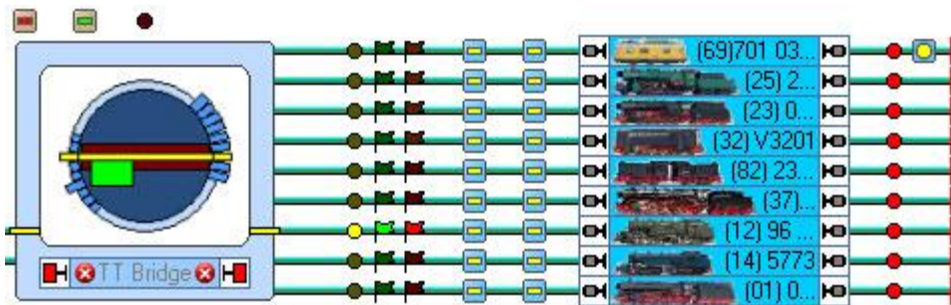


Tip: Bridge Control for the Turntable/Transfer Table using Lock/Unlock Block and Checking of Bridge Location

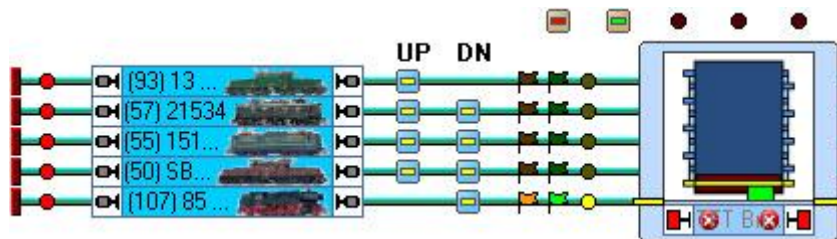
Date: 07-11-2011 Link added 20-05-2013 Bridge Location Check 13-05-2014

Hi All,

This is a document on my improvements to control the entry and exit of my Turntable/Transfer Table Bridges. The problem was, when running schedules using the Turntable/Transfer Table I would get locomotives trying to **enter** or **exit** before the bridge had arrived at the correct stall/spoke track location. The **Turn Time** option in the Properties form for the Turntable/Transfer Table wouldn't cope with my Turntable Bridge moving slower in one direction than the other. This may be a wear and tear issue as I use both the Turntable/Transfer Table a lot. I wanted a precise solution that would work 100% of the time. See links on page 7 as this article relates to the analogue control of my Turntable/Transfer Tables. The bridge location check macro has improved failsafe operation of my Turntable/Transfer Tables.



