

Nutty Locomotive Assembly Instructions

Nutty' is one of a peculiar breed of specialised locomotives that Sentinel made in the 1920s for brickworks use. Fletton Brickworks near Peterborough bought one of these primarily because of the very squat height (5'2" in fact)! Once the brickworks switched to diesels in the 1960's, the Narrow Gauge Railway Museum in Towyn acquired Nutty. Nutty first went to the Welshpool and Llanfair railway where it was re-gauged to 2 foot 6 inches and was used for shunting. Since then Nutty has been on static display in a number of places and now can be found at the Leighton Buzzard's Stonehenge works.



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.

Gluing

Wood and MDF parts may be glued with PVA wood glue, aliphatic wood 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.

The 3D printed components are best glued to the locomotive body with epoxy resin or good quality cyano glue (e.g. "Roket Max"). When fixing parts to pre-painted parts, aero modeller's "canopy glue" works well without any risk of "smoking" the paint surface.

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.

The 3D printed parts are easily painted with either acrylic or enamel model paints. We also acrylic car paint in an aerosol works very well.

Tools

The following tools will be required:

- A sharp modelling knife or scalpel
- 1.5mm, 2 mm and 3mm drill bits (to clean out various holes)
- A small file, sand paper or an emery board "nail file"
- A pair of side cutters or "snips"

The following tools are recommended

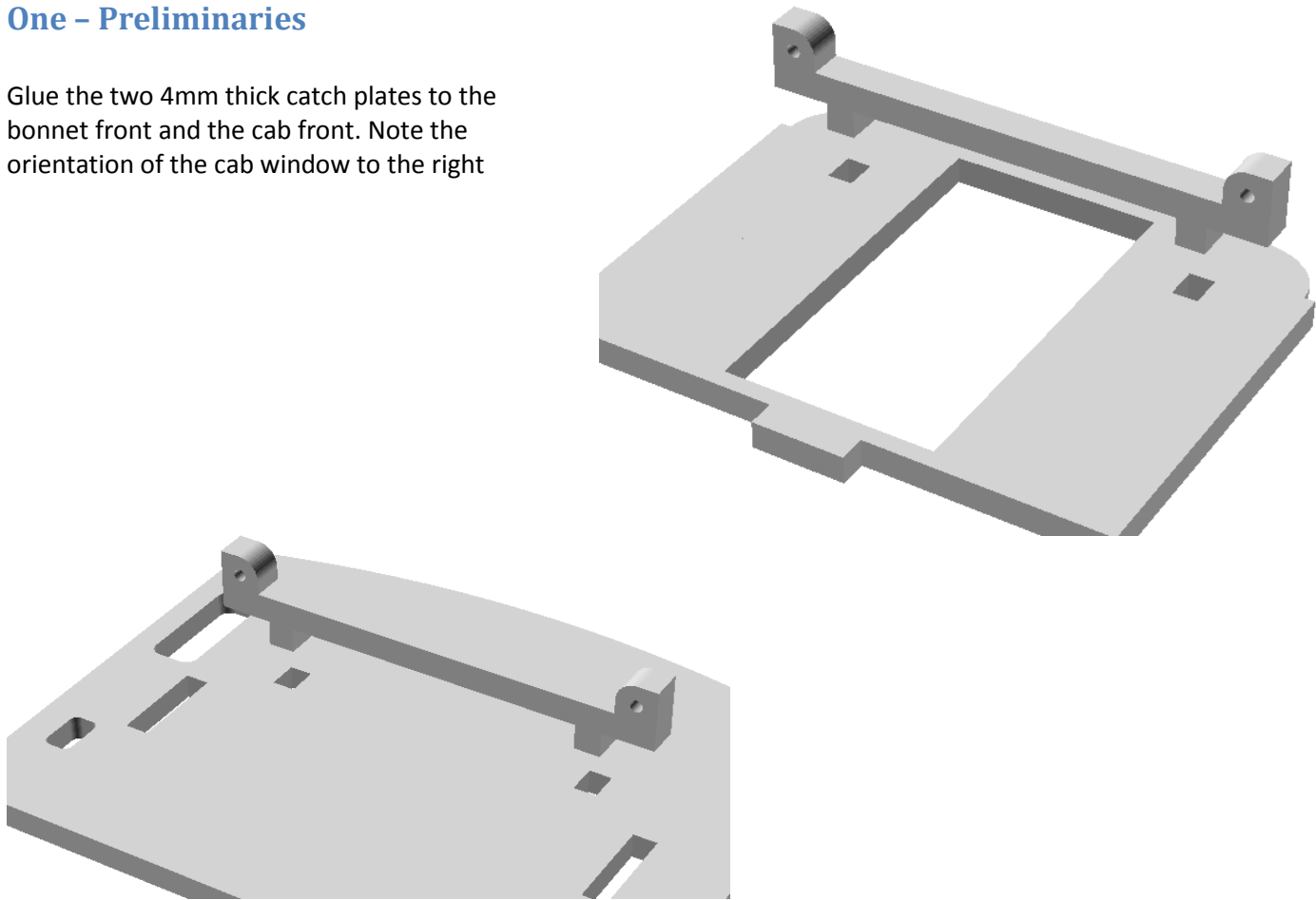
- A cutting matt
- A small steel ruler
- Some small clamps, bulldog clips or rubber bands
- Round and flat section "needle files"

