

## AC002 ENGLISH ELECTRIC BOGIE BRAKE COMPONENTS

### Contents Fretpack F01 I

These components were designed for use with our EM/P4 sprung bogie kits for the Bachmann classes 37 and 55. By popular request, we are making them available as separate items for detailing work on these, and other locos, in any of the 4mm gauges.

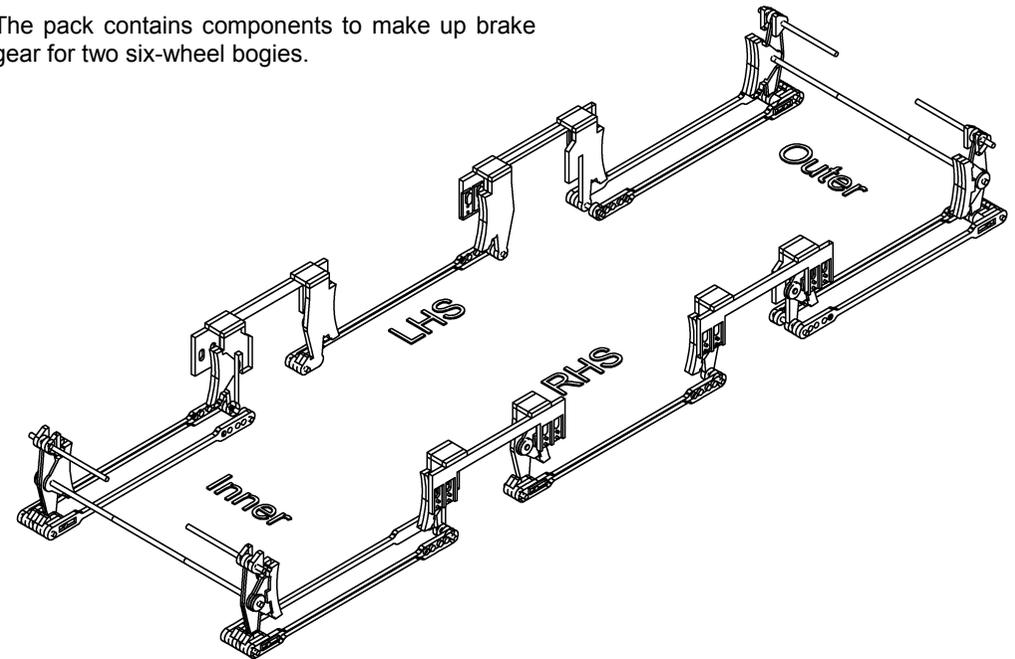
The parts may be assembled using either solder or glues.

For guidance and information about modelling with etched brass components, see the 'General Notes' page of the 'Instructions' section of [www.penbits.co.uk](http://www.penbits.co.uk).

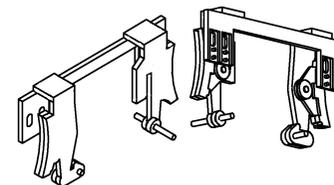
If you model in EM or P4, why not try one of our sprung bogie kits – you'll find details on the web site.

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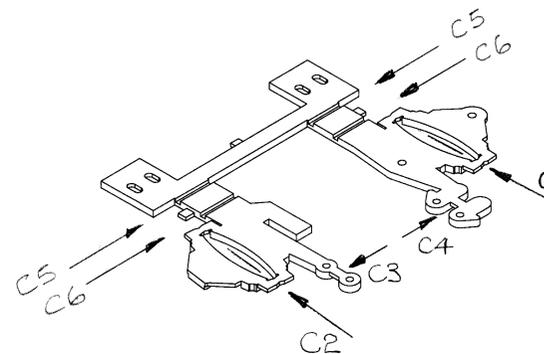
The pack contains components to make up brake gear for two six-wheel bogies.



### Central Brake Units



These combine the brake shoe facing a middle wheel and that facing an end wheel, together with their hangers. The hangers are joined by a 'plank', which folds over to offset the detail and carries representations of the brake shoe guides. The outside face of the plank fits flush to the inside face of the plastic bogie side frame, with the tops of the shoe guide details visible below the top member of the sideframe. The guides are spaced away from the wheels to allow sideplay for the middle wheelset. Note the variations in the shapes of the bosses at the lower ends of the brake hangers: these determine the position of each etch on a six-wheel bogie, as indicated on the Component Map on the F011 card insert.



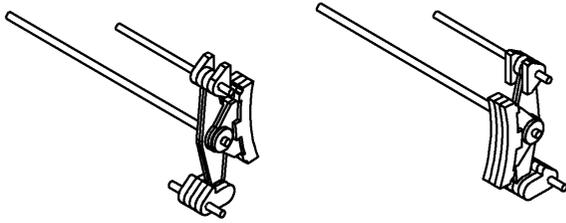
Lay the fret as shown, with the brake shoe details facing downwards, and make these 180° folds with the tags on the insides of the folds:

C1 and C2, fold and fix the shoe details on to the hanger/shoe plates. On the centre shoes, fix and trim lengths of 0.3mm wire through the holes to represent the fixing pins.

