

The S-MOD System

BUILDING A PORTABLE CONTROL PANEL for S-MOD RAILCAB LAYOUTS (Part 1)

by Don DeWitt

The S-MOD electrical system is divided into two subsystems called "Wire-to-Rail" and "RailCAB." Before we can consider how to build a control panel for RailCAB modular layouts, you need to review the differences between these two subsystems. This information was printed in the last issue of the DISPATCH (Feb. 1989).

The RailCAB subsystem is a cab-controlled system and has four Track Lines and four Cab Lines running beneath all two-track mainline modules. Single-track modules also have four Cab Lines but only two Track Lines. In the RailCAB subsystem, you have the option of dividing the layout into one or more control blocks. When you do this you need a control panel for every block. You can either build a control panel permanently attached to a module, which then becomes a Permanent Control Module, or you can build a portable control panel that can be connected between any two modules. In the latter case, either or both modules can be considered the Control Module. All modules attached to the Control Module become part of its block if Track and Cab Lines are connected. However, to make a block break between two modules (see Fig. 1), you must:

1. Disconnect only the Track Line connectors (not the Cab Line connectors)
2. Place insulated rail joiners between the bridge rails and the rails of one of the modules in all four mainline rails (if the block break is for both tracks).

In this two-part article we will consider a portable control panel for a two-track mainline layout. The same principles apply to a permanently-attached control panel. The advantage of the portable panel is that it can be used anywhere.

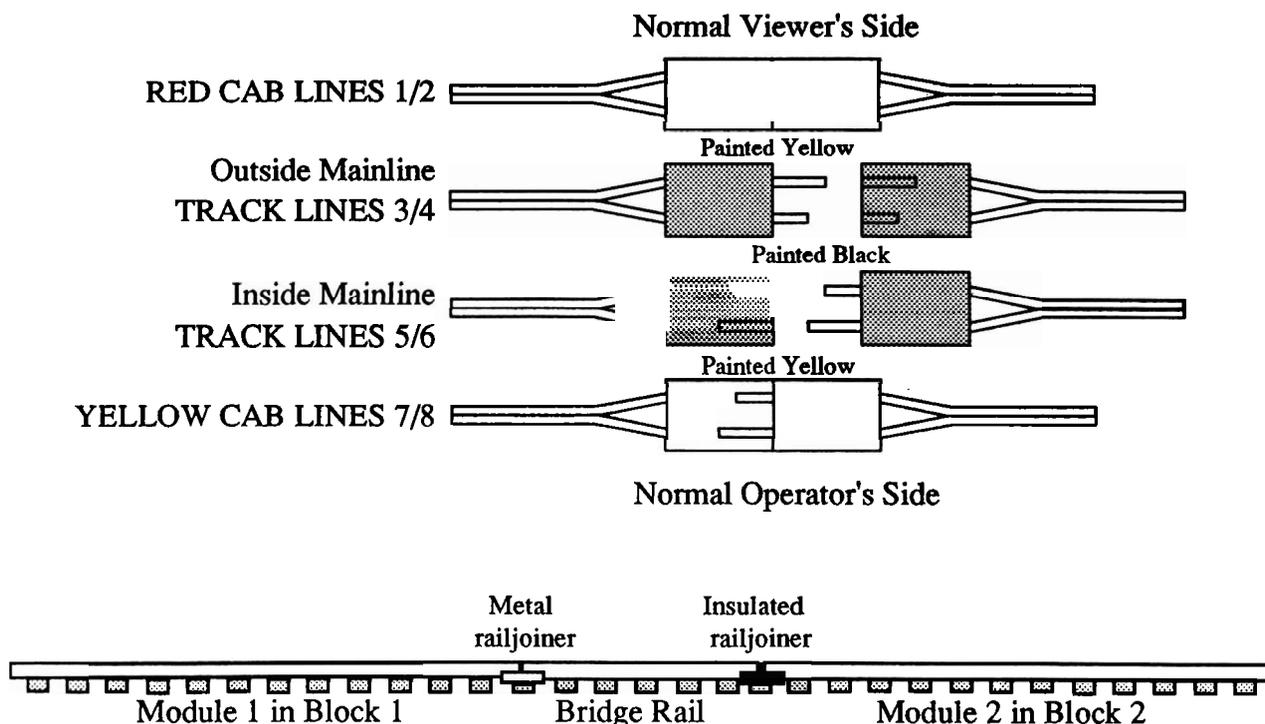
The basic function of the control panel is to accept throttle input running in the two Red Cab Lines (1 and 2) and the two Yellow Cab Lines (7 and 8), and then send the output out to either, both, or none of the mainlines in the block. The usual method is to use rotary switches to assign a Cab to a Track. Thus, one switch is needed for each mainline. An alternative method is to use a double-pole-double-throw (dpdt) center-off switch and another dpdt switch with no center-off position for each mainline.

There are two major components to the portable control panel: The S-MOD Interface and the selector box.

