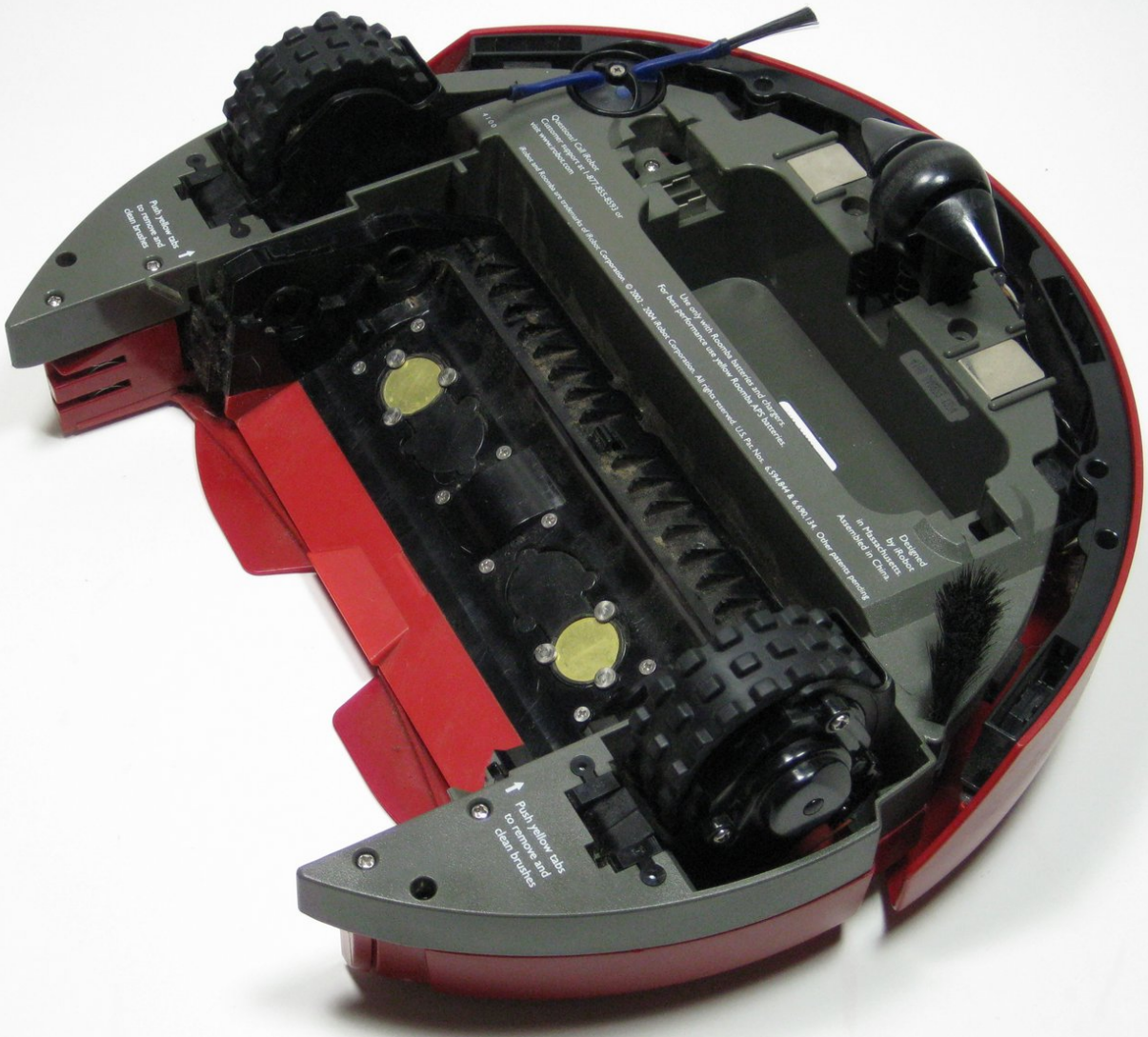




# How to clean iRobot Roomba 4100 optical sensors to fix Circle Dance

How to fix the iRobot Roomba 4100 "circle dance".