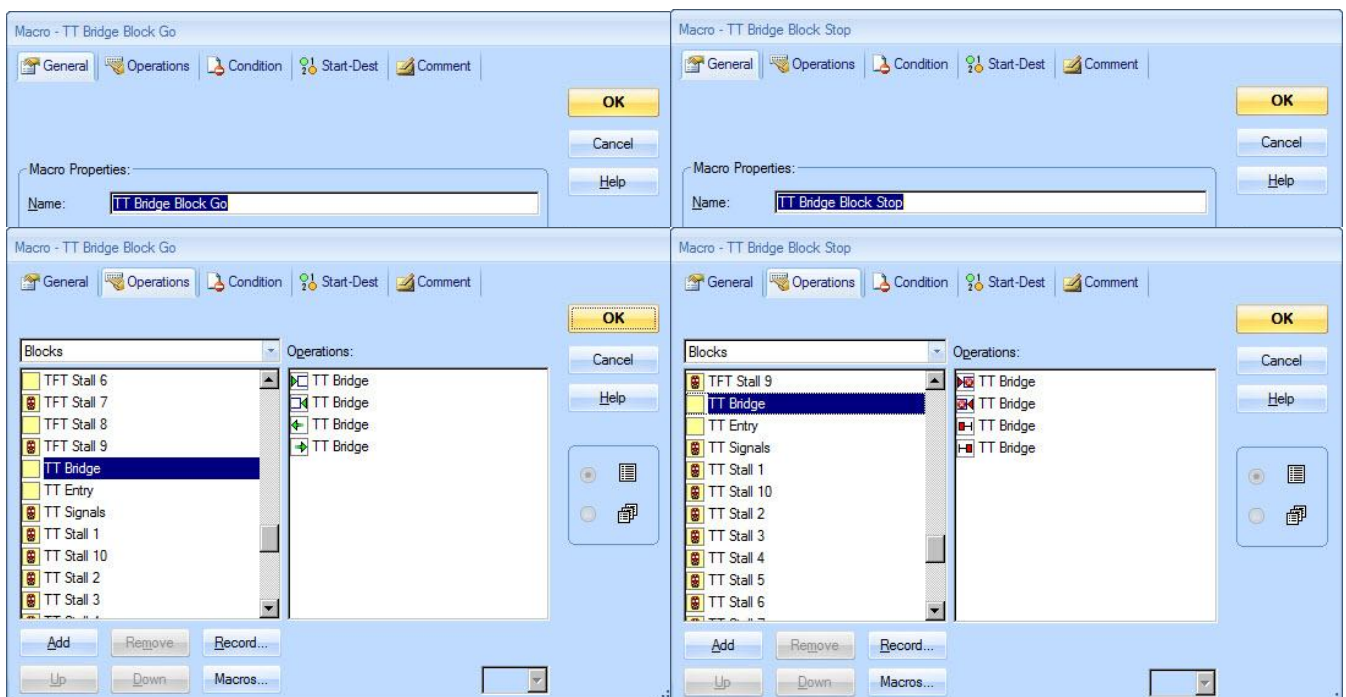
The Turntable showing the bridge entry and exits blocked at both ends of the bridge.



The Transfer Table showing the bridge entry and exits blocked at both ends of the bridge.

Macros Unlocking/Locking Entry and Exit on the Turntable Bridge

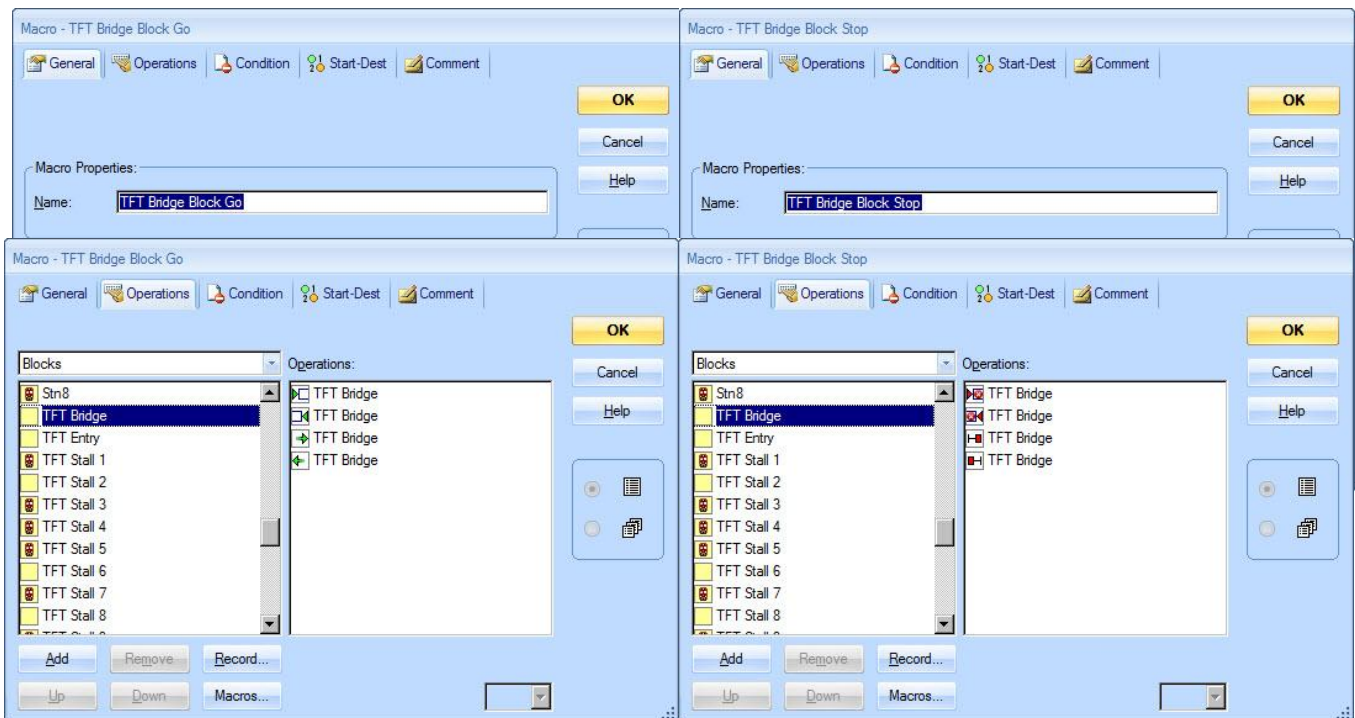
First I created a total of four macros, two for the Turntable bridge block and two for the Transfer Table bridge block to control the entry and exits at both ends of the respective bridge block.



