

## SM21D SJA conversion for Bachmann MEA wagon.

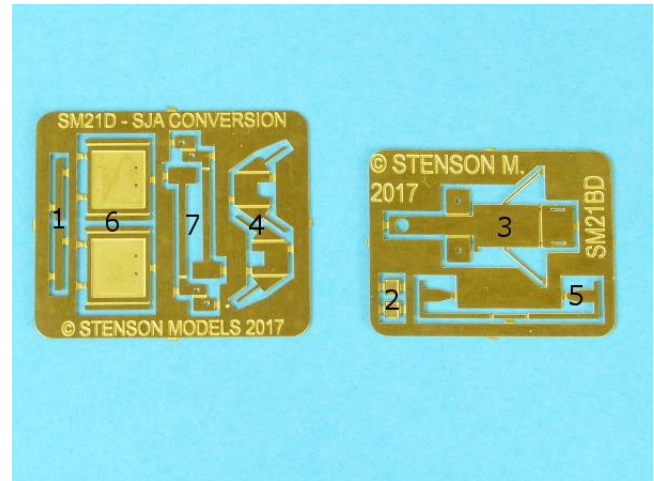
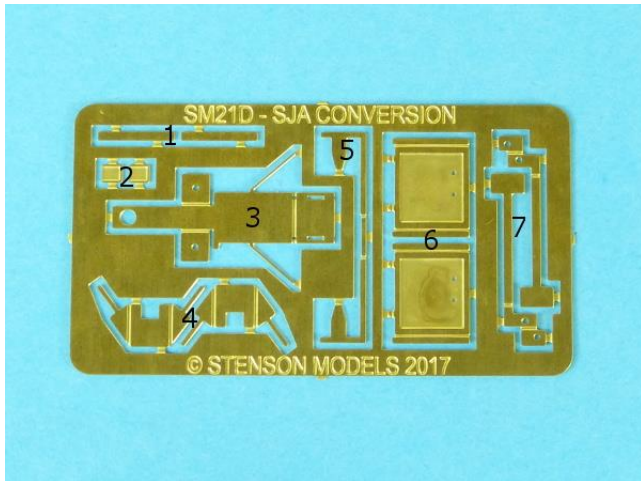
The preparation of the etch is straightforward. Bends can be made using ordinary pliers and hand pressure. They do not require the use of bending jigs such as hold and fold. 90° folds have the half etch on the inside. 180° folds are made with the half etch on the outside.

### 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.**

The body of the MEA wagon will need to be separated from the underframe. This is easily achieved by undoing the two screws on the base of the wagon. Note that the SJA has a ladder at each end of the body unlike the MEA which has only one. The additional ladder can be sourced from a spare MEA body or made from the Stenson Models etched ladder kit CC04D and making your own assembly jig to get the correct width of ladder.

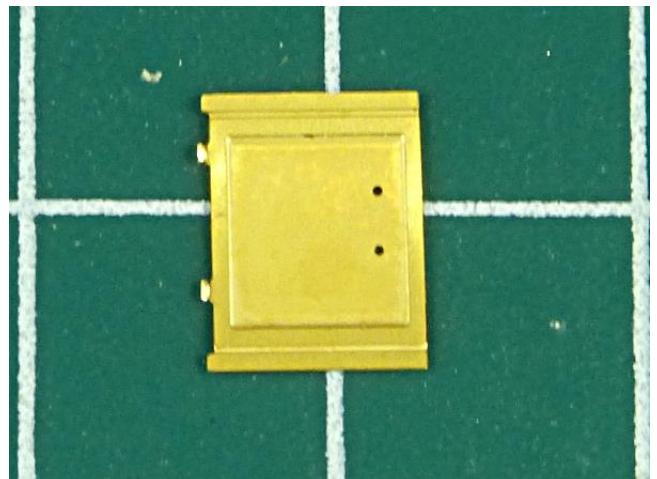
The etches for the steps on the fret are designed to fit onto the upgraded Bachmann underframe with the 'thin' brake lever. It can be fitted to the original underframe with the deeply moulded brake lever. But a judicious amount of carving will need to be used in the appropriate area.



Please note that the etched parts can be supplied as one or two frets.

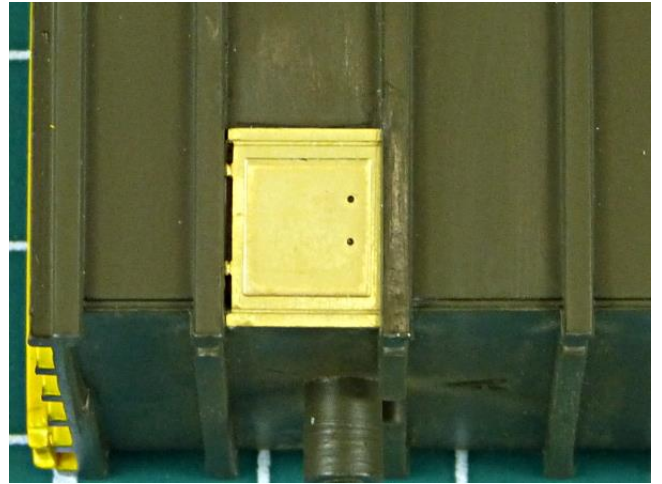
- 1:- Door Spill Guard
- 2:- Label Clips
- 3:- Distributer Bracket
- 4:- Air Pipe Spill Guard
- 5:- Distributer Bracket Support Angle
- 6:- Door
- 5:- Steps

1. Release the door (6) from the fret. Remove the residual half etch tab from the door on the handle side. However, leave enough material on the left-hand side to represent the door hinges.

