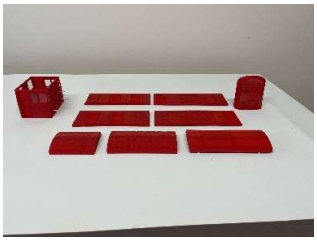
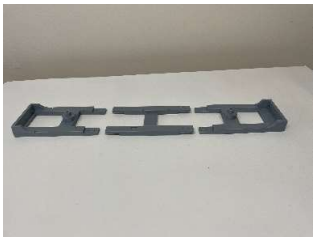
Class 20 (Look alike) Assembly Instructions

A practice assembly using only the dowels with no glue is recommended. If all the dowels are used the assembly should be foolproof. However if only some are used, it is possible to assemble the roof wrong. It is then possible to accidentally insert the centre section reversed, and will therefore not fit to the sides (I know!).

It is also recommended to drill the dowel holes out to 2mm or even 2.1mm, I found such small holes printed vertically are not perfectly round.



Bodyshell components



Underframe components

Roof Assembly

Assemble the roof on a flat surface, using a glue of your choice, I use Cyanoacrylate.

Side and Cab Assembly

Assemble the sides on a flat surface, using a glue of your choice, I use Cyanoacrylate.

Insert dowels in ALL 2mm holes for positioning of cab, front and roof.

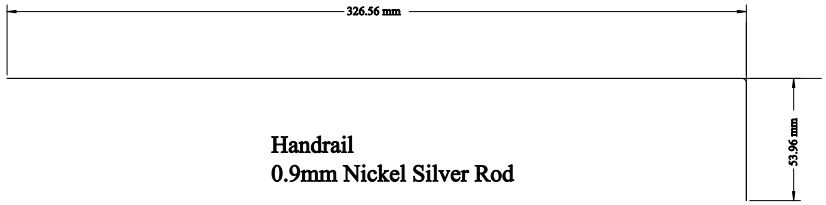
Attach Sides to Cab

Attach Roof to Sides

Attach Front to Assembly

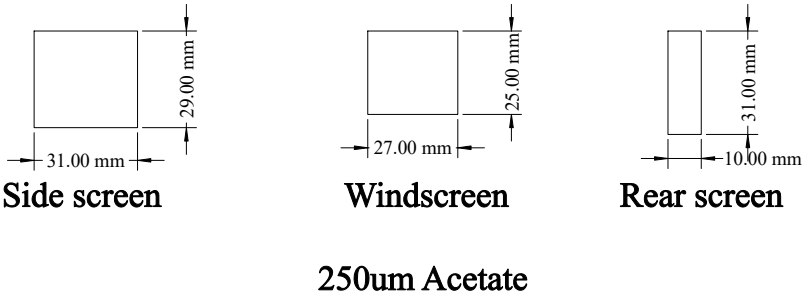
The structure is now quite sturdy and self-supporting.

Handrail Fitting



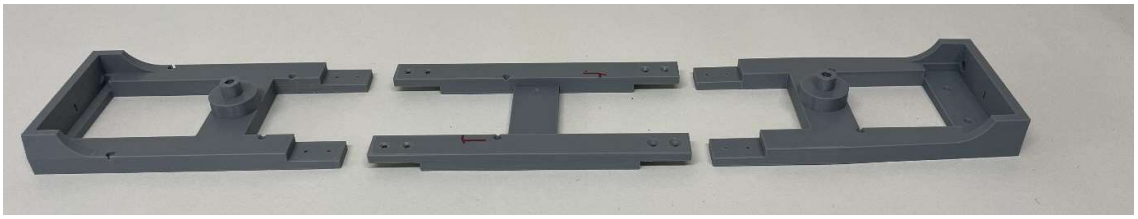
It is recommended to temporarily fit the handrails using short handrail knobs (G1615) solder or glue the handrail to the knobs. This will ensure they fit correctly after painting.

Window fitting



The windows are fitted into the cab window slots after painting.

Underframe Assembly



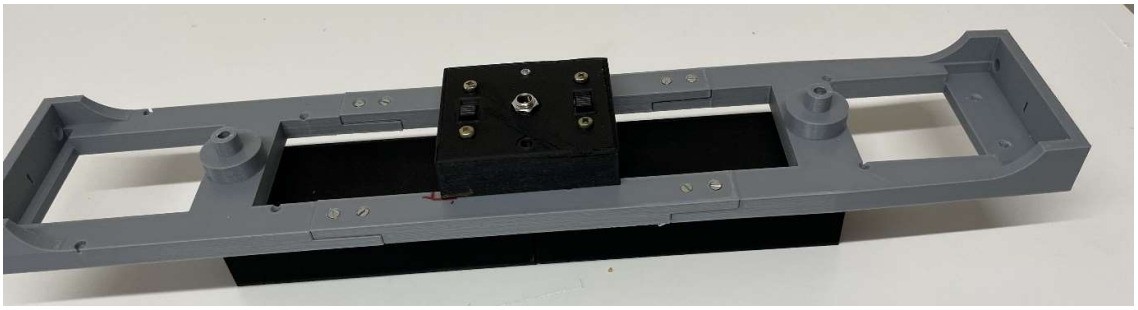
Assembly is quite fool-proof I tend to glue and screw together using Nº 2 countersunk self-tapping screws 9.5mm long.

