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Maintenance Guide

Printers need maintenance!

References:

- https://hackmd.io/XdDG0_2vSr6Kwaz8aGk79A

Periodic Checks

- Periodically check the printers hardware and make sure all components are properly attached and securely fastened. Check printed parts for stress signs (white discoloration) and cracks.
- Pay attention to the X carriage. You should not be able to rock the printhead up and down. If you can move it check the seating of the Quick Change Toolhead and the attachment of the carriage to the linear movement.
- Verify the proper seating of the PTFE tube, it must be inserted all the way and must not rock in and out. If the tube backs out check the filament path and coupler.
- Check the hotend, make sure it does not wiggle and is securly fasted. If you are using a V6 make sure the block is properly attached to the heatbreak

- Dust near a pully is indicative of a belt rubbing on the flange of a pully. This will introduce unwanted artifacts into the print and should be resolved.
- Periodically check belt tension. Belts will stretch during their break in period. If the belt consistently looses tension check for a hardware fault.
- Check the extruder for filament shavings and other debris. If you find an exessive amount the filament path may be obstructed.
- Relubrication of the movement is only required every few thousend hours if the recommended lubrication was used. Oil based lubrication may need to be reapplied on a much short schedule.
- Other consumeable need to be replaced on a suitable schedule. PTFE tubes on a 500-1000h schedule, nozzles and PEI as required. Refer to the Consumables section.

Consumables

3d printing filament is not the only consumable of the printer. Nozzles, PTFE tubes and the PEI print surface are also considered consumables and need periodic replacement.

Consider the shipping time for your consumables and if required stock at least one full set of replacement parts.

The PTFE tube will wear due to friction of the filament and should be replaced on a 500h schedule to ensure the best possible print results.

Nozzles will wear depending on the nozzle material and filament used or may simply clog due to dust and debris entering the filament path. Brass nozzles will wear even with unfilled filaments, consider replacing them on a schedule to ensure consistent print results.

The PEI surface may get scratched or otherwise damaged by the removal of prints. While keeping a spare sheet is considered good practice consider the ~1 year shelf life of the 3M 468mp sheets that are used to glue the PEI to the plate. In addition PEI is not immune to acetone and it will develop cracks with frequent usage of acetone.

Removing PEI Sheet

DocJeeves's method:

You will need isopropyl alcohol (IPA, 90% or better purity) I get a razor blade under the PEI sheet at a corner (or other likely spot), and work a fair bit of it up. Then I grab that lifted PEI corner with a pair of pliers, and pull. Usually the whole PEI sheet will come free, but large chunks of adhesive will remain. I spray that all down with 90% rubbing alcohol (70% may work? Never tried it), and walk away. I come back, and the adhesive is now milky white, and comes off with no fuss with a razor blade

Another method is to put in the freezer, this makes it much easier to remove.