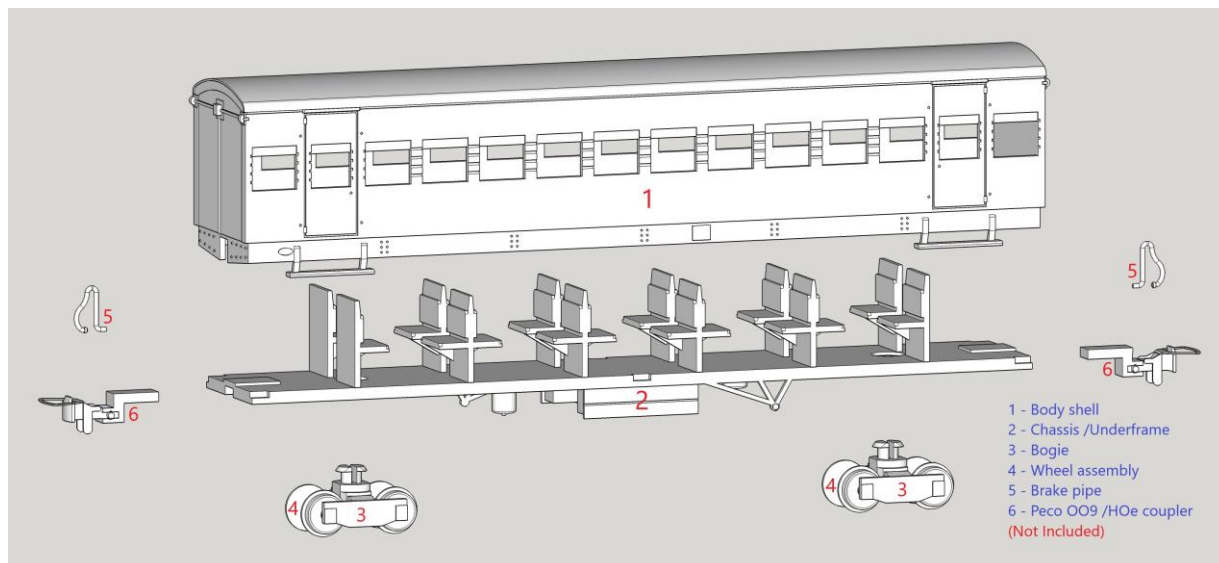


Indian Railways Narrow Gauge General Seating

HOe Kit



Congratulations! You now own a unique Indian Railway model kit by Precision Model Works. We are so very happy that you chose to model something one of a kind and gave us the opportunity to help you make your dream model. Before you get started here are a few things that you should know.

Our models are 3D printed, in particular, resin 3D printed. As much as it looks just like any other plastic model kits, there are few nuances that you need to be aware of:

- Resin shrinks and expands during the printing and curing process. So, no matter how precise our designs are, mating parts might have slight differences in dimensions and tolerances. **You are expected to use a file and sand paper to prep your model wherever necessary.** We recommend a needle file set for rough adjustments and a 1000 grit sand paper for finishing.
- We use latest 3D printing technology to print in very high definition, but since 3D printing works in layers, it is impossible to avoid print lines and support marks in certain areas. While the support marks in our models are always in obscure places, **you might have to do very light sanding in some visible parts depending on your appetite of fit and finish.** We recommend at least 1000 grit sand paper, but 1500 grit will be better.
- Resin printed parts sands easier/faster than ABS. While it makes making models much easier, there is a risk that you might end up sanding too much. So, be gentle with your sanding and check the fit frequently.
- There is no alternate of a good primer! **We strongly recommend that you use a good primer, preferably airbrushed or spray painted on the model before you start painting.** A 24-hour minimum curing time should be given before painting.



Figure 1

- **Superglue / CA glue works the best to fix components.** We recommend using the gel type ones which will give you a little more time to set things before the glue cures. Use an accelerator for situations that need faster curing. Moderation is key.

Key Instructions:

- Familiarize yourself with the parts using the exploded diagram above.
- Check for fitment of all major parts before starting your assembly and gluing any parts. File /sand as necessary.
- For all handrail holes, make sure to drill the holes PRIOR to priming your model. These marks are very tiny and you might lose them if you don't drill the holes before applying the primer/paint.
- The wheels are a two-part design, you need to push the pointed /conical part of the axle through the central hole of the wheel. You need to file the hole as necessary using a micro-file (fig 1). You also need to file the part of the axle to remove any support burrs left on the print (fig 2) – make sure to move the axle in circular motion not to get a flat surface on it while filing.
- If you are making a model that will run on a layout, it is important to keep the wheel perfectly square with the axle for best performance on tracks. You might want to do some tests on a slightly inclined piece of track to ensure that the wheel rolls properly (fig3).
- Once you are satisfied that the wheels are properly installed with the axle, use standard super glue /CA glue (not the gel type) to fix the wheels in place. Apply glue from the back of the wheel (fig 4).
- To install the bogie, insert at an angle, don't try to force the clip as you might break it (fig 5).
- If you find the clip to be too tight or difficult to push through, use a file to reduce the size of the lip (fig 6).
- Alternatively, or together with the above step, use a round file to enlarge the mounting hole as necessary (fig 8).
- Put plastic friendly grease on the contact surface of the clips for smooth operation (fig 9).
- Before you install the wheels, you need to put plastic friendly grease in the bearings (fig 10). This ensures smooth running of the rolling stock.

