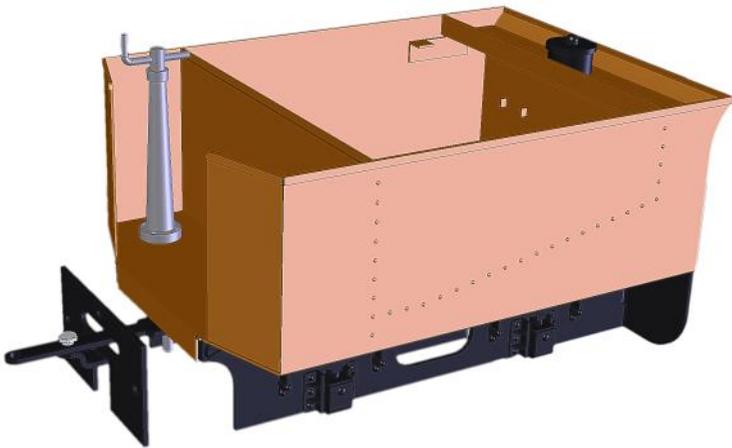




# Modular Locomotive System Instruction Manual *for* HBK7 George Tender Kit



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# HBK George Bogie Tender Kit

## Introduction

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

The kit is straight forward - most of the parts are self explanatory. All painting of the tender is left to you. It is advisable to paint the parts and subassemblies after they are soldered or folded.

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

### Assembly of the Brass Body Etchings.

#### Tender Front Plate

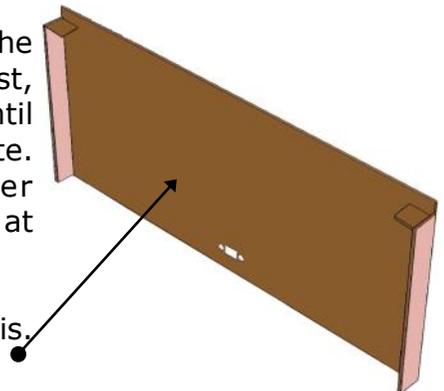
Take the Tender Front Plate and lay it down with the fold lines uppermost, as shown in the drawing below. The reverse side of the front tender plate has a single line etched near the top. This

is NOT a fold line - it provides detail to the finished tender. To fold the edges use an ordinary pair of flat bladed pliers.



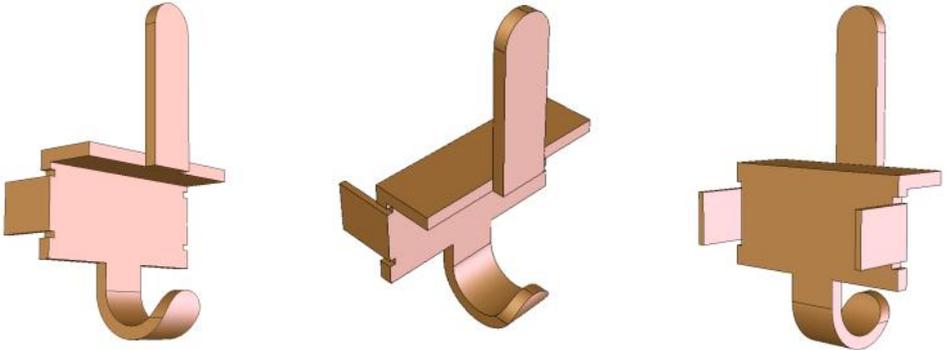
There are 4 fold lines etched into the sides of the Tender Front Plate. First, fold in the long vertical lines until they are at 90 degrees to the Plate. Then fold down the smaller horizontal lines until they too are at 90 degrees.

The folded plate should look like this. Put to one side for use later on.



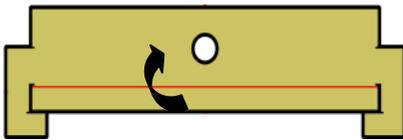
## Lamp Brackets

Fold the lamp brackets as shown in the diagrams below.