Tip: Bridge Control for the Turntable/Transfer Table using Lock/Unlock Block and Checking of Bridge Location

Date: 07-11-2011 Link added 20-05-2013 Bridge Location Check 13-05-2014

Macros Unlocking/Locking Entry and Exit on the Turntable Bridge continued

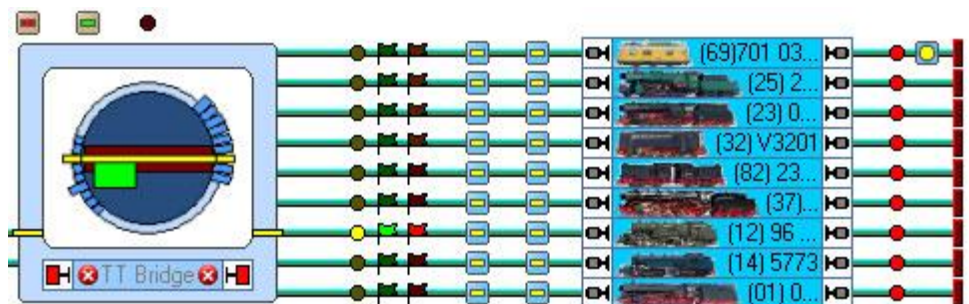


For each of the macros I gave it a meaningful name under the **General Tab** and under the **Operations Tab** I entered the correct block four times and changed them for the correct operation as shown above.

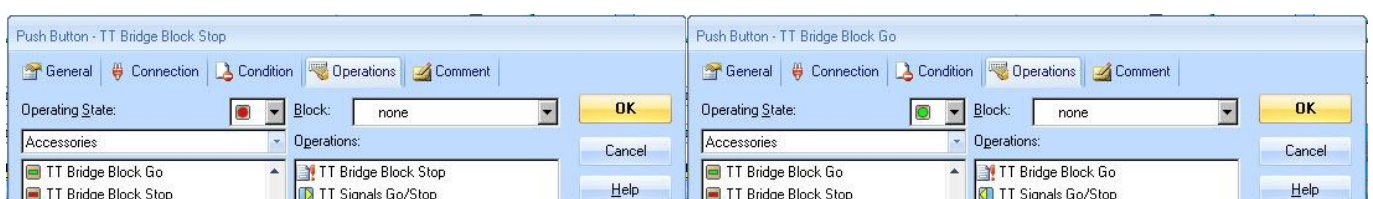
Manual Locking/Unlocking Entry and Exit on the Turntable Bridge

From here on, I will only mention the steps for the Turntable as the same procedure applies for the Transfer Table.

