

INSTALLATION NOTES FOR FENTON'S "LARGE SCALE" RAIL JOINER SCREWS

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Using these screws will provide a good permanent electrical and mechanical joint

- A. Generally the screws can be installed after the track has been laid in place. If the track is hard to get to you may want to install the screws at the time you lay the track or maybe even before you lay the track. I recommend filing all sharp edges off the end of the rail first. **NOT FOR USE ON Stainless Steel OR NICKEL SILVER TRACK,**
- B. Install two screws on each rail joiner, one each side of the rail joint, do this even when the joiner has been attached by the factory. Install each screw about halfway between the end of the rail and the end of the rail joiner. The rail joiners can be installed on the outside or the inside of code 332 rail (LGB or Aristo); on smaller rail check the flange clearance before installing the screws on the inside of the rail. When possible install both screws on the same side of the rail. Be sure to put a screw in the end of the rail joiner that it is factory attached to the rail. Very often the factory-attached end is the one that will loose electrical contact.
- C. Tighten ALL rail joiners before installing them on the track and this will give you better track alignment and electrical connections.
- D. Using conductive grease will help keep water (ice if it freezes) out of the rail joiner. If the water freezes in the rail joiner, it tends to fracture the joiner at the bottom edge and the rail joiner will break and the sides will fall away. When properly installed the screws will hold the one side and the bottom of the rail joiner in place and maintain rail alignment and electrical contact. Not required unless track is in a wet environment in freezing conditions.
- E. Before drilling the holes, be sure the track is properly aligned. The screws will hold the rail in the same position as when the holes are drilled. Aligning the rail first can eliminate kinks, dips, and ridges from the track joints.
- F. Drill the holes at about a 45-degree angle, using a #46 or #45 drill, and drilling down through the rail joiner, rail, and out the bottom of the rail joiner. When starting the hole lowering the angle will reduce the drill bit walking on the rail joiner. When the drill goes through the rail joiner return to the 45-degree angle. If the holes are drilled at too low an angle, there will be a tendency for the drill bits to break when the bit catches on the bottom of the rail joiner. Objects below the rail that may bind the drill bit will also cause it to break.
- G. I recommend drilling the hole to the right of the rail joint first and installing that screw before drilling the hole to the left of the joint. When the hole to the left of the joint is drilled it tends to pull the rail ends together, making a tighter rail joint.
- H. Put a drop of oil in the screw hole before inserting the screw. If you are having problems with getting the screws all the way down, you may want to try a larger drill (especially for harder Aristocraft rail). If you are stripping the holes (usually smaller or softer rail, "aluminum") then you may want to try a smaller drill. Larger drills are a smaller number (i.e. #44) and smaller drills have a larger number (i.e. #47).
- I. Generally when these screws are used you will only have to supply power to your rail at one point for each block or section of your layout, regardless of track length.
- J. Screws also can be used to provide electrical connections to the rail. Use a small ring terminal crimp on connector on the wire or just bend it in a loop or hook shape and coat it with solder. Always use stranded wire for your wiring. Solid wire will stress fracture and give you problems.
- K. Use a #1 Phillips head screwdriver bit. I recommend using a hand screw driver with a hardened tip such as the Wiha model 261/PH 1x60 I have found some screwdriver bits have too long a point and cause stripping the screw head, using a grindstone, grind off a very small amount and check it in a screw.
- L. **Removing screws with stripped heads.** Using a motor tool with a narrow cut off wheel, cut a slot inline with one of the crosses and use a slotted screwdriver that fits and remove the screw by hand turn very slowly at first until it is loose.
- M. **Screws** Screws are SS #2 x 5/16" or 3/8", may be available from a screw supply house or they can be ordered from me. Current price \$25 for 500 screws plus \$5 shipping-any quantity.

