



Firstly, thank you very much for purchasing this kit. We are a small designer / manufacturer and we really appreciate your support. We hope you will find this kit extremely easy and enjoyable to complete.

To complete this kit you will need:

Sharp knife or scalpel
Files and sandpaper
Cutters and pliers
Super glue (Activator spray also recommended)
Liquid Poly cement (such as PlasticWeld or MekPak)
Filler, paints and transfers

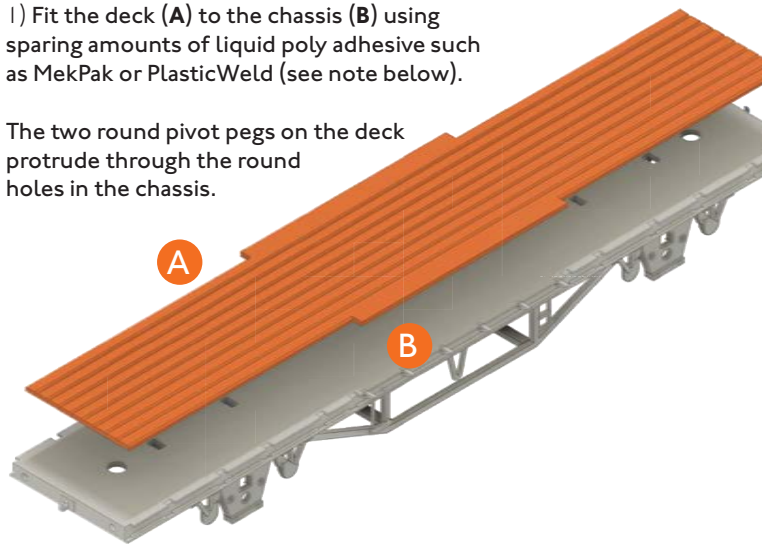
Study the diagrams carefully!

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

- 3D printed components (particularly resin) are very brittle. They do not stand up well to being roughly handled or dropped.
- 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 for resin but are ideal for plastic PLA and PETG parts.
- Resin prints cannot be trimmed with knives, scalpels, or trimmers. Attempting this will result in a shattered piece.
- Prints can be shaped and trimmed using files (we recommend diamond files) and sandpapers.
- Prints can be painted with acrylic and enamel paints.
- We strongly recommend the use of a slurry filler (acrylic filler paste mixed with water and a drop of IPA to the consistency of milk) followed by a filler primer to correct any surface support blemishes or layer lines which are an inevitable inherent side-effect of the processes of manufacturing.
- As resin printing is a wet process, some minor 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.

1) Fit the deck (A) to the chassis (B) using sparing amounts of liquid poly adhesive such as MekPak or PlasticWeld (see note below).

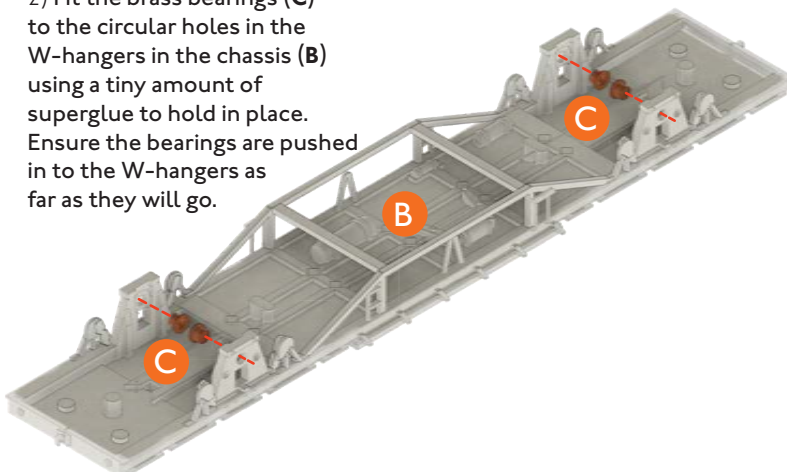
The two round pivot pegs on the deck protrude through the round holes in the chassis.



NOTE: To avoid warping as the glue sets, we recommend doing this with the deck upside down on the bench. Place a shim of thin card between each end of the deck and the workbench to promote a minimal bend towards the bench in the middle.

A piece of cereal packet card is ideal for this. Mount the chassis on to it and tape to the bench in the centre to avoid the ends warping / pulling up as the glue cures. Leave for at least two hours before removing the paper shims and tape.

