NEWSLETTER

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Current Central Station 3 Version – 2.5.2 (6)
Current Central Station 2 Version – 4.3.2 (4)
Current Mobile Station Version – 5.3
Current Wireless MS Version – 5.4.0.21

We are getting ready for Trainfest and cannot wait to see what is in store for us. It should be a great show as usual, and we hope to see many club members and enthusiasts alike.

There was a minor software update to all the controllers, please see updated versions above.

Our first article deals with the simple task of installing Telex couplers on a converted locomotive, and the conversion of a complex layout from a CS2 to a CS3 is nearing completion in the second article.

Telex Coupler Retrofit

We have not talked about Telex couplers much, if at all. While Telex couplers have been around since the 1960's they really have not changed much until after the year 2000. They were just an electro-magnet that was operated by the analog reverse unit at first, then they were activated digitally as a function output of a decoder.

While I have converted many locomotives with factory Telex, I have never retrofitted a locomotive with a Telex coupler until now.

Selecting a Locomotive

The first step would be to select an appropriate locomotive. The factors were that I wanted it to be steam or diesel. An electric locomotive is possible, but I did not want to be forced to install catenary in a shunting yard. The second factor is that it would need to be a small locomotive (shunter). A large diesel or steam locomotive takes up too much room in a yard to efficiently move wagons around.

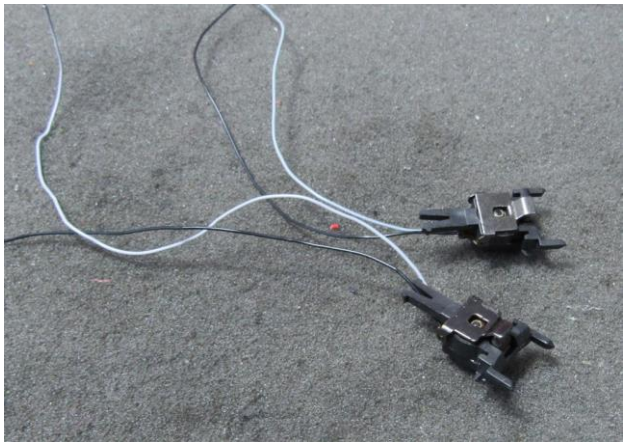

Fig. 1 – Part # E117993 Telex coupler.

Fig. 2 – Marklin 33041 locomotive.

I planned to use Telex couplers (part No. E117993 – Fig. 1) made for NEM pockets, so the last factor was that the locomotive must have NEM pockets on the front and rear.

After scouring my collection, I found a good candidate, a 33041 Class 80 steam locomotive(Fig. 2). This locomotive met all the factors plus it is a nice heavy locomotive.

These couplers come pre-wired and will just pop into a NEM pocket, which turns out to be one of the easiest installations I have ever done, (insert sarcastic #1 comment here).

The Locomotive

I had converted this locomotive years ago with the Marklin 60906 decoder (Fig. 3), so in theory, all I needed to do was wire up the Telex couplers and be done, (insert sarcastic comment #2 here). What could be simpler!

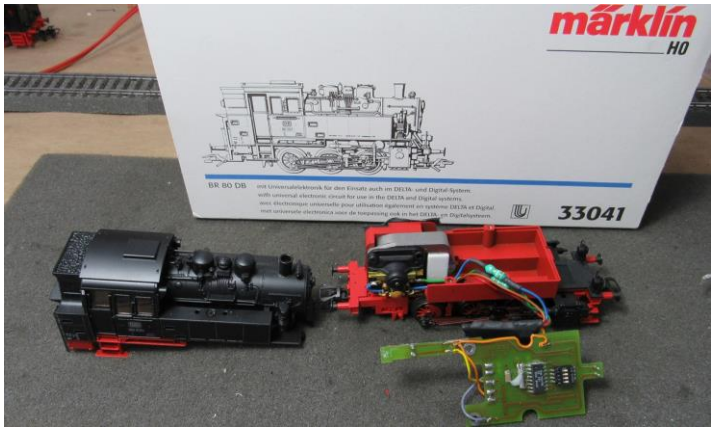

Fig. 3 – Circuit board and 60906 decoder.

