

Replacement front for Bachmann Fowler Tender - to convert from later to early type

1 Introduction

1.1 This detailing etch allows the conversion of the Bachmann tender from one of the post-1927 design with coal doors to the earlier ones without coal doors.

2 General Notes

2.1 Numbers shown in square brackets [] in the instructions refer to the part numbers, e.g., [2]. The part number appears on the separate etch diagrams.

2.2 Some of the parts are small and easily damaged, so do please take care. Parts should be removed from the sheets as and when needed by use of a small scalpel etc., and the tabs and etch cusp removed with a small fine-cut file.

2.3 All folds and bends are made with the half-etched line on the inside unless otherwise stated.

2.4 On some parts it is necessary to emboss rivet / bolt heads from the reverse sides by use of a punch.

2.6 Tools required

- A selection of cross head and normal miniature screwdrivers
- Small pliers
- Small plastic bags and labels to identify parts & screws when dismantling
- Small files
- A steel rule
- Craft knife
- Plastic solvent, superglue and epoxy resin (24 hour & 5 minute)

3 Dismantling the tender

3.1 In all cases bag and label all small parts and source of screws **as soon as removed** (they are all different) - trust us on this one!

3.2 When handling the tender body, be very careful as it is very easy to break off some items.

3.4 Unscrew the front and rear screws that hold the body in place and remove the tender chassis.

11.1 Replacement tender front

11.1.1 The Fowler tender supplied by Bachmann is a later version with coal doors. A lot of locos were fitted with the original Fowler type with a coal hole and long tool box.

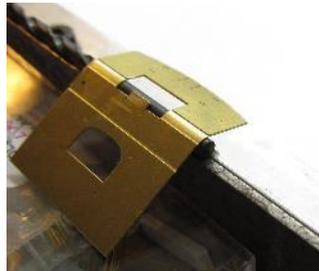
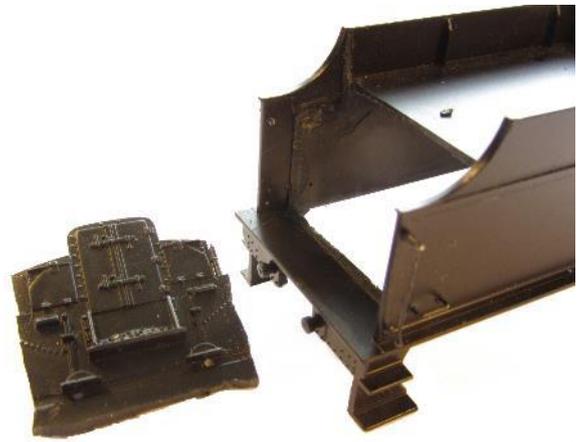
11.1.2 Having removed the Bachmann tender underframe from the Bachmann tender body, carefully remove the front platform, complete with brake pillar and water scoop pillar. This is done by carefully levering away from the tender front. Put to one side for future use.

11.1.3 Grip the water gauge, to the right of the tender front, very carefully and pull out. Put to one side for future use.



11.1.4 Drill two holes about 1.5 mm immediately behind the front coal partition and close to the outside of the coal space (see photo above)

11.1.5 Using a fairly coarse piercing saw blade, put the blade through one of the holes and mount in the piercing saw frame but with the blade facing into the frame. Cut through the front of the tender front down to the bottom but not into the platform (see photo). Remove the blade and repeat in the other hole and the opposite side of the front. Finally with the blade in the frame in the normal orientation cut across the coal space immediately behind the partition, and then just above the front platform to release the tender front. Clean up the cuts in the tender body.



continuing to bend.

11.1.6 Take the new tender front [1] and identify the large half etched section where the large radius curve will be formed. This section needs to be bent around a 2.8 mm drill (available from Eileen's Emporium, Hobby Holidays etc.). I did it by sitting the drill on top of two thin pieces of plate held together. These could be held in the vice although mine was part of a plate I use for soldering (see photo to get the idea). The tender front is placed over the drill with the half etched section uppermost (i.e. with the half etch on the outside of the bend). Line up the centre of the half etched section with the drill and carefully bend the top and bottom over the drill. Check that the front is bending correctly when the bend gets to about 45 degrees. If all is ok continue to bend 90 degrees. If it is not quite correct it is possible to ease the bend into the right position before

11.1.7 Once you are happy with the curve, make the right angle bend on the lower part of the front.

11.1.8 Bend up the tool box locating tab.

11.1.9 Check the fit of the front in the Bachmann body. You will probably find that where the old front was cut away the sides are thicker than the part in front. This thick part need to be cut and filed back until the front sits back so that the distance from the front edge of the tender sides to the new front is 5.66 mm and the new front is vertical.



11.1.10 Push through the rivets in the toolbox [2] and the tool box top [3]. Fold up the tool box [FD13] into a U shape making sure the bends are 90 degrees.

11.1.11 Solder the tool box top [3] to the tool box [2] with the half etched section over the tool box front.

11.1.12 Solder the two tool box ends [4] onto each end of the toolbox.

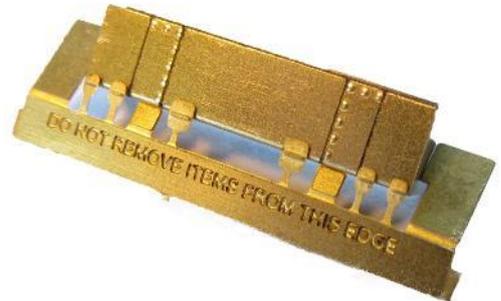


11.1.13 The toolbox and toolbox top have been deliberately left slightly over-long, so now file them back flush with the toolbox ends. Similarly, the toolbox ends are slightly over long so the back edge now needs filing back to match the toolbox top and to allow the toolbox to sit back against the tender front.



