with superglue. Attach the ladder to the ladder bracket. The ladder stiles splay out at the top to join to the upper ladder bracket. Solder in place. Glue the bottom of the ladder to the base.



**Figure 16:** Glue the lamp shroud to the lens of the signal lamp. The 'B' on the front of the shroud should be oriented correctly. Prime and paint white. The lamp and shroud are black, as is the ladder. The bottom 3' of the post is also black.



Details of Brakes Landmark from Signal Branch drawing of the Department of Railways, NSW



Figures 17 and 18 show a preserved Brakes Landmark at the Valley Heights Roundhouse Museum. Although the disc is painted silver, the drawing indicates that it be painted white. The lamp when lit, was a white light.