BOOT LANE WORKS
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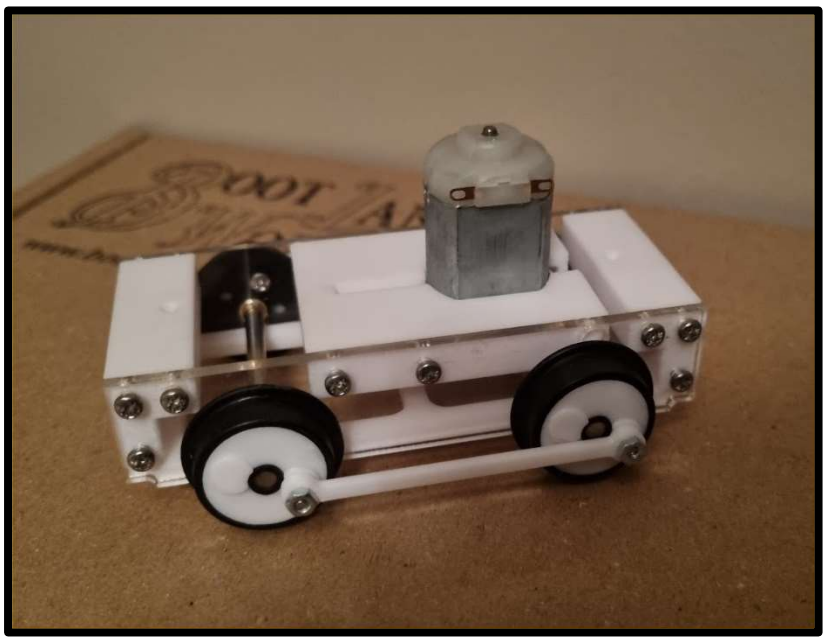
"No 5 CHASSIS"



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
- Modelling Knife *(I use a scalpel)*
- Tweezers, Pliers, etc…
- Needle Files, various shapes
- Wet & Dry abrasive paper *(the mixed selection from Halfords is very good)*
- Selection of small twist drills, including 1.5mm & 2mm diameter
- A 90-degree angle *(I use a set block, but a small set square will work well)*
- 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

I also recommend the following adhesives –

- Super Glue
  I use Gorilla Super Glue
- Dichloromethane, A liquid solvent for the acrylic
  I use E.M.A. Model Supplies "Plastic Weld"

ABOUT THE PRINTED FILAMENT
THE FILAMENT WILL SOFTEN IF IT GETS HOT - DO NOT LEAVE IN DIRECT SUNLIGHT
The printer extrudes a filament of plastic, layer by layer, to create an object. As it does so, it can leave tiny ridges along the object.

