Pickerings Guards Van

This model is based on a drawing of a proposed guards van for the Cambeltown and Machrihanish Light railway in Scotland. The C&M actually ordered a different van (more of a goods wagon with end windows) but Pickerings went onto supply a couple of similar double balcony vans to the Welshpool and Llanfair railway.

Tools

The following tools will be required:

- A sharp modelling knife or scalpel
- 1.5 mm and 2mm drill bits
- A small file, sand paper or an emery board “nail file”
- A small “Philips” screw driver, size 0

The following tools are recommended

- A cutting matt
- A small steel ruler
- Some small clamps, bulldog clips or rubber bands
- A black permanent marker pen
- Small side snippers for detaching parts from their sprues

General Assembly Instructions

Do take time to read through the instructions and understand how the parts fit together before reaching for the glue pot. Where ever possible parts have been designed to be symmetrical but occasionally parts have to be left or right-handed so take care to follow the instructions carefully at these points.

Plywood Parts

Most of these parts are supplied in "frets" and will need separating by cutting through their connecting tabs with a thin sharp blade (e.g. a scalpel) on a cutting mat. The laser cutting process will leave a degree of edge discolouration. If you plan to leave you model unpainted now is the time to lightly sand the edges to remove this discolouration. Plywood parts may be glued with aliphatic wood glues (recommended) PVA wood glue, epoxy resin or Cyanoacrylate adhesive.

MDF Parts

Also supplied in frets and will need separating with a sharp knife. We use a quality MDF product (NOT from the DIY store) which already **has a good surface ready for priming and painting.** By all means clean up the "burnt" edges by light sanding but leave the main surfaces alone! MDF parts can be glued with the same glues as the plywood parts

SLS Nylon Parts

Most of the detail components in this kit are 3D printed in an engineering grade nylon. Most of these are "sprued" together to reduce costs and need separating with a pair of miniature side cutters or a sharp scalpel. When "de-spruing" black components you will find white spots are left. These are best "coloured in" with a black permanent marker pen. The printing process may leave a nylon dust residue in crevices which can be removed with a medium bristle tooth brush.

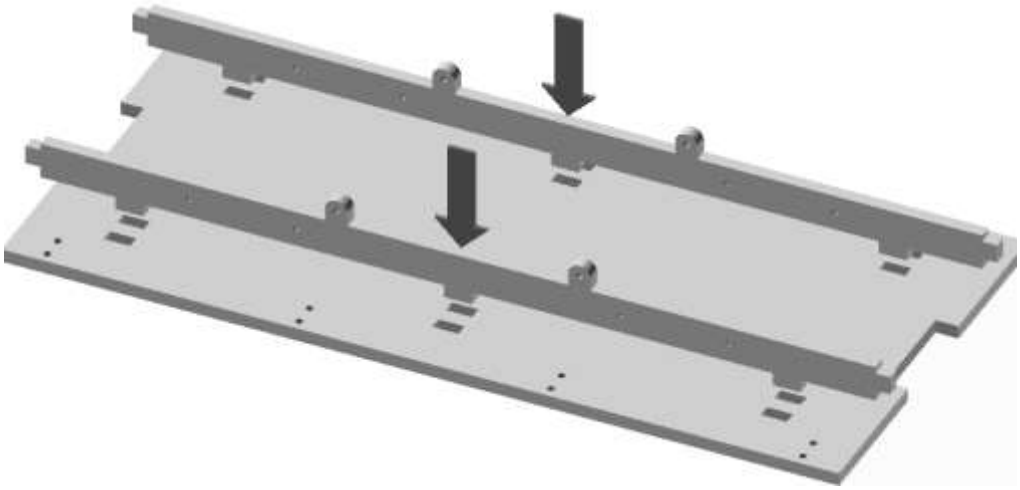
Nylon components can be glued to the wood components using a good quality Cyanoacrylate adhesive (one which doesn't leave smoke marks).

Aero modellers "canopy glue" can also be used. While pricy, it is easily cleaned up with a damp cloth before drying, and dries completely clear.

