

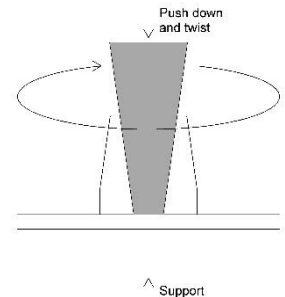
# CC14D Large Etched Cradle Instructions

## 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.

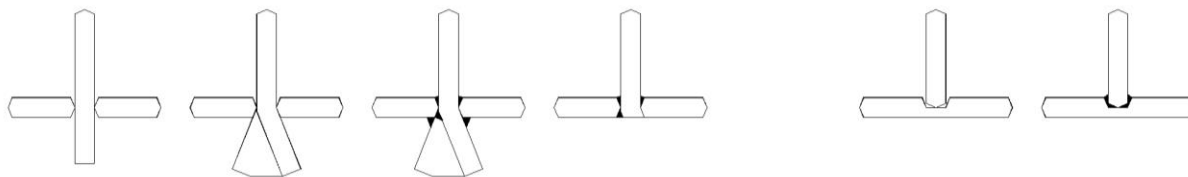
## Principles of construction.

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.



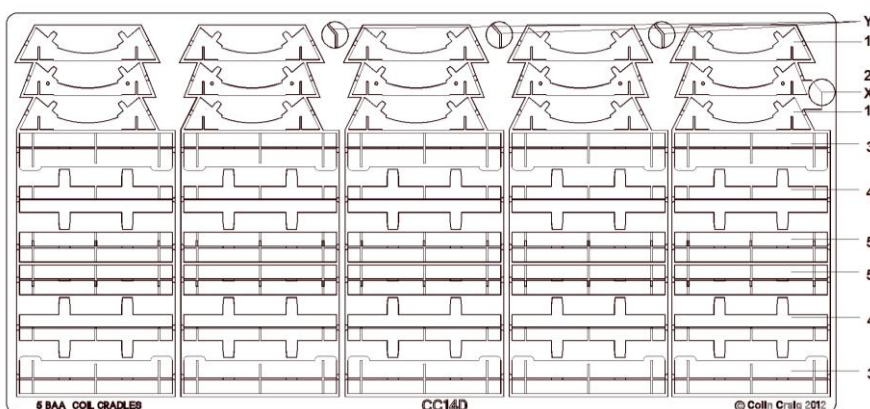
In between the tabs, the joints for T section are made into a half-etched channel, which increases the strength of the joint very significantly. It also makes the soldering much simpler, as the capillary action of both flux and solder helps them to flow naturally along the joint being made, and stay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

### CC14D Etched sheet



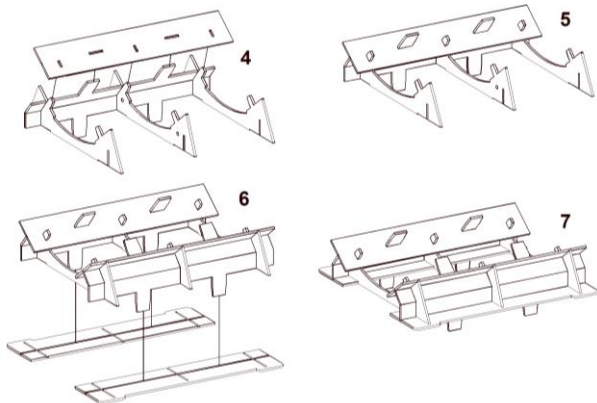
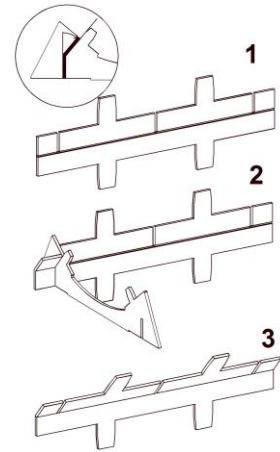
1. Outer cross bracing (2 off)
  2. Central cross bracing (1 off – note identifying holes)
  3. Base plates (2 off)
  4. Beam centres (bent) (2 off)
  5. Cradle top plates (2 off)
- X Angle of beam centres  
Y Additional Angle of beam centres on later sheets

## CC14D Large Etched Cradle Instructions

Carefully cut out the components from the etched sheet and remove any tab residues with a fine file or emery stick

The beam centres must be carefully folded, **with the half etch on the inside**, to the required degree. The angle X (also Y on later sheets) on the etch sheet is a match. Alternatively, one of the outer cross bracing components is located in position, and the outer fold is made to line up with the location tab. (Diagrams 1 and 2)

The other 3 folds are then made, maintaining the same profile to the original fold. (Diagram 3)



The 3 cross bracing members are slotted into position. Note the central one is slightly shorter and identified with 2 small holes (will not be visible after construction). (Diagram 4)

Locate one of the cradle top plates fully on to the central beam. Hold fully home and twist the two large tabs to secure. The small tabs are for location only. (Diagram 5)

Repeat for the other beam. (Diagram 6)

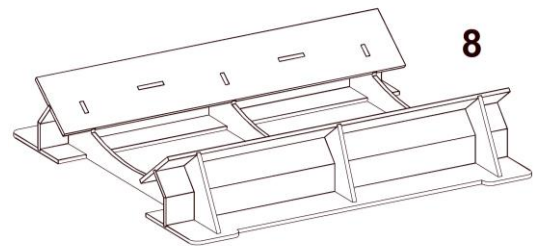
Finally locate the 2 base plates and secure by twisting the two large tabs on each plate. (Diagram 7)

Check that the whole assembly is true and square before soldering. Apply flux (**Fry's Powerflow strongly recommended**) to the 10 tabs on the **top** of the assembly. Apply solder to these 10 tabs and then apply further heat to allow the solder to flow into the construction

Invert the assembly and apply flux to the 4 lower tabs. Apply solder and float the iron over the base to allow full penetration into the joints.

Clean thoroughly to remove all traces of flux.

Use side cutters to remove as much of the tabs as practical. Finish off the removal with a sanding disc mounted on a mini drill. Take your time to minimise over-removal. My preference is to have the drill mounted vertically in a stand, and to hold the assembly against the rotating disc to give maximum control. (Diagram 8)



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 100thou (0.25mm x 2.5mm) Evergreen strips cut to 27mm lengths - 4 per cradle, super-glued in position.

More recently these cradles have been used for hot coils, so do not have wooden facings and the colour is rusty steel with scorching marks!

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