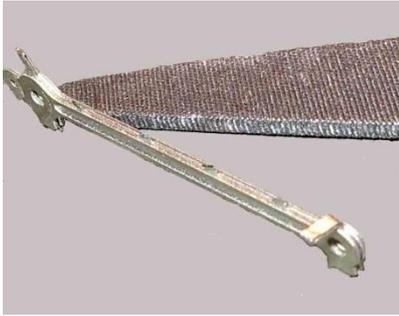


C201 – A1 Coupling Rods

The replacement rods were originally designed for the Brassmasters Bachmann A1 EasiChas and Alan Gibson or Ultrascale replacement wheelsets. However, they can also be used to replace the original rods on the Bachmann loco or with any other model of a Peppercorn A1.

Brassmasters also produce replacement connecting rods for the A1, available separately.

1. Each side is manufactured from 4 etches and hinged behind the centre crank pin. There are also overlays for the bosses. The replacement rods are designed to have to be assembled from two parts, a front and a back.
2. Cut one pair of rods from fret [1 & 2].



3. If using Markits wheels find the largest drill that will pass through the crankpin holes; if using the original Bachmann wheels, Alan Gibson or Ultrascale wheels, open the crankpin holes using a 1.5 mm drill. Using the same drill, drill perpendicularly into a scrap piece of wood. Leave the drill in the hole in the wood. Tin the mating surfaces of a pair of coupling rods and place over the drill. This holds one end of the rods accurately ready for soldering. It is critical to align the two halves exactly in order to make one rod so take some time tweaking. See photo.

3. Place a little flux along the edge of the rod and apply heat; the solder on the soldering iron will run between the rods and join them. The secret is to apply only a little solder at a time. Solder will fill the “cusp” and give the impression of a

solid rod. See photo left. Repeat for the whole length of the rod.

4. Repeat for the for the other front rods [1 & 2] then the assemble 2 sets of rear rods [3 & 4] in the same way

5. There are four bosses – the front boss [5] for Bachmann and Markits wheels or [6] for Alan Gibson and Ultrascale wheels, the centre boss [7] fitted to the leading coupling rod, and the rear boss and the forked joint boss [8] are fitted to the trailing coupling rod. front boss [6] forms a recessed hole for the front crankpin. Spare bosses are provided on the etch. Apply each boss holding in place cocktail stick and solder in place using the same technique as for joining the rods. Clean up each rod with files. Carefully blend the bosses into the front face of the rods.



[5]
The
with a

6. The remaining bosses can be added to the rear of the rods as, on the prototype, the bosses were quite thick, using [5] for the back of the leading boss. However, thicker bosses can lead to clearance problems in model form, so add them only if you have the room.
8. The rear length of each rod has a knuckle joint to manufacture. The front and rear rods are joined with a small rivet pushed through from the front and then cropped back on the rear leaving about 0.5 mm proud. See photo.



To stop solder flooding the joint apply a little oil to the surfaces not to be soldered - this will prevent the solder running into the joint. Keep the rear of the rod clean. Solder can then be quickly applied with a very hot iron to the back of the rod to fix the rivet in place. Clean off excess solder leaving enough to keep a strong joint. See photo above of completed rods.

9. Open up the crankpin holes in order that the rod will either rotate on the crankpin screw (if using Markits wheels) or on the crankpin bushes (if using Bachmann, Alan Gibson or Ultrascale wheels). This can be done with a reamer, broach or a fine Swiss file.
10. Fit the rods to the wheels and test run.



Replacement return crank

Included on the etch are replacement return cranks which are a little more detailed than the Bachmann originals, which can be fitted if required.

11 Diagram 1 shows the new arrangement for the return crank and Photo 15 the completed valve gear (with replacement Rods). Remove return crank from the Bachmann valve gear by drilling out the rivet attaching it from behind; be careful not to damage the hole in the valve gear as a new rivet will have to go through this.

12 Form the new return crank by soldering the Return crank front [9] to the return crank rear [10]. Solder the return crank assembly to the Bachmann crankpin bolt or, if using Alan Gibson, Ultrascale or Markits wheels, to a crank pin nut.

13 For Alan Gibson, Ultrascale or Markits wheels, screw the return crank onto the centre crankpin. Adjust the length of the crankpin so the return crank sits at the same angle as the original Bachmann one when fully tightened.

14 Attach the other end of the return crank to the Bachmann valve gear by a rivet inserted through the valve gear from the front. The rivet can be attached by squeezing with pliers firmly so the back expands. An alternative is to oil the moving link and carefully solder the rivet to the rear of the return crank working quickly with a very hot iron. The hole etched in the return crank is for those wishing to drill and tap the crank. This should be filled with low melting point solder or filler and filed flush.

15 For Bachmann wheels, put a small drop of glue in the hole for the crankpin, and screw the assembly through the into the wheel. Position the return crank so that it sits at the same angle as the original Bachmann one. Leave for the glue to set.