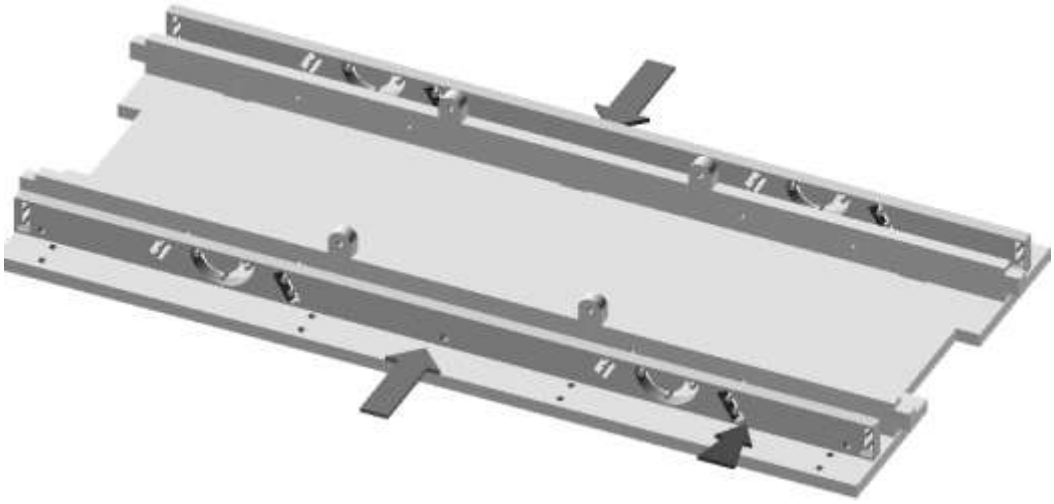
These components take paint well but they are slightly porous so probably will need more than one coat.

Painting

This is very much a matter of personal choice. As poplar plywood is used for the body, leaving the model mostly unpainted can be very attractive however if you plan to run your trains in all weathers, **some form of protection (especially on the MDF parts) will be needed**; a couple of coats of acrylic matt varnish from a "rattle can" is easy way of achieving this.

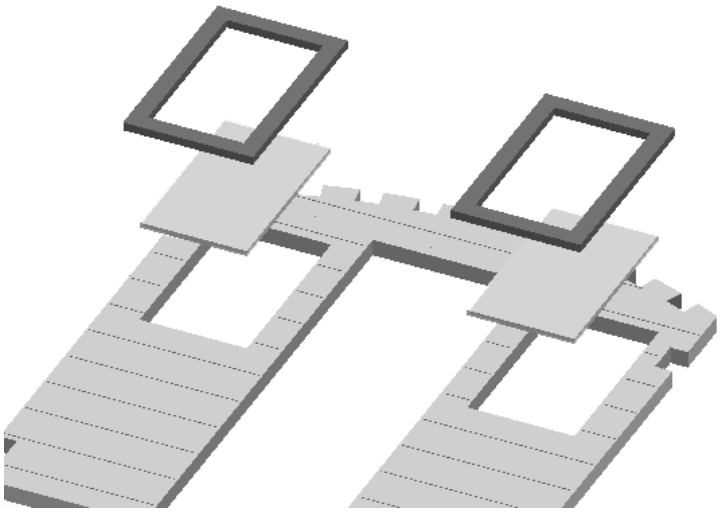


Glue the 2 MDF inner sole-bars into the locating sockets of the MDF under floor. The inner hole sets are for 32mm gauge and the outer set for 45nmm gauge. Make sure that the brake hangers are opposite each other as indicated.
Make sure the parts are squeezed together properly. Wipe off any glue that oozes out of the joints.



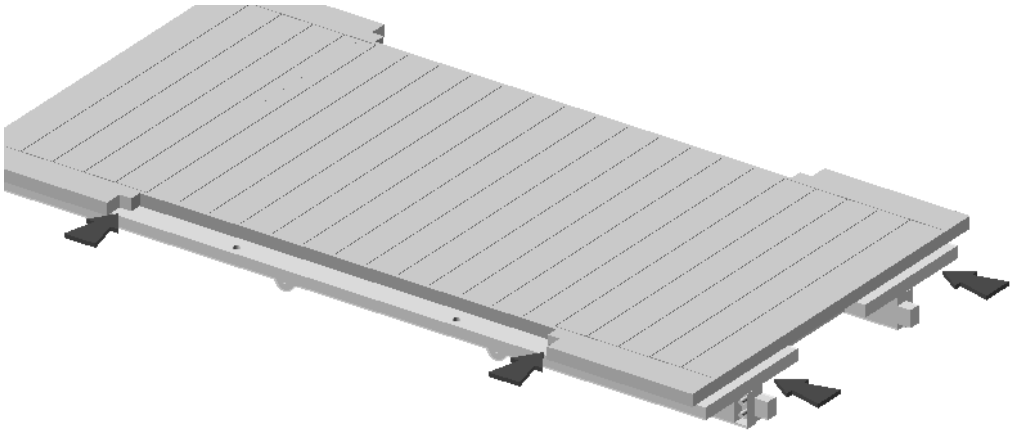
Glue the 2 plywood outer sole bars on the outer faces of the MDF sole bars.