Radio Control

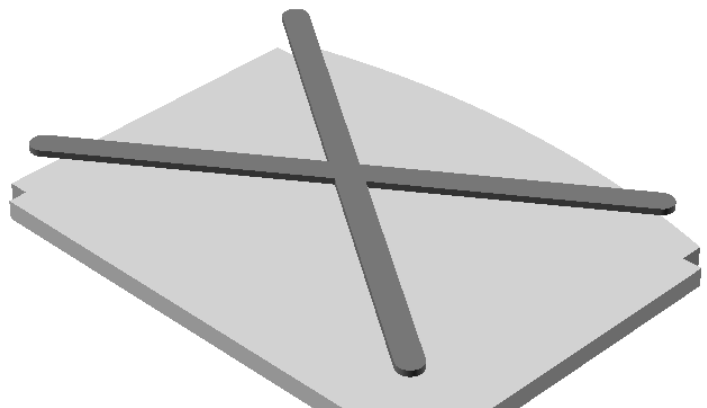
The kit comes with the chassis pre-wired for simple manual speed controller . However if you fancy fitting radio control there is sufficient room in the battery box to accommodate up to 6 AA batteries (or a 3 cell lipo battery) and a small radio receiver / controller such as a Deltang RX65.

One - Preliminaries

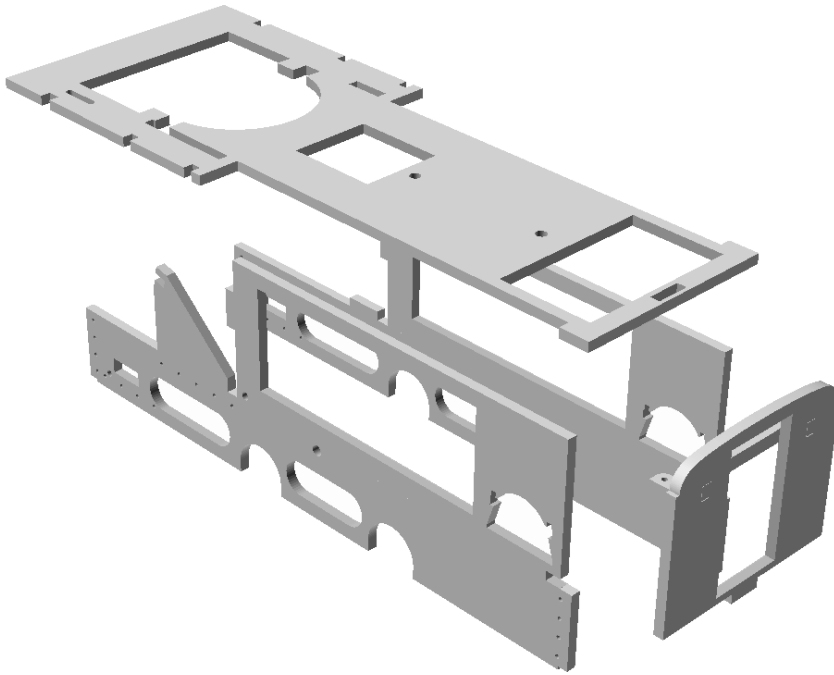
Glue the two 4mm thick catch plates to the bonnet front and the cab front. Note the orientation of the cab window to the right



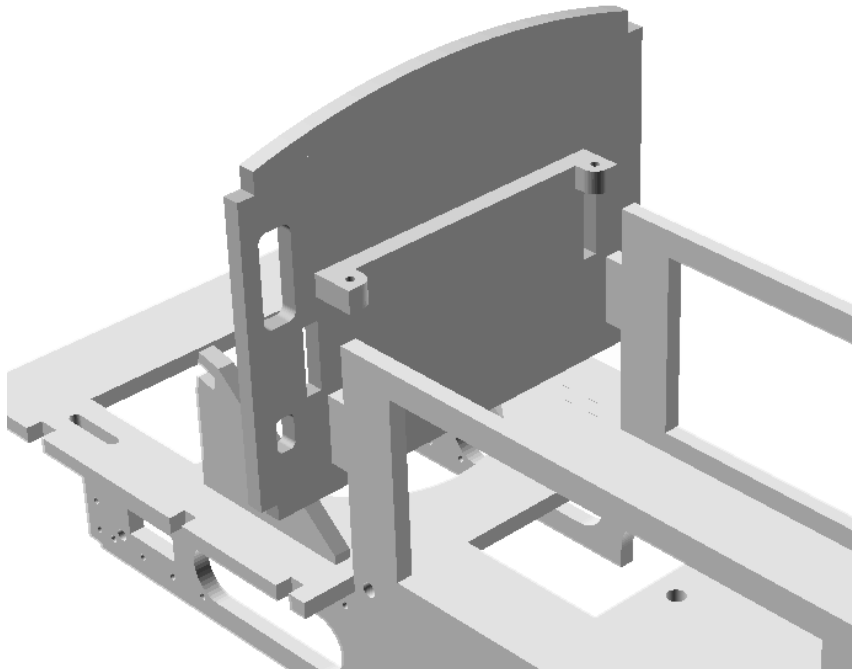
Glue the plastic cab brace overlay into its engraved socket on the cab back