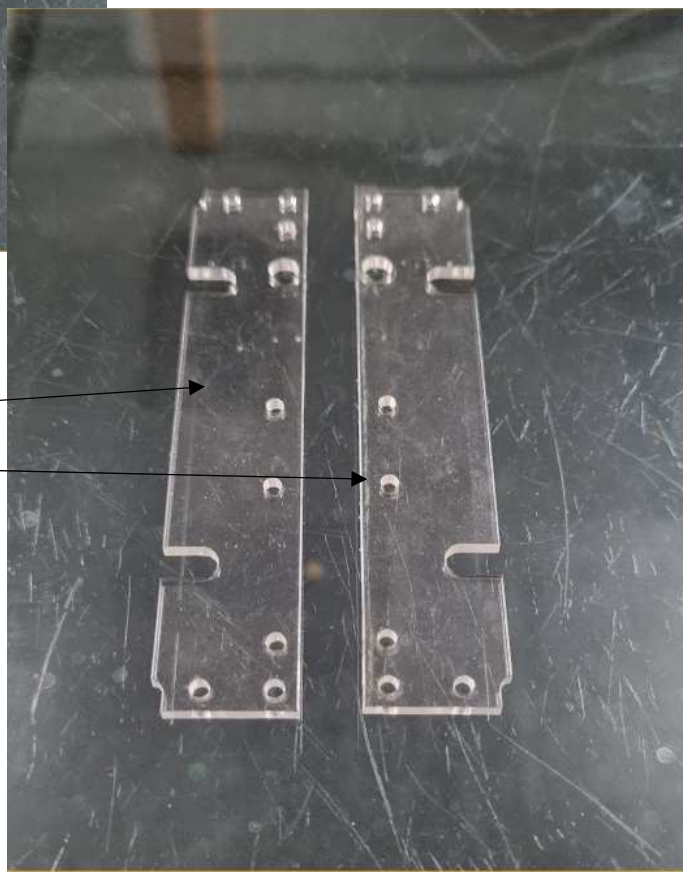
THE ACRYLIC CAN BE BRITTLE, CARE SHOULD BE TAKEN DURING CONSTRUCTION

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"!

Starting with some part identification…

NOTE: THESE INSTRUCTIONS WERE WRITTEN USING IMAGES OF THE 45MM GAUGE VERSION OF THE No 5 CHASSIS – APART FROM THE WIDTH THERE IS NO DIFFERENCE BETWEEN THE TWO CHASSIS.

1. Front & rear stretchers.
2. Motor Mount. (NO SLOT LONG SLOT IN THE 32MM VERSION)
3. Motor Mount.



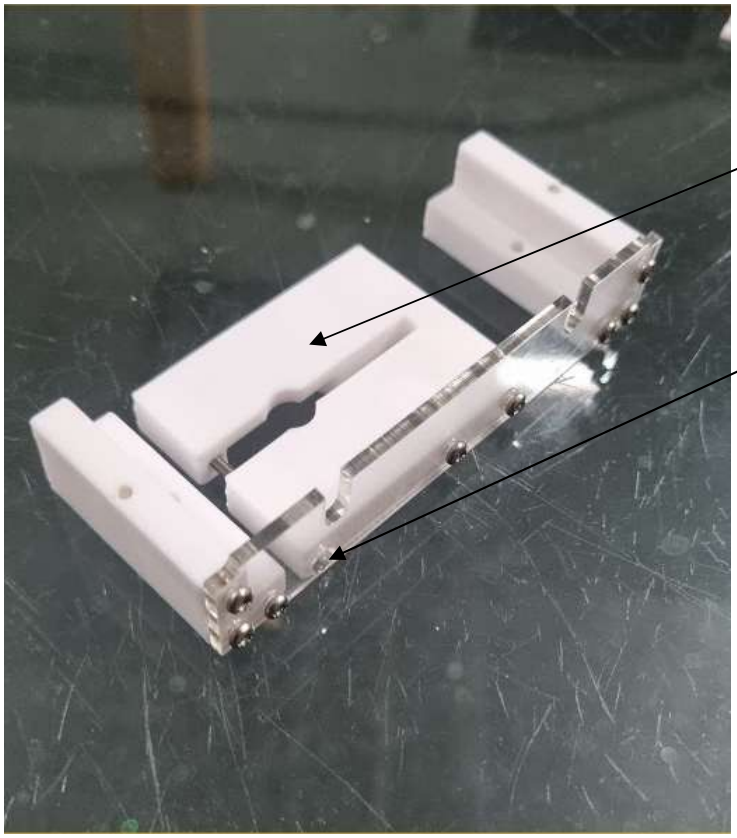
4, Frames

OK, let's build the chassis block…

Using the M2 8mm Panhead screws, attach the front and rear stretchers to one of the acrylic frames.

The holes in the filament printed (white) parts are easily tapped with the screws, but if you wish to tap the holes with an M2 Tap prior to construction, you may find the build a little easier, but it is not necessary.

The third part to attach to the frame is the motor mount. Take care, the motor mount and frames must align with each other. You need the larger hole in the frames to line up with the access hole in the motor mount on both frames.



The two stretchers and motor mount attached to one of the frames.

