Evantis 5015(M) Tool head

Sir_Wash

VIEW IN BROWSER

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

Summary

A more compact, and MODULAR 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 orbiterextruder 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: 9/23/2023

Update - Currently working on a V2 of the toolhead.

WIP - Still working on the front shroud design that's pictured.

Current Issues - Nothing report as of now.

Recent Changes/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 Copperhead Mount holes. Thank you!

Wait! Before proceeding do you want more do you need every mm in your forward y direction? If so, please proceed here:

Micro Mantis S Toolhead 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.

Questions?

Please leave a comment or join the Zero G discord and head to the micro mantis page in the community section.

Toolhead Component Compatibility List:

Printer Compatibility

Mercury Zero G 1.1.5

Voron 2.4/Trident

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

Nova

Crazy Volcano

Extruder Compatibility

Sherpa Mini

Sherpa Micro

Orbiter V2.0

Orbiter V1.5
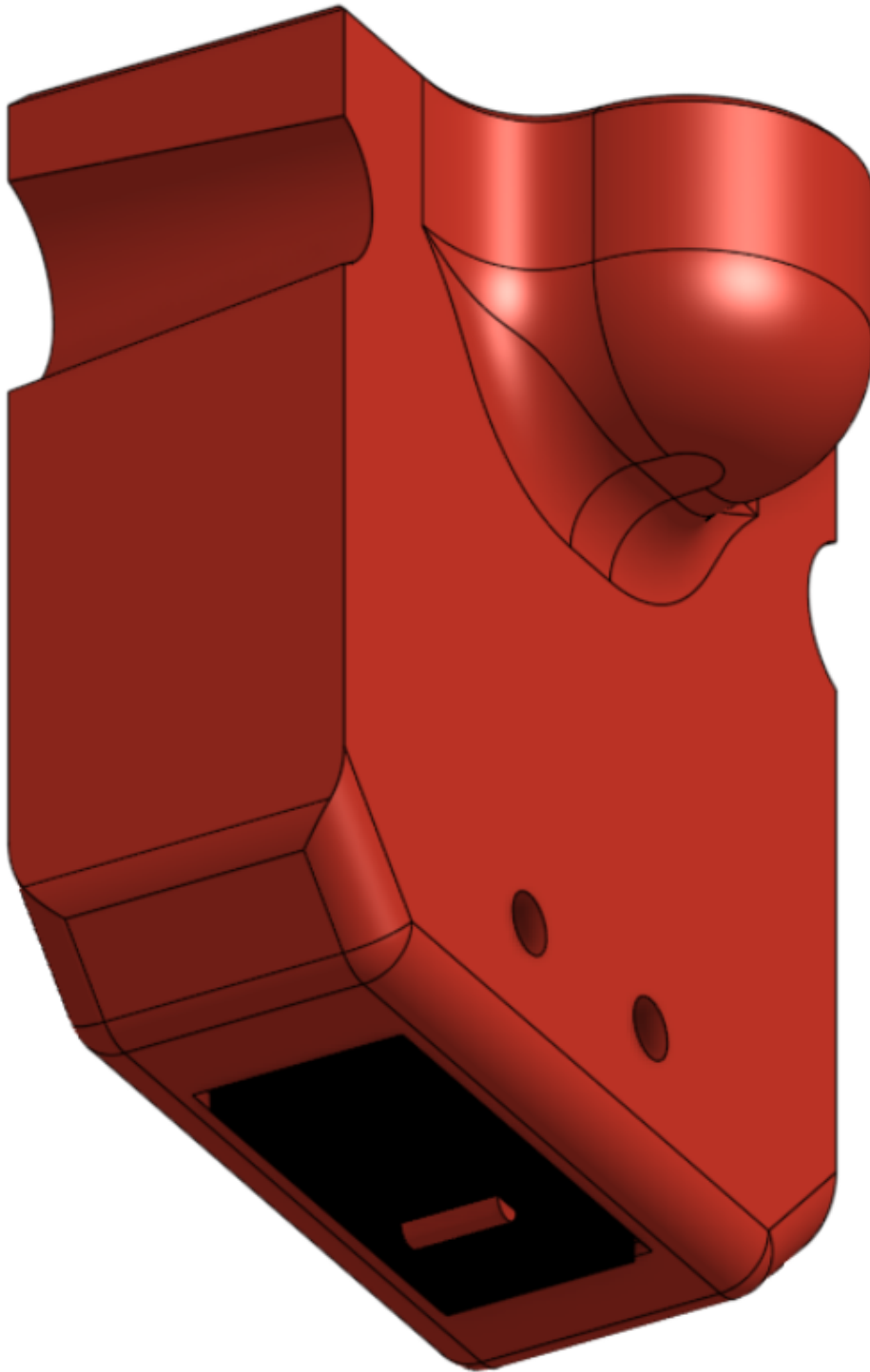
Vz-Hextrudort

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

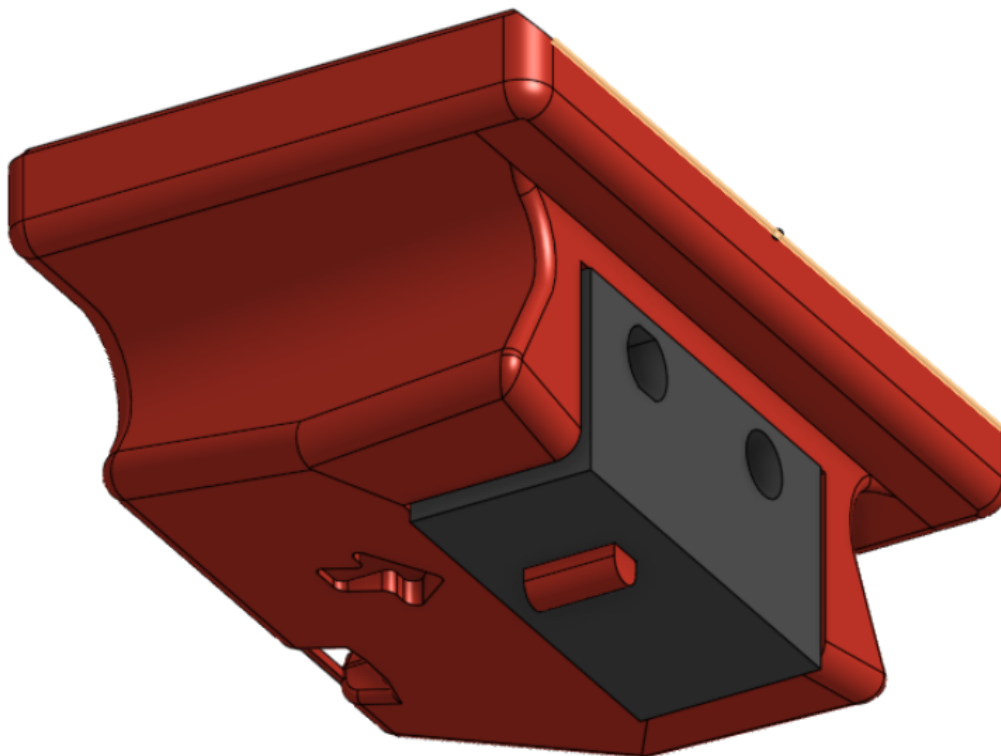0,0 origin towards the back right side - X,Y Offset = -2.3, -39.8

