



LT Q stock kit construction notes

The Q stock fleet

The London Underground's fleet of Q stock was created between 1938 and the early 1950s and was made up of a mix of existing cars of various vintages; 1923 'G' stock, 1927 'K' stock, 1931 'L' stock and 1935 'M' and 'N' stock, paired with a large fleet of newly-built stock with flared sides. The new cars were classified 'Q38' and the older cars were reclassified Q23 Q27, Q31 or Q35 as they were converted from hand door operation to air doors, fitted with electro-pneumatic brakes and added to the Q stock fleet.

More detailed information about the Q stock prototypes can be downloaded from the Resources section of the Eastleigh Model Rail website.

The Eastleigh Model Rail range of 'Q' stock is designed to make up a four-car unit as operated on the East London Line until 1971 and comprises a Q23 driving motor, a Q27 driving motor, a Q35 trailer and a Q38 trailer.

Two Q23 motor cars (4167 and 4178) were converted in 1939 to operate the South Acton Shuttle as single cars with a cab at both ends. This operation ceased in 1959 and the cars were scrapped. A South Acton Shuttle version of the Eastleigh Q23 kit can be supplied on request.



In your Eastleigh Model Rail kit you will find:

Part code	Description	Q23	Q27	Q35	Q38
A2M	A2 frame for Black Beetle motor bogie	1	1		
K2C	K2 trailer bogie centre	1	1	2	
K2P	K2 trailer pickup bogie sideframe	2	2		
K2S	K2 trailer bogie sideframe			4	
QBC	Q38 bogie centre				2
QBL	Q38 bogie sideframe left				2
QBR	Q38 bogie sideframe right				2
Q3U	Q23 underframe	1			
Q7U	Q27 underframe		1		
Q5U	Q35 underframe			1	
Q8U	Q38 underframe				1
Q3I	Q23 interior	1			
Q7I	Q27 interior		1		
Q5I	Q35 interior			1	
Q8I	Q38 interior				1
Q3B	Q23 blind end	1			
Q3C	Q23 cab end	1			
Q7B	Q27 blind end		1		
Q7C	Q27 cab end		1		
Q5E	Q35 end			2	
Q8B	Q38 blind end				1
Q8C	Q38 'cab' end				1
Q3S	Q23 side	2			
Q7S	Q27 side		2		
Q5S	Q35 side			2	
Q8L	Q38 left side				1
Q8R	Q38 right side				1
Q3R	Q23 roof	1			
Q7R	Q27 roof		1		
RQ5	Q35 roof			1	
RQ8	Q38 roof				1



You will also need.....

- A motor bogie for the driving motor cars. The Q23 and Q27 kits are designed to be powered by a 31.25mm wheelbase 'Black Beetle' motor bogies with 12mm diameter wheels and each of these kits includes a cosmetic London Underground 'A2' motor bogie frame to fit. 'Black Beetle' bogies can be ordered from Steam Era Models (steameramodels.com). Whilst we recommend installing two powered bogies per train to ensure adequate adhesion and smooth running, it may well be possible to operate a four-car formation with a single powered bogie, depending on curves and gradients on your layout. An un-powered A2 bogie kit is available on request in place of the dummy A2 frame.
- Your choice of OO, EM or P4 12mm diameter spoked wheels.
- Brass 'top hat' bearings.
- Couplings. The Q stock kits are designed for close coupling using the Symoba system, with space for a Symoba 111 slider unit at the non-driving ends of each car. These, joined by Symoba 108 drawbars, give realistic close coupling whilst still enabling the formation to cope with Radius 2 curves.
- 8BA or M2 metric nuts, washers and bolts.
- Adhesives. Cyanoacrylates work well for joining 3D printed components. Deluxe Materials' "Super 'Phatic" also bonds well, though it takes several minutes to begin to cure so is best used in situations where the join can be supported in place until the bond is strong. Deluxe Models Glue 'n Glaze is useful for fixing glazing panels in place as it avoids the risk of cyanoacrylate glues 'fogging' clear plastics.
- Glazing.
- Paints and transfers.

