

SM19D Etched Footsteps for Bachmann HEA/MEA/MFA wagons.

The preparation of the steps is straightforward. Bends can be made using ordinary pliers and hand pressure. They do not require the use of bending jigs such as hold and fold. 90° folds have the half etch on the inside. 180° folds are made with the half etch on the outside.

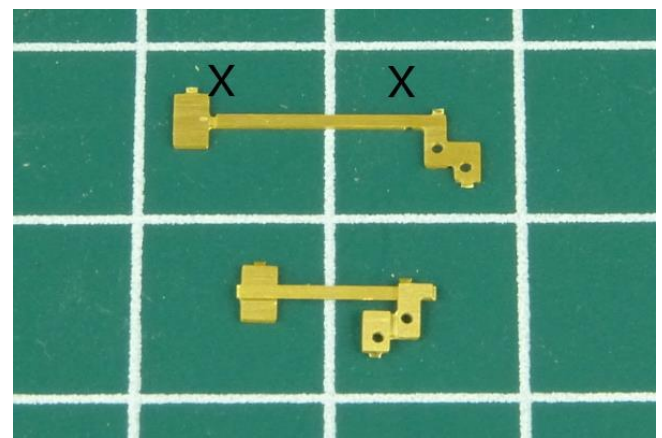
Safety warning.

This kit is suitable for adults only. There are small and/or sharp components. The castings and recommended solders contain lead. Observe appropriate hygiene precautions; do not eat or handle food without first washing hands. The tools and materials recommended also require the care in handling; protection for the eyes and face (dust mask) must be applied when soldering and using a mini-drill.

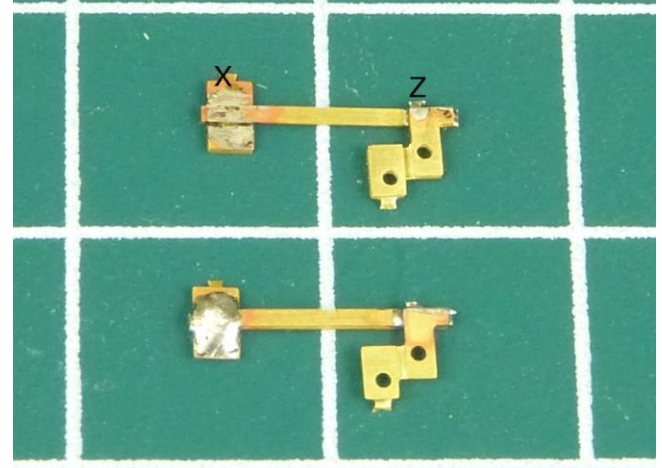
Note that there are two steps on the fret which are marked by an 'E'. This pair of steps are the opposite hand to the other seven pairs and are intended to enable the early numbered HEA's with the central ladder at the ends to be modelled. Please consult various reference sources for details.

This etch is designed to fit onto the upgraded Bachmann underframe with the 'thin' brake lever. It can be fitted to the original underframe with the deeply moulded brake lever. But a judicious amount of carving to remove plastic will need to be used in the appropriate area.

1. Release the step(s) from the fret. Do **NOT** remove any residual half etch tabs from the steps. This is due the etch being susceptible to damage at this stage. The two half etches marked X are 180° folds and are to be made with the half etches on the outside as shown. Apply appropriate pressure with pliers to ensure the bends are tight. Give a visual check to make sure that the bends are 'square'.

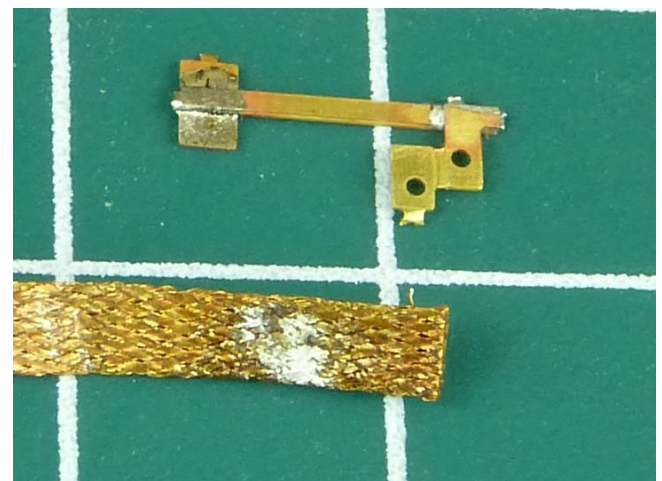


2. Apply flux to the bottom face of the step as in position X and the edge of the step support Z. Apply a minimal amount of solder as shown in the upper step.



