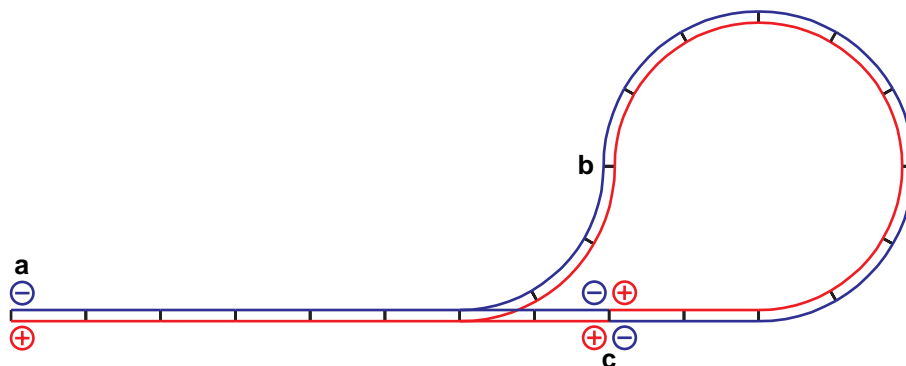


Reversing Loop Solutions

Reversing loops offer operating advantages and electrical problems. Those problems can be solved with EPL system circuits.



Unfortunately, reversing loops create electrical problems because the reversed rails cause short circuits. You can see this if you trace the rails of the layout here. Start your finger on the negative (-) rail at Point A. Follow the rail through the switch to Point B until you reach Point C...where you run directly into the positive (+) rail. Now you have a short circuit!

So why use reversing loops? They offer many advantages for realistic and convenient train operation. For example, two reversing loops combined offer continuous operation with a single track connecting the loops. You get the flexibility of a point-to-point layout with the ease of an oval layout.

The EPL system can be used in many different ways to solve the electrical problems caused by reversing loops. In the next three circuits we will show you some of the best solutions.



Circuit 8: Manual K/T Reversing Loop

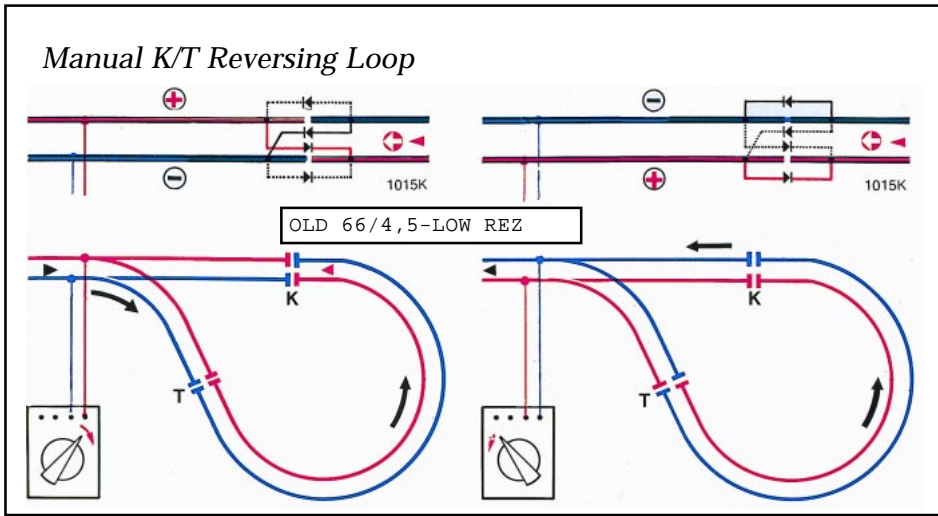
The 10151 Reverse Loop Track Set may be the most ingenious item in the entire EPL system. The 10151 set makes it possible to wire a simple reversing loop without any wire at all.

This special set includes two 150 mm straight sections, commonly known as the "1015T" and the "1015K" because of their old names in the pre-1993 LGB numbering system.