11.1.14 Now the fun begins. It is time to solder on the hinges and the hasps and staples. We have managed to make this easier for you in the production etch than in the first test etch by attaching the components on strips with guides.

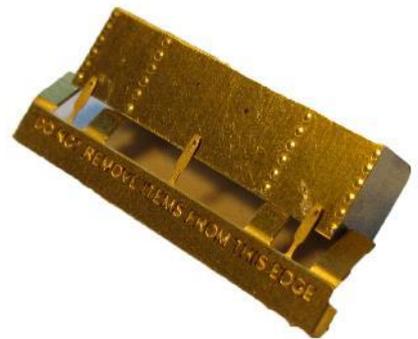
11.1.15 First remove the section of etch with the six hinges on [5]. Bend the two outer ends down by about 30 degrees (fold line on the outside). Check the tool box fits between the two. Then bend down the two spacers slightly (fold line on the outside). It should now be possible to position the hinges on the tool



box front with the toolbox between the two ends and the spacers resting on the bottom of the toolbox. Having tinned the six hinges first, carefully solder all six in place.

11.1.16 Cut the tabs to the 6 hinges and clean up the cut edges.

11.1.17 Remove the section of the etch with the three hasps and staples on [6]. Bend the two outer ends down by about 30 degrees (fold line on the outside). Check the tool box fits between the two. Then bend down the two spacers slightly (fold line on the outside). It should now be possible to position the hasps and staples on the tool box top with the toolbox between the two ends and the spacers resting on the front of the toolbox. Having tinned the three hasps and staples first carefully solder all three in place.



11.1.18 Cut the tabs to the three hasp and staples and clean-up the cut edges.

11.1.19 Bend the overhanging part of each hasp and staple down over the front of the tool box, ensuring it lies flat with the front (see photo).



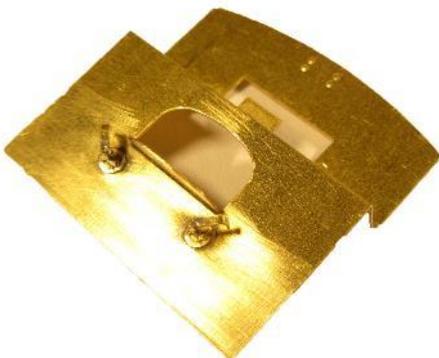
11.1.20 Using 0.33 mm wire bend up the handrail on the top of the toolbox and solder in place

11.1.21 Fold up the coal plate [7] by placing a ruler between the two nibs and bending to 90 degrees.

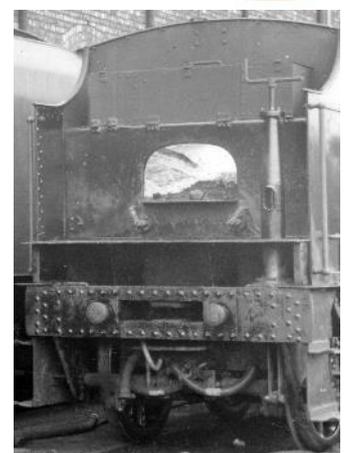
11.1.22 File off the nibs so that the coal plate fits through the coal hole and solder in place from the rear.



11.1.23 Make a right angled bend in two pieces of 0.33 mm wire and thread through the two holes in the lower half of the tender front from the back, ensuring they are perpendicular. Solder the valve bodies [8] over the wire to the front of the tender front, ensuring that they are correctly orientated (see photo).



11.1.24 Bend the ends of the two handles as seen in the photos and solder to the wire. The handles should be just under 2 mm from the tender front (see photo).



[9]

11.1.25 Push through the rivets in the top half of the new front for the fire iron bracket and, if being fitted, the rivets for the coal rails.

11.1.26 If, like us, you have managed to lose the water gauge, a replacement can be made from 0.8 mm brass wire (if you still have the plastic one, leave attachment to 11.3.30). Take a piece at least 7mm long, round off one end and mount in a pin chuck with 2.5 mm protruding. File a flat on one side of the protruding wire and then solder the wire into the hole in the replacement front with 5.5 mm showing and the flat towards the front.

11.1.27 Attach the toolbox assembly to the tender front by soldering from the rear of the new front through the hole.

11.1.28 Take a piece of 0.33 mm wire. Flatten and shape the end to represent the fire iron bracket. Bend over the bottom so that the bracket protrudes above the coal partition by just over 3 mm. Position in the hole and solder to the inside of the partition. Repeat for the second bracket.

11.1.29 Attach the new front to the Bachmann tender body using cyanoacrylate glue or epoxy resin.

11.1.30 Attach the plastic water gauge removed earlier to the hole in the horizontal surface of the new front to the right of the toolbox using cyanoacrylate glue or epoxy resin.

11.1.31 Cut a piece of 4 mm x 1 mm and a piece of 4mm x 0.25 mm plastic strip to fit between the tender sides at the bottom of the new front.

11.1.32 Attach the plastic strips to the front of the new front using cyanoacrylate glue or epoxy resin, and then attach the front footplate, removed earlier, to the plastic strip, again using cyanoacrylate glue or epoxy resin.



Etched component list

1	tender front
2	toolbox
3	toolbox top
4	toolbox ends (2)
5	hinges etch
6	hasps and staples etch
7	coal plate
8	valve body (2)
9	valve handle (2)