3. Accidents do happen as shown in the lower step of the above image. The is easy to rectify by using braided Servisol 'Soldamop', or similar, to remove the excess.

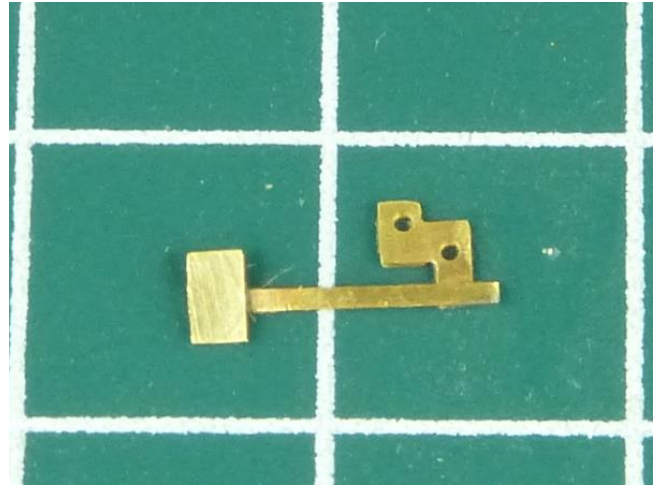
Tip:- If you are having trouble picking up the correct amount of solder, cut slivers off the coil with a scalpel first.



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4. Now the footstep has been soldered, this has strengthened the half etches of the step support. Remove the residual of the half etch tabs at this stage. Also remove the 180° half etch between the support and the footstep.

It is worthwhile to double check the integrity of the solder joint before removing the residual of the half etch tab. Otherwise it could lead to the failure of the half etch joints.



5. The first stage of the shaping process is to bend the support at 90° directly behind the rear of the step. Secondly the support is bent at 90° in line with the part of the etch used to attach it to the underframe. Note there are no half etch lines here as this would weaken the etch.

Finally, the support is folded at half etch line 90° inwards. Do not reinforce this last fold with solder as it is needed to seat snugly on the inside of the solebar. Check that everything has been folded square and adjust accordingly.



6. There is a curvature to the footstep on the HEA. This can be formed by using a pair of pliers intended for adjusting the trip pins on Kadee Couplings.

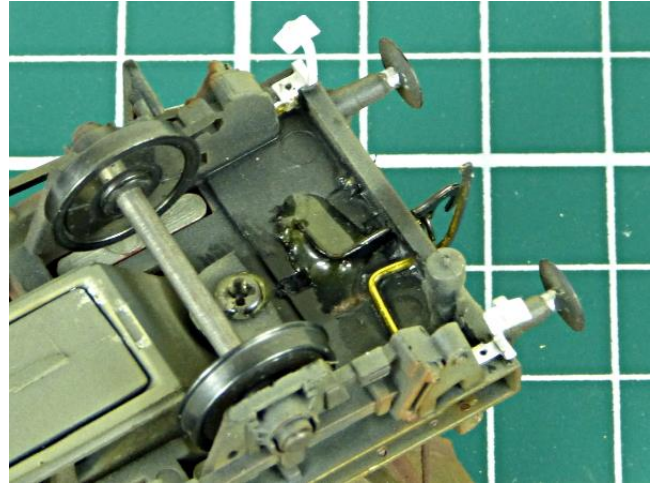
It is probably best to paint the footsteps white at this stage.



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7. Secure the footsteps to the inside of the underframe with cyanoacrylate glue in the position shown. When set test that the bond is strong enough by pulling on the footstep. The footstep fixings have been designed to fit snugly around the underframe with a 'large' surface area to provide maximum strength.

Paint the fixings that secure the footstep black or dark grey to 'disguise' them. Final adjustments to the footsteps to ensure they are square can now be made.



8. As with everything, please check with prototype photo's to ensure you have the correct configuration for the footsteps.

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