

CONTINUOUS WELDED RAIL (NEW INSTALLATION):

- 1) BOX ANCHOR EVERY OTHER TIE (USE PATTERN #1). ANCHORING NOT REQUIRED ON TIES WITH ELASTIC FASTENERS.
- 2) CHIEF ENGINEER MAY AUTHORIZE ADDITIONAL ANCHORS TO BE INSTALLED ON CONCRETE OR WOOD TIES WHERE INCREASED RAIL RESTRAINT IS DESIRED. SUCH LOCATIONS MAY BE: SUBDIVISIONS EXPECTED TO HANDLE 95MGMT OR MORE ANNUALLY, OPEN JOINTS IN CWR TERRITORY, HEAVY TRAIN BRAKING GRADES, ETC.

JOINTED RAIL (NEW INSTALLATION):

BOX ANCHOR EVERY OTHER TIE (USE PATTERN #1)

JOINTED RAIL TURNOUTS (NEW INSTALLATION):

- 1) BOX ANCHOR EVERY TIE IN TURNOUT (USE PATTERN #2).
- 2) BOX ANCHOR EVERY TIE 48 TIES AHEAD OF POINT OF SWITCH AND 48 TIES BEHIND LAST TURNOUT TIE (USE PATTERN #2).

TURNOUTS (NEW INSTALLATION):

- 1) BOX ANCHOR EVERY TIE IN TURNOUT (USE PATTERN #2).
- 2) BOX ANCHOR EVERY TIE 120 TIES AHEAD OF POINT OF SWITCH AND 120 TIES BEHIND LAST TURNOUT TIE (USE PATTERN #2).

OPEN DECK BRIDGES:

BOX ANCHOR EVERY TIE 120 TIES AWAY IN BOTH DIRECTIONS ON CONCRETE AND WOOD TIES (USE PATTERN #2).

HOT BOX / DRAGGING EQUIPMENT DETECTORS:

BOX ANCHOR 120 TIES AWAY IN BOTH DIRECTIONS ON WOOD TIES ONLY (USE PATTERN #2). ANCHORING NOT REQUIRED ON TIES WITH ELASTIC FASTENERS.

INSULATED JOINTS

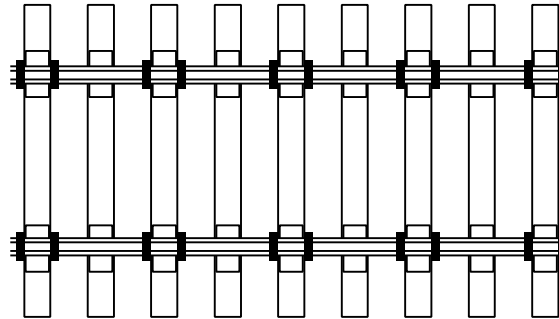
BOX ANCHOR EVERY TIE 120 TIES AWAY FROM THE INSULATED JOINT IN BOTH DIRECTIONS ON WOOD TIES ONLY (USE PATTERN #2). ANCHORING NOT REQUIRED ON TIES WITH ELASTIC FASTENERS.

CROSSING FROGS

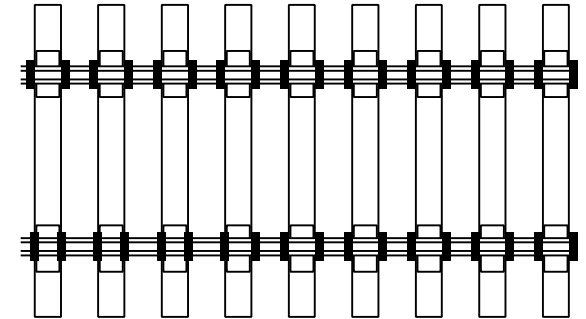
ADD SOLID CRIB ANCHORS IN TWO CRIBS BETWEEN TIES 10 AND 12 IN ALL DIRECTIONS FROM CROSSING FROG. WHERE EXPANSION JOINTS ARE NOT PRESENT. BOX ANCHOR EVERY TIE 120 TIES AWAY FROM THE CROSSING FROG IN ALL DIRECTIONS ON CONCRETE AND WOOD TIES (USE PATTERN #2).

