

Reciprocating Rack and Pinion



VIEW IN BROWSER

updated 12. 4. 2022 | published 19. 10. 2019

Summary

Full tutorial: <https://learn.adafruit.com/rack-and-pinion-bot/> <https://youtu.be/96P-q38pBaU> Reciprocating Rack and...

[Gadgets](#) > [Other Gadgets](#)

Tags: [motor](#) [wheel](#) [robot](#) [gear](#) [mechanism](#) [adafruit](#) [crickit](#)

Full tutorial:

<https://learn.adafruit.com/rack-and-pinion-bot/>

Reciprocating Rack and Pinion

Learn how to create an automated geared mechanism with hypnotic motion. Use the Adafruit CRICKIT and Circuit Playground Express to make it dance! This is a mechanism for converting rotary motion to linear oscillating motion. The gear appears to bounce back and forth as it continuously rotates. As the wheel spins, the gear turns and oscillates between two tracks. It emits clacks and sloshes sound while in motion creating the sense of white noise. The teeth engage the lower track as it rotates. When it has travels the length of the slot, the teeth clears the end of the track and catches the teeth in the upper part of the track.

Adafruit Crickit for Circuit Playground Express

<https://www.adafruit.com/product/3093>

Adafruit Circuit Playground Express

<https://www.adafruit.com/product/3333>

TT DC Gearbox Motor

<https://www.adafruit.com/product/3777>

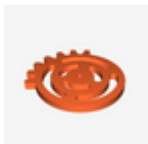
3xAA Battery holder

<https://www.adafruit.com/product/3842>

Print instructions

Licence: Creative Commons - Attribution Category: Electronics

Model files



rpb-wheel.stl



rpb-stand.stl



rpb-base.stl



rpb-motor-hub.stl



rpb-pin.stl



rpb-rack.stl



rpb-motor-box.stl



rpb-motor-rack.stl

[Find source .stl files on Thingiverse.com](#)

License ©

This work is licensed under a
Creative Commons (4.0 International License)



Attribution

-
- ✗ | Sharing without ATTRIBUTION
 - ✓ | Remix Culture allowed
 - ✓ | Commercial Use
 - ✓ | Free Cultural Works
 - ✓ | Meets Open Definition