INSTRUCTIONS

MAINLINE HUNSLET LINDA

Thank you for buying this PDF Models kit of the Penrhyn Quarry Railway – Mainline Hunslet LINDA, please check out our website for further kits in our range.

This kit represents the latest developments in out kits, utilising both laser-cut steel & plastics in conjunction with our 3D printed techniques.

This kit requires paint, adhesives, body-filler and electronics to finish. For further advice and support on building our kits join our group on Facebook.

PART ONE – THE CHASSIS

To build this kit, you will require the following –

Adhesive (super-glue)

Body-filler

Wet & Dry abrasive paper

Selection of needle files

Twist-drill (1.6mm & 2mm)

Allen Key (1.5mm)

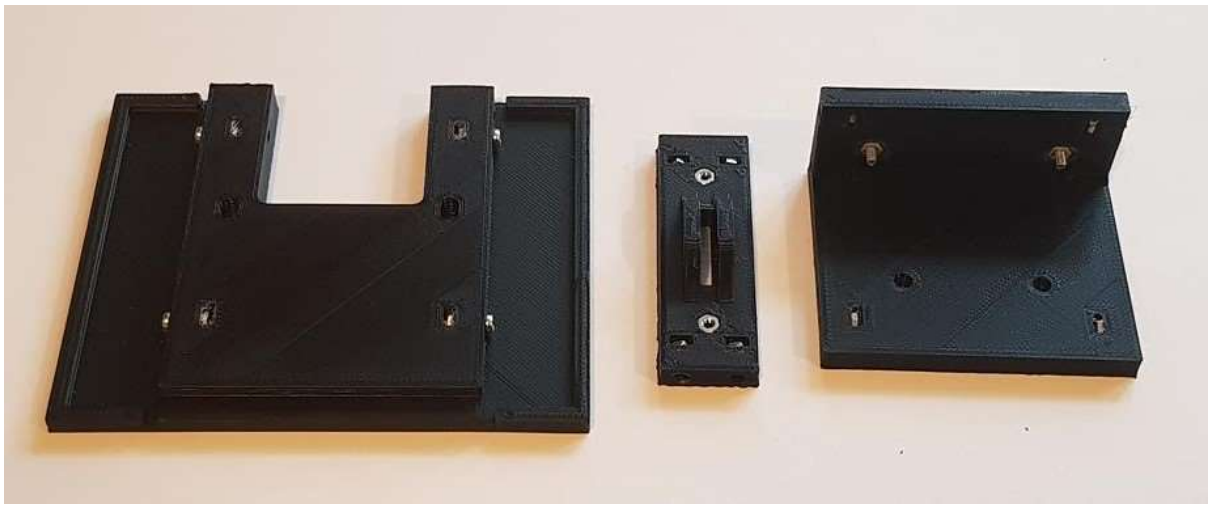
FRAMES & CHASSIS

Linda's frames are cut from 2mm steel together with the buffer-beams. The steel frames should be primed and painted. The four-axle bushes should be pushed into the frames from the same side as the countersunk screw holes. *We recommend that the frames are painted before fitting the bushes.*

Frames

Fitting the bush

The frames & buffer-beams are held together with two "printed" spacer units, back & front.



Frame Spacers & drag-box (centre)

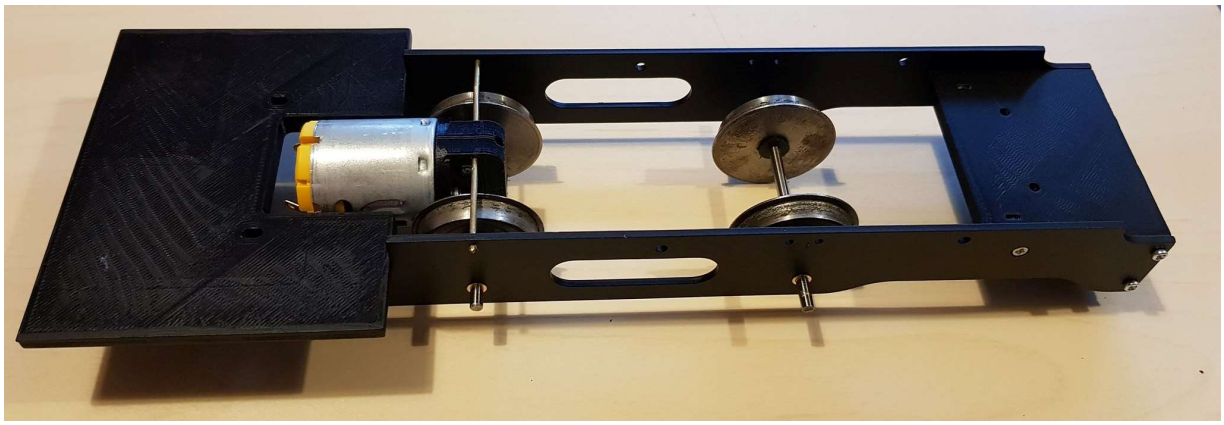
Assemble one of the side frames to the front & rear spacers. Use the “2mm x 10mm” & “10mm countersunk” screws.