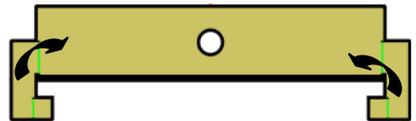
*Folding the Lamp Brackets - three angles of the same Lamp Bracket are shown here for clarity.*

## Tender Back Plate

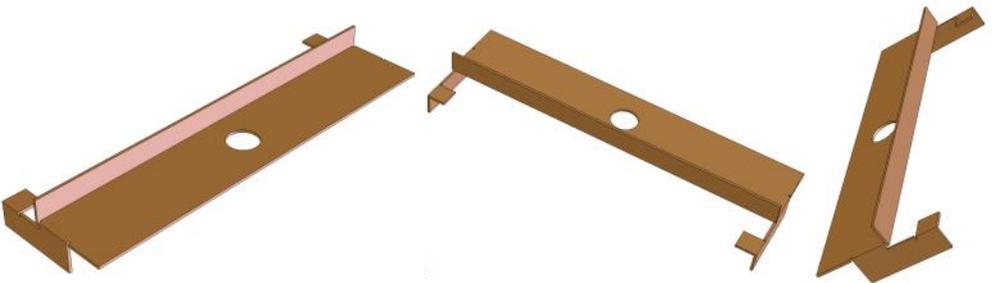


Lay the Tender Back Plate down so that the long fold line is uppermost. Fold this upward (into the fold line) until it is at 90 degrees.

Now, turn over the Plate and fold the sides up 90 degrees.



Lastly, fold the small tags in 90 degrees. Refer to the drawings below.



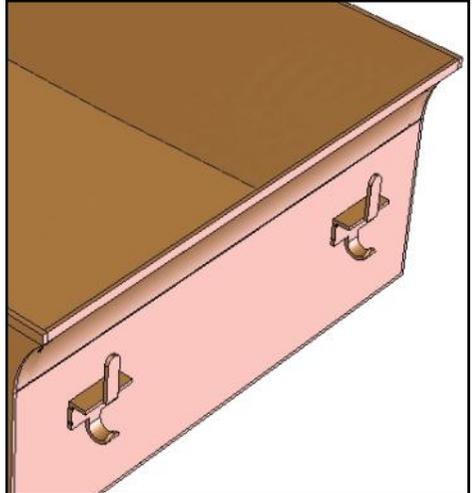
*Folding the Tender Back Plate - three angles of the same plate are shown here for clarity.*

*Now, we can begin soldering the Tender Body together.*

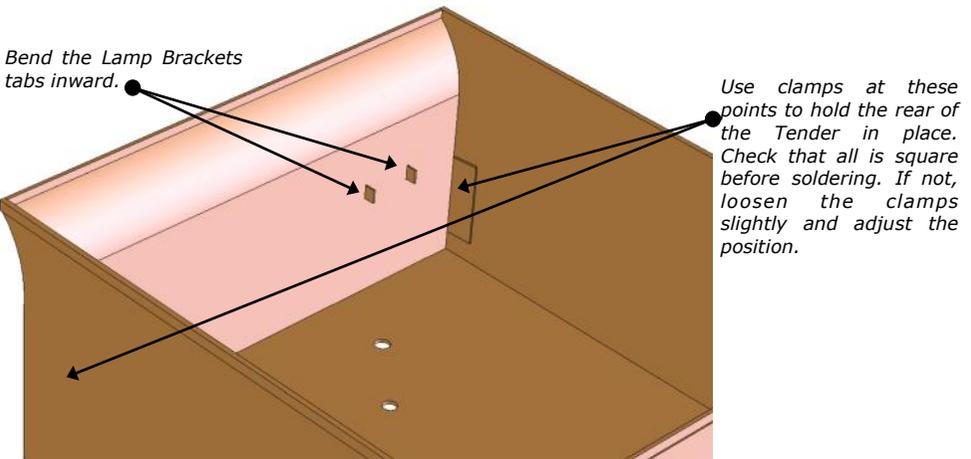
## Soldering the Brass Tender Bodywork

Firstly, take both of the folded Lamp Brackets and push the tags through the rear of the Tender Body, then fold the tags inwards to hold in place. Make sure the Lamp Brackets are the correct way up, as shown here.

Using a pair of clamps, hold the tags from the rear of the Tender in place. Make sure that the back of the Tender is straight and then tighten the clamps in place. Solder the rear Tender Tags and Lamp Bracket Tags.



