VEX Robotics VEX EDR 393 Gear Replacement

Replace the gears in your VEX EDR 393 motor.

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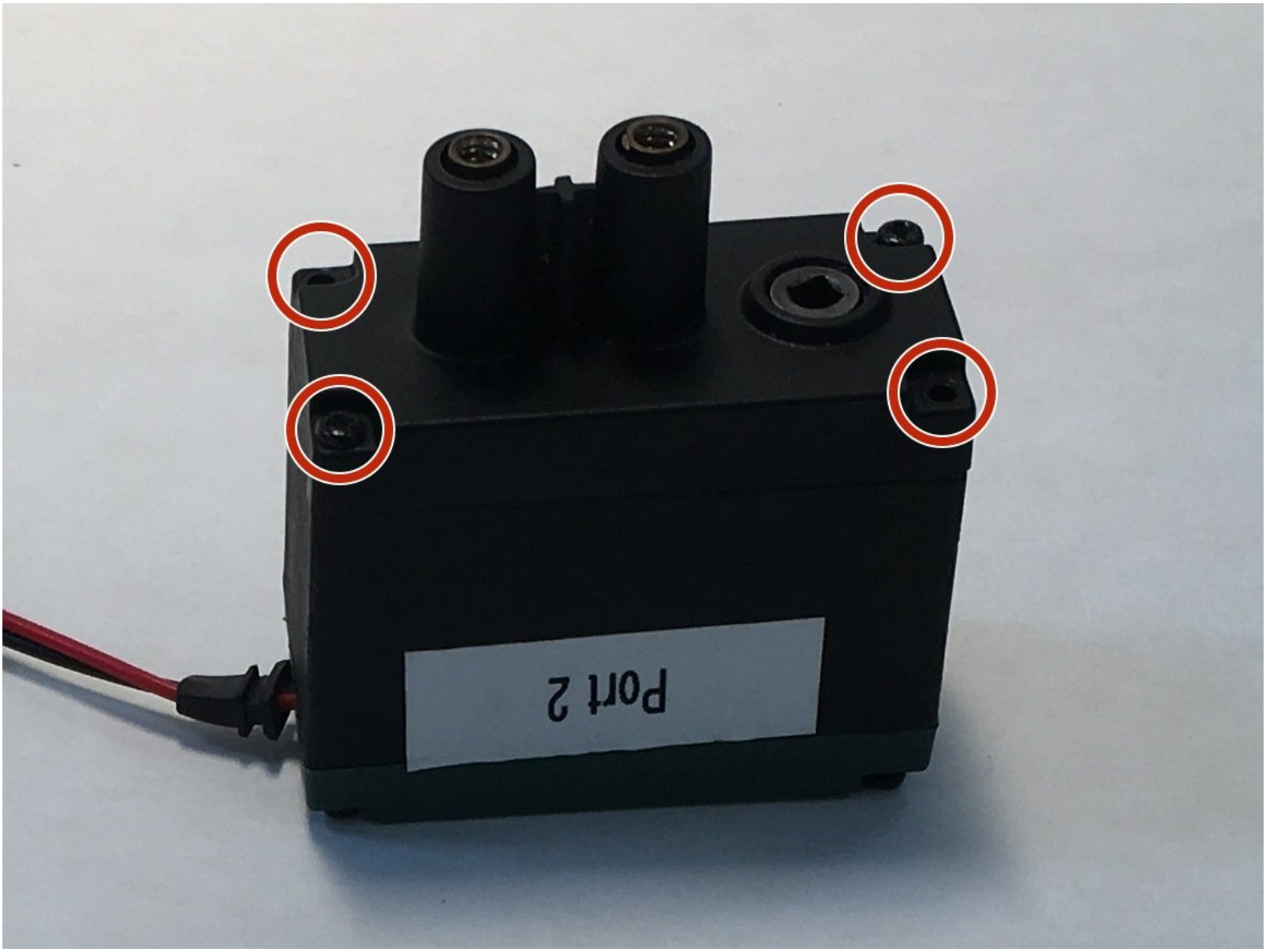


