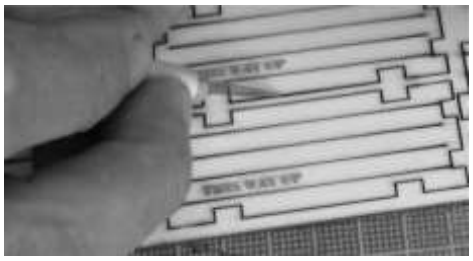
Welsh Highland Railway 4 Ton Mineral Wagon

These coal and mineral wagons were originally owned by the North Wales Narrow Gauge Railway. When this railway closed down the goods stock was left in open sidings at Dinas. In 1923 the Welsh Highland Railway was formed and acquired ownership of these wagon. Many were found to be beyond repair, but twelve were repaired and put into service on the new railway.

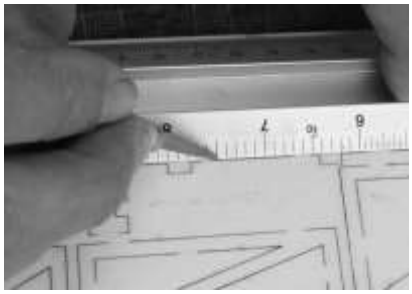
Examining the few photographs available show 3 different couplings were used over the years, the kit includes a small centre with hook on top.

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

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. the body strapping) are best fixed with a multi-purpose contact adhesive.

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.

Tools

The following tools will be required:

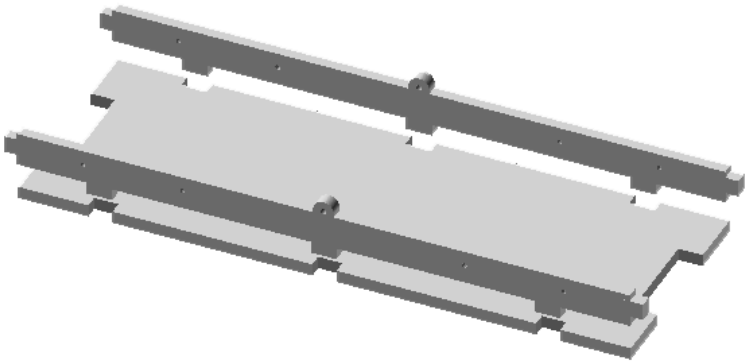
- A sharp modelling knife or scalpel
- A long nosed pair of pliers
- A small cross point screwdriver
- A small file, glass paper or an emery board “nail file”

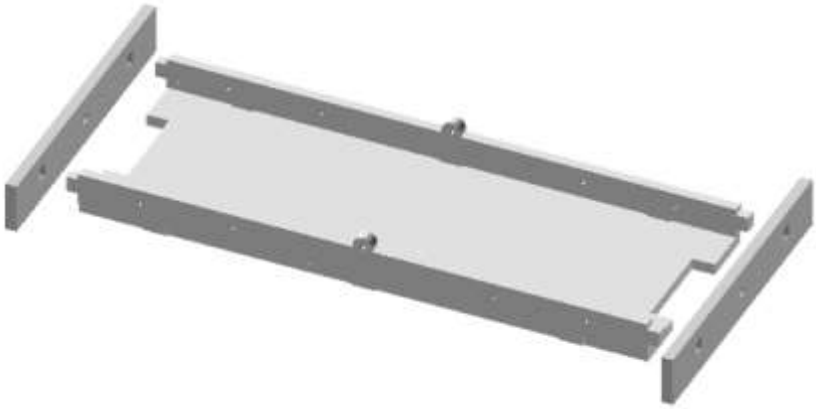
The following tools are recommended

- A cutting matt
- A small steel ruler
- Some small clamps, bulldog clips or rubber bands
- A round section “needle file”
- A pin or 1mm drill bit
- A clean “medium” tooth brush
- A 5mm spanner
- A fine tipped black permanent marker pen.

Step 1- Chassis

Glue the 2 MDF inner sole-bars into the locating sockets of the MDF under floor. Make sure the parts are squeezed together properly.