*Rear of the Tender, showing the position of the Lamp Brackets.*



## Soldering the Tender Back Plate

Take the folded Tender Back Plate as shown in the drawings on the next page. Using clamps, hold the Tender Back Plate Tags against the side of the Tender. Check that the top edge of the plate is level with the top edge of the tender, and that the rear of the Tender Back Plate is level and is touching the curved back edge of the Tender.

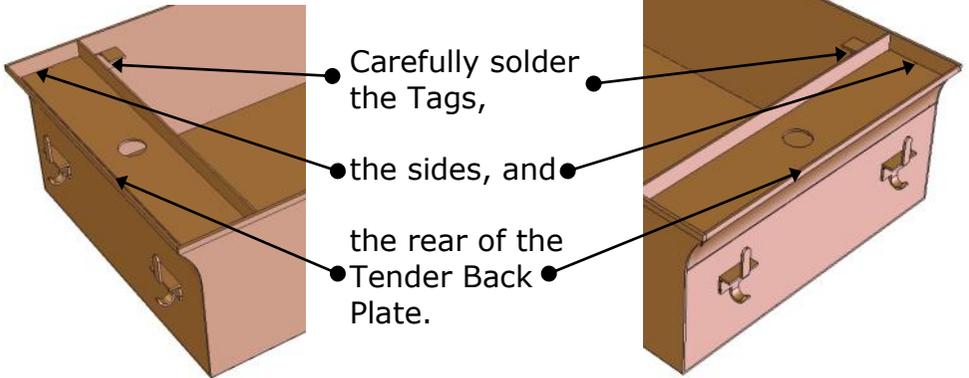
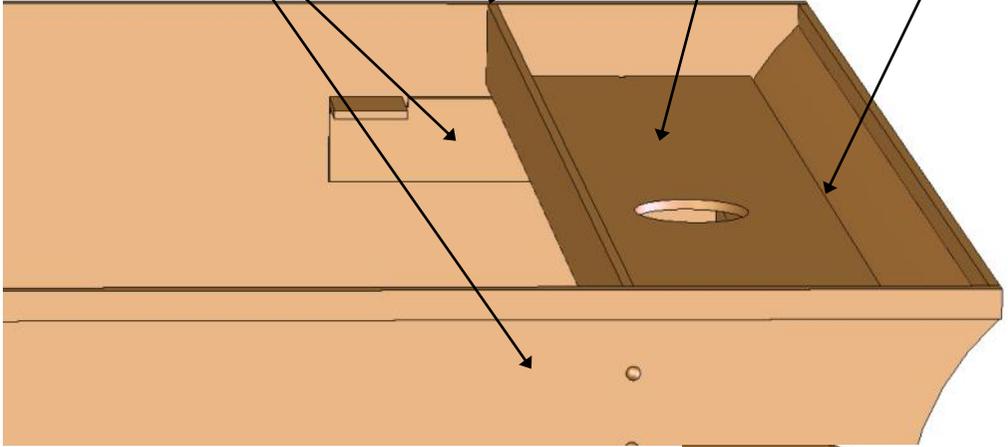
**Make sure that :-**

Use clamps here and at the opposite side to hold the Tender Back Plate in position.

the top edge of the plate is level with the top edge of the tender

the Tender Back Plate is level

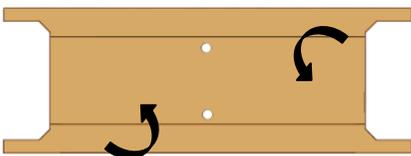
the rear of the Tender Back Plate is touching the curved back edge of the Tender



Use solder sparingly, and take care not to overheat when soldering so that the lamp brackets aren't disturbed.

