Corris Railway 2 Plank Wagon

This model is based on a Corris two plank wagon used by the Corris railway in mid-wales. The wagons had an unusual end opening design with curved iron straps with a slot and peg closure. The wheel sets axles and axle boxes were supplied by the Hadfield Helca Foundry in Sheffield. The wagons were a successful design and survived into Great Western ownership.

A choice of couplings is included in this kit. You can either assemble the wagon with side "dumb buffers" and a central hook for a 3 link chain (see above) or if you prefer a centre buffer (for greater compatibility with the rest of your stock) , a pair of Penrhyn style wagon buffers are also included (see right).

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 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 poplar plywood) is less critical and can be simply varnished or painted with a wide variety on acrylic or enamel modelling paints.

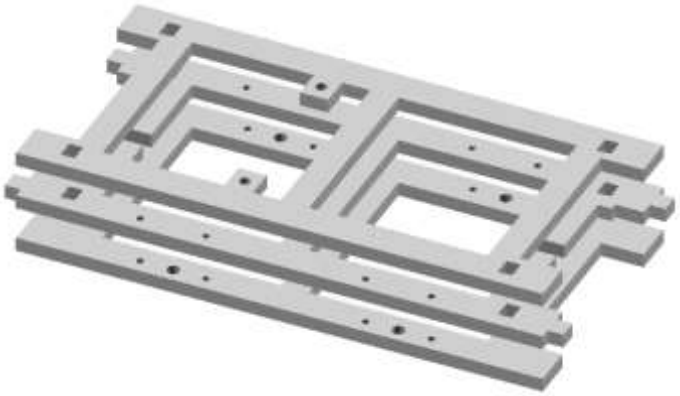
All the nylon detail parts come pre-stained in a deep black colour. You may paint these parts if you require with enamel or acrylic model paints. Note that the surface of the nylon is slightly porous so you may find you first coat soaks in quite a lot.

Tools

The following tools will be required:

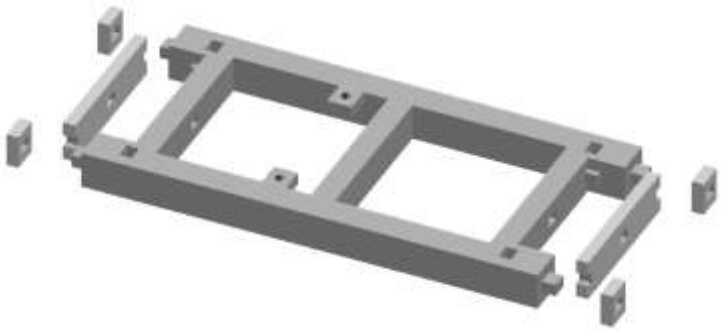
- A sharp modelling knife or scalpel
- A small file, sand paper or an emery board "nail file"
- A small "Philips" screw driver, size 0
- A pair of needle nosed pliers

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 gab for buffer shank ; and brake shoe sockets of the three plates. Make sure the parts are squeezed together properly. Wipe out any glue that oozes into the body end locating holes and buffer shank holes.

Now glue the two buffer mounting plates of your choice (**see below**) onto the ends between the two sole bar extensions. Clamp the parts together with small modeller's clamps or bull dog clips while the glue sets.



If you are intending to use our hook and chain couplers, glue the 4 small sole bar extensions onto their locating lugs (the 3D printed buffer straps will glue around these later).

If you don't intend to fit the dumb buffers and straps (i.e. you plan to use the Penrhyn centre buffers), cut off the 4 locating pegs with a razor saw or junior hack saw.

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.

