



COMET MODELS components complementing this motion set are:

| | | | |
|-----------|------|------------|-----|
| Frames | LF43 | Pony truck | LS2 |
| Cylinders | LC5 | Crossheads | LS9 |

LM43 Motion Set for BR Standard 9F 2-10-0

This motion set etch is designed to fit our loco frame pack LF43. 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.

If you wish to model the expansion link assembly as per the prototype please refer to section 9. The main instructions provide for a simplified version which should be acceptable to anyone who prefers to avoid fiddly soldering.

Parts List

- | | |
|---------------------------------|-----------------------------------|
| 1. Centre coupling rods | 12. Return crank |
| 2. Centre coupling rod overlays | 13. Eccentric rod |
| 3. Outer coupling rods | 14. Expansion link |
| 4. Outer coupling rod overlays | 15. Lifting arm |
| 5. Connecting rods | 16. Lifting arm links |
| 6. Connecting rod overlays | 17. Motion bracket |
| 7. Slide bars | 18. Offside motion bracket |
| 8. Not used | 19. Nearside motion bracket |
| 9. Union link | 20. Eccentric rod bearing overlay |
| 10. Combination lever | 21. Valve rod forks |
| 11. Valve rod | |

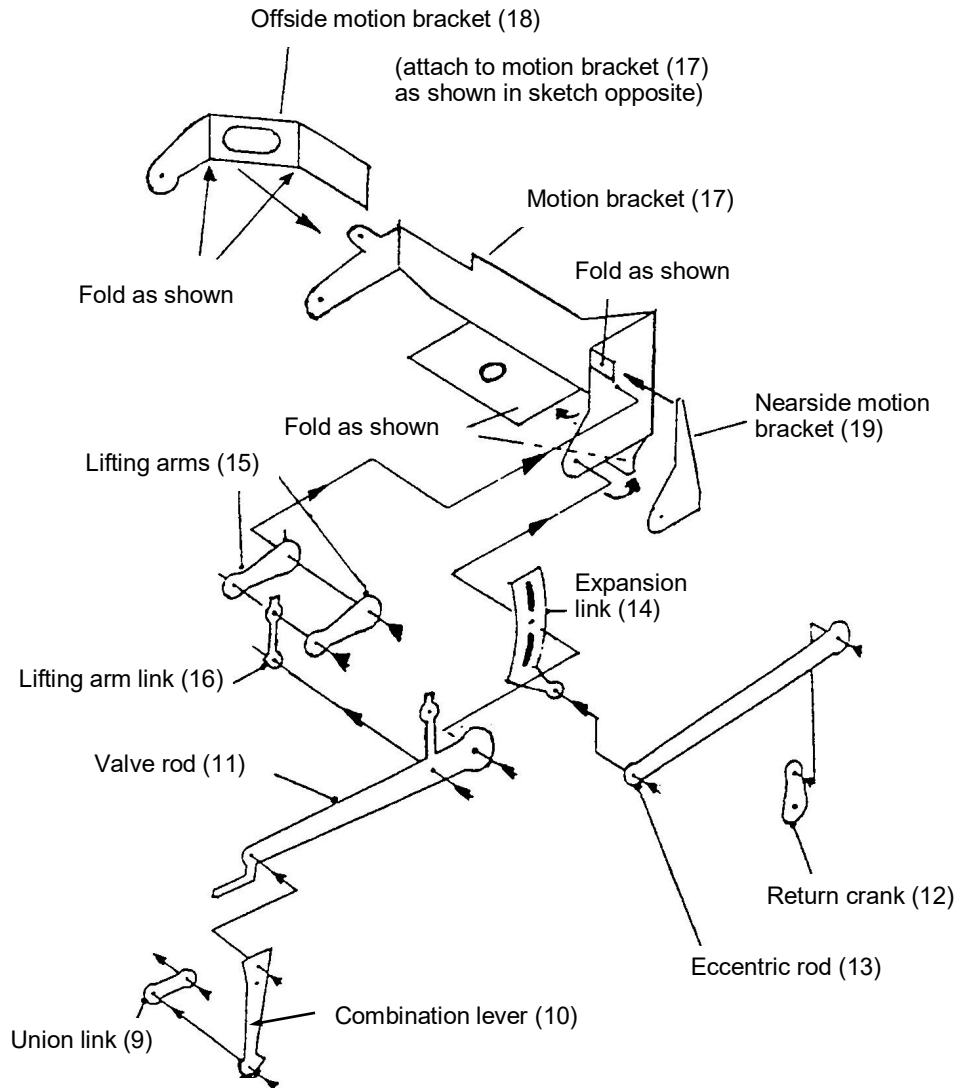
Assembly sequence

1. Fix the centre coupling rod overlays [2] to the plain inner rods [1], and the outer coupling rod overlays [4] to the plain inner rods [3] - note the rods are handed.
2. Fix the outer connecting rod overlays [6] to the plain inner rods [5] noting that the rods are handed.
3. If you wish to model the forked end of the valve rod refer to section 9. Using the rivets supplied, assemble the union link [9] to the combination lever [10] and the combination lever to the valve rod [11]. Note that the combination lever is outside both the union link and the valve rod. Note also that the assemblies are handed.
4. Fold up the slide bars [7] as per the sketch and check that the crossheads are a good sliding fit, fettling as required. Assemble the connecting rods to the crosshead (pack LS9)