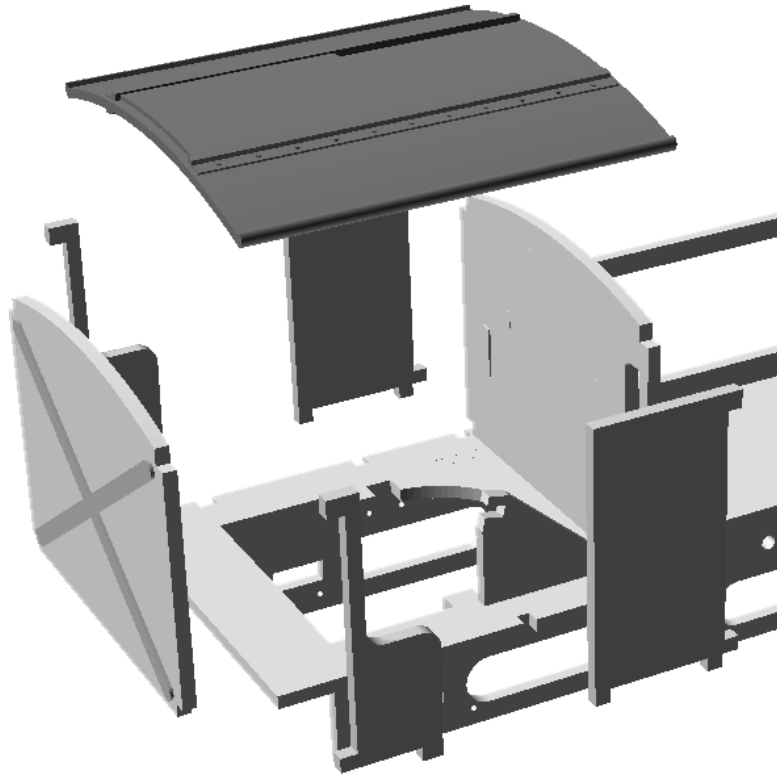
Two - Main Body Assembly



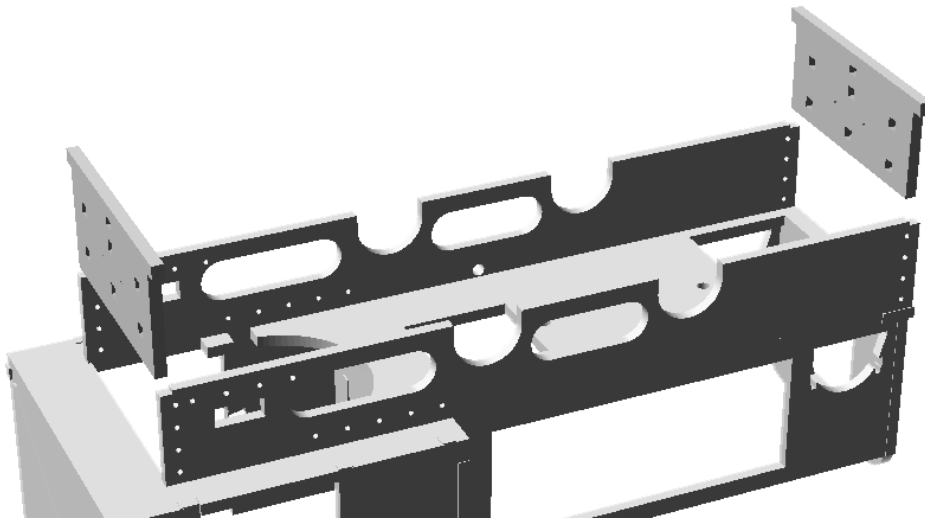
Glue the footplate to the right hand side. Then the left hand side followed by the bonnet front.



Glue the cab front in place. Ensure all parts are square, clamp up and set aside to dry.



Assemble the cab sides and back (ensuring the cab brace is on the outside) . Temporarily fit the cab roof to ensure back wall is correctly placed. Some of the tongues and sockets might need easing slightly with a small file.



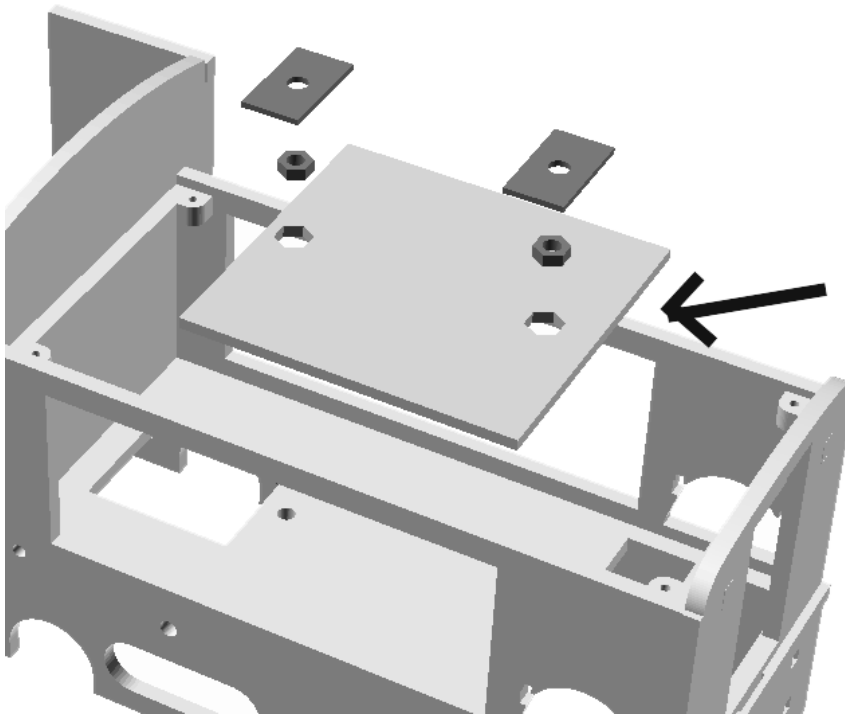
Glue the frame front and back in place. (The back is the slightly taller of the two).