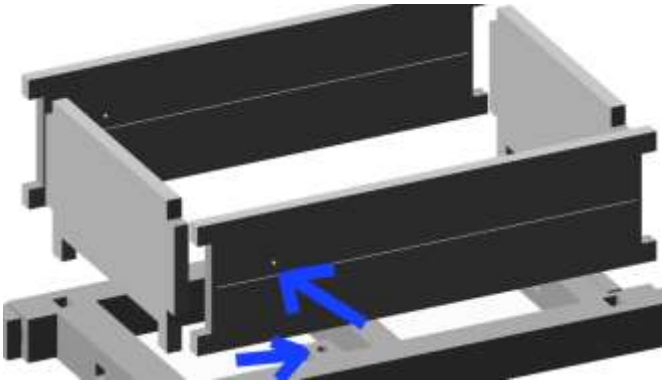
Three pairs of buffer mounting plates are provided. **A pair with a square socket for the supplied hook and Penrhyn style centre buffers.** A pair with 2 holes 14mm apart for use with our bell mouth couplers (not supplied) and a plain pair for anything else we haven't thought of.

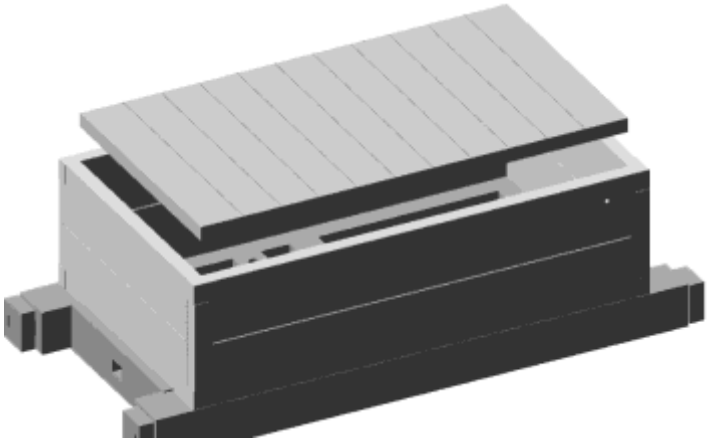
Now paint or varnish the complete chassis assembly to seal it against moisture.

Step 2 – Body

Separate the 4 body sides from their frets with a sharp knife. Glue the sides together, carefully fitting the locating lugs into their sockets in the chassis.

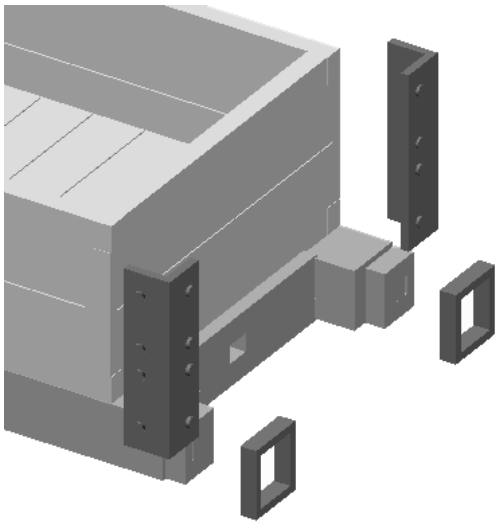
Note the orientation of the pilot hole for the brake lever pin and the brake shoe socket



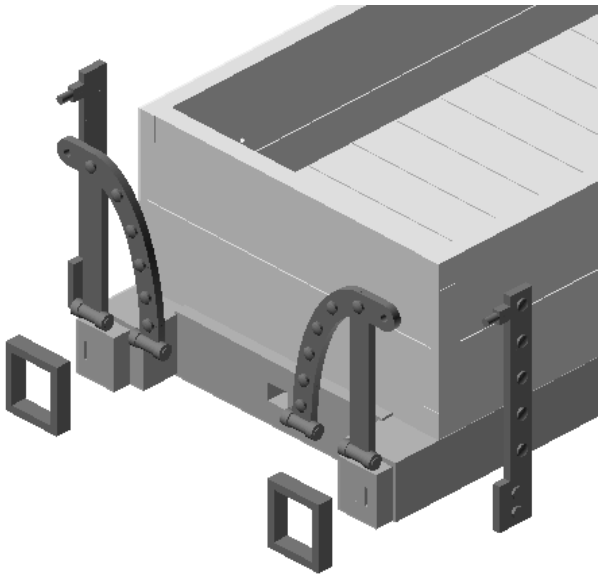


Now glue the thin ply floor in place.