3D printed parts can bow slightly but they are usually quite easy to straighten, for example by taping the affected part to a flat surface and leaving overnight in a warm place such as an airing cupboard. Avoid intense heat.

You may prefer to paint components before assembly. The inner faces of the bogies in particular will be difficult to paint satisfactorily once the wheels are in place. Before spray painting the body sides, mask off the glazed toplights above the saloon window openings.

Familiarise yourself with the specific parts for the kit you are building and test-fit parts before assembly to ensure you are familiar with the way they are intended to fit together.

If you lose or damage any parts during construction, let us know and we will replace them for you at cost.



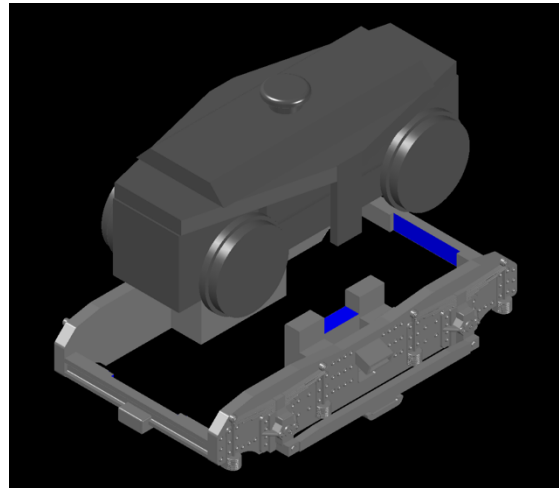
Bogie assembly

If your layout has third- and fourth-rail track with live rails at scale height, you may prefer to file off the pickup shoes from the Q23 and Q27 shoebeams before assembly to avoid them coming into physical contact.

Motor bogies

The A2 motor cosmetic bogie frame (A2M) for the Q23 and Q27 driving motor cars fits over a 31.25mm wheelbase 'Black Beetle' motor bogie.

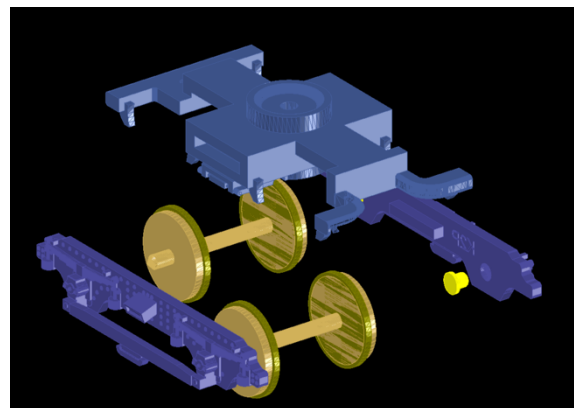
Insert the Black Beetle from above, making sure that the frame slides all the way up until it is in contact with the underside of the Black Beetle side 'wings'.