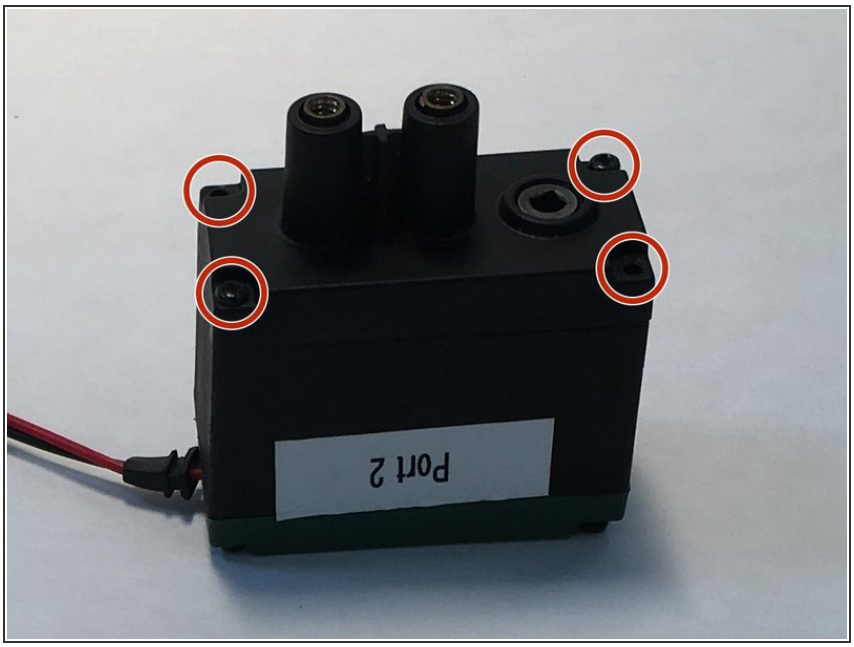
INTRODUCTION

Welcome, fellow roboticists. If you are having a strange clicking noise coming from your VEX EDR 393 motor, odds are the gears are stripped and need to be replaced. Lucky for you, the following guide shows you how to safely and properly replace the gears inside. Please carefully read and follow the steps below and you will have your motor working like new in no time!

TOOLS:

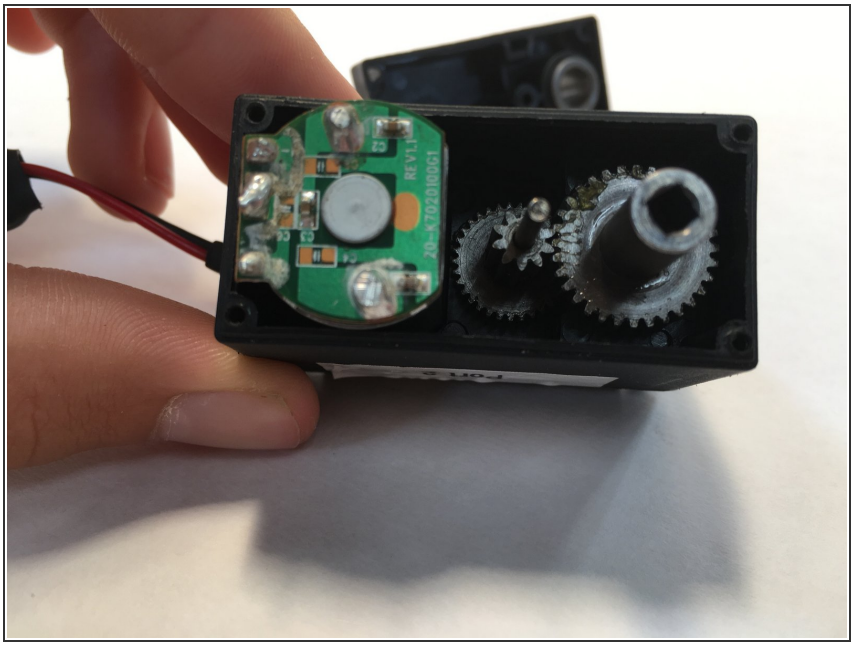
- Small Phillips Head Screwdriver (1)