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



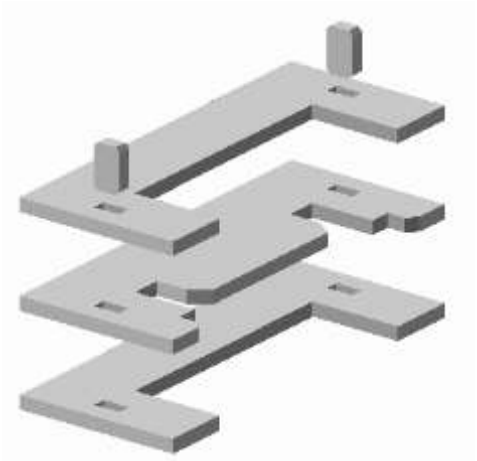
Glue the corner plates and buffer straps (if required) in place. Note that the corner plates should be at the opposite end to the two brake shoe sockets.

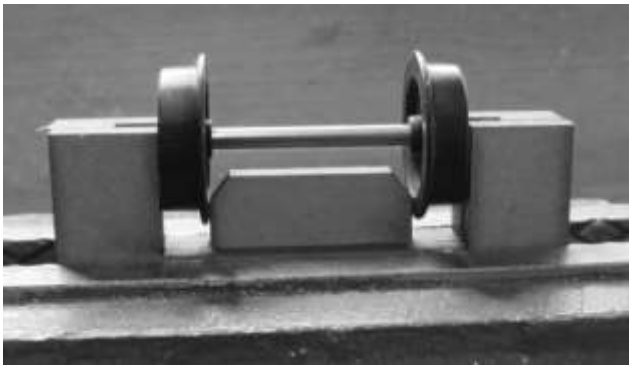


Glue the door straps and buffer straps (if required) in place, on the end with the brake shoe sockets.

Step 3– Axle Assemblies

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





Once the glue is set, placethe 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 4 – Axle boxes

Cut the four 3D printed axle boxes from their connecting sprues (the dark grey bits in the picture to the right).

N.B. don't trim off the round locating peg!

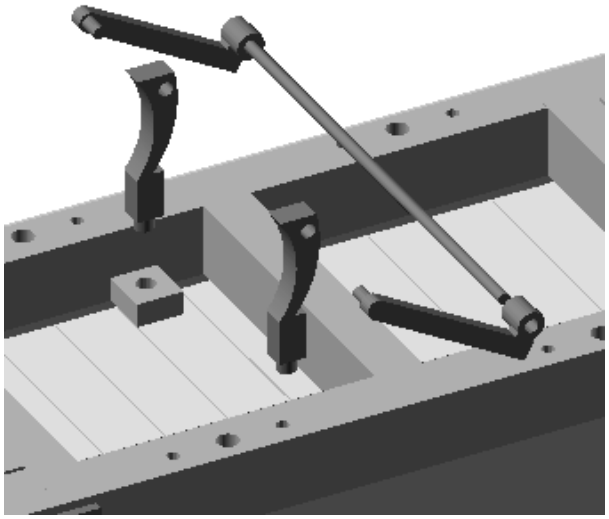
Clean out any printing dust in the axle holes by "twizzling" a 3mm drill bit in them

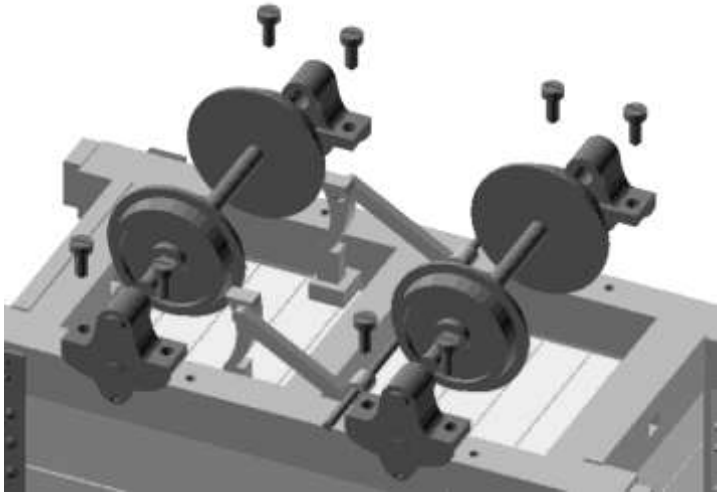
Step 5 – Brake Gear and Wheels

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.**

Glue 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.



