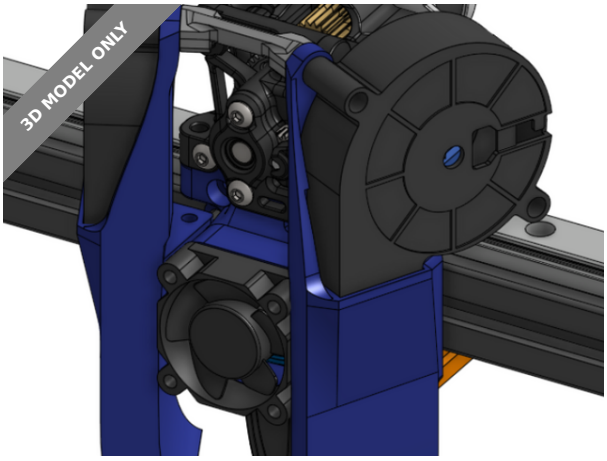


Evantis 5015(S) Toolhead

Sir_Wash

VIEW IN BROWSER

updated 7. 10. 2023 | published 7. 10. 2023

Summary

A more compact mantis toolhead inspired by the EVA3 platform.

3D Printers > Other Printer Parts & Upgrades

Tags: v6 mosquito bltouch mantis revo copperhead mosquitohotend goliath nova toolhead sherpa lgx orbiter dropeffect phaetusdragon sherpamini voron24 voronmod revosix revomicro e3drevo orbiterv20 rapido vorontrident lgxlite mercuryone zerog sherpaminiextruder v6mount revovoron dragonflybmo dragonflyhotend klicky lgxextruder phaetusdragonhotend eva3 mosquitomagnum rapidohotend unklicky sherpamicro mercury1 bambulab phaetusrapido klickyprobe apus vzhextrudortlow vzhextrudort bambulabhotend dropeffectxg phaetusapus lgxlitextruder rapidouhf goliathhotend lsdhotend mercuryzero magprobe unklickyprobe micromantis evantis evantis5015

Last Update: 8/28/2023

Update - Currently working on a V2 of the toolhead

Current Issues - Nothing to report as of now

Updates - Updated V2 ducts improve cooling if you are experiencing any cooling issues, please reach out so I can solve it. Added integrated microswitch x-endstop carriages. Fixed Mosquito Mount to allow for mounting of stock screws. Thank you!

Wait! Before proceeding do you want more modularity in your tool head? If so, please proceed here:

Mirco Mantis M Tool head by Sir_Wash | Download free STL model | Printables.com

Will this tool head work on my machine?

This toolhead design is primary based off the mantis toolhead so any printer that can use the normal mantis toolhead should be able to use this one if that's not the case let me know and I can try to help make support possible. However, this was designed specifically for the Zero G Mercury 1.1.5.

Toolhead Component Compatibility List:

Carriage Compatibility

MGN12(H/C)

MGN9(H/C) *9C not recommended but supported.