Once set, check all corner joints for cracks.

If necessary fill (we find Isopon p38 good) and sand down until you are happy with the corners. Another tip is to spray the complete body with grey primer at this point to highlight any remaining imperfections

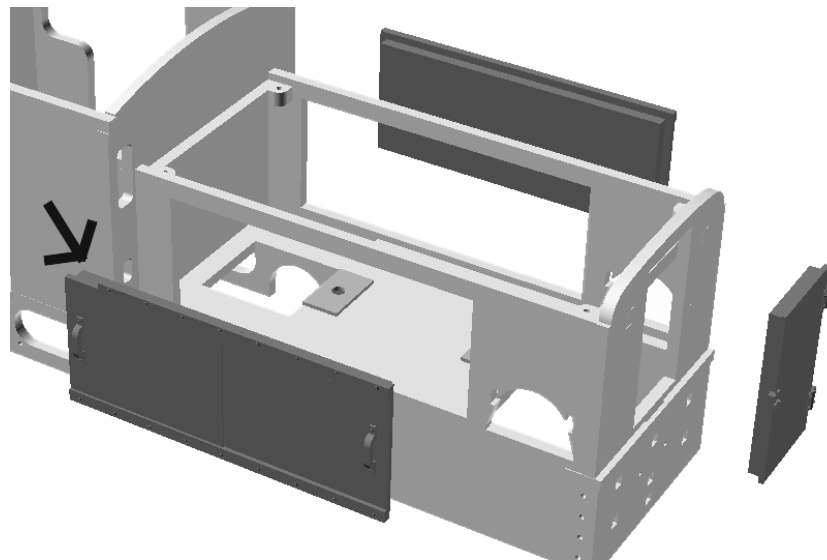
Glue the nut retaining plate inside the bonnet. Note the holes are slightly offset to the rear.

Now place two M3 nuts in their sockets and glue the thin plastic retaining plates in place to trap them.



Clean up the locating lips on bonnet side panels with the supplied emery board so they fit into their sockets without forcing. Glue in place. Note the panel with the little cut out goes on the right hand side.

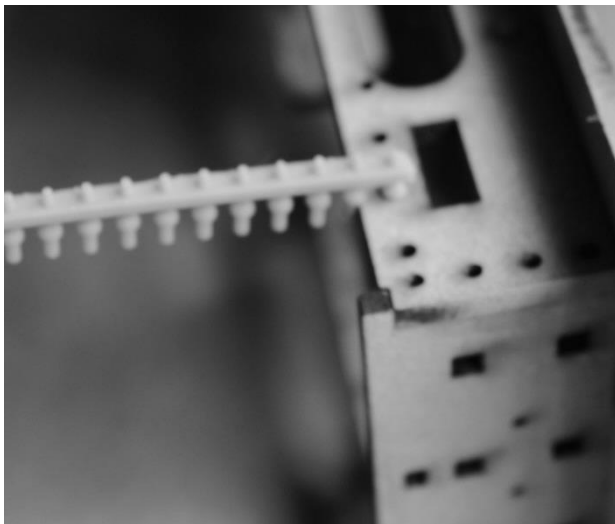
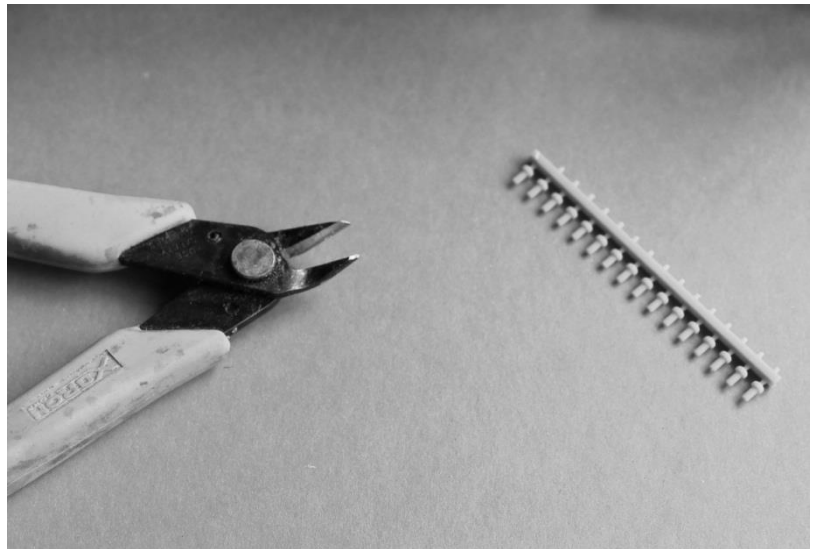
Clean up and glue the front door in place



Three - Frame Rivets

With a pair of clippers trim the supplied rivet head sets into "combs" as shown.

With a 1.5mm drill bit ensure all the rivet holes in the frame plates are free of glue etc.



