RAILWAY MANIA

MANNING WARDLE 16" OC KIT

Thank you for purchasing one of our kits! We really hope you enjoy building it. If you have any queries please do get in contact: railwaymanianet@gmail.com
We would love to see your completed models so please do send us your photos and videos!

RECOMMENDED TOOLS

Flush cutters or snips
Scalpel or modelling knife (recommend a Swann-Morton knife) - always use sharp blades
Files - Jewellers files of differing shapes are useful
Pin vice drill for opening out handrail holes - drill sizes 0.45-0.55mm and 0.8 to 1mm
Pair of pliers for bending handrails
Wet and dry sandpaper

RECOMMENDED MATERIALS

Cyanoacrylate/Super Glue - recommend high viscosity so it doesn't run everywhere
Roket card glue or similar - for attaching bits like the chimney (in case you need to remove it again)
Deluxe Materials Glue 'n Glaze - useful for glazing the cab windows after painting and weathering
Filler primer (aerosol cans available from Halfords, eBay etc.) - use in ventilated areas with a mask
Squadron green putty or other filler material

THE INSTRUCTIONS

Personally I barely ever read instructions and my mark of a good kit is one that is so obvious to assemble that it does not really need them. I struggle with large blocks of text so we have tried to include as many pictures as possible, so that people like me can understand them!

-Corwin

NOTES AND ADVICE

The kit is designed to fit the Hornby Peckett B2 0-6-0ST chassis and is comprised of three main components:
Running board, Saddle tank and boiler, Cab.

It is recommended to prep and paint these components before fixing them all together.
The running board may be quite flexible during assembly - don't worry! When the other components are attached, they will give it rigidity.

The kit is 3D printed in resin. This material retains good detail but can be quite brittle so please do take care when handling it as it will snap under pressure. The running board and steps are at the most risk as they are thin.

If a part has arrived bent we recommend warming the part up by submerging it in hot water, applying gentle pressure and allowing it to cool whilst held in the preferred shape.
Running boards often appear curved along their length, this is due to how thin they are, assembly onto the other main components and chassis normally rectifies this without the need for bending it into shape.

COMPROMISES FROM THE PROTOTYPE

We have tried very hard to make this kit as close to the prototypes as possible. In order for it to fit the Hornby Peckett B2 chassis, a few compromises have been made, mainly around the rear frame extensions which had to be reshaped for the rear sand pipes. We hope this doesn't detract from the appeal of the model.

THANKS

As with the previous Avonside and Hudswell Clarke models, this kit was designed by Adam White whose skill in design is fantastic, I am indebted to him for it.
A HUGE thanks to Paul Atkinson and Dave Hall for all their help in sourcing prototype information. The kit was designed by combining works diagrams of the inside cylinder variant with as many prototype reference photos as we could lay our hands on, so we are incredibly grateful.

SECTION	PAGE

MODELLING PROTOTYPES - VARIATIONS

The kit is designed around 2 specific locos.
'Adjutant' was built in 1917 as Works No. 1913 and worked at Cannock & Rugeley Colliery.
'Merevale' was built in 1916 as Works No. 1891 and originally worked at Baddesley Colliery (it was later renamed 'John Robert').

The key difference between them is the shape of the chimney. 'Adjutant' had a conical shape whereas 'Merevale's was more conventional. Both variants are included in the kit (stick the other one in the spares box as you never know when it'll come in useful!).

BEFORE PAINT

SUPPORTS AND FLASH

Use a modelling knife with a sharp blade (recommend a Swann-Morton) to slice the remaining 'nubs' of the 3D printing supports off as flush as you can get them, then sand or file the surface flat.

HANDRAIL HOLES

Holes for handrails have been printed as part of the model. However, due to the small size, they may have been clogged with excess resin and require drilling out, we recommend doing this even if the holes appear clear, the recommended tool is a pin vice drill.
Handrail mounting holes should be opened out to .45-0.55mm for handrails mounted directly to the body, and 0.8mm-1mm for the handrail knobs.

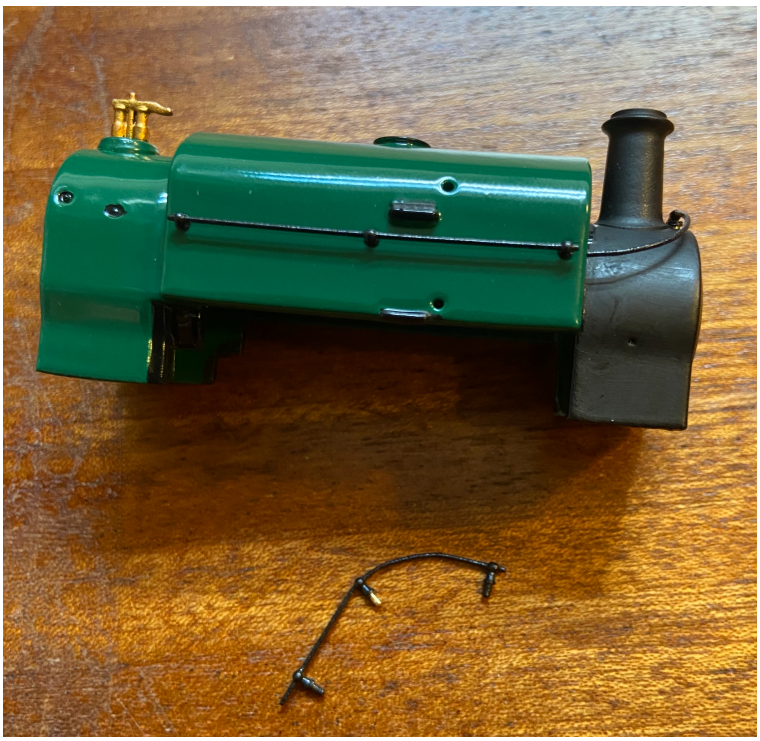
The cab cutout vertical handrails need to be fitted after the 3 main components have been glued together.

