******* IMPORTANT *******

Read these instructions in full before starting your build as you may feel you want to build in a different order.
Special attention should be given to steps 6, 33, 34, 35.

PLEASE NOTE

This kit is for expert modellers and should not be purchased by anybody that does not have advanced kit building skills.

You'll also need the ability to cut off waste resin and fill any minor imperfections with car body filler, eg. David's Isopon P38.

Please make sure you have a range of sharp files and 400 grit wet & dry paper.

CURVATURE NOTE

This model will negotiate a two foot radius curve, but the floor motor cut-outs will need enlarging. The thick motor bogie plate already has the larger cut-out to negotiate down to a two foot radius. The floors were cast with small cut-outs for those that do not run on such tight radii.

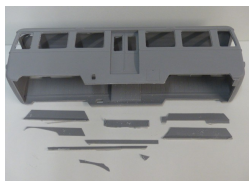
DRILL SIZE NOTE

All drill sizes are given in mm. Some of these sizes are very specific. These drills are readily available from any model tool outlet or Ebay. Please also note, that holes are deliberately made a fraction over size to allow glue into the hole for bonding. A hole drilled to the exact size of the object going into it, allows for no glue penetration and cannot therefore be glued!

1.

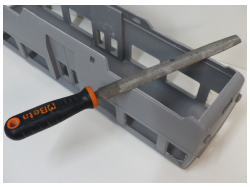
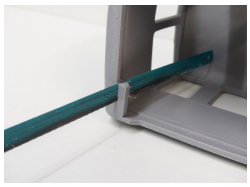
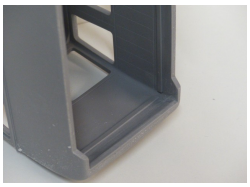
With the back of a sharp, stiff scalpel, score the mould lines that run around the skirt of the main body. Do not use the cutting edge, as it is very easy to run up onto the body and damage it. About 5-6 passes will be enough to enable that part to be snapped off cleanly.





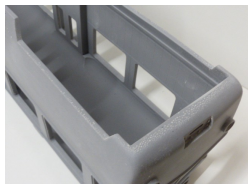
2.

Use a sharp file to clean up the last of any flash. Cut off the 'resin feed' with a hacksaw blade and then finish with a Dremel type tool. This part is optional,as the remaining resin block does not get in the way of anything on the finished model. With 400 grit wet and dry paper, bring the whole underside edge to a nice smooth finish.

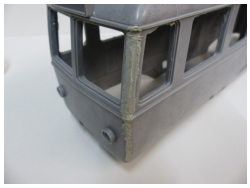
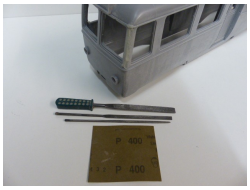
3.

There will be some small air bubbles along the bottom edge of the main body. These will need to be filled with a car body filler. We recommend David's Isopon P38. Sand to a smooth finish. Up to 400 grit will be good enough.

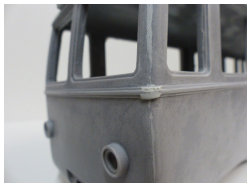
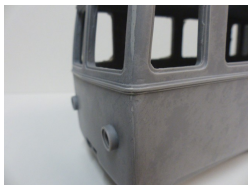
4.

Due to our moulding process, there is a moulding line on both right hand corners. Gently abrade these right hand corners and fill with car body filler. You will need some small, sharp files and 400 grit paper. Apply a small amount of filler down the edges of these corners.

5.

File and sand back the upper and lower main body, making sure that the body beading edges are reinstated as perfectly as you can. File just the very top of the body beading, with full focus on reinstating the proper outer radius of the beading. With a small square file, reinstate the upper and lower portions of the body beading. This is a job that needs care, but is not difficult.
Lots of small light passes with sharp files will produce the correct profiles. If too much is removed, just add a little more filler and have anther go. Once you are happy, apply one light coat of grey primer. This will show up any imperfections in your filler work. Corrections can be made when the primer is fully dry. This should not take very long if only a light coat is applied. Repeat this process until perfect.