Add a spot of super glue into a rivet hole and poke the body of rivet down into the hole so the head rests on the frame.

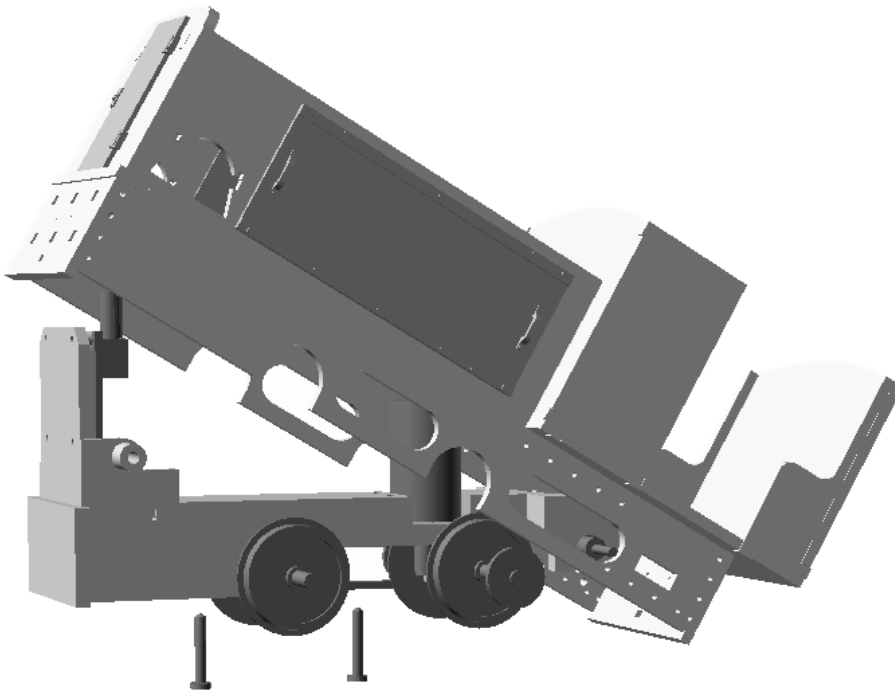
Snip the rivet from the "comb" with a pair of side cutters and clean off any sprue residue with a couple of strokes of the emery board.

Repeat for all 34 rivets.....

N.B. we provided a few extra rivets in the sets in case !



Four - Fitting the chassis



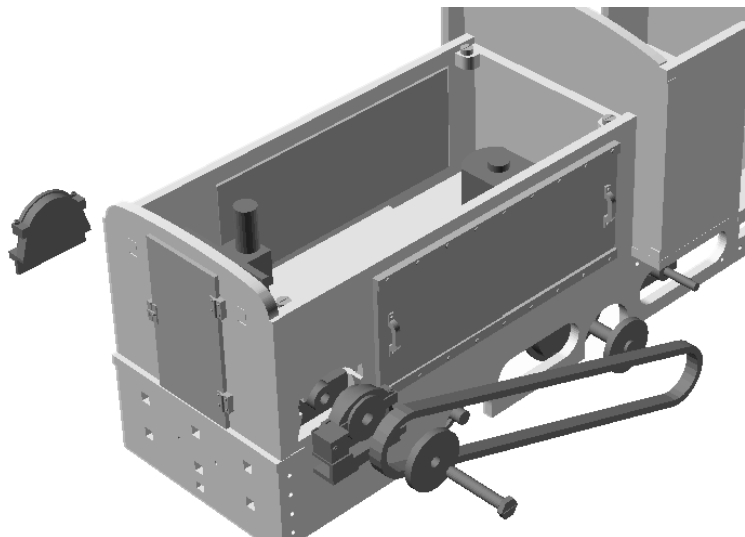
Remove the M3 bolt from the dummy drive sprocket on the left hand side and remove the sprocket and long drive chain.

Fit the chassis into the body. To do this-

- 1) Hook the switch toggle through rear large oval cut out in the frame.
- 2) Thread the battery clip wire through the front rectangular cut out in the foot plate .
- 3) Swing the chassis front up into place. The front speed controller bracket is a tight fit but it will go through the hole!
- 4) Screw the two M3 machine screws up through their holes in the chassis into the captive nuts in the body.

Reassemble the front “drive sprocket” assembly, this time passing the bolt through left hand front bearing plate.

Glue the right hand bearing plate into its recess on the right hand side.