For each of the Stall/Spoke tracks on the Turntable, I monitor the bridge position with an **Indicator** that triggers a **Flagman** when the correct Stall/Spoke track is reached.



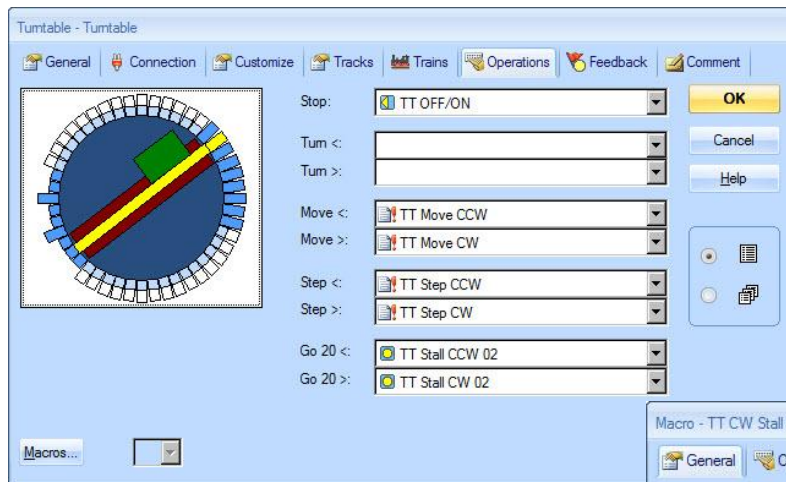
The Pushbuttons above the Turntable symbol allow me to **Lock** or **Unlock** the bridge block manually.



Tip: Bridge Control for the Turntable/Transfer Table using Lock/Unlock Block and Checking of Bridge Location

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Locking Entry and Exit on the Turntable Bridge

