# SMART ROBOT SERVO V2 - BALANCED GEAR REPLACEMENT GUIDE

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| Revision History | | |
|---|---|---|
| **Revision** | **Date** | **Description** |
| 1 | 07/31/2025 | Initial Release to FGC Teams |
| 2 | 08/01/2025 | Minor updates to formatting and content |

# 1 OVERVIEW

The Smart Robot Servo (SRS) is a metal-geared servo with the ability to replace the metal gears if they become damaged during use. Damage to the gear set can occur if the servo receives a shock load to the system. This guide explains the process of removing and replacing the gears in the REV Smart Robot Servo V2 - Balanced (REV-41-3334) using the SRS V2 Steel Servo Gear Replacement Set (REV-41-3337).

*Note: The SRS V2 Steel Servo Gears (REV-41-3337) are not compatible with the original Smart Robot Servo (REV-41-1097)*

## 1.1 TOOLS NEEDED

To replace the gear set in the Smart Robot Servo, you will **need** the following items:

- Smart Robot Servo V2 - Balanced (REV-41-3334) – QTY 1
- SRS V2 Steel Servo Gear Replacement Set (REV-41-3337) – QTY 1
- Small Phillips Head Screwdriver (Size PH0) – QTY 1

We also recommend the following items:

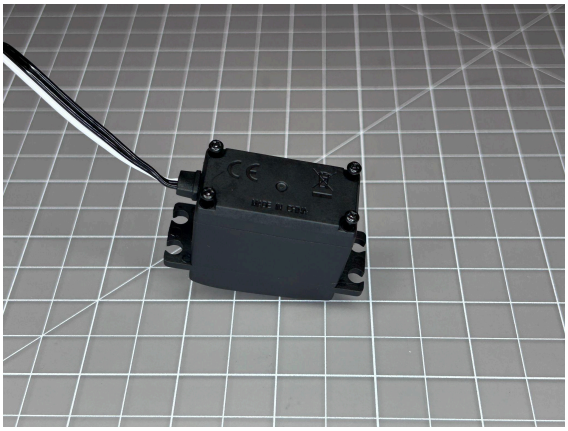
- White Lithium Grease
- Tray to hold small parts

**REMINDER**

**The SRS V2 Steel Servo Gear Replacement Set is shipped without grease applied. The servo motor needs grease to run smoothly, so make sure your SRS gears are properly greased before use.**

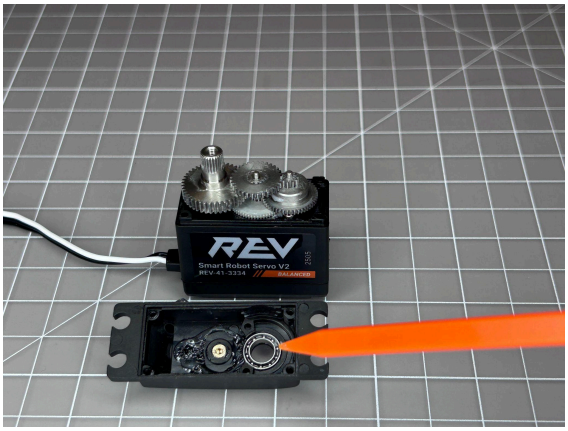
**The process of greasing your SRS gearbox is shown in Step 13. White Lithium grease is recommended.**

# 2 REPLACING GEAR SET



- **Step 1**

Flip the servo over and remove the four screws that hold the upper casing.

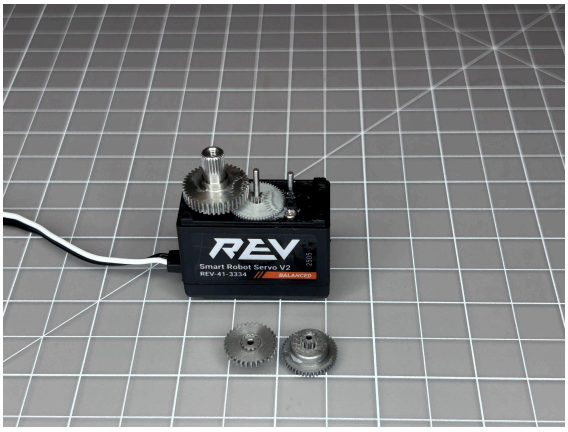

- **Step 2**

Remove the upper casing. Orient the servo so that the servo wire is to the left-hand side.

*Note: When removing the upper casing, the output bearing may stay on the output gear. Gently remove the bearing and place it back into the bearing slot.*

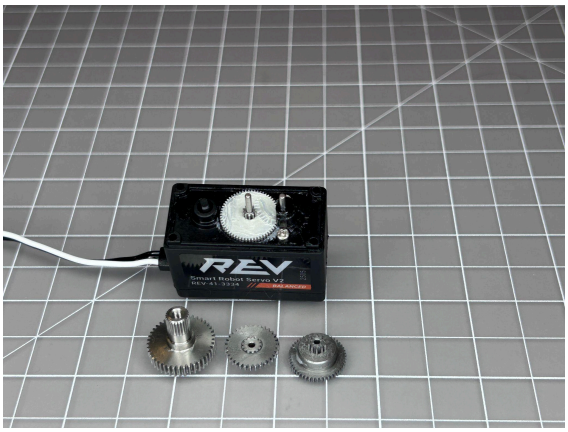
- **Step 3**

Remove the center reduction gear.



- **Step 4**

Remove the rightmost reduction gear. If the axle comes out, put it back during this step and take care to make sure it stays in place.



- **Step 5**

Remove the left gear with the output spline.

- **Step 6**

Remove the center axle from the driven gear.


- **Step 7**

Remove the driven gear. Discard damaged gears, keep the axle that was removed.


- **Step 8**

Open the Replacement Gear Set and place the driven gear in the center.


- **Step 9**

Fit the axle into the center gear. Press down to ensure the center-driven gear is seated correctly.


- **Step 10**

Notice the notch underneath the output gear, line it up before fixing it to place and pressing down.


- **Step 11**

Fit the right gear onto the right shaft.


- **Step 12**

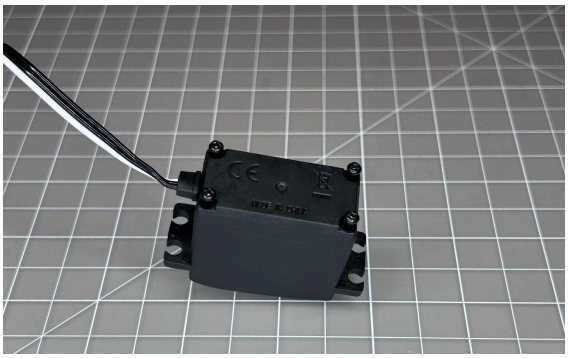
Fit the center reduction gear onto the center axle.



- **Step 13**

If necessary, add a small amount of grease to the gearbox, ensuring that it is evenly distributed throughout the gears. You may need to rotate the gears to help apply the grease.

*Note: a pea-sized amount of grease is ideal. “Pea-sized” is equivalent to a 0.25 in or 6 mm diameter sphere.*



- **Step 14**

Place the upper casing onto the servo. Then screw the casing back on.