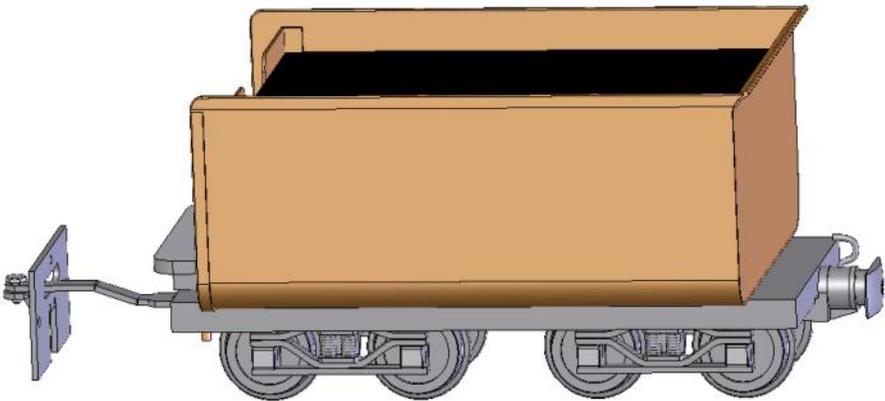




# Modular Locomotive System Instruction Manual *for* HBK9 Fowler Tender Kit



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## **HBK9 Fowler Bogie Tender Kit Introduction**

These instructions cover the assembly of the Bogie Tender as used with our Fowler locomotive.

The kit is straight forward - most of the parts are self explanatory. A small number of holes will need to be drilled or filed to size.

First of all, check that all the parts are here, there is a list on the back of this manual. If any parts are missing, please contact ROUNDHOUSE.

### **Assembly of the Brass Body Etch.**

The main Bodywork consist of three brass etchings. These are:-

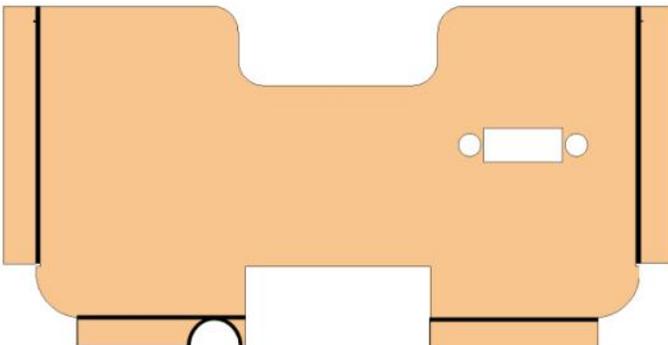
The Tender Body which already has the rivet detail embossed into it and is rolled and folded into shape.

The Tender Front Plate This will need the edges folding.

The Lamp Bracket This requires folding into shape.

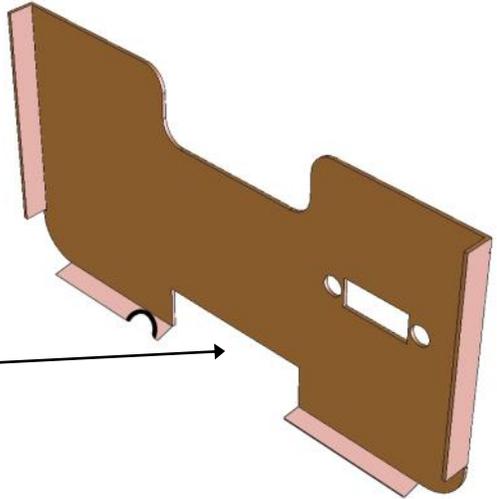
### **Tender Front Plate**

Take the Tender Front Plate and lay it down as shown in the drawing below.



To fold the edges use an ordinary pair of flat bladed pliers.