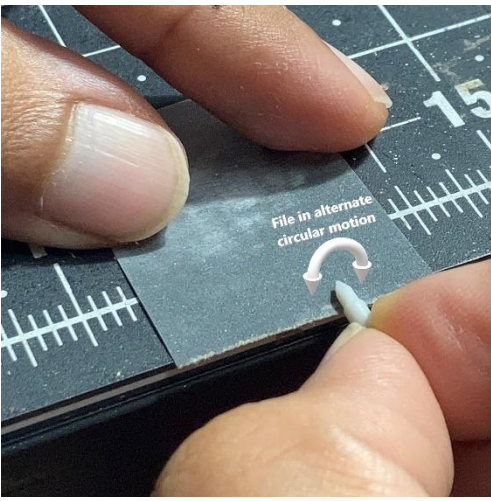


Figure 2



Figure 3



Figure 4

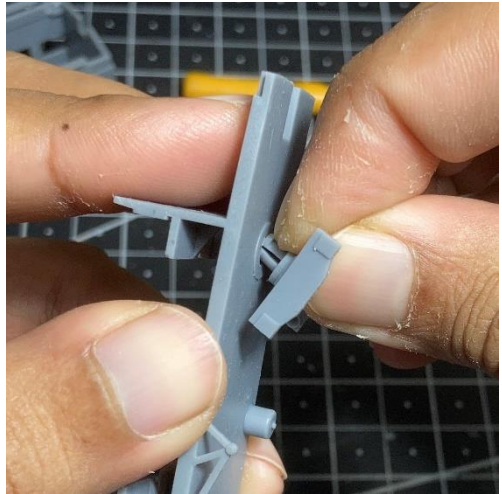


Figure 5

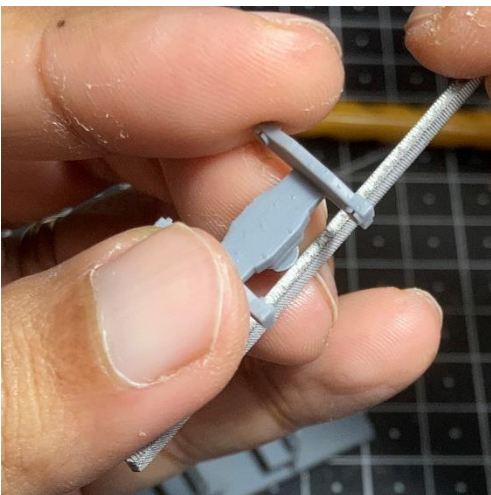


Figure 6



Figure 7



Figure 8



Figure 9

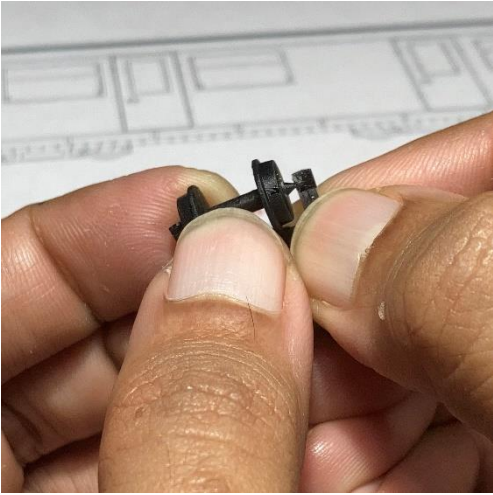


Figure 10



Figure 11

- To install the wheels, hold the wheel close to the bearing. Spread the suspension and journal assembly slightly to put one conical end, then spread the other end and repeat. Refer to fig 10. Try not to put too much pressure as it might bend or break the fragile parts.
- Once the wheels are in the bogie, repeat the quick test of free rolling and running on an inclined piece of track. Do fine adjustments as necessary (fig 11).
- We have supplied a handrail making jig in the kit. These are the steps to use it:
 - Insert a 0.3 – 0.5mm wire in the hole in the jig.
 - Bend 90 degrees along the engraved line, press hard to make sure it's perfectly straight
 - Bend 90 degrees again at the edge, and cut at the bottom edge – Fig 13.
 - Trim the ends before fixing them to the corresponding section matching the handrail guide.
 - Use tiny drop of superglue on the tip and insert the ends to the holes on the models that you drilled earlier.

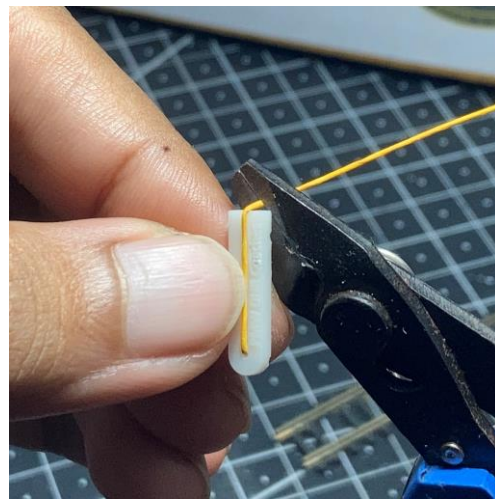


Figure 13