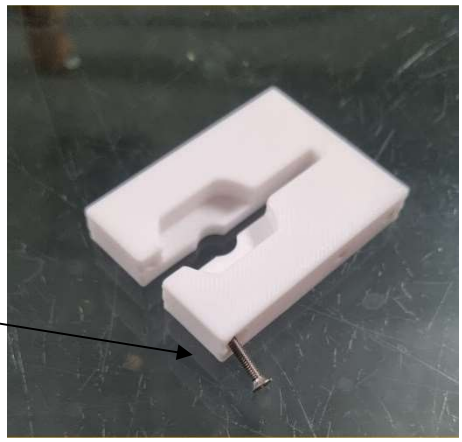
The larger hole in the frame, lined up with the motor clamp hole in the motor mount.

Repeat the process with the other frame, to build your chassis block.
Ensure the frames mirror each other.

Slightly out of order, but worthy of note is the motor clamp screw.

This is the M2 16mm Conehead screw. It screws into the motor mount and when tightened, clamps the motor into the printed motor mount.

For ease of assembly, I recommend the screw is added now, but not the motor.



Left are the parts needed to build the wheelsets.

2X axles (one with gear)

4X M2 10mm Coneheads

4X Brass top hat bushes

4X Binnie 20mm Wheels

4X Printed inserts (note: two are in grey undercoat)

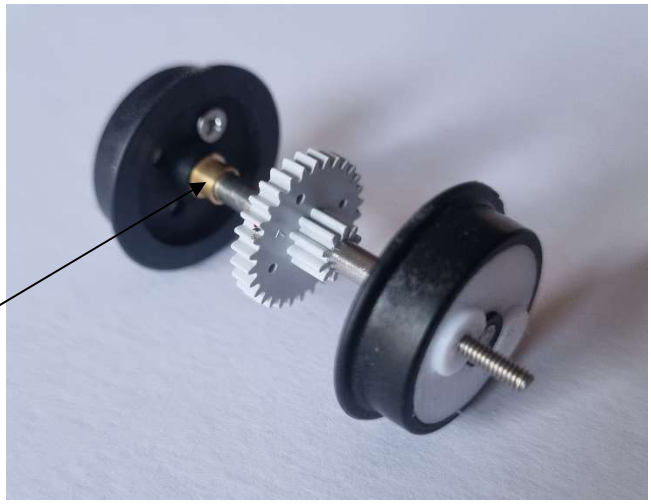
Right, let's build the wheelsets…

Using a vice, press the wheel inserts into the Binnie wheels.
Ensure that the cross on the printed insert aligns with the cross on the wheel.

Fit the M2 10mm conehead screws into each of the four wheels from the back of the wheel, through the hole in the Binnie wheel.
Keep tightening the screw until it is good & tight and will not go any further.

Squeeze the wheels onto the axles using a vice.

Remember to push the brass top-hat bushes onto the axles prior to pushing on the wheels. The bushes go on with the lip towards the wheels.



WARNING
It is very important that you maintain a "Back-to-Back" measurement of 28mm (the Back-to-Back is the distance between the back of both wheels on the one axle).

If your Back-to-Back is greater or less than 28mm, you will find the chassis binds up, and an increased likelihood that the chassis will derail in operation.

QUARTERING

This is easy, don't get stressed over it.