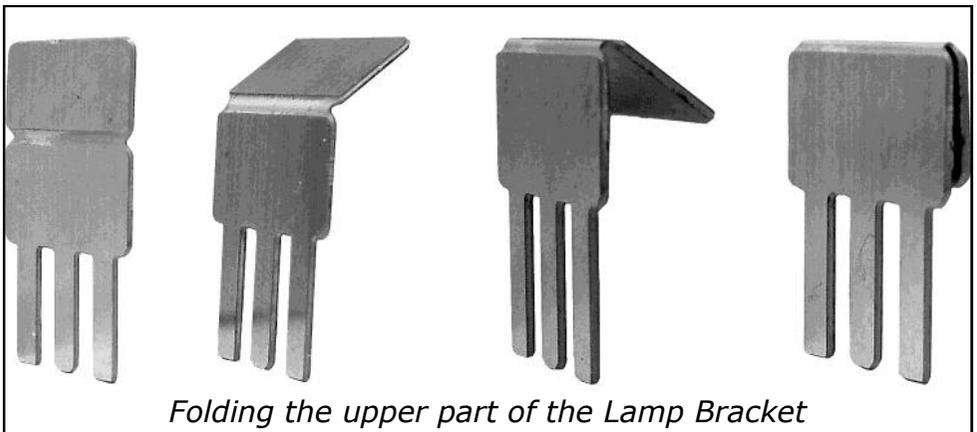
There are 4 fold lines etched into the sides and bottom of the Plate. The edges have to be folded **upwards** and **into** the etched fold lines, until they are at 90 degrees to the Plate.



The folded plate should look like this ● →

### Lamp Bracket

Take the Lamp Bracket and lay it down so that the fold line is uppermost. Again, an ordinary pair of flat bladed pliers can be used. **NOTE:-** This time we are folding **Backwards** and **Away** from the fold line. Fold the upper half of the Lamp Bracket (without the three prongs), backwards until it is flat with the lower part.



We now need to fold the three prongs. The outer two prongs will be curved slightly as they will follow the contour of the rear of the bunker. The middle prong is the one that a lamp will sit on. This needs to be folded straight back. Refer to the pictures below, and using a pair of pliers, fold the prongs as shown.

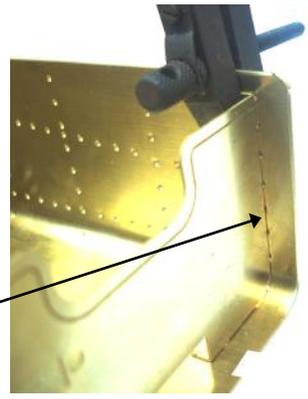
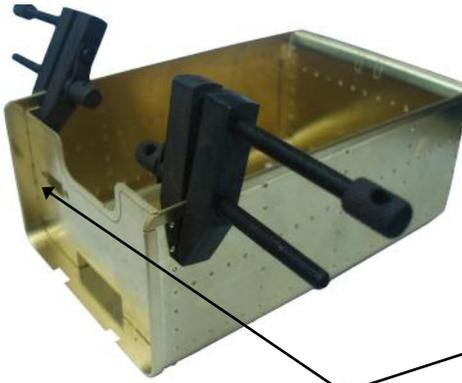


### **Soldering the Brass Tender Bodywork**

Using either toolmakers clamps, or 'C' clamps, hold the flanges of the rear of the tender against the sides making sure that all are at 90 degrees to each other. Using a small blowlamp or large soldering iron, carefully soft solder the flanges to the sides.

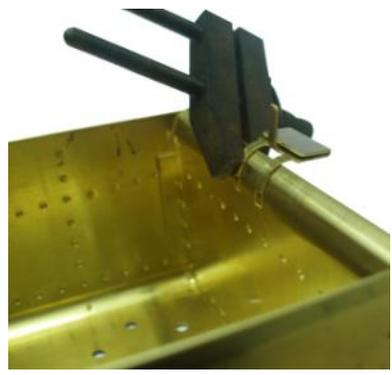


The tender front can now be soldered. Clamp the front into the tender body. Use the first vertical line of rivets on the tender to line up the front plate and ensure that the bottom flange is flush with the tender floor.



