

## General Purpose Flat Wagon

This is a freelance model of a flat wagon used by any number of railways for transporting large and awkward loads. The kit includes optional load securing rings and a pair of edging strips pre “drilled” for easy fixing. However a pair of plan strips are provided so the modeller may choose to locate them in alternative positions e.g. on the wagon floor itself

Optional buffer beams are also included so that the modeller may fit Accucraft chopper couplings instead of the supplied centre buffer coupling if desired.



### 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 your 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 mounting lugs) 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.

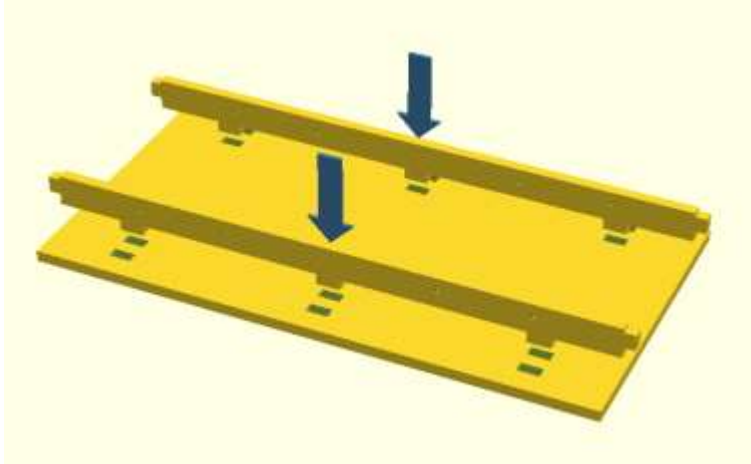
## Tools

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, sand 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 of 1mm drill bit
- A clean “medium” tooth brush
- A 6mm spanner



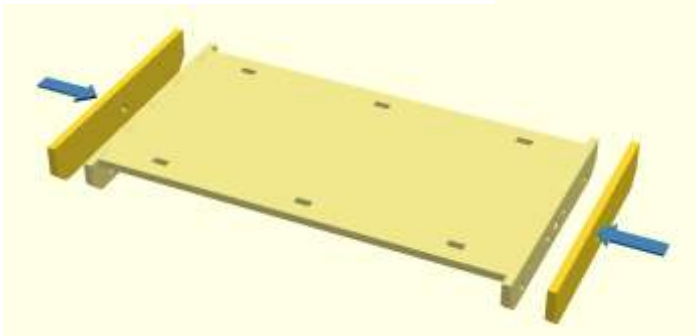
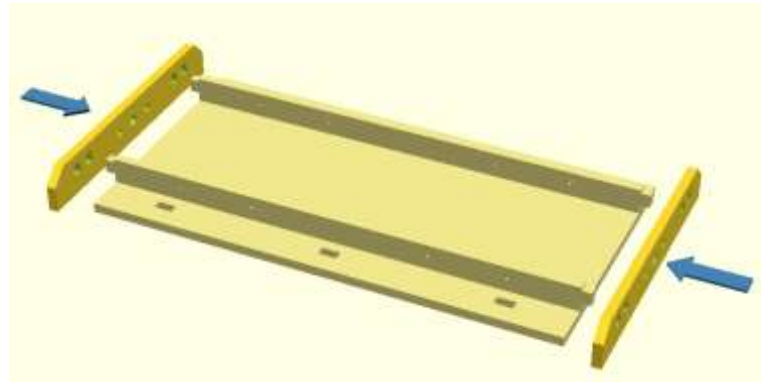
### Step 1

Glue the 2 MDF inner sole-bars into the locating sockets of the MDF floor. The inner hole sets are for 32mm gauge and the outer set for 45mm gauge

Make sure the parts are squeezed together properly. Wipe out any glue that oozes out of the joints.

### Step 2

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.

