



LM51 Motion Set for SR Bulleid West Country/Battle of Britain 4-6-2 (rebuilt & unrebuilt)

COMET MODELS components complementing
this motion set are:

Frames	LF51	Crossheads	LS9
Bogie	LS11	Cylinders	LC1
Trailing truck	LS18		

This motion set etch is designed to fit our loco frame pack LF51. All folds should be made with the half-etch to the inside and reinforced with solder. All parts are numbered on the etch and are identified in the instructions by the number in brackets. Where components are handed, they are marked on the etch 'L' for left (nearside) and 'R' for right (offside). We recommend that all holes are drilled before you remove them from the fret, with the exception of the coupling and connecting rods which are best drilled after assembly. Drill to 0.85mm for riveted joints.

NOTE: Crossheads and pins are NOT supplied in this pack but are available separately - COMET MODELS pack LS9.

We strongly recommend that the cylinder and motion bracket assemblies are arranged to bolt on to the frames so that everything can be stripped down and re-assembled as required, otherwise you are sure to finish up with an axle nut or whatever hidden behind the motion. A little forethought when positioning the frame spacers for chassis assembly will facilitate this.

Parts List

1. Coupling rods	11. Return crank
2. Coupling rod overlays	12. Eccentric rod
3. Connecting rods	13. Eccentric rod overlay
4. Connecting rod overlays	14. Expansion link
5. Slide bar bracket	15. Lifting arm
6. Drop link	16. Motion support bracket
7. Union link	17. Inner motion brackets
8. Combination lever	18. Motion bracket overlays
9. Valve rod	19. Rear piston covers
10. Valve rod fork and suspension link	Pack of 10 rivets

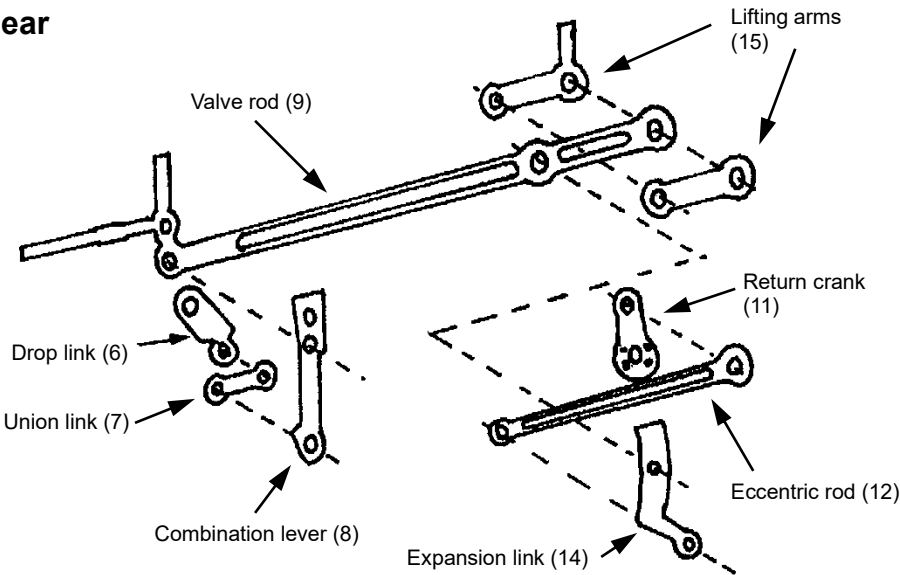
Assembly sequence

1. Fix the outer coupling rod overlays (2) to the plain inner rods (1) - note the rods are handed. If you wish to articulate the rods, the inner rod should be split at the half-etched marks before assembly.
2. Fix the outer connecting rod overlays (4) to the plain inner rod (3). Note the rods are handed.
3. Using the rivets supplied, assemble the drop link (6) to the union link (7), the union link to the combination lever (8) and the combination lever to the valve rod (9). Note the union link is outside the drop link and the combination lever is outside both the union link and the valve rod. Note that the assemblies are handed. If you wish to model the valve gear more fully an additional etch is provided for the valve rod fork and suspension link (10). This should be cranked as per the sketch and fixed to the valve rod after riveting.

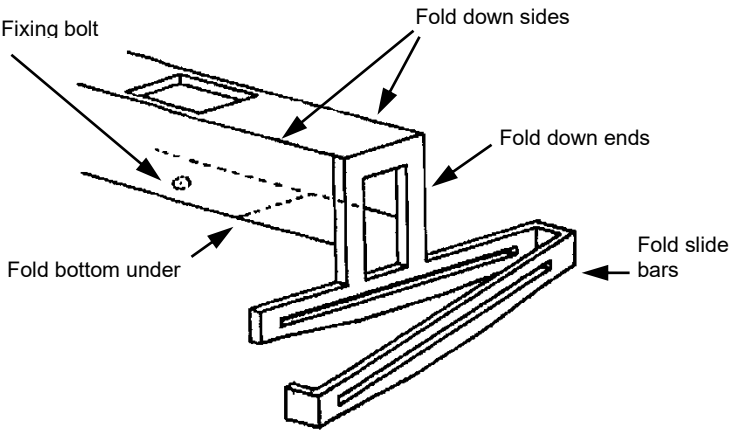
4. Fold up the slide bar bracket (5) as per the sketch and fettle the crossheads (COMET MODELS pack LS9) until they are a good sliding fit. File off the cast drop link from the crosshead and assemble the connecting rods and etched drop links to the crossheads using the plain wire in the crosshead pack as the pivot, noting that the connecting rod fits into the fork of the crosshead.
5. Fit the crosshead assemblies into the slide bars and reinforce the joints/bends in the bracket with solder. Temporarily bolt the cylinders and slide bar bracket to the frames and check the alignment of the crosshead with respect to the cylinders and driving axle, adjusting as required.
6. Using the rivets supplied, assemble the return crank (11) to the eccentric rod (12) and the eccentric rod to the expansion link (14) noting that the eccentric rod is outside the return crank and the expansion link is outside the eccentric rod. The expansion link is supplied as a fold-up unit and only the outer link is required for the above simplified assembly. If you prefer to use the expansion link as supplied, fold up the link and fit the eccentric rod between the inner and outer links and fix with 0.7mm wire soldered to both links, using paper washers to ensure freedom of movement.
7. Fold up the motion support bracket (16) as per the sketch and check the inner motion brackets (17) are an easy fit in their locating slots. The expansion link and the valve rod can now be fitted to the motion bracket. You may find it easier to solder the inner supports to the bracket after feeding all the components onto 0.7mm wire.

NOTE: Refer to the sketch for the nearside valve gear but remember to transpose from left to right when assembling the offside gear.
8. Fix the lifting arms (15) to the ends of the valve rod using 0.7mm wire to locate them and trim flush. Add the rear piston covers (19) to the cylinders, the motion bracket overlays (18) and the eccentric rod bearing overlay (13).
9. Assemble the motion bracket, slide bar bracket and cylinders to the frames at the same time feeding the front of the valve rods into the holes in the rear of the valve chests. Make sure the cylinder and motion assemblies are bolted securely. Place the connecting rod over the driven crankpin and fix the return crank outside this, remembering to allow a few degrees of lag on the return crank.

Valve gear



Slide bar assembly



Motion bracket / valve gear assembly

Valve rod fork sketch