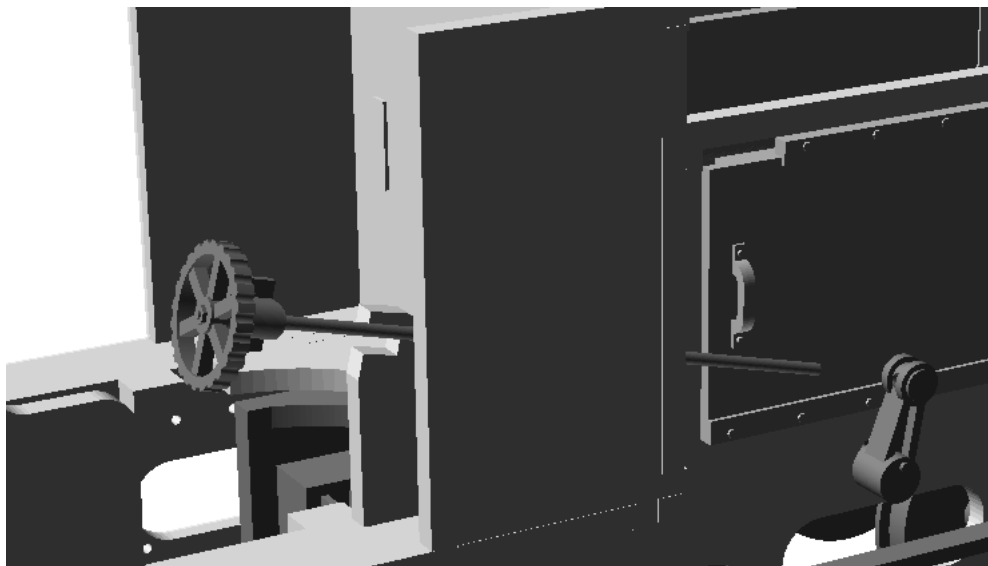
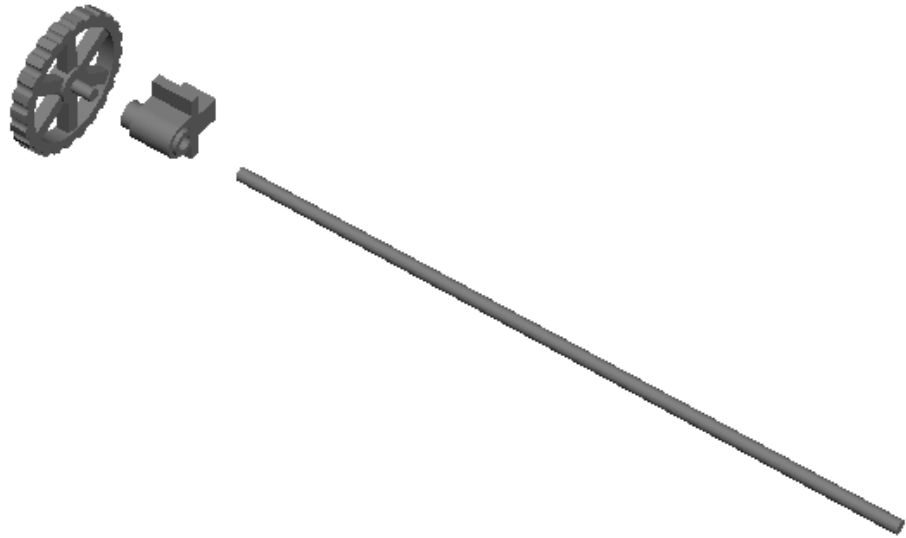


Five - Details

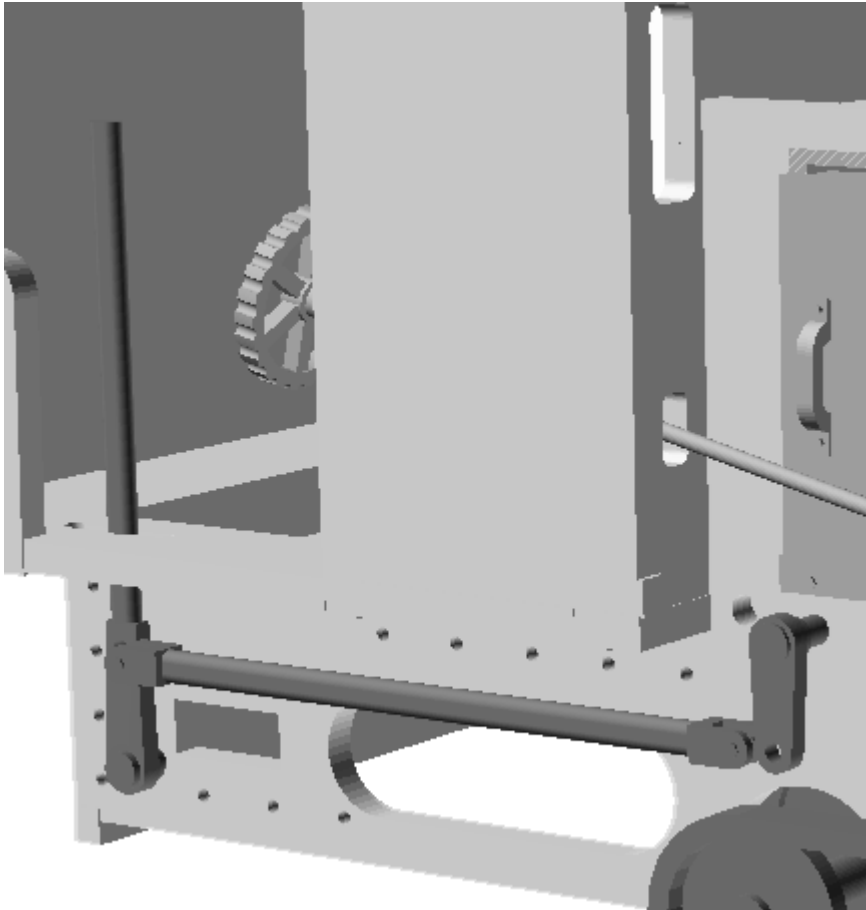
Clean out the brake wheel bracket with 1.5 mm drill bit/

Glue the brake hand wheel into its back (longer protrusion towards the wheel)

Glue the 1.5 mm steel rod into the bracket.