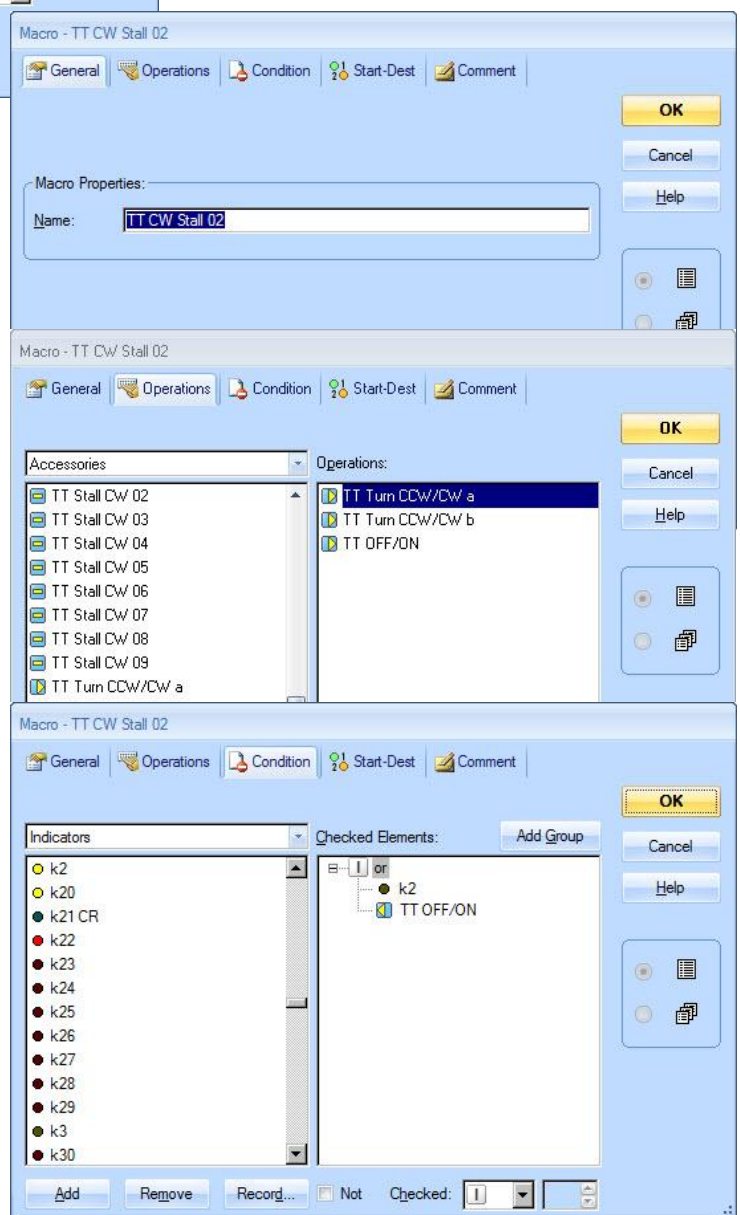


For each Stall/Spoke track position I have two Pushbuttons to control the turntable rotation, one CCW and the other CW.

Associated with each Pushbutton is a macro which has a meaningful name under the **General Tab**

Under the macro **Operations Tab**, existing switch operations are shown for completeness. When the turntable is turned on the bridge entry and exit is blocked. See page 5.

Under the **Conditions Tab** existing conditions are shown for completeness.

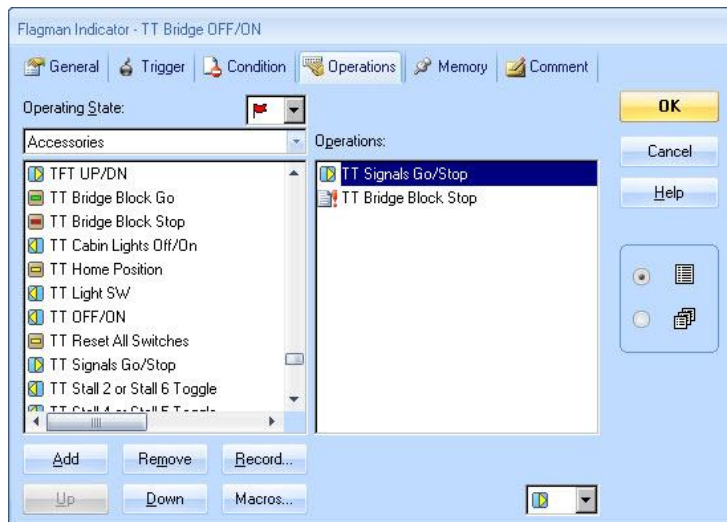
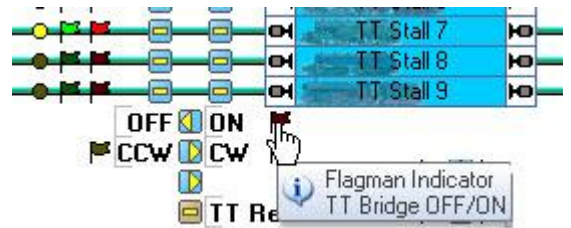


Tip: Bridge Control for the Turntable/Transfer Table using Lock/Unlock Block and Checking of Bridge Location

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Locking Entry and Exit on the Turntable Bridge continued

Every time the turntable is turned on the bridge entry and exit is blocked by the 'TT Bridge Stop' macro (page 2) and is executed when the TT Bridge OFF/ON Flagman indicator is turned on.



In the **Operations Tab** of the Flagman indicator with the **Operating State On**, I switch the signals on the bridge to red flashing lights and execute the 'TT Bridge Block Stop' macro.

