

Segment Boundaries

There are several cases that can determine a track segment boundary:

- 1 A track segment may just be terminated, or stubbed, as at the end of a siding.
- 2 A track segment on a mainline or siding may not exceed the maximum length and hence another track segment will abut, as at the end of one segment and the beginning of another, a boundary is forced.
- 3 A single turnout or a ladder of adjacent turnouts will each force a segment boundary.

When two track segments abut A segment boundary is recognized by the occurrence of an electrical gap on BOTH the rails of a track. The frog end of a single turnout forces a boundary between one segment on the turnout side and two segments on the alternate route side.

The use of plastic rail joiners for all four rails at the frog end of a turnout is allowed when mechanical integrity of the track is maintained. Otherwise, when cuts are required, the rail gaps should be staggered by at least two ties along the track. Gaps should be on straight track, or else extra mechanical reinforcement must be provided to protect the track alignment.

[TBD this topic probably belongs in another section of the standards document]

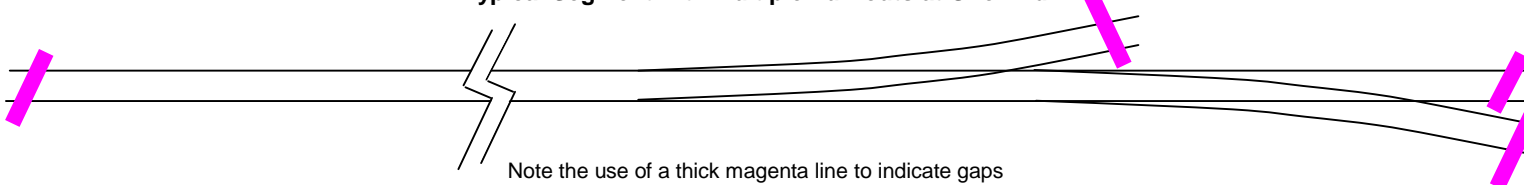
Mechanical reinforcement of the rail may be provided by the use of a 1 1/2 inch or 3 inch snap track that is soldered to the flex track. Two adjacent snap track segments may be required for sharp curves. [TBD verify the exact specification]

For a model railroad, the boundary that separates two adjacent segments is usually defined by at least one turnout. The turnout always belongs to the segment adjacent to the point end of that turnout. If there are multiple turnouts as in a ladder or an interchange, the point end of one turnout may be connected to the frog end of another and the turnouts both belong to the segment adjacent to the turnouts' point ends. A single turnout always forces the boundary between three segments. A double slip turnout therefore consists of a segment all by itself requiring either a four wire drop or two drops with three wires each.

The survey crew is responsible for the designation of the locations of the gaps and hence the definitions of the segment boundaries.

All turnouts are to be provided with three drop leads. If the drop wires are added at a workbench, one white wire for the left rail and one red wire for the right rail [TBD note to editor, I used standard stereo color codes here and have not explored ramifications]. If the drop wires are added at the installed turnout on the roadbed, the left and right colors must match the drops for adjacent rail. In either case, one green wire is required for the frog. Turnouts are not to be soldered to adjoining rails at either end.

Typical Segment with Multiple Turnouts at One End



Note the use of a thick magenta line to indicate gaps
Gaps requiring cuts in the rail should be staggered by at least one or two ties
Gaps should be on straight track, or else extra mechanical reinforcement must be provided to protect alignment
Gaps for hot frogs are not shown

Two turnouts positioned with the frog end of one turnout to the frog end of the other turnout, as for example, in a crossover, are automatically in two different track segments. However a pair of turnouts positioned with their point ends together usually form a single track segment, no matter how short that segment is with respect to the other track segments.