

AC001 CLASS 47: BRAKE COMPONENTS

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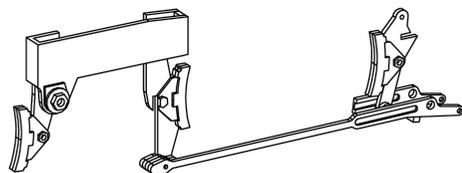
These components were designed for use with our EM/P4 sprung bogie kits. By popular request, we are making them available as separate items for detailing work in any of the 4mm gauges where, following the suggestions detailed on this sheet, they can be adapted for use with the original ready-to-run bogies.

The parts may be assembled using either solder or glues.

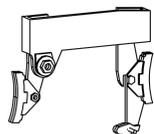
For guidance and information about modelling with etched brass components, see the 'General Notes' page of the 'Instructions' section of www.penbits.co.uk.

If you model in EM or P4, why not try one of our sprung bogie kits – you'll find details on the web site.

WHAT'S IN THE PACK



The brake gear details. There are eight of these assemblies, four of each hand – enough for two bogies. Each assembly is made up from three main components:

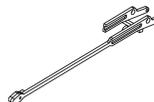


1. The centre gear, with the centre shoe/hanger to the left, and the intermediate shoe/hanger to the right. The two are joined by a 'plank', which folds

back on itself to offset the detail and carries representations of the visible parts of the centre shoe's actuating crank and securing nut (the pull rod for the crank is mostly hidden away within the bogie frame). The outside face of the plank fits flush to the inside face of the plastic bogie side frame.

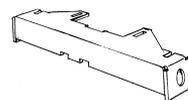


2. The end gear, representing the end brake shoe and hanger. The end gear is supported by the etched end stretchers provided.

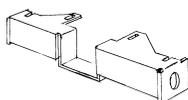


3. The pull rod, linking the end and intermediate hangers.

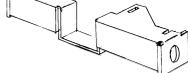
Stretchers (two of each), notched to make halving joints with the notches in the end gear etches:



Plain outer stretchers



Inner stretchers (similar to outer, with wider top flange)

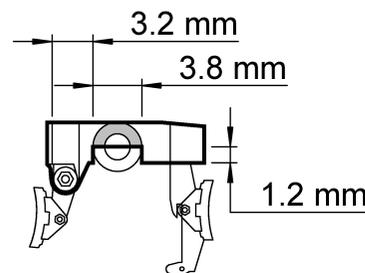


Outer stretchers, with additional folds to clear coupler pocket.

HELJAN LOCOS

Centre detail

The main plank supporting the detail is designed to be glued against the inner face of the sideframe. However, the mounting spigots of the sideframe get in the way. We suggest that a slot is made in the centre plank as shown. If a vertical slot, flush with the inside face of the sideframe, is then made to half the depth of the mounting spigot, as shown shaded, the centre detail can be fitted into the slot and glued in place.



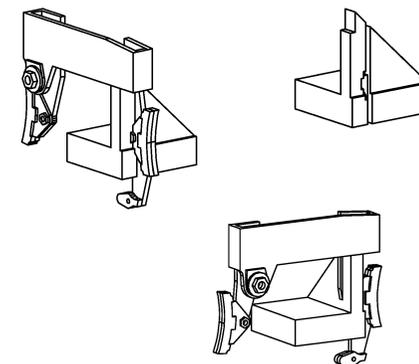
End detail

The end brake hangers are supported by the etched stretchers supplied. The stretchers are fixed between the ends of the sideframes; you might need to remove a little from the inside faces of the sideframes to keep them at the correct width. Vertically, the stretchers should be positioned so that the lower bosses of the end detail etches are at the same level as the lower bosses of the intermediate brake details, i.e. so that the pull rods are horizontal.

BACHMANN LOCOS

Centre detail

The main plank supporting the detail fits against the inner face of the sideframe moulding. However, the fit interferes with the outrigger supports of the moulding. The diagrams show how slots cut in to the outriggers can accommodate the detail. It may be as well to separate the intermediate brake hanger from the plank and glue the two parts into position separately.



End detail

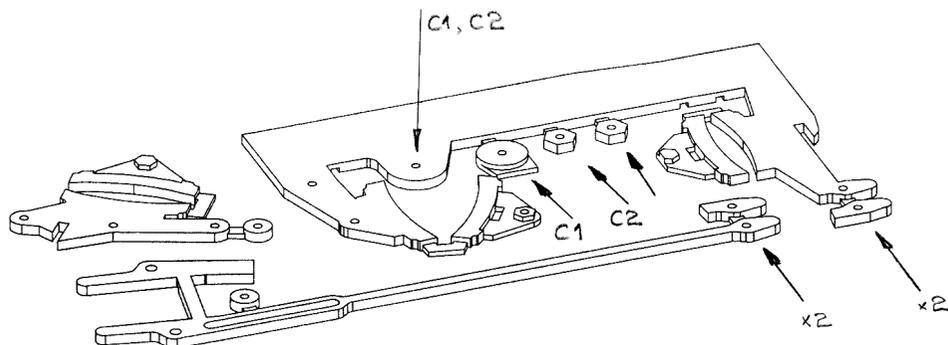
The end stretchers can be glued on to the top and outer faces of the transoms across the ends of the bogie mouldings. You will need to lower the top faces of the transoms by the thickness of the etch to set the details at the right height. You might need to cut away other parts of the centre moulding to get the stretchers to fit.

