

## Two train REVERSING LOOPS with a passing siding, Limited Time Both Running. Using Spring-Return or powered turnouts

### Description:

This track configuration allows two trains to be run in a very realistic manner. Each of the trains will gracefully slow-down and pause until the other train passes by in the opposite direction. After this train has passed by and has entered the loop the waiting train is now ready to gracefully accelerate on to the main line.

### Operation:

Two trains will alternate running in a reversing loop. One of the trains will slow down and stop in the upper siding. The other train will then pass by this stopped train without stopping and enter the reversing loop. After this train has traveled a distance through the loop and reversed the main line direction the stopped train will slowly begin to accelerate. Both trains will now briefly run on the layout at the same time. Shortly, the train that “passed by” will enter the upper siding, slow down, and then stop. The train that previously accelerated out of the upper siding will then go around the other loop, return and pass-by the newly stopped train. This hookup uses only one YardMaster which has some conditions that the standard “Two Train Reversing Loop” does not. That hookup uses 2 YardMasters and allows both trains to run in the loops at the same time. This hookup is easier but limits the time that both trains can run at the same time.

This hookup requires the loops and siding to be in a configuration such that the following conditions always occur. (see next page)

1. After passing over the “GO” sensor the accelerating train must exit the siding before the following train enters the siding.
2. A train must be in the siding and clear of switch 3 before the SWITCH RED sensor

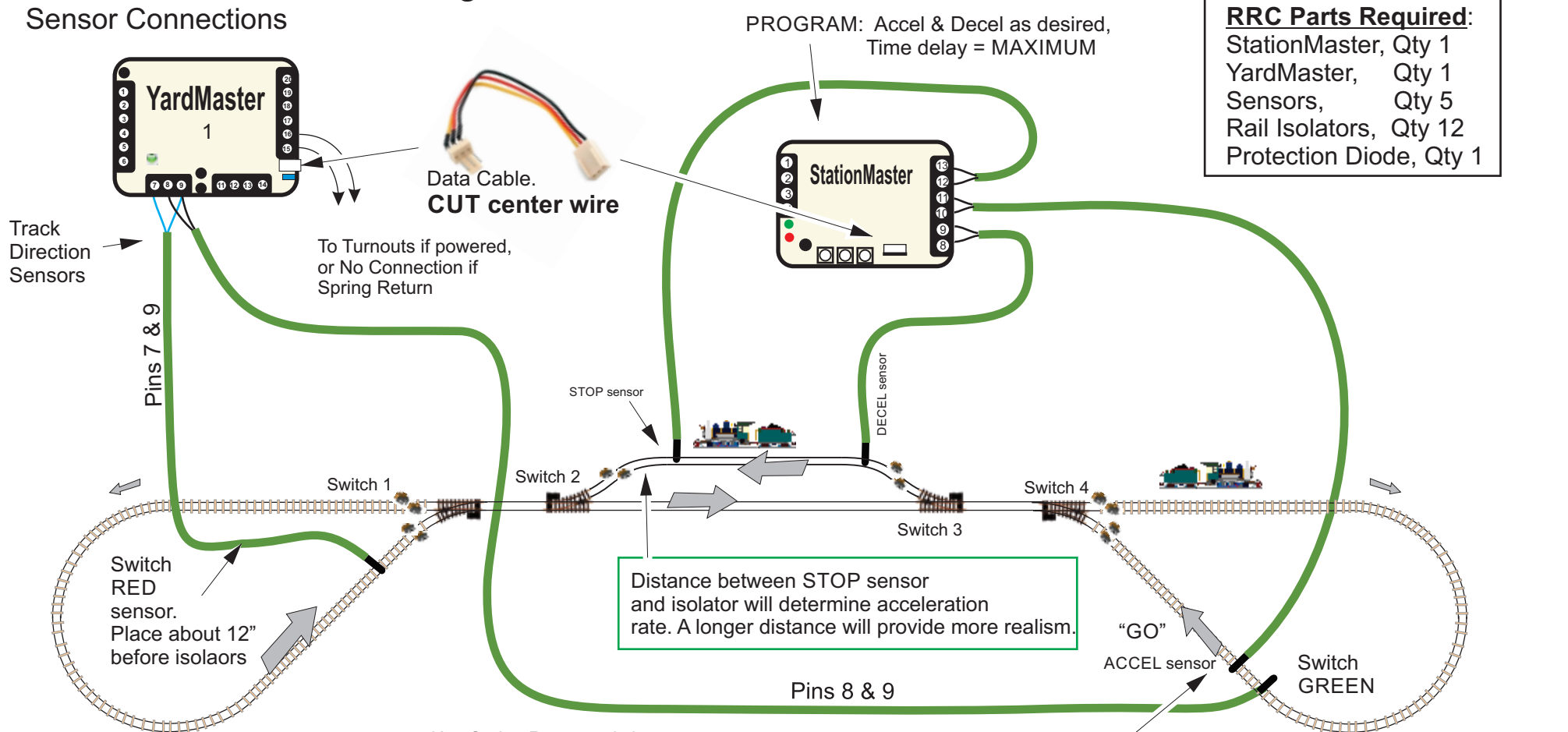
### Hookup:

In this track configuration, both of the loops are “hard wired” so that the train will always travel in the direction as shown by the arrows. The center section “main line” is controlled by a **YardMaster** which changes the track polarity when the trains enter the loops.