Step 1 — Motor Gears



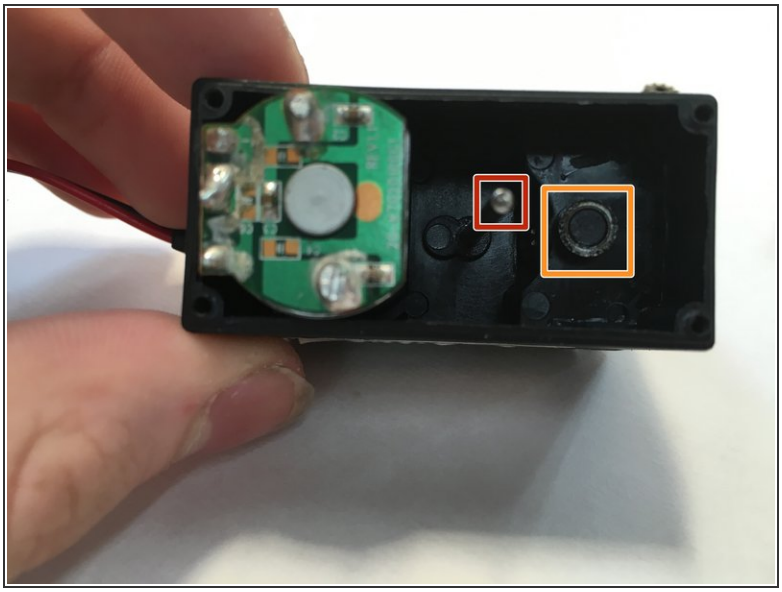
- Disconnect the motor from any other connected devices or power sources.
- Use a Small Phillips Head Screwdriver to unscrew the four screws from the black casing's corners.

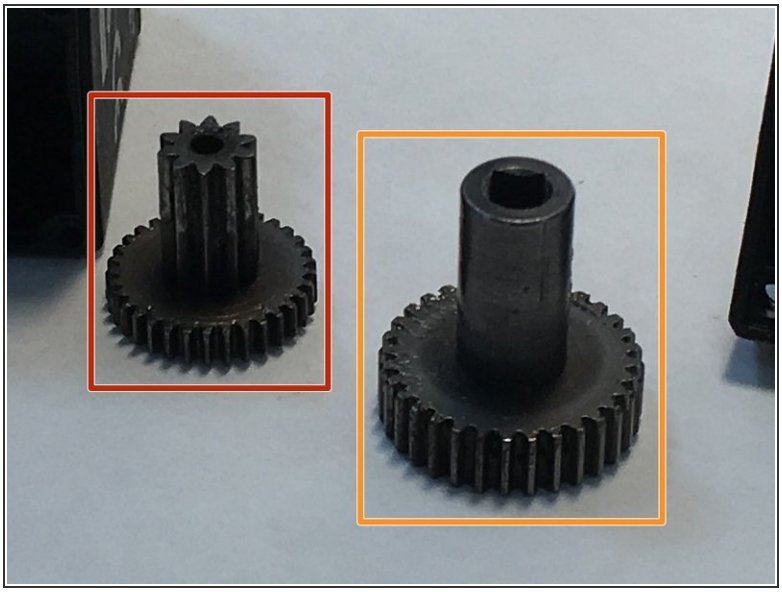
Step 2



- Pull off the black bottom casing.
- Remove the two gears inside.

Step 3





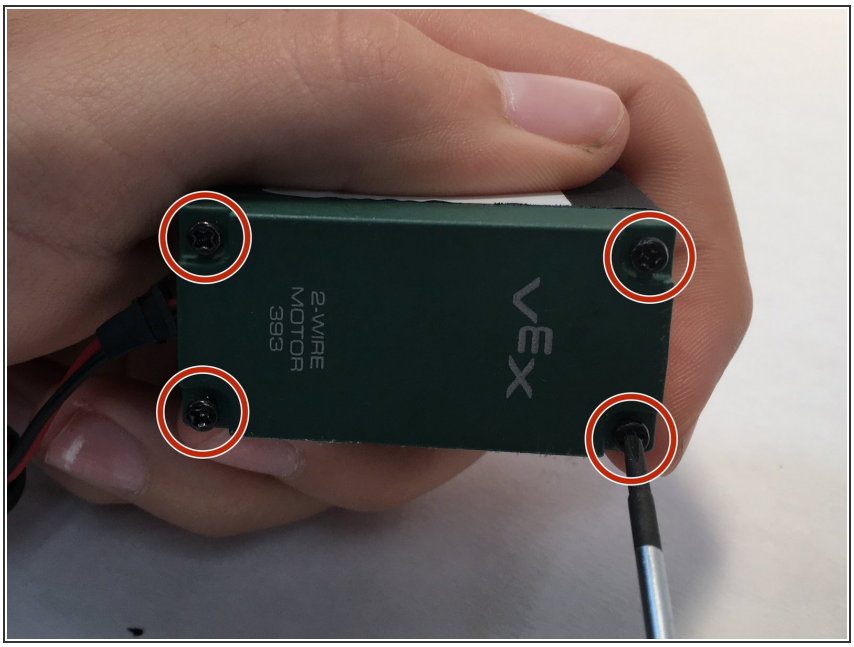
- Select the replacement gears that match the gears you just removed.
- Take the gear that has teeth on its entire length and insert it onto the metal pin. Push it all the way into the bottom of the motor. It should connect with a small gear on the bottom.
- Now, insert the larger gear with teeth on the base onto the circular plastic peg.