C3 and C4, fold over the lower bosses of the brake hangers and fix a length of 0.3mm wire through each to provide location for the pull rods.

Remove the etch from the fret, make folds C5 to 90°, with the etched-away lines on the insides of the folds, and reinforce them with glue or solder. Then make the folds C6 in similar fashion.

## End Brake Gear

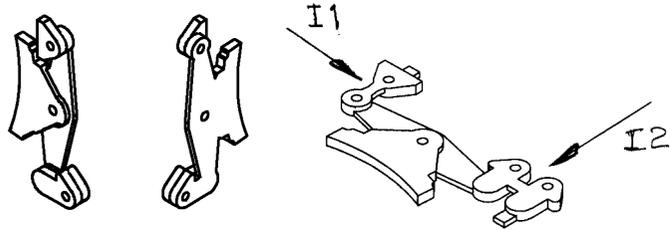


Representing the end brake shoe and hanger, the end gear can be supported by a length of 0.3mm wire running through the holes at the top of the hanger. Alternatively it could be housed in a slot cut in to the end cross member of a bogie frame moulding. The holes and/or wire would be positioned to line up with

the small dimples on the extreme ends of the outer faces of the Bachmann moulded sideframes. A cross rod of 0.5mm wire joins the pairs of shoes at each end of the bogie. A length of 0.3mm wire is fixed through the bottom holes to locate the pull rods. The end gear is formed from two etched components laminated together (the 0.3mm wires can be used to line them up):

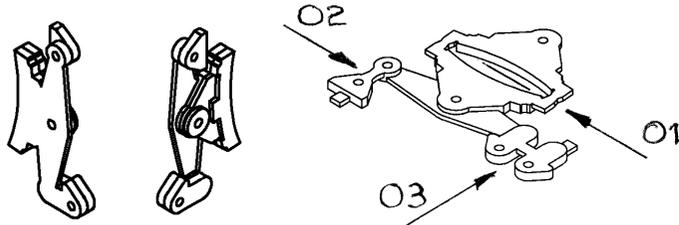
### Inner Lamination

Lay the fret as shown, and make folds I1 and I2, to 180°, with the tags on the insides of the folds. Cut the tags holding the component to the fret as you go.

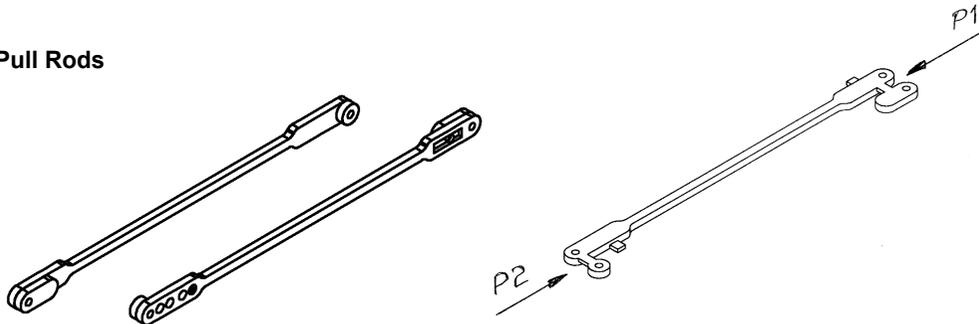


### Outer Lamination

Lay the fret as shown, and make folds O1, O2 and O3, to 180°, with the tags on the insides of the folds. Cut the tags holding the component to the fret as you go.



## Pull Rods



Pull rods, one inside and one outside, link the pairs of brake hangers for each wheel. The pack includes parts to fit outside rods on each wheel, and inside rods to the wheels on the inner and outer axles.

On a working model, we suggest that the centre pull rods be omitted, to allow maximum sideplay, as they are virtually invisible in service.

The inside pullrods for the inner and outer axles are supplied complete to make it easier to align them for assembly, but will probably need to have their middle parts cut away to clear the insides of the wheels.

Each rod is provided with fold-over bosses (180° folds P1 and P2) to help provide adequate clearances on working models; for a finer appearance you could experiment with omitting the bosses.

To fit the rods the correct 'way round', the boss shapes should be matched with those at the bottom ends of the brake hanger details.

## FINISHING

Once components have been fixed securely, visible folding tags can be removed. Parts can be dressed with a file to reduce their laminated appearance, though bear in mind that the real thing is assembled as a sandwich of plate components.

## FITTING TO BACHMANN 6-WHEEL BOGIES

The central brake units are fixed to the inside faces of the bogie sideframes in the vicinity of the plastic outriggers which support the sideframes. The diagrams here show how slots cut in to the outriggers can allow the brake detail to be accommodated.

A complicating factor is that the Bachmann bogie mouldings are too wide overall, by 1.2mm or so. The diagrams assume that the sideframes are separated from the outriggers and the shaded regions removed accordingly.