ROAD CROSSINGS

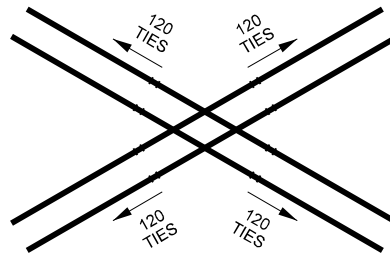
BOX ANCHOR EVERY TIE THROUGH THE CROSSING LIMITS ON WOOD TIES ONLY (USE PATTERN #2). ANCHORING NOT REQUIRED ON TIES WITH ELASTIC FASTENERS.



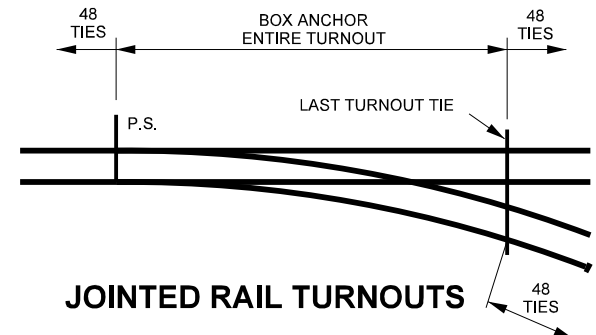
ANCHOR PATTERN #1



ANCHOR PATTERN #2

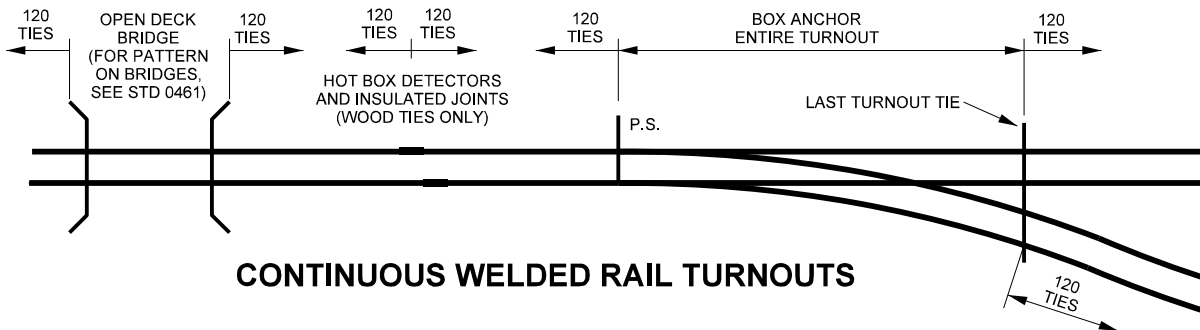


CROSSING FROGS



JOINTED RAIL TURNOUTS

- NOTES:
1. ANCHOR PATTERN #1 WILL BE USED FOR ALL RAIL RELAYS. EXISTING ANCHOR PATTERN MUST MATCH RELAYED RAIL.
 2. WHERE ELASTIC FASTENERS FAIL TO PROPERLY RESTRAIN THE RAIL FROM MOVING LONGITUDINALLY, INSTALL ADDITIONAL ANCHORS AS REQUIRED.
 3. WHERE PRACTICAL, ANCHOR TO BE INSTALLED FROM GAGE SIDE OF RAIL.
 4. USE AN ANCHOR WITH AN ISOLATOR ON CONCRETE TIE APPLICATIONS (ITEM NO. 550-1652).
 5. IN A CURVE, IF THERE ARE ELASTIC FASTENERS ON ONE RAIL, BUT NOT BOTH, USE ANCHOR PATTERN #1 ON THE RAIL WITHOUT ELASTIC FASTENERS.



CONTINUOUS WELDED RAIL TURNOUTS

**UNION PACIFIC RAILROAD
ENGINEERING STANDARDS**

**RAIL ANCHOR PATTERNS
FOR NEW RAIL
INSTALLATIONS**

APPROVED: *Eric Selinger*
VP ENGINEERING

ADOPTED: DEC. 31, 1996
REVISED: JULY 1, 2019
FILE NO.: 04601

STD DWG
04601

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