The 1015T is a standard 10152 Insulated Track Section. The 1015K, however, is special. Under the center cover of the 1015K, you will find four diodes on a circuit board. These diodes ensure that the track polarity between the 1015T and 1015K is always the same, no matter what the polarity is outside the T/K section.

Because of this, trains can only travel one direction between the 1015T and 1015K, that is, from the "T" to the "K." That direction is indicated by a large arrow on the cover of the 1015K.

Typically, the 1015T is installed just beyond the entrance of a reversing loop. The 1015K is installed near the exit of the loop, with the arrow pointed at the exit.



How does it work? Follow the arrows, like a train, through the loop. A train enters the loop and passes over the 1015T. Before the train reaches the 1015K, you manually reverse the throttle.

The track power polarity outside of the reversing loop will change, but because of the diodes in the 1015K, the track power polarity inside the loop will not change. The train will continue traveling in the same direction through the loop, over

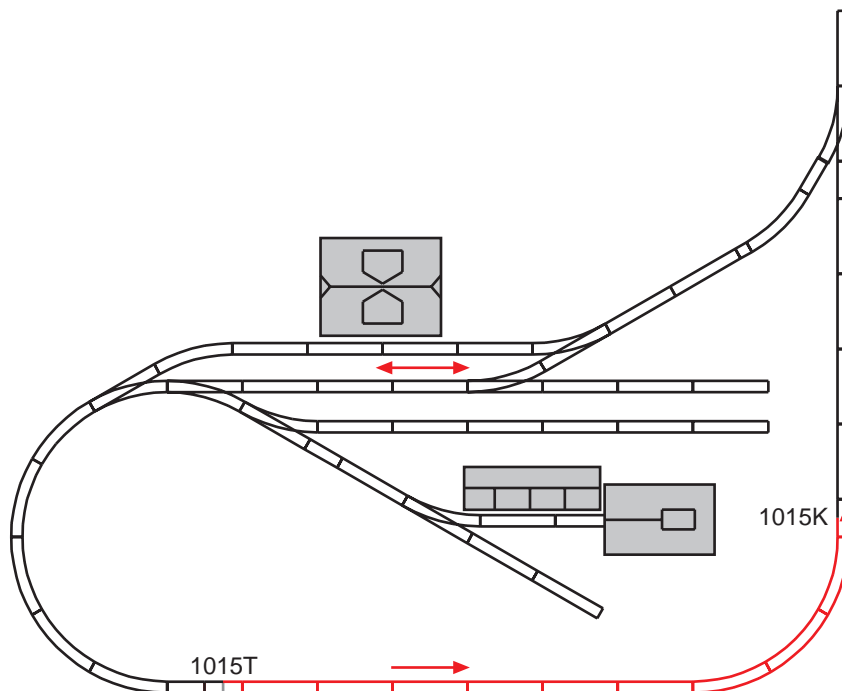
the 1015K and onto the rest of the layout. The reversing loop problem has been solved.

Problems? Some trains, especially lighter trains, may shudder during a quick throttle change. That problem can be addressed by hiding the change point (e.g., with a tunnel) or by installing a stopping point (e.g. a road crossing) where the change can be made as part of a natural railroad operation.

Also, trains operating between the 1015T and 1015K can only move in one direction. So stations and sidings should usually be located outside of the T/K controlled area, as in this example of a large reversing loop with a station and switching yard.

Hint: Remember the rule concerning "electrical length" (see Page 109). For any circuit with an isolated track block to work properly, your trains must be electrically shorter than the length of the isolated track block. When you design a K/T circuit, make sure the distance between the 1015T and 1015K is long enough for your trains.

Also remember that metal wheels can bridge the insulated rail gaps and cause a short circuit, whether they are wired for electrical pickup or not.