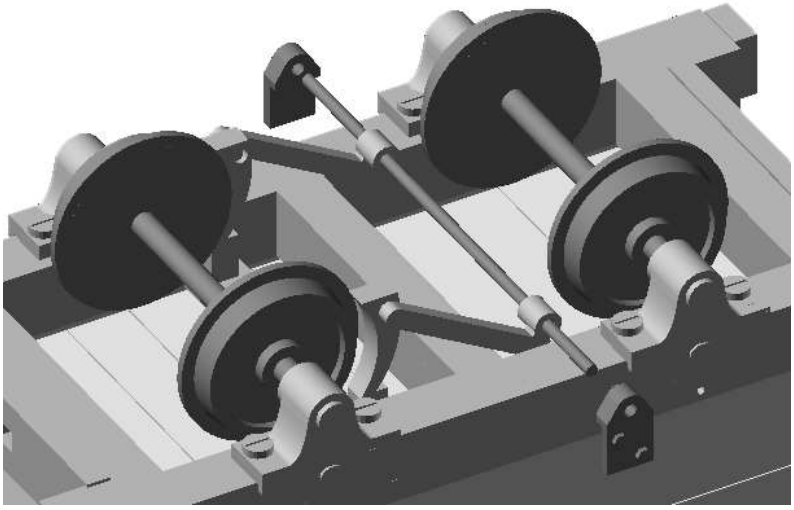


Place a pair of axle boxes onto an wheel set and fit the two locating pegs into their holes in the chassis. Now secure in place with 4 of the self tapping screws.

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

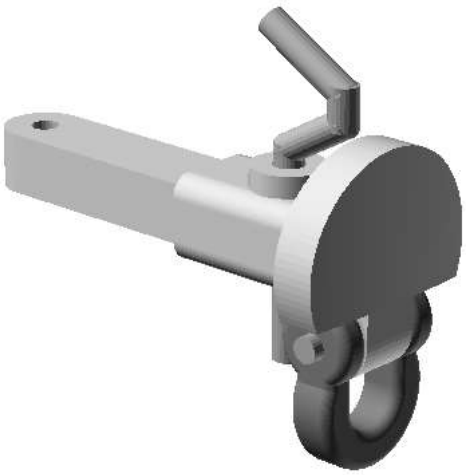
Now thread the 2 brake rod support plates onto the rod ends and glue to the chassis. The brake rod should be flush with the plate on the "non handle" side and protrude about 5mm on the handle side

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.



