

Date: /

~ 170 , tightest, ^{19.5} ~~15~~ cm out

1st
setum

No dentis bar at 6 cm from
side, parallel to



Remember from each

↑
lowest

(A)

Up to 5th
range

17.5 cm out, loose, 170 rings
half

(B)

A', 14 values reduced (yellow)

~~~145~~ 156 9<sup>th</sup> range

$\sim 12.5$  out  
lowest

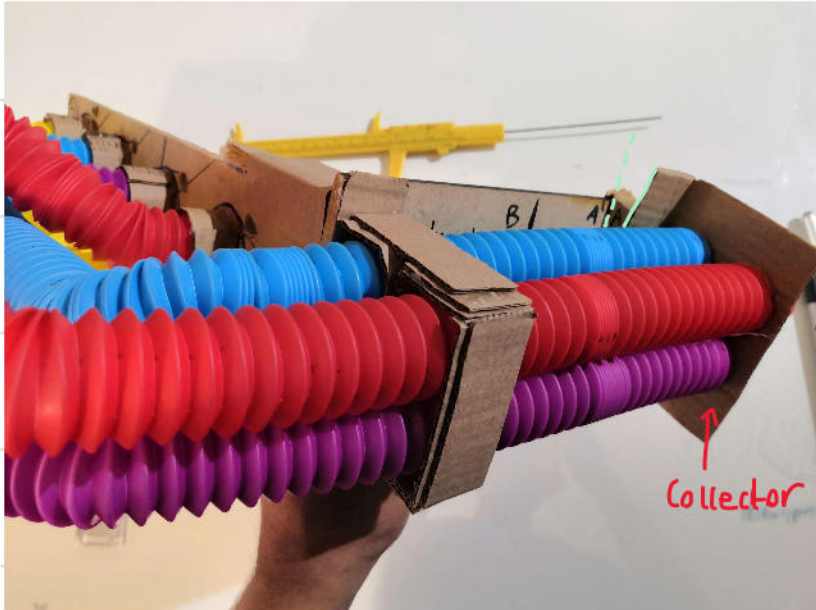
( $\sim 13$  for the red reduced)

(A)

14 for blue  
13-14 for purple

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## Exhaust Prototyping



Positions A, A', B:

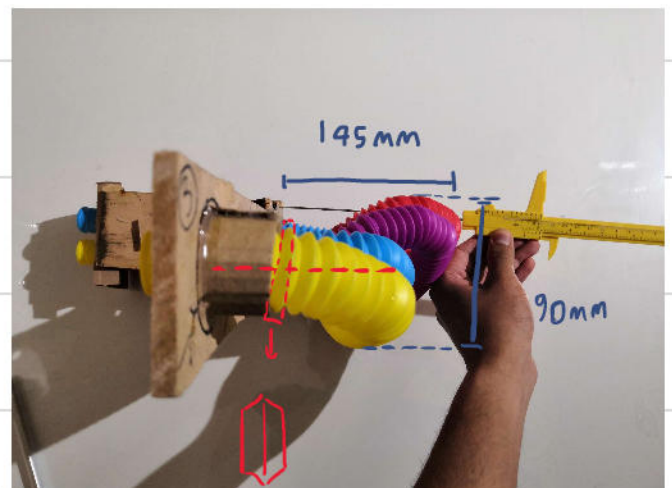
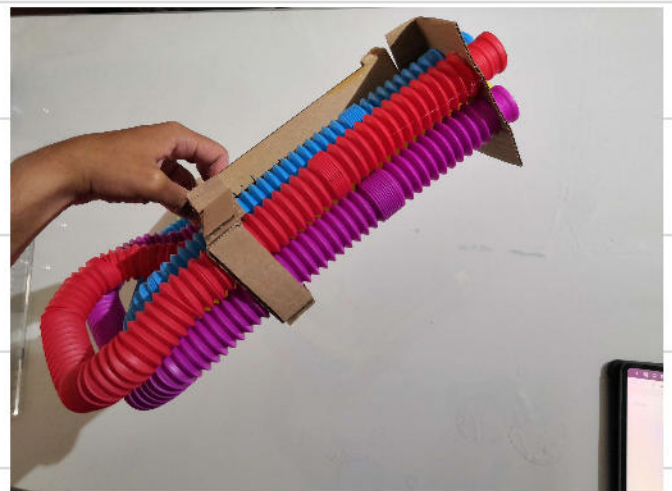