FRONT SMOKEBOX HANDRAIL

This goes into the tank front, then curves up and over the smokebox door, where there is a single handrail knob mounted vertically, and the handrail is mirrored on the other side, mounting on the tank front. Bending this to shape may take some practice!
Be careful with the smokebox handrail knob, the smokebox is very thin due to the handrail knob slot/hole, the hole shouldn't need drilling out.

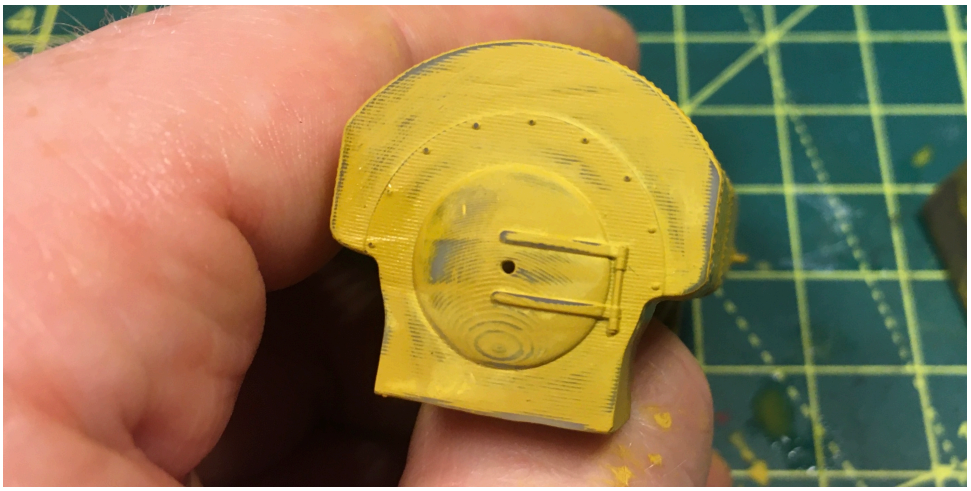
TANK VERTICAL HANDRAIL

The vertical handrail for the crew to access the tank filler uses the 3 long handrail knobs and is curved to match the tank shape. It goes over the horizontal handrail.



PREP AND PAINT

One of the reasons for splitting the model into separate sections was to make it easier to prepare for paint. 3D printing tends to have layers and these need to be sanded and filled in order to get a smooth surface.
The knack is to use a bit of filler primer and sanding but not too much, so as to fill and smooth the layers but also not lose the rivets and other small details.



The front of the saddle tank section of an Avonside B4 kit after a coat of filler primer and some fine wet and dry sandpaper (used wet) - note that the primer has filled in the gaps in the layers

ACCESSORIES

Each accessory pack includes:

-Buffers x 4	-Sandboxes x 2	-Short handrail knobs x11
-Chimney x 2	-Toolbox	-Long Handrail knobs x 3
-Firebox backhead	-Steam manifold	-.45mm Handrail Wire
-Regulator lever	-Springs x 6	
-Safety valve	-Reverser	
-Water filler lid	-Dummy coupling hooks	
-Handbrake	-Tank water valve spindle x 4	

The printed accessories are supplied on a 'float' with support material included. To remove the support material, we recommend using some snips to slice the supports and then the scalpel/ modelling knife to cut off the 'nubs' left over from the supports. Be very careful during this process not to snap the components themselves.

Top tip: Don't detach the smaller components from the support material until you are ready to paint and glue them on. Otherwise you will inevitably knock it off the desk and spend a long time on your hands and knees trying to find it.

ASSEMBLY

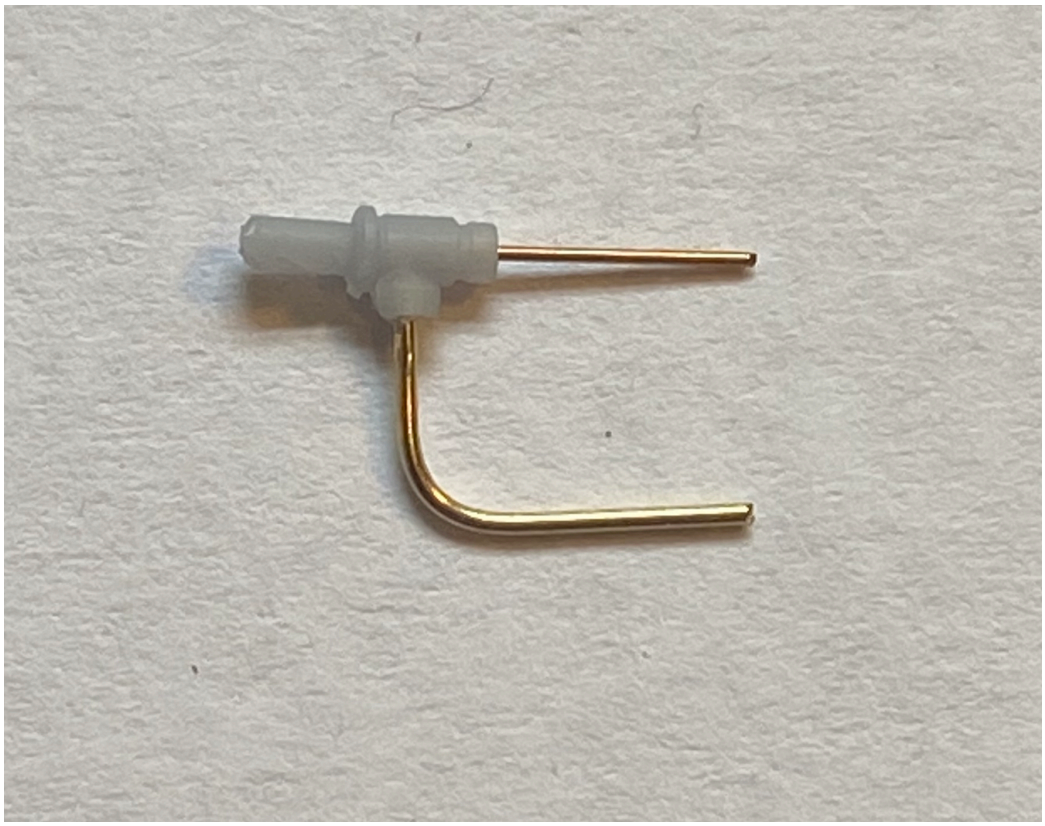
Once everything is painted, it's time to put the loco together!