Attach Battery Holder

Attach using self-tapping screws centre Nº 2 countersunk, outer Nº2 panhead all 9.5mm long.

The lid needs to be fixed at a much later time as the bodyshell is fitted using Nº 4 self-tapping screws 6.4mm long.

Attach Underframe Box.



This needs to be wired first in accordance with the circuit diagram, using 2 slide switches and a 5.5mm X 2.1mm barrel jack socket.

It is attached to the underframe using 2 Nº2 panhead self-tapping screws 16mm long.

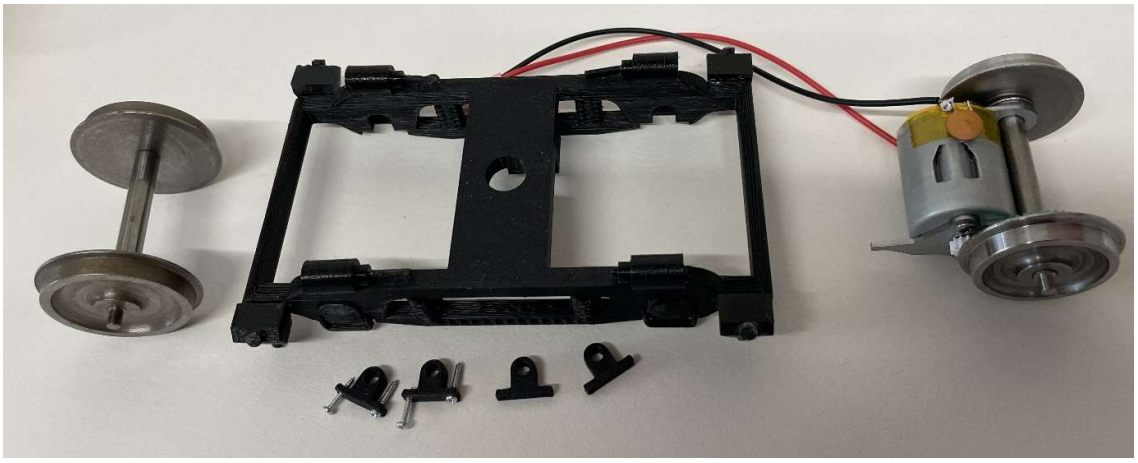
Buffers

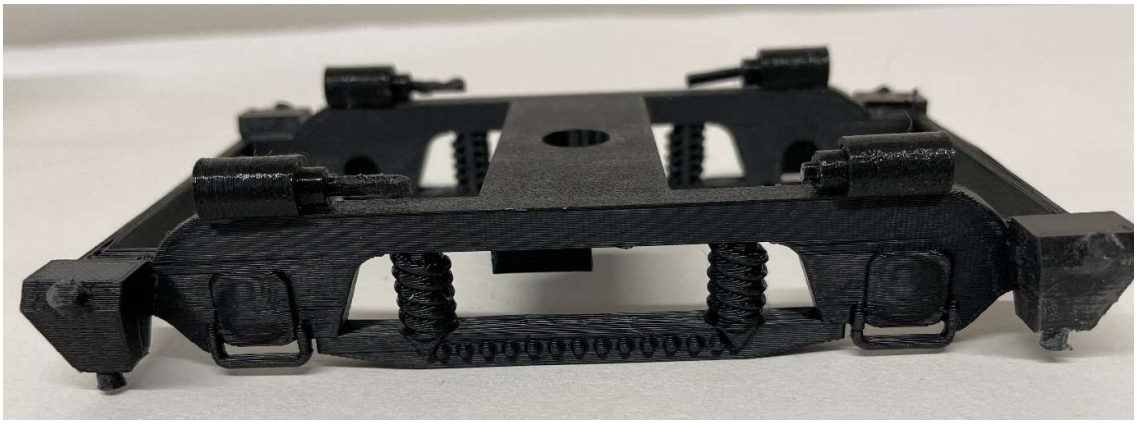
Glue buffer head to the body and the buffer to beam. If sprung buffers are required the Walsall buffers will fit.

Drawhook

The drawhook may need a little fettling to give free movement. I cannot recommend a particular spring as I have a large collection bought at various shows!!! Sorry!