0,0 origin towards the front left side - X,Y Offset = 2.3, 39.8

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

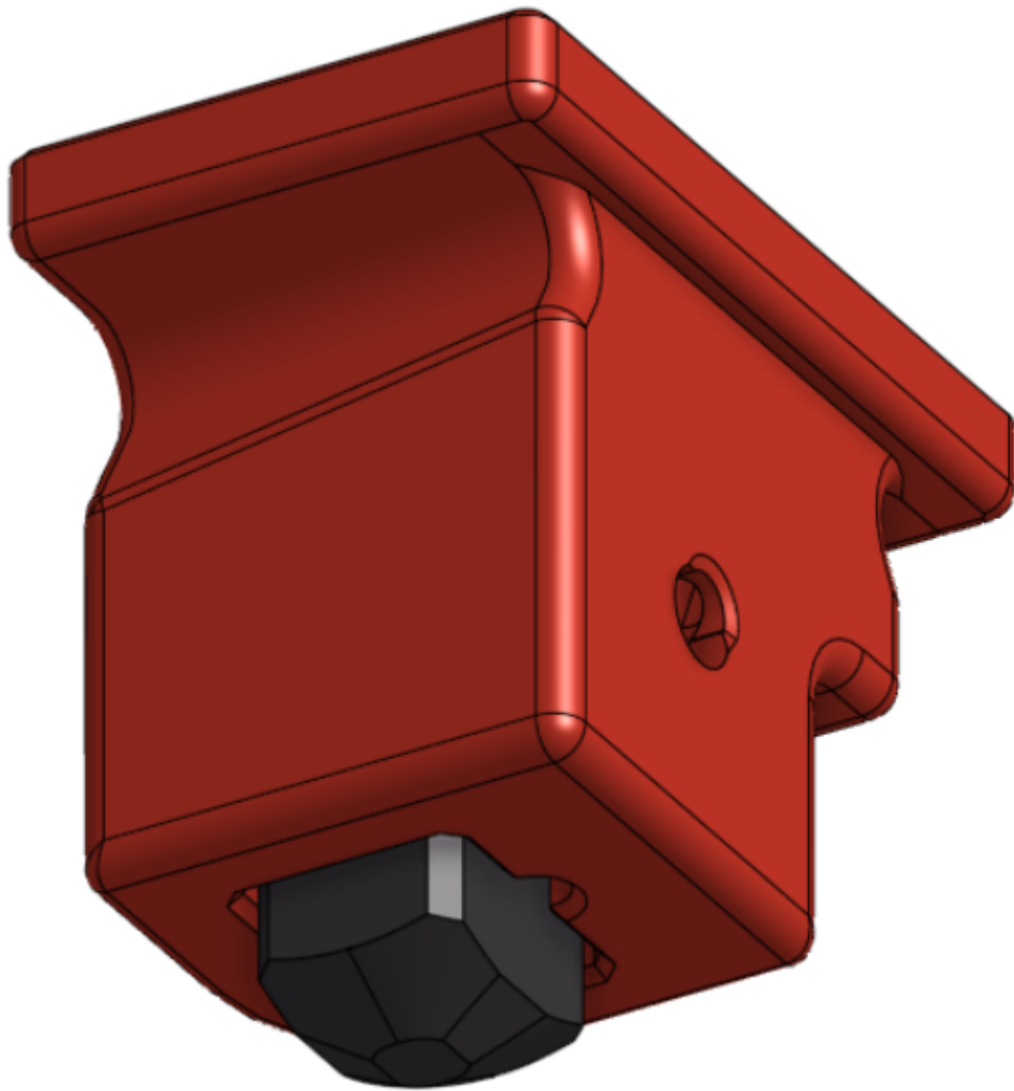0,0 origin towards the back right side - X,Y Offset = 1.6, -29