Trailer bogies

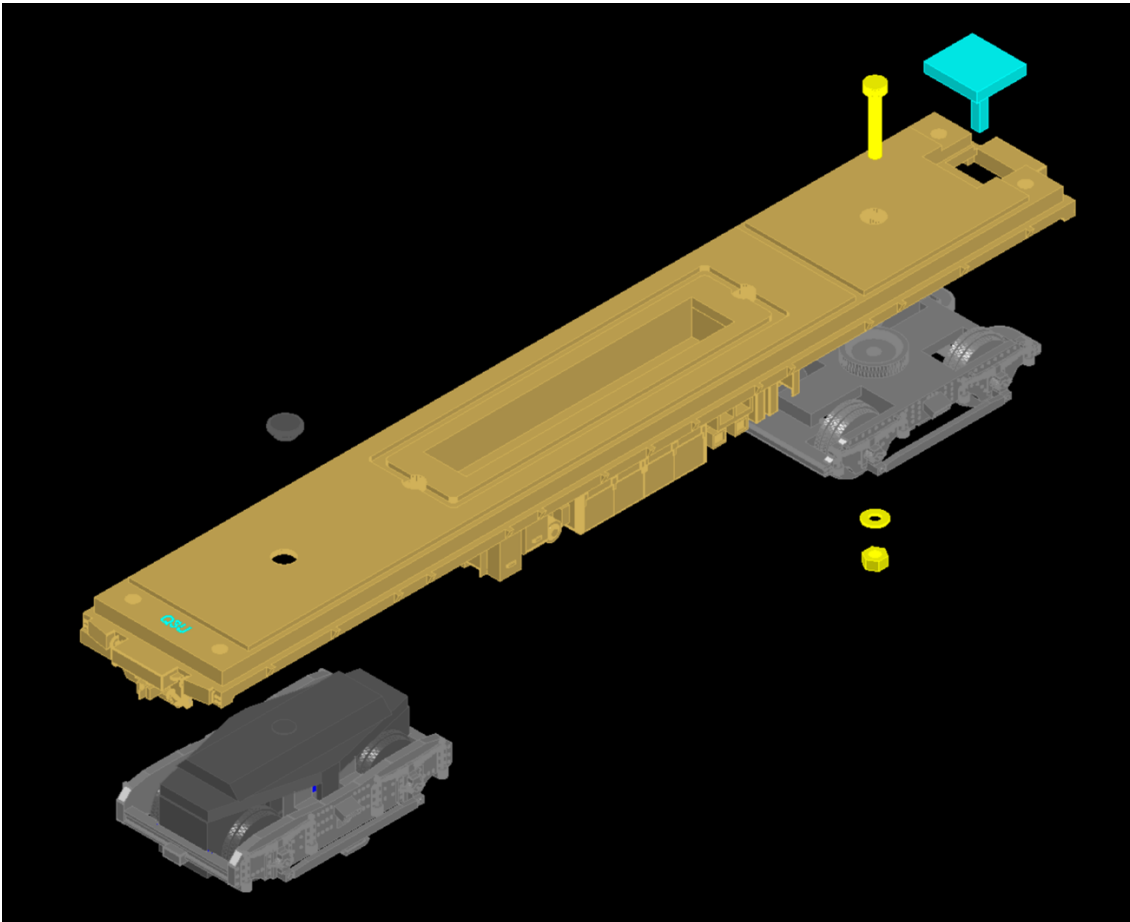
Glue brass 'top hat' bearings into the holes on the inner faces of the trailer sideframes. Assemble the sides and centre with wheels in place.

The sideframes of the K2-type trailer bogies for the Q23, Q27 and Q35 are symmetrical but the Q38 bogies have separate left and right handed sideframes.





Underframe and interior assembly



The underframe is supplied as a single component.

For the Q23 and Q27 kits a central rectangular recess is provided for adding weight to improve adhesion and electrical contact between wheels and rails. Our preferred method is to fill the recess with lead shot, fixed into place with PVA glue. A little washing-up liquid added to the glue helps it to flow around the lead shot.

Fit the A2 motor bogie assembly in place using the bolt in the top of the Black Beetle motor bogie.

Fit a Symoba III slide unit into the opening at the inner ends of the Q23 and Q27 underframes and at both ends of the Q35 and Q38 underframes. Check that the slider moves freely in its slot.

For unpowered bogies, drop a 1/2 inch 8BA (12mm M2) bolt through the pivot hole from above. Fit the assembled bogie and secure in place tightly with a washer and nut. Glue the head into place. When the glue has set, slacken off the securing nut slightly to allow the bogie to rotate freely. A spot of glue on the base of the retaining nut should help ensure that it does not work loose.

Test run the assembled underframe.