Bogie Assembly

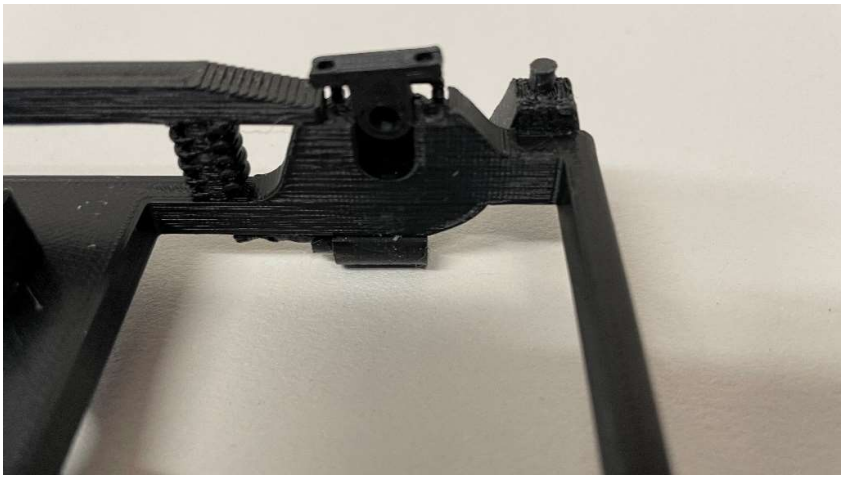




The bogie frame is made as a single piece, I found this gave better alignment for the wheel bearings.

The first job is to glue the brake actuators and sandboxes in place, one of each at each corner of the bogie frame.

Axle Assembly to Bogie Frame



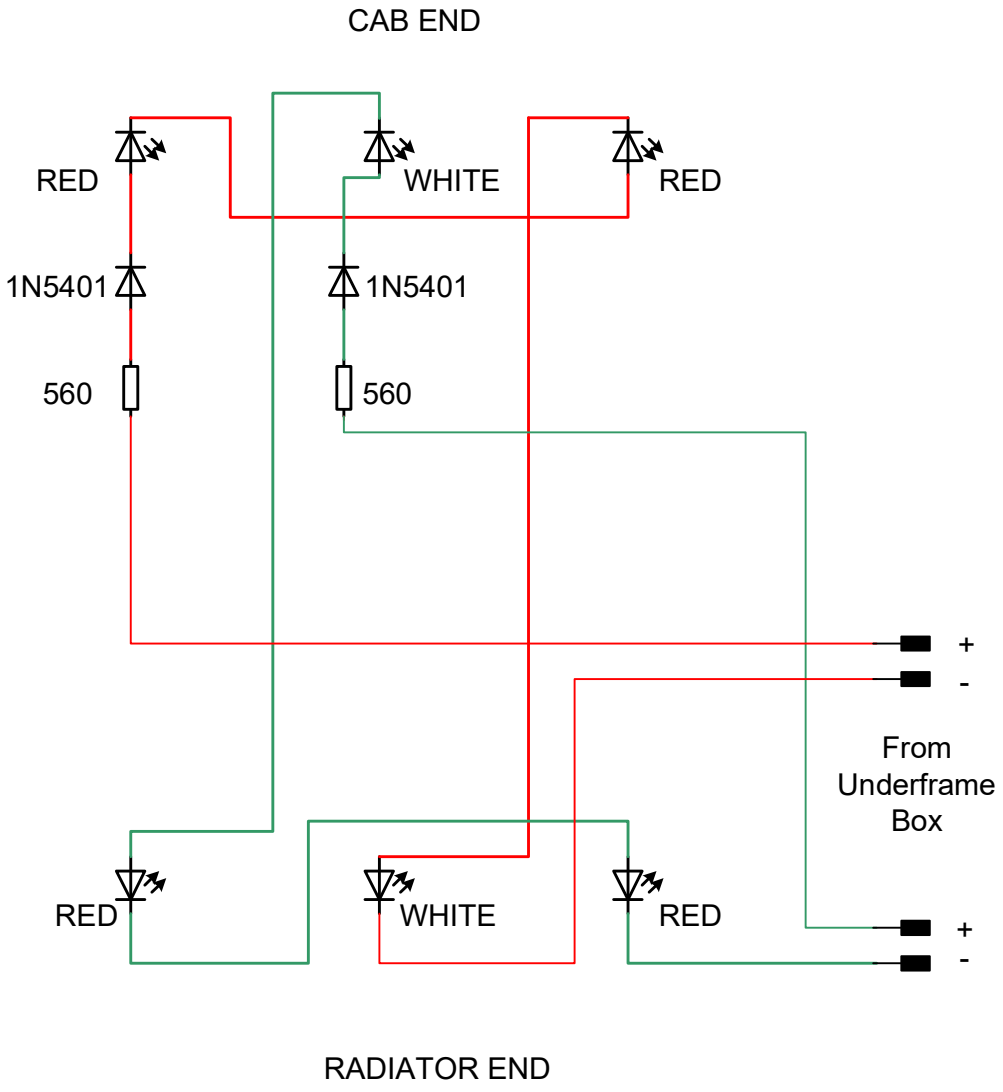
Scrap view showing wheel bearing partially engaged in frame.