Hot End Compatibility

Rapido HF & UHF

Dragon

Dragonfly BMO

Revo Voron

Revo Micro

Revo Six/V6

Mosquito

Copperhead

Bambu

Dropeffect XG

Goliath AIR

Crazy Volcano

Nova

Extruder Compatibility

Sherpa Mini

Sherpa Micro

Orbiter V2.0

Orbiter V1.5

Vz-Hextrudort

LGX-Lite

LGX

Phaetus Apus

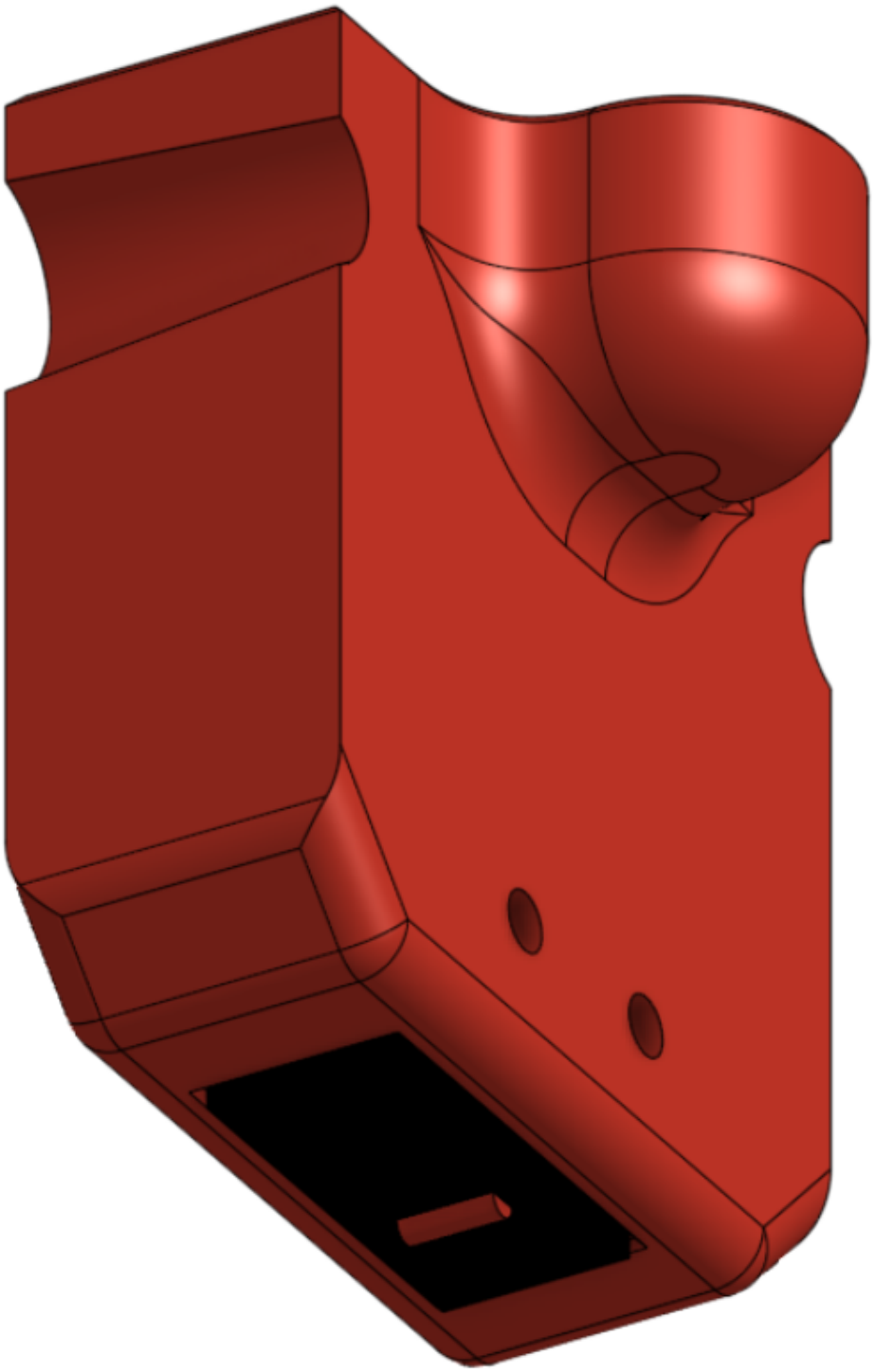
Bowden

Probe Compatibility

!!!Before you turn your printer on, please verify that the probe is higher than your hot end when it is in its stowed position.!!!

Magprobe

*Install like below to get the appox. x,y offsets found below may still need to adjust.



Magprobe XL Magprobe

0,0 origin towards the back right side - X,Y Offset = -2.3, -34.8

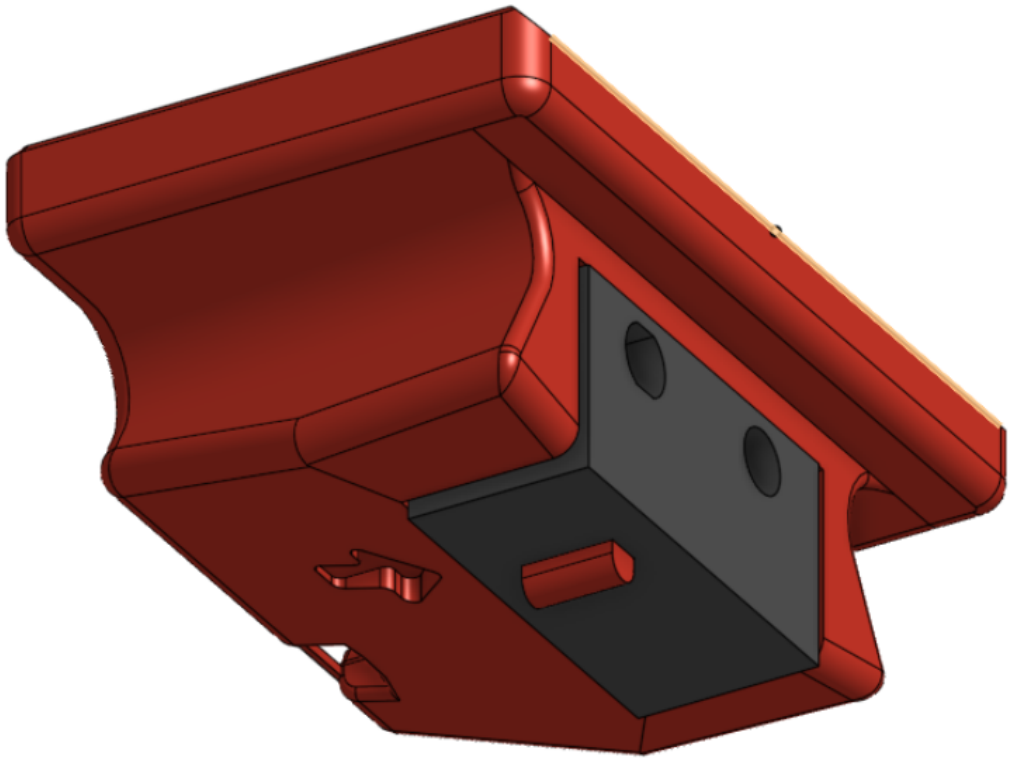
0,0 origin towards the front left side - X,Y Offset = 2.3, 34.8