6.

Offer up each window frame and pay close attention to how it lines up with the inner window opening. If there are any imperfections, highlight with a marker pen and carefully file the excess. The end result should be no resin showing, or a consistent edge, depending on your eye. Note that all window frames butt up against the roof gutter.

Please note that the GLASS goes into the rebate, NOT the frame!
******* YOU MUST PAY ATTENTION TO THIS !! ********

******* THIS IS AN ADDITION ADDED AT "6:10PM" 11-02-2016 *******

IT HAS COME TO OUR ATTENTION THAT SOME CUSTOMERS ARE NOT READING THESE INSTRUCTIONS PROPERLY AND BUILDING THE WINDOWS INCORRECTLY. BECAUSE OF THIS, THEY ARE MAKING MUCH MORE WORK FOR THEMSELVES, CONDEMNING THE KIT PUBLICLY AND CREATING AN INFERIOR MODEL !!

YOU MUST UNDERSTAND THAT THE GLASS GOES ON THE OUTSIDE OF THE BODY IN THE REBATE PROVIDED.

READ STEP 33 !!

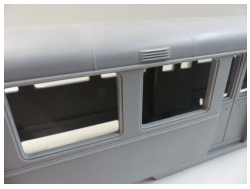
THE WINDOW FRAMES THEN GO OVER THE GLASS AND BODY, THUS HIDING THE JOINT, AGAIN, READ STEP 33 !!

WE CANNOT UNDERSTAND WHY THIS PROBLEM HAS EVEN ARISEN, BECAUSE IT CLEARLY SAYS AT THE TOP OF THIS INSTRUCTION PAGE " READ THESE INSTRUCTIONS IN FULL BEFORE STARTING YOUR BUILD" !!



7.

There are typically a few very small air bubbles on the upper sections of the cab ends. These will need to be filled with car body filler and finished. Each inner window frame will need to be cleaned up to a smooth and moulding lip free finish. A small file is OK for this job, but we have found scraping with a very sharp scalpel blade to be better. This method removes steps and marks while keeping everything square and neat. Once the cleaning up process is done, you can run around the inner edge with 400 grit or smoother to gently round off the inner corner of the window frames.

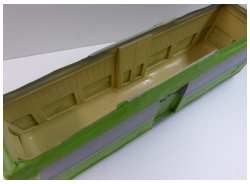

8.

The inside of the body can now be painted. If you intend to spray paint at this point, you will need to mask off the outside of the body and everything below the inner skirting board. We have found 'FROGTAPE' great for this. It is consistent in quality, gives very clean lines, low tack but not too low, does not leave a stick residue and can be bought from most DIY stores and supermarkets, (at least in the UK).


9.

We painted our model with Halfords grey primer and Humbrol enamel 103.



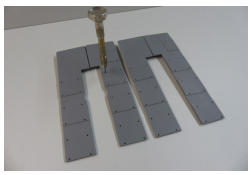


10.

Using the marked dots on the outer floor sections, drill each hole with a 1.7mm drill.

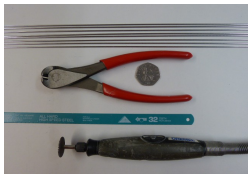
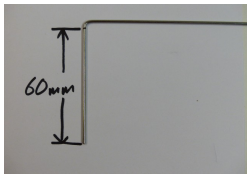
<u>Note.</u>

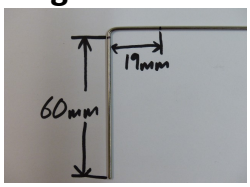
Specialist drill sizes can be bought from any model tool retailer like Squires and Eileen's Emporium, model engineering stores like RDG Tools or Ebay.



11.