One frame & spacers

Fit the wheels on to the axles – 32mm gauge back to back at 28mm – for 45mm gauge at 41mm. The wheel sets can now be fitted to the chassis and the remaining frame screwed to the spacers.

Axles & wheels fitted

Cut the 1.5mm bar to 61mm in length and passed through the frames and gearbox to secure the motor assembly in place.



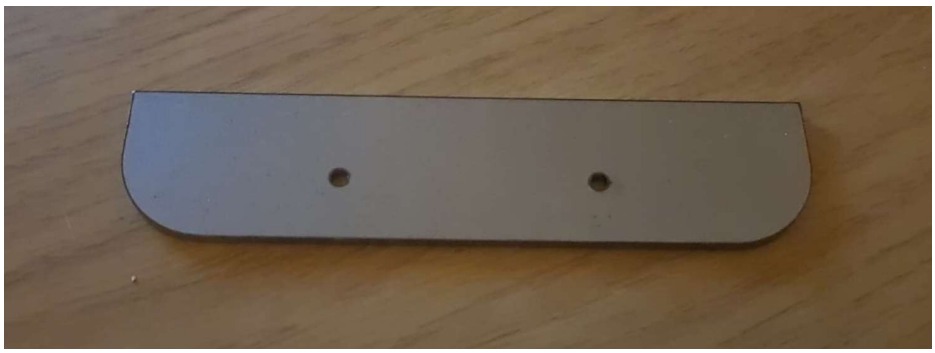
Chassis & motor assembly

Next, fix the buffer-beams to the chassis using “2mm x 8mm” screws.

Front buffer-beam

Rear buffer-beam

NOTE – There are two rear buffer-beams included with you kit. The part with a slot is for the tender, no slot is for the engine only (see below).



Engine only buffer-beam

Fill and rub-down the smokebox/chimney, glue 2x 3mm nuts inside base of the smokebox.