Note orientation of engraved reinforcement strips.

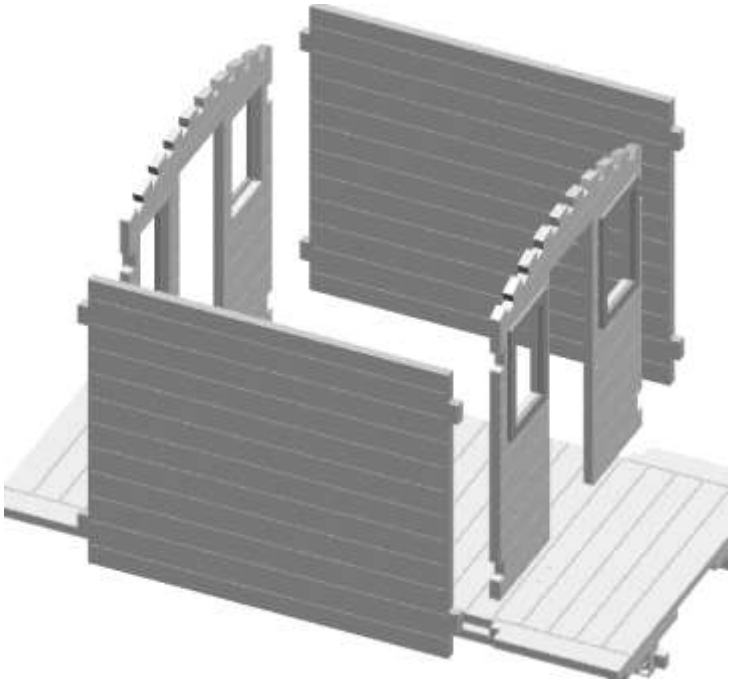


Glue the 1.5mm window frames to the outside of the window apertures. Take care that the lips formed in the window opening are even. When set glue the window panes into their recesses.

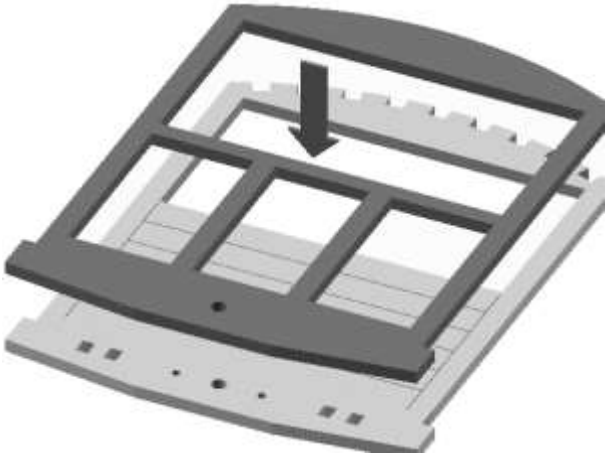
Glue the floor overlay onto the top of the chassis floor.



Take care that the overlay ends are flush with the chassis ends and that the four little recesses next to the door steps (arrowed above) are flush with the chassis sides. This ensures the cutouts that the body sides will glue into in the next stage, will be even.



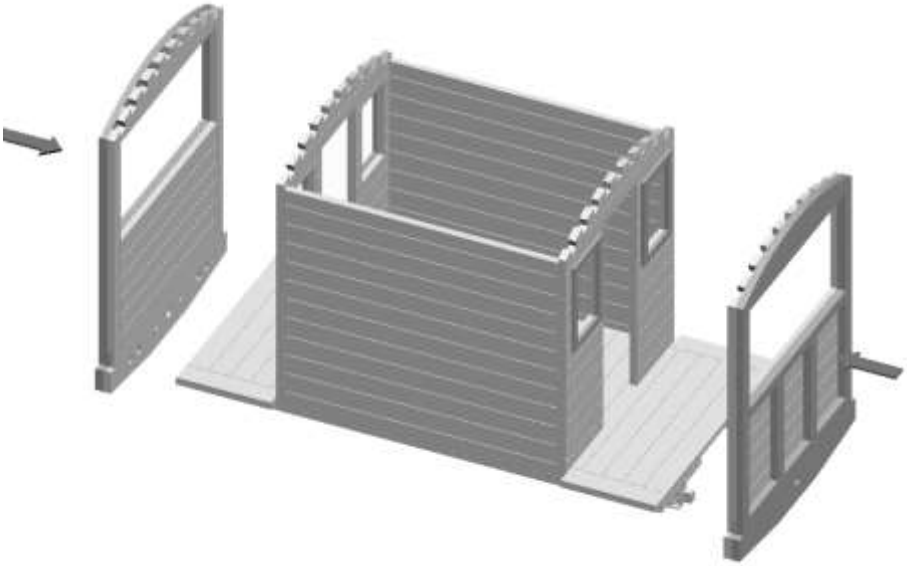
Glue the body sides and inner walls together and onto the chassis