The ACCEL “GO” sensor signals the StationMaster to begin accelerating the parked train. Notice that the ACCEL sensor can be placed anywhere within the right loop such that the accelerating train has enough time to exit the siding before the next train enters the siding. If the loop is a very long distance from the siding it is possible to place this sensor on the main line reversing track if it is offset so that it will be triggered while the train travels TO the siding and not away from the siding. Offset both the magnet and sensor as necessary if the sensor is on the main line and not in the loop.

DECEL and STOP sensors are present in the siding to begin the deceleration and stop the train. The self-adjusting deceleration cannot be used for this hookup since another train will be traveling which requires synchronization. Set the deceleration rate such that the train always reaches the STOP sensor, but not too abruptly.

# Reversing loops with a Passing Siding, Limited Time Both Running Sensor Connections



Use Spring Return switches  
 OR

Connect all 4 switches in parallel to YardMaster terminals 15 & 16.  
 When YardMaster is RED:  
 Switch 1 should go to CURVE,  
 Switch 2 should go to STRAIGHT  
 Switch 3 to STRAIGHT  
 Switch 4 to STRAIGHT  
 Swap wires in turnout motors as necessary to make this happen.  
 Push YardMaster RED/GREEN buttons to manually throw turnouts.  
 Note: Power supply must have at least 5 AMPS to power all turnouts simultaneously.

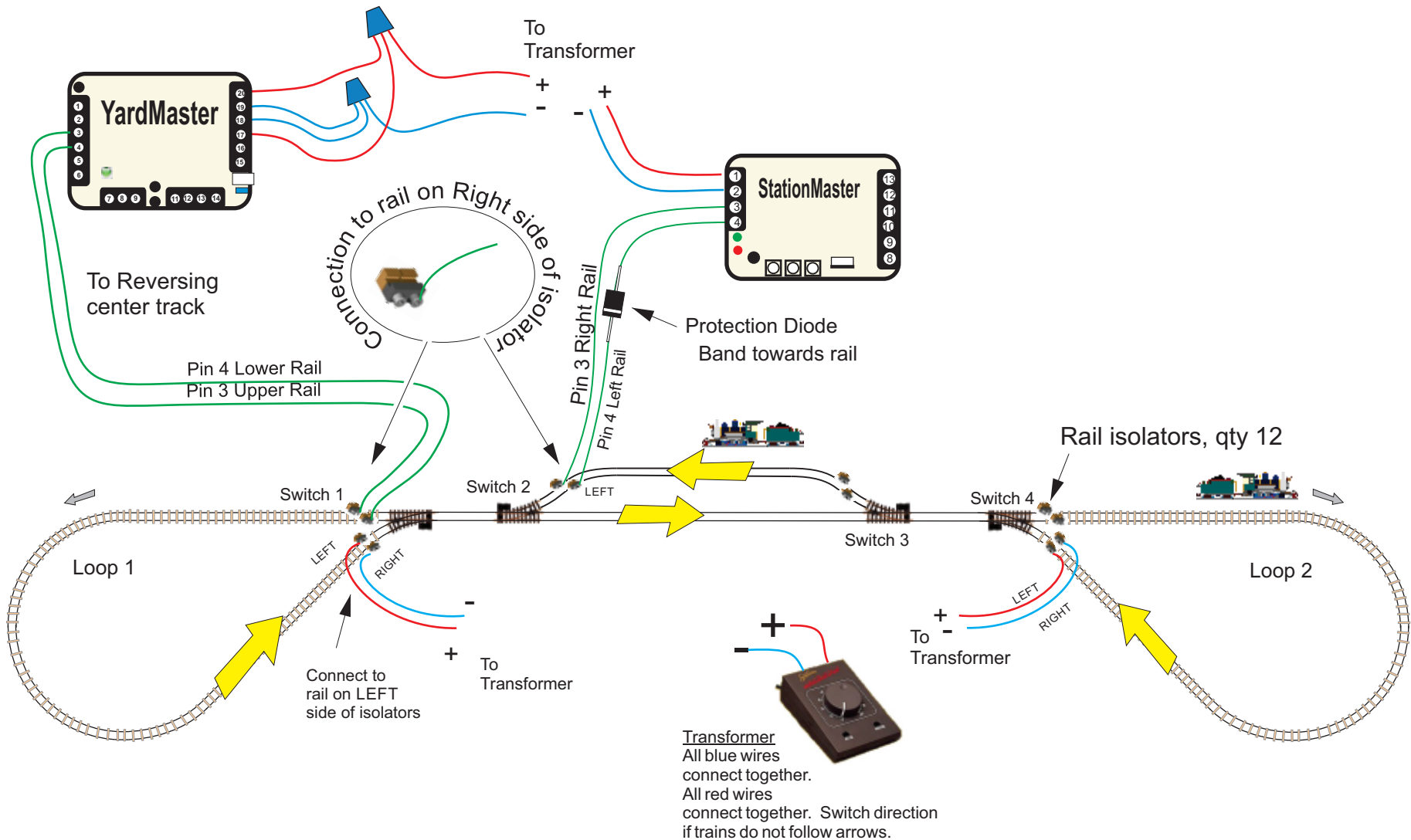
"GO" sensor can be placed anywhere in the loop after the YardMaster sensor to release the parked train however this train must travel to the parking siding and be clear of Switch 3 before the released train reaches the YardMaster sensor and changes the track direction.

