

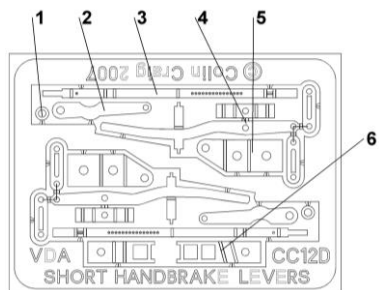
## Etched VDA Short Handbrake Levers CC12D

### Safety warning.

**This kit is suitable for adults only. There are small and/or sharp components. The tools and materials recommended also require the care in handling; protection for the eyes and face (dust mask) must be applied when cutting, soldering, or using a mini-drill.**

The etched sheets are in 0.25mm brass to achieve a fine level of detail whilst maintaining an acceptable level of robustness. These levers are also suitable for conversions of the VDA under-frames to other variants such as OTA, RRA, and ZCA. The 0.7mm wire is used for the main X shaft, the long pins for the main lever pivots, and the short pins for the drop links. The levers are only suitable for a scale representation of the under-frame – eg. A.M.E. or scratchbuilt. For the Bachmann VDA, an additional 0.25-0.35mm packing (plastic shim - not supplied) is required behind the main pivot spacer.

### Etched sheet components (2 halves mirrored)

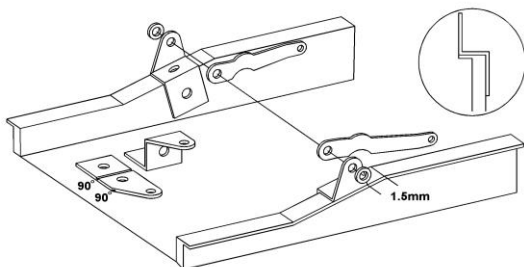


1. X shaft bearing
2. X shaft lever
3. Peg bar
4. X shaft bracket
5. Lever, drop links, and main pivot bracket
6. Shunter lever frame

**All folds to be made are either 90° with the etched fold line on the INSIDE, or 180° with the etched fold lines on the OUTSIDE.**

### Assembly.

Remove the 2 X shaft brackets (5) from the etched sheet and fold as shown. The two brackets are mirror image. Secure to the rear and lower faces of the solebars as shown, with the under-frame inverted. The outer faces should be made to line up with the outer edge of the solebar, and if necessary place pieces of thin packing behind the solebar to achieve this. It is not a problem if the bracket is slightly inboard from the edge. Epoxy is the preferred adhesive, as a good fillet can be applied. Refer to the drawing on the pack which shows the position; the edge of the brackets towards the centre of the vehicle is approx. 1.5mm from end of the ramp to maximum depth of the solebar centres. Leave to cure, and commence preparation of the main levers:-



Carefully remove the two levers, complete with drop links and main pivot bracket (item 4). Fold (180°) the drop links into position as shown, and fold back the location tab (180°) for the peg bar (3) on the **outer** face of the lever. Fold the two legs of the main pivot bracket. Align the drop links, insert a small brass pin from the **outer** face, and solder sparingly in position from the back. You may wish to first reduce the size of the pin heads in a mini drill using a fine needle file. Cut off the surplus pin at the rear of the drop links, and carefully file off the fold tabs on the drop links.

Remove the peg bars (Item 3) from the etched sheet. Press out the bolt head on each bar representing the top fixing points. Fold the top of the bar to form a channel and fold the other end of the bar as shown in the diagram. Locate on the main lever (this may be a tight fit on the peg) and complete by folding the rear laminate behind the main lever. Laminated solder while holding firmly and square to the main levers. Fold back the main pivot bracket, align the pivot hole and sparingly laminate solder from one edge. Carefully remove the protruding peg residue on the top face of the bar. The rear facing tang will provide the fixing point for the peg bar/ lever end.

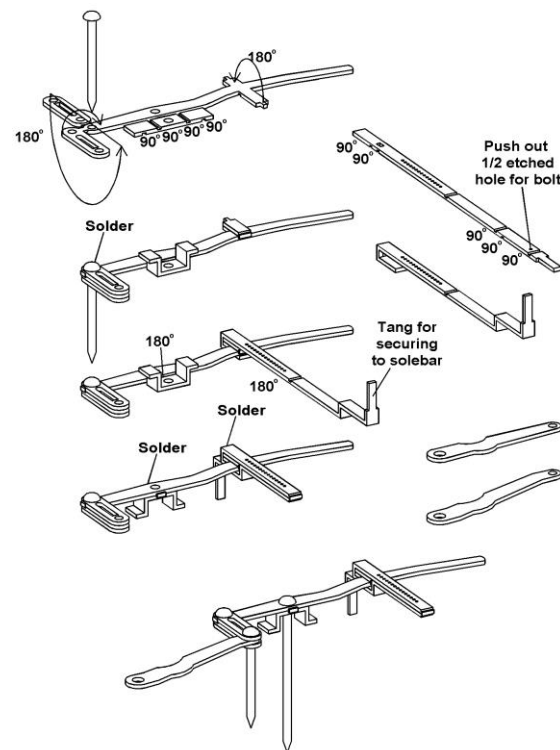
Remove the X shaft levers (Item 6) from the etched sheet. Joggle these by an approx. 1mm offset as shown. Position between the drop links and insert a small brass pin. Hold in position on the solebar and insert the length of 0.7mm wire for the main X shaft, through the brackets with the X shaft lever on the inside. Carefully align and mark the positions of the main lever pivot, and the tang to secure the top of the peg bar on the solebar. Remove the lever assembly / X shaft,

and drill two 0.6mm holes through the solebar in these positions. Repeat for the lever on the other side of the wagon. The drawing on the front of the pack shows the different formats for the two sides.

Insert a large brass pin through the main pivot hole and bracket, then position the lever assembly (minus the X shaft lever) on the solebar, securing with epoxy. Repeat for the other side of the wagon. When set, cut off the surplus main pivot pins, on the inside of the solebars.

Fit the Main X shaft with the two Levers (The correct way up) inside the brackets. Line up the levers with the drop links and insert the small brass pins. Solder sparingly from the rear to secure. Snip off the surplus lengths of pin behind the drop links. Fit the X shaft bearings outside the brackets and secure with epoxy. When set, complete the assembly by cutting off the excess length of X shaft and filing the ends flush with the outside face of the bearings. One final touch you can add is to joggle the outer 4mm end of the handles by an approx. 1mm offset to help avoid your shunter barking his knuckles.

Finally fit the two shunter lever frames (these are used to apply extra leverage when applying or releasing the brakes. Shunters use a substantial wooden pole for this purpose! The one fitted on the full depth area of the solebar is shortened to one bar only as shown. They are folded in the same way as the main pivot brackets. Secure with epoxy behind the solebar to the right of the peg bar. The securing area is probably too long (depends on the build of the underframe) and can be trimmed to the desired length.



email: [stensonmodels@btinternet.com](mailto:stensonmodels@btinternet.com)  
Web-site: [www.stensonmodels.co.uk](http://www.stensonmodels.co.uk)

Instructions CC12D VDA Short handbrake levers