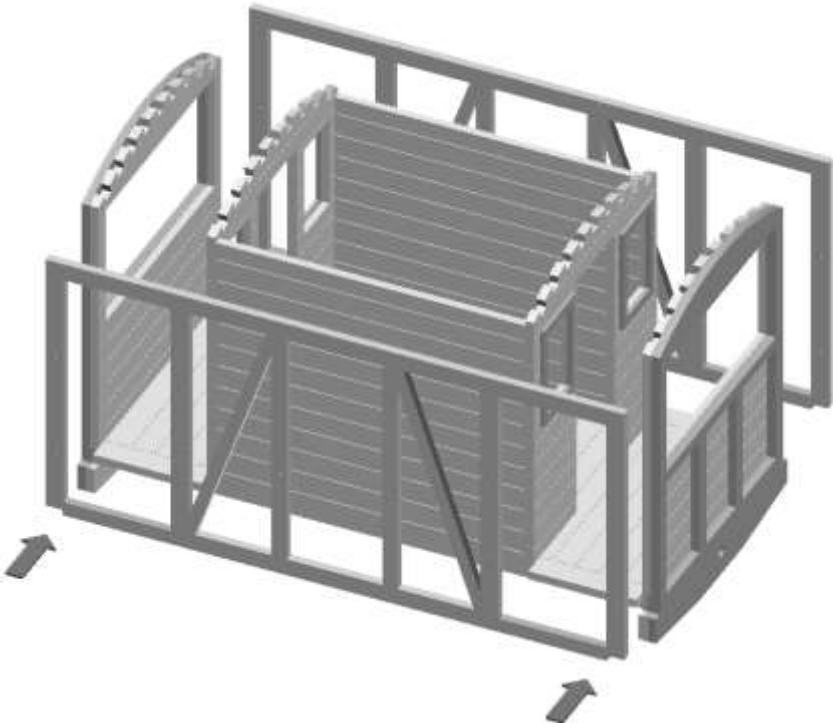


Glue the end overlays onto the end walls.

N.B. if you wish to use Accucraft chopper couplers (not supplied) now is a good time to drill through the two 2mm holes in the buffer beam

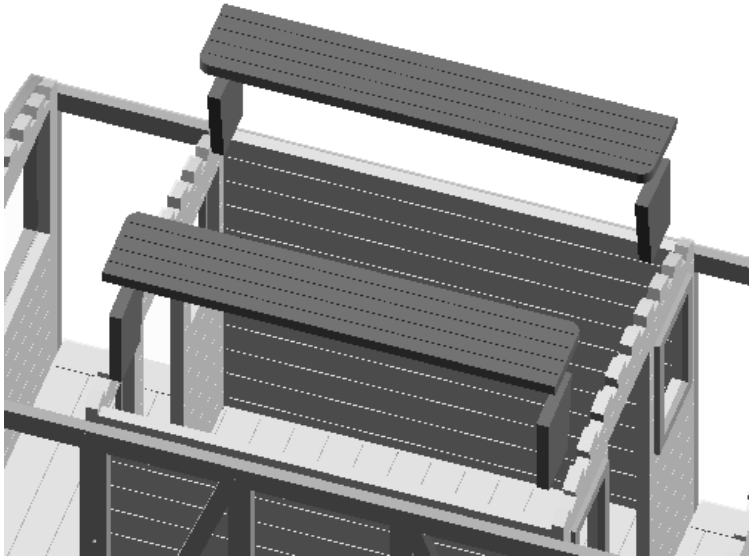
Glue the end walls onto the chassis.





Glue the two side overlays in place.

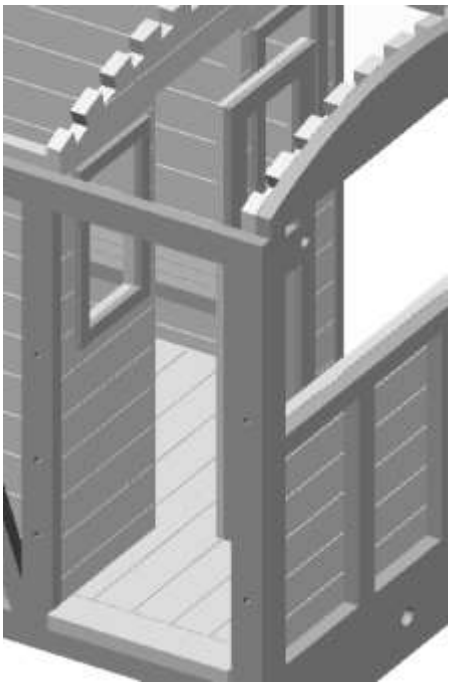
Note the two corner cut -outs go at the bottom and the floor hangs over the bottom of the door space to form a little step



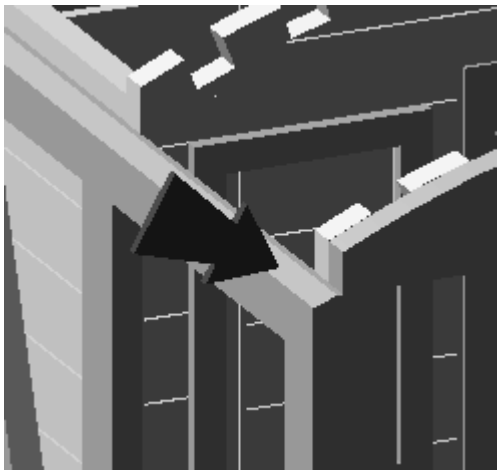
Glue the seat supports to the “door walls” with their back edges touching the side walls. N.B. their tops are slightly angled.

Glue the seats to the top of their supports.

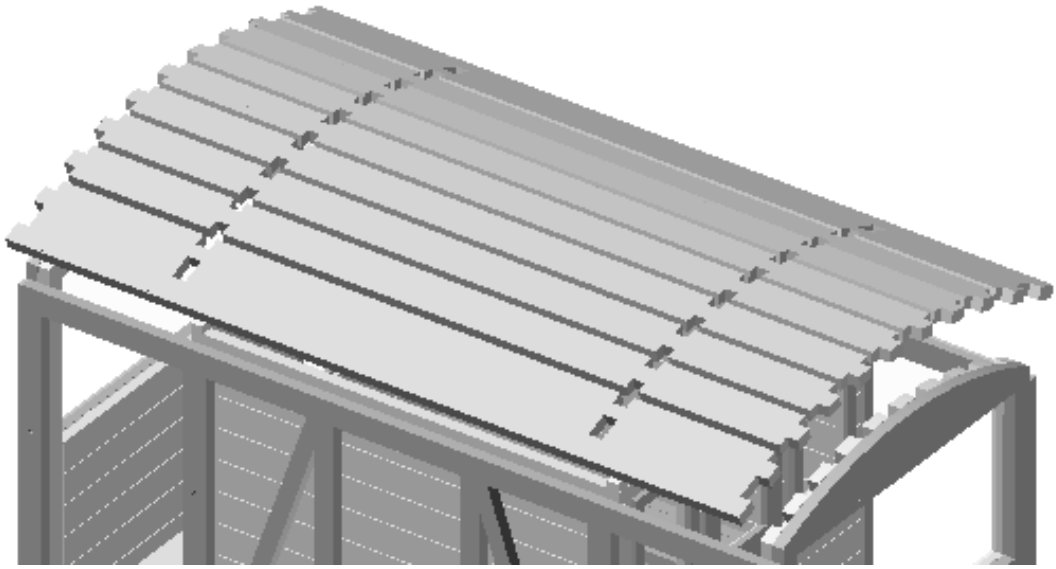
Glue the 1.5mm door panels togethers. Take care that their outer edges are flush even. When set glue the window pane into the recess.



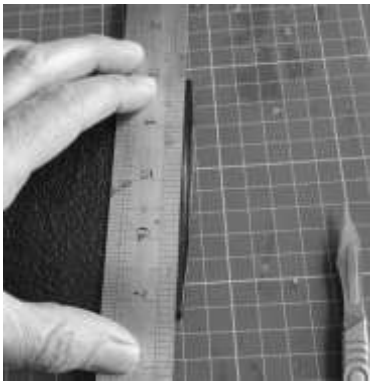
Now glue the doors into their openings in the inner walls.

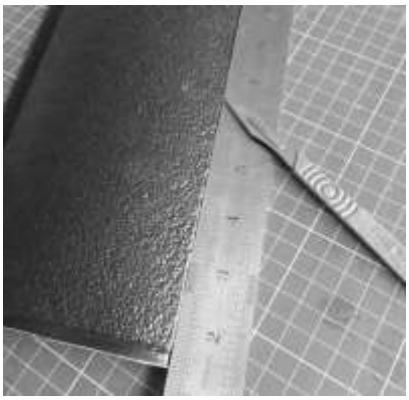


With the supplied nail file, chamfer the top edges of the side overlays so that two edge formers sit at the correct angle. Glue the 7 thin roof formers in place. Then glue the two wider formers so they hang over the side walls

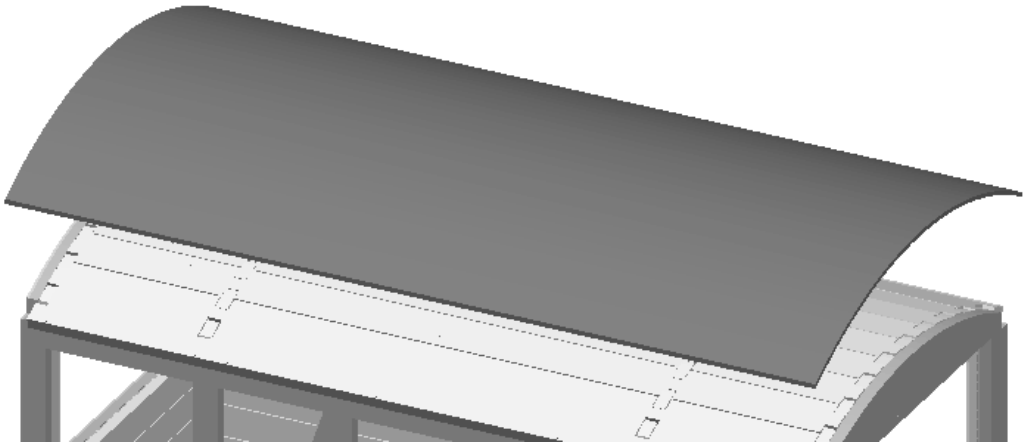


Take the vacuum formed roof and with a sharp knife and a steel rule, trim the long sides first by pushing the steel rule hard against the side of the lip and running the shark knife done the edge.





Now trim the two short sides by placing the steel rule across the “bow” of the roof and push down so its flat on the mat and then trim with your sharp knife. Align the rule right at the end of the textured pattern against the slight ridge to get the right roof length.



Now glue the roof overlay to the van.

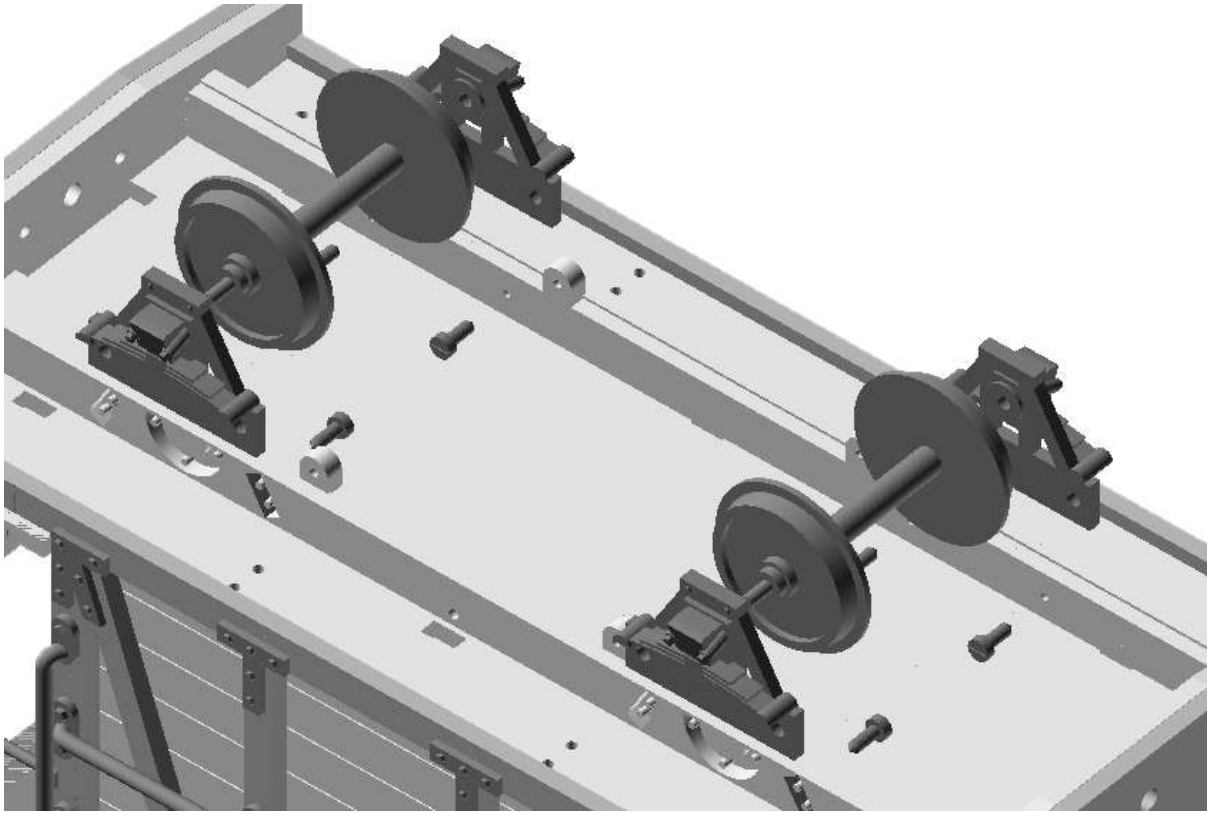
Glue the two arched end trims into place on the van ends, butting up to the underside of the overlay to give a nice neat joint.

Glue the joint reinforcement plates in as show. Don’t forget the corner brackets at the top of the outer doorway posts.

Glue the two long side rails in place and then the eight vertical hand rails.

N.B. The eight hand rails are “handed” and should angle in towards the centre of the door way.

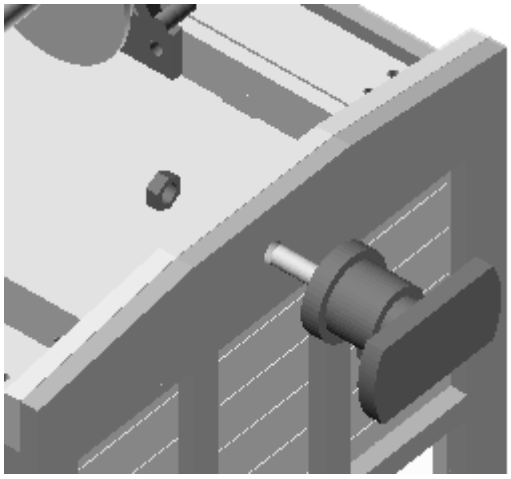
Finally glue the four safety bars across the doorways.



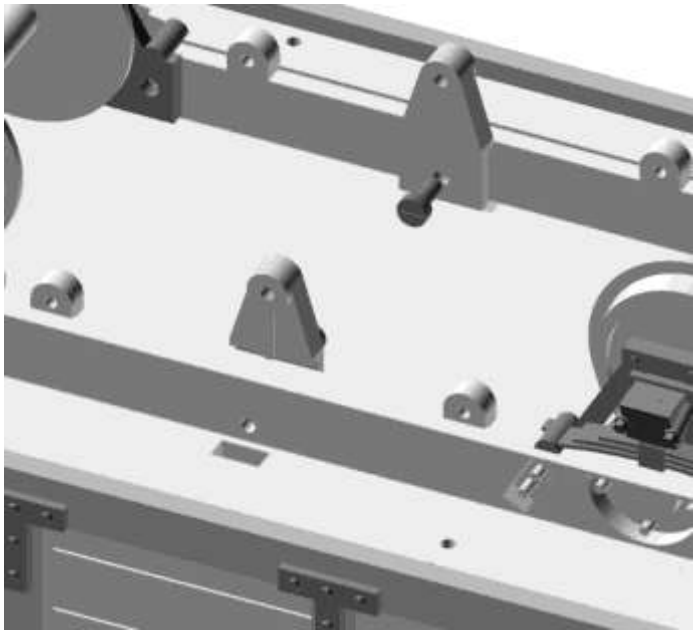
Clean out any printing dust in the axle journals by “twizzling” a 2mm drill bit in them.