OK, now the fun really starts. To give the very best lasting finish, we have chosen to use proper stainless steel wire to simulate the chrome seat tubing. While this is the very best material for the job, it is much harder than steel or brass. The beauty of using stainless rod is that it will never rust or tarnish, but it is hard! You will NEED a good quality pair of large 'end cutters'. These can be bought from any DIY store. We have shown our pair in the picture below compared to a UK 50 pence piece for a size comparison. You could also use a Dremel type tool with a slitting disc, (wear safety clothing and mask) or a sharp 32 TPI hacksaw. Mark a line at 60mm and bend to 90 degrees. We used a pair of round nosed pliers for this. Place the bent rod in the seat back and mark about 2.5mm before the second bend. This will be about 19mm from the edge of the first rod.

12.

Using the mark, start the second bend at this point and bend to another 90 degrees. With luck, the rods will be correct and fit nicely into the seat back. If not, you can lengthen the now 'top bar' by continuing the bend on the bottom and then straightening the top of the bend with strong smooth pliers.
To shorten the 'top bar', do the reverse.

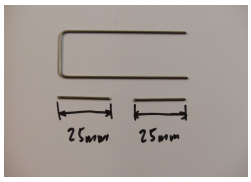
The trick here is to learn quickly where to mark the start of the second bend, bend smoothly and consistently. If you get this step totally wrong, all is not lost for that piece of wire. Simply cut it up into 25mm long lengths and use it for the front seat legs! Once you are happy with the position of the now 'legs', make sure they are totally flat and square and lay nicely in the seat back grooves.

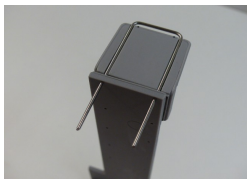
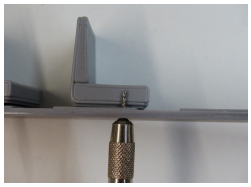
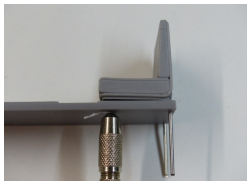
Fit a seat back bar into the back of a seat and push the seat all the way to the bottom of a floor section. Set a 1.7mm drill so it can only drill through the floor and into the seat base with out breaking through the top of the seat.
Drill the two front leg holes into the seats

<u>Note.</u>

The kit has eight 500mm lengths of wire. We built our kit with only these 8 lengths to hand as a test. Even after getting one or two seat back bends wrong

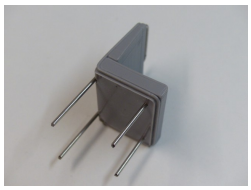
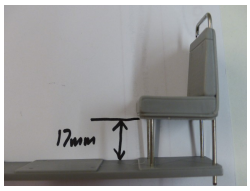
and using them for front legs and fitting the optional vertical door bars, we still had one 500mm length spare.

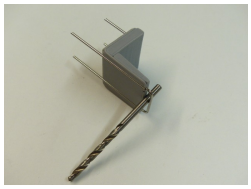
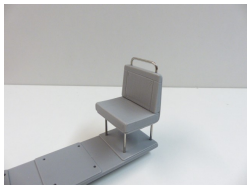


13.

If you intend to fill over the rear legs with filler as they travel up the rear of the seat back, you may need to make the groove a fraction deeper. This can be done by filing a piece of rod nice and flat. Then run it up the groove so the filed end cuts a deeper groove. We found about 6-10 passes was enough to be able to fully 'sink' the rod into the seat back. Using a 4mm drill as a gauge, glue with super glue or epoxy the rear legs into place. Glue the front legs into place also. Do not glue the seats to the floor at this point. Our pictures only show this so you can see how everything fits and should look.

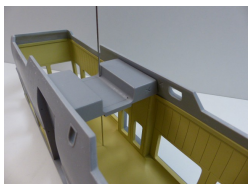
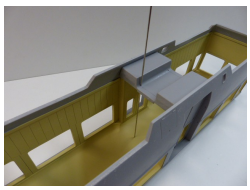



14.