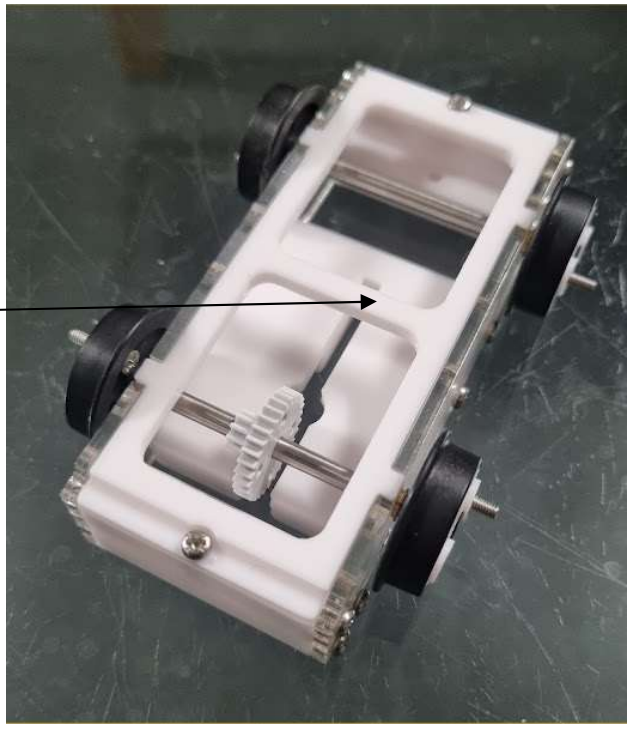
Place a wheelset in the vice, with the jaws just gripping the bosses on the inserts, as shown in the image.

Now, carefully grip the top wheel with your finger & thumb and twist the top wheel so it is 90° to the bottom wheel. *Hold the lower wheel in place also.*

You can get a very good idea of the 90° angle by looking down from the top.
Repeat the process for the other wheelset, remember to get them both pointing the same way.

Finally, drop your wheelsets into the frame assembly.
The brass top-hat bushes sit with their lip outside the frame-plates.

Lastly, place the retaining plate into the chassis assembly and screw it down with two M2 8mm panhead screws.



Well done, you're almost there,
Just the rods to do, and you'll have a chassis…

Place a short white ABS tube over a crankpin on one wheel, and a second on the same side.

Now slip a rod (there are two spare rods with your kit) over the white ABS tube & crankpins.

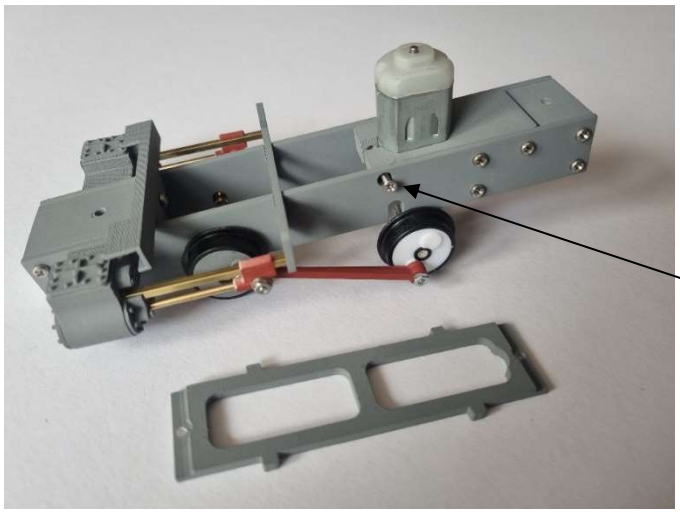
Place one coupling rod over both crankpins and using an M2 nut, captivate the rod in place on the front crankpin.

THE COUPLING RODS HAVE A SLIGHTY RAISED BOSS ON ONE SIDE, THIS BOSS SHOULD BE PLACE AGAINST THE WHEEL FACE

Hopefully your chassis should now run smoothly!

If it doesn't, the likelihood is your quartering is out, take the wheelsets out and check the quartering.

You can also try opening the holes in the rods very slightly. A small, tapered reamer can be a valuable tool here.



Once you are happy with the chassis, let's attach the motor…

THIS IS A PHOTO OF THE MINTY CHASSIS, BUT THE PRINCABLE IS THE SAME

The motor mount clamp screw (M2 16mm conehead) is accessed through the hole in the frames. You will need to either remove or drop the rear wheelset (as in the image) to access the hole.

THE MOTOR IS 3-6 VOLTS AND WILL COMFORTABLY PULL A SHORT TRAIN WITH TWO AAA BATTERIES – ALTERNATIVLY, USE A MINIB LOCOREMOTE OR MICRON RC UNIT AND FOUR AAA BATTERIES OR A 3.7V LIPO BATTERY

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