



Thank you for purchasing this conversion kit. We are a small designer / manufacturer and we really appreciate your support. To complete this conversion you will need:

Lima GUV model Razor saw (easier with a mitre block too) Sharp knife or scalpel Mini drill

Files and sandpaper Super glue or Epoxy Resin adhesive

Filler, paints and transfers

Optional - the original under scale Lima bogies can be replaced for much better Bachmann / Replica / Hornby BR I or B5

Optional - Flush-glazing kit

boaies

Before you start, there are a few things you need to know with regard to working with resin 3D printed items:

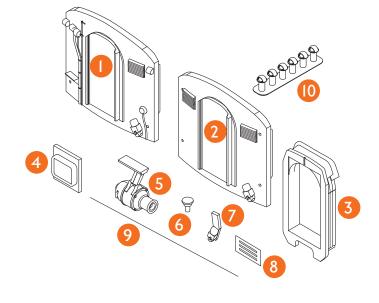
- 3D printed resin is very brittle. It should not be roughly handled, dropped, kicked, trod on or used for martial arts practice.
- Resin prints can be glued with cyano adhesives such as super glue. Solvent adhesives such as MekPak, Plastic-weld and Liquid Poly are not suitable.
- · Resin prints cannot be trimmed with knives, scalpels, or trimmers. Attempting this will result in a shattered piece.
- · Resin prints can be shaped and trimmed using files (we recommend diamond files) and sandpapers.
- Resin prints can be painted with acrylic and enamel paints.
   We strongly recommend the use of a filler primer to correct any surface support blemishes or layer lines which are an inevitable unwanted side effect of the process.
- As resin printing is a wet process, some shrinkage of components is inevitable. Whilst we engineer this in at the CAD stage, some manufacturing shrinkage is inevitable and can be corrected with fillers. We highly recommend Vallejo Liquid Putty or Revell Plasto.

## Contents:

I. Toilet end (marked with a big "T" on the reverse)

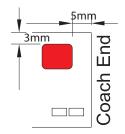
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- 2. Non-Toilet end (note this has two vents and holes for handrails)
- 3. Standard BR Mk I corridor connection x2
- 4. Opaque toilet window
- 5. Detailed dynamo
- 6. Toilet water filler
- 7. ETH socket x2 (optional fitting)
- 8. Laser-cut Toilet Vent
- 9. 0.33mm brass or nickel silver rod
- 10. Roof Dome Vents x4 (+ spares)



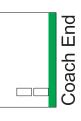
## Assembly:

- I) Remove the chassis from the body. The chassis is clipped in 6 places and comes away with a bit of a pull.
- 2) Remove the roof by pressing on the windows and pushing upwards (we will be fixing the roof to the body once the ends are in place in order to achieve a flush fit).
- 3) Using a scalpel or sharp knife and straight edge, score the top of the glazing strip near the roof-line and gently break it away to separate the glazing from the roof moulding. Put the glazing and roof to one side.
- 4) Cut holes in the floor with a drill and sharp knife directly in line with the windows in order that you can fit glazing later (remember we are going to fix the roof in place, which will prevent access from above). The holes need to be large enough to fit your finger through.
- 5) Cut out the template below and place on the right hand end of **ONE** coach side (not both!) using the dimensions as a guide for placement. Double sided tape or sellotape is ideal as a temporary bond. Remove the red area with a mini drill and sharp knife. Accuracy is vital here in order to ensure the new opaque toilet window fits snugly from inside in to the hole.





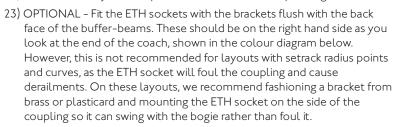
6) Using a razor saw, remove both ends of the body shown here in green. You need to remove 2mm of material which just happens to be in-line with the right hand edge of the two little louvre vents near the solebar

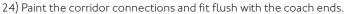


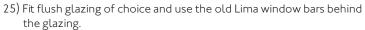
- 7) Fit the toilet end to the end of the body nearest the new cut-out for the toilet window. Fill any gaps with filler.
- 8) Fit the opposite end to the body. Fill any gaps with filler.
- 9) Fit the toilet window from the inside of the body in to the hole made earlier. Fill any gaps with filler.
- 10) Using a sharp knife, remove all of the moulded vents from the roof and sand flush. DO NOT REMOVE the curved rain strips.
- II) Test fit the roof. It will be necessary to remove some material from inside the roof at the ends in order for the roof to sit on top of the ends. The tops of the ends may also need slight sanding in order to achieve a nice fit. This is because the original ends were flat faced and the NLX ends are curved.
- 12) When happy, glue the roof in place, and using sandpaper or a file, curve the end roof profile to run concentric with the end profile but overhanging by around 1/2mm to form a lip.
- 13) Cut out the template opposite and place this centrally on the roof. Mark positions of the new vents and the toilet filler cap on to the roof. Note the toilet filler is at the toilet end!
- 14) Drill 1mm holes for the new roof vents and glue in place. The "open side" of the vents should run parallel with the edge of the roof
- 15) Fit the toilet roof filler, ensuring the "cap" sits around 0.5mm proud of the coach roof.
- 16) Using the brass / nickel silver rod provided, make up hand rails and fit to the non-toilet end using the pre-drilled holes.
- 17) Using the brass/nickel silver rod provided, make up toilet filler pipes to the blue profile shown below.



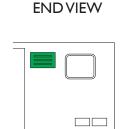
- 18) Glue the toilet filler pipes in place, terminating the ends under the filler cap on the roof.
- 19) Fit the laser-cut toilet grille next to the toilet window in the position shown in green in the diagram below.
- 20) Paint and finish the body.
- 21) Returning to the chassis, remove the moulded dynamo with a sharp knife.
  Sand or file the base flush with the chassis plate
- 22) Glue the new dynamo in place with the narrow end pointing inward.







26) Refit the body to the chassis.





Cut brass / nickel silver rod to handrail length

- Cut brass / nickel silver rod to toilet filler pipe length

Centre Line

Roof drilling template