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S-MOD BLOCK BREAK

Figure 1



S-MOD INTERFACE

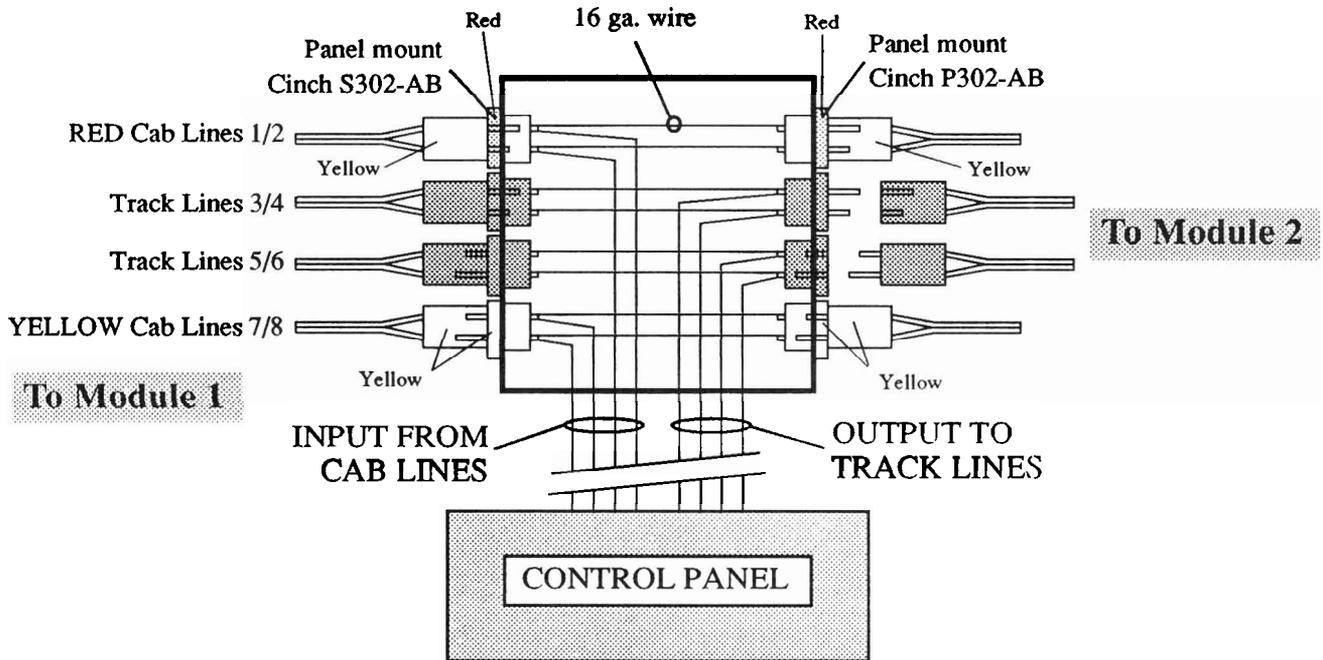
Refer to Fig. 2. In order to place the S-MOD Interface between any two modules, there must be a male and female 2-conductor connector (for example, panel-mount Cinch P302-AB or S-302-AB) for every pair of Track and Cab Lines. I recommend that you build your S-MOD Interface by placing panel-mount male and female connectors on opposite sides of the panel. A box that I have found useful is the blue plastic Radio Shack "Economy Case" #270-

Mainline Rotary Selector output connects to lines 5 and 6 via the OUTPUT lines. AT NO TIME CAN LINES 1 and 2 or 7 and 8 be connected directly to TRACK LINES 3 and 4 or 5 and 6. If this occurs, you will be unable to use the control panel to direct cab control. Finally, IN ALL CASES, 16-gauge flexible wire should be used with the portable control panel.

Note also that a block break can still be made between the modules shown in Fig. 2 by disconnecting the Track

S-MOD CONTROL PANEL INTERFACE

Figure 2



Module 1 is in the control block because Track Lines are connected. Module 2 is in another block because Track Lines are disconnected (and insulated railjoiners are in place at the bridge rails). To include module 2 in the control block, just connect the two Track Lines Connectors and thus bypass the insulated railjoiners.

222 or 270-223. In this way, the S-MOD connectors from adjacent modules can be connected quite easily and the internal wiring is fairly straightforward. In all cases the male and female connectors on each panel face, for each Track or Cab Line, are connected so that Line 1 continues through the box. The same logic applies to each of lines 2 through 8. From lines 1 and 2 (the Red Cab output) and from lines 7 and 8 (the Yellow Cab output), input feeders are also sent to the control panel via the INPUT lines. From the control panel, the Outside Mainline Rotary Selector output connects to lines 3 and 4, and the Inside

Lines and placing insulated rail joiners at the bridge rails. If the Track Line connectors are connected, the insulated rail joiners have no effect. Finally, remember that a block break can be made in one mainline independent of the other mainline by disconnecting the appropriate Track Line connector and adding insulated rail joiners.

In the next installment I will describe the construction of the control panel with the two methods for selecting and assigning cabs to tracks. Later we will cover the testing of single-track modules and control modules.