**Folding the Etched Brass, Axle Keeper Plate**

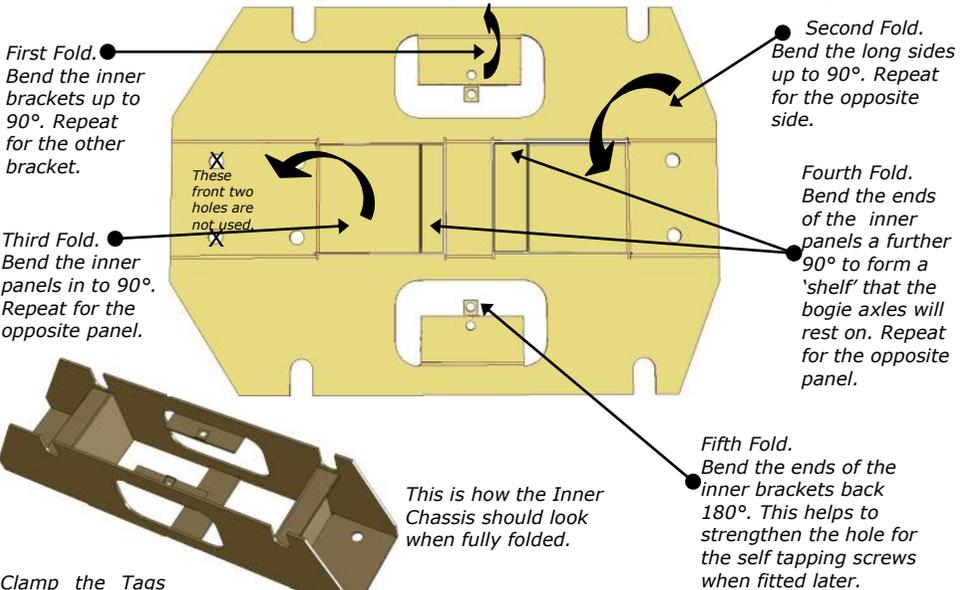
An easy one this time! Simply fold the top and bottom edges in 90 degrees.



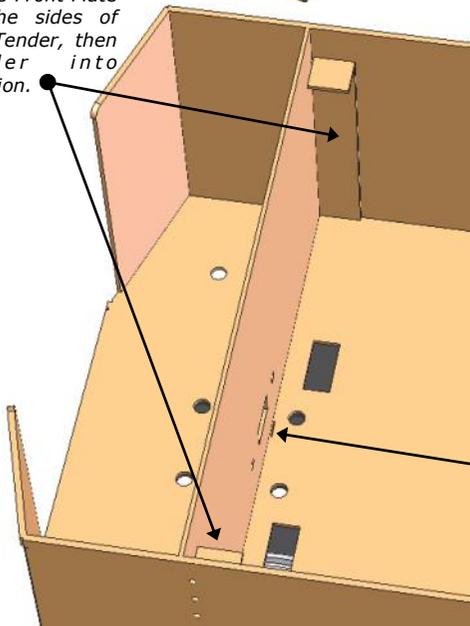
This is how the Axle Keeper Plate should look when folded.

## Folding the Etched Brass Inner Chassis

You need to make three pairs of folds to form the Wheel Holder. All the folds will be 90 degrees. Make sure that the fold lines are uppermost. Fold the inner brackets first. Bend these up, as shown below. Then bend the long sides upward 90 degrees. The third fold is to bring the inner panels in, again to 90 degrees.



Clamp the Tags of the Front Plate to the sides of the Tender, then solder into position.



## Soldering the Tender Front Plate

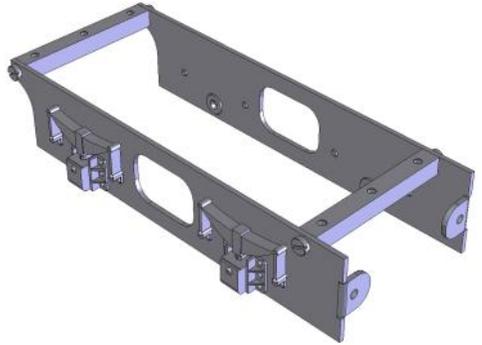
Take the previously folded Tender Front Plate and place it in the Tender so that the Tags are at the rear and the holes for fitting a R/C switch are at the bottom.

Adjust the Tender Front Plate so that it is square and it lines up with the inside of the vertical rivet detail and the small etched guideline on the Tender floor.

