RC Rocker-bogie chassis (Mini martian rover)

Fishbone Workshop

VIEW IN BROWSER

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Summary

Mini and bugdet robotic platform based on rocker-bogie mechanism.

Hobby & Makers   >   RC & Robotics

Tags: robot robotics rover chassis martian rocker bogie

Universal platform for robotics or RC vehicle just for fun!

This project was created as "proof of concept" of rocker-bogie chassis. It was used for testing software and mechanical properties.
If you will use this project in your scientific research, or you will print it for fun, please don't forget about posting photos in "make" section :D

What materials do you need?

Printed parts:
- mani body
- main body 2
- chassis 1 (1 + 1 mirrored)
- chassis 2 (1 + 1 mirrored)
- chassis rod

- link (4x)
- wheel (6x)

Mechanics:
- 6x 130 geared motors
- 14x self locking M3 nuts
- 3x self locking M4 nuts
- 2x self locking M5 nuts
- 3x M5 nut
- 2x M4 nut
- 12x M3x30 screw
- 2x M3x20 screw
- 2x M3x14 screw
- 2x M5x30 flat head screw
- 3x M4x25 flat head screw
- M3 Threated rod, nuts and washers for mounting upper plate (optional)
- 2x 2x10 wood screws or similar (for mounting wheels)
- 4x M2.5 screw for Arduino

Electronics:
- Arduino or another MCU
- DC motor driver (dual H-bridge)
- Any type of RC system (I used Bluetooth with smartphone app)
- basically anything you want

Assembling is really easy and straightforward. There are a few things you need to pay attention during printing and assembling.
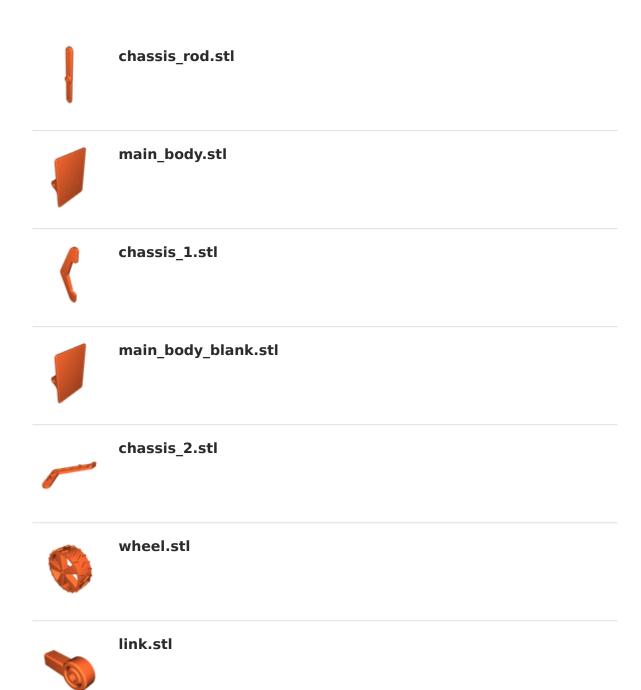
You have to adjust your printing settings for "link.stl". I separated link into 2 sections for easier printing. If you noticed that it's "glued" together, use negative XY correction in your slicer settings ("Horizontal expansion" in Cura, "XY size compensation" in Prusa Slicer)
If everything works correctly, glue it together with piece of 1.75mm filament inside. Holes should be perpendicular to each other (look at pictures).

Model files

main_body_2.stl

chassis_rod.stl

main_body.stl

chassis_1.stl

main_body_blank.stl

chassis_2.stl

wheel.stl

link.stl

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