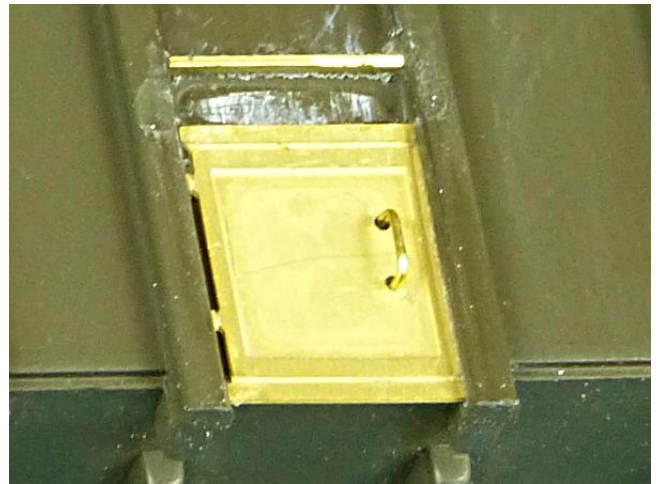


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2. Line up the join between the frame and the join on the etch with the bottom of the wagon between the uprights shown. Apply cyanoacrylate glue (CA) with the tip of a scalpel blade around the edge of the etch to hold it in place.



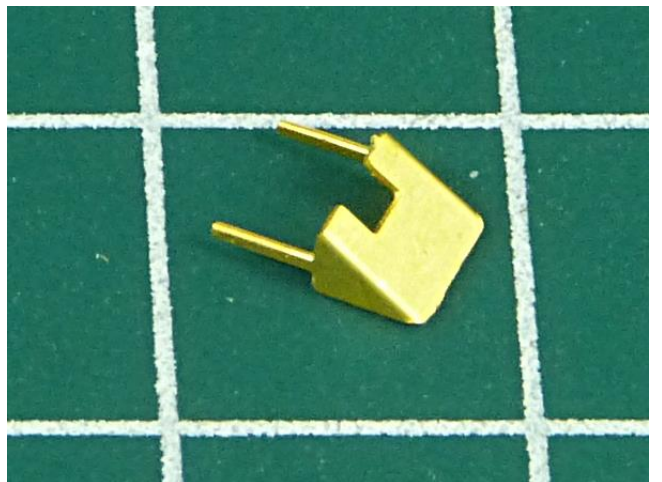
3. Drill out the holes for the doors and fashion the handle from 0.3mm Ø wire (not supplied). Trim this so that it does not protrude past the bodyside. Apply CA from the rear to hold the handle in place.



4. Release the spill guard for the door (1). Remove any residual of the half etch tabs. Hold in place 10.5mm from the inside edge of the wagon body lip. Apply CA sparingly with the tip of a scalpel to the edges of the guard to hold it in position. Remove the blu tac and double check the alignment. When satisfied, apply CA to the inside edge using the scalpel tip.



5. The air pipe spill guard is now released from the fret and the residuals of the half etch removed. Fold the sides to form the triangular shape shown

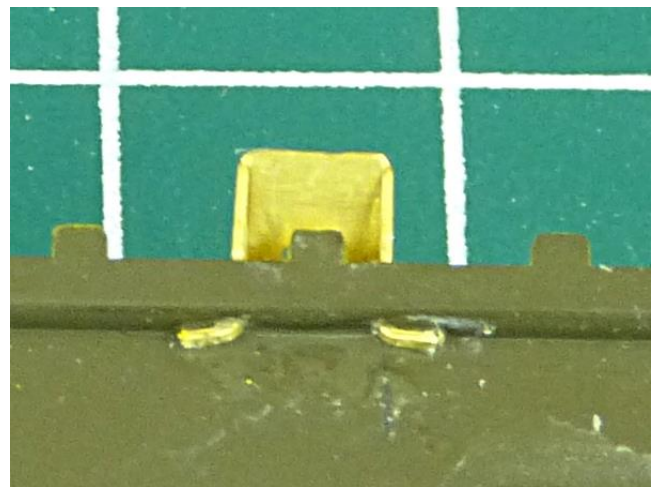


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6. Drill two 0.5mm  $\varnothing$  holes 1mm from the base of the wagon, 4mm apart, centred on the upright shown. Note the body wall is thinner at one end than the other, so take even more care at that end.



