



## Assembling the Dapol Railbus C47 Kit

### Assembly Instructions

It will be necessary to assemble the model in a different sequence to that in the Dapol assembly instructions. The railbus body will be completed before the powered underframe, in the reverse of the Dapol instructions.

Please follow these model assembly instructions and not the Dapol ones. Lines from the Dapol instructions will be inserted into this document where applicable.

Please test fit all parts before cementing in place. There are many mould marks that prevent parts from fitting together correctly, and these need to be shaved off.

### DCC Considerations

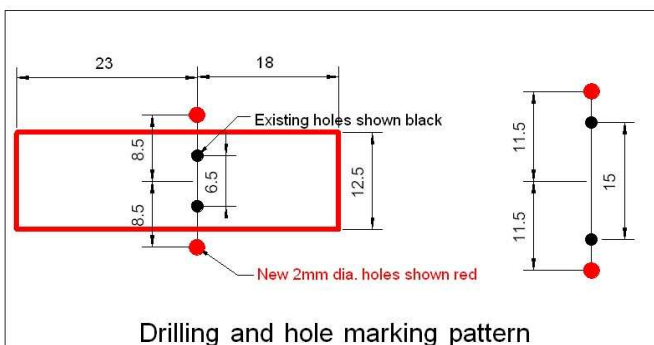
If you are planning to control the model by DCC, it is best to make alterations to the wiring of the mechanism before beginning assembly.

There are four wires from the pickups connected to the motor as supplied. They are soldered to a small printed circuit board on the rear of the motor. Un-solder the wires from this board, a light touch is all that is necessary, do not dwell on the board for too long. You will find that the wires are twisted together in pairs, one pair on each side. These wires are colour coded according to the NMRA standard scheme, and can be connected to the same coloured wires of your decoder, red and black. The orange wire from the decoder should be connected to the motor printed circuit pad on the same side as the red pick-up wires, and the grey wire goes to the motor on the black side.

### Assembling the Model

Begin by laying the floor section of the kit (42) down with the smooth, or cabin side, uppermost. Mark the position of 4 holes to mount the mechanism to the floor. The holes are in line with the existing four holes that locate the underframe (2), but are spaced slightly further apart. For the two existing holes that are 6.5mm apart, the new holes should be 17mm apart, or 8.5mm either side of centre. The other two holes should be marked in line with the two existing holes at 15mm spacing, the new holes being 23mm apart, or 11.5mm either side of centre. Once the holes are marked, carefully drill them out to 2mm diameter, preferably by hand.

Now mark out a rectangular hole, 12.5mm wide, and 41mm long. This hole is arranged 23mm in front of the existing holes at 6.5mm spacing, and 18mm behind. The drilling and hole marking pattern is shown below.



Carefully cut out the rectangular hole in the floor. On the underside of the floor there are a number of shallow ribs that will sit between the floor and the brass spine of the mechanism. These ribs will cause distortion of the floor when the mechanism is fitted.

Test fit the mechanism to the floor and mark the position of the spine in relation to these ribs. Remove the mechanism and carefully shave these ribs off with a sharp knife or scalpel. They do not have to be completely removed, reducing their height to under half will be sufficient. There are also some circular mould marks near the mounting plates that need to be shaved down as well.

Attach the mechanism to the floor using the 2mm screws and nuts supplied with the mechanism, making sure the screws are on the under side of the floor. The floor of the model is often distorted somewhat, but should sit reasonably flat when the mechanism is attached. If it is still excessively distorted, check to see if any plastic protrusions on the floor are causing the problem. Shave off if necessary. So that the mechanism can be removed later, place a small amount of PVA cement or epoxy adhesive around the nuts on the compartment side of the floor.

Take care not to get any cement on the threads of the screws and nuts, the idea is to lock the nuts to the floor. **DO NOT** use cyanoacrylate or superglue for this purpose, as it has a tendency to flow quickly into tight spaces, like the thread, and you will not be able to unscrew the floor again. Once the glue has set, unscrew and remove the mechanism while the remainder of the model is assembled.

