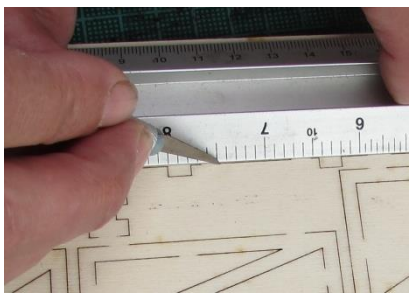
Skip Based Flat Wagon (7/8 scale)

This is a freelance model of a generic flat wagon built on a skip chassis. A quick poke around any preserverd narrow gauge railway yard will reveal something similar to this wagon !

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.

Most parts are attached to their frets by small sections of half cuts. To remove parts either cut through the remaining material from the front with a thin sharp blade (e.g. a scalpel) on a cutting mat or turn the whole fret over and with the aid of a steel ruler aligned with the pieces side, cut lightly with a knife to break through the remaining wood.



DO NOT simply try and twist the parts out of the fret, there is a risk that the part may tear. 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.

Gluing

Wood and MDF parts may be glued with PVA wood glue, Cyanoacrylate adhesive (super-glue) or epoxy resin (Araldite). Beware of vary cheap glues, their joints may fail! If you do use a “super-glue”, go for one which takes a few seconds to set rather than an instant “grab” one. This will give you a few seconds to adjust the parts position before it is too late.

Nylon parts (e.g. corner plates and floor supports) are best fixed with Cyano/super glue.

Painting

This is very much a matter of personal choice. As MDF is used for some parts of this model it is highly recommended that all parts are either painted or protected with acrylic varnish, especially if you like to run your trains on rainy days. MDF is very absorbent so you will need several coats of whatever you choose. Small tins of exterior wood stain/varnish in a variety of colours are available from your DIY chain store. An alternative is automotive paints sole in aerosol cans.

The floor which is laser cut from poplar plywood is less critical. We like to apply a light wood stain followed by a couple of light coats of modeller’s matt varnish from a small “rattle can”. However you may also apply a light coat of interior acrylic varnish (from a DIY store) applied with ¼inch brush.

Tools

The following tools will be required:

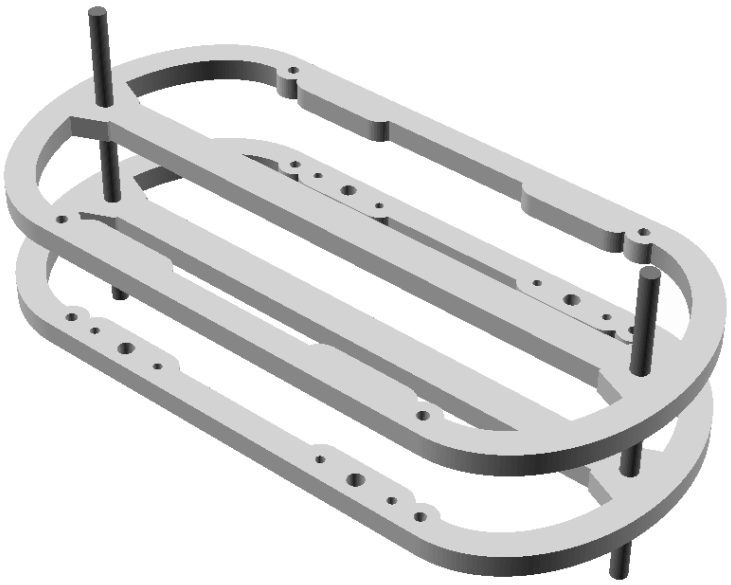
- A sharp modelling knife or scalpel
- 2 mm and 3 mm drill bits
- A small file, sand paper or an emery board “nail file”
- A small “Philips” screw driver, size 0

The following tools are recommended

- A cutting matt
- A small steel ruler
- Some small clamps, bulldog clips or rubber bands

