Build the "Ultimate" Turnout

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Proto:87 Stores Switch-Works Pro



What is the "Ultimate" Turnout?

- Modeling Track
- Prototypical
 - Appearance
 - Operation
- Wood Ties
- Metal Tie Plates
 Scale Spike Detail
- Realistic Frogs
- Realistic Points



Wood Ties

"Ultimate"



Prototype



Wood Ties

"Ultimate"



Commercial - Plastic



Metal Tie Plates Scale Spike

"Ultimate"



Prototype



Metal Tie Plates Scale Spike

"Ultimate" - Scale



Commercial - Oversized



Realistic Metal Frogs

"Ultimate"



Prototype



Realistic Metal Frogs

"Ultimate" - Realistic



Commercial – Plastic Toy



Realistic Point Profile

"Ultimate"



Prototype



Realistic Point Profile

"Ultimate" - Realistic



Commercial – Filed Stock



What is Switch-Works

- Jigs and components to produce prototypically accurate track and turnouts.
- Track is built from the ties up



Switch-Works Tie Frame jig

Laying out ties



Switch-Works Tie Plate Laying jig Laying out tie plates



"Ultimate" Turnout Components



"Ultimate" Turnout

Let's get building

3 Simple Steps

- 1. Layout Ties
- 2. Layout Tie Plates
- 3. Rail, Frog & Points



Tools - Scissors

• Cutting tie plates from frets



Tools - Fine Tip Tweezers

 Picking up & placing tie plates



Tools - Dental Probe

 Picking up & placing tie plates



Tools – Rail Nippers

• Cutting Rail



Tools - File

• Cleaning up rail ends



Tools - Pliers

- Holding rail
- Manipulating parts



Tools – Fine Tip Pliers

- Spiking
- Optional



Tools – Syringe

- Fill with CA
- Fix tie plates to ties
- Store in freezer



Tools – Gel CA

- Fill Syringe
- Fix ties to base
- Fix tie plates to ties



Tools – Barge & MEK

- Mixed 50/50
- Fix ties to base
- Fix rails to tie plates
- Syringe or brush on



Tools – Acetone

- Clean CA
- Soak syringe tips to loosen blockages





Switch-Works Tie Plate Laying jig



Spot of CA

Glue Tie Plates

- Syringe CA
- Not Epoxy



Add spot of glue to ties



Pick up tie plate

Tip

- Wet finger to pick up tie plate
- "D" shape opening

Place tie plate in jig

Tip

 Flat side of "D" toward inside rail



Place tie plate in jig

Tip

 Flat side of "D" toward inside rail



Lift jig periodically to avoid sticking



Rails, Frog, Points



Pre-drilled Plastic Base



Plastic Base

Tip

• Test fit



Plastic Base

Tip

- Test Fit
- File if necessary

Metal Throw Bars



Assembly

• Remove from fret

Metal Throw Bars

Assembly

- Remove from fret
- CA to Plastic Throw Bars



Assembly

 Measure and cut rear throw bar





Curved Stock Rail

- Sharp bend in rail
- Barge/MEK glue



Straight Stock Rail

DISCARD AF

- Place throw bars
- Barge/MEK glue

Straight Stock Rail

- Place throw bars
- Barge/MEK glue
- Don't glue TBs



Frog



Frog

Straight Stock Rail

- Frog plates guide
- NMRA Gauge
- Slide to adjust





Frog Rails

- Align with frog
- Barge/MEK glue



Closure Rails

- Bend curved
- Cut at Hinge/Heel

Closure Rails

Tips

- Bend curved
- Cut at Hinge/Heel
- Gauge at Hinges

Cr.20

Tips

• Align point holes rear TB

- Align point holes rear TB
- Cut to fit hinge



Tips

• Slide hooked rear TB into point hole

- Slide hooked rear TB into point hole
- Center front TB





Guard Rails

- Cut excess rail
- Check gauge



Rail Braces

- Gauge Plates
- Slide Plates