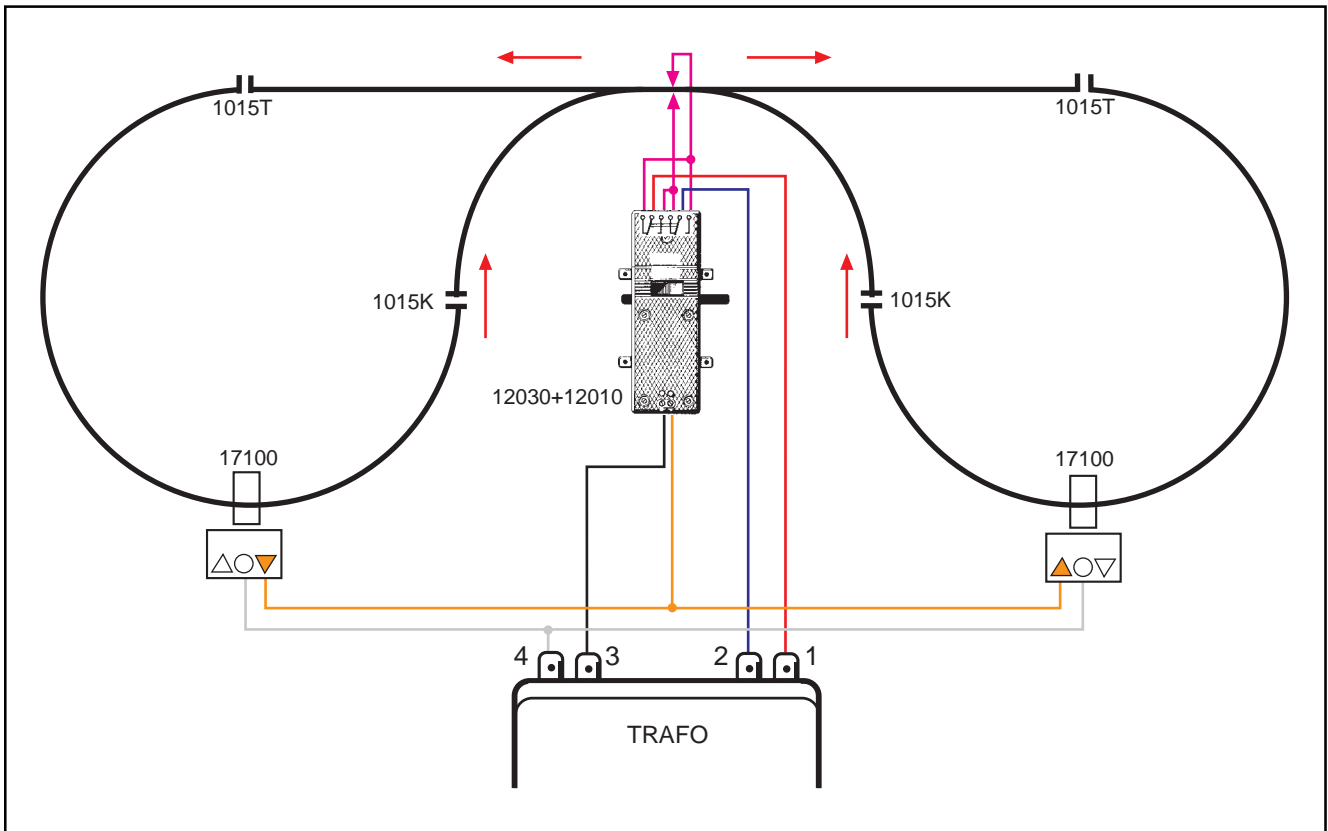
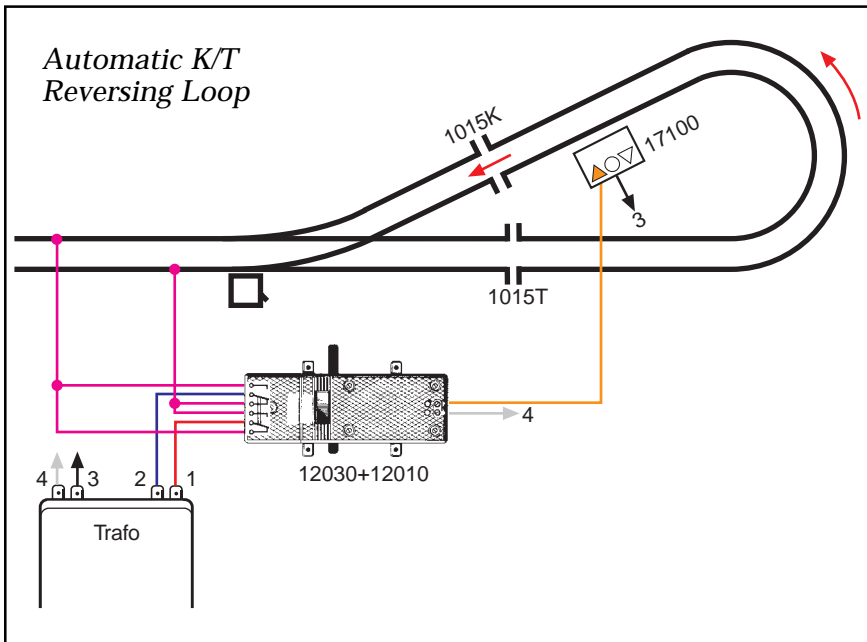
Circuit 9: Automatic K/T Reversing Loop