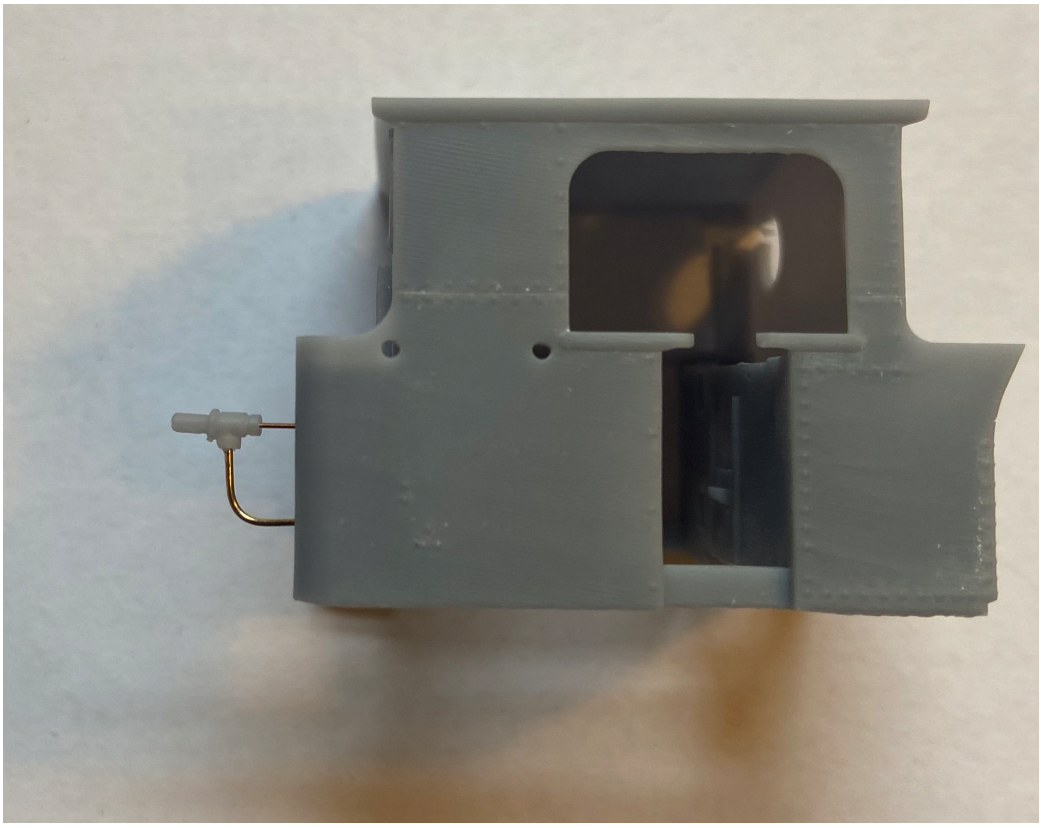
CAB FRONT PIPEWORK

The tank water valve spindles locate in the back of the tanks but you may prefer to assemble them as part of the cab pipework like this beforehand.