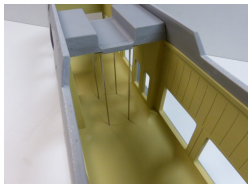
These bars are optional. If you feel you would like them, the standard 8 lengths of rodding in your kit can accommodate for this. Mark out the position of the four holes on the underside of the centre floor, (see pictures). Drill them with a 1.7mm drill. Clip the floor section into the body making sure the 'X's are lined up. Drop a sharpened length of rodding down a hole. We just used the raw cut end after cutting with end cutters. In hindsight, a nice filed sharp point would have produced a clearer spot for drilling.

Spend a good amount of time 'eyeing up' the vertical positioning of the first bar. Use the side and front windows to do this. Once happy with the vertical, push the rod into the roof so it can make a clear mark. Set a 1.7mm drill to about 2.5mm, enough to drill a hole but not enough to drill through the roof! Drop the rod back into the floor and all the way into the bottom of the roof hole now drilled. Mark off the rod and cut to length. Make sure you leave about 2mm of extra rod, as at this point the floor is about 2mm lower than it will be when finally glued into position. Make sure you leave each rod in place once it has been added as this will help with the lining up of the remaining rods.

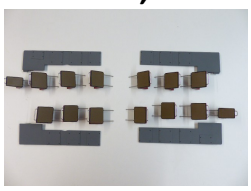
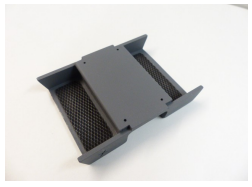
15.

This is what you are aiming for.




16.

If you planned to fill the backs of your seats, now is the time to do it. Paint the four outer floors, seats and middle flooring.

17.

At this point, it is worth dry fitting the floor panels. Note they will only join in their pairs due to the tabs. One pair has an 'X' marked that matches the body 'X'. They should all be a snug fit into their quarters, up against the front panel and door recess. Note also, they fit on top of the body skirting board when viewed from the underside, the skirting serves as a 'stop'. If your panels are a little loose, that's fine. If they are very tight, remove excess resin from the door recess end. Make sure the ends of the floors remain square, as they will need to fit into the middle floor at step 19.

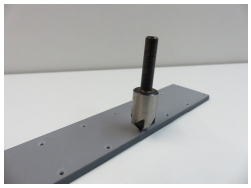
Drill a slight counter sink to the underside of each seat leg hole. This is so the glue has somewhere to go. Make up a 17mm high gauge to be used as a seat stop. Place the seat legs into their respective holes and using the seat gauge, glue just the two front legs. Once the glue has set, position the seat perfectly vertical,' (use an engineers' square if necessary) and glue the rear legs.

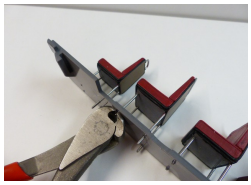
Once all the seats are in and the glue has dried, nip off the excess rodding from the underside. Grind off the remaining 'pip' with a Dremel type tool with a grinding stone on it.

BE VERY CAREFUL!!

Only remove small amounts at a time, as heat will build up very quickly and destroy the glue joint! Work your way from leg to leg taking off a little at a time. This will give each leg time to cool off before you grind it again.
Patience is the key word here!!

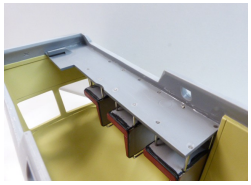
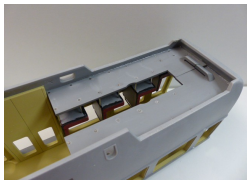
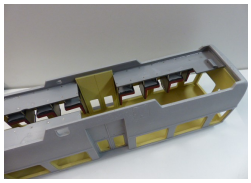
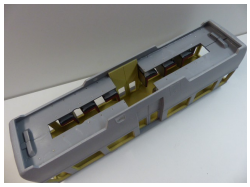
You could use a small sharp file, but doing it this way can result in lots of pulling, pushing and vibration through the model that can break the glue joints.





