

## LCP27 Chassis pack for GWR Collett 1400 0-4-2T

Components recommended to construct a complete chassis:  
4 off Markits 5'2" driving wheels (WH205)  
2 axles, 4 crankpins and washers  
1 set 14mm dia trailing wheels (WH33)  
Gearbox GB5/15  
Mashima MHK1020 motor

This etch contains sideframes, 00 spacers, brake shoes, brake pull rods and coupling rods, together with cast whitmetal axleboxes to produce a basic chassis of the correct scale dimensions and appearance which can be used as a substitute for a kit or a RTR chassis. EM spacers are available separately, code LS10, as are P4, code LS60.

We recommend the Mashima MH1020 motor with our gearbox GB5/15 for this model, and can supply the latter as well as Markits driving and trailing wheels.

As supplied the frames are intended for the Airfix/Dapol/Hornby model.

The chassis can be built as a conventional rigid chassis with a floating trailing axle or, by using the sub-chassis provided, as a 'semi-compensated' chassis where the rear wheels will also carry part of the body weight.

Please note that all folds should be made with the half-etch to the inside and reinforced with a fillet of solder.

### Etched parts list

- |                         |                              |
|-------------------------|------------------------------|
| 1. Loco frames x2       | 6. Brake pull rods x2        |
| 2. 00 frame spacers x5  | 7. Rear hornguide overlay x2 |
| 3. Rear frame extension | 8. Coupling rods x4          |
| 4. Sub-chassis          | 9. Trailing axle washers x4  |
| 5. Brake shoes x4       |                              |

### **Assembly Instructions**

- Although designed primarily for rigid assembly, the chassis can easily be modified to accept compensation using proprietary components available from Perseverance, MJT or Sharman Wheels. If using any of these the hornways should be cut out at the half-etched lines before starting assembly.
- If building the rigid chassis, carefully open out the axle bearing holes in the frames until the bearings are a close fit, ensuring the bearing flanges fit snugly against the frames. If you decide to use the sub-chassis then open out the axle bearing holes in the main frames to be a loose fit on the axle bearings, and open out the holes in the sub chassis to be a close fit. Drill the brake hanger/pivot holes on both the main frames and the sub chassis to 0.75mm. Press out the rivet detail in the ashpan from the inside. If using our chassis jigs DO NOT solder the bearings in place at this stage.
- Select the appropriate frame spacers - the size and position of them will depend upon the siting of the body fixings and your preferred motor/gearbox and pick-up arrangements. A suitable layout of spacers is shown in sketch 1 if our gearbox GB5 and a Mashima MHK1020 motor is used.
- The frame spacers supplied fold to right angles on the half etched line. Solder your chosen ones to one of the frames. It is now possible to assemble the frames by clamping the second side frame to the first using the wheelsets to check alignment before soldering. A more consistent approach can be achieved using our frame assembly jigs (code LS16 for 00, LS17 for EM and LS61 for P4). Full instructions for their use are provided with them. If using them you should omit any spacers which foul the jigs on the outermost axles. These spacers are inserted when the jigs have been removed from the frames after assembly.
- If using the sub-chassis do not solder the bearings in the main frames. Bend up the sub-chassis as per sketch 2 and reinforce the joints with solder. Solder the bearings in place in the sub-chassis with the flanges inside and file the outside flush. Assemble the GB5 gearbox (not supplied) as per the instructions. Fit the driven axle bearings in the gearbox with the flanges to the inside then file the outside of the gearbox completely flush.

