

Scott's Process for Making Turnouts

1. Lay out the template on heat proof work surface
2. Cut ties to length and gap according to template
3. Cut frog rails to length and file
4. Cut/shape point rails to length, bend wing rails and bevel
5. File points (remove part of rail base)
6. Apply double sided tape to template at PC ties
7. Add PC ties to template
8. Solder frog to ties (don't solder inside rail at frog tip - heat and apply solder to flow down to PC tie)
9. Solder point rails to PC ties starting at the wing rail - use a gauge at gap between frog and wing rail
10. Solder point/closure rails to other PC ties maintaining alignment at points - don't solder hinge tie and beyond
11. Cut/shape stock rails, mark and file small gap for points to sit into - remove some of rail base
12. Use a gauge to set and solder stock rail in relation to points, closure rails and frog - make sure it stays in alignment with points as you make your first solder joint
13. Cut and shape guardrails
14. Use flange gauge to set and solder guardrails
15. Gap PC tie for throwbar
16. Solder throwbar to points being careful not to solder them to the stock rails - a piece of paper between point a stock rail helps and use scrap PC tie to set the gap between points
17. Mark PC ties for length, remove from template and trim PC ties
18. Check turnout for gauge issues by rolling an in-gauge set of trucks through the turnout
 - a. Watch for any bouncing or jumping which would indicate track or flange issue
 - b. Feel for any resistance to free movement
 - c. Tweak track or flangeway gauge using small pliers or jewelers screwdriver to gently nudge into gauge.
19. Put a wheel set on the turnout and watch as it rolls flawlessly through the turnout.
20. Clean flux off the turnout using a wire brush and soapy water - this also smooths and dulls the solder and copper and gives it some tooth to hold paint better
21. Isolate the frog by cutting gaps in the rail before and after the frog as indicated on the template
22. Paint and weather rails and PC ties
23. Stain wood ties to your taste and use the template as a guide to glue (CA or Pliobond) to the bottom of the rails - make sure to not glue ties to points and closure rails.

Anatomy of a Switch