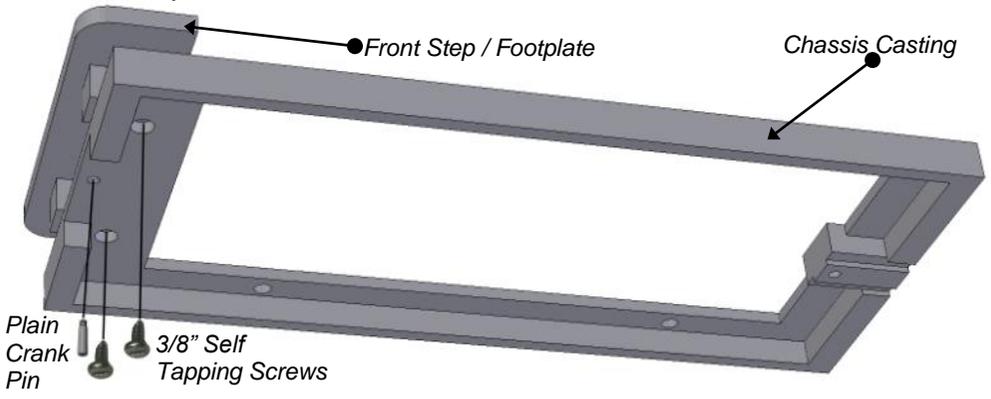
Align front panel with first line of rivets.

The lamp bracket can now be soldered to the rear of the tender. Line up the two curved brackets with the two guides etched into the rear of the tender. Use a small clamp to hold the bracket in place whilst soldering.

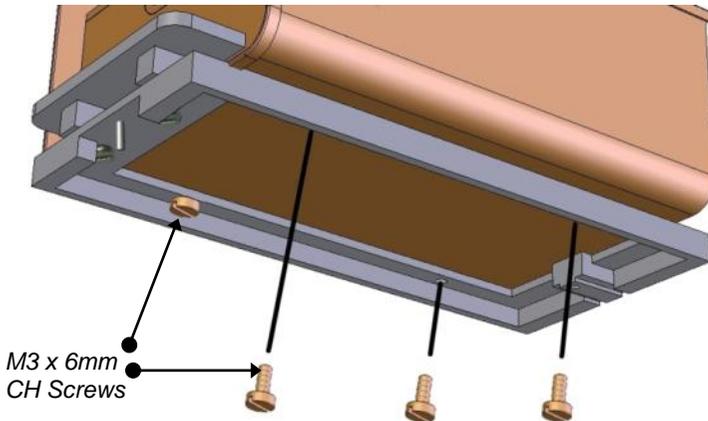


The body can now be prepared and painted as desired.

The chassis and front footplate/step castings should now be cleaned up, prepared and painted. When the paint is dry, the plain crank pin screws into the centre tapped hole as shown below. Use either Loctite or an epoxy glue on the thread to secure in place.



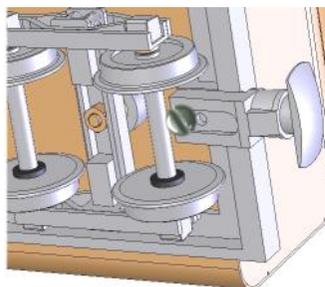
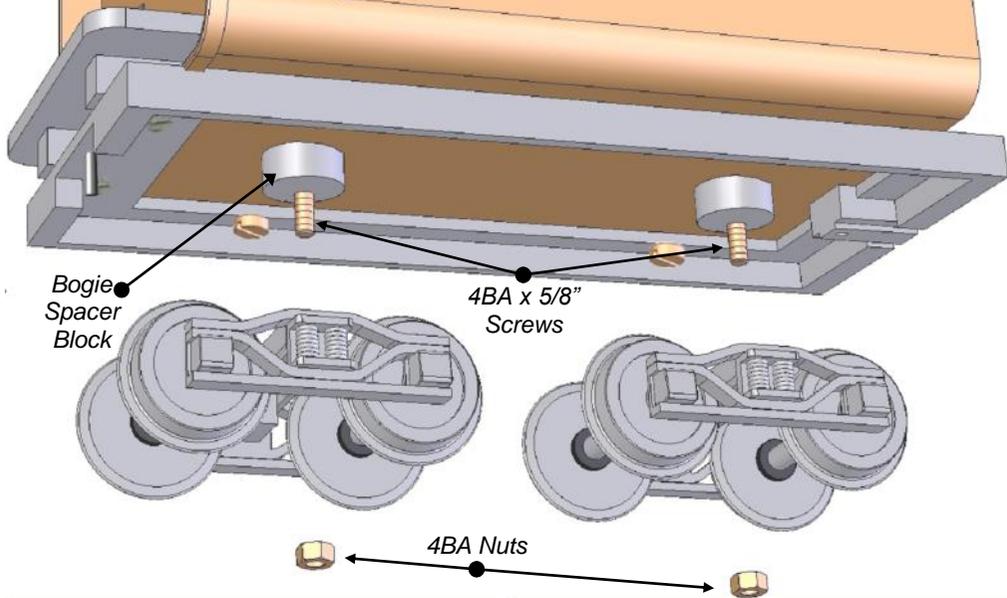
We can now fix the chassis casting to the bottom of the tender body. Turn the body upside down and place the chassis casting onto the bottom of the tender as shown in the drawing. Remove the four M3 x 6mm brass cheese head (CH) screws from the coal support posts and push them through the holes in the casting, through the bottom of the tender and screw them back into the brass coal support posts. Before tightening the support post up, make sure that the chassis casting is positioned squarely and is pushed as far back as the slotted holes in the chassis will allow. Tighten up the screws to hold everything firmly in place. The cast front footplate/step can now be fixed using the two self tapping screws provided. These pass up through the holes in the front of the chassis and screw into the base of the step casting. There are two notches in the brass