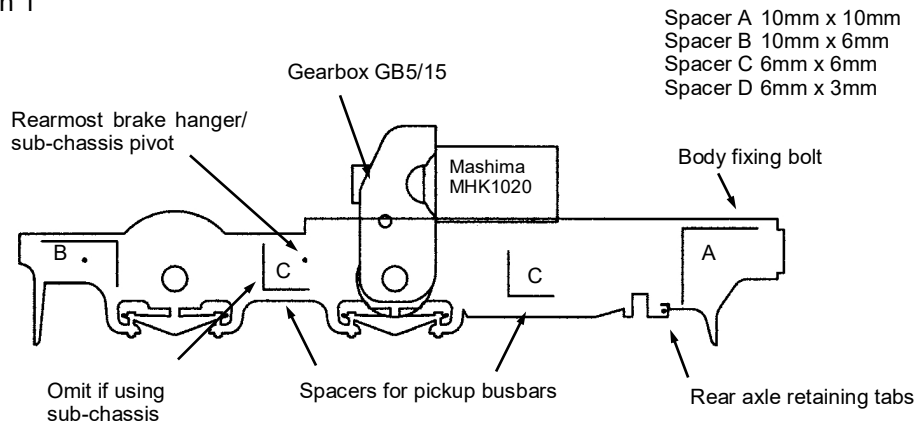
- With the frames assembled solder lengths of 0.7mm wire through the brake hanger holes, then thread on and solder the brake shoes in place. Alignment of these is made easier if something of suitable thickness is used to space out the brake shoe from the frame, with a wheelset fitted to ensure correct positioning. If using the sub-chassis you may need to file away a small amount from the faces of the axle bearings on the driven axle to enable the GB5 to slide into position. Feed the rearmost brake hanger wire through the mainframes and through the pivot holes in the sub-chassis before soldering the wire to the frames. We suggest inserting paper washers between the frames and the sub-chassis to prevent soldering the latter solid
- Lengths of 0.7mm wire can now be threaded through the bottom brake hanger holes on one side of the chassis, through both sets of pull rods (ensuring these are the correct way round) and then through the second set of brake hangers. Solder the wire to the brake hangers and then slide the pull rods across to line up with the inner edges of the frames before soldering to the wire.
- If using Markits wheelsets use the 'U'-shaped trailing axle washers to reduce sideplay on the trailing axle - simply solder to the outside of the axle slots in the underframes.
- Fold up the rear frame extension as per sketch 3 and solder it to the frames, locating the tabs at the rear of the frames into the slots in the frame extension. The front of the frame extension simply butts against the mainframes. If modelling with wider frames than 00, the tabs on the rear of the frames must be removed and the rear frame extension butt jointed centrally. The front of this extension will also need reducing to ensure that the sides are parallel with the frames. The rear axle spring/axlebox castings can now be fixed in place.
- Drill the coupling rods 1.2mm for Markits crankpins. Tin the backing rod along its length - both rods can now be threaded onto the drill to keep one end in alignment before squaring up the other end and soldering together (see sketch 4). Finally bend the axle retaining tabs through 90° and form the guard irons to shape.
- The chassis can now be washed and painted before final assembly. If using Markits wheels you will need to use a paper washer between the coupling rod and the crankpin washer to prevent the rods being soldered to the crankpins.

The trailing axle is retained by short lengths of 0.7mm wire soldered through the holes in the retaining tabs.

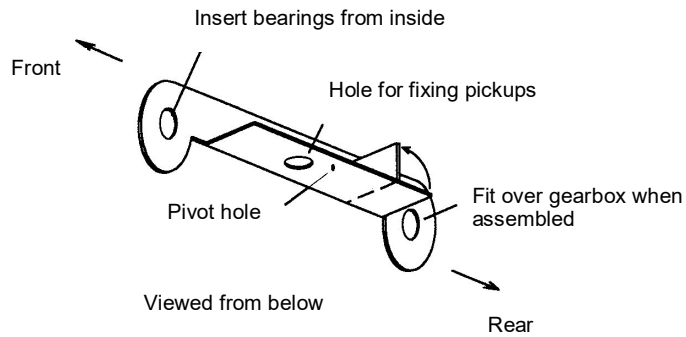
We prefer wiper pick-ups made from 26swg phosphor bronze wire as per sketch 5. The wire is soldered to PCB strip which is bolted to a frame spacer. We recommend that if possible you arrange this type of pick-up to be 'bolt on' since it allows for easy removal and adjustment of the wire wipers. Pack LS23 provides all the parts.