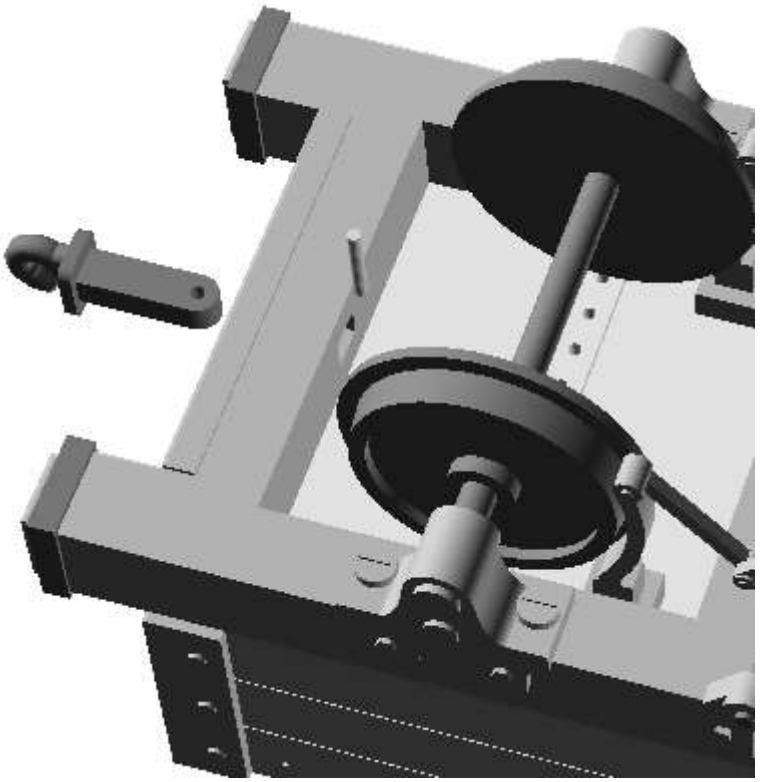
Step 6 – Couplers

If you intend to use the Penrhyn buffers these will need assembling now. Cut two 8mm long sections from the supplied brass rod and attach the shackle to the buffer by pushing the rod through the eyes and body. Bend up 2 hooks with needle nose pliers and glue into the body as shown.



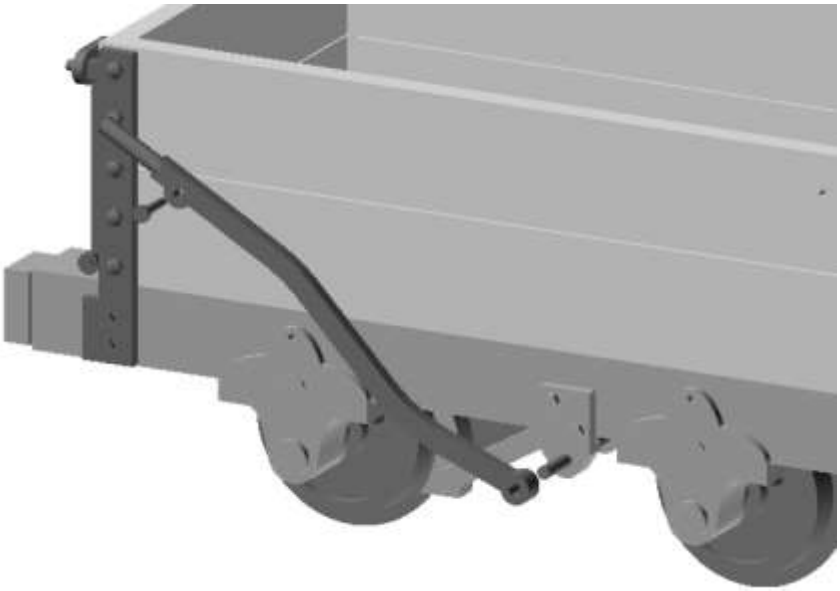
Now push the hook or buffer shank though the rectangular socket in the buffer beam and push a small (6mm) section of brass rod though the hole to fix in place.

Repeat for the other end



Step 7 – Brake Handle

Push the rod end of the handle on to the brake rod and then fix the handle in place with the small pin into its pilot hole in the body side.



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

Job Done!

Packing List

Part	**Quantity**	
Chassis A (3mm MDF)	1	
Chassis B (3mm MDF)	1	
Chassis C (3mm MDF)	1	
Wheel Setter (3mm MDF)	1	
Body sides (3mm plywood		
Body floor (1.5mm plywood)	1	
Bits Bag		
Door strapping / brake part set	1	
Corner plate pair	1	
Dumb buffer strap set	1	
Buffer / hook set	1	
Brake rod (65mm long 1.5 mm dia piano wire)	1	
Coupling wire (75mm long 1.2 mm brass wire)	1	
Small nail / pin	1	
Coupling chain	2	
Wheel bag		
Binnie 20mm curly spoke wheels	4	
Axles (52mm long 3mm piano wire)	2	
Clover leaf axle box set	1	
M2 self tapper screws	8	
Tyre weight strip	1	