At the outer ends, it might be easiest to use parts of the stretchers intended for use with coupler pockets, discarding the centre parts of the etches.

The fold-over ends of each stretcher can be discarded if you're keeping the Bachmann side frames, but can provide a fixing surface for Heljan sideframes if you're going to fit them instead.

DETAIL ASSEMBLY

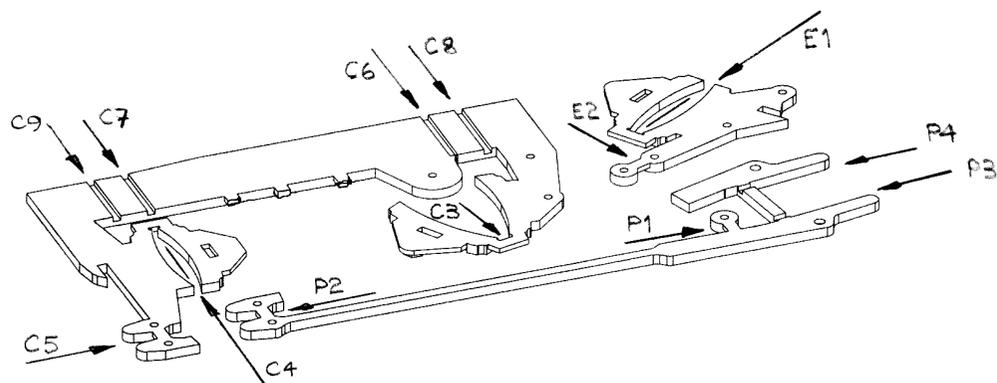
The first stages of preparing and folding the details are best done before removing the etches from the fret. The diagrams below show the components as they are orientated in the fret, in eight groups (four of each hand).



Lay the fret on your work surface as shown, with the brake shoe detail relief facing upwards.

Use a 0.35mm drill to clear the holes arrowed.

The centre shoe actuating crank (C1 – rotated 180°) and nut (C2) are threaded onto a length of 0.3mm wire and fixed over the hole in the main etch as indicated. You'll possibly need to wait until the centre etch has been fitted to the sideframes before fixing them in place. Cut them from the fret and store them safely away for now.



Now invert the fret so that the plain faces of the brake shoes are uppermost, as in the diagram above. Make the following 180° folds, as indicated in the diagram, with the etched tags on the insides of the folds:

C3: Centre shoe detail onto hanger, and fix.

C4: Intermediate shoe detail onto hanger, and fix.

E1: End shoe detail onto hanger, and fix.

E2: Lower boss onto end hanger, and fix.

P1: End boss onto pull rod, and fix.

P2: Inner boss onto pull rod – Do Not Fix.

C5: Lower boss onto intermediate hanger, insert a length of 0.3mm wire, projecting at least 1mm, and fix.

Fold tags can be removed once the overlaid components are secured.

If required, make the slots in the 'plank' of the Central etch to fit with the sideframe mounting spigots of the Heljan bogies (you may, or may not, find this easier to do with the part still attached to the fret).

Now cut the tags to remove the etches from the fret.

Make the 90° bends C6 and C7, with the etched-away fold lines on the inside of the bends, and reinforce them with solder or adhesive.

Make the 90° bends C8 and C9, again with the fold lines on the inside.

STRETCHERS

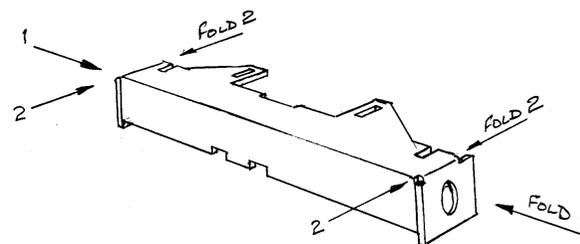
Fold up the stretchers as shown in the diagrams. Fit them to the bogie mouldings as per the suggestions for Heljan or Bachmann locos on the other side of this sheet.

FINISHING

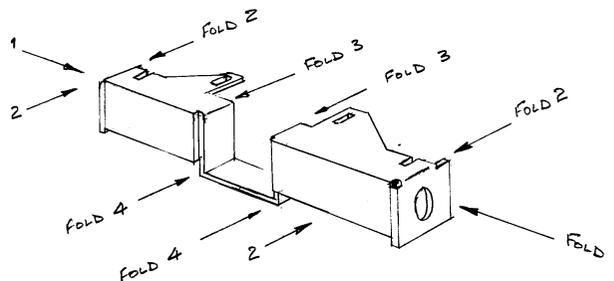
Once the centre detail etches have been fixed to the sideframes, fit the centre operating cranks, C1, and nuts, C2 into place, threaded on to lengths of 0.3mm wire which can be trimmed to represent the central securing bolts.

Thread the inner end of the pull rod onto the length of wire protruding from the lower boss of the intermediate brake hanger. Line up the outer end of the pull rod with the lower boss of the end brake hanger and fix both ends of the pull rod in place. Trim off any excess wire.

Fold up the pull rod ends, P3 and P4. Glue in place a suitable representation of the actuator between the inner and outer pull rods – the moulding from discarded Bachmann brake gear does nicely, otherwise small pieces of plastic strip and rod, brought together with some filler, can do the job.



Inner or Plain Outer stretchers



Coupler Pocket Outer stretchers