



How to Module - Extruder Assembly

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TOOLS:

- 1.5mm Allen Driver (1)
- 2.5mm Allen Driver (1)
- 13mm Wrench (1)



PARTS:

- Extruder Body (1)
- Extruder Idler with 608 bearing installed (1)
- Extruder Washer (1)
- Large Herringbone Gear with Hobbed Bolt (1)
- Small Herringbone Gear (1)
- Extruder Latch (1)
- Extruder Spring (1)
- Motor - 2 (1)
- 608 Bearing (1)
- M3 x 6mm Set Screw (1)
- M3 x 12 SHCS (1)
- M3 x 25 SHCS (1)
- M3 Nut, Zinc (1)
- M3 Washer (1)
- M4 x 55 SHCS with Thumb Screw Knob (1)
- M4 Nut, Zinc (1)
- M4 Washer (1)
- M8 Nylon Nut (1)
- M8 Washer (1)
- M8 Shim Washer 0.5 (1)
- M8 Shim Washer 1.0 (1)

Step 1 — How to Module - Extruder Assembly



- Gather parts and tools for Extruder Assembly
- Photo 1 - 1.5mm Allen Driver
- Photo 2 - 2.5mm Allen Driver
- Photo 3 - 13mm Wrench

Step 2



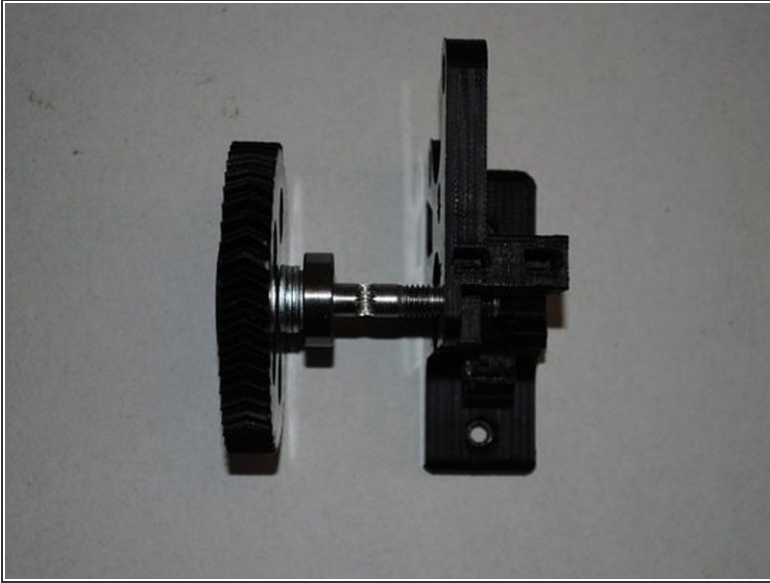
- INSTALL IDLER BOLT
- Install M3 x 25 SHCS, M3 Washer and M3 Nut into the Idler assembly
- Only put the screw in until the tip is flush with the nut
- TIP: Set M3 Nut into the hexagon cutout and hold with your finger to install the bolt

Step 3



- INSTALL EXTRUDER WASHER INTO BODY
- Place the printer extruder washer into the extruder body

Step 4



- INSTALL GEAR, BOLT AND FIRST BEARING
- Install 4 x M8 washers onto the hobbed bolt then a 608 bearing.
- Once installed, does the hobbing on the bolt line up with the small hole going through the extruder body?
- If you need to adjust it's location, you can add either a 0.50mm or 1.0mm shim washer to get the correct spacing.
- Does the hobbing line up with the hole in the center?

Step 5



- INSTALL SECOND BEARING
- On the opposite side of the gear, add a 608 bearing, M8 Washer and a M8 locknut.
- Tighten the Locknut down until the bearing is seated and there is no space between the Nut, Washer and Bearing.
- The large gear shouldn't be able to rock back and fourth but should spin freely.
- Does the gear turn freely?
- Does the hobbing still line up with the hole in the body?
- Record what type and how many washers were used.