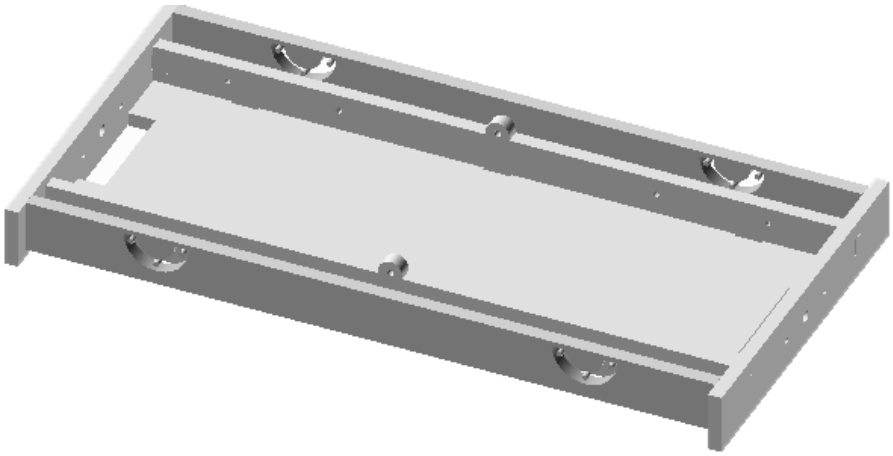




Glue the two MDF buffer beams onto the sole bar lugs. The parts should fit together snugly but if necessary lightly file the lug edges if the fit is too tight.

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

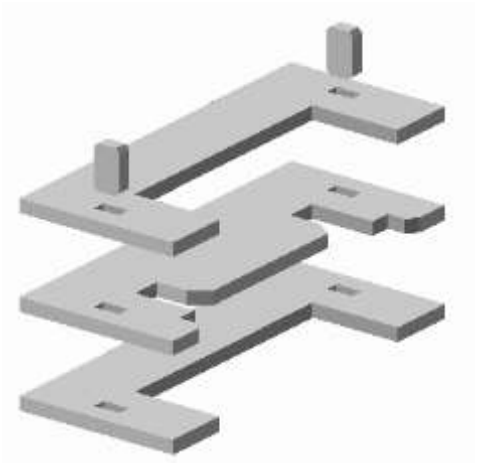
Note orientation of engraved reinforcement strips

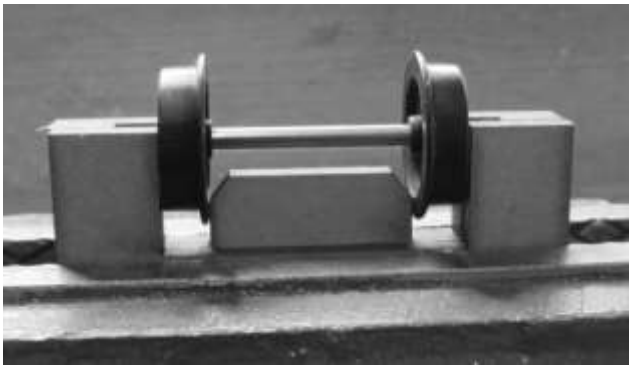


Once the glue has set, now's a good time to paint or seal with varnish the completed chassis!