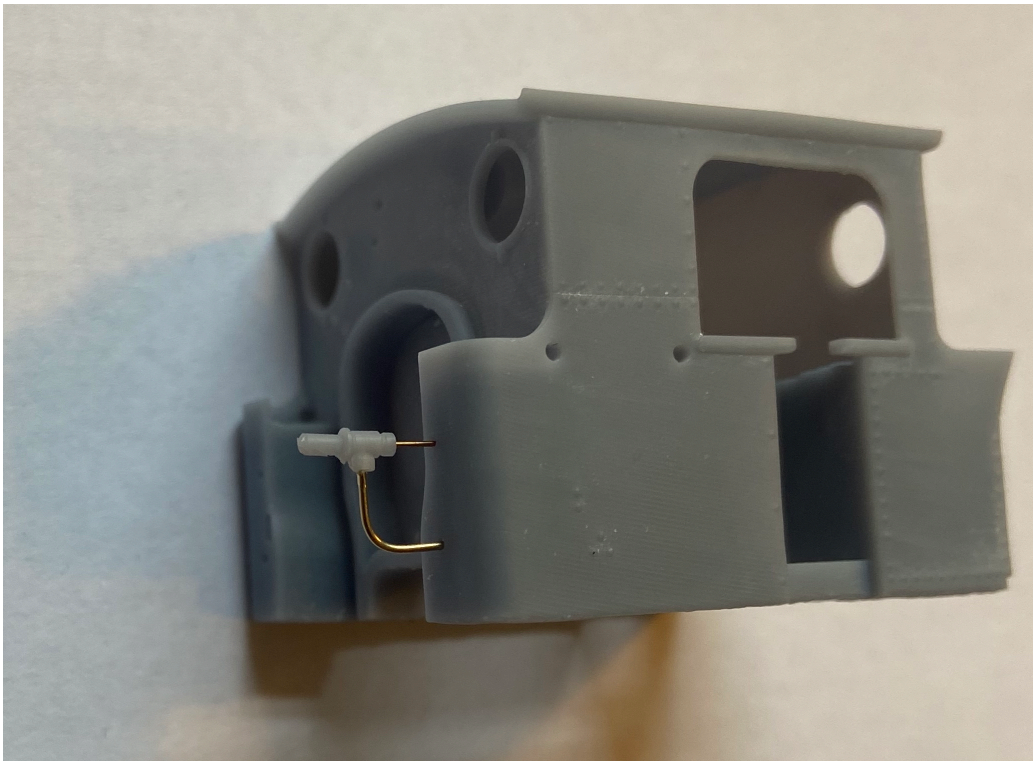
Only 2 are required but 4 are provided due to the fragility of the components.

The horizontal wire is for the operating rod (0.3mm) and the lower wire is the water pipe to the backhead mounted injectors (0.45mm).
You may need to open the holes for the wire slightly with a pin vice drill.





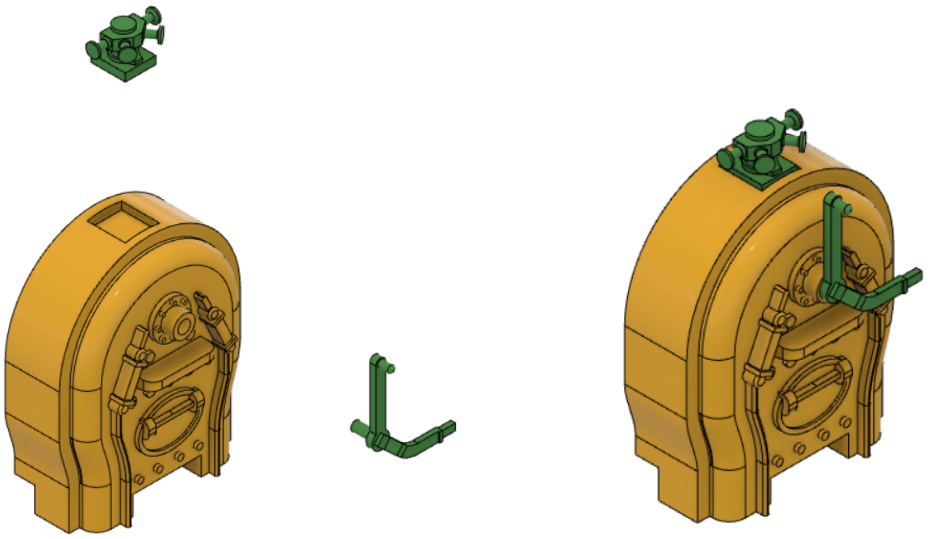
The pipework locates into the front cab extensions as shown.



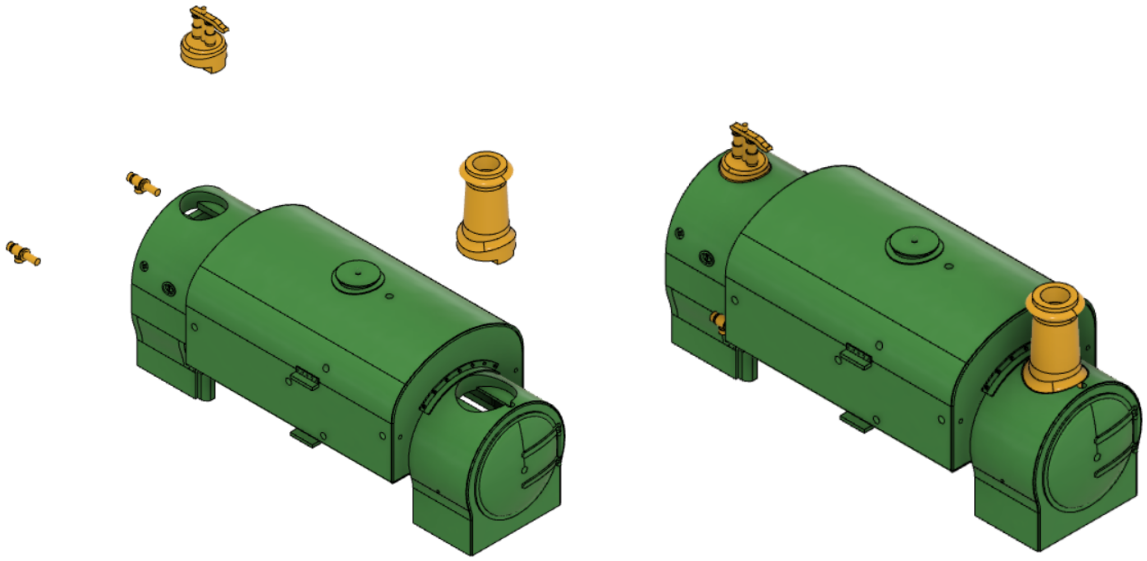
SADDLE TANK AND BOILER

The chimney and dome/safety valve cover have locating lugs on them and corresponding slots on the top of the boiler. It is good to check fitment and file away the lugs as necessary to ensure

a flush fit before glueing in place. The lip of the chimney and safety valve cover should only just protrude above the saddle tank to give the impression of it being a much thinner material than it really is.