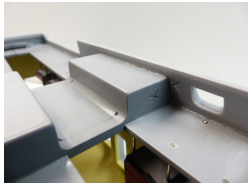

18.

Fit each floor section one by one, making sure the 'X' goes on the correct end and starting each floor side with the NON TONGUE. You may find the second half is a bit difficult to clip in and you may be tempted to trim them down, DON'T! You will remember from step 17 that all the floors fit. Persevere in fitting the floors. You will find the correct amount of bending and pushing will result in a satisfying click as the floor clicks past the door recess and fits into place. Glue all the floors into place at the same time once all in position, making SURE that the floors are in flat!

19.

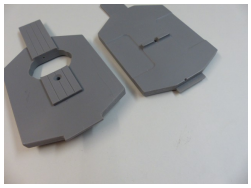
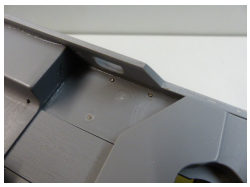
Fit centre floor, make sure the outer floors are fully clipped in and the 'X' is lined up with the body 'X'. Glue into place.



20.

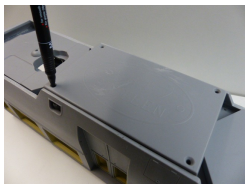
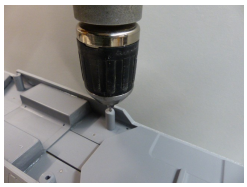
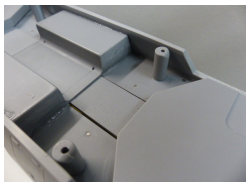
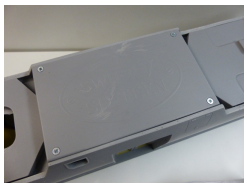
Test fit the bogie plates. The plate with a large hole goes onto the side that has the very small indents on the sides of the walkways. You may need to trim just a fraction from the plank end of each plate to ensure a nice fit. Scuff up the four

areas that are marked with a circle and also scuff up the flat ends of the four underplate posts. Glue the four posts into place with the chamfer facing outwards.

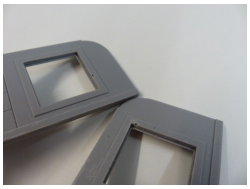
21.

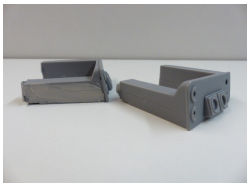
Place the underfloor into position and mark where the screw holes fall. Drill these points with a 2.7mm Drill and gently screw the underplate into place with the four short screws. The first time maybe a little stiff as the screw will be cutting its thread.

22.

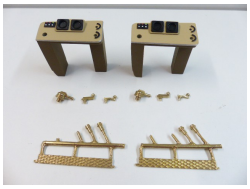
There will be an air bubble caught on the top of the driver's partition window and maybe on the bottom. Fill these with car body filler. The driver's desk may also have a moulding line. This line may be able to be sanded, filled or simply scraped out, it's up to you. Test fit the driver's partition in the body, you may find it needs a little trimming for a perfect fit.





23.

Paint the driver's partition, desk and controls, glue the controls into place. Cut a square of glass and glue with PVA into place.



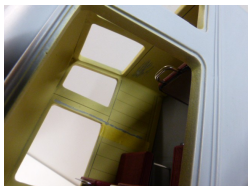
24.

If you are fitting a Swift Sixteen driver figure, hold back from fitting the driver's partition on the end you have elected for the driver. This will be fixed into place once the driver has been 'set' into position. Offer up the partition and desk into the left hand side of each cab end. Mark out where they fall and carefully scrape away the paint so a good glue bond can be made. The partition

needs to be flush to the window edge. A little masking tape helps protect the paint and offers a guide. Glue these parts into position.

<u>Note.</u>

Apply glue on the body only! If you put it on the part and drop that part while threading it through the window, it makes a mess of your lovely painted floor. Guess how we know that!




25.