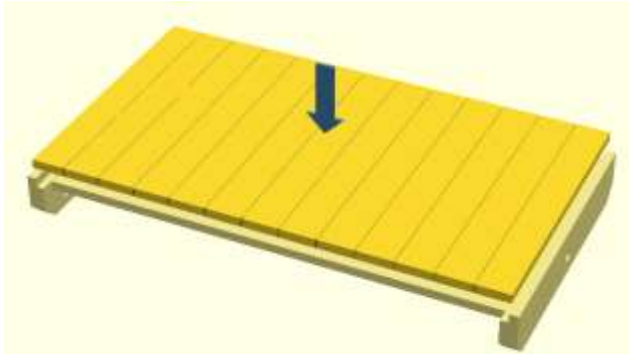


### Step 3

Glue two plywood buffer beam overlays onto the MDF buffer beams. N.B. The kit includes two pairs of overlays; one with a single hole for the included centre buffer and the other with a pair of holes correctly spaced for Accucraft chopper couplings (not supplied). Just use the pair that suits your needs.

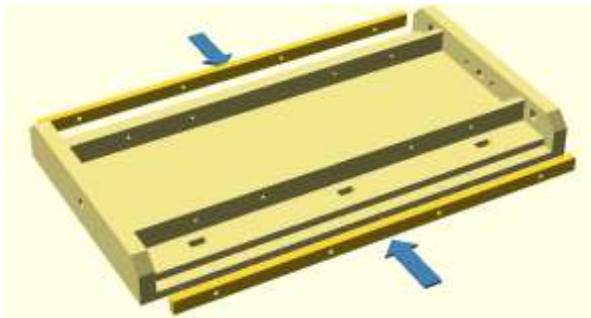
N.B. The bottom and sides of the overlays should be flush with the bottom and sides of the buffer beams. This should leave the top edge "proud" as shown in the photo.





**Step 4**

Now glue the plywood floor overlay on top of the MDF floor. This overlay is wider than the MDF floor. When you look at the underside the “overhang” should be equal on both sides

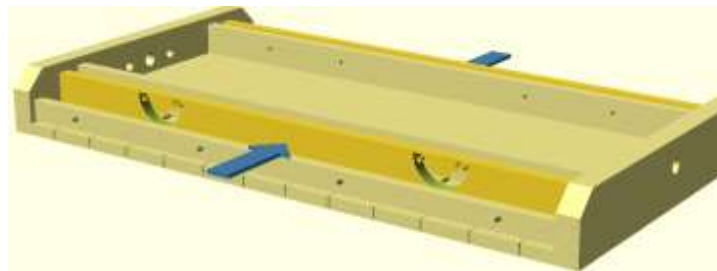


**Step 5**

Glue 2 floor edging strips into the recesses under the edge of the floor. Note that the kit includes two pairs of edging strips; one with locating holes for the load securing lugs and the other plain so that you may omit or reposition these lugs if you wish.

**Step 6**

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



*Note position of edge strip and orientation of engraved reinforcement strips*



Allow glue to set

*Now's a good time to paint the completed chassis!*

### Step 7

Next assemble the load securing lugs. These are supplied attached to the nylon axle guards. The 3D printing process will often leave traces of black nylon printing powder on these parts and you may find it necessary to clean them by brushing with a medium tooth brush before proceeding.

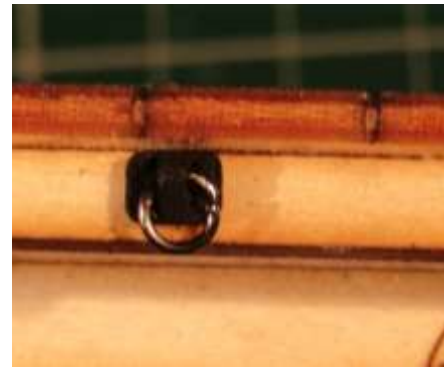
It is strongly suggested that you fit the tiny metal rings while the lugs are still attached to the axle guard.



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 lugs from the axle guards.



### Step 8

Glue the lugs into their holes on the floor edge strips with a strong contact adhesive.

### Step 9

Screw an axle guard onto one sole bar's inner face. You will find a pair of correctly spaced pilot holes. Only HALF TIGHTEN the screws or now, you will need quite a bit of "play" to allow you to get the opposite axle guard fixed.



Fit the opposite axle guard to a wheel journal into the "semi-fixed" axle guard. Now gently manoeuvre the unfixed axle guard into position. Fasten in position with two more screws (do make sure they go into their pilot holes). Tighten up the screws on the first axle guard.

Give the wheels a flick, they should spin freely. Repeat for the other wheelset.

## Step 10

Finally fit the centre buffers. Thread the 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).



Job Done!