Step 2 – Axle Assemblies

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



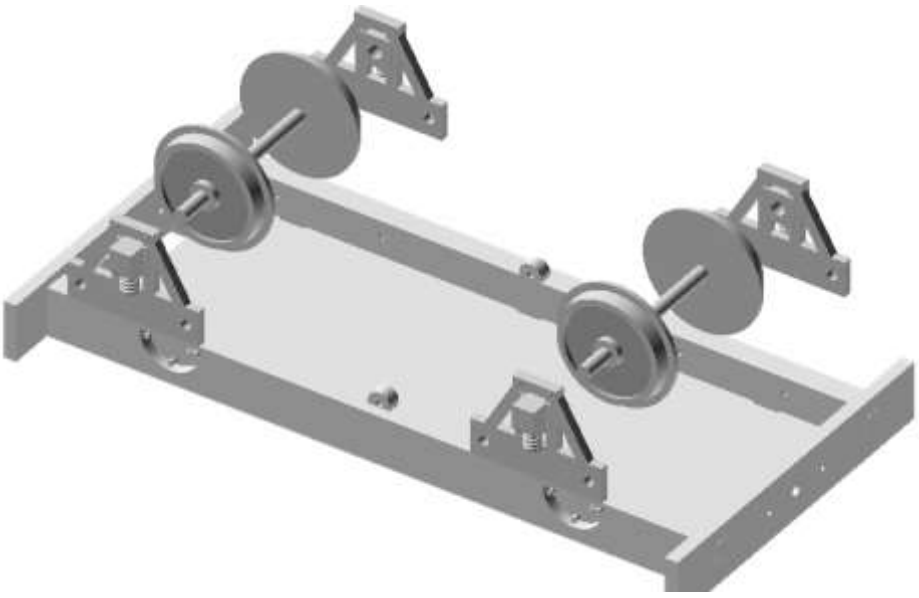


Once the glue is set, place the jig in your vice. Push a pair of wheels onto an axle and push them in from the ends about 6mm. Now manoeuvre the complete assembly into the jig as shown, gently moving the wheels in and out until it fits nicely.

Place a pair of axle guards onto an wheel set. Now secure to the inside of the solebars with 4 of the self tapping screws into the pre “drilled” pilot holes.

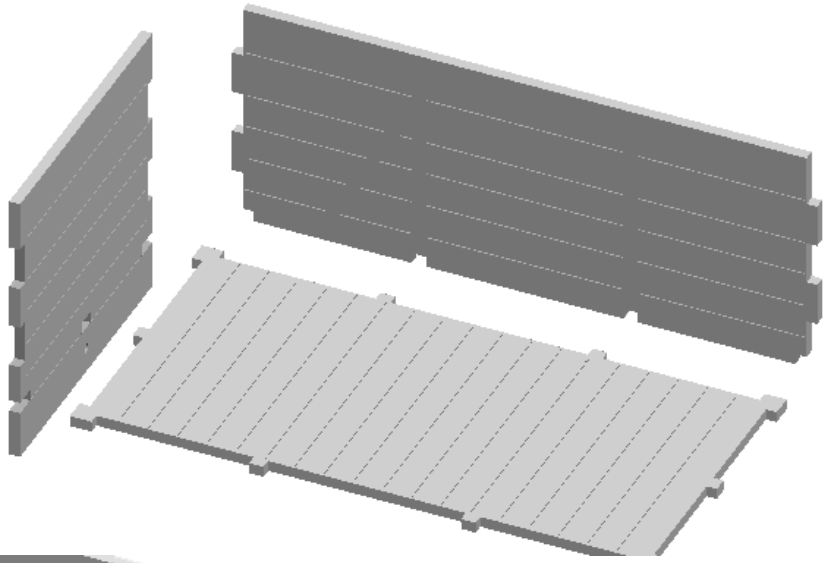
Repeat for the other axle.

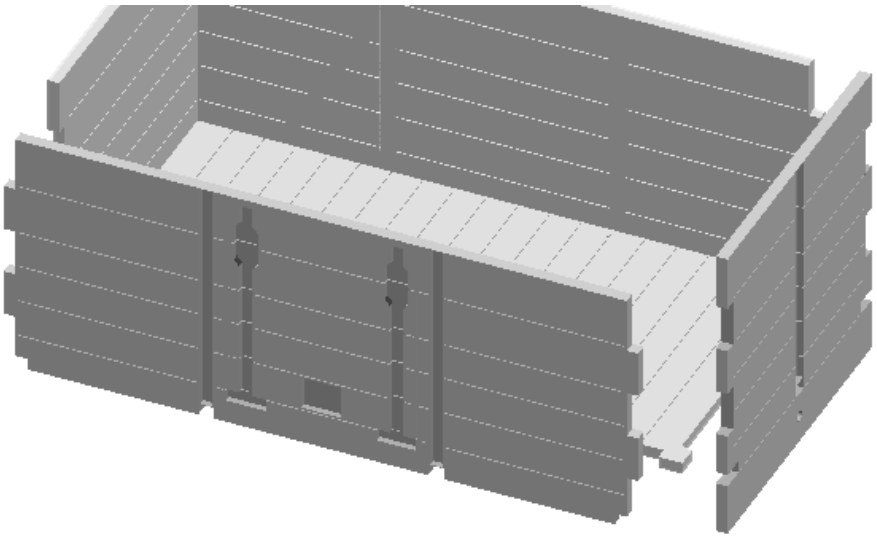
Before entering service, remember to oil the axle ends with a light lubricating oil (e.g., 3-in-1).