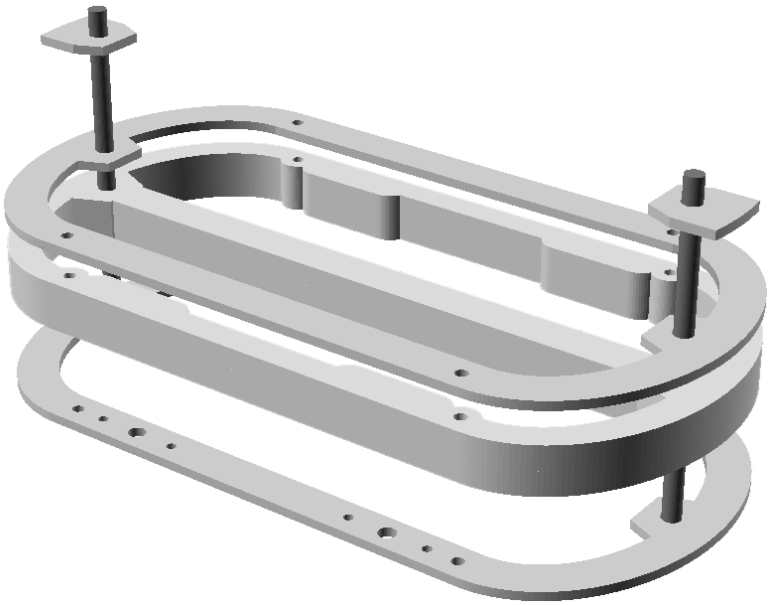
Step 1 – Chassis

PVA or Aliphatic wood glue is recommended for these steps to give you time to align the parts correctly.



Glue the 2 MDF “chassis plates” together.

TIP temporarily pushing the 2 3mm drill bit shanks through the coupling pin holes helps to align the parts *but don’t get any glue on the drill bits!*



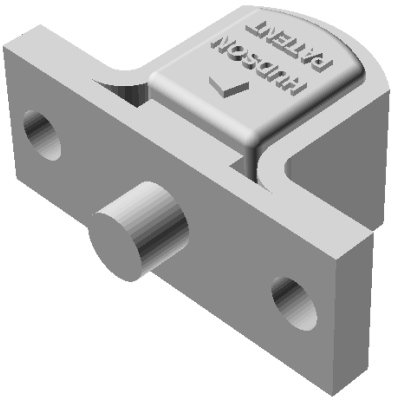
Next glue the 1.5mm ply top and bottom chassis plates on (the lower plate has the axle box locating holes). Then the little buffer thickener plates go on the top and bottom. N.B we have included extra thickening plates in the kit if you wish to increase the height of the “buffer”.

Clamp the parts together with small modeller’s clamps and remove the axle rods. Wipe out any glue that oozes into the floor locating pin holes and set aside to let the glue dry.

Once set, lightly sand the outer surface to remove any surface imperfections left from the 4 layer sandwich construction. *Now paint or varnish the complete chassis assembly to seal it against moisture.*

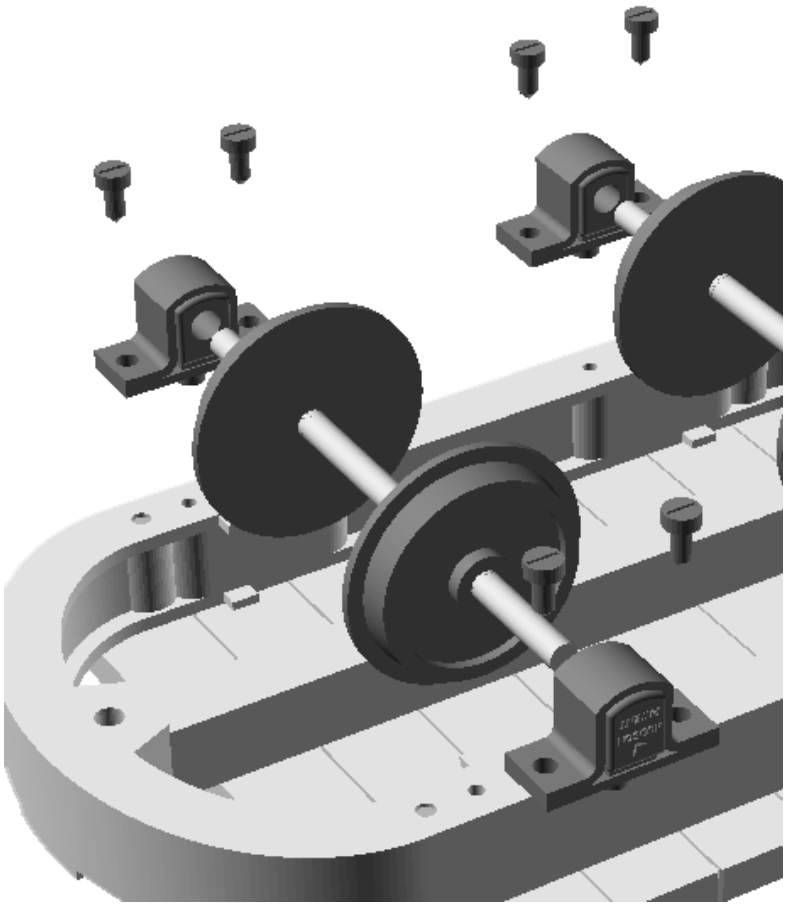
We have found that a good method is to first seal the assembly with automotive “high build” primer; let dry for 24 hours and lightly rub down with wet and dry paper. Then re-prime with red or grey primer. This should give you a good surface for the paint top coat, removing all traces of the wood grain on the 1.5mm plywood components.