Since this locomotive has a specific circuit board in it, and the light sockets are attached to the circuit board, I had originally cut the lighting traces and soldered the decoder wires for the lights to the existing circuit board.
There is plenty of room under the original decoder to mount a modern decoder, so this is not really a problem since I needed the circuit board only for the light sockets.

The problem I faced was that I wanted individual control of the Telex couplers, and the 60906 decoder only has one auxiliary output. This meant both Telex couplers would activate at the same time. So, the simple wiring of the Telex was not going to happen.

Fig. 4 – Decoder and locomotive ready for install.

I decided to convert the locomotive to full MFX. I decided not to put a sound decoder into it since I plan on mostly shunting with it. My first choice was a 60972 21-pin decoder and mounting board. This turned out to be too big for the space under the original circuit board. Since I need that board to hold the light bulbs, I decided to go with the wired version, item number 60983 (Fig. 4).

I started by installing the Telex couplers first and figuring out where to run the wires so they would not be seen. The rear coupler wires were straight forward but the front wires were more of a challenge. I was able to remove the front platform detail and trim it slightly for clearance for the wires (Fig. 5). I cut off the thickness of a wire from the back and beveled the inside corners slightly. This gave me room to run the wires. Once the body is back on, this area cannot be seen.

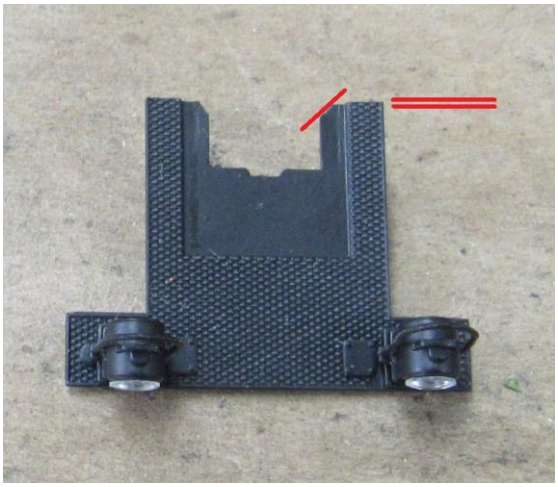
Fig. 5 – Platform trimmed slightly.

Next, I needed to drill a small hole in the front to feed the wires through. This was the only machine work that was necessary, so I just drilled it out with my hand drill. Once the wires were fed through and soldered to the decoder, the platform was re-installed making sure there was some slack in the Telex wires (Fig. 6).

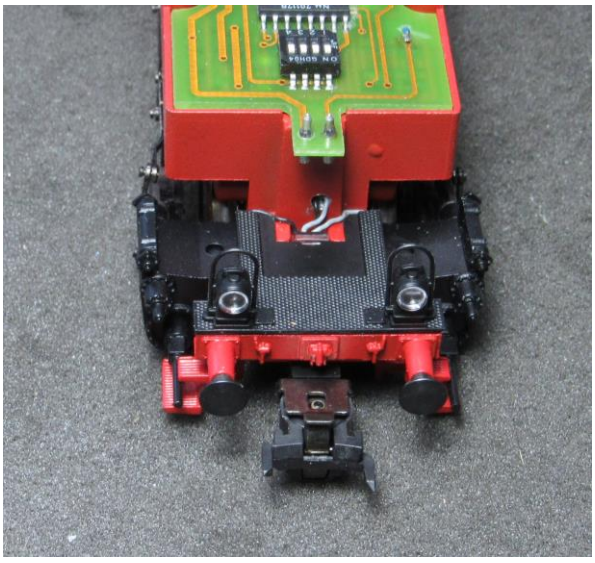
Fig. 6 - Platform installed.

Decoder Programming

I had programmed the decoder before I installed it so once the necessary wires were soldered, I was ready to test it. I thought I would like the Telex coupler to turn off after a certain time so I would not damage the electro-magnetic coil inside the coupler. This meant I needed to edit the decoder profile in the CS3.

