Assembling Fascia Plates
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1 Introduction

Mike Haasis has made fascia plates that replace existing plates at specific turnout positions. The new plates include illuminated schematic signals where the actual signal lights are not visible to the engineer, or where single aperture spotlight signals are used.

In most instances plates are direct replacements for the original wherein they have the same outline and mounting. The area of the fascia inside the mounting holes must be significantly enlarged to allow passage of the electronics.

The plate uses the existing turnout indicator LED.

Figure 1 depicts the Coleman West plate, which is now installed at LAMRS.

![Figure 1, Coleman West Fascia Plate.](image)

Here, you can see several features:

- Four signals are depicted, but they are sideways. The two on the left control east-bound traffic. Those on the right west-bound traffic.
- Signal bases, indicated by the short vertical line are towards the outsides of the plate.
- Green is on top (or closer to the center here)
- The center hole will accept the existing turnout LED indicator.

2 Fascia Electrical Assembly

The next two pictures show the rear of the assembly next to a flipped version of the Figure 1 so the reader may see the alignment of features.
From the back we see several features:

1. At the top we see two circuit boards. These boards are manufactured by Digitrax (TSMK Terminal Strips) and are purchased in pairs. The leads from the two signals on the left of the board (as seen from the back) connect to one circuit board and leads from the other two go to the other board. It makes no difference to which pair connects to which board, although the actual wiring is different. This will be described later.
2. Mike provides a bracket bonded to the back of the fascia and 2-56 screws for the mounting of the TSMK boards.
3. On the left we see the two single signals. Their LEDs are held in place with Blue Tack. Individual leads (white and yellow) are connected at the very top of the “Coleman 2” LEDs and at the very bottom of the “COLEMAN 1” LEDs. The six other leads—the ANODES—are bussed together.
4. On the right we see six LEDs in a line. Here too the six ANODES are bussed together, but not to the same bus as previously described.
5. The hole in the center has a doughnut of Blue Tack to hold the turnout position LED. This gets squwooshed against the LED cap and against the LED itself (or add some more around the LED) to hold the assembly in place.
6. Some fascia plates will only have two signals; these will only have one TSMK Terminal Strip. Other plates may have more. In general. One strip is used for two signal heads.

2.1 Fascia wiring to Boards

2.1.1 Some rules:
1) Rule 1. LEDs are wired as COMMON ANODE. Figure 4 is a composite pictorial of an LED. The ones I use have an ANODE that is noticeably longer than the cathode. These anodes are bussed together.
2) Rule 2. The TSMK Terminal Strips are wired differently from each other and I wire them somewhat differently from the Digitrax directions. I will provide the formula later.

3) Rule 3. Make sure that the assembly will fit into the fascia hole that you have cut out.

4) Rule 4. Protect the fascia. I would put blue tape around the hole to protect the rest of the fascia. I use a fine jig saw blade that is labeled non-splintering for either side of the work.

5) Rule 5. Use light wire. I use 26 gauge because the tinned leads must fit readily into the screw clamps of the TSMK Terminal Strips. I have also satisfactorily used 22 or 24 gauge wire.

2.1.2 Wiring to TSMK Terminal Strips
The strips are shown a little in more detail in Figure 5.
Although it might not be too clear in the photo, each terminal strip has ten screw connections and a ten-pin plug for the flat cable, which connects to the SE8C board. I will call the location of the flat cable connector as front. The ten-screw connectors are numbered from the back as 1 to 10.

As you see the two left signal heads are wired to the left board although this is not required and this choice is at the discretion of the assembler. However what wires go to which terminal is not at the discretion of the assembler. Table 1 lists which wire goes where. Here, TSMK1 is for the two heads that are mounted to a single pole. TMSK2 is used for the two individual signals.

Table 1, TMSK Pin Utilization.

<table>
<thead>
<tr>
<th>Pin</th>
<th>TSMK 1</th>
<th>TMSK2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Empty</td>
<td>Empty</td>
</tr>
<tr>
<td>2</td>
<td>Lower Green</td>
<td>Siding Green</td>
</tr>
<tr>
<td>3</td>
<td>Lower Yellow</td>
<td>Siding Yellow</td>
</tr>
<tr>
<td>4</td>
<td>Lower Red</td>
<td>Siding Red</td>
</tr>
<tr>
<td>5</td>
<td>Common Anode Bus</td>
<td>Empty</td>
</tr>
<tr>
<td>6</td>
<td>Empty</td>
<td>Empty</td>
</tr>
<tr>
<td>7</td>
<td>Upper Green</td>
<td>Main Green</td>
</tr>
<tr>
<td>8</td>
<td>Upper Yellow</td>
<td>Main Yellow</td>
</tr>
<tr>
<td>9</td>
<td>Upper Red</td>
<td>Main Red</td>
</tr>
<tr>
<td>10</td>
<td>Empty</td>
<td>Common Anode Bus</td>
</tr>
</tbody>
</table>

Note that the brown wire of the flat cable goes nearest the front panel when connecting the flat cable to the ten-pin socket.