The axle bearing may need to be opened out to 3.3mm to ensure free running.

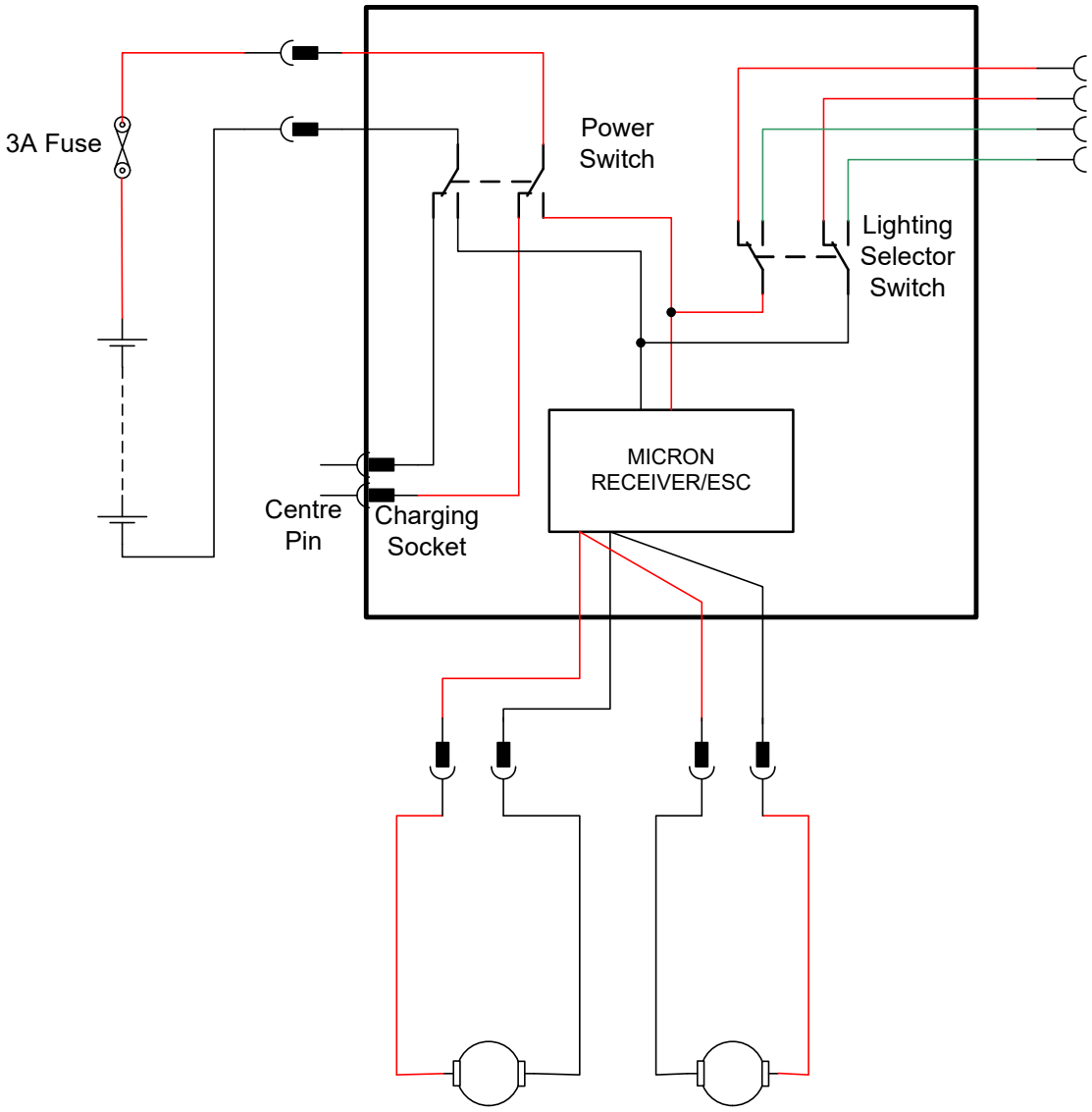
Feed the axle bearings onto the axle ends and press the bearings into the bogie frame. For the motored axle, ensure the torque reaction arm is located in the block on the bogie frame. When satisfied the bearing is located, push the axle first one way then the other to ensure there is some lateral play. Each bearing is secured by 2 Nº0 panhead self-tapping screws 12mm long.

The bogie is secured to the bolster using M4 screws a large washer and M4 nyloc nuts.

Lighting Circuit Diagram



Power Circuit Diagram



NOTE Polarity Change to ensure motors turn in opposite directions.