I first started by getting into the function mapping and editing the outputs using my CS3. This was a simple matter of setting Auxiliary 1 and 2 to “Telex Coupler(s).” Then I can set the “Period” to the length of time I want the output to stay on. I set it to “100” which corresponds to 5 seconds (Fig. 7). What this means is that I will activate the function. It will operate for 5 seconds, then turn off, so the coil does not heat up, also I cannot mistakenly turn it on and leave it on.

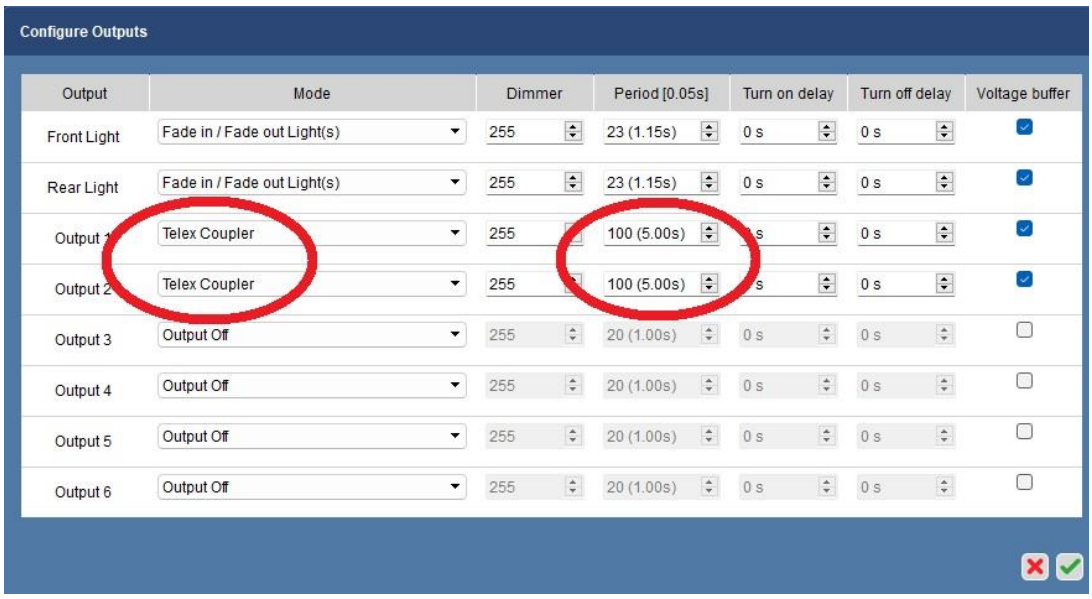

Fig. 7 – Configuration output settings.

Now I could safely operate the Telex without worrying about burning it out. The one thing I did not like was that the function button was set to “Switching Function.” This means that the icon on the CS3 would stay yellow even after the Aux. function timed out (5-seconds).

I set the function button mode for both Telex couplers (aux. 1 and 2), to “Momentary Function.” I was hoping this would turn the icon yellow for the “period” of 5-seconds then turn off, it did not. It was just a “momentary button at that point. What I did next was to change both AUX outputs “Condition” to “NEG. level” (Fig. 8).

This did the trick. Now I push the Telex button and the icon turns yellow. Once I let go of the button, it turns grey again, but the auxiliary output stays on for the period I