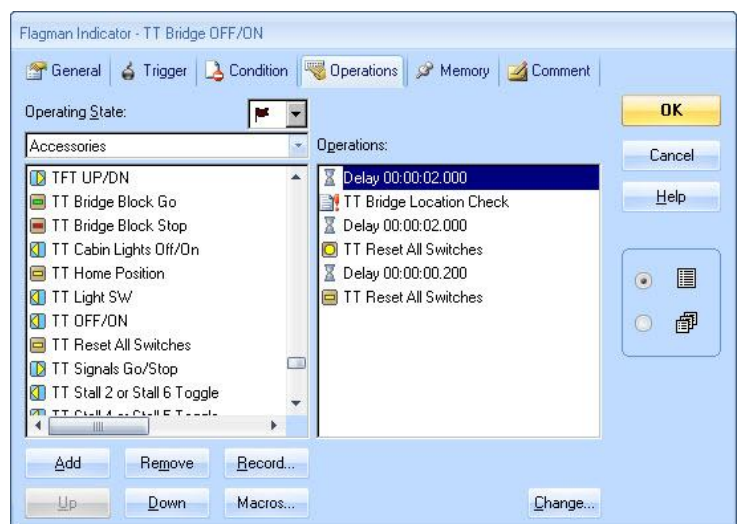
See article "[tt signals cabin lights](#)"

Unlocking Entry and Exit on the Turntable Bridge

In the **Operations Tab** of the Flagman indicator with the **Operating State Off**, I execute the 'TT Bridge Location Check' macro then reset all controlling turntable switches.

With the 'TT Bridge Location Check' macro I make use of the new Prerequisite feature in TC8.0C1 Gold under Control Flow Operations to check that the bridge is at the correct location.

If the bridge arrives at the correct location there is a 2 second delay then the bridge block is unlocked and the signals are set to go.



On a few occasions the turntable bridge overruns the required location because of dirty monitoring contacts or the power supply is a little too high so the bridge runs too fast for the monitoring contacts to react in time. When this happens I have an audible warning as well as a message in the message window to get my attention for some corrective action. The bridge block remains locked so no locomotives can enter or leave the turntable bridge.

Tip: Bridge Control for the Turntable/Transfer Table using Lock/Unlock Block and Checking of Bridge Location

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Turntable Bridge Location Check Macro