0,0 origin towards the front left side - X,Y Offset = -1.6, 29

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

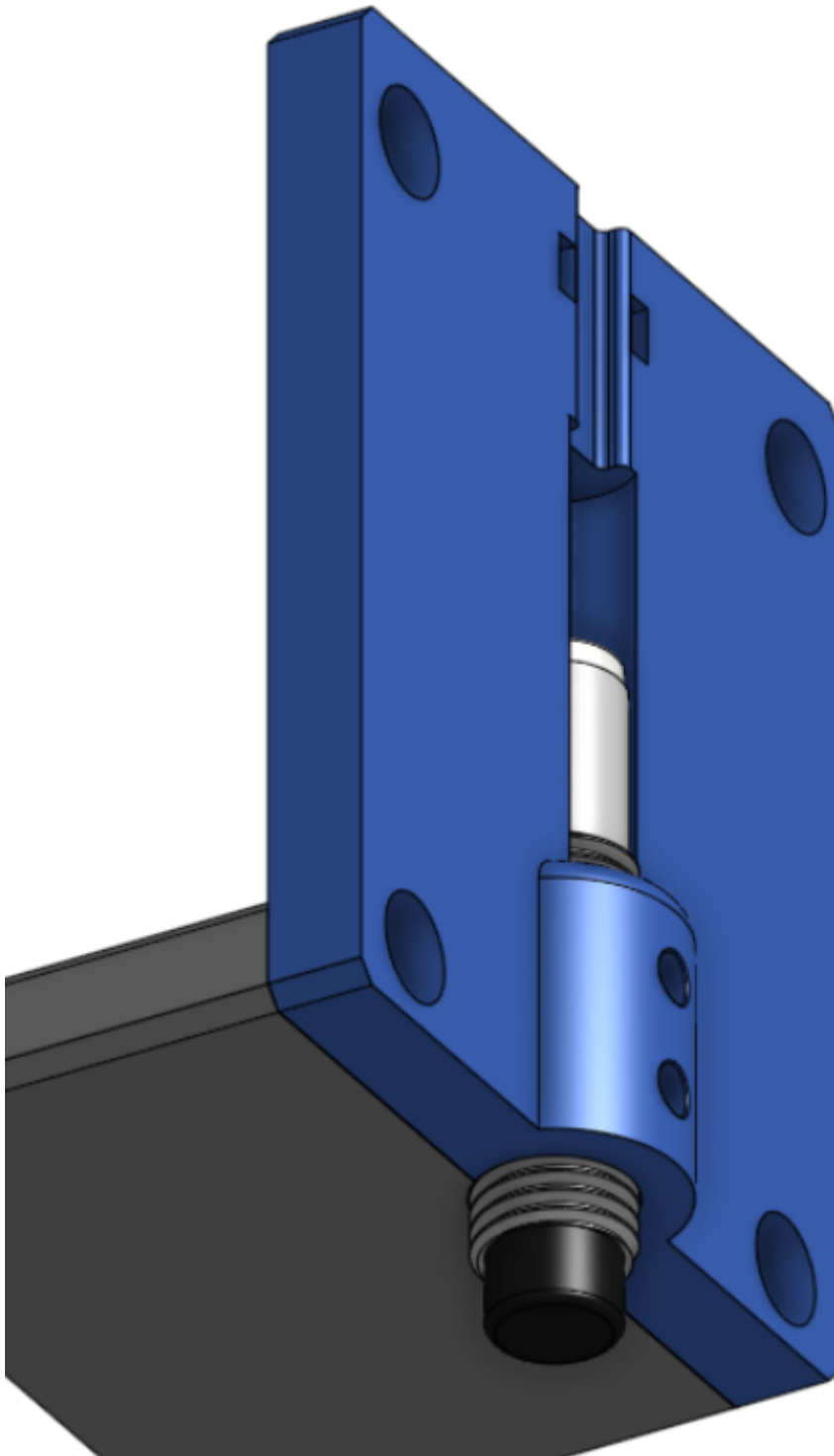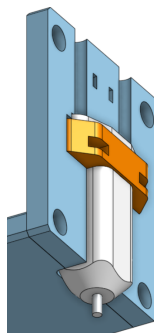0,0 origin towards the back right side - X,Y Offset = 1.7, -34.2