Written By: Christian



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## INTRODUCTION

This guide will show you how to clean your iRobot Roomba 4100's optical encoder. The optical encoder is used to detect cliff edges and tell the robot to back up when nearing these. When the encoder is obstructed by debris it will cause the robot to continuously back up in a circle, aka the "circle dance." Also, make sure to remove the battery before attempting to repair. Steps 1-3 cover removal of the battery pack.

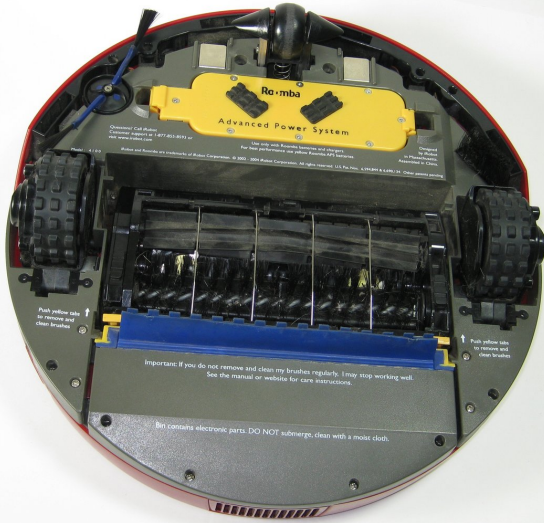
If this guide does not fix your problem or a new problem emerges, check [iRobot Roomba 4100 Troubleshooting](#).



### TOOLS:

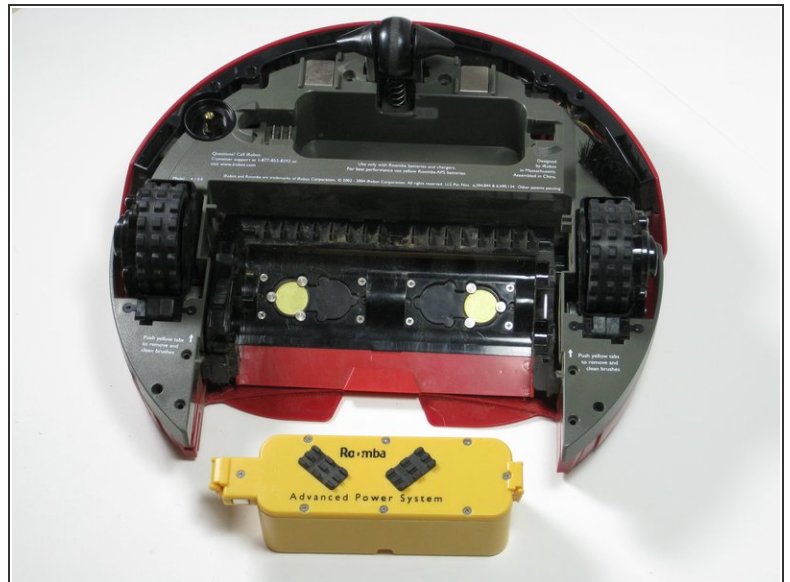
- [Phillips #1 Screwdriver](#) (1)
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## Step 1 — Battery Pack



- Turn the Roomba upside down to be able to see the yellow battery pack.

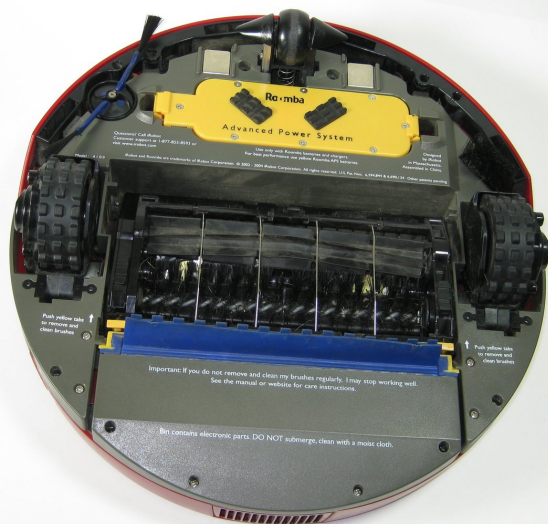
## Step 2



- Remove the battery by placing your fingers into the two holes and firmly press your fingers against both sides of the battery.
- Lift the battery directly up and out of the device.