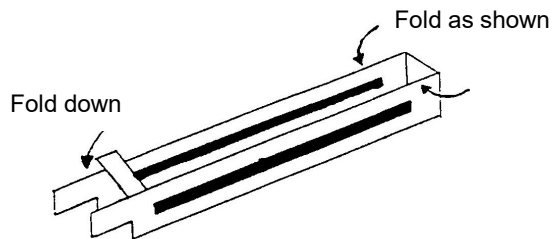
using the plain wire in the crosshead pack as the pivot, noting that the connecting rod fits into the fork of the crosshead. Assemble the union link [9] to the outside of the crosshead drop link - insert the pin from the front, solder it to the inner face of the drop link, then cut and file flush.

5. Fit the crosshead assemblies into the slide bars and locate and solder the slide bars to the cylinders. Note that the small folded tab at the front of the slide bars should be to the top.
6. Assemble the return crank [12] to the eccentric rod [13] and the eccentric rod to the expansion link [14], noting that the eccentric rod is outside both the return crank and the expansion link. If you wish to add the bearing overlay (20) you will need to make this a soldered joint using a bright plated steel pin (not supplied) inserted from the rear, soldered on the outer face of the eccentric rod, then cut and filed flush. This presents a flush surface onto which to glue the overlay.
7. Fold up the motion bracket [17] as per the sketch and fit the expansion link and valve rod assemblies using 0.7mm wire and paper washers to avoid soldering everything up solid. Fit the lifting arms [15] to the bracket using 0.7mm wire and line up with the top of the lifting link and fix using 0.7mm wire. Note that the lifting arms pass each side of the expansion link. You will find that assembly much easier if you use lengths of wire which span the full width of the motion bracket. Now fit the outer motion brackets. The nearside [19] is soldered to the two small tabs which fold out from the main bracket. The offside [18] should be folded as per the sketch using the half-etched marks on the back as a guide before fitting in place.
NOTE: Refer to the sketch for the nearside valve gear but remember to transpose from left to right when assembling the offside valve gear.
8. Assemble the motion 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 forward lead on the return crank.
9. If you wish to model the forked end of the valve rod, bend the ends of the valve rod fork (21) through 180° with the half-etched line to the outside of the bend. Feed the valve rod and valve rod fork onto a length of 0.7mm wire and solder together as per the sketch. You should now find that the two forks of the valve rod fit each side of the expansion link, and the assembly can proceed as described above. Separate lifting arm links [16] are provided should you wish to portray the valve motion in forward gear.

Motion bracket / valve gear assembly

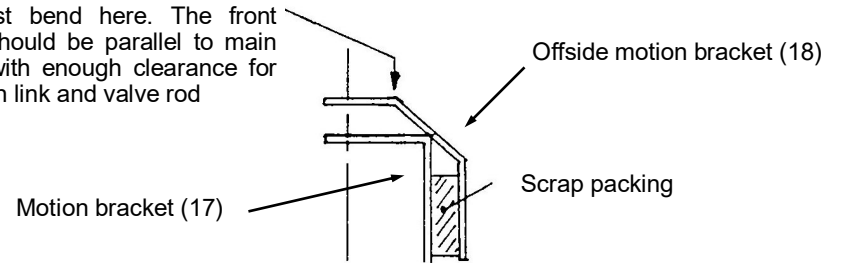


Slide bar assembly



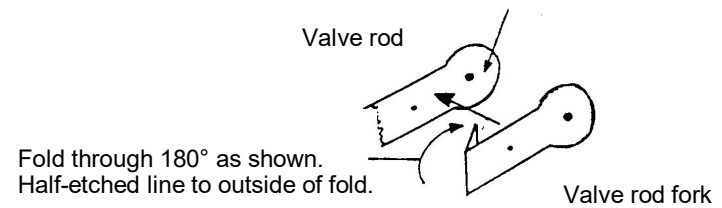
Motion bracket assembly

Make first bend here. The front section should be parallel to main bracket with enough clearance for expansion link and valve rod

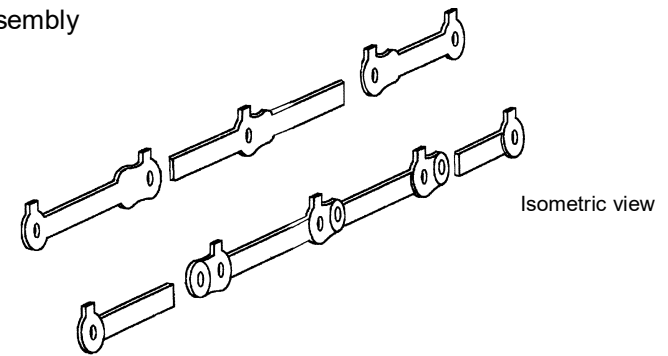


Valve rod assembly. Section 9 only.

Use a piece of 20 thou scrap inserted here to maintain correct spacing.



Coupling rod assembly



Plan view