- The body moulding will need a little modification to enable the chassis to fit. Firstly remove the lugs under the smokebox to enable the removal of the boiler moulding. Trim the splasher backs as per sketch 6 to clear the chassis. Before refitting the boiler you may also wish to take the opportunity to add weight and to profile the underside.
- Remove the moulded lip from the back of the rear bufferbeam.
- Cut a piece of 2mm thick plasticard (or two 40thou pieces) to fit across the body as a cab floor. Drill a 4mm hole on the centreline and secure an 8BA nut in it with epoxy resin, making sure the nut does not project below the plasticard. Fix the false floor 4mm above the bottom of the valance, ensuring that the nut lines up with the hole in the chassis spacer. Drill a 2.5mm hole in a 7mm square of 40thou plasticard and glue this to the bottom of the cab floor under the nut to prevent the nut being pulled out when tightening the fixing bolt. Adjust the ride height of the loco by inserting packing between the false floor and the chassis spacer. You will find it easier to paint and add crew before fitting this false floor into the loco body.

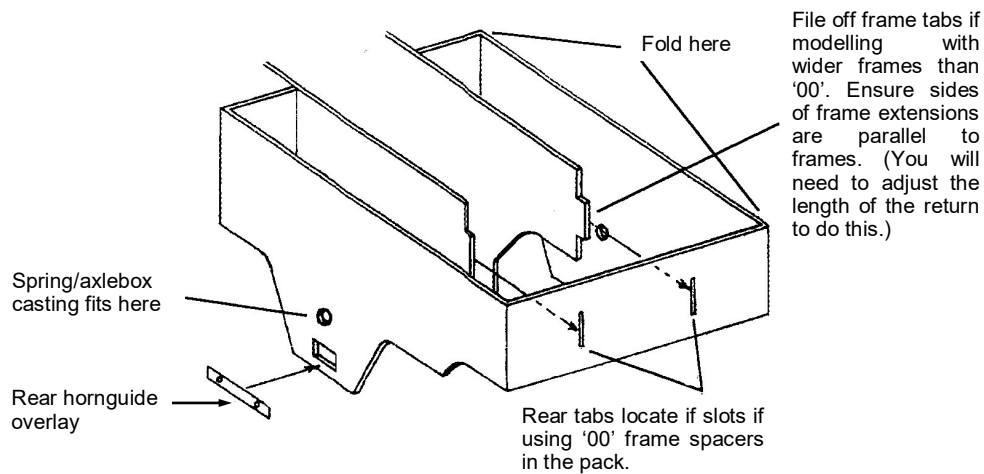
Sketch 1



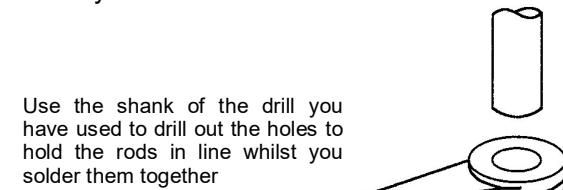
Sketch 2 Sub chassis



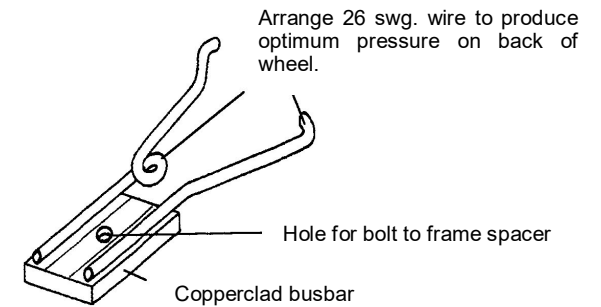
Sketch 3 Rear frame extension



Sketch 4 Coupling rod assembly



Sketch 5 Pickup assembly



Sketch 6 View from underside of body

