

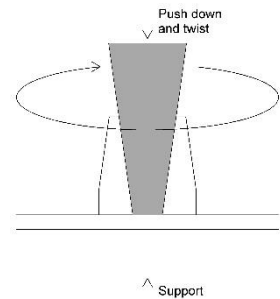
SM20D Etched Triangular Cradle Instructions

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.

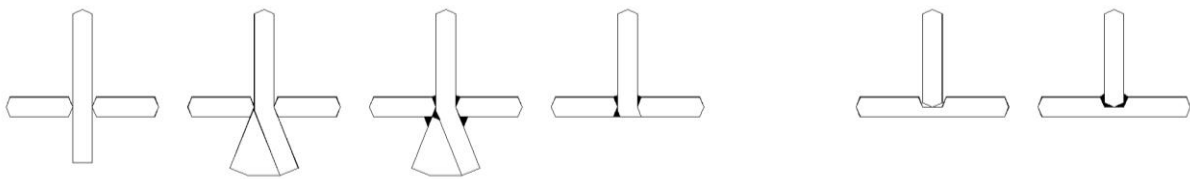
Principles of construction

A tab and slot system is used extensively, as a twisting of the tabs secures the components together for subsequent soldering. Miniature smooth faced taper (snipe) nosed pliers have been found to be the most effective as they reduce the shearing action, which can distort the strip around the slot. A 30° twist is usually more than adequate **provided it doesn't distort the area around the slot**. The twisting action places a relatively high load on the pliers, which is why the high-quality box jointed versions are recommended. If the T leg is supported, the tips of the pliers can be pressed against the facing strip to ensure full location when twisting the tab.



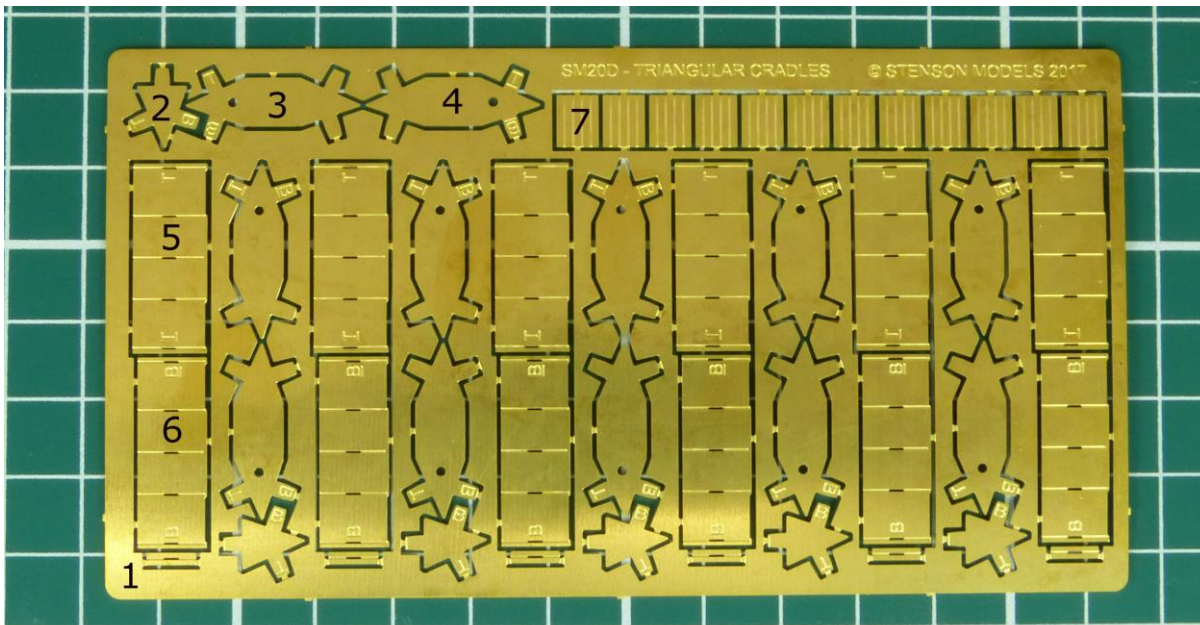
In between the tabs, the joints for T section are made into a half-etched channel, which increases the strength of the joint very significantly. It also makes the soldering much simpler, as the capillary action of both flux and solder helps them to flow naturally along the joint being made, and stay there.