Locate the one narrow and three wide windows (22 – 25) in the back of the body side (26) and cement in place. Be careful that no glue touches the visible areas of the windows.

Repeat this procedure for the remaining body sides (27 – 41). Locate & cement body sides to floor (42). Glue transparent route indicator cover (43) into place in end of body (44). Cut out printed route number and stick into place behind route indicator cover. Cement windscreen (45) into end of body. Note that there are a number of circular mould marks that need to be shaved off for the windscreens to fit properly.

Repeat this procedure for the other end of the body (46 – 48) and cement the two ends to the floor and body sides. Locate & cement windows to the inside of the doors (49 – 52) and place the lower tabs of the doors into the floor guide rails with the doors in the 'closed' position.

At this stage you might like to consider whether you want to build an interior into the model, as the next stage is fitting the roof on, and there is no going back from there. It would also be a good time to paint the interior of the model.

Whether fitting an interior or not, it is also a good idea at this stage to place some lead in the form of sheet on the floor of the cabin area to add weight to the model and improve its performance. These plastic kits act like a guitar sounding board and amplify any noise, whereas lead tends to dampen the noise to a large extent.

Apply cement carefully along the locating ribs of the roof (53) and place the roof into position on body, ensuring that both doors are located within the roof guide channels. To make this easier it is suggested that a small ball of tissue or newspaper be wedged between the doors while the roof is cemented into place. When the roof has set, slide the doors open to remove the paper. **ENSURE THAT NO CEMENT COMES INTO CONTACT WITH THE DOORS.**

If you use a liquid cement like MEK, an alternative method of assembly of the roof is to place the roof on the model and use heavy rubber bands to hold it in place, often doubling the bands two or three times to achieve enough tension. The roof and sides can be quite distorted, and this method allows you to position everything dry, then when everything is in place to your satisfaction, run a thin line of MEK along the roof join to hold it in place.

Locate & cement steps (20 - 21) into locating holes in chassis side frames (5 & 10). These are fragile and should be left for some time to allow the cement to set. Locate and cement the engine cover (1) to the rear of side frame (10). It is positioned up hard to the small conduit box on the side frame.

Cement reservoir (54) to underside of floor using locating holes provided.

Cement together upper and lower halves of the heater (55 & 56) and locate and cement heater assembly to underside of floor. Cement body tank (57) into floor locating holes between centre and outside of heater.

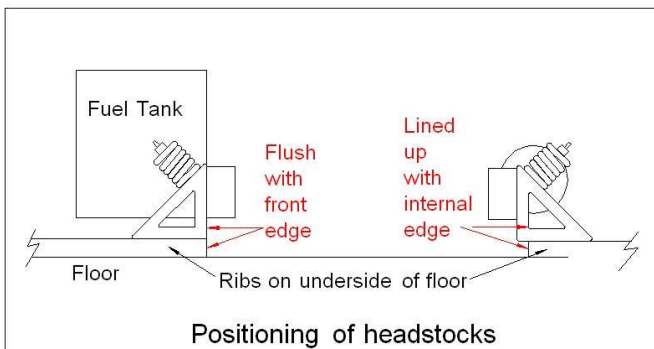
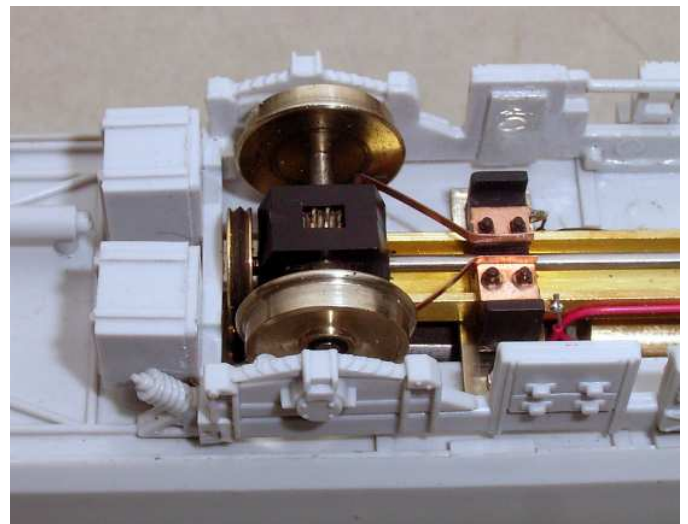
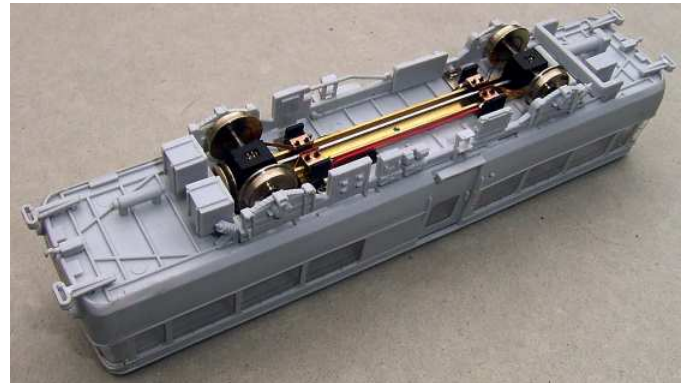
Cement together upper and lower halves of the four bumper parts (58 to 65) and then cement them into the locating holes in each corner of the floor. Cement tow hooks (66 & 67) into locating holes in the centre of each end of the floor (42).