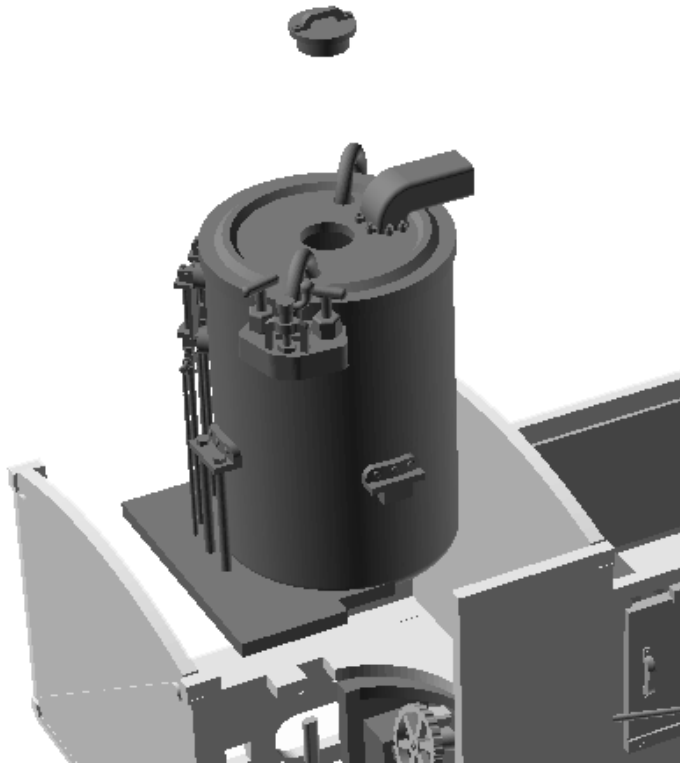
Thread the brake rod through the lower of the two cut outs in the cab front and into the top of the brake crank. Glue the crank and wheel bracket into their respective sockets



Clip the reversing link into its holes in the revering lever and reversing crank.

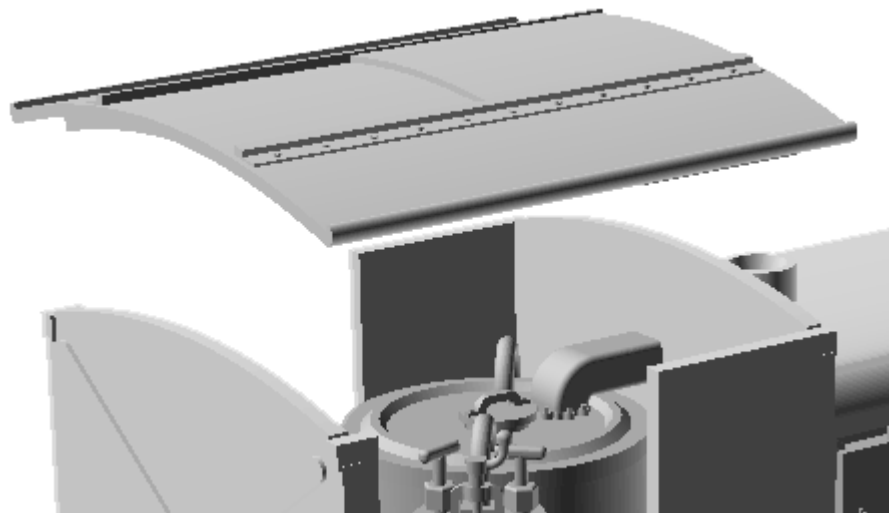
Thread the lever up through the hole in the cap floor. Adjust assembly so lever is in the desired position and glue lever and crank in place.

Six - Finishing The Cab



Glue the boiler filler lid in place and then the complete boiler into its recess in the cap floor.

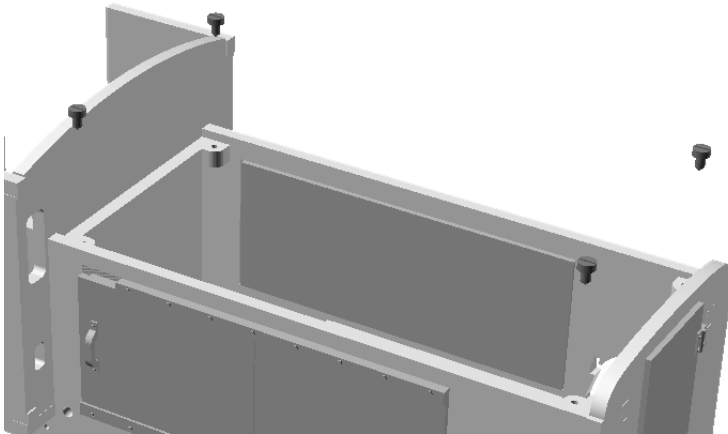
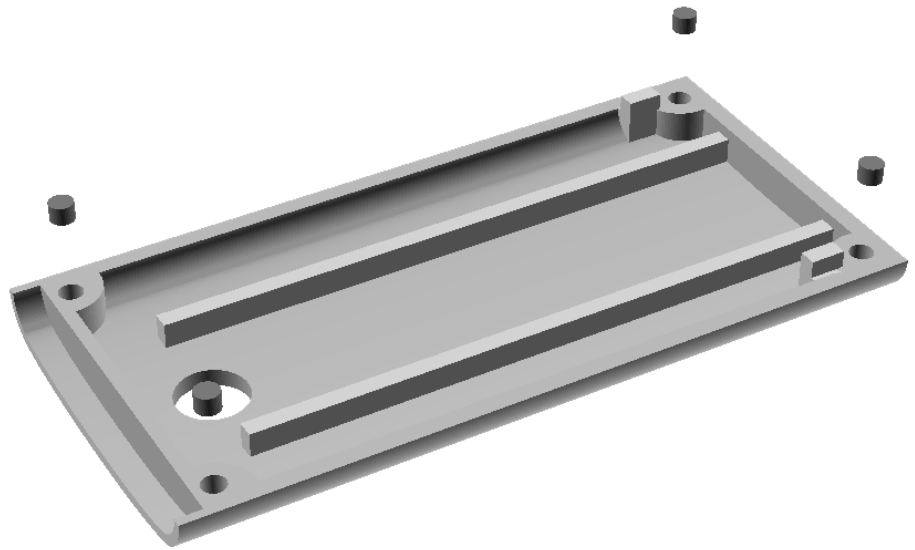
Now glue the cab roof in place. Note the two strengthening ribbs on the roofs underside should be at the front