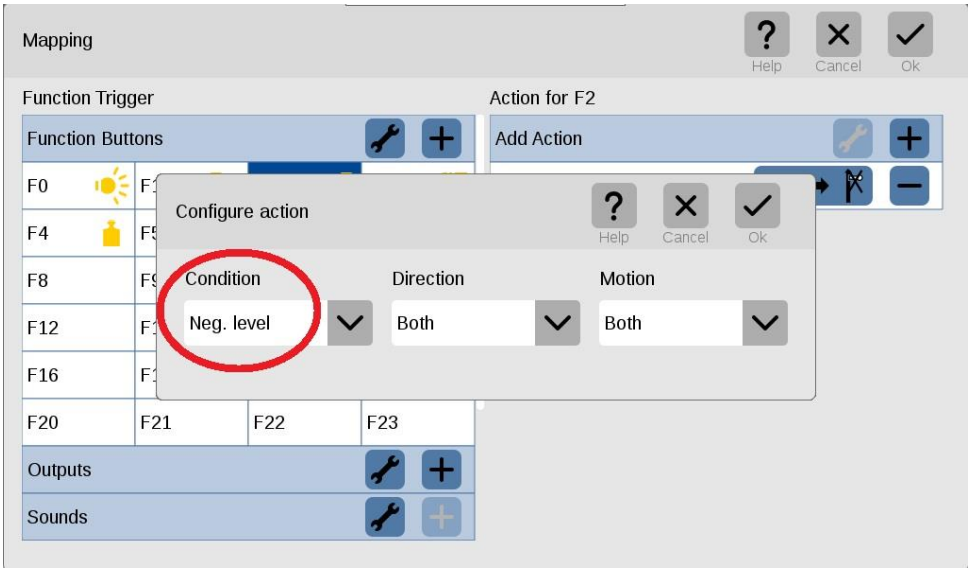

Fig. 8 – Condition “Negative Level”.

set it to (5-seconds). I was hoping the icon would stay yellow while the output is activated, but this will work out nicely this way.

Finally, after installing a new decoder into this locomotive, and wiring the Telex couplers, it is finished (Fig 9). It was basically a simple decoder installation that anybody can do. I hope some try!

The next question is, what to do to this little gem next?

Enjoy Your Hobbies!

Rick Sinclair

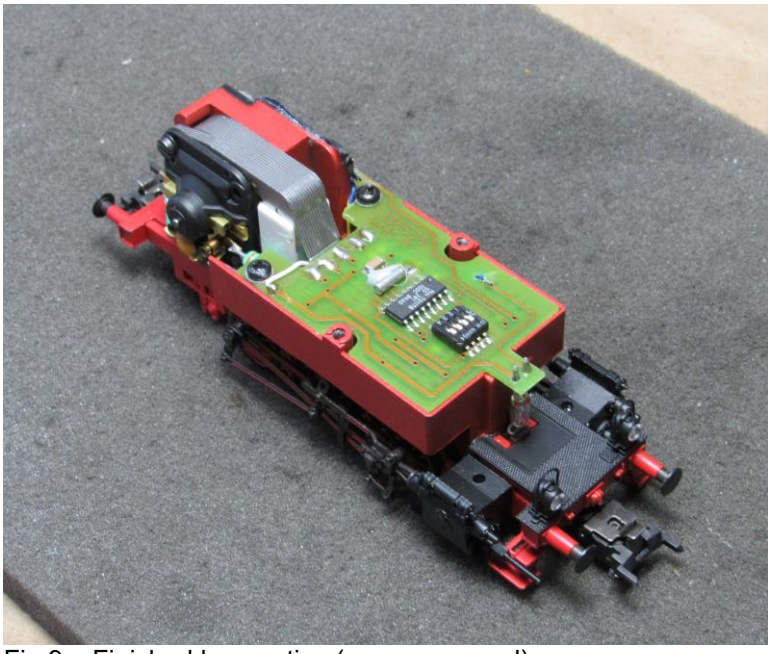

Fig 9 – Finished locomotive (cover removed).

Two Train Single Line Shuttle Rework (Pt. 2)

In the last article (July - August 2025 Vol 37 - No. 4), I completed the entry events at a mid-line depot which configures the 'tracking' control contacts which will be used at the terminal (endpoint) stations. In this article, I will create the events for the terminal stations which will halt, delay and reverse the shuttle trains.