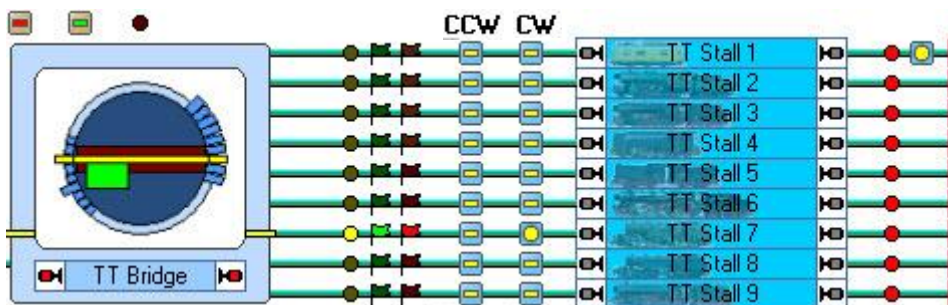
Prerequisite On-Off Switch 'TT Stall CW 01'	Prerequisite Flagman Indicator 'TT arrived Stall 4'
Goto TT1	Goto End1
Prerequisite On-Off Switch 'TT Stall CCW 01'	Goto End2
Goto TT1	Label TT5
Prerequisite On-Off Switch 'TT Stall CW 02'	Delay 00:00:02.000
Goto TT2	Prerequisite Flagman Indicator 'TT arrived Stall 5'
Prerequisite On-Off Switch 'TT Stall CCW 02'	Goto End1
Goto TT2	Goto End2
Prerequisite On-Off Switch 'TT Stall CW 03'	Label TT6
Goto TT3	Delay 00:00:02.000
Prerequisite On-Off Switch 'TT Stall CCW 03'	Prerequisite Flagman Indicator 'TT arrived Stall 6'
Goto TT3	Goto End1
Prerequisite On-Off Switch 'TT Stall CW 04'	Goto End2
Goto TT4	Label TT7
Prerequisite On-Off Switch 'TT Stall CCW 04'	Delay 00:00:02.000
Goto TT4	Prerequisite Flagman Indicator 'TT arrived Stall 7'
Prerequisite On-Off Switch 'TT Stall CW 05'	Goto End1
Goto TT5	Goto End2
Prerequisite On-Off Switch 'TT Stall CCW 05'	Label TT8
Goto TT5	Delay 00:00:02.000
Prerequisite On-Off Switch 'TT Stall CW 06'	Prerequisite Flagman Indicator 'TT arrived Stall 8'
Goto TT6	Goto End1
Prerequisite On-Off Switch 'TT Stall CCW 06'	Goto End2
Goto TT6	Label TT9
Prerequisite On-Off Switch 'TT Stall CW 07'	Delay 00:00:02.000
Goto TT7	Prerequisite Flagman Indicator 'TT arrived Stall 9'
Prerequisite On-Off Switch 'TT Stall CCW 07'	Goto End1
Goto TT7	Goto End2
Prerequisite On-Off Switch 'TT Stall CW 08'	Label End1:
Goto TT8	Message "TT Bridge Correct Position"
Prerequisite On-Off Switch 'TT Stall CCW 08'	TT Bridge
Goto TT8	TT Bridge
Prerequisite On-Off Switch 'TT Stall CW 09'	TT Bridge
Goto TT9	TT Bridge
Prerequisite On-Off Switch 'TT Stall CCW 09'	TT Bridge
Goto TT9	TT Bridge
Label TT1	TT Signals Go/Stop
Delay 00:00:02.000	Goto Exit
Prerequisite Flagman Indicator 'TT arrived Stall 1'	Label End2:
Goto End1	Message "TT Warning Bridge Overrun"
Goto End2	Sound File E:\Ross\ Documents\Railroad & Co\Sound Files\rms_sounds\tt_warning.wav
Label TT2	Beep
Delay 00:00:02.000	Label Exit:
Prerequisite Flagman Indicator 'TT arrived Stall 2'	
Goto End1	
Goto End2	
Label TT3	
Delay 00:00:02.000	
Prerequisite Flagman Indicator 'TT arrived Stall 3'	
Goto End1	
Goto End2	
Label TT4	
Delay 00:00:02.000	

See page 7 for further explanation.

Tip: Bridge Control for the Turntable/Transfer Table using Lock/Unlock Block and Checking of Bridge Location

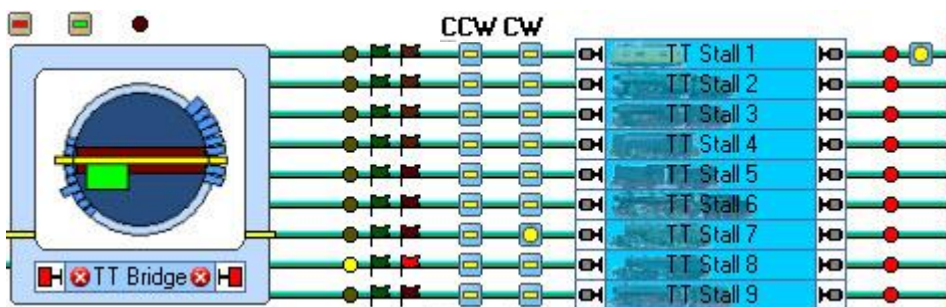
Date: 07-11-2011 Link added 20-05-2013 Bridge Location Check 13-05-2014