Step 3– Main Body Assembly

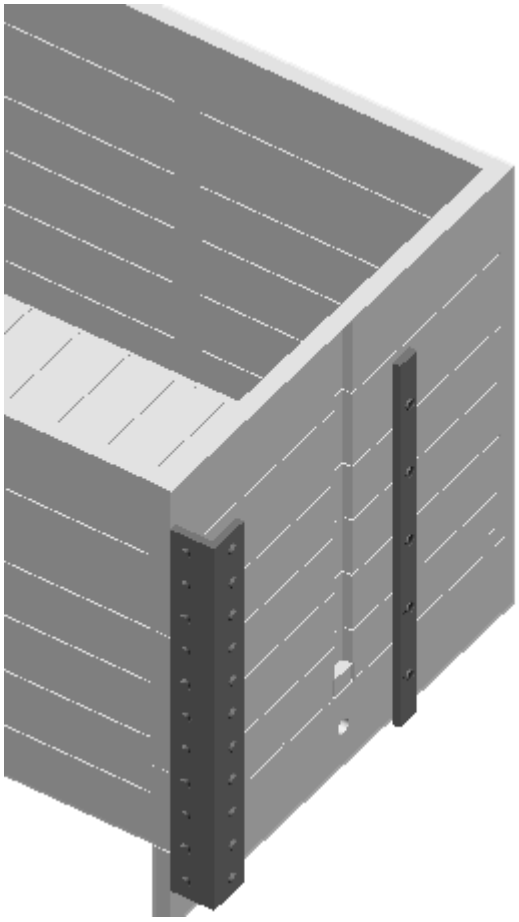
Now glue an end and side to the plywood floor. **Ensure the engraved recesses for the body straps are on the outside of the wagon**. Also ensure the engrave “planks” are on the top of the floor





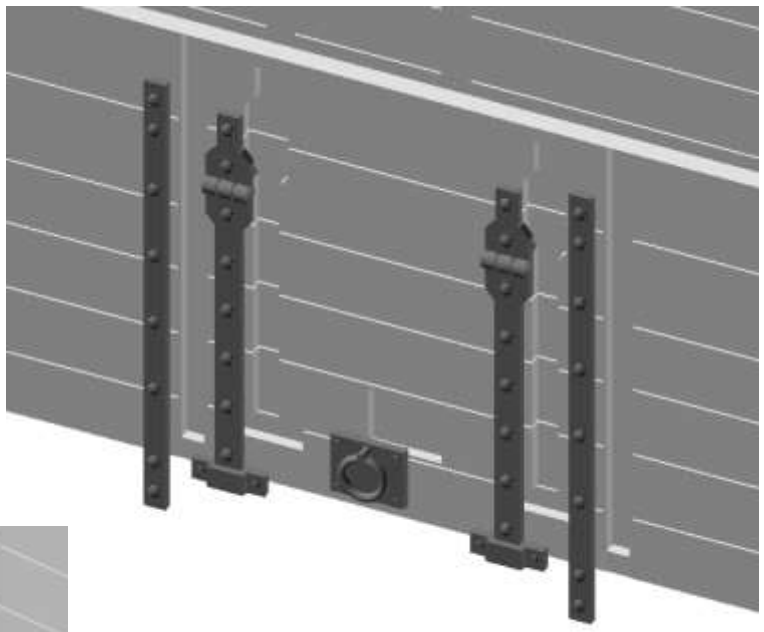
Glue the other side and end in place. Stand the completed body on a flat surface, pass a large rubber band around it or lightly clamp and allow the glue to set

