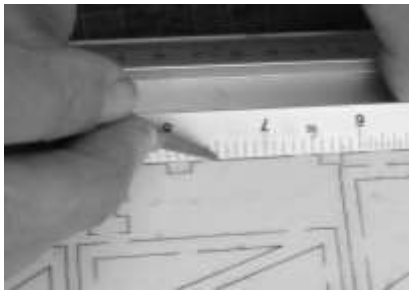
Corris Railway Iron Bodied Wagon

This model is based on one of the various one-ton iron bodied mineral wagons used by the Corris Railway in mid-wales. These wagons were unusual in having wooden underframes but iron bodywork. The Corris railway was acquired by the Great Western railway in 1929 so this wagon is probably the smallest wagon type operated by the GWR.

General Assembly Instructions

Do take time to read through the instructions and understand how the parts fit together before reaching for the glue pot.

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

The 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 and Acrylate parts (e.g. body panels and strapping) are best fixed with good quality Cyano/super glue. We recommend the “Haffix” brand as this does not seem to cause the white “frosting” that some brands are prone to.

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 these 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.

The body (which is laser cut from acrylate sheet) is less critical. We use acrylic grey primer from a rattle can as sold for automotive use. However this material is easily painted with a variety of model acrylic and enamel paints.

Tools

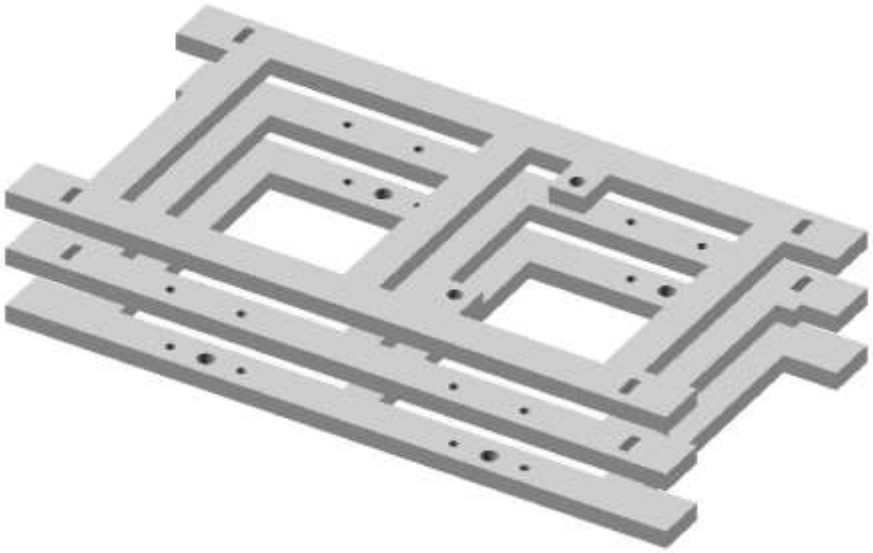
The following tools will be required:

- A sharp modelling knife or scalpel
- A small file, sand paper or an emery board “nail file”
- A small “Philips” screw driver, size 0

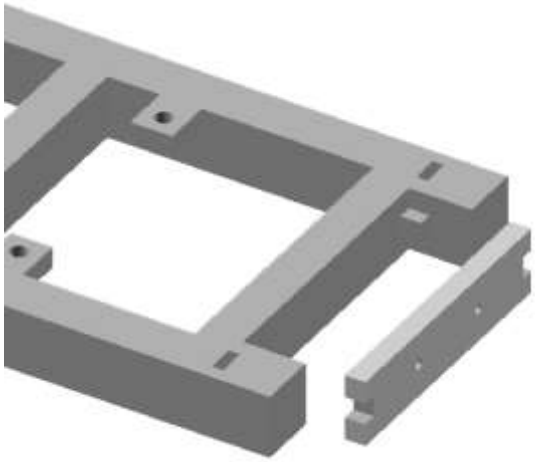
The following tools are recommended

- A cutting matt
- A small steel ruler
- Some small clamps, bulldog clips or rubber bands
- Round and flat section “needle files”
- A metal working vice or a wood working vice
- A fine tipped black permanent marker pen.