Entire train must be clear of the switch before reaching sensors.

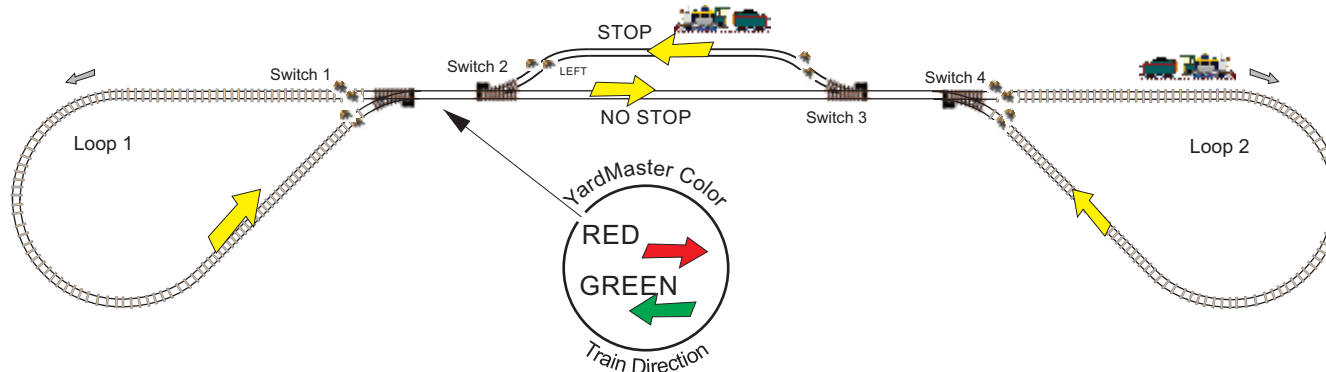


# Reversing loops with a Passing Siding, Limited Time Both Running

## Track Connections



# Reversing loops with a Passing Siding, Limited Time both Running



## Functional checkout *before running the first train*

1. Power up the transformer and set for top running speed, If StationMaster does not light up then reverse the direction on transformer.
2. **Test fixed direction LOOP track sections.** With a very small engine or meter verify that the engine runs in the direction as shown by the arrows, with the LEFT rail positive and the RIGHT rail negative. Test Loop 1 and Loop 2. The actual directions can go either way however the turnouts must be set accordingly.
3. **(POWERED TURNOUTS ONLY) Test all turnouts throw to proper orientations.** Press the GO RED button on the YardMaster and verify that Switch 1 goes to curve and all others go to straight. Green should switch the opposite. Swap wires in the turnouts as necessary to make this happen.
4. **Test the reversing section.** When the YardMaster displays RED the small testing engine should travel to loop 2, and the LEFT rail should be POSITIVE voltage. Switch the YardMaster to GREEN and verify the direction is reversed, traveling towards Switch 1.
5. **Test YardMaster sensors.** With the screwdriver/magnet tool verify the sensor in Loop 1 causes the YardMaster to switch RED, and the sensor loop 2 causes the YardMaster to switch GREEN.
6. **Test StationMaster.** With the screwdriver/magnet tool trigger the DECEL.. Verify the StationMaster blinks RED. Trigger the STOP sensor and verify the StationMaster enters a slow blinking RED state. Trigger the ACCEL sensor in Loop 2 and verify the StationMaster blinks GREEN and eventually displays solid GREEN.

## READY FOR TRAINS!!

Power down, place one train in loop 2 *before* the sensors then power up. The train should travel around loop 2, enter the stopping siding and then stop on the STOP sensor.

Pass a magnet over the GO sensor. The train should accelerate out, go around loop 1, pass by on the main line, enter loop 2 and then go back into the parking siding.

Once this is working place a second train in one of the loops *before* the sensors and power up. All should be operating as described.

It will be possible to power down and up and continue running with no intervention as long as the trains are not manually moved. The StationMaster and YardMasters will remember their states.

When starting up again from an unknown state put one train in a loop before the sensors and let that train park. Next power down and add the second train in a loop before the sensors. When powered up it will be running automatically.