Fit the axle guards to the wheels and then screw the axle guards to the inner sole bars. Note pilot holes are provided on the inside of the sole bars to aid in accurate location of the axle guards

Give the wheels a flick, they should spin freely. Add a drop of light oil (e.g. 3in1) before the wagon enters service.

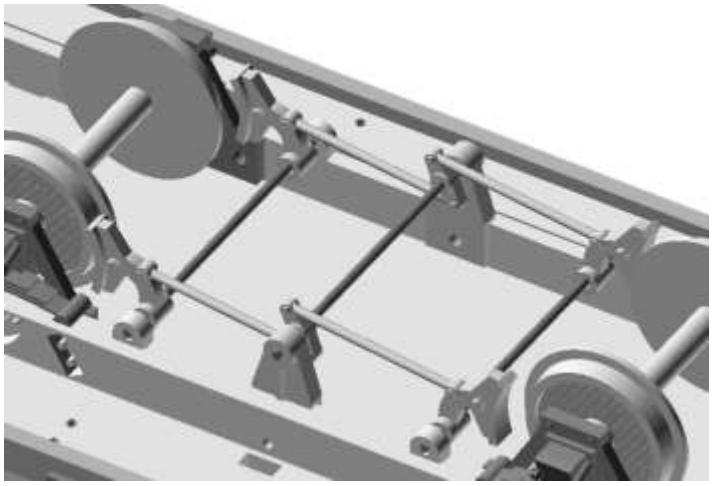


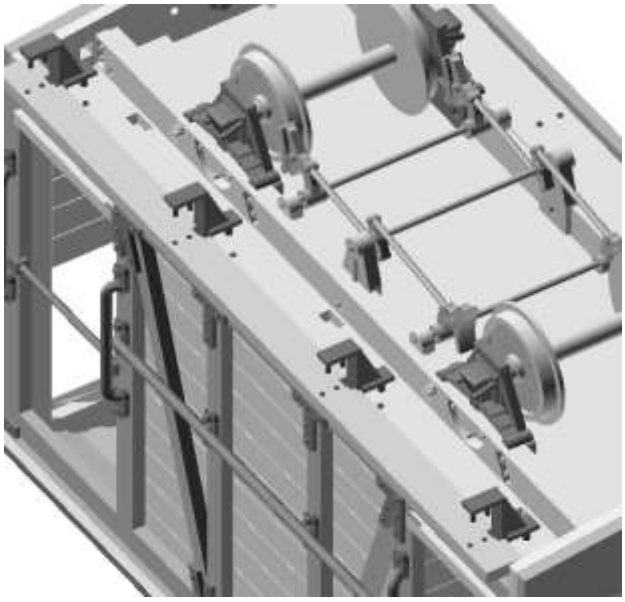
Thread the buffer’s bolt through hole in the buffer beam, add the washer and screw on the nut. Ensure that hook is pointing straight up and tighten the nut (preferably with a 6mm spanner).



Secure the two axle crank brackets to the insides of the solebars with two M2 self-tappers

Fix the two brake shoe assemblies in place by sliding three brake rods in place (54mm long for 43mm gauge and 65mm for 45mm gauge). Adjust the exact position of the shoes so that are nearly in line with the wheel treads but don't catch the flanges. Apply drops of super-glue to the rod ends to ensure they don't move.





Glue the foot-boards onto the foot-board brackets and then glue the brackets into their locating holes at the edge of the chassis.

Finished!

Parts List

Part	Material	Quantity	
Chassis Fret (A)	3mm MDF	1	
Window/door fret (B)	1.5mm ply	1	
Walls fret (C)	3mm ply	2	
Inner wall fret (D)	3mm ply	1	
Roof bar fret (E)	3mm ply	1	
Seat Support fret (F)	3mm ply	1	
Roof trim fret (G)	3mm ply	1	
Side overlays	3mm ply	2	
End overlays	3mm ply	2	
Floor overlay	3mm ply	1	
Details Bag			
Footboard bracket set	Black nylon	1	
Corner plate set	Black nylon	1	
Grab handle set	Black nylon	2	
Long side rail pair	Black nylon	1	
Binnie center buffers	Black nylon	1	
Brake gear set	Black nylon	1	
Window panes	0.8 mm petg	6	
DHR axle guard pair	Black nylon	2	
Brake rods (54mm)	1.5mm steel	3	
Brake rods (65mm)	1.5mm steel	3	
M2 Self tapping screws	Black steel	10	
Coupling chain (3 link)	Nickle/brass plated	2	
Roof Overlay	Formed styrene	1	
24 mm dia steel wheels		2 axles	
Nail file		1	