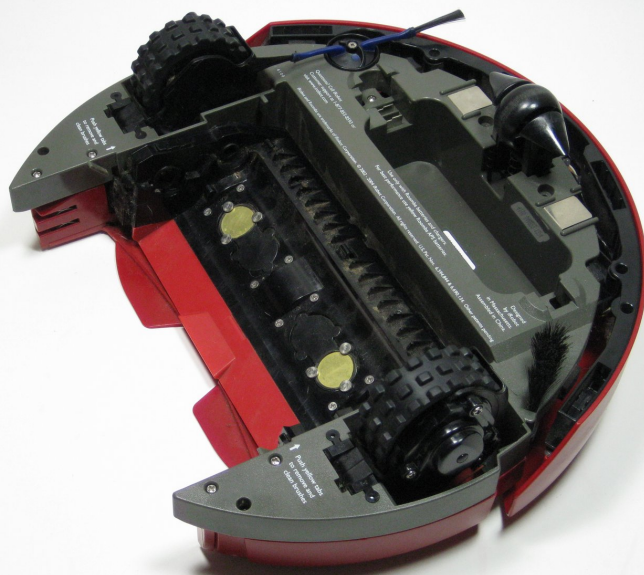


## Step 3



- ✦ Line up the replacement battery's larger tab side with the larger tab hole and the smaller tab side with the smaller tab hole.
- Insert the replacement battery into the empty space and firmly press down onto the battery until two audible clicks are heard.

## Step 4 — How to clean iRobot Roomba 4100 optical sensors to fix Circle Dance



- Begin by removing the rear particle bin.

## Step 5



- Next, locate the three screws on the iRobots hubcap/wheels. (You only need to unscrew one side)

## Step 6



- Using a Phillips Head screwdriver, remove all three screws on the side of the hubcap of the wheel.

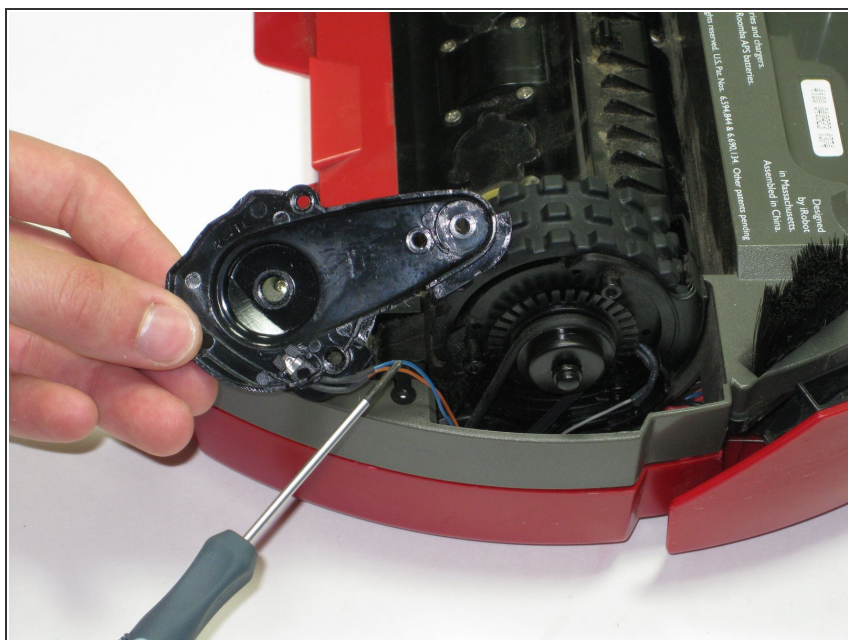


## Step 7



- Gently slide the hubcap up and out of the wheel well of the Roomba.