Probe Mounts Compatibility Tables

Hotend	Magprobe	Probe Mount
Rapido UHF		XL Mag Probe
Rapido HF		Normal Mag Probe
Dragon		Normal Mag Probe
Dragonfly		Normal Mag Probe
Revo Voron		Normal Mag Probe
Revo Micro		Normal Mag Probe
Revo Six		Normal Mag Probe
Mosquito		Normal Mag Probe
Cooperhead		Normal Mag Probe
Bambu		Normal Mag Probe
Goliath AIR		XL Mag Probe
Crazy Volcano		Normal Mag Probe

Klickly

*Install like below to get the appox. x,y offsets found below may still need to adjust.



Normal Klickly Klickly XXL

0,0 origin towards the back right side - X,Y Offset = 1.6, -24

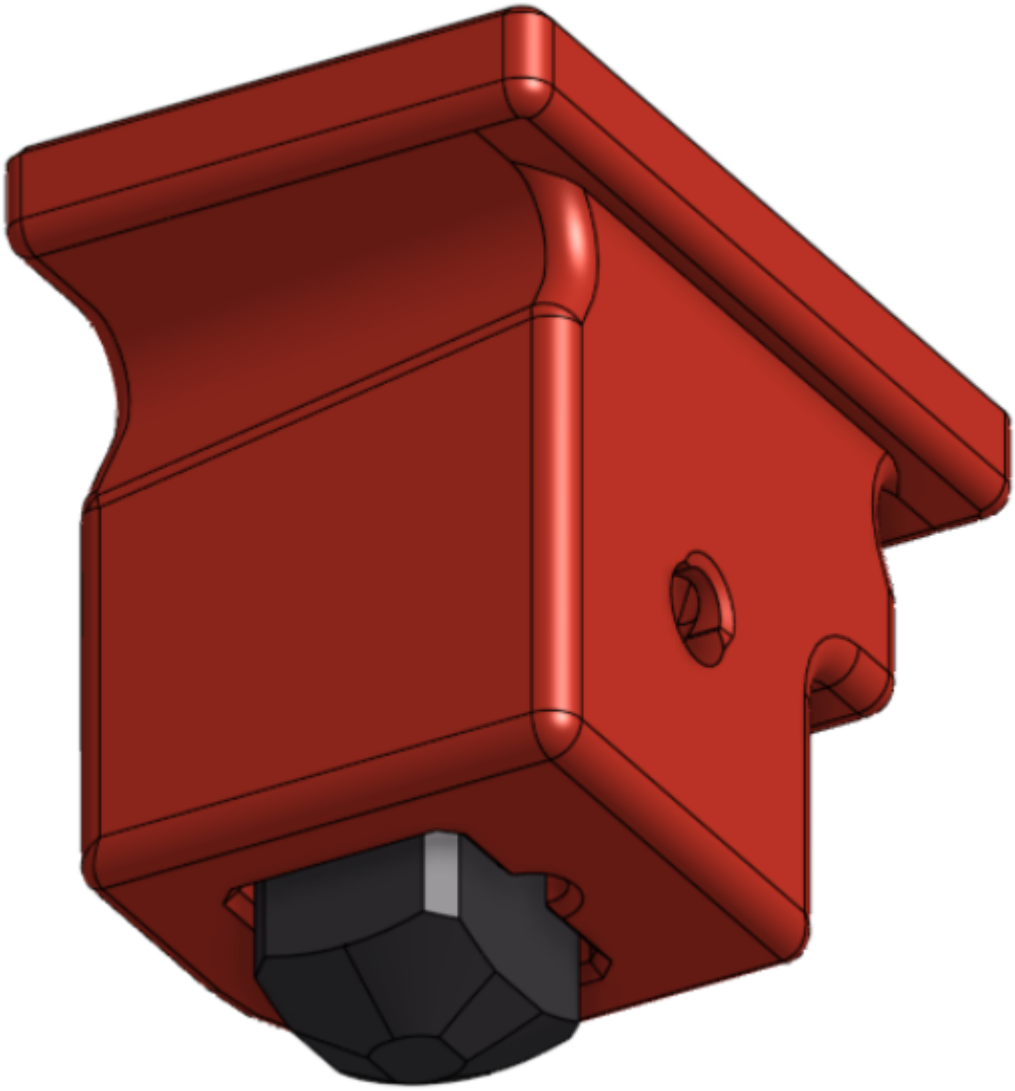
0,0 origin towards the front left side - X,Y Offset = -1.6, 24

Probe Mounts Compatibility Tables

Hotend	Klickly	Probe Mount
Rapido UHF		XL klickly
Rapido HF		XL klickly
Dragon		Normal Klickly Probe
Dragonfly		Normal Klickly Probe
Revo Voron		Normal Klickly Probe
Revo Micro		Normal Klickly Probe
Revo Six		Normal Klickly Probe
Mosquito		Normal Klickly Probe
Cooperhead		Normal Klickly Probe
Bambu		Normal Klickly Probe
Goliath AIR		XXL Klickly Probe (provided)
Crazy Volcano		XL klickly

Un-Klickly

*Install like below to get the appox. x,y offsets found below may still need to adjust.



Unklickly Unklickly XXL

0,0 origin towards the back right side - X,Y Offset = 1.7, -29.2

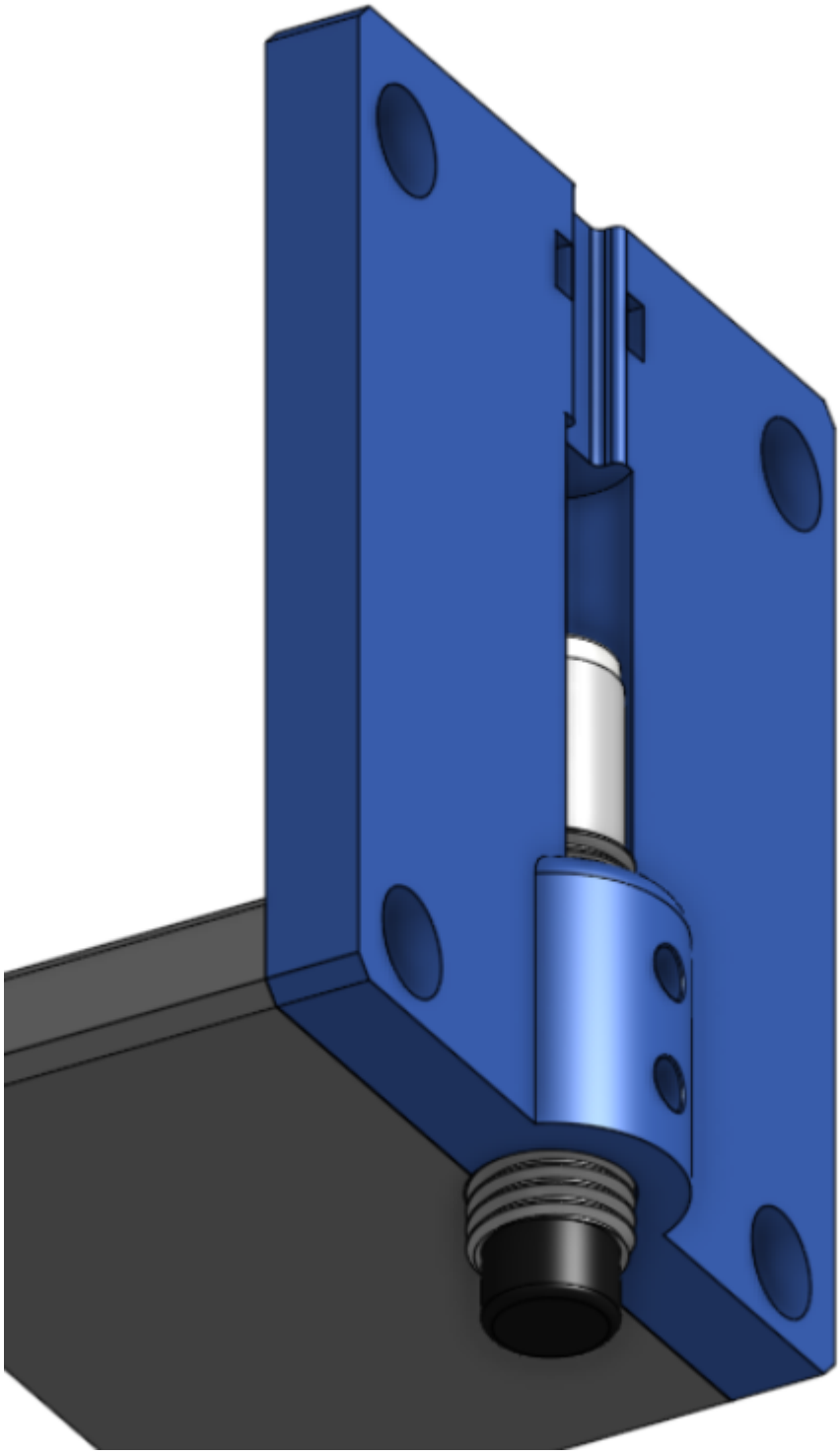
0,0 origin towards the front left side - X,Y Offset = -1.7, 29.2

Probe Mounts Compatibility Tables

Hotend	Un-Klickly	Probe Mount
Rapido UHF		XL Un-Klickly Probe
Rapido HF		Normal Un-Klickly Probe
Dragon		Normal Un-Klickly Probe
Dragonfly		Normal Un-Klickly Probe
Revo Voron		Normal Un-Klickly Probe
Revo Micro		Normal Un-Klickly Probe
Revo Six		Normal Un-Klickly Probe
Mosquito		Normal Un-Klickly Probe
Cooperhead		Normal Un-Klickly Probe
Bambu		Normal Un-Klickly Probe
Goliath AIR		XXL Un-Klickly Probe (provided)
Crazy Volcano		Normal Un-Klickly Probe

Pinda (8mm/12mm Probes)

*Install like below to get the appox. x,y offsets found below may still need to adjust.



Pinda Pinda XL

0,0 origin towards the back right side - X,Y Offset = 0, -44.45

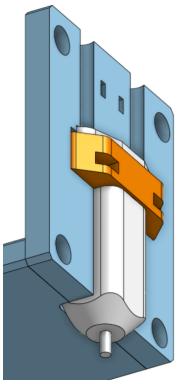
0,0 origin towards the front left side - X,Y Offset = 0, 44.45

Probe Mounts Compatibility Tables

Hotend	Pinda	Probe Mount
Rapido UHF		XL Pinda Back Mount
Rapido HF		Normal Pinda Back Mount
Dragon		Normal Pinda Back Mount
Dragonfly		Normal Pinda Back Mount
Revo Voron		Normal Pinda Back Mount
Revo Micro		Normal Pinda Back Mount
Revo Six		Normal Pinda Back Mount
Mosquito		Normal Pinda Back Mount
Cooperhead		Normal Pinda Back Mount
Bambu		Normal Pinda Back Mount
Goliath AIR		XL Pinda Back Mount
Crazy Volcano		Normal Pinda Back Mount

BLTouch

*Install like below to get the appox. x,y offsets found below may still need to adjust.



0,0 origin towards the back right side - X,Y Offset = 0, -45.7

0,0 origin towards the front left side - X,Y Offset = 0, 45.7

Probe Mounts Compatibility Tables

Hotend	BLTouch	Needed Back Plate
Rapido UHF		C
Rapido HF		B
Dragon		A
Dragonfly		A
Revo Voron		A
Revo Micro		A
Revo Six		A
Mosquito		A
Cooperhead		A
Bambu		A
Goliath AIR		D
Crazy Volcano		B

***Every probe may not be compatible with every hotend option. Please reach out/leave a comment if your configuration is successful/unsuccessful; want to create an easy-to-read table to display what configurations are possible. Thank you!**

Duct Compatibility Note

Duct mounting position has not changed from the original so most of the current community ducts should work if you prefer a different style or cooling method. (If you're looking for a CPAP design, I recommend looking at @TX_Ryan's designs for the Rapido UHF, and Goliath)

BOM:

1x 3010 Fan

1x hotend

1x all associated fasteners for that respective hotend

1x extruder

1x all associated fasteners for that respective extruder

1x probe

1x all associated fasteners for that respective probe

∞x heat inserts M3x5x4

2x 5015 fans

2x M3x8 screws (attaching fan ducts to hotend mount)

4x M3x8 screws (attaching carriage mount to linear rail carriage)

4x M3x10 screws (Belt Clamps)

2x M3X10 screws (Attaching back plate to top of carriage mount)

4x M3x14 screws (attaching fan to front)

2x M3x16 screws (Attaching hotend mount to carriage mount)

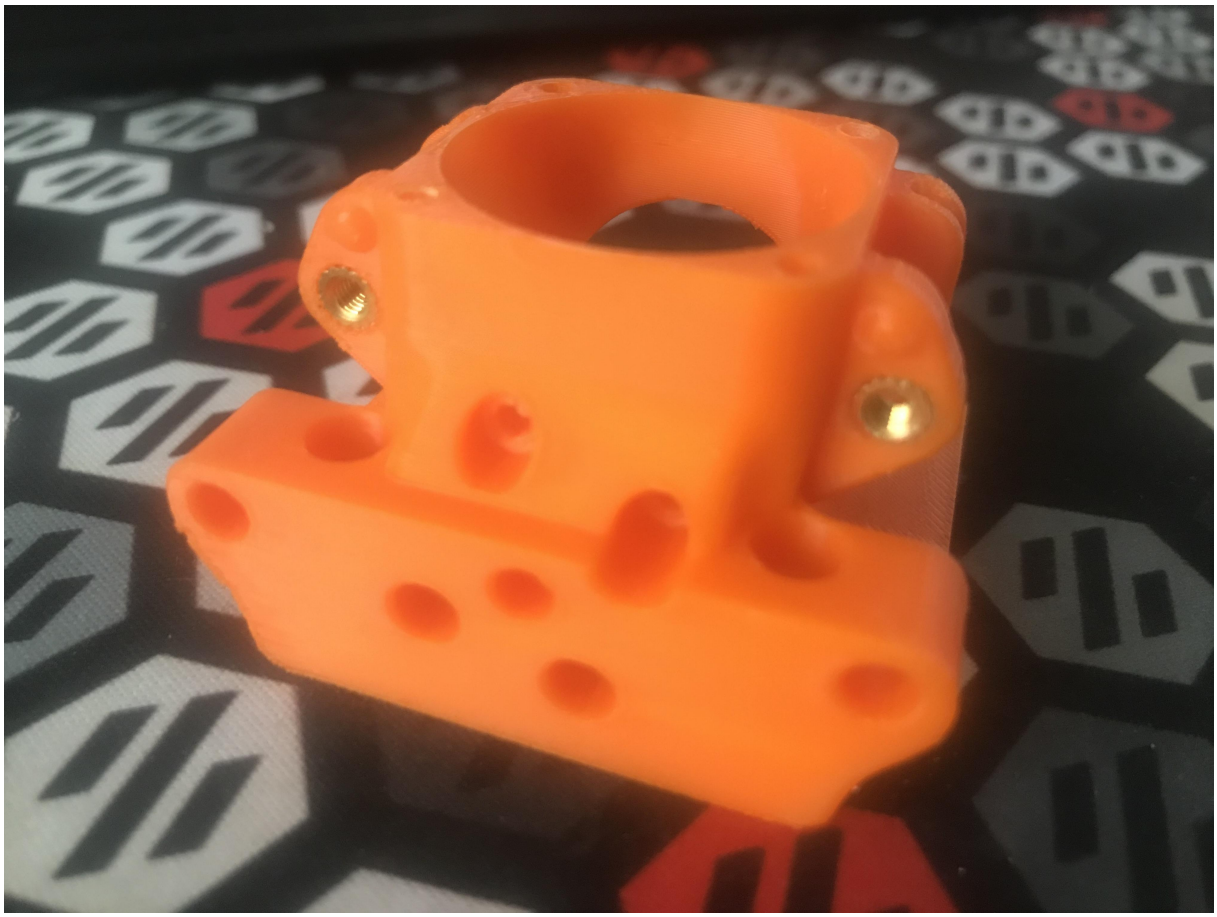
2x M3x25 screws (attaching 5015 fans to brace)

2x M3x35 screws (Attaching back plate to bottom plate and hotend mount)

***This is just a placeholder for now an instruction doc will be provided eventually, but if you have any questions, it's best to leave a comment and I'd be happy to answer.**

Heat Set Locations:

*Will vary but all necessary ones are pictured below.



Background:

Toolhead was created for my Zero G Mercury 1.1.5 that normal uses the EVA2.4 system however with the fans being located at the rear of the tool head the fans will hit the ab motors if you want more than just one part cooling fan on the back. The mantis addresses this issue with placing the fans on the front however I then loss y movement due to the fact the toolhead is all on the front of the extrusion. This hopefully this is the just right tool head for my setup and yours.

Work In Progress:

Hotends

Accepting suggestions

Extruders

Accepting suggestions

Probes

Biqu Micro Probe

CR-Touch

Beacon

Euclid

***Not seeing something you want to run please reach out and I will see what I can do.**

Want to help?

If something isn't working compare the file, you printed to what is currently on this page as I am constantly making changes based on user feedback and what I am able to catch after the fact. If nothing has changed, please reach out to me so I can make the necessary changes.

If you have any questions or problems, please don't hesitate to comment as this will help me improve the tool head for everyone. That being said if you want a different type of extruder or hot end let me know and share a CAD file of it with me and I can see what I can do. Please recommend any other features you'd like included with this.

This remix is based on

EVA 3 - Modular 3D Printer carriage platform

by McAbra

None

Model files

Hotend Mounts 17 files

rapido-hf-uhf-mount.stl

rapido-hf-uhf-mount-mirrored.stl

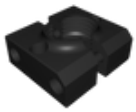
☐ I find this works better for my setup so that the wires come out the left side

dragon-mount.stl

bmo-dragonfly-mount.stl

☐ Be sure to mount this with the heater cartridge side of the heater block facing outward

revo-voron-mount.stl

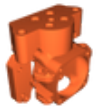


revo-micro-hotend-adapter.3mf

revo-micro-mount.stl

☐ Needs the revo micro hotend adapter

revo-6-v6-hotend-adapter.3mf



revo-six-v6-carriage.stl

☐ Needs the revo 6 hotend adapter and an revo 6 extruder adapter

mosquito-mount.stl

copperhead-mount.stl

bambu-hotend-adapter.stl

bambu-mount.stl

Needs hotend adapter. Has built in support but more is needed

dropeffect-xg-mount.stl

Make probe selection based off Bambu probe recommendations, uses same z height.

goliath-air-mount.stl

nova-mount.stl

Make probe selection based off Bambu probe recommendations, uses same z height.

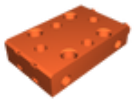
crazy-volcano-mount.stl

Belt Clamps 1 file

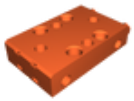
belt-clamps.stl

Rail Carriage Mounts

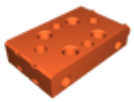
12 files



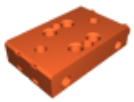
mgn12h.stl



mgn12c.stl



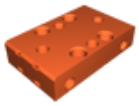
mgn9h.stl



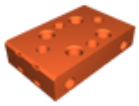
mgn9c.stl

Not recommended: Need to use fasteners with a head of less than 5.3mm

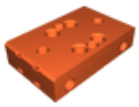
mgn12h-sensorless-homing-or-microswitch-on-xy-joint.stl



mgn12c-sensorless-homing-or-microswitch-on-xy-joint.stl

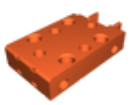


mgn9h-sensorless-homing-or-microswitch-on-xy-joint.stl

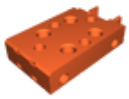


mgn9c-sensorless-homing-or-microswitch-on-xy-joint.stl

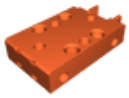
Not recommended: Need to use fasteners with a head of less than 5.3mm



mgn12h-intergrated-x-end-stop-switch.stl



mgn9h-intergrated-x-end-stop-switch.stl



mgn12c-intergrated-x-end-stop-switch.stl

mgn9c-intergrated-x-end-stop-switch.stl

Not recommended: Need to use fasteners with a head of less than 5.3mm

Back Plates

10 files

zero-g-back-plate.stl

blank-back-plate.stl

bltouch-back-plate-a.stl

Needs BLTouch Bottom Plate !!! Check probe chart for hotends !!!

bltouch-back-plate-b.stl

Needs BLTouch Bottom Plate !!! Check probe chart for hotends !!!

bltouch-back-plate-c.stl

Needs BLTouch Bottom Plate !!! Check probe chart for hotends !!!

bltouch-back-plate-d.stl

Needs BLTouch Bottom Plate !!! Check probe chart for hotends !!!

pinda8mm-back-plate.stl

Needs Pinda Bottom Plate; uses M3 screws to hold probe in place

pinda8mm-xl-back-plate.stl

Needs Pinda Bottom Plate; uses M3 screws to hold probe in place & Print model upright

12mm-inductive-probe-back-plate.stl

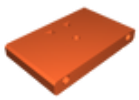
Needs Pinda Bottom Plate; uses M3 screws to hold probe in place

12mm-inductive-probe-xl-back-plate.stl

Needs Pinda Bottom Plate; uses M3 screws to hold probe in place & Print model upright

All Probe Stuff & Bottom Plates

11 files



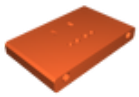
magprobe-bottom-plate.stl

Check probe compatibility section for appox. X,Y offset for this probe

normal-magprobe.stl

Stl from https://github.com/VoronDesign/VoronUsers/blob/master/printer_mods/Long/Mantis_Dual_50

xl-magprobe.stl



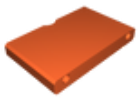
klicklyunklickly-bottom-plate.stl

Check probe compatibility section for appox. X,Y offset for this probe

klickyprobe_microswitch_xxl.stl

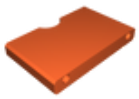
unklicky-xxl.stl

unklicky-xxlprobe.stl



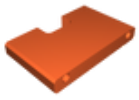
pinda-8mm-bottom-plate.stl

Check probe compatibility section for appox. X,Y offset for this probe



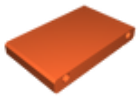
12mm-probe-mount.stl

Check probe compatibility section for appox. X,Y offset for this probe



bltouch-bottom-plate.stl

Check probe compatibility section for appox. X,Y offset for this probe



blank-bottom-plate.stl

If you're not running a probe that's mounts on the bottom

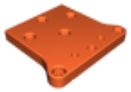
Extruders 10 files

sherpa-mini-ap.stl

sherpa-micro-ap.stl

orbiter-v20-ap.stl

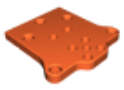
orbiter-v15-ap.stl



vz-hextrudort-low-high-motor-ap.stl

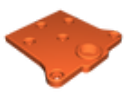
lgx-lite-ap.stl

lgx-ap.stl



apus-ap.stl

❑ If you're planning on adding an ebb board checkout @Fractal_343398 Apus mount for CAN mounting



bowden-ap.stl

❑ For use with a PC4-M10 fitting

revo-6-extruder-adapter.stl

❑ revo 6 extruder adapter - just a 8mm spacer

80 degree ducts V2.1 (For better extruder fitting) Rec.

15 files

80-degree-duct-brace.stl

rapido-uhf.3mf

rapido-hf.3mf

crazy-volcano.3mf

dragon.3mf

dragonfly.3mf

dropeffect-xg.3mf

revo-voron.3mf

revo-micro.3mf

revo-six-v6.3mf

mosquito.3mf

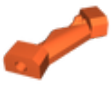
copperhead.3mf

bambu.3mf

goliath.3mf

nova.3mf

90 degree ducts 29 files



duct_brace_simple_v10.stl

Stl from https://github.com/VoronDesign/VoronUsers/blob/master/printer_mods/Long/Mantis_Dual_50

duct_rapido_uhf_right.stl

Stl from https://github.com/VoronDesign/VoronUsers/blob/master/printer_mods/Long/Mantis_Dual_50

duct_rapido_uhf_left.stl

Stl from https://github.com/VoronDesign/VoronUsers/blob/master/printer_mods/Long/Mantis_Dual_50

duct_rapido_hf_right.stl

Stl from https://github.com/VoronDesign/VoronUsers/blob/master/printer_mods/Long/Mantis_Dual_50

duct_rapido_hf_left.stl

Stl from https://github.com/VoronDesign/VoronUsers/blob/master/printer_mods/Long/Mantis_Dual_50

duct_revo_right.stl

duct_revo_left.stl

duct_mosquito-right.stl

duct_mosquito-left.stl

duct_dragon-right.stl

Stl from https://github.com/VoronDesign/VoronUsers/blob/master/printer_mods/Long/Mantis_Dual_50

duct_dragon-left.stl

Stl from https://github.com/VoronDesign/VoronUsers/blob/master/printer_mods/Long/Mantis_Dual_50

duct_crazyvolcano-right.stl

Stl from https://github.com/VoronDesign/VoronUsers/blob/master/printer_mods/Long/Mantis_Dual_50

duct_crazyvolcano-left.stl

Stl from https://github.com/VoronDesign/VoronUsers/blob/master/printer_mods/Long/Mantis_Dual_50

duct_bambu-right.stl

duct_bambu-left.stl

duct_goliath-right.stl

duct_goliath-left.stl

duct_copperhead-right.stl

duct_copperhead-left.stl

duct_dragonfly_bmo-right.stl

duct_dragonfly_bmo-left.stl

duct_revo_micro-right.stl

duct_revo_micro-left.stl

duct_revo_6-right.stl

duct_revo_6-left.stl

duct_dropeffectxg-right.stl

duct_dropeffectxg-left.stl

duct_nova-right.stl

duct_nova-left.stl

80 degree ducts (meant for better extruder fitting) 15 files

80-degree-duct-brace.stl

rapido-uhf.3mf

rapido-hf.3mf

dragon.3mf

dragonfly.3mf

dropeffect-xg.3mf

revo-voron.3mf

revo-six-v6.3mf

revo-micro.3mf

mosquito.3mf

copperhead.3mf

bambu.3mf

goliath.3mf

crazy-volcano.3mf

nova.3mf

Magprobe Gantry Dock

4 files

magprobe_gantry_dock_mount_by_josar_v1.stl

Stl from https://github.com/VoronDesign/VoronUsers/blob/master/printer_mods/Long/Mantis_Dual_50

magprobe_gantry_extrusion_mount_by_josar_v1.stl

Stl from https://github.com/VoronDesign/VoronUsers/blob/master/printer_mods/Long/Mantis_Dual_50

magprobe_gantry_dock_arm_v15_double_magnet.stl

Stl from https://github.com/VoronDesign/VoronUsers/blob/master/printer_mods/Long/Mantis_Dual_50

magprobe_gantry_dock_arm_v15_single_magnet.stl

Stl from https://github.com/VoronDesign/VoronUsers/blob/master/printer_mods/Long/Mantis_Dual_50

Magprobe Bed Dock

2 files

magprobe_dock_mount_v10.stl

Stl from https://github.com/VoronDesign/VoronUsers/blob/master/printer_mods/Long/Mantis_Dual_50

magprobe_dock_arms_v15.stl

Stl from https://github.com/VoronDesign/VoronUsers/blob/master/printer_mods/Long/Mantis_Dual_50

STEPs with Blanks for users to modify easier.

6 files

blank-hotend-mount.step

blank-adapter-plate.step

blank-back-plate.step

blank-bottom-plate.step

blanks-mgn12h-carriage-mount.step

belt-clips.step

80 degree ducts V2

17 files

duct-brace-2.stl

duct-brace-2.stl

ducts-v2-rev-micro.3mf

ducts-v2-rap-hf.3mf

ducts-v2-copperhead.3mf

ducts-v2-cv.3mf

ducts-v2-revo-6-v6.3mf

ducts-v2-mos.3mf

ducts-v2-dragon.3mf

ducts-v2-goliath.3mf

nova.3mf

ducts-v2-dragonfly.3mf

ducts-v2-voron-re.3mf

bambu-80v2-ducts.3mf

ducts-v2-uhf.3mf

ducts-v2-dropeffect.3mf

bambu-80v2-ducts.3mf

Untitled Folder 1 file

ducts-v2-dragon.3mf

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