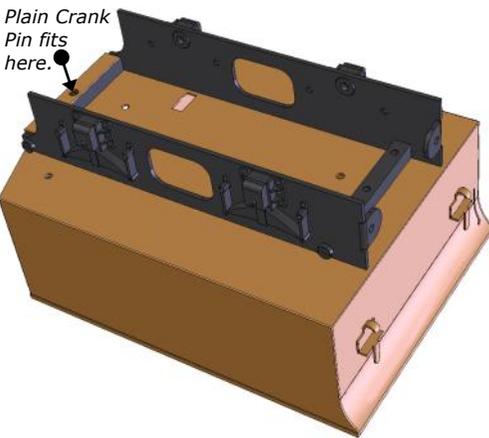
Clamp the Tender Front Plate in position and then soft solder to the Tender sides.

## Assembly of the Tender

Now that all the parts and sub-assemblies are ready, we can start putting together the tender. We will start with the steel frames. First take the two steel frames. Using the M3 brass screws, fit the two frame spacers. Make sure that the frame spacers have their 3 holes facing top to bottom and are square to the frames. We can now fit the four white metal dummy springs. Check that they fit into the 3 holes in the frames and glue in place using a 2-part epoxy resin glue or similar.



## Fitting the Frame to the Tender

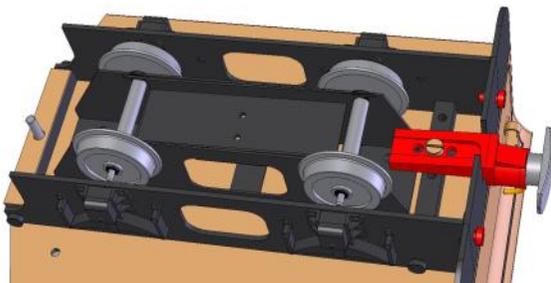


Turn the Tender Body and slide the front spacer of the assembled frames and slide it under the bracket at the front of the Tender body. Use two M3 screws from inside the Tender body to fasten the rear frame spacer to the Tender. Now fit the Plain Crank Pin through the bracket into the centre hole of the front frame spacer. Use a small pair of pliers to tighten this up.

## Final Assembly

Take the brass inner chassis and, with the tender upside down, place in the middle of the frames. Ignore the front two holes of the brass inner chassis - these are not used. Make sure that the remaining 4 holes in the brass inner chassis fit over the four holes in the underside of the tender - remembering that the front two holes are not used. Check that the inner brass frame is facing the correct way so that the recesses for the wheel sets line up with the springs. Use the four M2 brass screws and nuts to fix the inner frame to the tender. With the inner chassis fitted the wheel sets can be simply dropped into the slots - if the wheels sets are for 45mm gauge, the ends of the axle will need

removing to enable the wheels sets to fit between the frames. The Axle Keeper Plate is fitted over the wheels and secured in place by 2 self tapping screws. Use two M3 x 6 screws and nuts to fix the rear buffer beam to the frames, and another M3 x 6 screw to fix the centre buffer to the rear frame spacer.



Fit the Brass Dummy Tank Filler using a 2-part epoxy resin glue or similar. The Dummy Brake Standard is secured by the self tapping screw passing through the hole at the Right Hand Front of the Tender Footplate. Included in this kit is a Draw Bar, Drag Beam and Short Crank Pin. These may be used to replace your locomotives rear buffer beam to enable this Tender to connect to the locomotive.

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## Parts List

### Separate Parts

Tender Main Body - *brass etching, folded & Riveted.*  
Dummy Coal Load - *resin casting.*  
Tender Front Plate - *brass etching.*  
Tender Back Plate - *brass etching.*  
Inner Chassis - *brass etching.*  
Axle Keeper Plate - *brass etching.*  
1 pair of Frames - *Steel.*  
1 Rear Buffer Beam - *Steel.*

### Sealed Pack

2 x Frame Spacers.  
2 x Lamp Brackets - *brass etchings.*  
1 x Plain Crank Pin - *Steel.*  
1 x Centre Buffer - *metal casting.*  
2 x Small Self Tapping Screws.  
6 x M3 x 6mm Brass Cheese Head (CH) Screws.  
2 x M3 Brass Nuts.  
4 x M2 x 6 Brass screws and Nuts.  
4 x Cast Dummy Springs.  
1 x Cast Dummy Brake Standard - with self tapping screw.  
1 x Draw Bar, Drag Beam and Short Crank Pin.  
1 x Brass Dummy Tank Filler.

Checked