



GETTING STARTED

Based on the excellent work of Thingiverse users whphtomas, emmett, and whosawhatsis, this design incorporates a spring-loaded arm to squeeze the filament between the drive gear and a bearing with a constant amount of pressure. We added improvements to the designs, such as a hole below the drive gear to guide the filament into the hot end.

MakerBot Replicator 2 owners will love the ease of this system for keeping filament running smoothly, and we salute the innovative MakerBot users who contributed to this design!

MATERIAL LIST

Your spring-loaded drive block replacement kit should include the following items. Check the kit and identify each item before proceeding.

Plastic parts included:

- Drive block base
- Bearing arm
- Bearing cover

Hardware included:

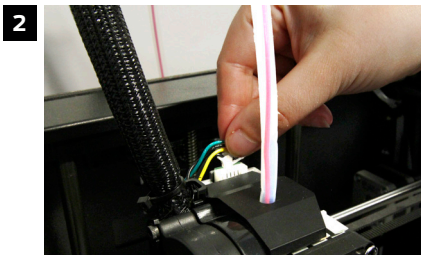
- Spring
- Radial bearing
- Shoulder bolt
- Flathead screw

This process will also require the use of the 2 mm and 2.5 mm hex wrenches that came with your MakerBot Replicator 2.

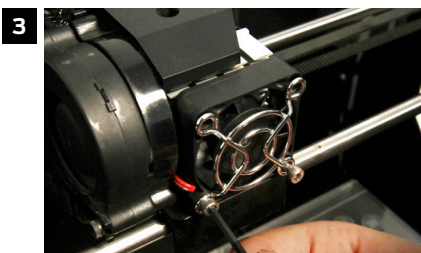
WATCH THE VIDEO

You can find a video of these instructions here:
makerbot.com/mbr2upgrade

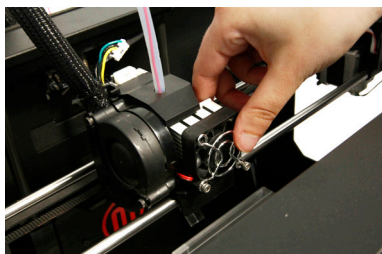
- 1 Unload any filament and switch off the Replicator 2.



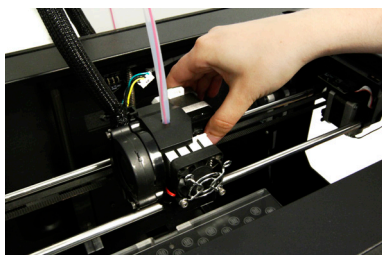
Remove the motor wire harness connector from the port at the top of the extruder motor.



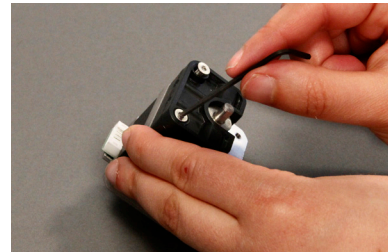
Use the 2.5 mm hex wrench to loosen the two bolts at the lower corners of the front extruder fan.



Pull the bolts, fan guard, fan, spacers and heatsink about half an inch out of the extruder as one piece. This will free the motor. Do not pull the screws out all the way. Pull the motor assembly out of the extruder.



- 4 Set the motor assembly down on a work surface. Orient it so that the motor shaft points up and the motor wire harness connector is on the side farthest from you.



Use the 2 mm hex wrench to remove the two bolts holding the drive block to the motor.



Remove the drive block. You can put the drive block and bolts aside. You will not need any of these parts to complete this part replacement.

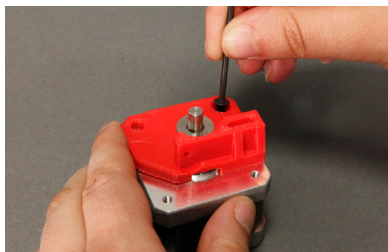


Add the new drive block base to the motor so that the flat side rests against the top of the motor, the large hole at the center fits over the drive gear, and the two bolt holes in the base line up with the bolt holes farthest from you on the motor.



How to Install Your Drive Block Replacement

7



Add the small flathead screw to the bolt hole on the right of the drive block base. Screw it in using the 2 mm hex wrench.

8



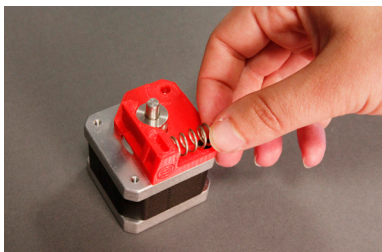
Set the bearing arm down on your work surface with the flattest side facing down. The bearing arm is roughly L-shaped, and on the short side of the L you will see a short post pointing upward. Add the radial bearing to this post.

9



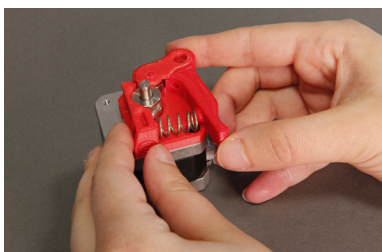
Add the bearing cover to the bearing arm so that the flat side faces up, the more rounded end fits into the round depression at the corner of the bearing arm, and the less rounded end partially covers the bearing. Press the cover on until it is flush with the edges of the bearing arm.

10



Fit one end of the spring over the round bump on the drive block base. The bump protrudes horizontally from the lower right corner of the drive block base.

11



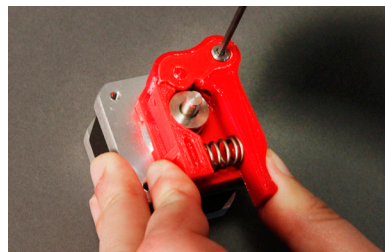
Orient the bearing arm so that the bearing is at the left and the bearing cover faces up. Then line up the corresponding bump on the bearing arm with the other end of the spring.

12



Pinch the front side of the drive block base and the long side of the bearing arm together to compress the spring. Compress the spring until the bolt hole in the bearing arm and the remaining bolt hole in the drive block base line up.

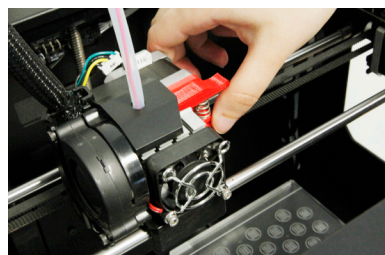
13



Push the shoulder bolt through the bolt hole at the corner of the bearing arm and the drive block base and into the bolt hole on the motor. Make sure the holes on the bearing arm and motor are perfectly aligned before inserting the shoulder bolt.

Use the 2 mm hex wrench to tighten down the bolt. You might have to push down hard on the hex wrench in order to get the shoulder bolt to thread into the hole in the motor.

14



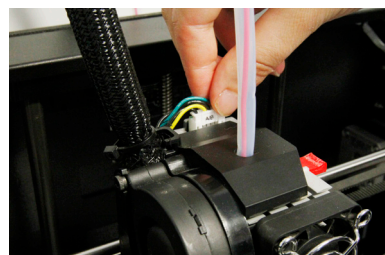
The new drive block is now fully assembled. Return the motor assembly to the extruder. Slide the motor assembly back into the extruder.

15

Making sure the fan bolts at the front of the extruder line up with the two lower bolt holes on the extruder motor, tighten the bolts into the motor using the 2.5 mm hex wrench.

NOTE: Make sure you are able to push the bearing arm down. If the bearing arm will not move, the fan bolts are probably too tight.

16



Return the motor wire harness connector to the port at the top of the motor.