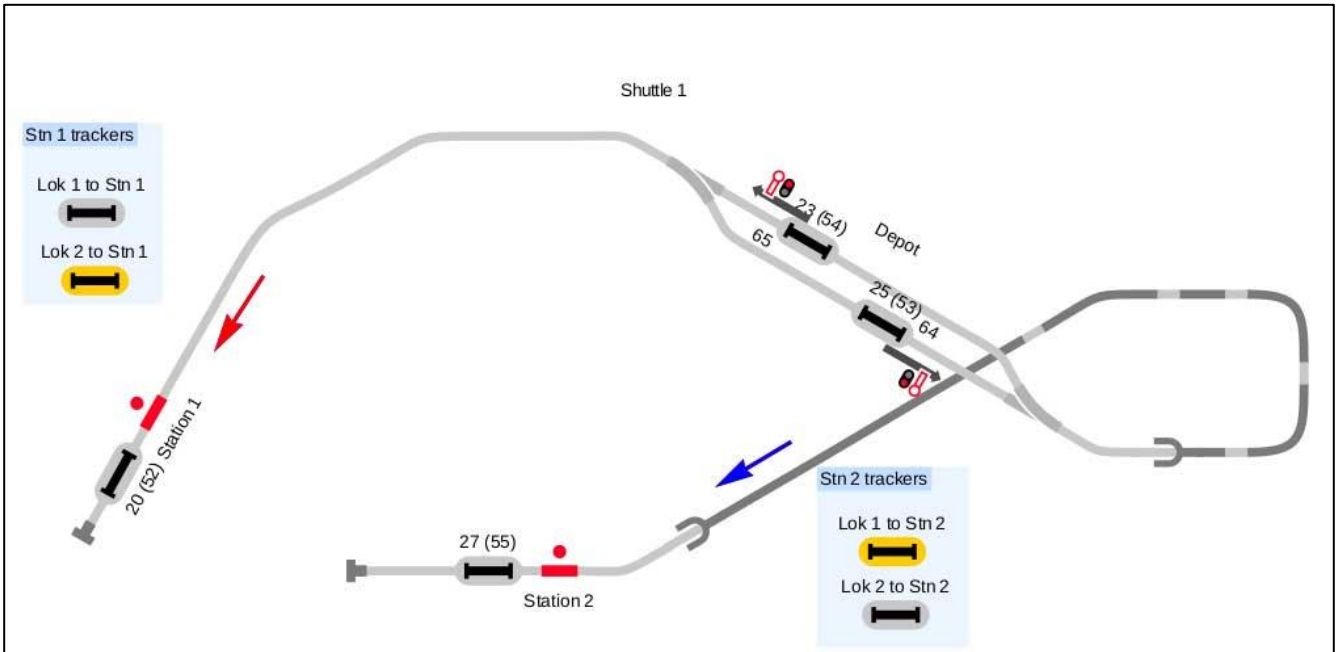

Fig. 1: Shuttle plan with Controlling Contact trackers. Lok 1: blue, Lok 2: red.

When we left off at the last article, Controlling Contacts were created to signal direction/destination of each shuttle train. The Controlling Contacts were set within a nested event, activated when both trains had entered the Middle Depot (aka mid-line depot). At this point both trains will be heading towards their destined endpoints that match the tracker directives. This is shown in Fig. 1. The lok designations are shown in the caption.

First Station Arrival

The first series of events occurs when one of the terminal stations detects a train entry. At this point we cannot determine which train will arrive first due to variables like differing speeds and distance to the terminals. Let's assume that Station 1 will be the first for train entry.

Two events are created for Station 1 that uses contact '20 (52)'. The name of the event indicates one event for each lok that could possibly enter station 1: 'stn1 lok1 stop', 'stn1 lok2 stop'. Fig. 2 shows the two events created.

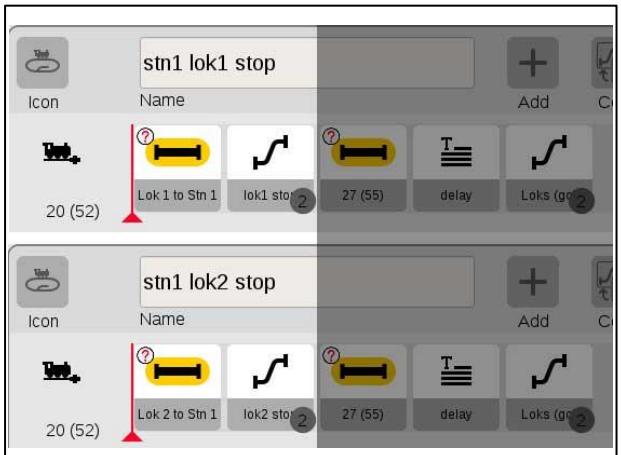

Fig. 2: Entry events for Station 1

Only one of the events will be activated because the first step is to check and compare the tracker in the first action of the event. In this example, by comparing the tracker condition in Fig. 1, only the 'stn1 lok2 stop' event will match and then proceed to the next step ('lok2 stop').