Step 1 – Chassis



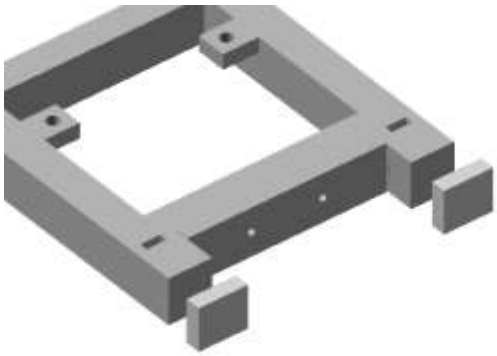
PVA wood glue is recommended for this step or if you want to use a super-glue DON'T use an "instant grab type". Glue the 3 "chassis plates" together taking care to align the parts (the buffer mounting plates help with this). Note the sequence of axle box holes; small tab on "buffer"; and no tab of the three plates. Make sure the parts are squeezed together properly. Wipe out any glue that oozes into the body end locating holes. Now glue the two buffer mounting plates of your choice (**see below**) onto the ends between the two dumb buffers. Clamp the parts together with small modeller's clamps or bull dog clips while the glue sets.



Once the glue has set, lightly sand the edges of the "plates" that now form the sole bars and dumb buffers to remove any excess glue and to provide a good surface to paint or varnish.

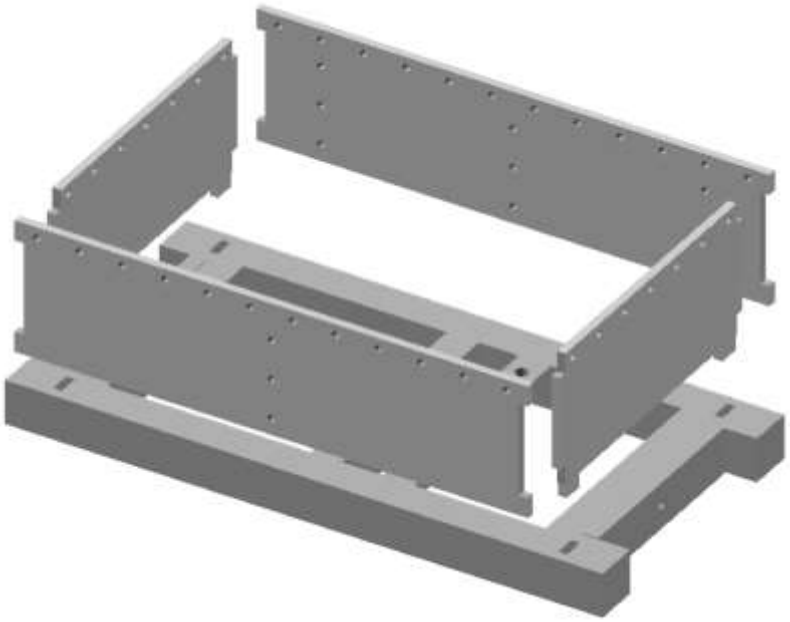
Three pairs of buffer mounting plates are provided. **A pair with 2 holes 14mm apart for use with the supplied centre buffer couplers**. A pair with a single pilot hole for single bolt mounting buffers and a plain pair for anything we haven't thought of..

Also provided are 8 rectangles to increase the length of the dumb buffers if you want to model a more prototypical dumb buffer and hook arrangement.



Now paint or varnish the complete chassis assembly to seal it against moisture.