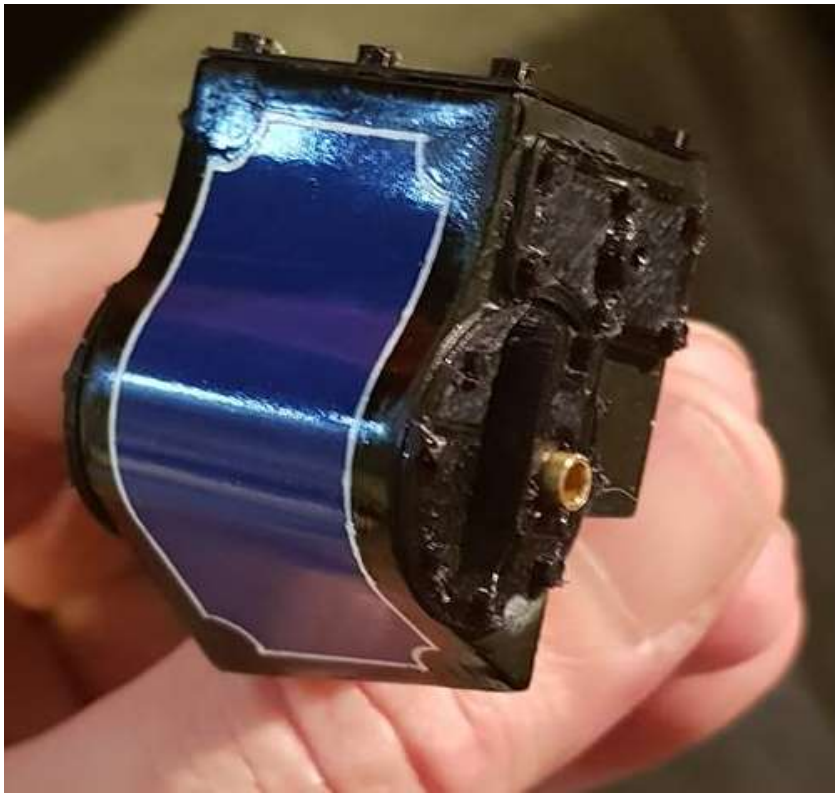
Smokebox

Attach Smokebox to the chassis assembly using “3mm x 12mm” screws.

Smokebox attached to chassis

Clean and assemble the cylinders as shown in the images. The brass tube should extend from the back of the cylinder block by 2mm.

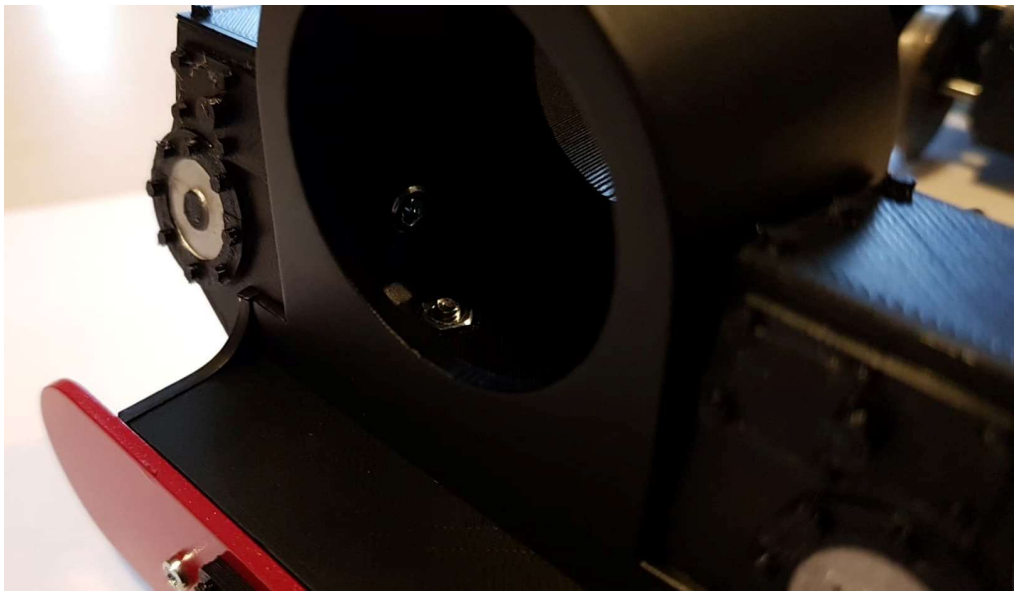
Cylinder parts



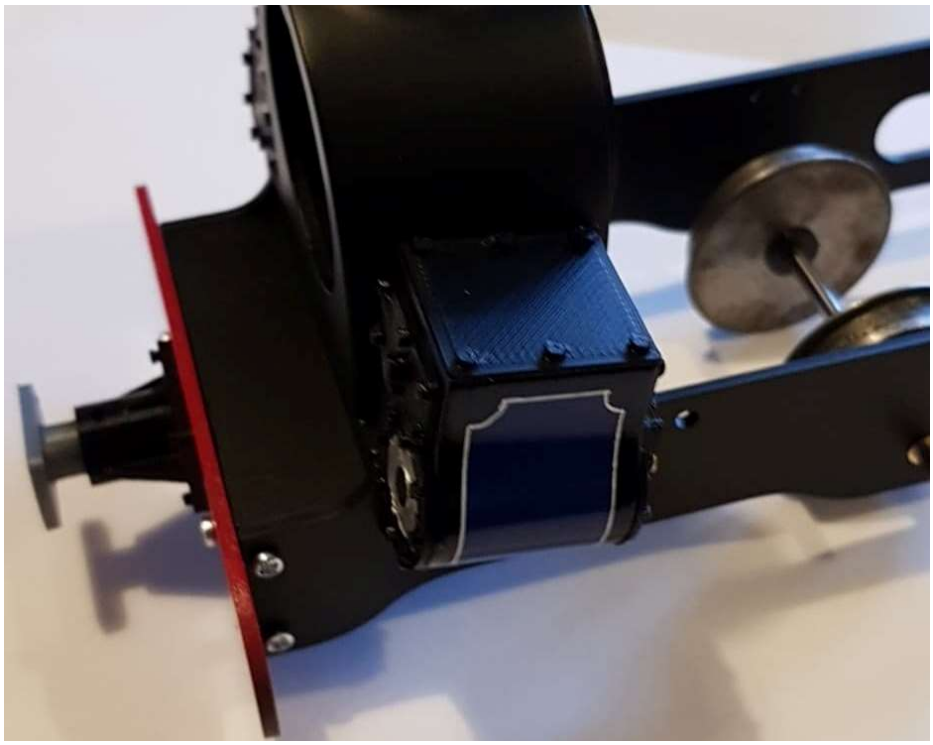
Assembled (note brass tube)