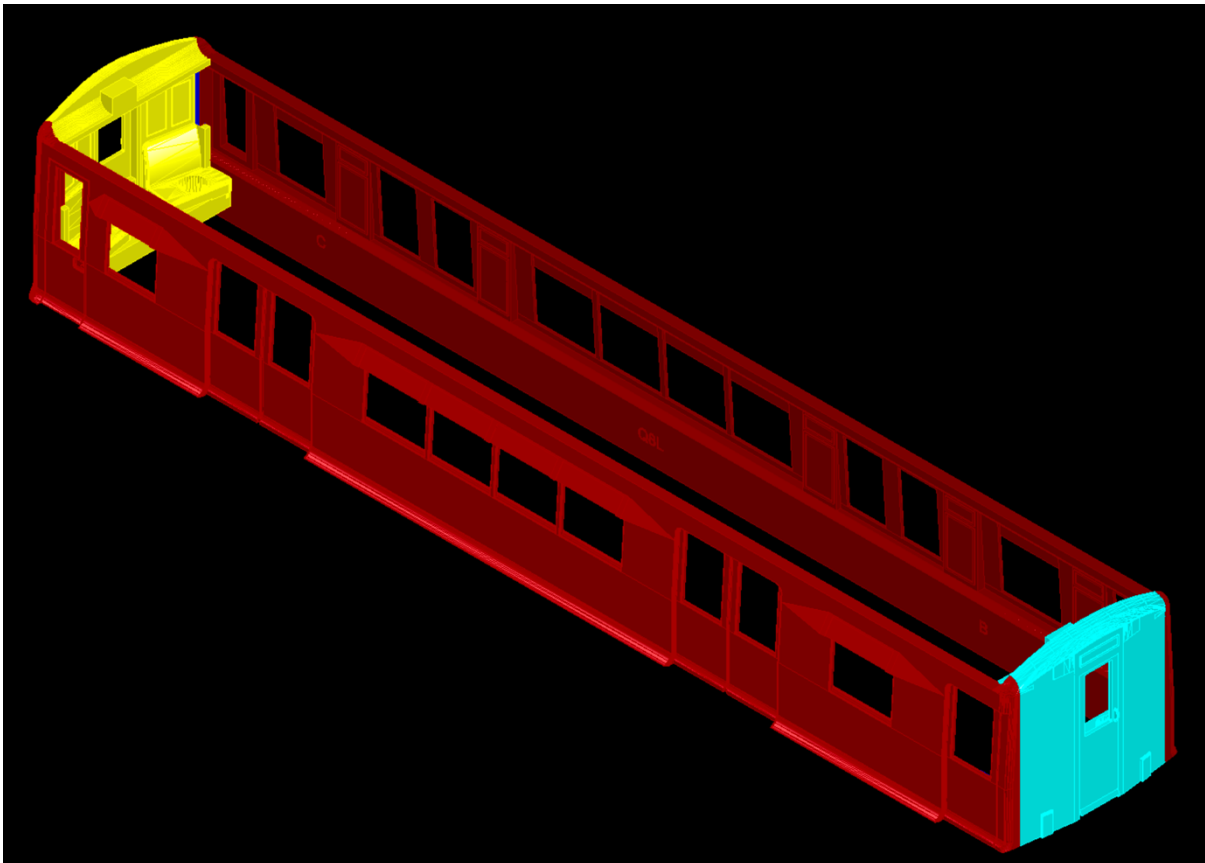
Fit the interior to the underframe using the longitudinal and transverse guides to locate it correctly.



Body assembly

Body assembly is straightforward but it is worth taking time to understand exactly how the parts fit together before fixing them in place. Note in particular that:-

- The Q23 ends overlap the sides whereas the Q27, Q35 and Q38 sides overlap the ends
- The Q23, Q27 and Q35 roofs fit over the ends whereas the Q38 roof fits within the ends. Off-centre tabs on the Q38 ends ensure that the roof is fitted the right way round (the roof panels are of unequal dimensions).
- The Q23, Q27 and Q35 sides are all symmetrical but the Q38 sides have the (sealed-off) driving cab door at one end and a passenger door at the other end and so are 'handed'. The sides are marked C at the "cab" end and B at the other end. The "cab" end (shown yellow in the illustration below) is the end with two pairs of inward-facing seats.



Before assembly, drop two ¼ inch 8BA (6mm M2) bolts into the recessed holes in the body ends and glue the heads into place ensuring that the bolts are vertical when viewed from all angles.

Test fit and glue one bodyside to one end. Test fit and glue the side/end pair to the roof, ensuring that the assembly is square. Repeat for the other bodyside and end.



Final assembly

Test fit the body assembly to the underframe assembly, ensuring that the end bolts on the body fit snugly into the corresponding holes in the underframe.

When satisfied with the fit, secure the body to the underframe with washers and nuts.