Step 2 – Body

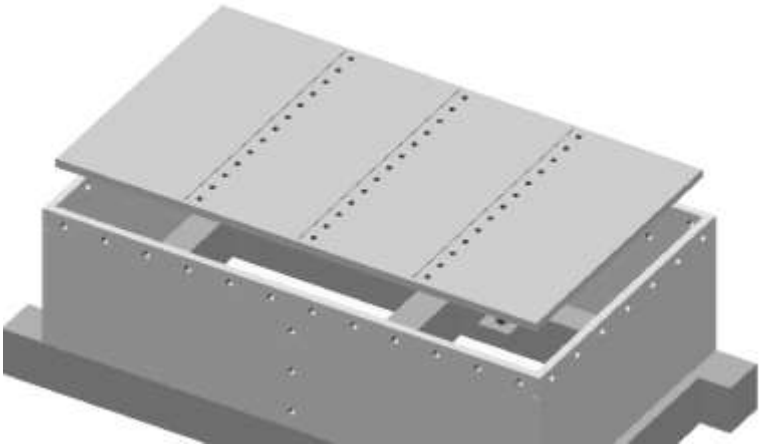


Separate the 4 body sides from their frets with a sharp knife. Peel off the backing film before gluing them together,

N.B. the 2 sides are not identical and ensure that they are orientated relative to the small square lugs on the chassis as show

Now glue the floor in place. Once set, if the body end "tongues" are protruding slightly, file them gently so that they are flush with the side.

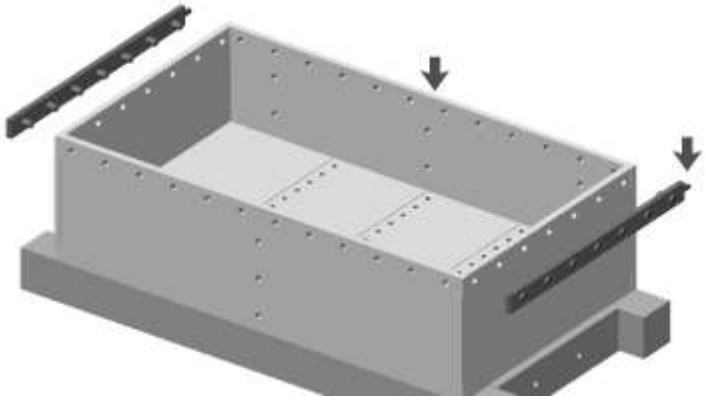
Now is a good time to paint the body its main base colour.



Step 3 – Body Strapping

Separate the 3D printed body strapping and hinges from each other by cutting off their little connecting sprues and trimoff any sprue residue with a sharp knife so you have a flat surface to glue to the wagon body.

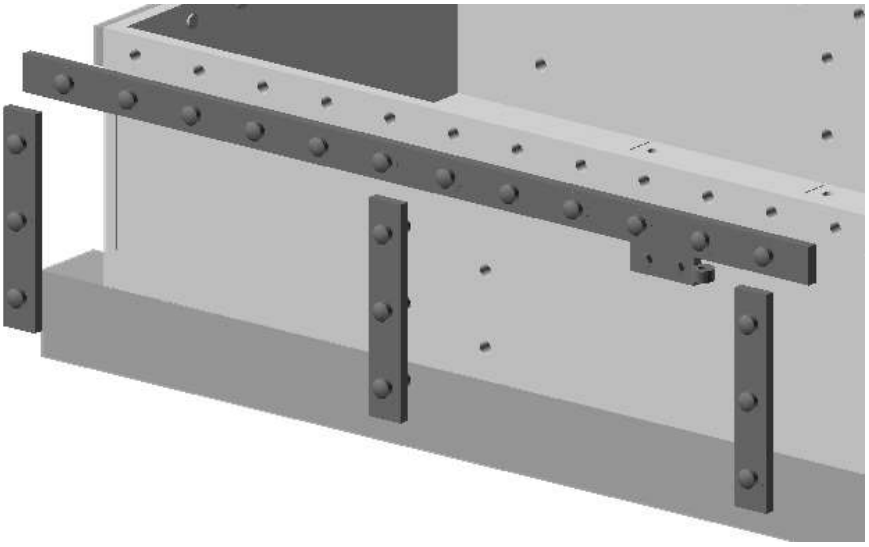
The printing process may leave a powdery residue. This is best brushed off with a cheap (clean ☺) tooth brush. The little white spots left when you trim of the sprues are best "coloured in" with a black permeant marker pen.