Turntable Bridge Location Correct

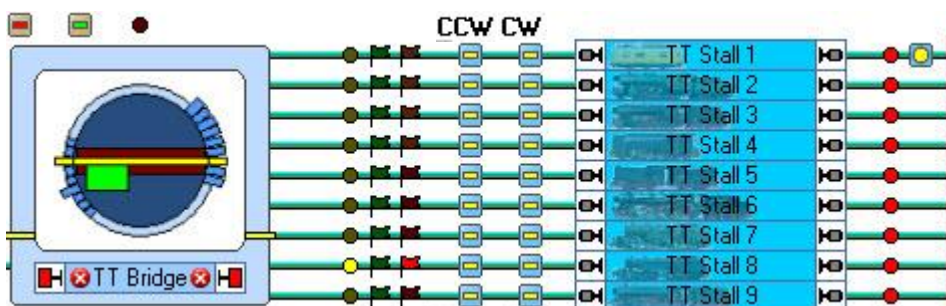


The 'TT Bridge Location Check' macro sees the green Flagman and the CW switch for Stall 7 as true and after 2 seconds the turntable bridge block is unlocked.

Turntable Bridge Location Corrective Action Required



The 'TT Bridge Location Check' macro sees the CW switch for Stall 7 as true but no green Flagman is on because the turntable bridge has overrun the required location so the macro issues an audible warning and the turntable bridge remains locked.



TrainController sees the turntable bridge location as correct because the indicator for Stall 7 will have turned on briefly before it stopped at Stall 8. TrainController turns off the CCW switch for Stall 7 when it passed the Stall 7 indicator.

To correct the physical bridge location I just click the CCW switch for Stall 7. The turntable bridge will move CCW to Stall 7 and as all conditions have been met (see Turntable Bridge Location Correct). The turntable bridge block will unlock and the schedule controlling the locomotive will continue.

Note:- This is the only time I use the CCW/CW switches to control my turntable or the UP/DN switches to control the transfer table. All manual control of the turntable or transfer table is down by clicking on the respective TrainController symbols in the switchboard.

Tip: Bridge Control for the Turntable/Transfer Table using Lock/Unlock Block and Checking of Bridge Location

Date: 07-11-2011 Link added 20-05-2013 Bridge Location Check 13-05-2014

Turntable Bridge Location Check Macro Explained

Prerequisite On-Off Switch 'TT Stall CW 07'
Goto TT7

Label TT7
Delay 00:00:02.000
Prerequisite Flagman Indicator 'TT arrived Stall 7'
Goto End1
Goto End2

Label End1:
Message "TT Bridge Correct Position"

TT Bridge
TT Bridge
TT Bridge
TT Bridge
TT Signals Go/Stop
Goto Exit

Label End2:
Message "TT Warning Bridge Overrun"
Sound File E:\Ross' Documents\Railroad & Co\Sound Files\rms_sounds\tt_warning.wav
Beep
Label Exit

When the turntable bridge stops I check which switch was used before the switch is turned off. I then Goto label TT7

At label TT7 I wait 2 seconds then check the Flagman indicator 'TT arrived Stall 7' If it is true (on) Goto label End1. Else, Goto label End2.

Label End1: Sends a message to the message window and unlocks the turntable bridge, turns the TT signals to 'Go' and then exits the bridge location check macro.

Label End2: Sends a message to the message window and an audible message is played, the turntable bridge remains locked and then exits the bridge location check macro.

 Play sound

Links to other documents

This document is an enhancement to how I control my turntable and transfer table and should be used in conjunction with the “7686 Turntable Analog Control” document below.

[“7686 Turntable Analog Control”](#) and [“7686 Turntable Programming”](#)

Operating the Turntable/Transfer Table within Schedules

Any schedule that requires the use of the Turntable or Transfer Table now works 100% of the time. This overcomes issues such as power fluctuations, temperature, lubrication, wear and tear which can all affect the operating time of the Bridge movement, making the Turntable “Turn Time” less important.

Using the great addition of the bridge location check macro I can now recover from a turntable/transfer bridge location overrun with ease and the schedules will continue in a seamless fashion.

As always enjoy your model trains.