7. Fit the air pipe spill guard (4) into the holes ensuring the bottom of the guard is level with the bottom of the body. Bend the etched tabs back and offer the spill guard to the body. Ensure the base of the spill guard is at right angles to the body. Apply CA to hold the guard in position.



8. The body should now look something like this. But as mentioned in the introduction, a second ladder will have to be sourced to complete the bodywork. This can be sourced from a spare MEA body or made from the Stenson Models etched ladder kit CC04D and making your own assembly jig to get the correct width of ladder.

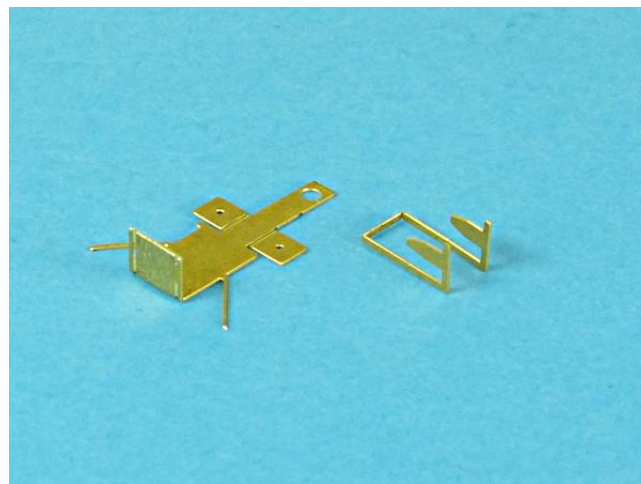


9. Turning to the underframe the footsteps (7) are made as per the instructions for the HEA footsteps. If they have not already been downloaded, these are available online at the page for the SJA conversion or the HEA footstep page.



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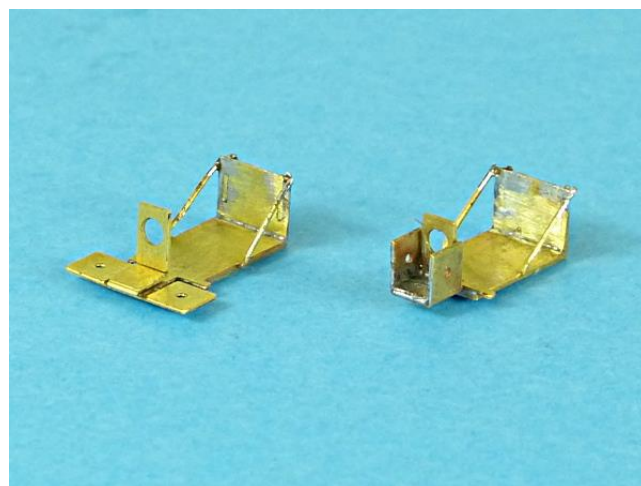
10. Release the distributor bracket (3) and the supporting angle (5) from the fret. Remove any residual half etch tabs from the top and base of the bracket, but leave that on the stays and the supporting angle.  
Put a 90° angle in the base of the bracket and form the supporting angle into a U shape



11. Insert the tabs of the supporting angle into the base of the bracket. When satisfied that the supporting angle is seated in the half etch grooves at the rear of the bracket, slightly twist the tabs to lock in place. Apply flux to the tabs and solder them in place. Now apply flux to the top of the U of the supporting angle and solder this in place. Carefully remove the tabs and 'file' flat to the base of the bracket. Also remove the residual half etch tab from the top of the supporting angle.



12. The stays on the bracket are now bent inwards at 90°. This bend is to be made as tight as possible and it is advised to use a small pair of pliers in the process. Use a small amount of solder to make the joint between the base of the bracket and stay. Next fold the top section of the bracket at 90°, then fold the next section back on itself through 180°, finally folding the two side sections in at 90°. Ensure that everything is square and solder the inside of the top assembly together.



13. Now clean the bracket and remove the distributor from the end of the wagon. With the back of bracket to the left, fix the distributor in place with the lever facing outward. Paint this sub assembly black and attach between the underframe gap approximately 1mm to the right of the suspension brackets with CA.



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14. Turning to the air tank side of the underframe remove the moulded block next to the brake lever support. Carefully prise the air tank from the frame turn it through 180° so the 'long end' is facing towards the centre of the wagon



15. Note that wagons 360761 and 361486 have their label clips above the axle roller bearings as per the Bachmann Model. Earlier HEA wagons have them mounted towards the left end of the wagon. Wagon 360040 comes from this batch and replacement label clips (2) are provided to enable this feature to be modelled, as seen in the prototype photo above left. Further detailing work that can be considered at this stage is removing the redundant moulded brackets for the HEA door levers, along with the fitting of an airpipe and instanter couplings. Disc brakes are available from Stenson Models, items CC07W or CC02W depending on the wheels used. When new the bodies of these wagons were painted Railfreight Red. A very good match for this is Ford Carnival Red which is available from Halfords in a spray can.

Email: [stensonmodels@btinternet.com](mailto:stensonmodels@btinternet.com)

Website: [www.stensonmodels.co.uk](http://www.stensonmodels.co.uk)