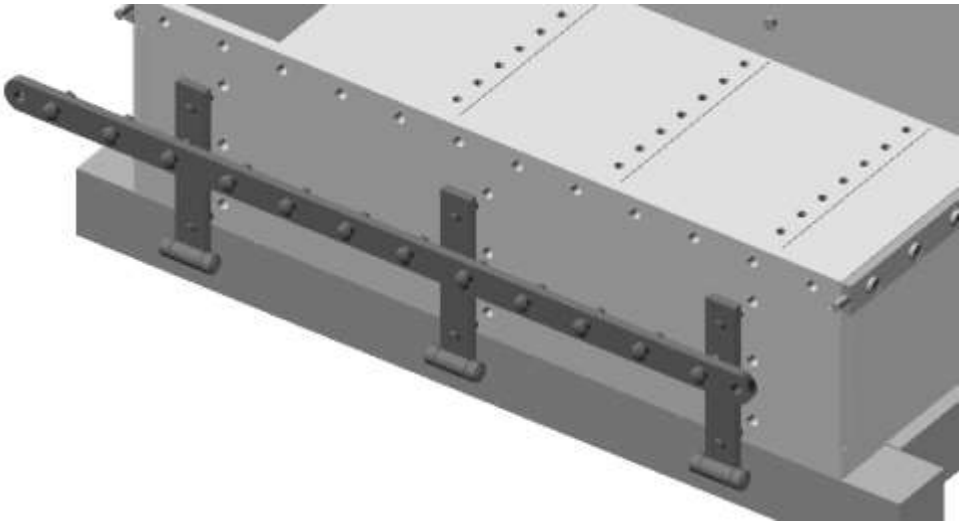


Glue the end straps in place.

N.B. the little pins should point to the door side, i.e. the side with 3 vertical columns of holes

Glue the top strap on the handle side of the body followed by the 3 vertical straps. The 2 end straps have no protruding “rivets” and need to be glued right on the corners.



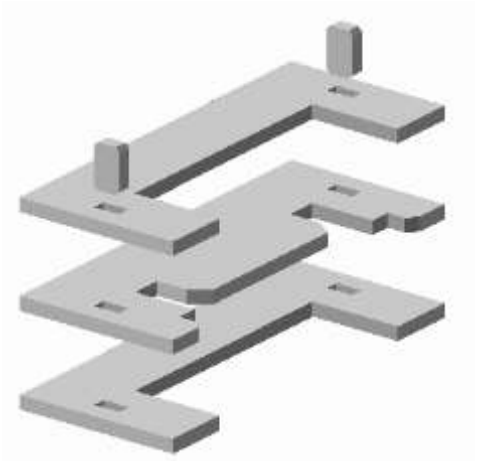


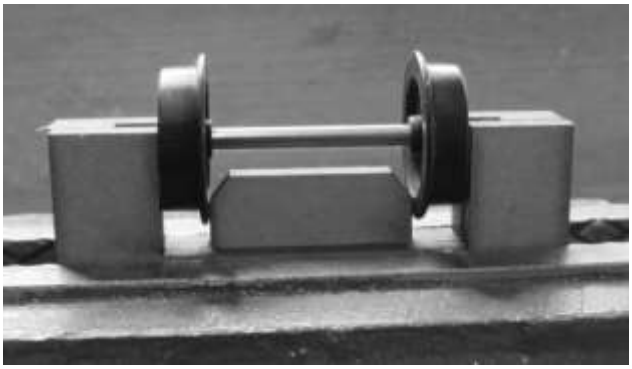
On the door side glue the top strap in place, the end lugs should locate over the pins on the end strapping.

Next glue the 3 hinges in place

Step 4 – Wheels

Glue the three parts of the wheel assembly jig together using two locating pegs to align them.



