

Instructions for Craven Large and Small tenders.

For general construction advice, tools and techniques, please refer to loco sheets.

Almost no historical detail can be given, as so little is officially recorded about them. Most information comes from photos - and that is where I would point fellow modellers. This kit is a product of intense photo scrutiny of pictures of the Belgravia class - and one or two other contemporary locos.

Known Allocation of Types of tenders:-

201 Belgravia:	Craven of some sort to start with / Stroudley outside-frame tender later
202 Goodwood:	As above
203 Sussex (Single)	As for 205 (though with 4' 0" wheels)
204 Westminster:	Small Craven 'closed loop' (I suspect it had 3' 9" wheels)
205 Kensington:	Large Craven "closed loop" frame
206 Carisbrooke:	Large frame Craven "Triangular frame"
207 Freshwater:	As above

Both these tenders have a choice of wheel diameter:

Large tender: either 4' 0" - which appear to my eyes to have been the size of Sussex's tender wheels (and also 1864 Stephenson single No 195 Portsmouth from the photo at New Cross in Bradley vol. 1 *Fig.*), and 3' 9" - which is almost certainly the most usual diameter for that size of tender - and I am convinced, from long poring over the photo with dividers and scale rules, were fitted to Kensington's tender.

Small tender: these are known to have had 3' 6" wheels when attached to most of the D2 class that had Craven tenders, but there is some uncertainty as to whether Westminster (the only one of the Belgravia class that appears to have had such a small tender) had larger wheels -i.e. 3' 9" - I suspect so.

The choice is up to you. The large tender is the same that will also be issued with "Sussex". I am convinced that one had 4' 0" wheels (as with that attached to Portsmouth - see above).

*If you follow this course of action you should really remove .5mm from the tops if the sides, (though you might get away with it). **However, this cannot be done later:** the frame sides must be detached from the sub-footplate at the outset, to allow removal of material from the frame sides and the overlays.*

If, however, you want the 'looped overlays', this will destroy the raised rib around the top completely. This is a case of not being able to please all the people all of the time!

1/2-etched lines are provided for those who wish to use the larger diameter wheels - as the axle height will rise by 0.5mm (half the difference in diameter). There may also be a need to remove a similar amount from the top edges of the outer tender frames - though this will destroy the full thickness angle on the 'closed-loop' overlays (*see above*). I am afraid you are rather left to your own devices here. There are only certain universality allowances that can be made!

As is useful with these kinds of kits, a short explanation as to how they go together is helpful. Both Kits are similar - with the only differences in overall size and wheel diameter.

The basic construction utilises fold-up construction of an upper tank/bodywork frame, a central platform/footplate, and fold-down underframe. Overlays are used for choice of tank sides - with or without rivets, and also lower outer frame sides - with choice of two designs.

It is important to build the upper tank bodywork as a separate unit - to make painting the sides possible - as the springs get in the way. The footplate and lower frames can be built together as another unit. I have deliberately restricted the number of location tabs and devices to two fold-down fittings and the 2mm screw themselves - as half-etch bends can end up with discrepancies in the final dimensions - so I have minimised the number. Any small adjustment, or correction of mis-match, can be made by judicious filing / opening out the holes front-to-back.

Construction:

1. Detach **frame fold-down (1)** and bend sides down, ensuring an accurate right angle. Run a fillet of solder along the 1/2etch line.
Fold down ends - and solder similarly - joining the ends to the sides.
2. Add **drag beam fitting (1a)** behind the front part. Some fitting may be required here. The square holes are to assist even soldering
3. Clean up chosen **frame overlays (2)** and press out any 1/2-etch rivet detail from the back. Join carefully with minimum of solder, ensuring completely flat.
4. Remove **platform (3)** and fold-down **alignment tabs (4)**. Use these temporarily - along with 2mm screws to test alignment. **Do not solder yet.**
5. Remove fold-up **body unit (5)** and fold sides up, again, running a fillet of solder along after checking for exactly vertical sides. Continue to fold up and secure front and rear ends.
6. Remove front overlay, with coal-door. If you think that these tenders did not have such an arrangement, then reverse this piece, but, in either case, bend the stiffening strip so that it bends back over the coal space. *This part may not be thought to be correct, but the front of the otherwise thin coalhole sheet would need to be supported along its fairly weak length. Some photos appear to suggest such an arrangement.*
7. Press out the **rivet** details on the rear of the door slide support strips, and solder vertically either side of the coalhole.
8. Remove two chosen **tender body side overlays (6)** - and bend the curve on the top valence edge. Solder very carefully over the inner sides. Any overlap at each end should be equal.
9. Remove **rear body overlay (7)**, and curve the top edge. Again, solder similarly. It is essential that all 3 of these panels are absolutely flat. Clean up any overlap, or misalignment at the rear corners.
10. Remove and clean up **rear toolbox (8)** and **lid (9)**. Locate box in slots in rear body panel, and lid top, once in situ.
11. Remove **tank top panel (10)** and curve the front portion (annealing may help here), to align with the rivet detail on the rivetted side overlays, whether or not you will use them. Solder carefully in place with the curved portion at the front. Take care with the rear edge alignment.
12. Fold up the **upper toolbox assembly (11)**, and bend **lids (12)** so that the two vertical faces will form a square space, into which the tank filler can be placed. An **alternative** is to cut along the 1/2-etched lines and separate both sides of the toolbox and discard the centre portion. This will give two separate boxes. It is thought by some that these looked like toolboxes, but were, in fact, tank filler caps. *This is an unclear area and I leave you to choose what your preferred arrangements are. Some have these toolboxes, but I have a suspicion that some may have been tank fillers. The only drawing available - of a larger, older tender - shows the arrangement I have described. Some tender photos suggest a filler cap with no toolboxes at all! Other photos suggest only a pair of these 'boxes' - which are, therefore, filler caps presumably?*
13. Fold up **rear buffer beam (13)**, so that it represents a solid wooden baulk. Fill the ends with solder, or car body filler after attachment. A dry run after bending, and light filing as necessary, will ensure the loose ends touch the frame sides with no gap.

14. Remove **brake cranks (14)** and **brake rods (15)** and lay aside for the chassis construction. Similarly the **Brakes (16)**. Thread wires through the chassis, and hang the brakes on these. Wires across the back of the brakes allow the rods to be fitted on the outside, and lined with the cranks on a wire across the front of the outer frames. (*see diagram*)
15. Fold the **brakes** up with the 1/2-etch lines on the inside, ensuring the holes at the top line up. Detach the brake block thickening pieces and solder in between the folded-up blocks. *Some light filing may be necessary along the back edge to ensure correct alignment.*
16. Remove **handrail fittings (17)**. You again have a choice - depending on which arrangement you prefer: either mirror image each side, or with triangular hand-brake lever support. Punch out **rivet** detail, and bend along 1/2-etched line. Solder in conjunction with 0.7mm wires to form the pairs of vertical poles, which locate at the bottom in the holes in the footplate.
17. **Handbrake lever:** This is a bit of a compromise. The shaft is a piece of rod, but the head is an etch, which needs a little work. First you solder the head on to the shaft, and then bend up the handle - after which you round it off to represent the elaborately shaped handle. Your choice of position is dictated by whether you think the alignment is in-line, or triangular.
18. **Springs:** these are found on the chassis fret, as they are nickel silver. They are a joined 3-part etch, which can be simply folded over in a 'Z' shape (in plan view) and soldered together with the barest minimum of solder, or each piece separated, and then soldered. The holes are there to allow short lengths of wire to be inserted to protrude a tad to represent the pins - if desired.
19. **Brake Cranks and rods:** These are the last bits left on the frets. The cranks are soldered together and threaded onto a wire cross-rod, and the operating levers connected to the brake rods and cross rods at the brakes themselves. See photos.

NB. *If you are building the tender for **Freshwater** or **Carisbrooke**, the spring support straps will need to be modified to form a 'Y' yoke. Both 'legs' come together, and are trimmed off to the same length - that of the rear ones. The holes in the platform will need to be filled in. (it may be possible that Chris Cox can supply castings for this eventuality.)*

Chassis construction

1. Remove **chassis sides** and **spacers**. Having read the detail above about wheel diameters, you will now need to decide finally whether you go with the recommended wheel diameters (15mm large tender, and 14mm small) for which the kits have been designed, or whether you wish to increase the sizes by scale 3". In this case, remove material down to the 1/2-etched lines on the chassis sides. Both the spacer seatings and the top edges will need to be lowered. *If you follow this course of action you should really remove .5mm from the tops of the sides, but this cannot feasibly be done, unless the frame sides are detached from the sub-footplate at the outset. "Sussex" modellers make your choice! I believe they were 4' 0" wheels.*
2. The final 'fitting' is to align the top bodywork with the platform and underframe - using the fold-down location units - and the 2mm nuts and bolts. Solder the nuts as captive on the top surface of the upper bodywork fold-up sheet, which will allow the screw to be the fixing agent from underneath - through the chassis spacers. **This will allow the upper body to be painted with panelling before attaching to the rest.**

All these tenders were rendered in Stroudley yellow passenger livery, in all its glory. Good luck painting it!