0,0 origin towards the front left side - X,Y Offset = -1.7, 34.2

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)

*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, -49.45

0,0 origin towards the front left side - X,Y Offset = 0, 49.45

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.

*BLTouch pcb should be facing inward

0,0 origin towards the back right side - X,Y Offset = 0, -50.7

0,0 origin towards the front left side - X,Y Offset = 0, 50.7

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 some 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)

Heat Set Locations:

-Soon

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

Evantis 5015(S) Toolhead
by Sir_Wash
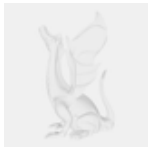
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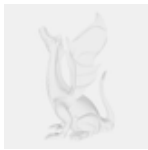
Model files

📁 **Hotend Mounts**	17 files

rapido-uhf.stl

rapidouhf-mirrored.stl
🗎 I find this works better for my setup so that the wires come out the left side
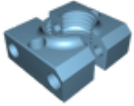
revo-voron.stl

dragon-v2.stl

dragonfly-v2.stl

revo-micro-hotend-adapter.3mf

revo-micro.stl

⬚ Needs the revo micro hotend adapter

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

revo-six-v6.stl

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

mosquito-v2.stl

copperhead-v2.stl

bambu-hotend-adapter.stl

bambu.stl

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

dropeffect-xg.stl

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

goliath.stl

crazy-volcano-v2.stl

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

📂 Belt Plate & Clamps   5 files

belts-clamps-v2.3mf

belt-carriage.stl

belt-carriage-indented.stl
🗋 To be used with Dragonfly, Dragon, and Crazy Volcano Hotends

voron-belt-carriage.stl

voron-belt-carriage-indented.stl
🗋 To be used with Dragonfly, Dragon, and Crazy Volcano Hotends

Rail Carriage Mounts

12 files
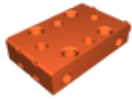
mgn12h.stl
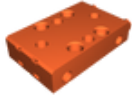
mgn12c.stl

mgn9h.stl
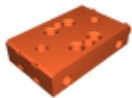
mgn9c.stl

📝 Not recommended: Need to use fasteners with a head of less than 5.3mm
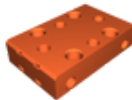
mgn12h-sensorless-homing-or-microswitch-on-xy-joint.stl
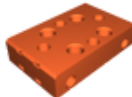
mgn9h-sensorless-homing-or-microswitch-on-xy-joint.stl
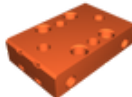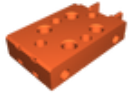
mgn12c-sensorless-homing-or-microswitch-on-xy-joint.stl
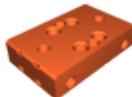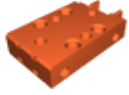
mgn9c-sensorless-homing-or-microswitch-on-xy-joint.stl