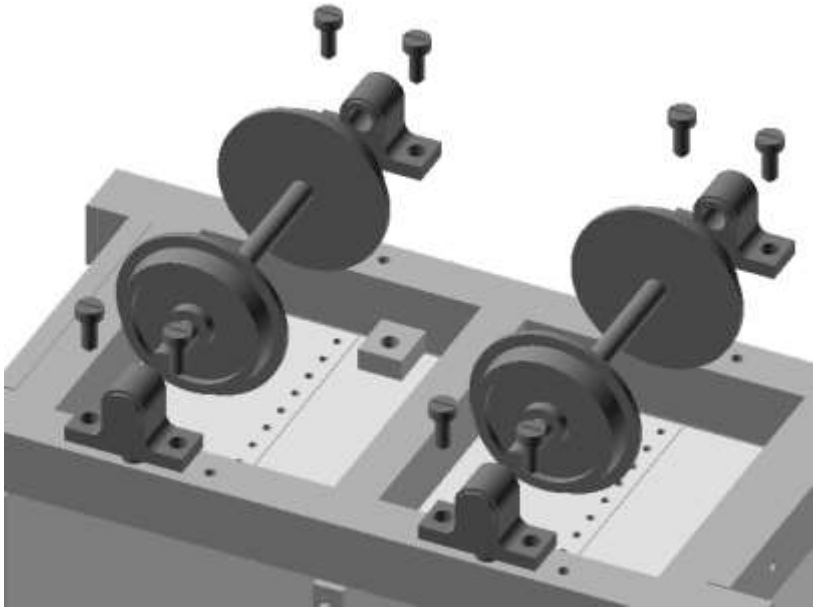


Once the glue is set, place jig in your vice. Push a pair of wheels onto an axle and push them in from the ends about 6mm. Now manoeuvre the complete assembly into the jig as shown, gently moving the wheels in and out until it fits nicely.

Step 5 – Axle boxes

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

Clean out any printing dust in the axle holes by "twizzling" a 3mm drill bit in them



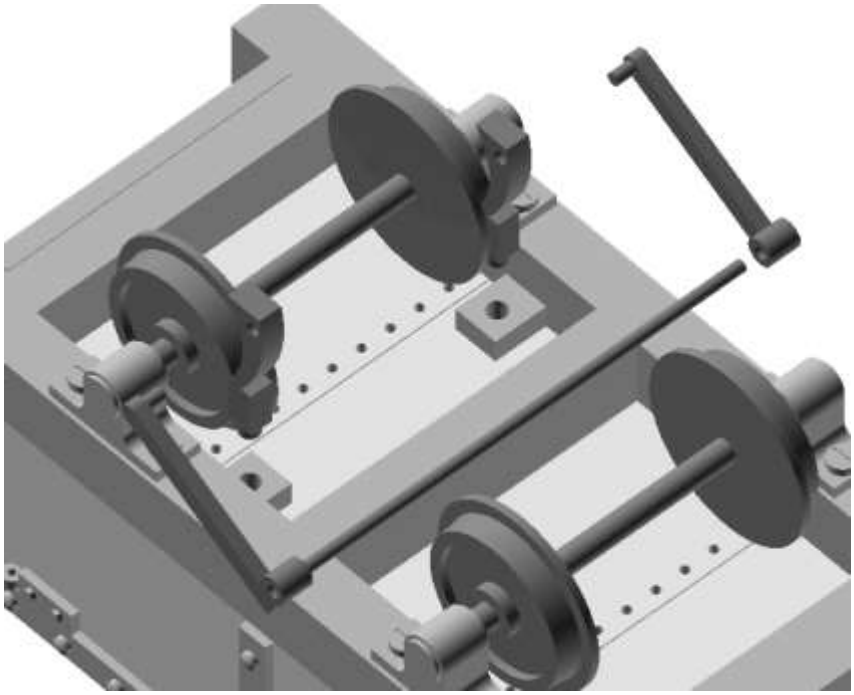
Place a pair of axle boxes onto an wheel set and fit the two locating pegs into their holes in the chassis. Now secure in place with 4 of the self tapping screws.

Repeat for the other end.

Before entering service, remember to oil the axle ends with a light lubricating oil (e.g. 3-in-1).

Also included in the kit are a couple of tyre weights. If you feel you need extra weight and plan to run the wagon empty, then fix these weights in the centre of the underfloor cavities now.

Step 6 – Brake Gear

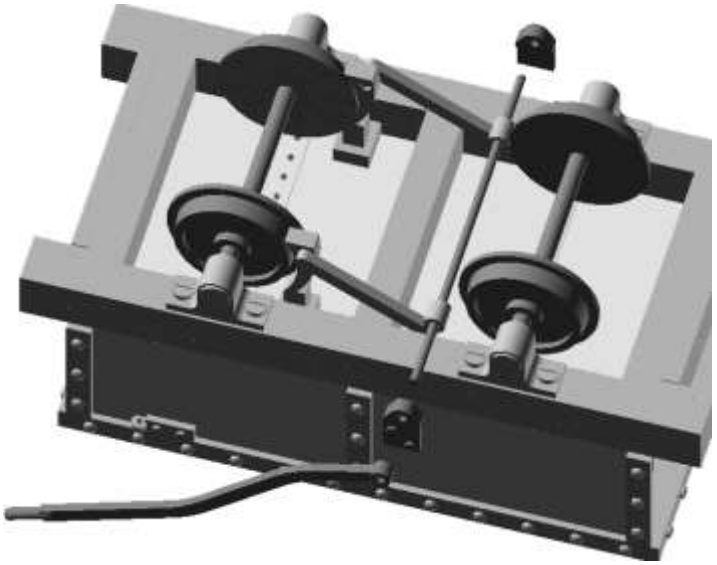


Fit the 2 brake arms onto the 1.5 mm diameter rod and then clip the arms into the outside of the brake shoes, **but don't glue anything yet.**

Fit the brake shoes into their sockets in the chassis.

N.B the brake rode should protrude slightly more on the handle side of the body.

Now fit the2 brake rod brackets onto the rod and then the handle onto the rod.



Included in the kit is a short length of fine chain. Gently open one of the small links and thread it through the bracket on the top strapping and then close the link. Thread the brake handle through the long link before attaching the arm to the brake rod. Alternatively bend up a simple link from an office staple!

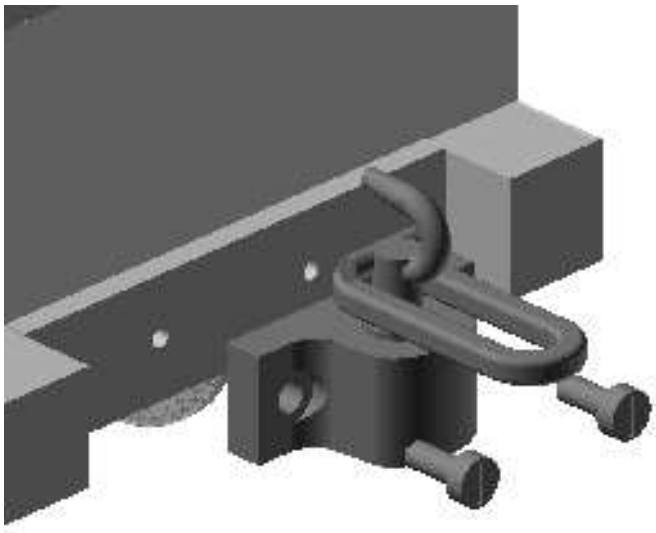
When you are happy with the position of everything now fix the brake parts in place with super glue.

Step 7 – Couplings

The prototype actually had dumb buffers and hook and chain couplings. However to make this model more usable with the majority of garden scale locomotives, the kit comes supplied with 3D printed centre buffers with a captive coupling link

You will probably need to clean out the hooks hole with a 3mm drill bit after “de-spruing” the parts .

Fix the two couplers onto the wagon ends with four self-tapping screws.



Job Done!