Trim off the flash from the driver figure and glue his head on. Plonk him in his seat with a small blob of 'Blu Tack', press down very hard so the 'Blu Tack' does not lift him in any way. Offer up the whole driver/partition assembly to the desk, so the partition comes flush with the window opening. With tweezers, offer up one arm at a time and see where they fall. The position of the controls on the desk will affect the angle needed for the arms. Draw around the arm and hold just the elbow on a cup of boiling water. This will soften the arm and allow it to be adjusted. Once you think you have the angle, quench in cold water. Offer it up to the outline already drawn. This will show how much your arm has moved. Now offer the arm back to the driver.
Keep going until you are satisfied the arms, driver and partition are all correctly set. Tape the partition into place so it can not move. Carefully put a drop of super glue on the inside of the shoulder of each arm and with tweezers, hold it in position until the glue has set. Do this for both arms.
Once the driver is 'set', remove him and add more glue so the arms are solid and fill gaps with car body filler.



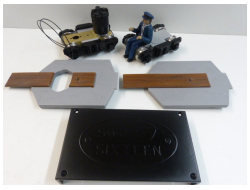

26.

Mask off the roof and spray to the colour of your choosing. We used Humbrol enamel 165 grey, which happens to be exactly the same shade as Halfords primer, so be careful! 'Tamiya' masking tape is absolutely the best tape available and perfect for masking a paint finish on the outside of a model.
We advise using this tape for the first mask line and then bulk up with 'Frogtape'.


27.

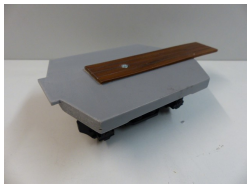
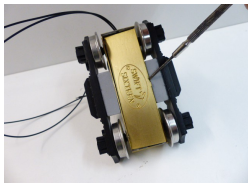
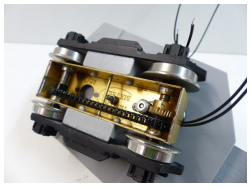
While the roof is drying, you can be painting the bogies, bogie plates, underfloor and driver figure. Once the roof is dry, fit the driver and partition as per the other end, but now glue the driver into his seat.

Please see the instructions for building the bogies in the "builders parts" section of this site.



28.

Drill a 2.6mm hole in the resin trailer bogie and screw it to the bogie base with the single long self tapping screw. You will see that bogie has a 'bar top'. This controls 'body roll', the screw should be slack enough for pivoting and 'for and aft' rock, but not slack enough to allow sideways roll. With a very small screwdriver, pop off the power bogie base plate alongside the middle tab. Bolt the power bogie to the base plate with the M3 nylock nut and counter sunk bolt. Make sure the bogie can roll in all directions, but not too slack. This tension is much less important as the bogie is allowed to follow the rails by the fact it sits on a 'ball top'.

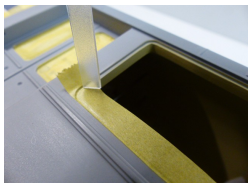
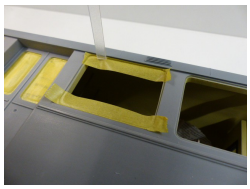





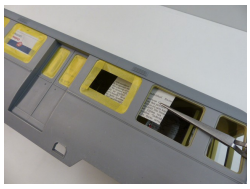
29.

Next step is to paint the main body. This requires much masking. As said before, 'Tamiya' masking tape is by far the best option here. We used the 10mm wide roll, but the 18mm would be just as good. Great care should be taken here as any gaps will turn your nicely painted interior, body colour!

30.

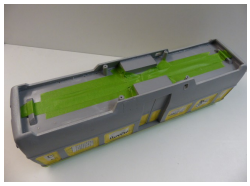
Keep the masking neat and tidy, use a smooth plastic stick to force the tape fully into the corners. Trim off the excess tape in the corners with a very sharp scalpel. Cut a small square of newspaper and stick it onto the inside of the window via the window aperture alongside the window you are working on. Make sure the paper is fully stuck by using a stick or finger.