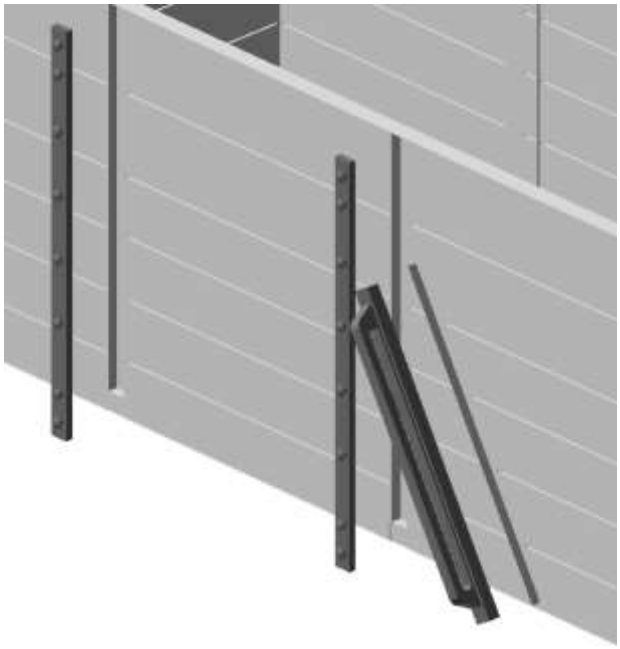
Step 4 – Body Strapping



Glue two corner plates in place. Next glue the centre strap into its recess. Note the end straps are slightly wider then the 4 side straps.

Repeat for the other end



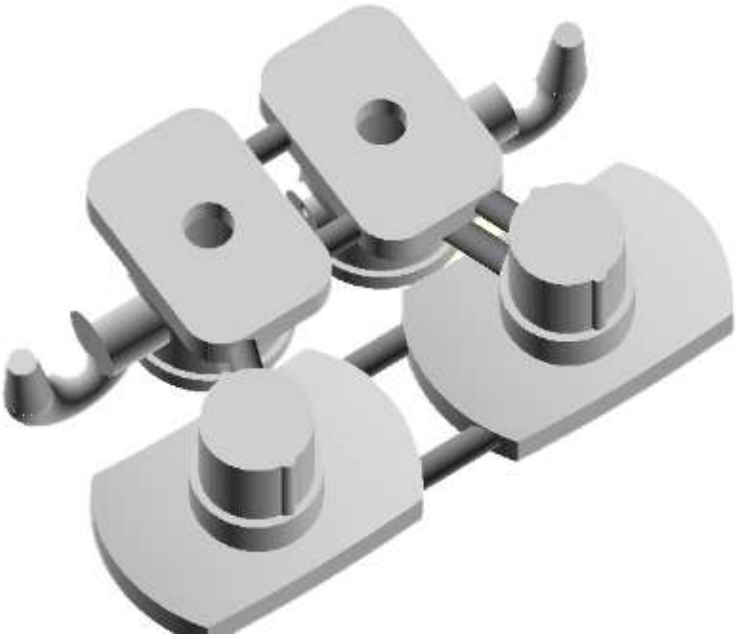


Glue 2 side straps, 2 hinge plates and the door handle into their engraved recesses on the door side.

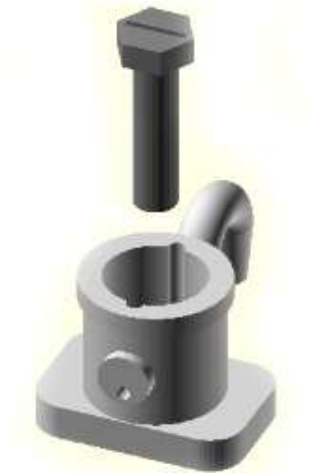
Glue 2 side straps and the brake handle bracket to the brake side of the body

Step 5 – Buffer Assembly

Separate the various components from their sprues with a pair of miniature side “snippers” or a sharp modelling knife. The sprues are shown as the darker grey in the picture