Attach cylinders to the smokebox using “3mm cap head bolts”.

These are difficult to tighten, persevere.



Cylinders mounted on the smokebox



Cylinders mounted on the smokebox

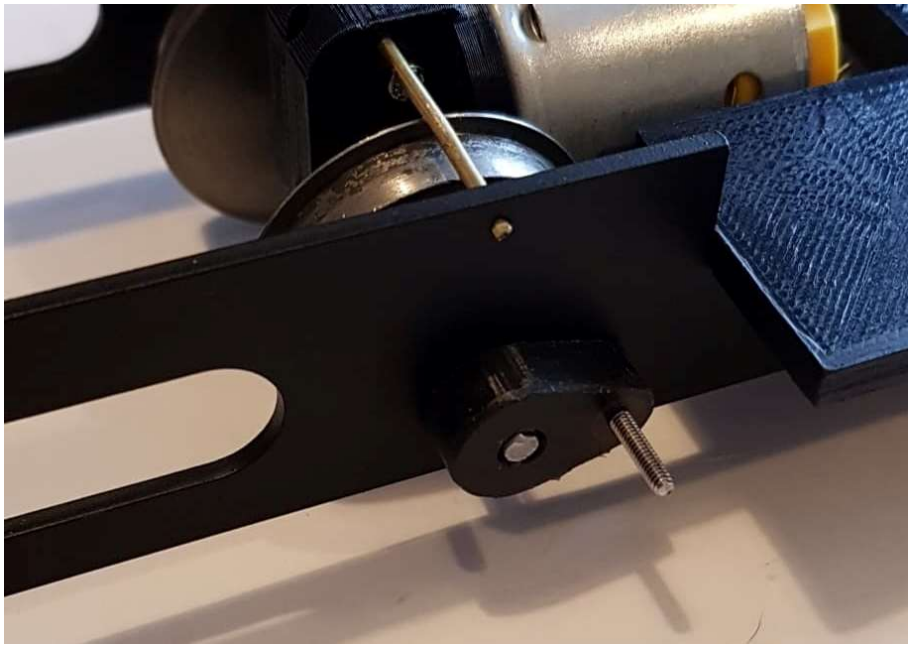
MOTION

Fit “14mm” countersunk screws *(cranks pins)* into the four cranks – the two front cranks have spacers over the crankpins.