Make sure the gears are aligned. Spin the top gear with your fingers a few times to double check.

- Replace the black bottom casing and screws.

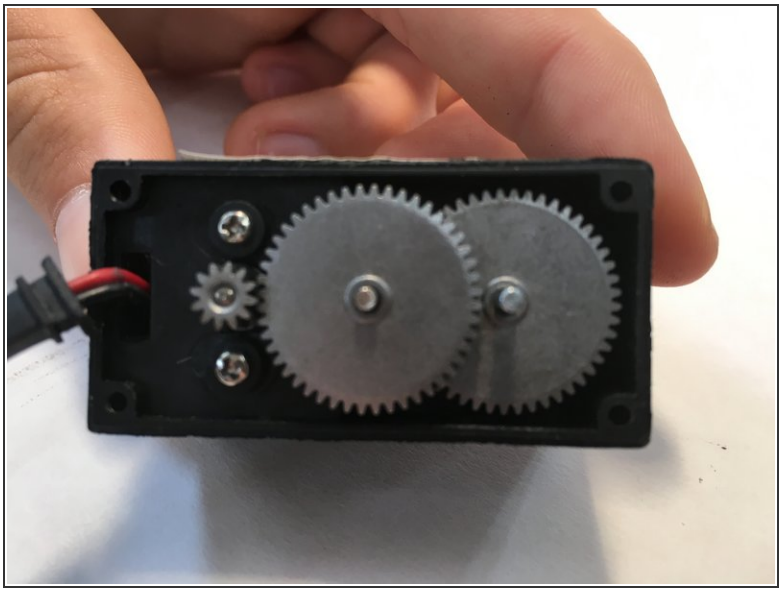
The screws are susceptible to stripping so do not over-tighten them.

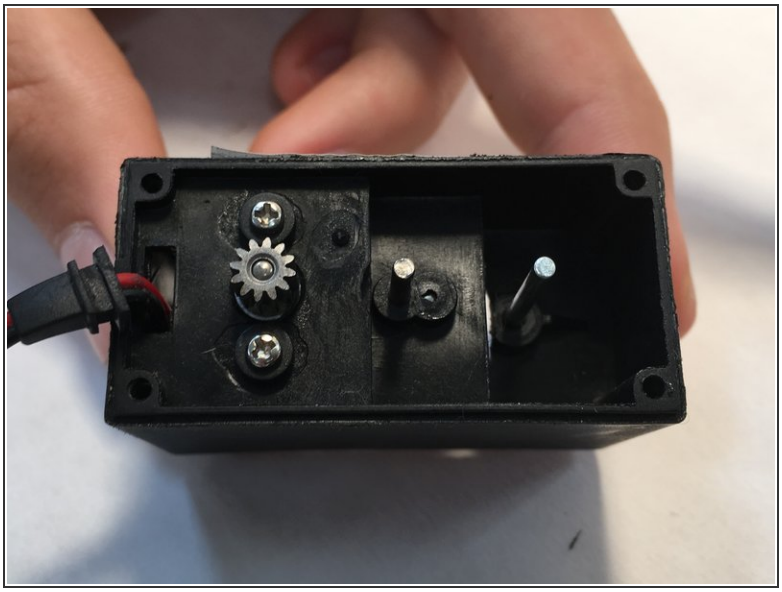
Step 4



- Use a Small Phillips Head Screwdriver to unscrew the four screws from the green casing's corners.