The sequence of events assumes that the opposing station has not yet seen a train arrival. This would be contact '27(55)' and would not be active. Therefore, the rest of the steps in the event would not occur. I have greyed them out for clarity.

Second Station Arrival

The second series of events occurs when the second (or opposing) terminal station detects a train arrival. Events will be triggered by the contact '27 (55)'. Equal to the Station 1 events (displayed in the previous Fig.), two similar events are created for Station 2. I will only display the event 'stn2 lok1 stop' (Fig. 3) because the lok2 is located at Station 1 as dictated by the prior events using contact '20 (52)'.

Here, Lok1 will be stopped at Station 2, when the tracker contact matches the first step displayed in the event line.

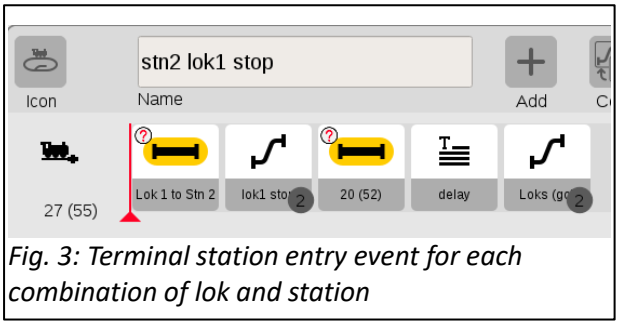

Fig. 3: Terminal station entry event for each combination of lok and station

Proceeding to a Third Action

The third action in the event will evaluate the occupancy of Station 1. Recall that station 1 was the first train arrival, so this step would not have occurred. Now that Lok1 has entered station 2 (and Lok2 is in stop at station 1), the subsequent actions will take place. The actions that take place are a timing delay, followed by a reversing of the train's direction and a speed setting. You can see the nested events in the steps titled, 'delay' and 'Lok (go)'

The delay is created by adding a 'Text' step. Fig. 4 shows where to add a 'Text' step while in the event edit mode. The delay configuration is adjusted by clicking the 'Text' step, which will open the settings. I have changed the default text name to 'delay' for future reference.

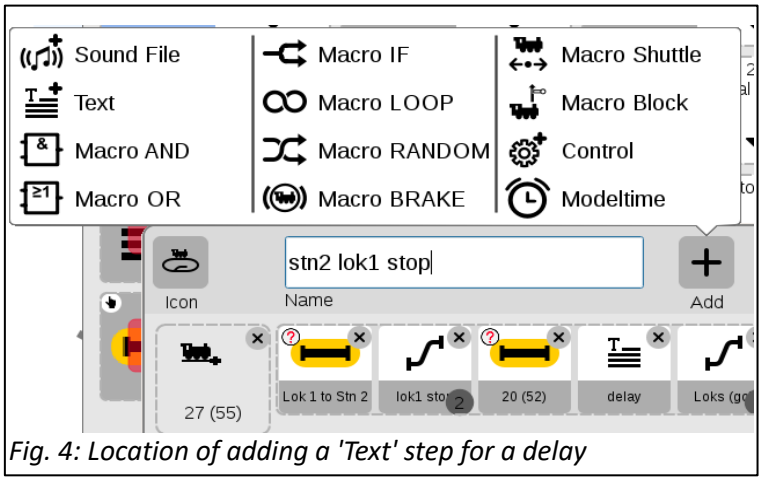

Fig. 4: Location of adding a 'Text' step for a delay

The 'Loks (go)' step is a nested event. You can identify nested events by the unique icon shown in that step. By inspecting the event, which is nested, you will see there is an additional layer of nested events. This level of nesting may not be necessary, but it may result in a more efficient way to identify or group events which may need to be edited.