2) Fit the brass bearings (C) to the circular holes in the W-hangers in the chassis (B) using a tiny amount of superglue to hold in place. Ensure the bearings are pushed in to the W-hangers as far as they will go.



If you are using NEM "swallow tail" couplings, proceed to step 3, otherwise proceed to step 6.

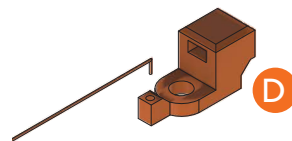
3) Cut two pieces of 0.3mm brass rod (supplied) to a length of 38mm.

38mm

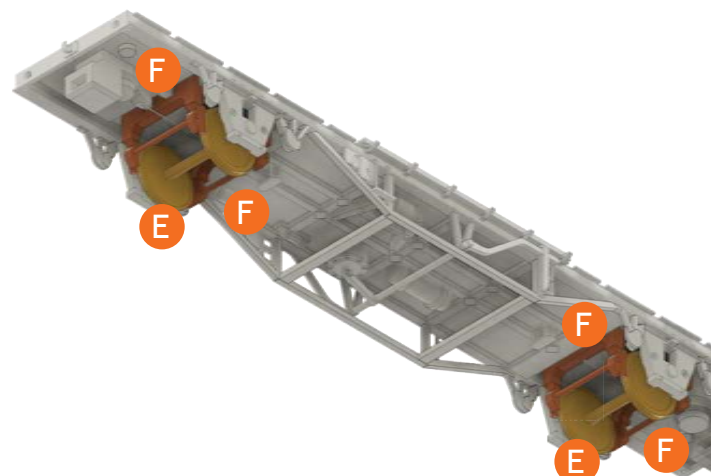
4) Bend one end 90 degrees to form a 3mm tail

35mm 3mm

5) Fix the rods inside the hook hole of the NEM pockets (D) with a spot of superglue to make a spring for the NEM pocket.

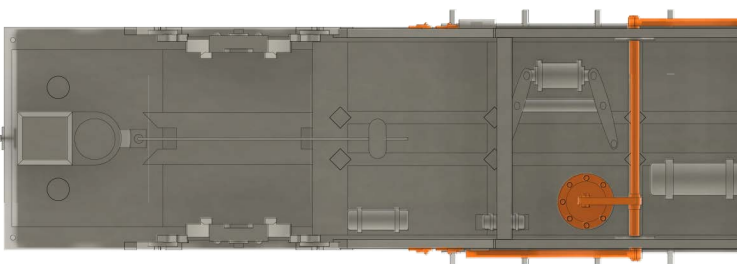
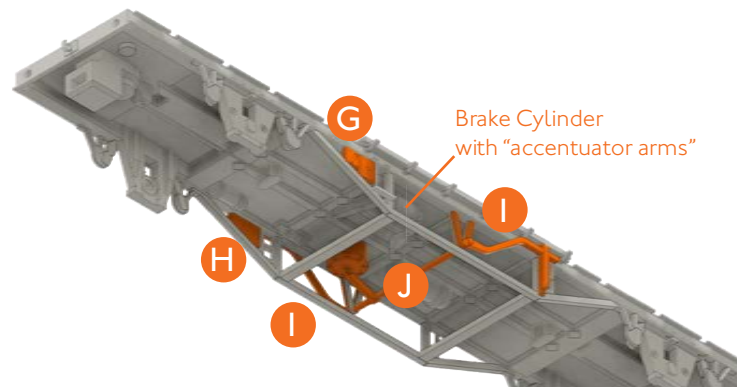


6) **VERY CAREFULLY** fit the wheels x2 (E) in to the brass bearings. 3D printed chassis are fragile, and cannot take the same amount of flex as plastic. Fit the brake shoe hangers x4 (F) in the slots in the chassis, being careful to ensure they do not contact the wheels.



7) **NOTE - Everything in this step is positioned relative to the brake cylinder with the two “accentuator arms”.**
Study the diagrams carefully before fixing in place.

Fix the brake changeover switches (G) and (H) on to the chassis in the positions shown. Note these are handed, so you need to ensure the correct one is used on each side. Fit the handbrake levers (I) on both sides, using the V-hangers on the chassis as a positional guide. Fit the Brake Cylinder assembly (J) to the chassis and V-hangers.