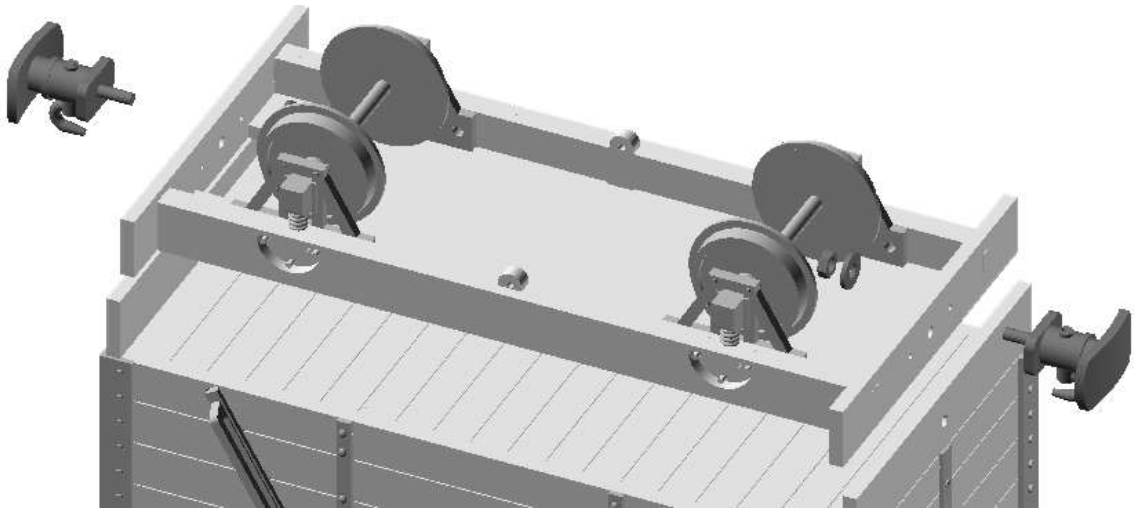


Push a pin through the air release hole opposite the hook to clear any printing dust.
Push the hex head bolt into its seating in the buffer body

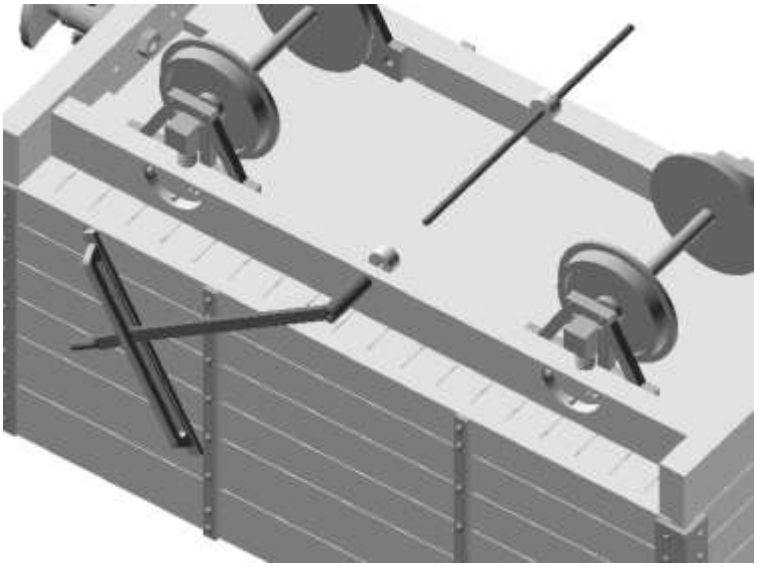


Glue the buffer shank into the body, trapping the bolt in place.

Fit the chassis under the wagon floor. Push the bolt through a hole in the wagons buffer beam and secure with the nut and washer. Repeat for the other buffer



Step 6 – Brake Lever



Finaly thread the brake lever though the brake handle bracket and then thread the steel rod through the eyes under the solebars into the sleeve on the brake lever

Finished!

Parts List

Part	Material	Quantity	
Chassis Fret	3mm MDF	1	
Wheel setter	3mm MDF	1	
Body Floor	3mm Ply	1	
Body End Fret	3mm ply	1	
Body Side Fret	3mm ply	1	
Solebar Overlay Fret	3mm ply	1	
Details Bag			
Body Strapping set	Black nylon	1	
Body Corner plate set	Black nylon	1	
1.5mm dia rod (65m long)	Brass rod	1	
Buffer bag			
Center Buffer set	Black nylon	1	
M2.5 nut, bolt and washer	Steel	2	
Coupling chain (3 link)	Nickle/brass plated	2	
Wheels Bag			
Binnie 24mm curly spoke wheels	Black nylon	4	
52mm axles	3mm dia rod	2	
Axle guard pairs	Black nylon	2	
M2 Self tapping screws	Black steel	8	
Tyre weight strip		1	