Crank, crankpin & spacer

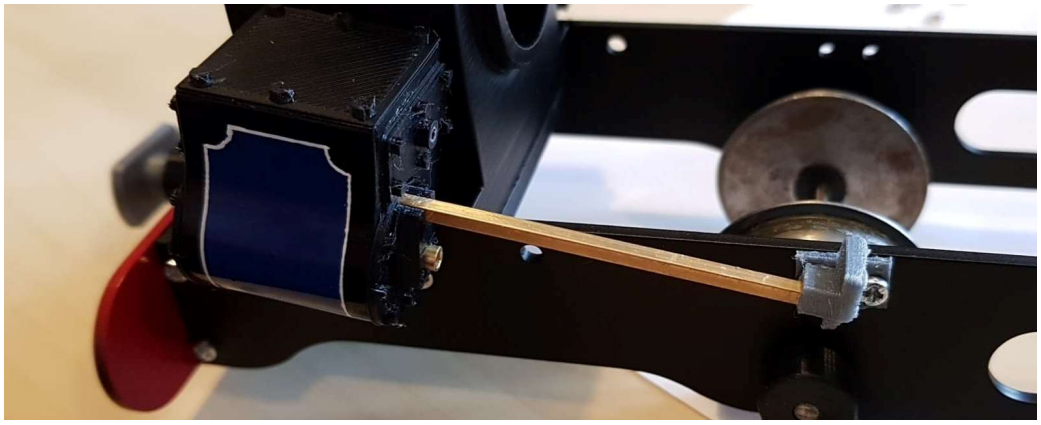
All four cranks

Fit the cranks to the rear axles at 90° to each other. You will need a 1.5mm Allen Key.



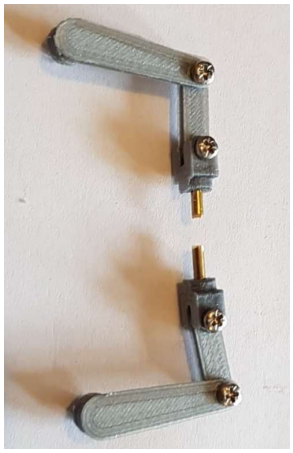
Rear cranks fitted

Fit slide-bars & holders *(left & right handed)* – do not glue in yet.

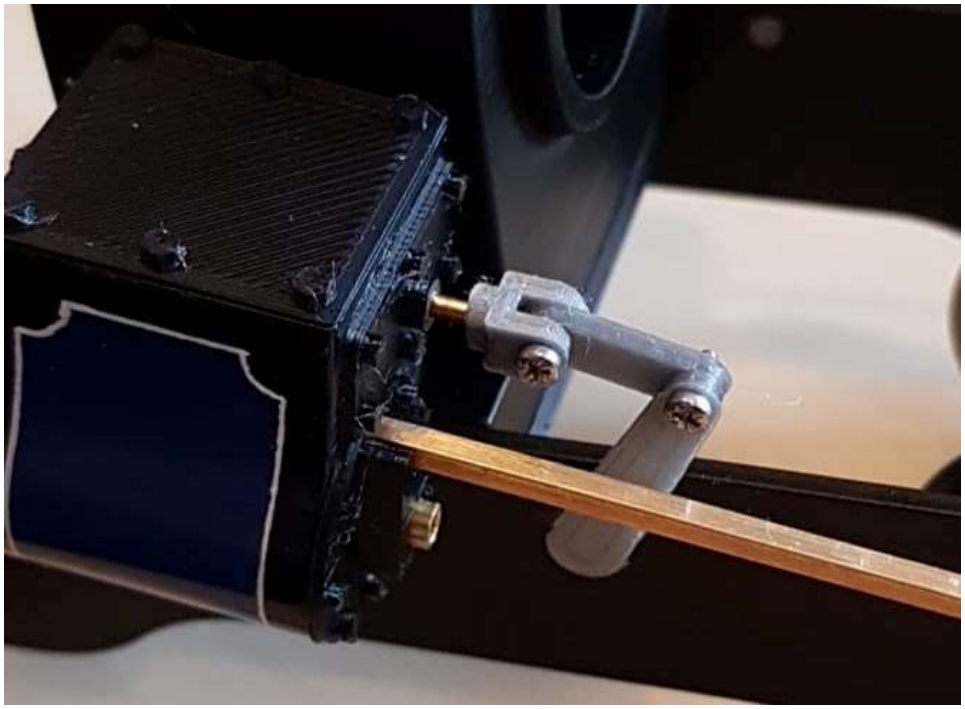


Slide-bar & holder

Rocker assembly need holes drilling *(1.6mm)* – fit together using 1.6mm screws as shown in images.