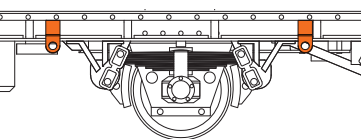
8) If you are using the sprung NEM coupling pockets, thread the spring through the arch (K) on the chassis and locate the NEM pocket as shown below on to the pivot peg.

9) Using a tiny spot of superglue, secure the NEM pivot caps (L) to the peg, **NOT THE NEM POCKET.**

ENSURE THAT THE NEM POCKET CAN ROTATE FREELY AND THAT THE SPRING RETURNS THE POCKET TO THE CENTRE

10) Fit the axle box / springs x4 (M) on to the chassis using tiny spots of superglue in the three positions shown.

11) Fit the buffers x4 (N) on to the bufferbeams. Fit the lifting rings x8 (O) on the solebar using the full-size guide below for positioning.



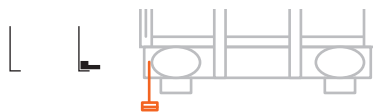
12) Fit the weights x2 under the floor in the two cavities provided. These are self-adhesive but can also be secured with superglue.

We recommend you now paint the chassis.

13) Make up four 4mm handrails using the rod and bending jig provided. These should be 2mm high. At the 2mm height, bend the remaining brass rod back 90 degrees as per the diagram below. Fix to the bufferbeam below the buffers.



14) Trimming the staples provided, make 2 footstep brackets as per the profile shown here. Glue the footstep to the lower bracket and mount on the bufferbeam to the left of the left buffer.



15) In order to keep the steel plates as thin as possible, we have had to make the choice to produce the wheel boxes/plates out of plastic rather than resin. Despite careful “ironing” during the printing process, this can sometimes result in fine diagonal print marks on the surface of the plates. We recommend making up a “slurry filler” and applying to the surface of the plates. When dry, lightly sand with emery cloth or 1600 grit wet-and-dry sandpaper used wet and prepare with a filler-primer.

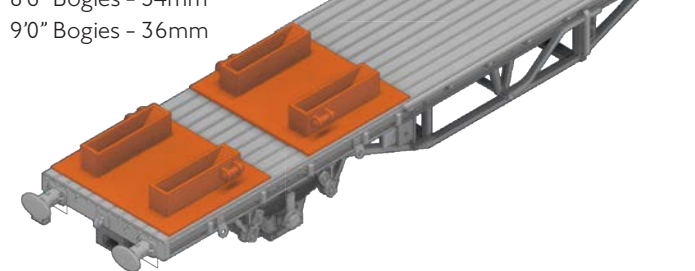
Painting guide:

Gunmetal / Dirty Steel - Steel Plates
 Black - Wheel Boxes

16) The for and aft mounting position of these plates boxes was flexible (they were bolted to the deck and were removable). However, they were always mounted so that the bogie load was centred above the axle / springs of the wagon. So, for example, a bogie with 8'6" wheelbase equates to 34mm from the centre of one axle to the other. The centre of the wheel box would therefore be 17mm from the axle in both directions. They were also usually mounted so that the ratchet strap mechanism was on the inward end towards the wheels.

Centres:

7'6" Bogies - 30mm
 8'0" Bogies - 32mm
 8'6" Bogies - 34mm
 9'0" Bogies - 36mm



Other wagon kits available in our range:

40070 - “Sewing Machine” DEMU Engine Carrier wagon BR(S)
 40088 - Conflat D - Long wheelbase flatbed wagon BR(S)
 40094 - ZZV ex-Maunsell Schools Tender Snowplough BR(S)
 40097 - Detailed Chassis for Hornby/ Triang VIX Ferry Van



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Packing List

x4 Axleboxes/ Springs, Resin	x1 Chassis, PLA
x1 Brake Changeover Switch (L), Resin	x1 Deck, PLA
x1 Brake Changeover Switch (R), Resin	x4 Wheel Boxes / Plates, PLA
x4 Buffers, Resin	x2 Swinging NEM Pockets, PLA
x2 Handbrake Levers, Resin	x2 NEM Pocket Caps, PLA
x1 Brake Cylinder Assembly, Resin	x2 Weights, Steel
x8 Lifting Rings, Resin	x4 Shouldered Pinpoint Bearings, Brass
x4 Brake Shoes / Hanger pairs, Resin	x1 Brass/Nickel Silver Rod 0.3mm x 225mm (app)
x2 Footsteps, Resin	x2 12mm Three-hole wagon wheel-sets, OO
x1 Handrail Jig (4mm), PLA	x2 Staples, Steel