Step 6



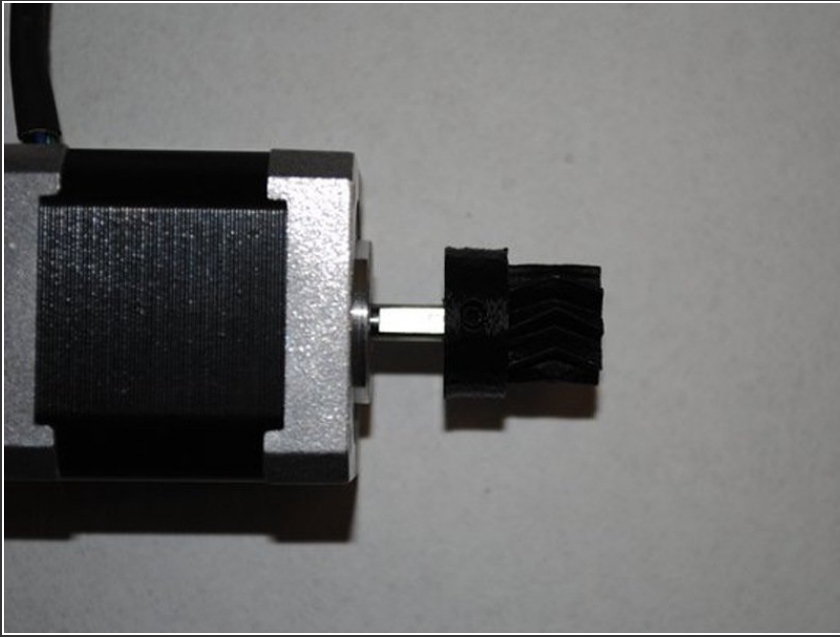
- INSTALL IDLER ONTO BODY
- Install extruder idler onto the body.
- Tighten the M3 x 25, SHCS bolt down to secure the Idler
- Tip: Place the leg with the nut on the body first and twist the Idler onto the body.
- Does the Idler swing freely on the bolt?

Step 7



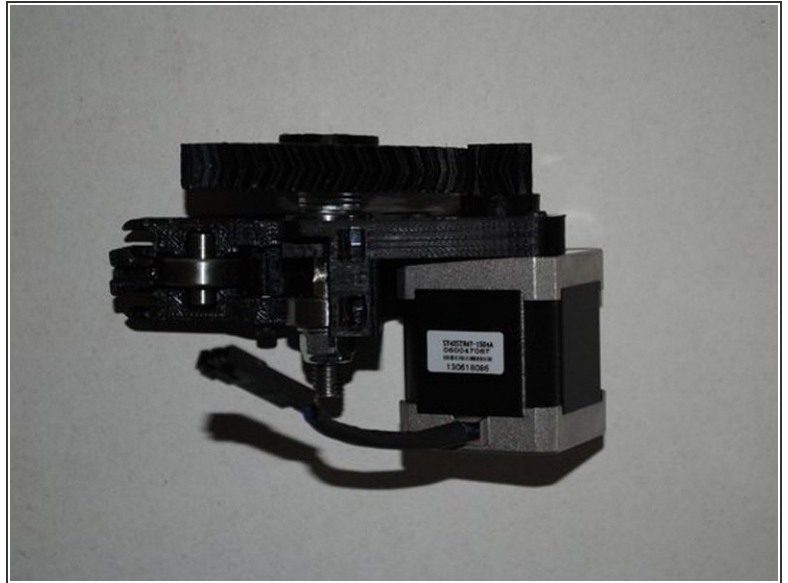
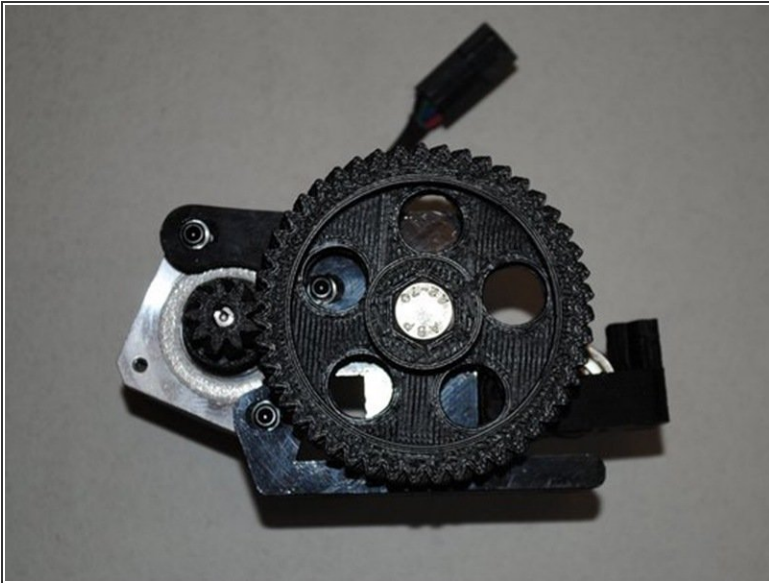
- SMALL GEAR ASSEMBLY
- Install the M3 nut into the bottom of the small herringbone gear.
- Then install the M3 x 6mm set screw through the side of the small gear and into the nut.
- Be sure the M3 x 6mm set screw does not protrude into the hole through the small gear.

