Lumen PnP Passive Drag Feeder

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Summary

Passive drag feeder model for Lumen PnP which uses gears to pull back cover tape from advancing component strip.

Hobby & Makers   >   Electronics

Tags: feeder   lumen   lumenpnp   pnp

The **Gears** and **Spacers** should be printed in high detail (recommend 0.1mm layer height).

The **Feeder** can be printed in 0.2mm or 0.3mm layer height. No supports are needed, but I highly recommend printing with a **very large brim** to keep the model on the build plate until the bridge is completed.

These parts were tested using PLA material. The fit between the gears should be pretty snug. Since I used PLA, I needed the gears to be meshed pretty tightly in order to grip and pull the cover tape.

The feeders are assembled using 2 M3x14mm bolts and 2 M3 nuts. The bolts should not be fully tightened as this will not allow the gears to turn freely. I used a small amount of nail polish to act as a make-shift thread lock.

This feeder should theoretically work with a variety of strip heights but has only been tested with 0.8mm paper tape and 0.3mm embossed tape.

The **Feeder-Embossed** model is specially designed for embossed tapes with a thin thickness (usually around 0.3mm).

The **Tape Riser** model is designed to be printed separately at 0.1mm layer height and attached (I used super glue) to the back of the feeder channel in order to help support the tape and force it up against the sprocket wheel for proper turning of the sprocket. (See photos for placement)

There is no reel holder nor tape chute in this model.

Model files

feeder.stl

feeder-embossed.stl

topgear.stl
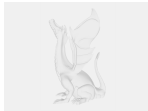
bottomsprocket.stl

topspacer.stl

bottomspacer.stl
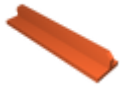
taperiser.stl

feeder.step

feeder-embossed.step

topgear.step

bottomsprocket.step
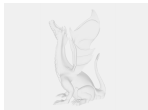
topspacer.step
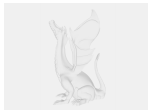
bottomspacer.step
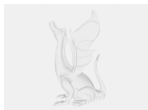
taperiser.step

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