31.

Using the 'Tamiya' tape, mask off the roof gutter and then bulk up with 'Frogtape' and newspaper. With 'Frogtape', mask off the underside in two steps. Step 1, the actual opening. Step 2, the underside in general. Don't forget the filler openings.

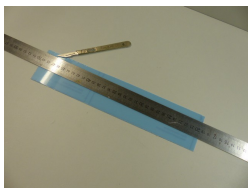

32.

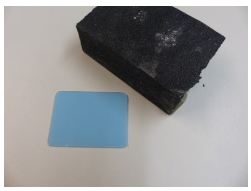
We painted ours in 'Halfords' grey primer and then 'Rail Match' 300 BR loco Green. This was the exact colour of the mainline BR Railbuses that we took our inspiration from for this model.

(The body skirting was 'borrowed' from the French Billards!)


33.

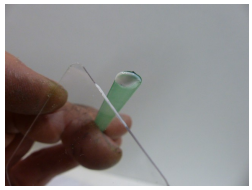
Cut the window plastic into long window wide strips by offering up the sheet to a window and marking with a scalpel. For each window, offer the strip against the width of the window you intend to glaze and mark. Cut off that piece with an engineers' square. Note, you only need to deep score the plastic and it will snap cleanly. You should also note that the 'burr' will need to be scraped off the cut edge for a good fit. Using 240 grit paper on a block, gently round the corners off, down strokes only, to keep the waste plastic on one side. This helps when cleaning up ready for fitting. Cleaning up the waste can be done by scraping or 400 grit paper.





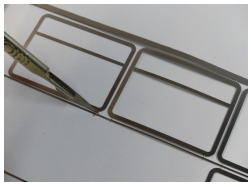
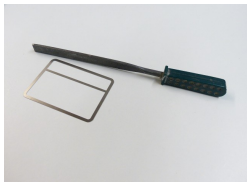
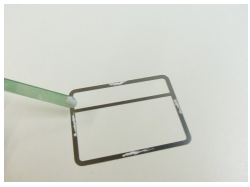

34.

Apply waterproof PVA or Epoxy to just the edges of the window to be fitted. You really do not need much glue as the outer frame will also be holding the glass. Try not to use Epoxy for this job as it is hard to clean up. A PVA type glue is far good enough for the job and can be wiped off with a damp rag or peeled off when dry. It also stays clear when dry and does not 'yellow' with age!35.




35.

Cut out the window frames with a scalpel and file the pips with a small file. Apply a small amount of glue, (same glue as used for the glass) and carefully drop into place, align by eye. Note that the top of the frame is tight against the underside of the roof gutter and the holes on the front windows go at the top.


35a.

The head code boxes will need destinations making up. This is a highly personal thing, so can only be done by you the builder. We suggest you make them on your computer and print them out. The glass and frames fit in exactly the same way as all of the other windows. The headlights will also need to be glazed and frames fitting, again in the same way as the windows.

36.

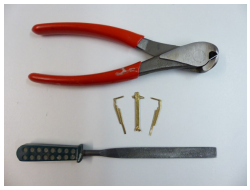
With a 2.1mm drill, drill the marked holes in the filler inserts at about 45 degrees, or if you prefer, 90 degrees to the base the marks are on. Paint the back of the insert black and the fillers silver. Glue the fillers into place and glue the whole assemblies into place on the body. A little filing may be needed to get the double insert behind the post.



37.

Cut off the wipers and carefully file up. Continue to drill a 1.3mm hole into the hole that is already there on the top side of the front windows. Paint the wipers silver and glue into place.

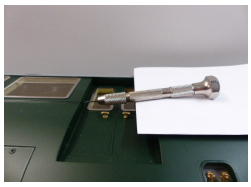
(These wipers are asking to be made to work!)38.




38.

Drill the door handle dots with a 1.9mm drill, go all the way through. Trim down the shafts of the door handles so that two can be fitted into one hole, one handle either side of the door. Paint the handles silver and fit. Place a protective card over the body and drill the marked grab rail dots to 1.3mm.