Seven - Bonnet Top

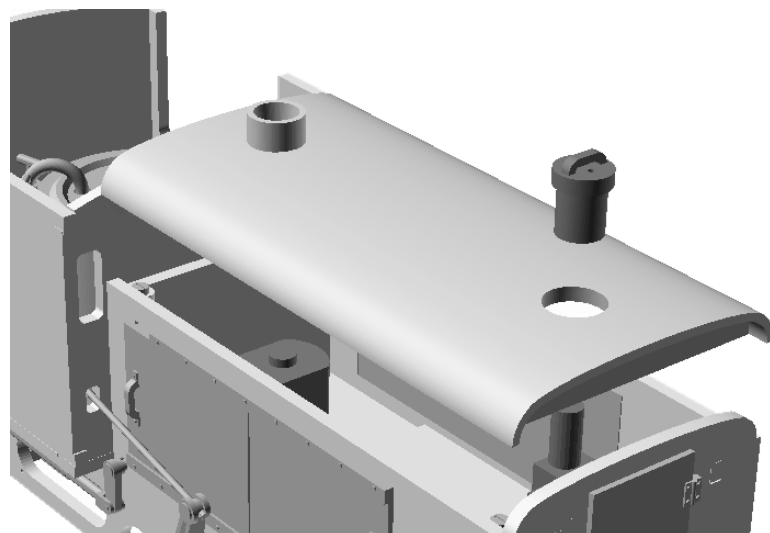
Cleanout the four blind holes in the bonnet top “casting” with a 4mm drill bit so that the supplied magnets fit flush into their holes. Super glue in place.

Clean up the back face of the bonnet top with the supplied emery board to remove printing support marks



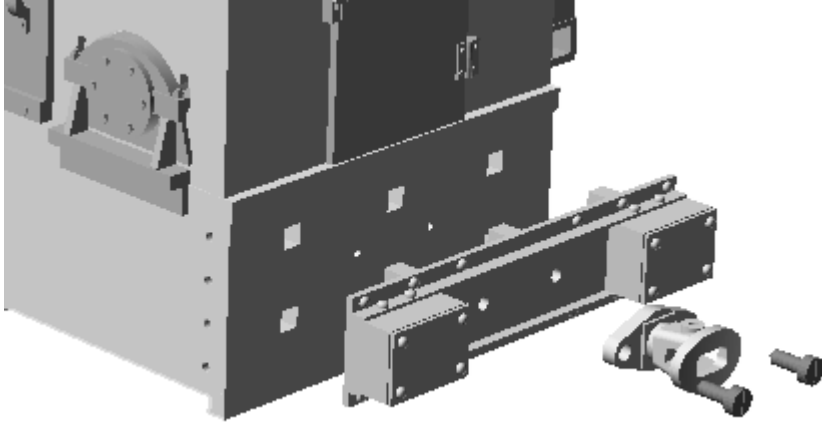
Screw the four small self-tapping screws into their pilot holes in the catch plates. The top of their heads should be just under the top edged of the bonnet sides.

The bonnet top should now “snap” into place. Fit the flexible rubber “filler cap” to the splined control shaft.

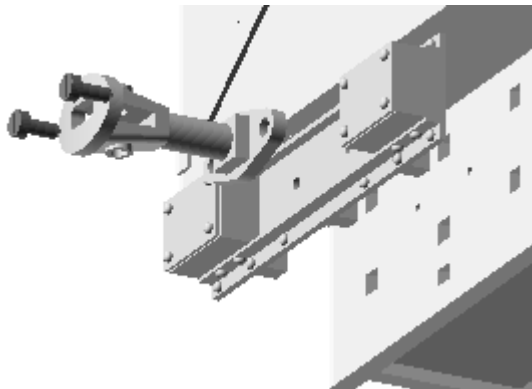


Eight - Buffers

The prototype's buffering arrangement relied upon a long coupling bar between loco and train. This apparently dropped down more than once and wrecked point work, so we have included modified bell mouth couplers which hopefully should prove more reliable.



Glue buffer beam to front of loco and attach the short buffer with a couple of screws.



Glue a buffer beam to the rear of the loco frame and secure the long shanked coupler to the buffer with 2 screws

Place "T-pins" in couplers and couple up with supplied 3 link chain

Job Done!