By combining the Automatic Reversing Circuit (Circuit 7) and the Manual K/T Reversing Loop (Circuit 8), you can create a new circuit (left) to automate the throttle reversing procedure required by the Manual K/T Reversing Loop. Instead of installing the 17100 Track Contact near a bumper, the contact is mounted somewhere between the 1015T and the 1015K, usually near the 1015K.

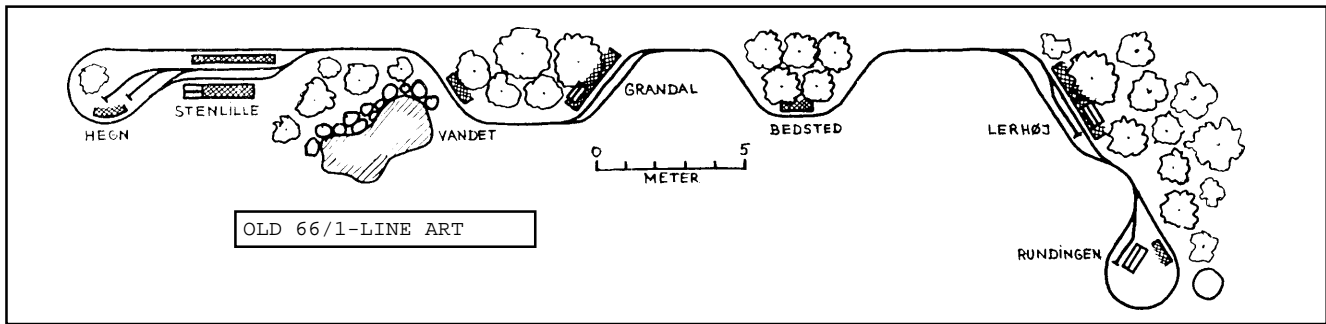
Instead of installing the 17100 Track Contact near a bumper, the contact is mounted somewhere between the 1015T and the 1015K, usually near the 1015K.

Hint: The 12010/12030 relay here only controls the polarity of the circuit. You can use a pre-programmed manual switch to make sure the train always enters the loop in the correct direction.

This circuit can also be used to automate two K/T reversing loops in a loop-to-loop layout. Only one additional 17100 is required, and a track of any length can be installed between the loops.



If you want to build a long layout along a wall or fence, like the Danish reversing loop layout diagrammed here, an automatic K/T circuit is one of your best choices for easy installation and realistic operation.



Circuit 10: Fully Automatic Reversing Loop

There are two potential drawbacks to the two earlier reversing loop circuits. First, they only allow one-way travel through the loop. Second, because they include diodes, they cannot be used with the Multi-Train System.

This circuit solves both of those problems. You can use this circuit on a Multi-Train System Layout, and you can move in either direction inside the loop.

Plus, you can enter the loop in either direction. As wired here, that direction is determined automatically by the 12030/12010 attached to the track switch. You can manually control the direction by connecting a 51750 Momentary Control Box to the 12010.