Fig. 5 shows the three tiers of action steps found in each layer of nested events. When in the editor, if you long press the step, it will open the steps for that nested event. The open tiers are matched to the event step shaded in blue. In the example, 'Loks (go)' contains two events; and the bottom tier shows the steps for the nested event 'lok1 reverse and go'. This is all activated by the trigger '27 (55)' on the top tier.

Departures at Both Stations
The last step in the chain of events is the reverse/departure event for each locomotive. These events were discussed in part 1, but the context in which they were used was not fully laid out.

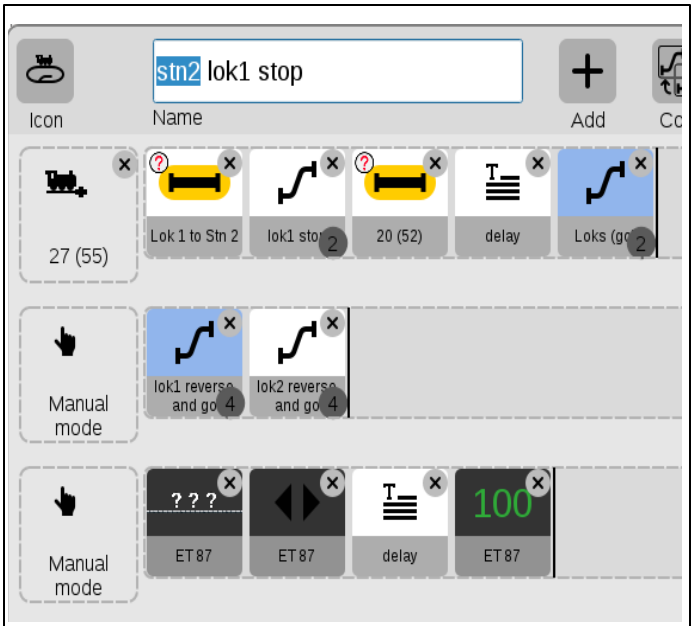

Fig. 5: Tier display of nested events

The first step is to identify the lok that is controlled by this event (lok1). Likewise, there is an almost identical event for lok2.

The second step is an action event that sets the direction of the lok. There are 4 values for this action (Fig. 6). The first two values will do a hard setting of the direction (forward or reverse). The fourth value can be used to set the lok to Stop. This may react differently than setting the speed of the lok to '0'. One may abruptly stop the lok while the other may have a deceleration to '0'.

The third value is the value used in the shuttle. The function of this value is more diverse as it will simply reverse the lok based on its current direction. Ideally suited for a shuttle. Another advantage is that it allows for a more open approach to the lok's facing direction, as it will just reverse itself in any manner.

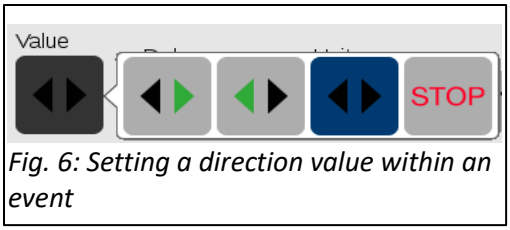

Fig. 6: Setting a direction value within an event

The delay setting (back in Fig. 5) is like the delay shown in Fig. 4 and does not need more explanation. The flexibility of adding a delay here can be if you would like to have additional delay starts for a particular lok. For example, you may wish to have a longer start delay for a steam engine over an electric.

The final step, in Fig. 5, is the speed value of the lok over the shuttle line. This will most likely need adjusting at any time you change loks in the first step.

Notice how the two lower tiers of the nested events are in manual mode. This is part of the structure when using nested events. The top tier is the primary event which is the only event that needs to be triggered (by track contact). The top tier has conditions (all the event contacts with '?') which direct the CS3 to enable the lower tiers.
These are the final steps when creating a Two train single line shuttle. From here on, programming loops in a cycle along with the topics covered in the last article. I would like to note that the instructions here may help understand the complex explanation and similarities of part 1.

Instructions for Future Use
Based on previous experience, this sort of event structure was difficult for the user to put back in operation when used infrequently. Therefore, two sets of instructions were laid out in the track plan boards. One is instructions in changing the loks for use in the shuttle. The other was how to set up

the loks for shuttle operation. This shuttle system cannot be operated by just putting the trains on track. It requires a simple setup to prime the cycle, and it should operate without issue.

