

LM2 Motion Set for Stanier Coronation 4-6-2

This motion set etch is designed to fit our loco frame pack LF2. 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 to 0.85mm for riveted joints.

NOTE: Crossheads and pins are NOT supplied in this pack but are available separately - COMET MODELS pack LS8.

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

1A & 1B	Coupling rods	9.	Return crank
2A & 2B	Connecting rods	10.	Eccentric rod
3.	Slidebar	11.	Expansion link
4.	Slidebar support bracket	12.	Motion support bracket
5.	Drop link	13.	Eccentric rod bearing overlay
6.	Union link	14.	Lifting arm
7.	Combination lever	15.	Motion bracket overlay
8.	Valve rod	16.	Cylinder cover plate

Assembly sequence

- Fix the outer coupling rod overlays (1B) to the plain inner rods (1A) - 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 as shown in sketch 1.
- Fix the outer connecting rod overlays (2B) to the plain inner rod (2A). Note the rods are handed.
- Assemble the connecting rods (2) and drop links (5) to the crossheads (pack LS8). Insert the pin from the rear, solder it on the outer face of the drop link, then cut and file it flush (see sketch 3). Solder the drop link to the crosshead, noting the relative positions of the two.
- Fold up the slidebars (3) as shown in sketch 4. Assemble the slide bars to the cylinder rear covers and fettle as necessary to achieve an easy sliding fit of the crossheads. Note the slidebars are handed.
- Refer to sketch 2. Using the rivets supplied, assemble the drop link (5) to the union link (6), the union link to the combination lever (7) and the combination lever to the valve rod (8). Note that 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.
- Assemble the return crank (9) to the eccentric rod (10) and eccentric rod to the expansion link noting

COMET MODELS components complementing this motion set:

Frames	LF2	Bogie	LS7
Trailing truck	LS12	Cylinders	LC1
Crossheads	LS8		

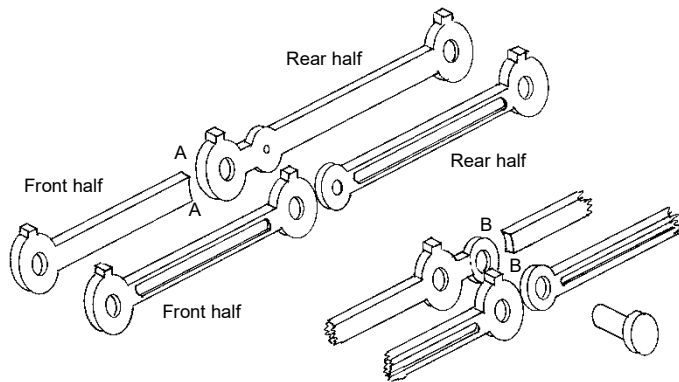
that the eccentric rod is outside the return crank and the expansion link is outside the eccentric rod. If you wish to add the bearing overlay (13) you will need to make this a soldered joint using a pin inserted from the back as described in step 3 above in order to have a flush surface onto which to glue the overlay.

- The expansion link (11) is supplied as a fold-up unit, but if you prefer to simplify the assembly separate the outer link. If you are using the expansion link as supplied, fit the eccentric rod between the inner and outer links and fix with 0.9mm wire soldered to both links, using paper washers to ensure freedom of movement. Alternatively, if using only the outer link rivet to the outside of the eccentric rod. Note these items are handed.

NOTE: The sketches show the nearside valve gear but remember to transpose from left to right when assembling the offside gear.

- Fold up the motion bracket (12) as per sketch 2 and fix the cosmetic outer covers (15) in place, ensuring the top edge is flush with the top surface of the motion bracket. Bolt this assembly and the cylinders to the frames, ensuring that the motion bracket aligns with the underside of the footplate. Solder the slidebar support brackets (4) to the slidebars, ensuring the small tabs on the slidebars locate in the slots in the support brackets, which should themselves fit against the front of the motion support bracket, but be sure not to fix them together. Remove the motion bracket.
- Solder a spacing washer behind the valve rod as shown in sketch 6. Feed 0.7mm wire through the rear hole in the valve rod, at the same time locating the inner and outer lifting arms (14). Now feed 0.7mm wire through the holes at the front end of the lifting arms and pass through the slot in the valve rod and solder together. File flush and repeat for the other side. The lifting arms should be horizontal for neutral gear, but note that it is possible to depict the motion in forward gear by choosing the lower of the two holes in the expansion link when the gear is finally assembled.
- On the cylinder assembly drill a hole through the centre of the valve spindle crosshead guide and into the rear of the valve chest to clear the projection on the valve rod (which represents the valve spindle). Assemble the expansion link and valve rod to the motion bracket using 0.7mm wire as the pivot.
- Reassemble the motion bracket to the frames, simultaneously feeding the crossheads into the slidebars and the valve spindles into the rear of the valve chests. Make sure the motion and cylinder assemblies are bolted securely. Place the connecting rod over the driven crankpin and fix the return crank outside this allowing a few degrees forward lead on the return crank. Fix the motion bracket overlays (15) in place ensuring they are flush with the top surface of the motion bracket. Finally fit the cylinder inspection cover (16) to the cylinder wrapper in place of the round one supplied on the cylinder etch.

