

Loose instructions for replacing the GT2 belts and pulleys on a Prusa CORE One with GT1.5 versions

1. Remove the lid, the door, and the side panels

- a. Remove the side panels on both sides, acrylic upper and metal lower.
- b. For the rivets, I've found an effective way to remove them is to give them a gentle squeeze with a pair of side cutters – just enough to pull the pin out a little.
- c. For the right hand metal panel, remove the two screws that hold the handle, so that the filament sensor can separate from the handle.

2. Remove the Nextruder from the linear rail

- a. Remove the LoveBoard cover (left), and the wiring cover (right).
- b. Disconnect the hot end thermistor and heater cables and remove the nozzle/heater assembly.
- c. Remove the lower nozzle clamp screw.
- d. Unscrew and remove the hot end cable clip.
- e. Disconnect all the cables from the LoveBoard, EXCEPT the main cable bundle in the largest plug.
- f. Remove the heat break fan.
- g. Remove the two screws below the Nextruder that hold the part cooling fan/duct, and remove the fan/duct.
- h. Pull the Bowden-bend away from the M5-4 fitting, release the Bowden tube from the fitting, and remove the M5-4 fitting.
- i. Unscrew the two screws at the rear of the LoveBoard assembly to free it from the Nextruder. The screws stay captive. Don't confuse these two screws at the bottom of the assembly with the two screws that hold the two halves of the assembly together - there's no need to separate the two halves of the LoveBoard assembly. Hang the LoveBoard/cable/Bowden bundle over the upper rear frame, behind the printer.
- j. Remove the three screws holding the Nextruder to the nextruder holder – remove the Nextruder.

3. Remove the GT2 pulleys and replace with the GT1.5 versions

- a. Release the tension in the belts by loosening the front tension screws – give them plenty of turns (~5-10) to make sure there's plenty of slack in the belts.
- b. For each motor, remove the four M3x35 screws from underneath the CoreXY plate. Only these motor screws need to come out – if you accidentally remove a shorter screw, e.g. one holding the motor mount to the plate, replace it – don't overtighten it, it only locates the motor mount until the motor and screws sandwich it to hold it in place.
- c. Lift the motor free of the mount – note that the wires will prevent it coming completely free, and note that the belt loop around the pulley may snag unless there's plenty of slack in the belts.
- d. Note the orientation of the pulley (they're different on the left motor versus the right), release the two grub screws, remove the pulley and replace with the GT1.5 version, in the same orientation. There is a spacer tool in the assembly kit for ensuring the correct pulley location, but note that the GT1.5 pulleys are a slightly different size, so the tool will only get you close – the

pulleys may need some further adjustment once fitted to make sure that the belt runs centrally without rubbing on either flange. If you don't have the spacer tool, position each pulley by eye to match the position of the original pulley, but make sure to check that the belts run in the middle once everything is refitted.

- e. Locate the motor back onto the top of the mount. If you're planning to use the old belts to pull through some new cut-to-length belts, make sure that there's a loop of belt around the pulley, then secure the motor with a couple of the M3x35 screws. If you're planning to feed the new belt without the aid of the old belt, leave the motor screws out, so that you can easily lift the motor free of the mount.

4. Remove the old belts and replace with the new

- a. Remove the Nextruder holder from the linear rail carriage, and free the ends of the belts from the holder.
- b. I think the best way to feed the new belts is to secure the end of the new belt to the end of the old belt with a length of electrical tape, and simply use the old belt to carefully pull the new belt through. I wasn't able to do this because I needed to fully remove the old belt in order to cut the new belt to the exact length. I now know that both belts are 1525mm in length, so my clear preference is to cut the belts to length and then use the old belts to pull them through, taking care not to let the belts separate at the tape joint. Once the belt is properly routed you can refit the remaining M3x35 motor mount screws.
- c. If you have to feed the new belts without the aid of the old belts, for whatever reason (e.g. you don't have a tape measure to measure out the 1525mm – shame on you!), then follow the routing guidance in the CORE One assembly instructions. Note that it is very difficult to feed the belt from the back of the motor mount such that it comes out of the slot at the front of the motor mount. In this case I fed the old belt through the front slot, then taped the end of the new belt to it once it was free behind the motor mount, and pulled the new belt through. Make sure that there's a loop of belt inside the motor mount and locate the motor pulley inside the loop – secure the motor with all four M3x35 screws.
- d. Follow the CORE One assembly instructions to secure the ends of the belt in the Nextruder holder – a small pair of pliers can be used to pull the free ends through if required, so that there isn't too much slack in the belts. Note that when clamped, the teeth on the belt will interlock to prevent the belts pulling out. Screw the Nextruder holder to the linear rail carriage, to clamp the belt ends, making sure that the belts are square and that the Nextruder holder sits flush against the linear rail carriage.
- e. Whilst the belts are loose, check that the X carriage is square against the front stops, and use moderate force to square it up so that both ends touch the stops at the same time, without a gap at either end.
- f. You can now tension the belts with the tension adjusters on the front of the frame – use the Prusa app or the online tensioning tool to get both sides to 85Hz, as per the factory spec. Watch out for updated guidance on belt tension though.

5. Refit Nextruder

- a. Reassembly is literally the reverse of disassembly. Follow the CORE One assembly instructions to make sure that all cables are routed correctly and all plugs are in the correct sockets.

6. Refit side panels

- a. The rivets can be re-used, but the ends of the rivet seats may need to be squeezed together with pliers to make them easier to reinsert. Note that not all parts of the metal panels may align properly with the holes due to some 'spring' in the metal folds – some persuasion may be needed to make the holes line up while inserting the rivet seats.
- b. For the right hand metal side panel, refitting the handle/filament sensor can be very difficult without an extra pair of hands. Removing the Bowden tube from the filament sensor gives some much needed extra slack, and makes it much easier. Loosely fit the screw at the rear end of the handle and get it started in the filament sensor. Then fit the screw at the front end and rotate the filament sensor onto this screw. Then tighten both screws and refit the Bowden tube.

7. Print Scaling

- a. Don't forget to use the 'M92 X98.44 Y98.44' instruction as the first line of your printer preset's 'Start G-code', so that proper print scaling is restored.