Step 5

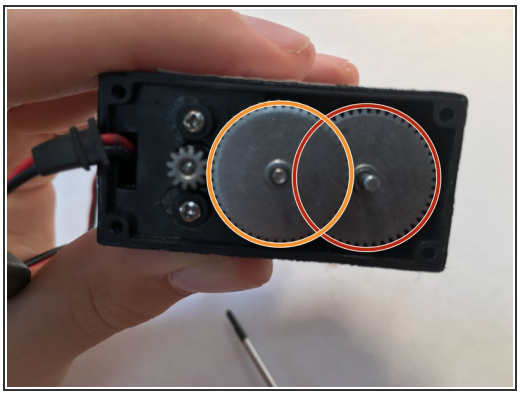
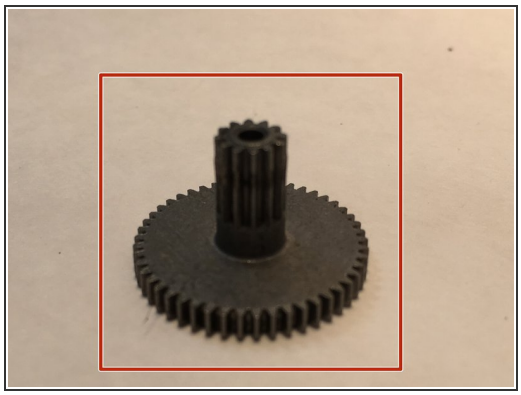
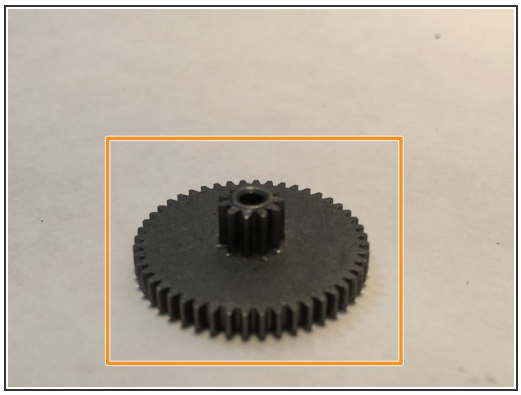




- Pull off the green top casing.
- Remove the two gears inside.

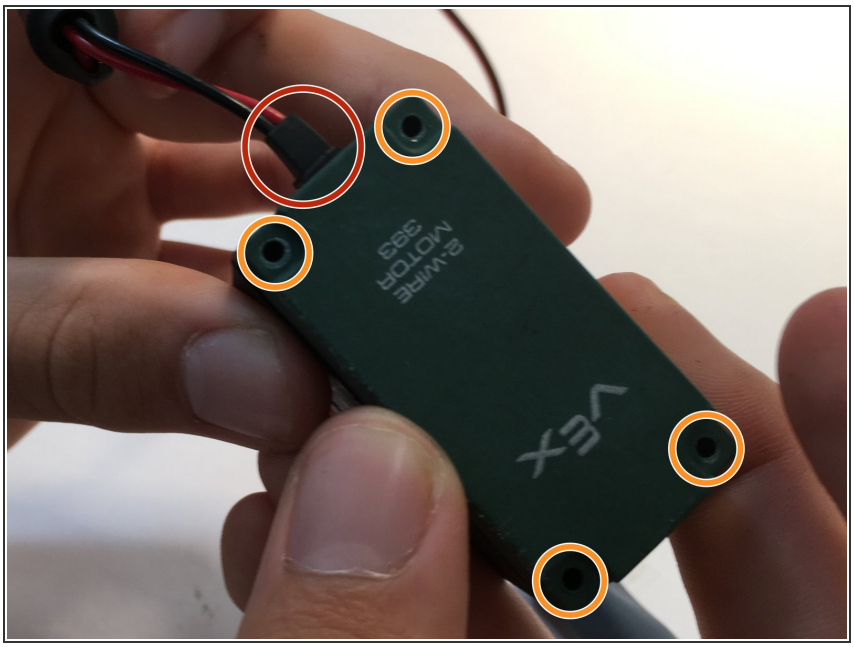
The small gear on the left is attached to the motor module itself and cannot be removed.

Step 6

- Replace the old stripped gears with the remaining replacement gears.
- Place the gear with the long stem into the larger gap.
  - Make sure it catches on the gear at the bottom.
- Place the smaller gear into the motor.
  - Make sure that it catches on both the tiny gear attached to the motor and the long stem gear.

Step 7



- Replace the green top casing.
  - Ensure the casing fits between the ridges on the wires' rubber collar.
- Use a Small Phillips Head Screwdriver to replace the four screws.

Your motor should be working again. Before reinstalling it on your robot, test it either with a backup battery or by plugging it in to your cortex. If you hear more grinding or anything out of the ordinary, reopen the motor to make sure the gears are aligned.

You can also use this process to change the gear ratio of the motor for different functions.