Step 8



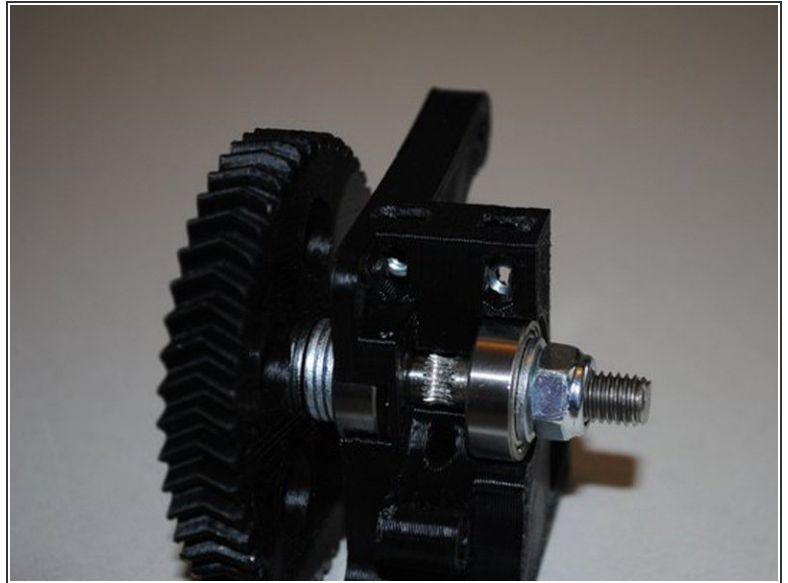
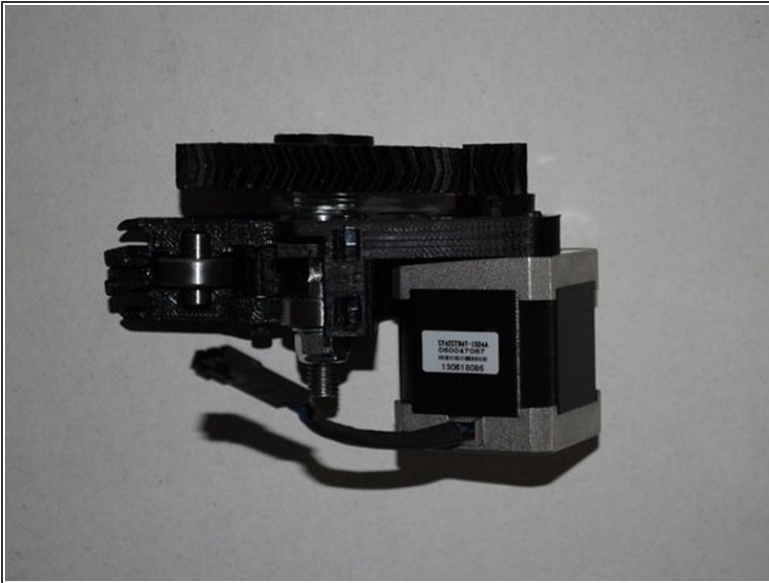
- INSTALL GEAR ON MOTOR
- Locate the flat side of the motor shaft.
- With the set screw aligned with the flat, slide the small gear onto the motor shaft.
- The location will be adjusted later so positioning isn't important at this point.
- Do not tighten the set screw yet.
- Is the set screw aligned with the flat?