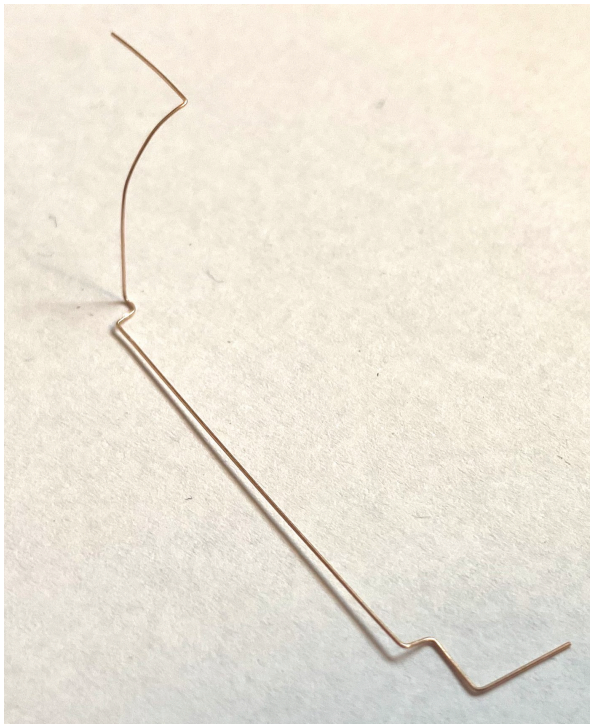
Regulator fits into the firebox backhead and steam manifold goes on top.



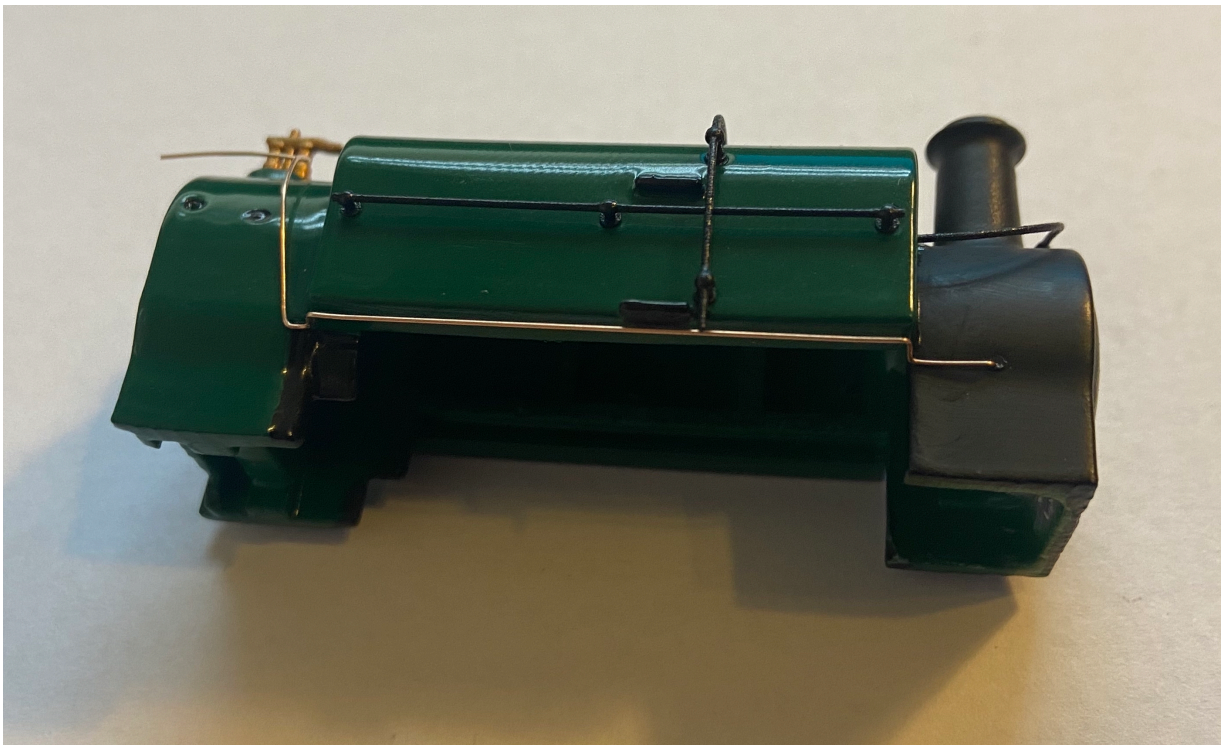
Safety valve slots into the top of the firebox (note: the safety valve lever usually faces forwards).
Chimney into the top of the smokebox.
Note: It may be necessary to file the underside of the dome and chimney to ensure a snug fit. Always do a 'dry run' before glue is added.