The steps for changing out a lok has been roughly covered in these last two issues, and I will not re-write the details here. However, you can review them in the layout screen shown in Fig. 7.

As far as priming the shuttle for operation. The steps are easy:

1. Set the Loks at the midway point between the depot and Stations
   (They should **not** be in the contact area of the stations)
2. Set the lok's directions toward the Stations (End points)
3. Match the trackers lok destination
   (If you set lok1 heading to station1, then you need to make sure the tracker contact matches the destination. This means that both lok1 and lok2 should be set with proper destinations in mind.)

Once set, you can set both loks to speed and the system should operate as coded. If possible, I hope you have a chance to set up a similar shuttle system. The process itself has some programming details that can be used in other functions. Thanks for taking a look!

Curtis Jeung

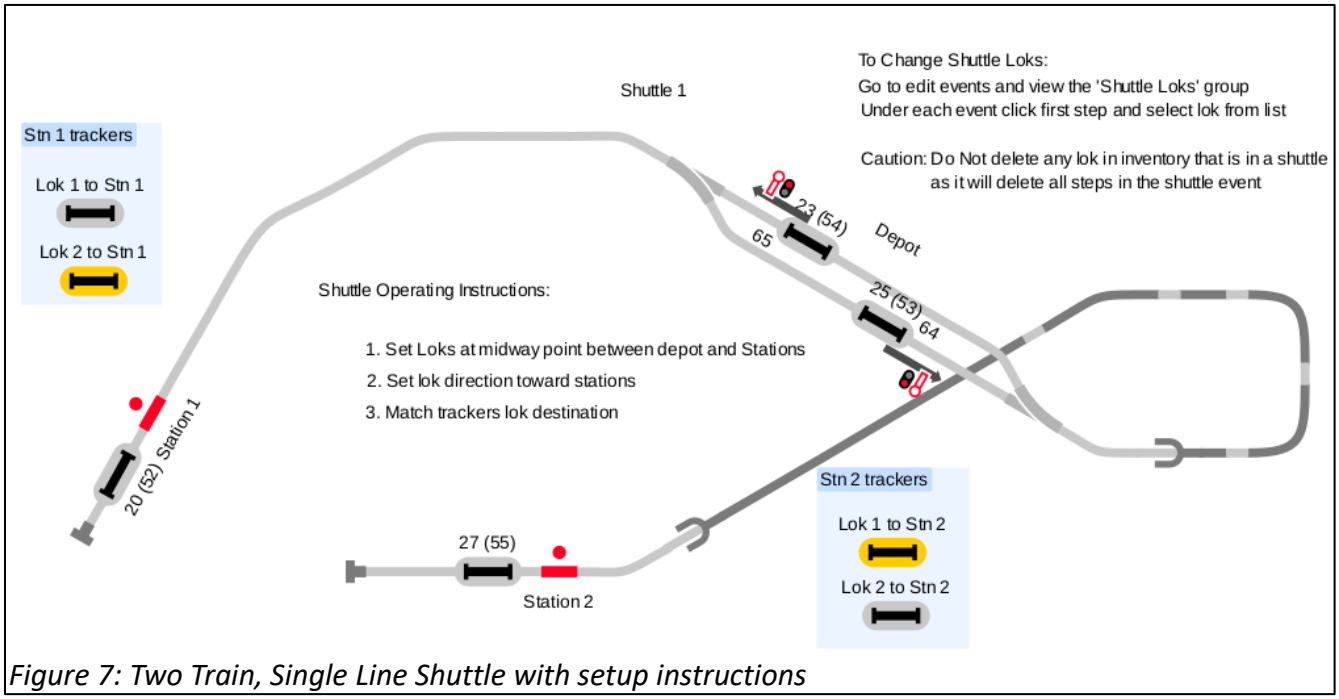

Figure 7: Two Train, Single Line Shuttle with setup instructions

Upcoming appearances:

- **ONLINE Webinar**
  Oct. 8th, 2025

- **Trainfest**
  November 1 and 2, 2025
  Milwaukee WI

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