tender body to clear these screws and the base of the casting has a shallow step to allow it to sit over the body floor.

We can now fit the Arch Bar Frame Bogies to the tender. Included with the tender kit are a pair of either 32mm or 45mm gauge bogies. Fitting to the tender is the same for either gauge.

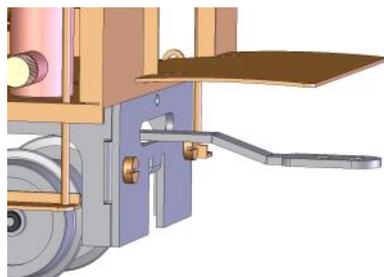
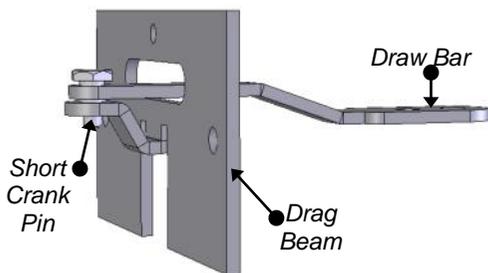
First, paint and assemble the bogies as per the instructions included with the bogie kit. Push a 4BA x 5/8" brass screw through one of the holes in the floor of the tender so the screw protrudes underneath the tender. Fit a Bogie Spacer Block over the screw and then slide the bogie over the screw and then secure with a 4BA nut. Tighten the screw up and then back off a little so that the bogie is free to rotate. Use either a spot of Loctite or a small dab of superglue or paint on the end of the screw and nut, to stop it loosening when in use.



Fix the centre buffer to the rear of the tender frame with the self tapping screw provided.

Prepare and paint the Draw Bar and Drag Beam and when fully dry, assemble as shown in the diagram, using the short crank pin. Remove the rear buffer beam and centre buffer (if fitted) from the locomotive and, using the same screws and nuts, fit the assembled Drag Beam to the locomotive.

The Draw Bar provided is flat, but may need to be bent as shown below so that it is at the right height for the Tender to connect correctly.



The dummy coal load simply sits in the tender on the 4 posts. It may need sanding or filing slightly on the edges to fit - if so you must wear appropriate protective equipment, such as dust mask, gloves and eye protection, and do this outside.

Once it is fitting correctly, it can be painted matt black.

# HBK9 Fowler Tender Kit

## CHECKLIST

### Separate Parts

Tender Main Body - *brass etching, folded & Riveted.*

Tender Front Plate - *brass etching.*

Chassis - *metal casting* with 1 x 3/8" Self Tapping Screw fitted.

Dummy Coal Load - *resin casting*

### Sealed Pack

1 x Front Step/Footplate - *metal casting* with 2 x 3/8" Self Tapping Screws fitted.

2 x Bogie Spacer Blocks - *metal casting.*

1 x Centre Buffer - *metal casting.*

4 x Coal Support Posts with M3 x 6mm Brass Cheese Head (CH) Screws fitted.

1 x Plain Crank Pin, threaded 6BA.

2 x 4BA x 5/8" Brass Screws and Nuts.

1 x Rear Lamp Bracket - *Brass Etching.*

1 x Draw Bar, Drag Beam and Short Crank Pin.

*Checked*