Step 9



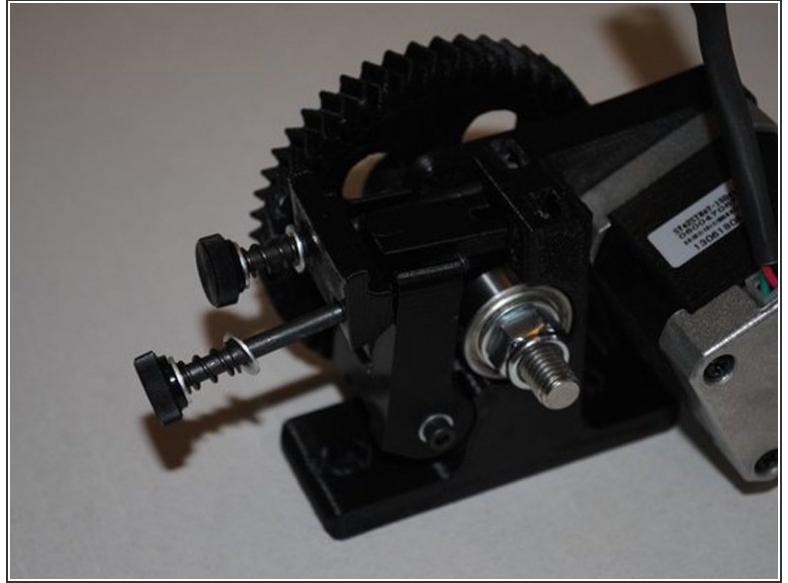
- INSTALL MOTOR
- Holding the motor in the location where it will be mounted, align the herringbone gears by sliding the small gear in or out on the motor shaft so the V-grooves are centered on each other.
- Install motor using 3x M3 x 12mm SHCS and 3x M3 washers, taking note of the orientation of the motor wires.
- Push the gears together while you tighten the bolts to make sure the contact is tight.
- Tighten the set screw on the small herring bone gear.
- Are the motor wires oriented correctly?
- Are the V-grooves of the gears aligned?
- Is there any back-lash in the gears? Can you spin the large gear for several rotations?

Step 10



- INSTALL M4 NUTS INTO TOP OF BODY
- Install 2x M4 nuts into the top of the extruder body as shown.
- Make sure you can see the nuts from the side so you can install bolts later.
- Tip: Nuts only go in one way, the flats of the nut must be vertical.
- Photo 1 - Nuts in body from top
- Photo 2 - Nuts in body from side

Step 11



- INSTALL IDLER TENSIONER
- Install M4 x 55 with thumb knob, M4 washer, extruder spring, M4 washer and Extruder latch into M4 nut installed in body.
- Then put another M4 x 55 with thumb knob, M4 washer, extruder spring, M4 washer through the Extruder latch and into the body.
- Photo 1 - Prep parts for assembly
- Photo 2 - Idler tensioner assembly
- Can you adjust both bolts in and out by hand?
- Can you swing the tensioner up and down?

Step 12



- REVIEW THE EXTRUDER ASSEMBLY