## Step 8



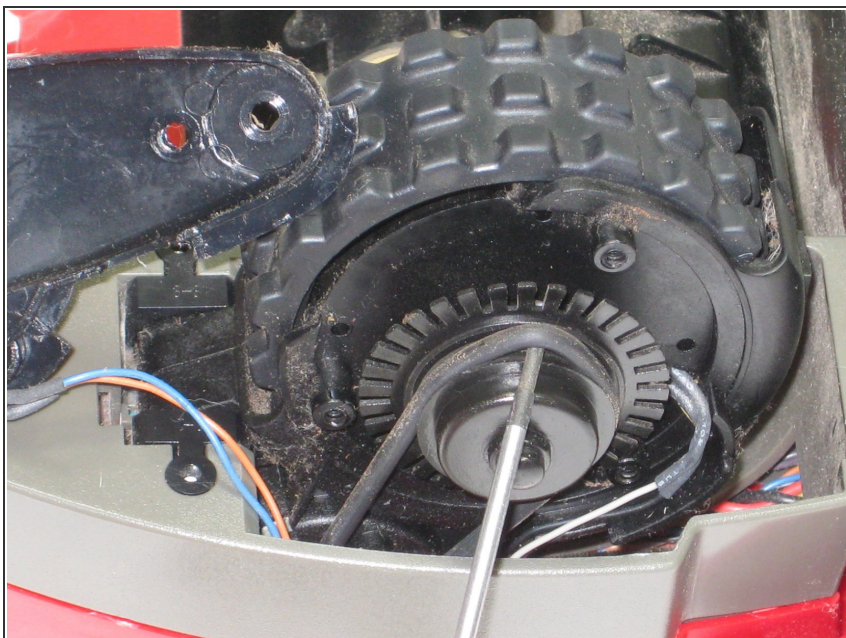
- Notice the wires attached to the hubcap. These are directly connected to the optical encoder.

## Step 9



- Using a can of compressed air, gently spray and clean the optical encoder until the dust had been removed.

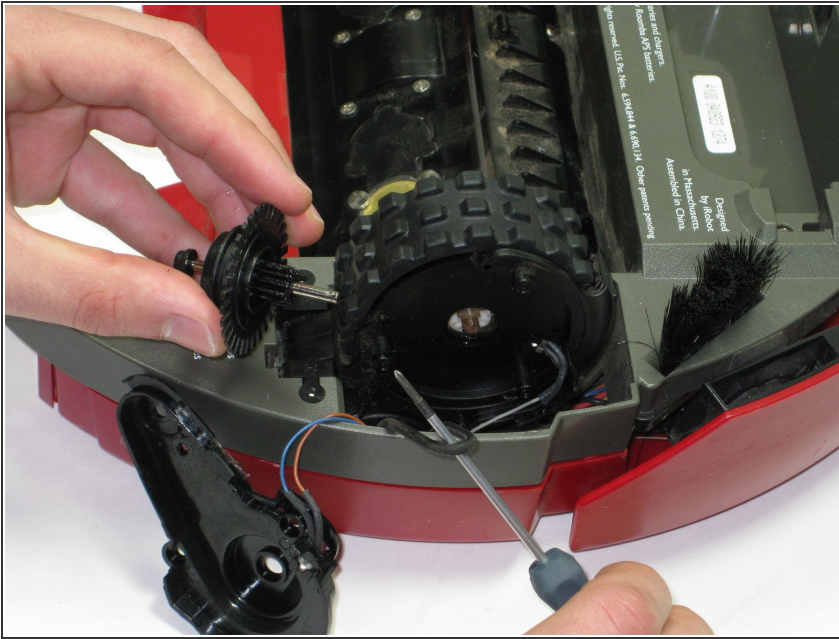
## Step 10



- Using a screwdriver, gently remove the drive belt from the gear. This is the rubber band wrapped around the gear shaft.



## Step 11



- Slowly lift the gear from the gear shaft. Make sure you do not lose the drive belt.

## Step 12



- Thoroughly clean the exposed area of the wheel using either compressed air or a moist cotton swab. Be mindful of the exposed inner drive shaft when cleaning the wheel area to prevent any preexisting dust from entering the drive shaft.



To reassemble your device, follow these instructions in reverse order.