Due to the presence of the mechanism, the entire underframe section (2) cannot be used. For the same reason, the auxiliary reservoir and diverter valve (3 & 4) also cannot be used.

Locate the headstock (14) and cut the locating tabs off the rear. Cement brake reservoir (15) into holes in headstock. Also fit suspension springs (16 & 17) into the square holes at the end of the headstock, and cement. Refer to the kit diagram for orientation.

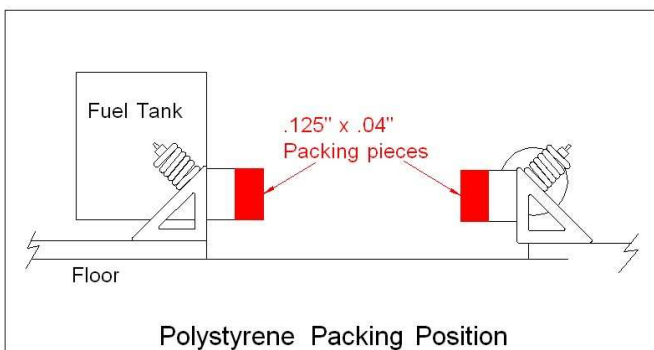
Locate opposite end headstock (11) and cut locating tabs off the rear. Cement fuel tanks (12 & 13) onto the raised locations on the headstock. The straps on the fuel tanks are vertical. Fit suspension springs (18 & 19) into the square holes at the end of the headstock, and cement.

Position the headstock assemblies and cement them to the floor ribs by applying cement to the underside of the small triangular spring mounts. The position of each headstock is shown in the diagram below, with respect to the ribs on the floor of the car. This should result in the headstocks being as close to the mechanism as possible without fouling it.



The position of the headstocks is slightly further apart from where they should be, and the side frames will not quite reach. To compensate, cut four sections of the piece of white polystyrene rectangular section, supplied with the mechanism, each piece 3.5mm long.

Cement these sections to the inside of the headstocks as shown below:



Test fit the side frames in between the packed out headstocks. If your positioning of the headstocks is correct, the side frames will not quite fit now. File back the inside of the notch in each end of the side frame until it fits snugly between the headstocks.

Cement the side frames in position, checking that they are mounted perpendicular to the floor. Under the centre of the side frames, there is a wide flat rib section (near the doors). Run a bead of cement along the join between this rib and the top of the side frames to provide additional strength.

There is some spare space under the model between the side frames and the spine of the mechanism. If possible, place further shaped lead weights in this region to improve performance.

The model should now be painted and the decals applied. The mechanism may then be re-installed in the body.

The following photos show the model in a completed, but not painted form, to show you how it should look: