

UltiBots

DRAFT... D300VS-PLUS Effector and Aero Titan Assembly

Assemble the D300VS+ effector and E3D Aero Titan extruder/hot end.

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Step 1 — Aero Titan Extruder Parts



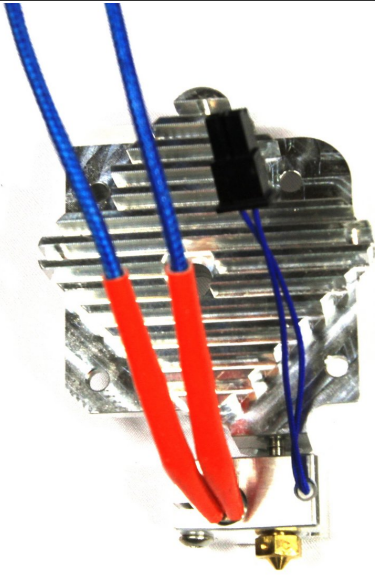
- Unpack the E3D Titan Aero. Note the card outlined in red. Please read the [official assembly documentation](#) first.
- ! The orientation of the heat block and thermistor and heater cartridge shown in this guide are required to fit the D300VS+ properly.


Step 2 — Heater Block Assembly




- Install the brass *nozzle* as described in the E3D guide. Don't forget to leave a 1/2 turn gap.
- Install the heat brake as described in the E3D guide.
- Install the *thermistor* and *heater cartridge* with their wire leads coming out of the *heater block* as shown in the third photo.

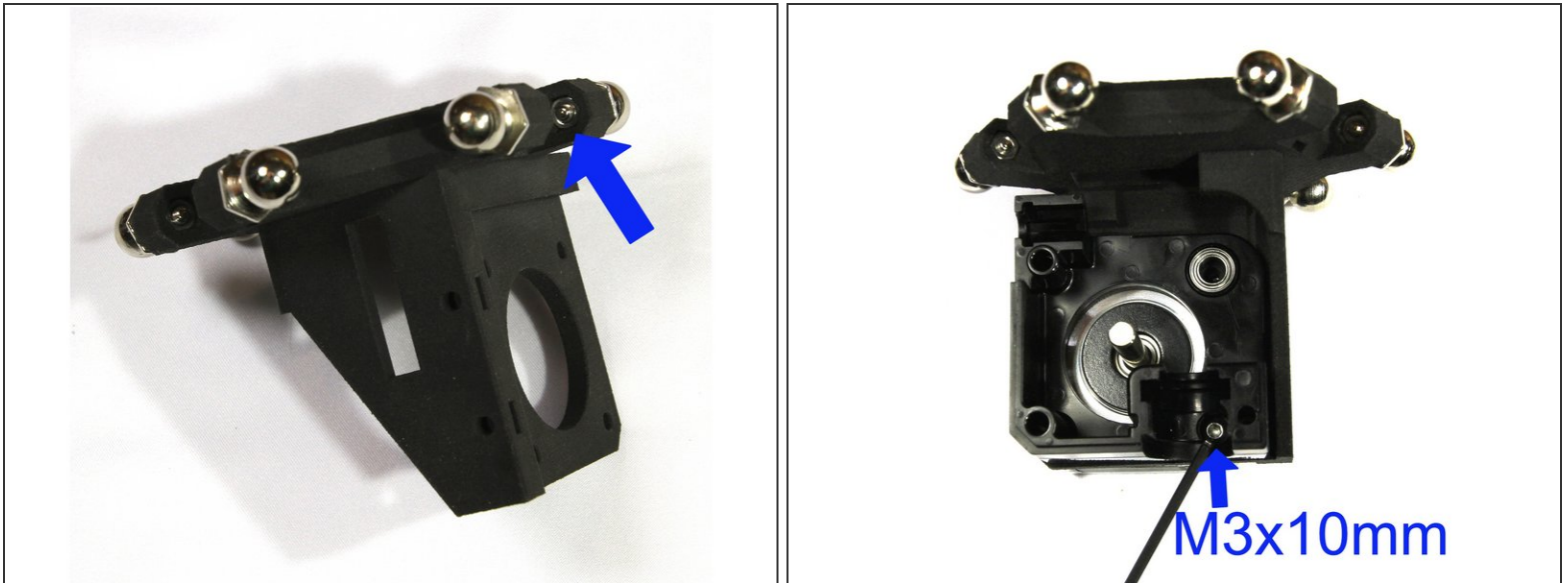
Step 3 — Attach Heater Block to Heat Sink



 It is important to assemble the *heater block* to the *heatsink* with the correct orientation as shown in the photo.

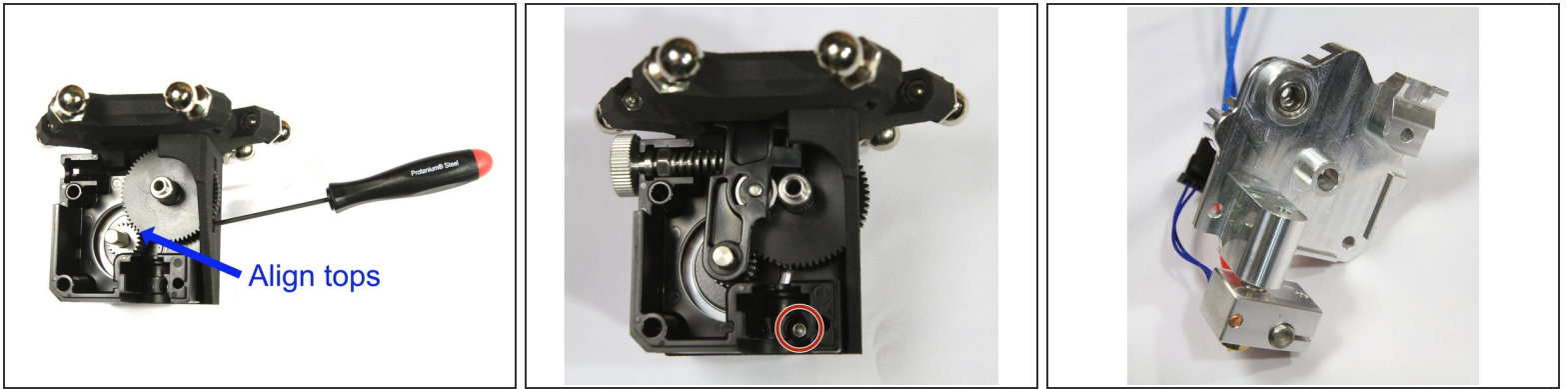
 If your *heater block* does not align as shown, you can slightly loosen the brass *nozzle* and position the *heater block*. Then re-tighten the *nozzle*.

Step 4 — Effector Assembly



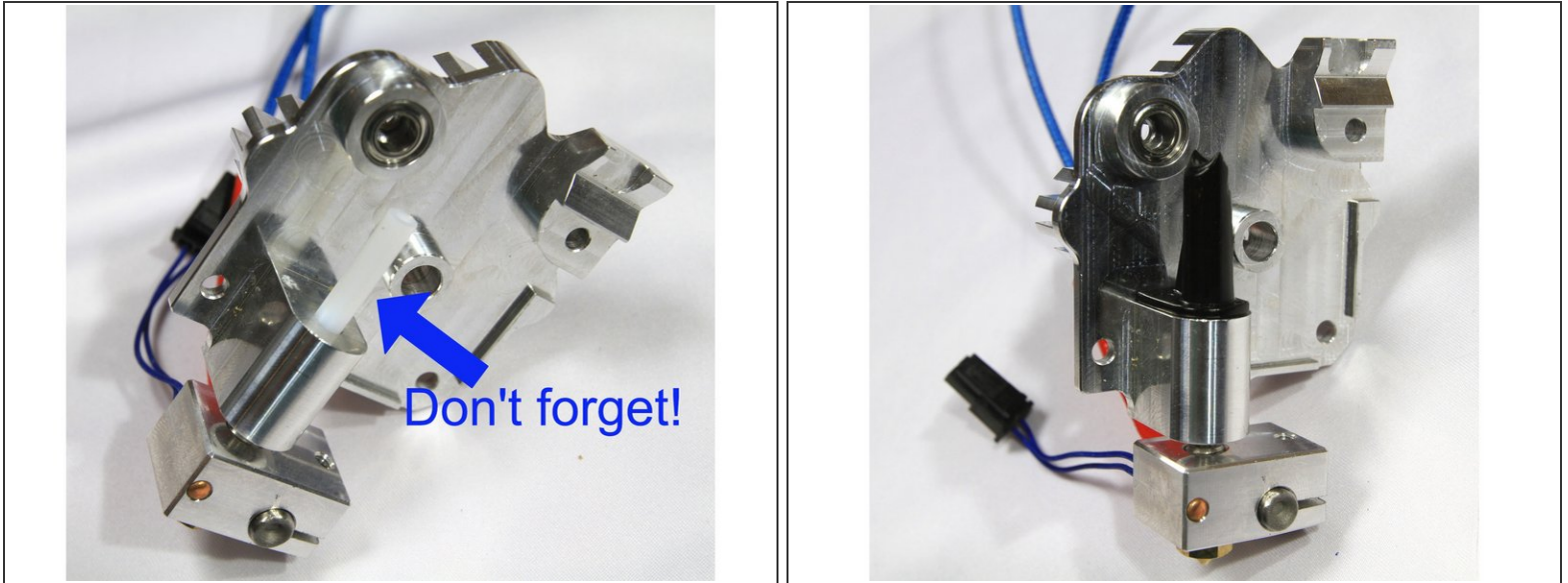
- Install six *ball studs* with *M3 nuts* on the effector as shown in the first photo.
 - Mount the *stepper motor* and *Titan Body* using an *M3x10mm screw* as shown. Refer to the E3D guide for more details.
- i** Note that the *stepper motor* connector must face up.

Step 5 — Titan Aero Assembly



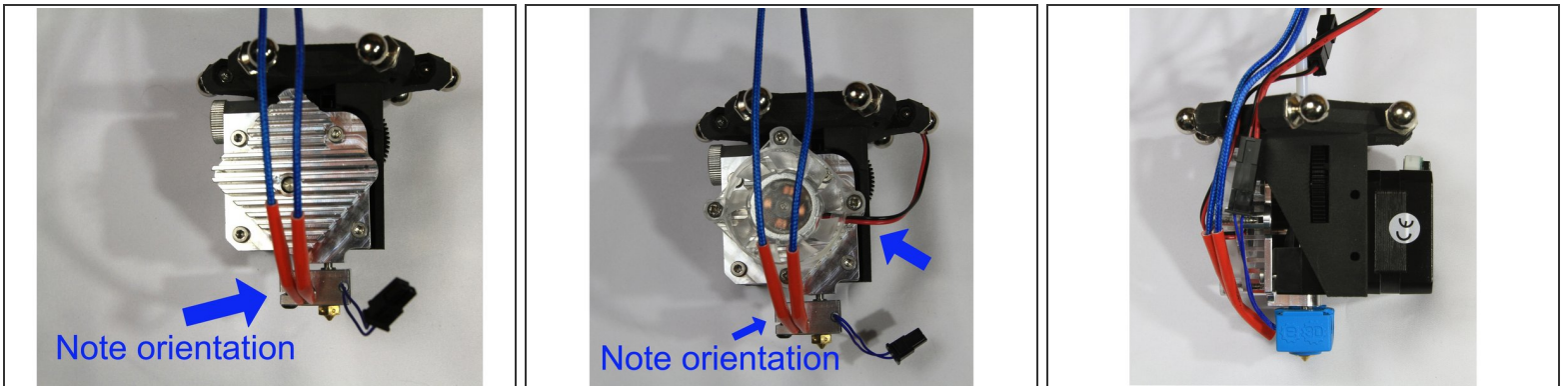
- Install the large *acetal gear* as shown and described in the E3D guide.
- Insert the *M3 grub/set screw* in the *steel pinion gear* and slide it on the stepper motor shaft with the screw facing closest to the stepper. This is described in detail in the E3D guide.
- Align the top surfaces of the *acetal* and *steel gears* as shown and tighten the grub/set screw.
 - ⓘ You can access the grub/set screw through the slot in the effector as shown in the first photo.
- Assemble the *idler lever* and *thumbscrew* as described in the E3D guide.
 - ⓘ You will have to loosen the *M3 screw* (circled in red) in order to insert the *idler lever*.
- Insert the *bearing* in the *heatsink* as shown in the third photo.

Step 6 — Install Filament Guide



- Cut a 23mm long section of *PTFE tube* and insert it in the *heatsink* as described in the E3D guide.
- Install the *filament guide* for 1.75mm filament as shown in the second photo. The *guide* must sit flush on the machined aluminum surface.

Step 7 — Complete Titan Aero Assembly



- Install the *heat sink / heater block* assembly to the extruder body as described in the E3D guide. Note the orientation of the wiring and *heater block*.
- Install the *fan* with it's wiring harness oriented as shown in the second photo.
- Route the wiring between the *ball studs* as shown in the third photo.

Step 8 — Install the cooling fan



- Find the parts labelled *D300VS-Plus Parts Fan Duct* and the printed air duct.
- Locate the two rectangular holes on the side near the extruder gear. Insert 2 *M3 Jam Nuts*. (photo 1)
 - ⓘ If the nuts don't fit, you may need to widen the hole using a x-acto knife or small flat-head screwdriver.
- Insert a M3 Jam Nut in the topmost hole of the printed air duct. Then insert the M3X8 bolt into the next hole down. (photo 2)
- Attach the fan duct to the extruder body matching the topmost round hole (photo 1) with the M3x8 bolt from the previous step. Attach the fan using the M3x18 (top) and then the M3x25 (bottom).