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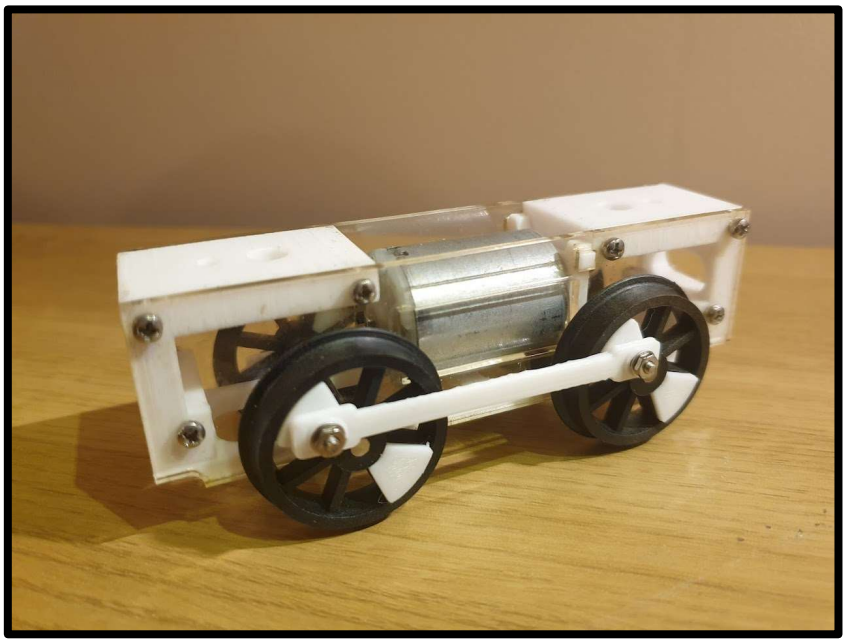
"Nō 6" CHASSIS



Thank you for buying this chassis kit from Boot Lane Works, please read all the instructions carefully before assembly.

Tools & Adhesives

I recommend a few tools to help you assemble your kit –

- Small Bench Vice
- Tweezers, Pliers, screwdrivers, etc…
- 2mm diameter twist drill
- Personally, can't manage without my small, tapered reamer, look for them on eBay!
  TAKE CARE WITH THE REAMER - MAKE A SMALL CUT, TRY, AND CUT AGAIN

Please bear in mind that this kit, although intended for garden use, is still a small power unit, designed for hauling a handful of wagons or a couple of small carriages.
We DO NOT guarantee this chassis if used for "Heavy Haulage"!

OK, let's jump straight in!

This is a long description, but bear with me. If we can get this right, everything else will fall into place and your model with run like a dream…

Locate the motor-plate and motor. Attach the motor using the two M3 5mm screws.
The slot in the face of the motor-plate faces away from the motor and is there to give clearance to the axle drive gear.
DO NOT screw the motor up tight, you need some play to fit the axles later.

Now locate the two frame stretchers and the two acrylic frames.

NOTE – The acrylic is brittle and will break if not handled with care.

Using the M2 8mm screws, screw one of the stretchers to a frame. The screws will self-tap into the printed stretch piece. Then attach the other stretcher to the other end of the frame.

Offer the motor & motor-plate to the frame assembly.

The slots in the frames give clearance for the motor, which is otherwise to wide to be accommodated within the frames, and you will need to do a little juggling to attach the second frame.

That wasn't too bad, was it?
Let's do the wheels!

There are eight printed inserts for the Binnie wheels, two inserts for each wheel, one with a hole for the crankpin and the other, a counterbalance weight. The inserts push into the wheel from the front and are a good tight fit, but not so tight as to push the wheel out of shape! I found the best way to fit the inserts is to offer them both to the wheel (they have very slight tapers to help you get started). With the two inserts in position, place the wheel and inserts into a vice and squeeze the whole assembly together.
Do this for all four wheels. You may wish to tidy the wheels a little at this stage. Binnie wheels tend to have slight flash marks on the flanges, part of the injection process. I use a file to tidy up the wheels.
Next, add the crankpins. There are 4x M2 12mm conehead screws

Do one wheelset at a time.
You will need two wheels, two 12mm conehead screws, the ⅛ inch axle with the gear and two brass top-hat bushes.
Screw the 12mm screws into each insert.
Slide a bush onto the axle, the lip of the top hat towards the outside, or wheel.
Next, start pushing a wheel onto the axle. *I use my taper reamer to open the hole in the wheel very slightly, to create an easier start.*
Repeat for the other side, then using your vice, squeeze the two wheels on the axle.
We are looking for a "back-to-back" measurement of 28-29mm. *This means the distance between the back of the two wheels.*
Now do the other wheelset, you should have the ⅛ inch axle with no gear. Don't forget the bushes.