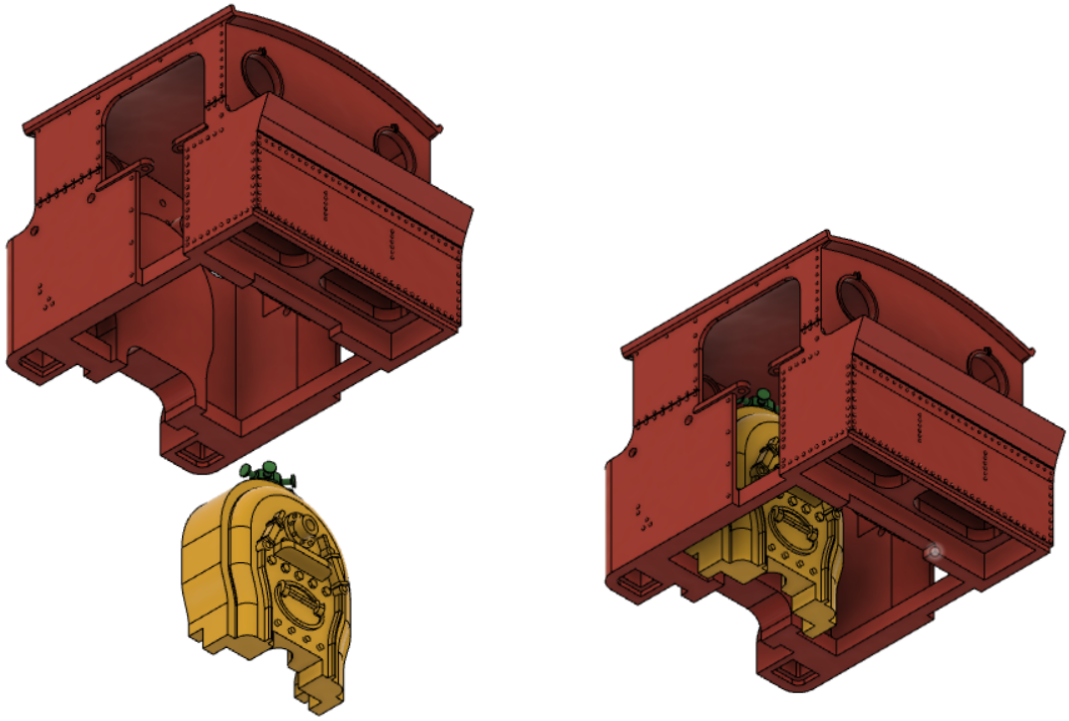
BLOWER PIPEWORK

If you wish to make up the blower pipework, it is a complicated shape as shown below. Use .45mm handrail wire or 0.3mm wire.

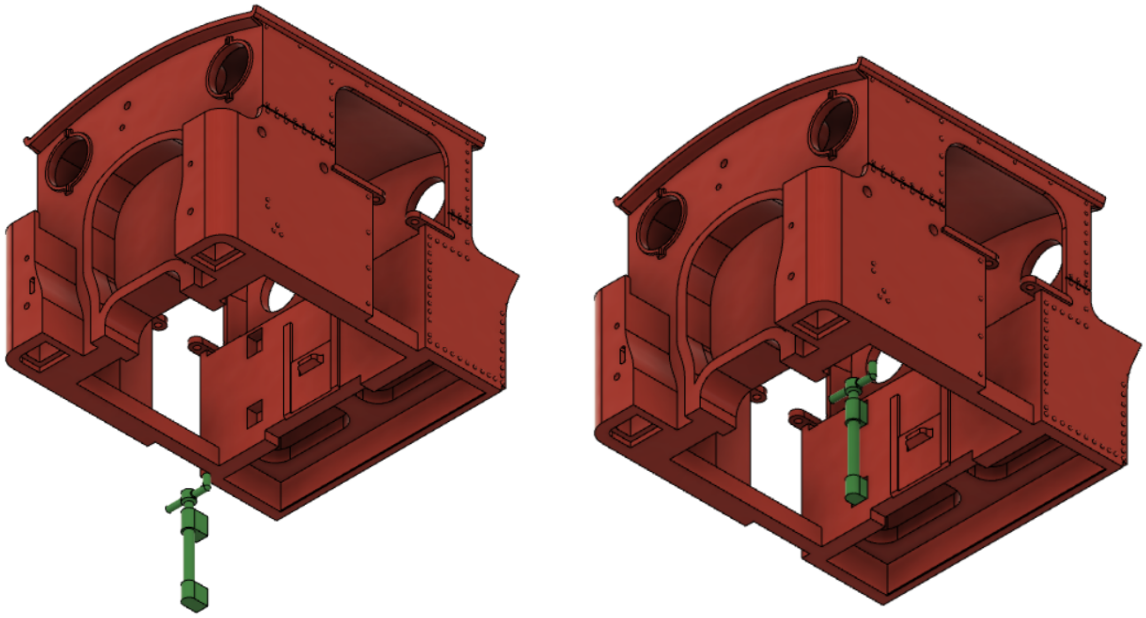


It fits around the saddle tank and boiler like this and plugs into the cab and smokebox at either end. The cab hole is the lower one, the upper hole is provided for a whistle (not supplied in kit).





Firebox backhead locates in the cab like this (note regulator handle is not shown for clarity but should be fitted before assembly).



