



LM50 Motion Set for SR Maunsell Lord Nelson 4-6-0

COMET MODELS components
complementing this motion set are:

Frames	LF50	Bogie	LS13
Cylinders	LC1	Crossheads	LS9

This motion set etch is designed to fit our loco frame pack LF50. 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 parts from the fret, with the exception of the coupling and connecting rods which are best drilled after assembly. Drill 0.85mm for rivetted 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 | 9. Return crank |
| 2. Coupling rod overlays | 10. Eccentric rod |
| 3. Connecting rods | 11. Expansion link (mid gear) |
| 4. Connecting rod overlays | 12. Motion bracket |
| 5. Slidebars | 13. Expansion link inner pivot |
| 6. Union link | 14. Valve spindle guides |
| 7. Combination lever | 15. Cylinder rear piston cover |
| 8. Valve rod | 16. Expansion link (forward gear) |

Assembly sequence

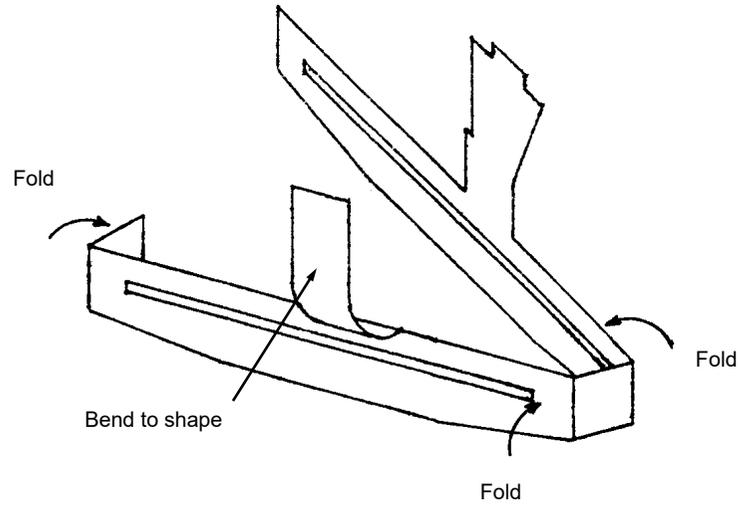
1. Fix the outer coupling rod overlays (2) to the plain inner rods (1) - note the rods are handed.
2. Fix the outer connecting rod overlays (4) to the plain inner rod (3). Note the rods are handed, the half-etch on the inner rod being to the inside. (See sketch).
3. Using the rivets supplied, assemble the union link (6) to the combination lever (7) and the combination lever to the valve rod (8). Note the combination lever is outside both the union link and the valve rod. Note that the assemblies are handed.
4. Assemble the return crank (9) to the eccentric rod (10) and the eccentric rod to the expansion link (11), noting that the eccentric rod is outside both the return crank and the expansion link. If you wish to portray the motion in forward gear refer to section 9.
5. Fold up the slidebars (5) as per the sketch and fettle the crossheads until they are a good sliding fit (see sketch). 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 (6) 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.

6. Fold up the motion bracket (12) as per the sketch. Solder the sidebar assemblies in place and at the same time align the valve rod between the inner and outer sidebar supports. Fit the crosshead into the slidebars, and solder the slidebars together at the front. Fit the valve rod and expansion link assemblies and expansion link inner pivots to the motion bracket using 0.7mm wire and paper washers to prevent soldering everything together. Note that the valve rod should be outside the expansion link and the inner pivot (13) locates in the long slot in the bracket. You will need to trim the lifting link on the valve rod to clear the bracket.

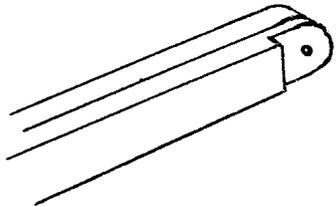
NOTE: Refer to the sketch for the nearside valve gear but remember to transpose from left to right when assembling the offside gear.

7. When assembling the cylinders (pack LC1) use the rear piston cover (15) and valve spindle guide (14) in place of those supplied with the cylinder etch. With the valve spindle guides and rear valve chest attached to the cylinders, drill a 1.0mm hole through to accept the projection of the valve rod (which represents the valve spindle).
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, allowing a few degrees of forward lead on the return crank.
9. A separate expansion link (16) is provided should you wish to model the valve gear in forward gear. Before making up the slidebars rivet the end of the valve rod to the middle hole in the expansion link, with the valve rod outside the expansion link. Assembly now proceeds as before except that only the expansion link is pivoted to the motion bracket. At final assembly, trim the front of the valve rod as per the sketch and solder a short length of 0.5mm brass rod into the vacant hole in the combination lever. This can then be sprung into the slots in the valve spindle guides mounted on the cylinders.

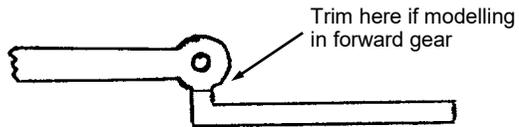
Slider assembly



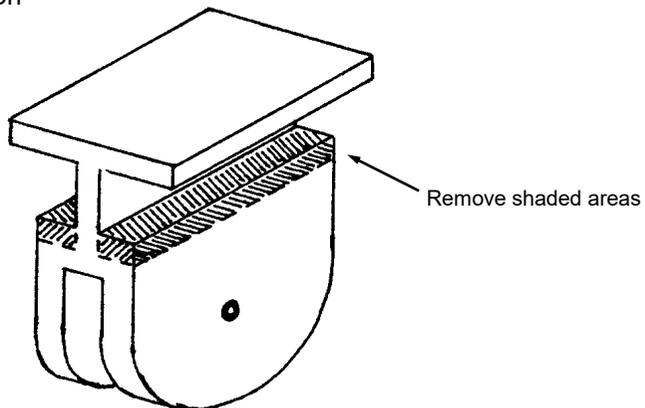
Connecting rod



Valve rod modification



Crosshead modification



Motion bracket / valve gear assembly