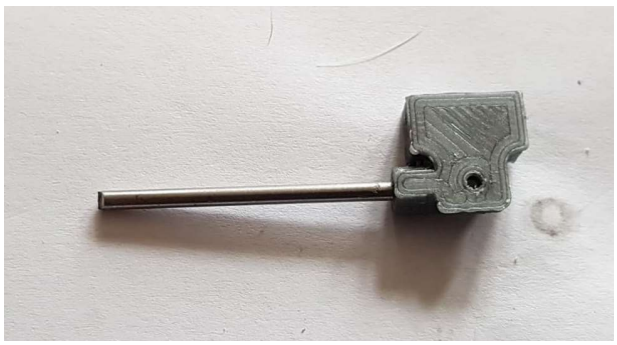


Rocker parts



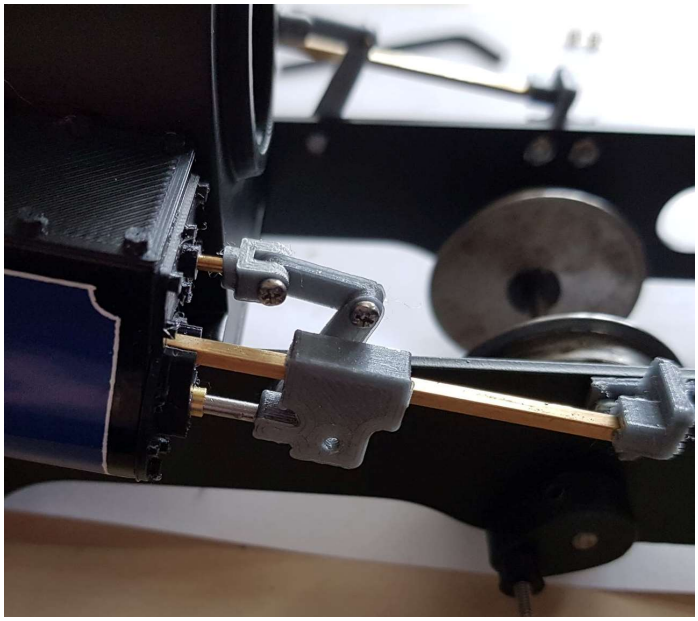
Valve rocker arm

Drill the crosshead *(2mm)* to accept the 2mm brass piston rod.



Crosshead & piston rod

Fit crosshead onto slide bar and ensure it slides smoothly up and down the bar. If it binds open up the crosshead with a square needle file.

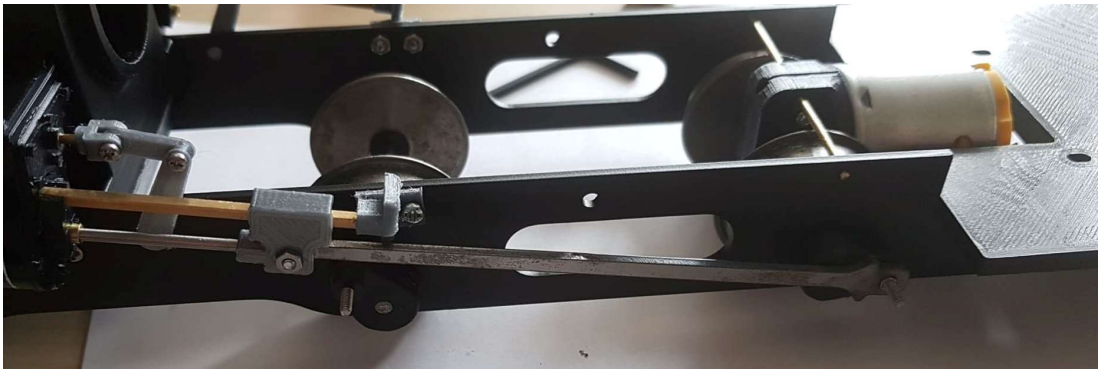


Opening the crosshead slide

Fit the connecting rod to the crosshead assembly as shown in the image. A small dab of glue on the end of the nut will ensure the nut & bolt will not loosen in motion.

The motion must now be fitted. The Mainline Hunslets have a unique set up in that their connecting rods are inside the coupling rods. This allows the cylinders to be brought closer together which in turn allows for an increased cylinder bore. This also gives the locomotives their distinctive appearance with their steeply inclined cylinders.
The rods are mounted on the crankpins over short tubes (crankpin bushes), the whole is held in place with a washer & nut.
Once all the rods are fitted the motor should be run slowly. It is likely that the whole assembly will bind. This will almost certainly be due to one of the cranks not being set correctly. We recommend that an Allen screw in one of the cranks is loosened and the motion turned over until it runs free.

The following images show the motion assembly. And that's it. Part two for the body.



A rolling/running chassis