📝 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

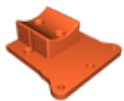**mgn12c-intergrated-x-end-stop-switch.stl**

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

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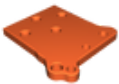
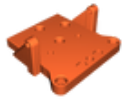## Extruder Plates

10 files

sherpa-mini.stl

sherpa-micro.stl

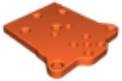**orbiter-v20.stl**

orbiter-v15.stl
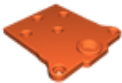
lgx-lite.stl

lgx.stl

vz-hextrudort.stl

apus.stl
📝 If you're planning on adding an ebb board checkout @Fractal_343398 Apus mount for CAN mounting

bowden.stl
📝 For use with a PC4-M10 fitting

revo-six-spacer.stl
📝 revo 6 extruder adapter - just a 10mm spacer

📁 **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 !!!

pinda-8mm-standard.stl

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

pinda-8mm-xl.stl

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

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

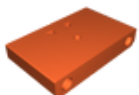🗋 Needs Pinda Bottom Plate; uses M3 screws to hold probe in place

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

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

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📂 Bottom Plates & Probes   11 files

magprobe.stl

🗋 Check probe compatibility section for appox. X,Y offset for this probe
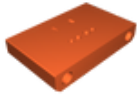
normal-magprobe.stl

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

xl-magprobe.stl

klickly.stl

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

klickyprobe_microswitch_xxl.stl
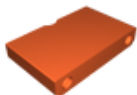
unklicky-xxl.stl
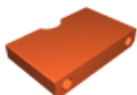
unklicky-xxlprobe.stl

bltouch.stl

📄 Check probe compatibility section for appox. X,Y offset for this probe
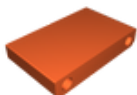
pinda-8mm.stl

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

12mm.stl

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

bottom-plate.stl

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

duct-brace.stl

rapido-uhf.3mf

rapido-hf.3mf

dragonfly.3mf

dragon.3mf

crazy-volcano.3mf

dropeffect-xg.3mf

revo-voron.3mf

revo-micro.3mf

revo-six-v6.3mf

mosquito.3mf

copperhead.3mf

bambu.3mf

goliath.3mf

nova.3mf

80 Degree Ducts V1 (Fits Most Extruders Better)   15 files

duct-brace.stl

rapido-uhf.3mf

rapido-hf.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

crazy-volcano.3mf

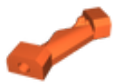**nova.3mf**

📁 **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_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_dragonfly_bmo-right.stl

duct_dragonfly_bmo-left.stl

duct_revo_right.stl

duct_revo_left.stl

duct_revo_micro-right.stl

duct_revo_micro-left.stl

duct_revo_6-right.stl

duct_revo_6-left.stl

duct_mosquito-right.stl

duct_mosquito-left.stl

duct_copperhead-right.stl

duct_copperhead-left.stl

duct_bambu-right.stl

duct_bambu-left.stl

duct_goliath-right.stl

duct_goliath-left.stl

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_dropeffectxg-right.stl

duct_dropeffectxg-left.stl

duct_nova-right.stl

duct_nova-left.stl

📁 **Magprobe Gantry Dock**   4 files

magprobe_gantry_dock_arm_v15_single_magnet-1.stl

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

magprobe_gantry_dock_arm_v15_double_magnet-1.stl

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

magprobe_gantry_extrusion_mount_by_josar_v1-1.stl

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

magprobe_gantry_dock_mount_by_josar_v1-1.stl

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

Magprobe Bed Dock

2 files

magprobe_dock_mount_v10-1.stl

Stl from https://github.com/VoronDesign/VoronUsers/blob/master/printer_mods/Long/Mantis_Dual_50
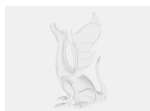
magprobe_dock_arms_v15-1.stl

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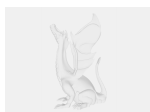
STEPs for Editing

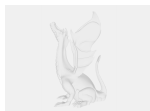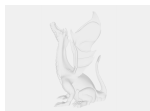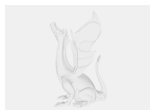8 files

belt-clamps.step

ducts.step

bottom-plate.step
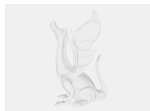
back-plate.step

belt-carriage.step

hotend-mount.step

extruder-adapter.step

duct-brace.step

📁 80 Degree Ducts V2 (Fits Most Extruders Better) Rec. 1 file

a-ducts.3mf

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