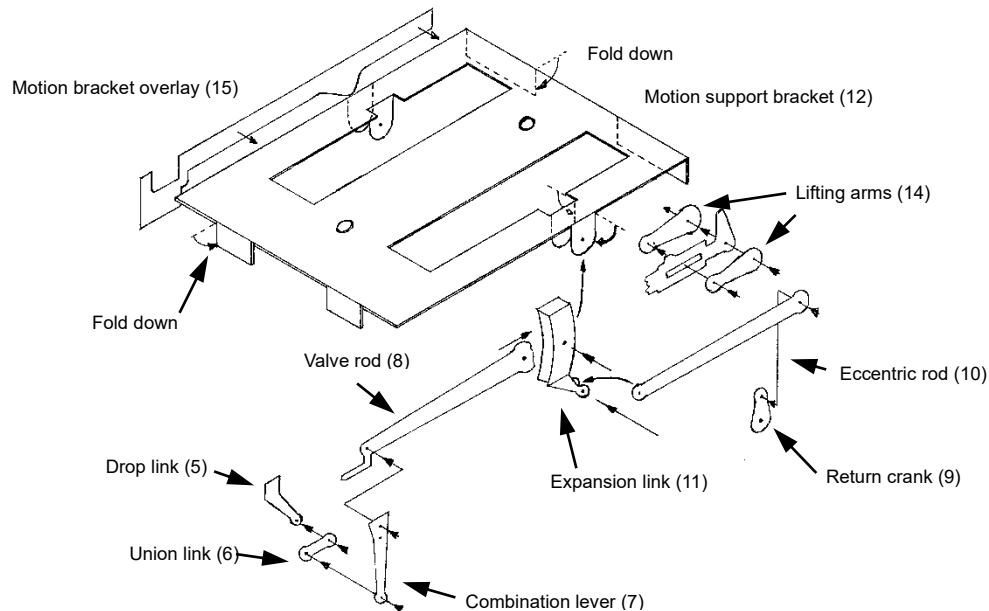
Sketch 1: Coupling rod assembly



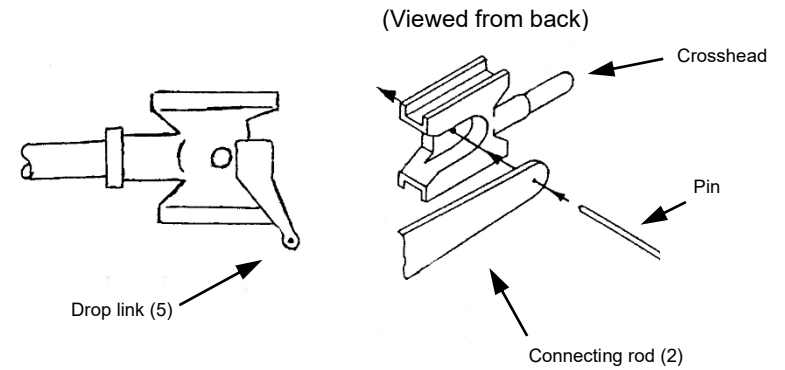
To split the rods over the centre crankpin cut the backing rod at A-A, solder to the corresponding halves of the outer rods and connect both halves at the centre crankpin.

To split the rods on the knuckle joint first drill through the half etched centres on the knuckle and cut the backing rod at B-B. Solder the inner and outer halves together then join the front and back halves of the rods using a pin or rivet (not supplied) so that the rods are articulated behind the centre crankpin.

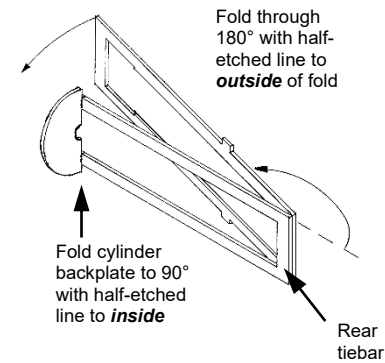
Sketch 2: Motion bracket & valve gear



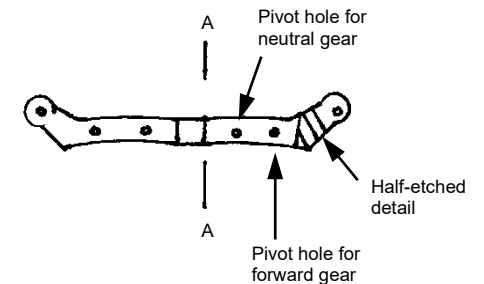
Sketch 3: Crosshead



Sketch 4: Slidebar assembly



Sketch 5: Expansion link



Sketch 6: Expansion link & valve rod