Paint the rails silver and fit.




39.

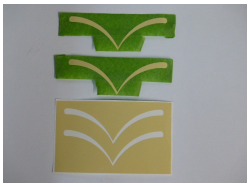
Remove and file up the upper step tread, paint black or silver and glue into place. Run some masking tape along the bottom of the body under the doors. Mark out where you want the step to be. There is no actual 'proper' place for this, so fit where you think it looks best. The post spacing is 20mm and the drill size is 2.1mm. Remember that the holes run up hill!! Paint the step black or silver and glue into place.




40.

<u>OPTIONAL PART SOLD SEPERATELY</u>

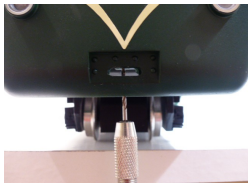
These decals can be used as an inner or outer mask for painting on the whiskers before or after the main body colour. Or they can be used as the actual whisker after full body colour. If you need a satin or matt finish, they can be gently rubbed down with 1200 grit wet and dry paper before lifting from the sheet. This will remove the glossy surface. 'Frog Tape' or a good quality masking tape is used to remove the decals for application to the model. It is a good tip to leave just the very tip of the 'V' showing, so you can line it up with the middle of the buffer recess.



41.

If you have the our 'Roundhouse' type couplings, chase out the buffer slot with a 1.5mm drill on a Dremel type tool and file to a smooth slot. Drill a 1.6mm drill dead centre of the slot and about 5mm from the rear of the body skirt. Make sure the drill goes at least 3mm into the upper part of the body.
Cut down the tongue of the coupling to about 25mm and offer it into the slot. Trim down more if needed. Once happy, refit the 1.6mm drill into the hole and refit the coupling. Position the coupling to the depth you want and use the drill as a marker. Remove the coupling and drill a 1.6mm hole through the buffer tongue. If you want to fit the hooks and choppers, please refer to our instructions on these couplings. Paint the coupling and fit using the 1.6mm brass wire trimmed to length.

If you are fitting our Accucraft chopper, you will need to fill in this slot or make a thin backing plate so the spring does not fall out. You will also need to trim off the moulded rivet detail within the coupling recess on the body.




42.

Finished

Well, as finished as it needs to be!

There is always more you can do, but that's the fun of modelling!

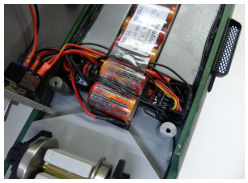
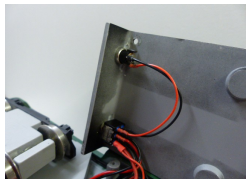
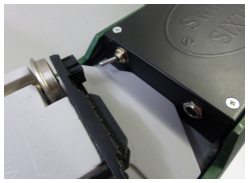
43.

If a full under floor R/C system is to be fitted, you will need small gear. The Marine 10 we sell fits fine and we used a Spektrum AR6110 2.4 RX. We have fitted lights in both ends of our Railbus. This meant a little more wires than standard under our floor. Even with this extra wire, we still managed to fit a on-on DPST switch and charging socket. To keep things simple, we hard wired the battery straight to the switch via its common middle pins. This means no big plugs to take up space!

If larger gear is to be fitted, there is miles of room inside the body under seats!!

To be honest, it is a little tight for space under the floor. If extras are going to be fitted, like charging ports and lights, you will have to be sparing with wires and give yourself plenty of time fitting it all in.

As can be seen from the pictures below, it will all fit.

If you are using larger R/C gear, you may find it better to fit all your larger components onto the underside of the roof? Maybe even make a black plasticard cover to hide them? All the wires can then be trunked down the corner of the body by the doors into the battery compartment. This will give you some extra working space in the battery compartment for switches etc. Almost all but the very largest R/C gear (these days hard to find) can not be seen if fixed to the roof unless you look up from well below the railbus gutter line.