Flux is applied around the tab. When the loaded soldering iron is applied, the flux melts, and precedes the solder through the clearances in the slot/tab, and along the channel beneath. Movement of the iron around and to the sides adjacent to the tab, above the channel, assists the solder to flow in the directions required. Finally, the tab is removed and the surface cleaned up to leave a perfect T, when all the soldering has been completed.



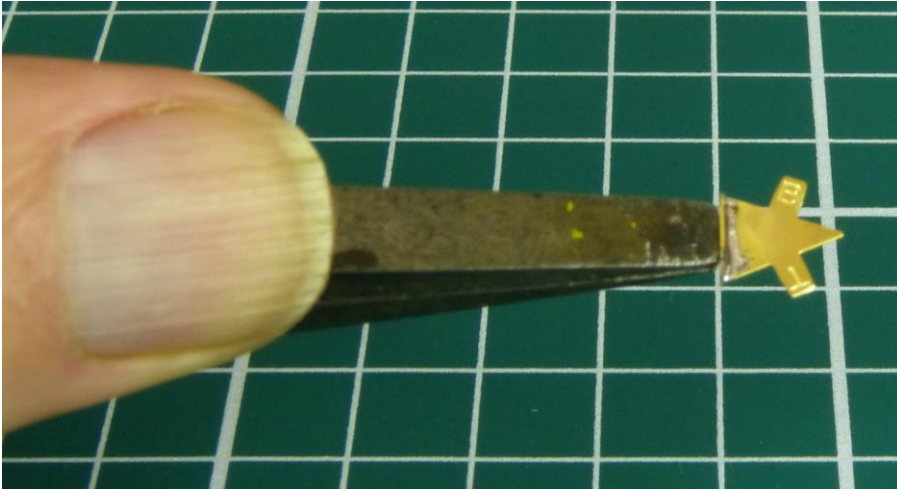
Assembly.

SM20D Etched sheet



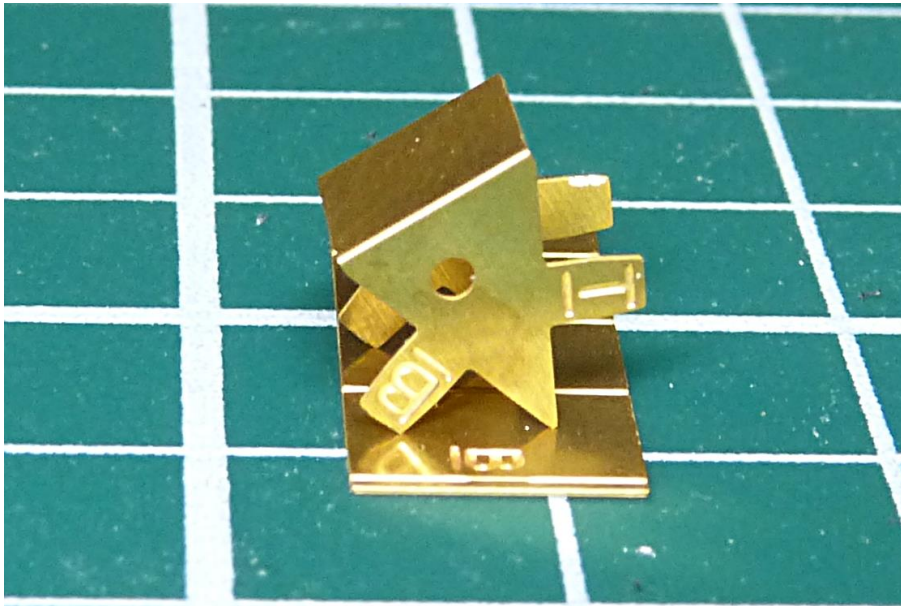
1. Central Support Angle
2. Central Support
3. Left Hand Support
4. Right Hand Support
5. Top Face
6. Bottom Face
7. End Boards