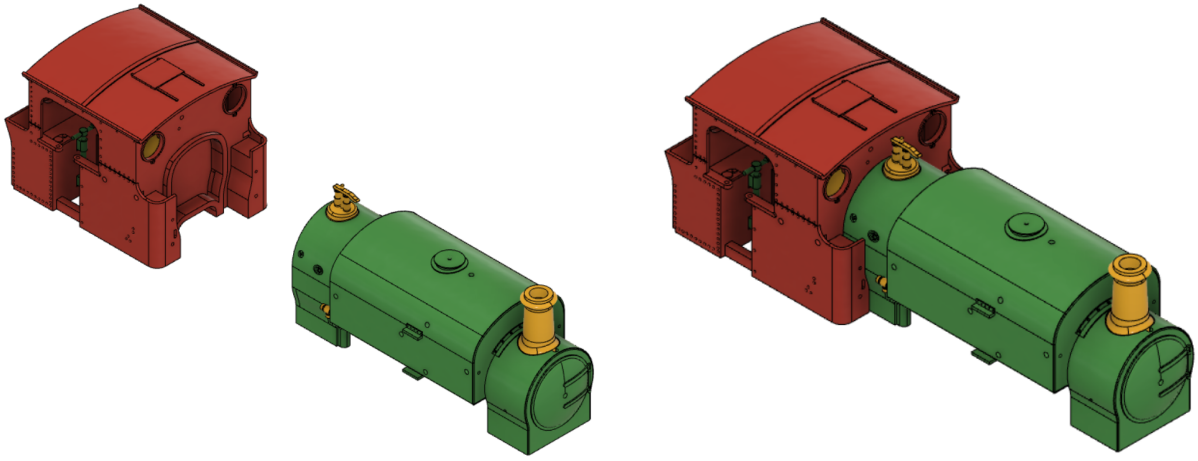
Handbrake mounts to the back of the cab.

NOTES ON PRE-ASSEMBLING HANDRAILS

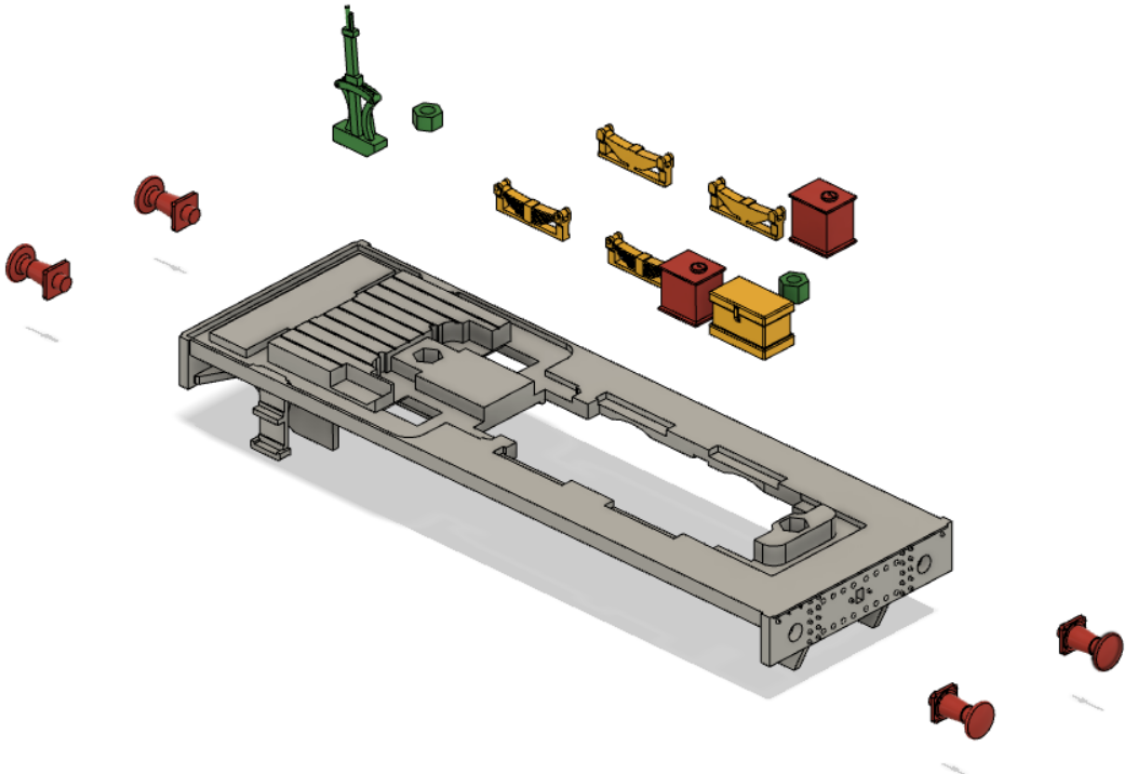
Cut the hand rail roughly to length, thread one hand rail knob on and glue into place. Thread the other knobs on and add bluetack or tape to the end of the handrail to stop them falling off.

