# Vector 3D V-core Change Notes

## General Change Goals

* Aimed to improve printability, specifically for ABS
* Aimed for parts to require no treatment after printing
* Aimed for screw insertion to never require force

## Common changes across many parts

* Low layer chamfers changed from 45degrees to 63degrees
* Screw Hole diameter increased to be 0.5mm larger than Metric size
* Overhanging hole layer manipulation

## Rat Rig Parts

Lead Screw motor mount front

* Design adjusted to fix the bracket and adjust the motor.
* Increased hole size diameter
* Increased NEMA 17 hole size
* Extrusion slot alignment added

Passthrough nut

* Chamfers removed on one side.

Passthrough collar

* Chamfers on bottom face removed.

Cable Tie

* Number of segments reduced to improve build plate contact area.
* Smallest section of cable tie to grip reduced to improve grab on cables.
* Hole added to use 2.85 filament as cable strain relief

Y max endstop

* Slot size increased

Y max endstop block

* Hole size increased
* Printing face chamfers removed

Bed Arm Front & Rear

* MGN carriage hole sizes increased
* Lead screw block hole sizes increased
* Magnet hole sizes increased
* Magnet hole layer manipulation added
* Printing face chamfers removed.

Lead screw motor cage rear

* Design adjusted to fix the bracket and adjust the motor
* Mounting hole diameter increased
* Front mounting holes changed to slots
* Print face chamfers changed to 63 degrees
* Hole layer manipulation added
* Extrusion slot alignment added

XY Joiner L/R

* Changed design to not need large spacers
* Changed idler hole design to thru hole.
* Minor changes to chamfers to account for the above.

XY Idler

* Screw Hole size increased
* Overhanging hole layer treatment added
* Printed face over hanged changed to 63 degrees.
* Chamfer added to Y direction hole
* Chamfers added to vertical edges from printed face

Motor Cage top L/R

* Screw Hole size increased
* Overhanging hole layer treatment added
* Printed face over hanged changed to 63 degrees
* Chamfers added to vertical edges from printed face
* Sharp corners around NEMA mounting holes removed.

Motor Cage bottom L/R

* Screw Hole size increased
* Sharp corners around NEMA mounting holes removed

Pillow Block

* 63 degree angle added to printing face
* Screw hole size increased

Right Side Panel

* Truncated to allow assembly using partial side coverage

## EVA Parts

Dragon Shroud

* Hole size increased
* Overhang hole layer treatment added

Top Endstop Angled

* Low chamfers removed.
* Fillets replaced with chamfers

Universal Face

* Screw hole sizes increased
* Overhanging hole layer treatment added
* Low centre hex removed, nut moved to ‘Bottom – BMG, MGN, short duct’.
* Chamfers on hotend mounting face adjusted.

Dragon Face

* Screw how sizes increased
* Chamfer angles on printing faces reduced
* Chamfers around mounting face removed
* Layer treatment added to side hex holes.
* Top bridge thickness increased

Top – BMG, mgn12

* Top hex holes removed
* NEMA hole changed to flat top from printing face
* Hole sizes increased
* Zip tie holes added
* Connector holders added
* Additional strength added adjacent to NEMA

Back – BMG, MGN12

* Rear Logo size increased and text removed
* Recess added for fan clip
* Minor adjustments to chamfers to aid printing
* Nut clearances increased
* Chamfers added to lower duct holes
* Overhanging hole layer treatment added
* Screw hole sizes increased

Dragon V6 Support

* Changed from rear to side nut insertion
* Printing face chamfers increased to 63 degrees

Cable Holder – BMG

* Length increased
* Finger length reduced
* Cable tie grip diameter reduced
* Slot for 2.85mm filament strain relief added
* Print face contact area increased

Bottom – BMG, MGN12

* Zip tie holes removed
* Nut recess added (moved from universal front)
* Hole size increased

Universal Cable Mount – BMG

* Screw hole size increased
* Overhanging hole layer treatment added

## NEW Parts

Electrical

* Raspberry Pi Mounting Bracket
* 3030 Cable Clip
* Modified Lan Socket
* Modified IEC Socket
* WAGO 221 Block

Jigs

* 205mm Z Frame Spacer
* Lead Screw Alignment
* 47 & 43mm inner frame spacer