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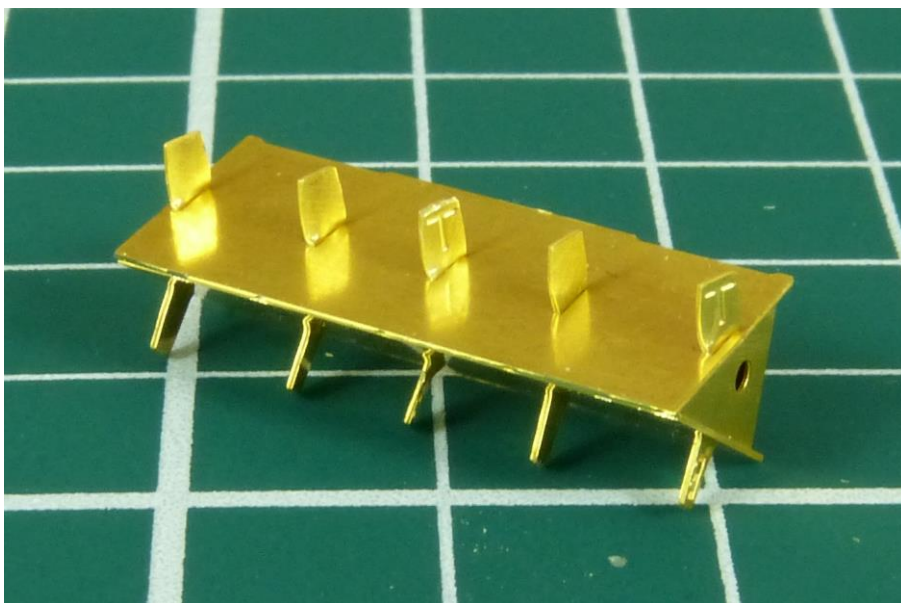
Carefully remove the Central Support (1) and Angle (2), removing any half etch tab residues. Assemble the Angle with the unmarked Central Support tab ensuring the half etch line is on the inside.

Put a slight twist into the tab and solder the joint from the inside ensuring all is square. Join the two components together by running a fillet of solder along the inside edge. Cut off the protruding tab with side cutters and finish off the flush finish with a needle file or a carefully used slitting disc, completing with wet and dry paper.



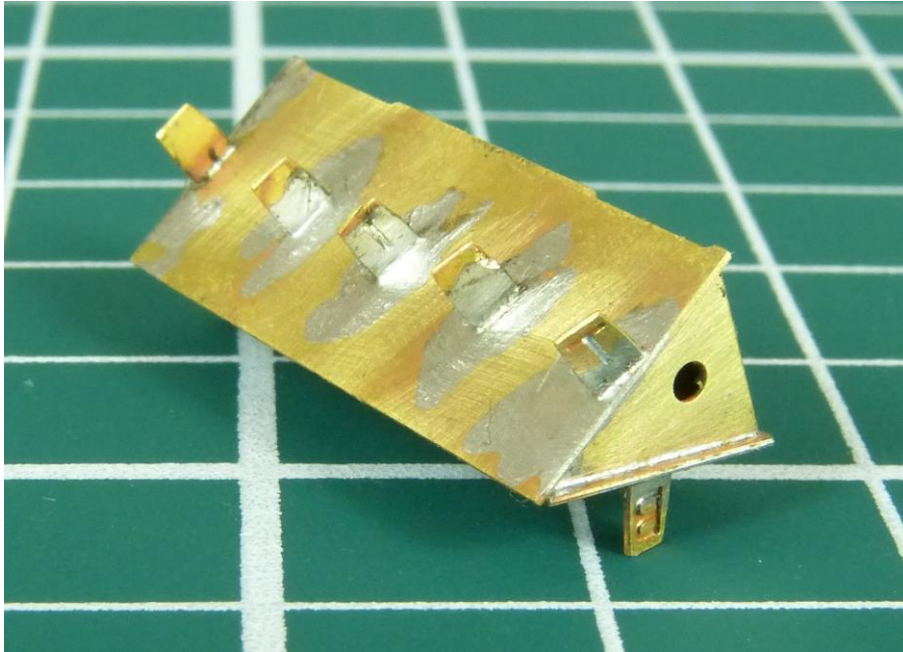
Next remove both the Outside Supports (3 & 4) and both the Faces (5 & 6) cleaning any residue of the half etch tabs. Fold the outside supports into a U shape with the half etches on the inside.

Assemble the Outside Supports to the Bottom Face ensuring the underlined B tab goes into the B slot. This ensures the holes appear on the outside edges of the cradles. When everything is aligned into the half etch lines put slight twist into the tabs.

