

Pi PIX-001 No soldering Chassis Kit

About the kit

The chassis kit is comprised of a fret of phosphor bronze pickups, a 3D printed plastic chassis block and keeper plate, a pack of bearings, bushes, wheels, pulleys, gears and axles and a 3D printed gauge. Only simple folding of these parts is required. Only limited gluing is required, no soldering.

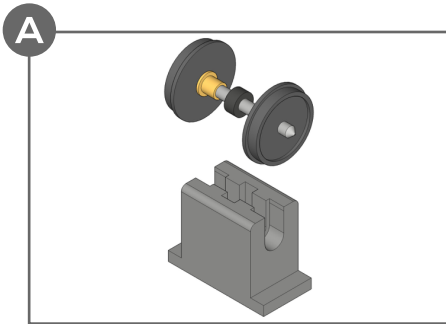
Please note this is a scale model for adult collectors and not intended for children under 14 years of age.

Specialist Items Required

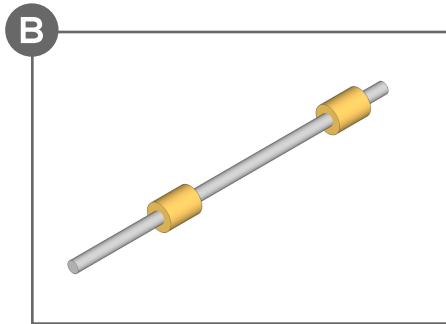
Loctite 603 (or similar)
Tapered reamer (up to 2mm)

Parts List

2 x Romford 12mm disc wheels
1 x 8x16 dual shaft high torque motor
1 x 8mm diameter flywheel
1 x small pulley
1 x large pulley
2 x V-belt (one and a spare)
1 x lay-shaft 1.5mm diameter
2 x stainless steel roller bearings
4 x brass axle bush
2 x brass worm gears
2 x black nylon axle gears
1 x Phosphor Bronze etched pick up fret (includes 2 pickups)
1 x 3D printed 'back to back' gauge
1 x 3D printed chassis block
1 x 3D printed chassis keeper plate

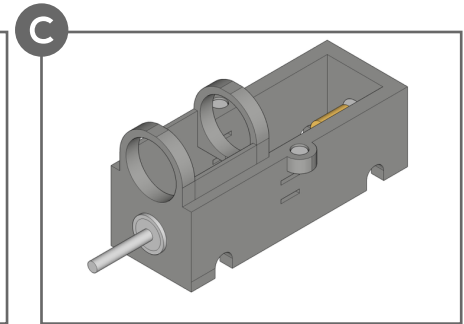


Remove one wheel from the axle. Thread one bush and slide on the plastic gear to the axle. Sliding the gear into the slot in the gauge, push the gear into the centre of the axle by pressing firmly on the wheel. Fit the second bush, and then press the other wheel firmly in place. Repeat for the second axle.

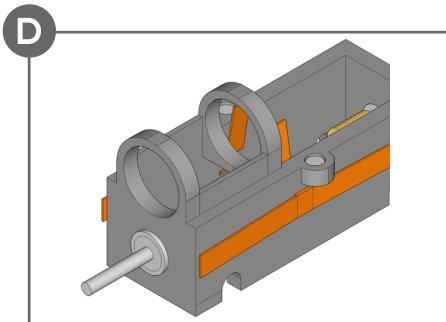


Fit the two brass worms to the layshaft, position is approximate as per template below. Use tapered reamer to ensure these are a tight fit. Secure with Loctite 603 'thread lock'. **NOTE: this is not superglue, but a retaining compound.**

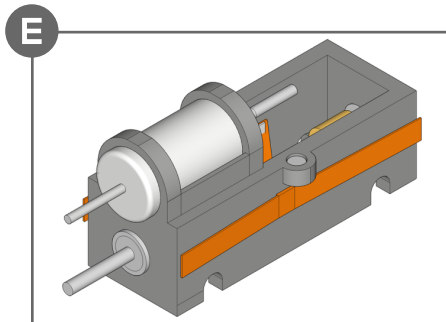
Push one roller bearing into non-drive end of chassis (opposite the two supports for the motor) this should be a tight fit. Two of the small disc magnets can be super-glued into the chassis tabs. **NOTE: If you have already fitted magnets into the body, ensure the polarity of these in the chassis will match.**



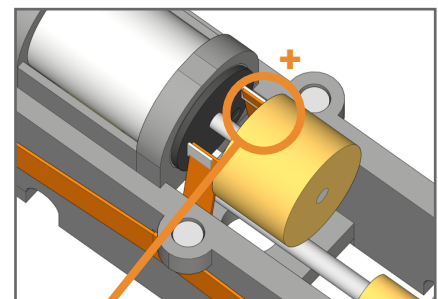
Apply a small drop of Loctite 603 to the non-drive end of the layshaft (this will have a shorter length of shaft beyond the brass worm). Push firmly into the roller bearing in the chassis so the tip is flush and wipe off any excess Loctite immediately. After ten minutes, place the chassis on a firm surface with the layshaft pointing upwards. Thread a second roller bearing onto the layshaft and push this firmly into the chassis being careful not to dis-lodge the existing bearing.