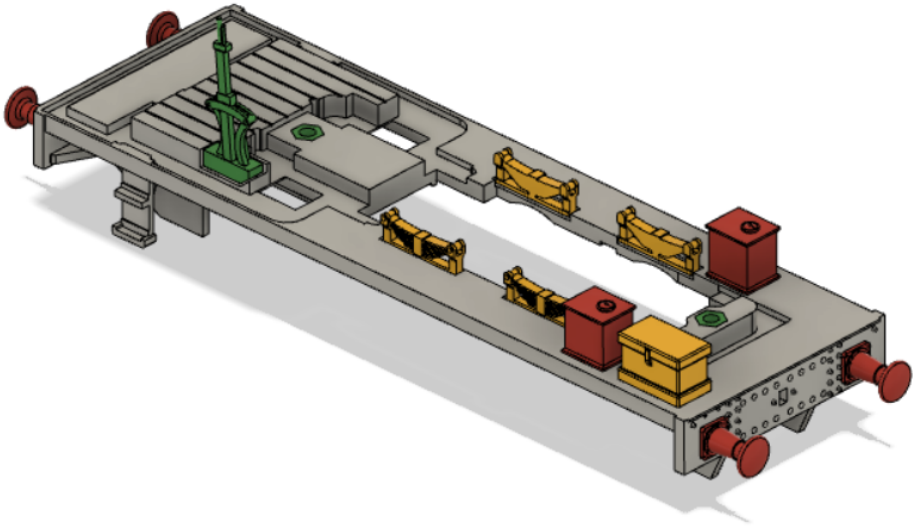
Offer the assembly up to the saddle tank and locate all the handrail knobs, glue the knobs onto the handrail and once dry remove from the tank to be painted separately, or fix into place to paint with the body.
For curved handrails form the curve first by bending the handrail wire over a cylinder such as a thick pen barrel, then thread the knobs on.

Fix the boiler to the cab.



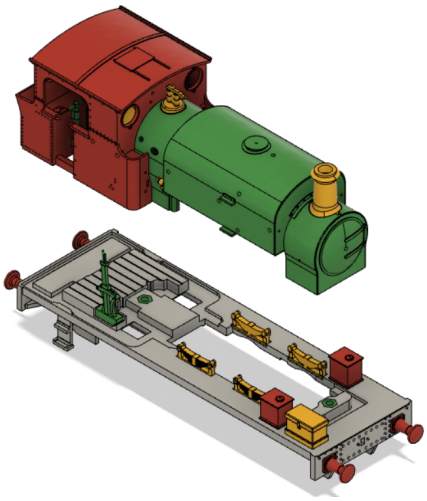
RUNNING BOARD COMPONENTS

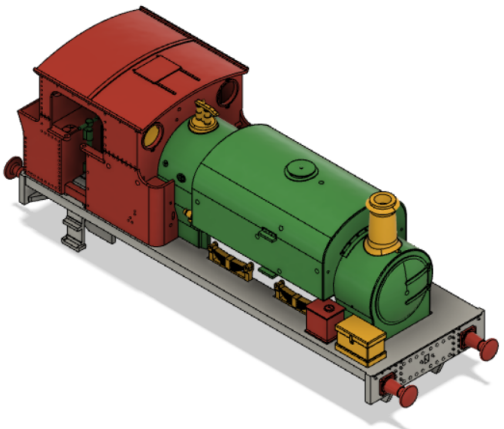




Reverser quadrant/handle mounted in cab. Buffers into bufferbeam holes. Springs into recesses in running board. Sandbox and toolbox position varies depending on prototype loco.
There are two 10BA nuts that need to be glued in to the recesses in the running board - use the glue sparingly as getting glue in the threads can be a nightmare. Use the bolts to assist with alignment.
Coupling hook slots into the hole between the buffers.
The tang of the coupling hooks should be cut down to 2-3mm long to avoid clashing with the chassis. Clean up all edges and ensure a flush fitment before adding glue - e.g. the sandboxes may need to be filed flat on the underside.

Cab and boiler fit onto running board.



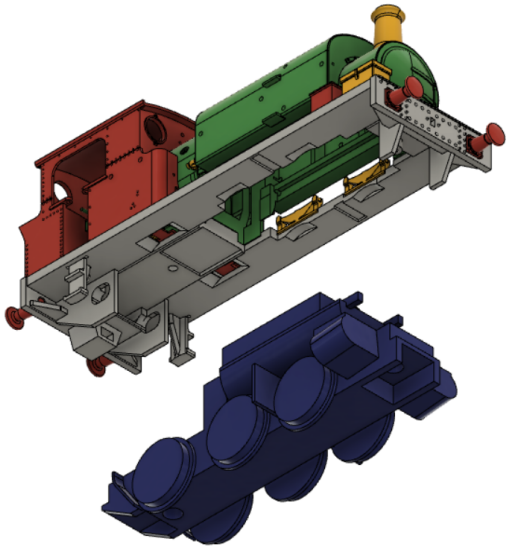


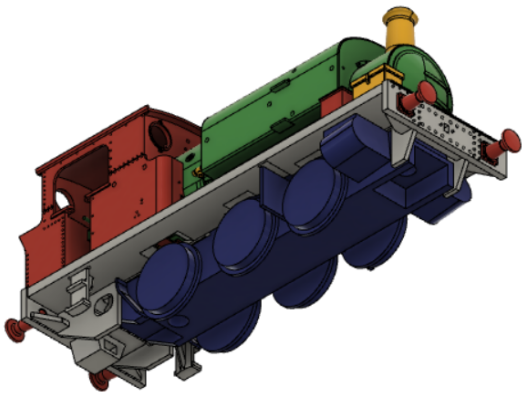
CAB DOOR HANDRAILS

Cut the vertical handrails to length (approx. 16mm). Slide it up through the holes in the cab floor, apply a bit of glue to the tops and gently stick it to the handrail holders in the doorway (these holders are very fragile so please do take care).

FIXING BODY TO CHASSIS

The two 10BA bolts can then be screwed in to secure the body to the chassis (not too tight as the resin can be very brittle).





WE HOPE YOU ENJOY YOUR MODEL!
HERE ARE SOME EXAMPLES OF A COMPLETED BUILD FOR INSPIRATION AND REFERENCE