Let's quarter the wheels.
This is easy, don't get worked up over it…

Locomotive driving wheels are quartered. That's to say, the cranks are at 90° to each other. Both wheelsets must be quartered identically to each other. Here's how we are going to do it.

Although the wheels are tight on the axles, they can be twisted. Try it.
Move the wheels around so they are approximately 90° to each other.
Now place one wheelset in the vice so that the jaws grip the edges of the inserts. The rest of the wheelset pointing upwards.
Ensure that whatever you do, repeat for both wheelsets…
I placed my wheelset in the vice, jaws griping the inserts and the lower crank towards my left, then I twisted the top wheel around so that it's crank was at the top of furthest away from me.
With the lower wheel firmly in the vice it is easy to look over the top and see if the top wheel is at 90° to the bottom!

That's it, repeat for both wheelsets. Check your back-to-backs, and then your quartering, again.

The wheelsets will now drop into your chassis.
The lip of the bush should sit outside the frame and is kept place between the wheel & the frame.

Locate the printed retaining plate.
It sits in between the frames and screws to the bottom of the stretchers. The plate follows the shape of the frames, and its purpose is to keep the wheelsets in place, pushing up against the bushes.

We're on the home stretch now!
Let's fit the rods.

Locate the four ABS crankpin sleeves. These have been cut to the correct length for your crankpins, there are two lengths, the short ones are for the short crankpins, the longer ones for the long crankpins!
We have supplied two spare rods in your kit.

The sleeve fits over the crankpin, and the rod fits over the sleeve.
An M2 washer fits on the end of the sleeve and the M2 nut captivates the rod while allowing it to move freely on the sleeve.
The bore holes on the rods are reasonably loose on the sleeves, to allow for inaccuracies in the quartering. But, still tight enough to give smooth operation.

With everything together, it's time to adjust the motor.
Try and allow a little play between the worm and gear. Do not push them to tightly together as this will wear the worm. A little play here is a good thing.
Having said that, if the two are too far apart the gear will strip the worm…

A PDF copy of this document can be downloaded from – www.bootlane.org.uk/instructions

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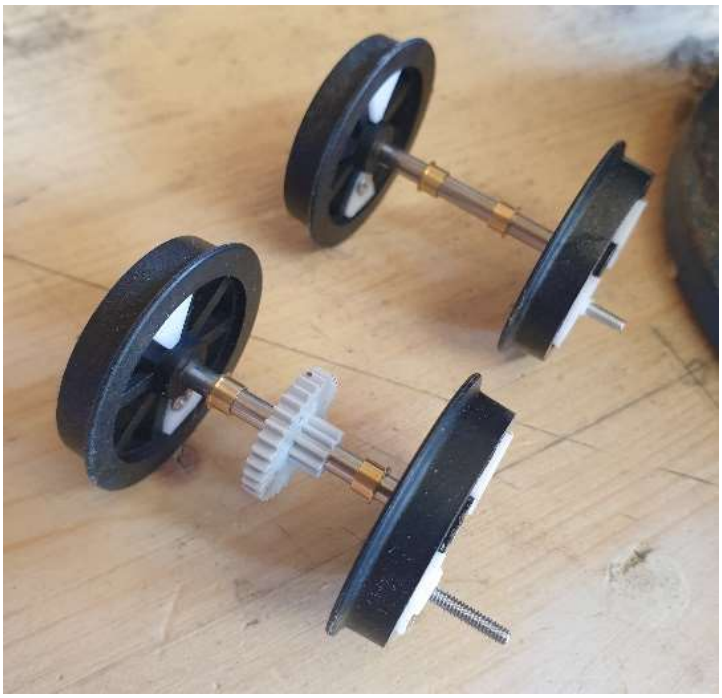

Image is of a loco wheelset (note the longer crankpins on one wheelset, not relevant to the "Nō 6" chassis)