

## C106 – Jointed coupling rods for LNWR/LMS/BR G1/G2/G2A locomotives

1 These instructions refer to the jointed type included in the base kit. Each side is manufactured from six etches and hinged in front of the second crankpin and behind the third crankpin. There are also overlays for the bosses. There are spares for the bosses so don't worry when there are some left over at the end.

2 Cut two of the centre pair of rods from fret [C1].

3 Open the crankpin holes using a 1.5mm drill. When complete drill a hole using the same size drill perpendicular in 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.



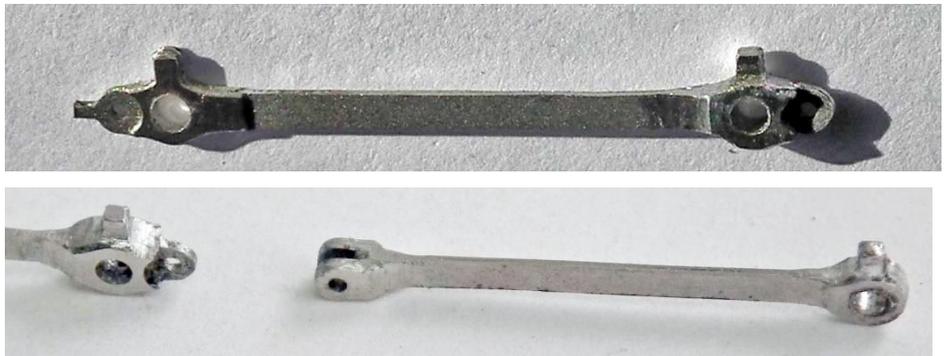
4 Attach a boss [C2] to the front and back of each boss, again using the drill to ensure alignment.

5 Place a little flux along the top surface of the rod and apply heat; the solder on the soldering iron will run down 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. Repeat for the whole length of the rod.

6 Repeat for the second pair of centre rods [C1]. The rod below has the overlays added on the right end only and has been dressed with the file.

7 Next take a pair of outer rods [C3 and C4] and open out the crankpin holes with a 1.5mm drill. Again, assemble using the drill to align the rods.

8 Take two of the boss overlays [C5] and attach to the front and rear of the rods holding it in place with a cocktail stick and solder in place using the same technique as for joining the rods. Finally take two of the forked joint overlays [C6] and attach either side of the forked ends.



9 Repeat for the other three outer rods.

10 Clean up each rod with files. Carefully blend the bosses into the front face of the rods. The prototype radius of the blend at the crankpin bosses is 6” so it is best to use a file of about 4mm diameter. We used an oval file. Referring to the middle rod in the attached photo, the file should be placed in middle step and then filed downwards to give the result in the top rod.

11 The rods for each side of the locomotive have two knuckle joints to manufacture. They are joined with a small rivet pushed through from the front after carefully opening the holes out to accept the rivet with a reamer. **It is vitally important not to let these holes ‘drift’** or this will result in rods that do not match the wheelbase of the chassis. See photo.

12 Using a larger drill, lightly countersink the rear face of the forked end.



13 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

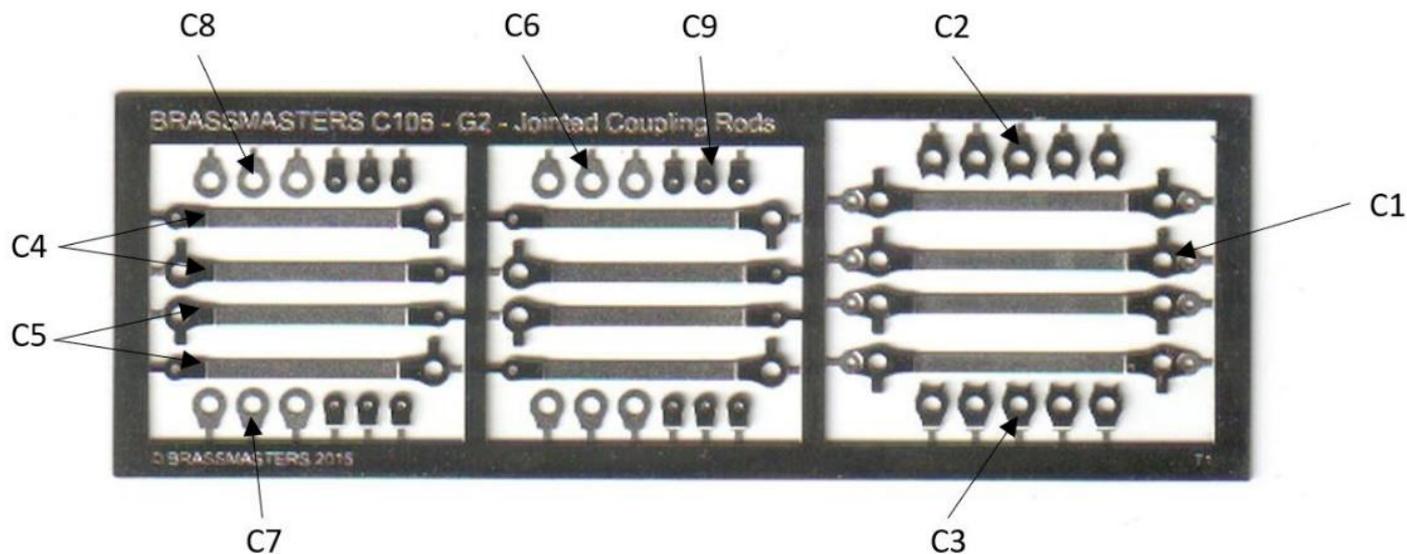
of the rod to fix the rivet in place. Clean off excess solder leaving enough to keep a strong joint. See photo above of completed rods.

14 A comparison of the Bachmann and Brassmasters rods is shown in the photo.



15 Open up the crankpin holes in order that the crankpin bushes will rotate freely in the rods. This can be done with a reamer, broach or a fine Swiss file.

16 Fit the rods to the wheels and test run.



C1	centre rods (4)	C6	outer boss overlay (4)
C2	centre rod boss left hand (4)	C7	inner boss overlay left (2)
C3	centre rod boss right hand (4)	C8	inner boss overlay right (2)
C4	outer rod half (4)	C9	forked end overlay (8)
C5	outer rod half (4)		