Step 2 – Wheels



Cut the four 3D printed axle boxes from their connecting sprues.
N.B. don't trim off the round locating peg!

"Twizel" a 3 mm bit in the journal holes to clean out any printing dust



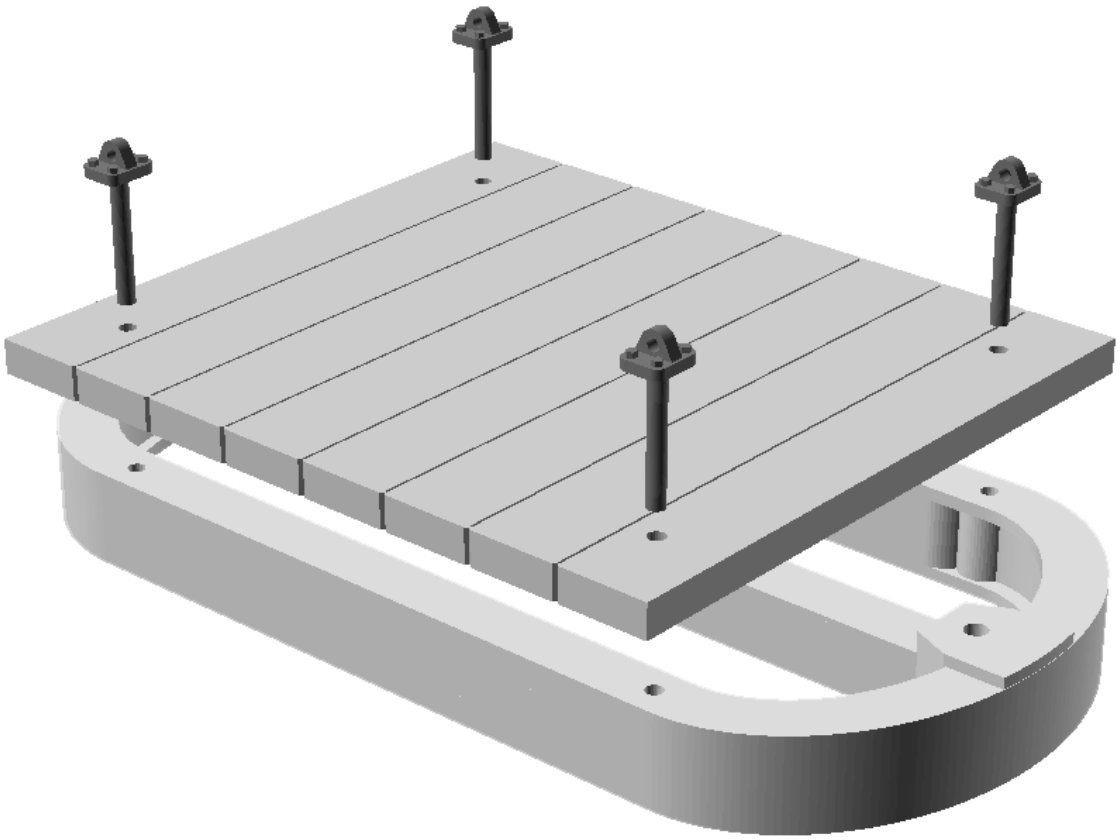
Place a pair of axle boxes onto an wheel set and fit the two locating pegs into their holes in the chassis. Now secure in place with 4 of the self tapping screws.

Repeat for the other end.

Step 3 – Floor

Next assemble the load securing lugs. These are supplied sprued together. It is strongly suggested that you fit the tiny metal rings while the lugs are still attached to each other.

First poke a pin or thin drill bit through the hole to clear any printing powder. With a pair of long nosed pliers; open one of the supplied black metal ring up slightly and thread through the hole. Close the ring up again with the pliers and then cut the sprues connecting the pins together.



Next Twizel a 2 mm drill bit in the 4 holes the locating pins are about to be pushed into.

Put a little glue onto the top of the chassis side, place the floor in place and push the locating pins into the chassis

Once dry; paint, stain or varnish the floor as you see fit.

Step 4 – Couplings

Clean out the coupling pin holes with a 3 mm drill bit. Separate the coupling hooks and links from their sprues. The white spots left where the sprues have been removed can be touched up with a permanent black marker pen if you do not wish to paint these parts.

Push the pins into their hols trapping the coupling link underneath the short cross bar.

Put a spot of lubricating oil on each axle end before the wagon enters service

Job Done!