Cut pickup strips from the phosphor bronze fret, smoothing off any burrs on the tabs using a needle file or emery paper. Bend the tabs and push into the chassis block, long tab at the top, noting the tabs are not centred so the ends of the pickups are in line with the ends of the chassis. Gently bend the long tab upwards until it's approximately central, and repeat for the second pickup strip. Bend the wheel contact strips very gently outwards from the chassis block, so they will press on the back of the wheels. **NOTE: No glue is required.**



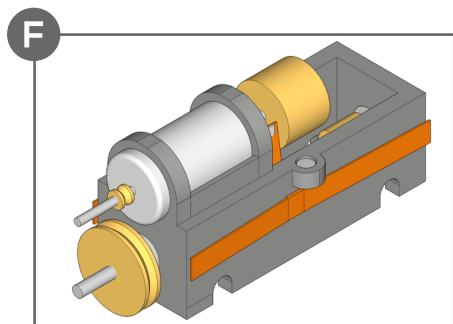
Push motor gently into the mounting with the power tabs towards the centre of the chassis. Slide this gently as it is a tight fit. **NOTE: the '+' pin has an indented circle in the assembly drawing, the tabs should be orientated as per the diagram.** Gently move the phosphor bronze pick up tabs so they push on to the power tabs on the motor. **NOTE: No glue or solder is required.**



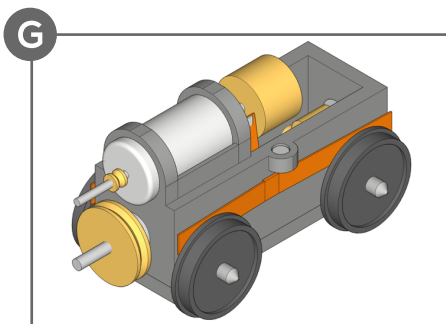
Layshaft Template

Bearings shown for information only.



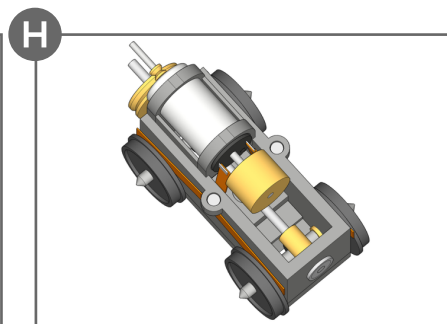


Fit the pulleys to the motor and layshaft. A tapered reamer may be required to gently ease the central holes but be gentle and check often as these need to be a tight fit on their shafts. Apply a tiny spot of Loctite 603 to the inside of the axle hole of the pulley, push onto the shaft, wipe off any excess and support the chassis so that the pulleys are the lowest point on the shaft, to avoid Loctite creeping into the moving parts of the motor or layshaft. **NOTE: When viewed from above the pulleys need to be in-line in one another to ensure the belt is in alignment. This can be done by eye. Fit the motor pulley first, and then the layshaft pulley to match. Fit the flywheel to the rear shaft of the motor. This is a tight push fit, if necessary open up with a tapered reamer, and it can be secured with a spot of Loctite 603 applied to the inside hole of the flywheel.**



Apply a very small amount of lubricating oil to the roller bearings on the layshaft, the worm gears on the layshaft and the wheel axles where they pass through the bushes.

Fit the wheels into place, by ensuring the bushes are against the back of the wheel faces, and gently squeeze the pickups so the wheel can be pressed into the frame. Once both are safely in place then press the chassis keeper plate into position firmly. **NOTE: No glue is required, do not glue this piece.**



Fit the belt to the pulleys, being careful this is not contaminated with oil, and test run the chassis. It will require gentle running in to improve it's performance. We recommend 15 minutes at half speed in both directions.

The drive has been extensively tested during design. Should maintenance be required, the keeper plate can be gently removed with a flat bladed screwdriver inserted at the mid point of the long side and gently levered away. If the belts become contaminated with oil or damaged spares will be available in the Planet Industrials range of components.

About Planet Industrials

Planet Industrials was founded in 2019 and offers a range of models, kits and components in 1:76 scale specifically suited to industrial prototypes.

This kit was designed by James Hilton, If you have any queries about the model or instructions please get in touch.

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