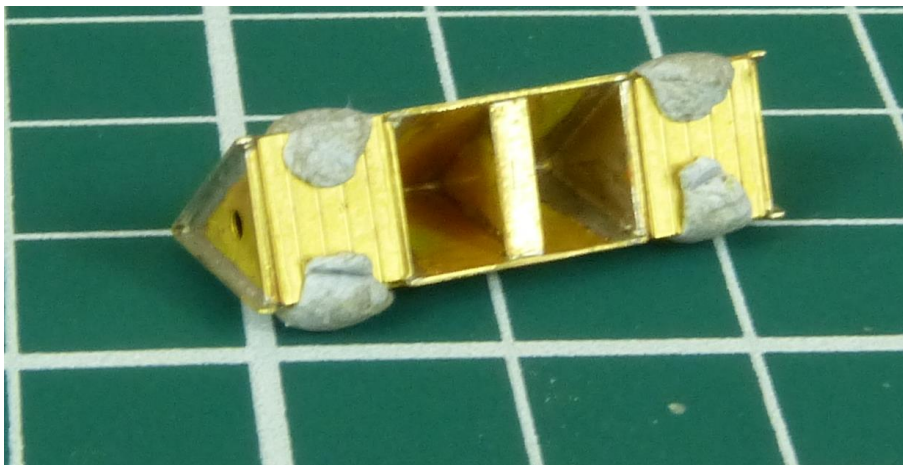


Then assemble the Centre Support into place ensuring the B tab is in the bottom face and again give the tab a slight twist. The Top Face is threaded onto the tabs ensuring the underlined I tab goes in the underlined I slot. After a final check the complete assembly can be soldered together and the tabs removed.

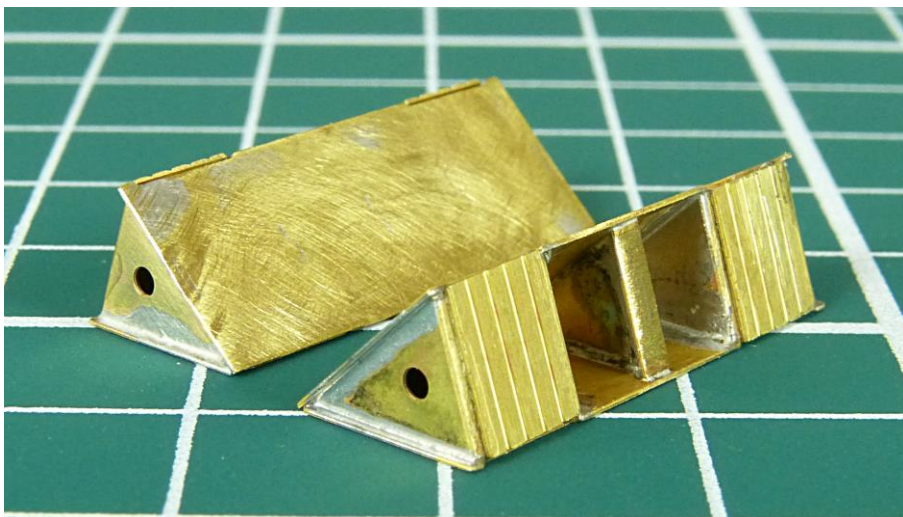
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The image shows the assembled cradle before the removal of the tabs. It should be noted how the solder has flown in the half etch line between the Bottom Face and the End Support.



Release two End Boards (7) cleaning any residue of the half etch tabs. Clean the inner face of the End Boards and the faces of the End Support. Position the End Boards centrally with the slats running vertically and hold in place with Blu Tack. When happy with the position apply Cyanoacrylate Glue sparingly to the outside edges with the tip of a scalpel blade allowing it to wick along the edge.



As originally made this type of cradle was used for movement of finished cold coils. They were usually seen painted Railfreight red. They had wooden facings to the top plates to minimise damage to the coils – these can be added to the model using simple 0.25mm plasticard. To replicate the planks used, these can be done with 10 x 120thou (0.25mm x 3.0mm) Evergreen strips cut to 24mm lengths - 2 per cradle, super-glued in position.

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The finished cradles are here depicted on Cambrian BBA kit modified to represent a BAA built to design code BA002A. The other cradles seen are also in the Stenson Models range reference CC14D.

<http://www.stensonmodels.co.uk/product/cradles-large-cc14d/>

Please refer to Paul Barlett's excellent website for prototype photo's of BAA and BBA wagons carrying this type of cradle

<http://paulbartlett.zenfolio.com/baa>

<http://paulbartlett.zenfolio.com/bba>

Email: stensonmodels@btinternet.com

Website: www.stensonmodels.co.uk