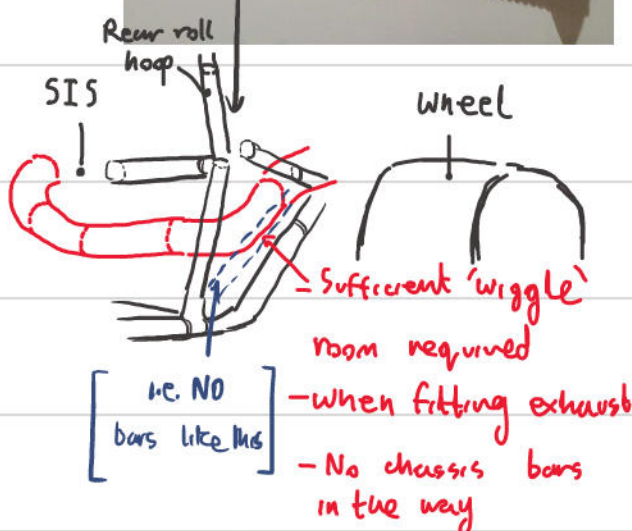
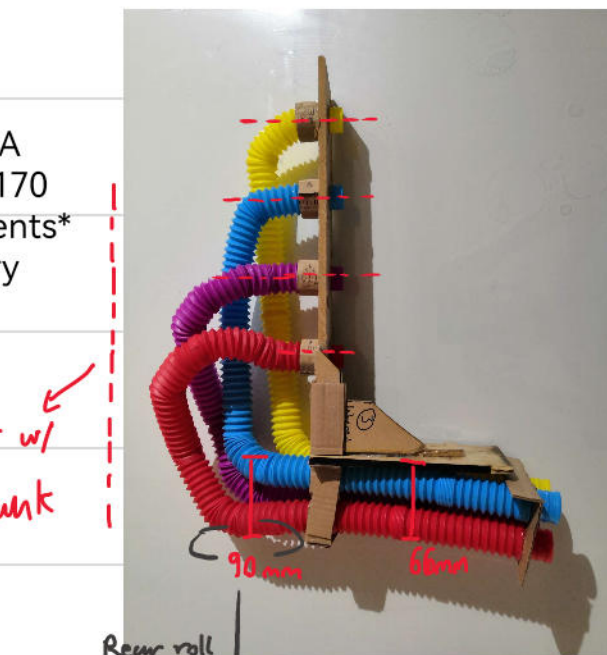
- When highlighted edge of collector plate is coincident with the marking
- Primaries can slide up and down to allow this.

### Multiple views of assembly

Details:

- Position A
- Approx. 170 half segments\* per primary

co-linear w/  
Fuel tank  
rear



Half segment

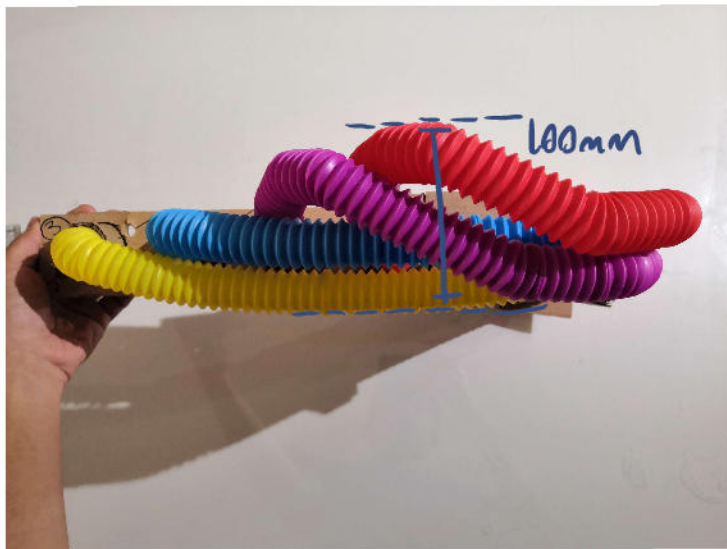
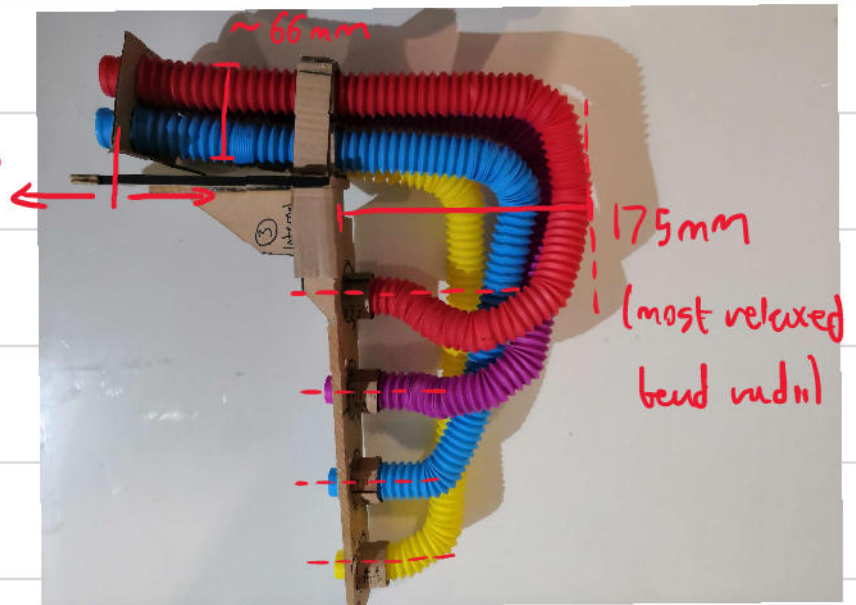


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Details:

- Position B
- Approximately 170 Half segments per primary

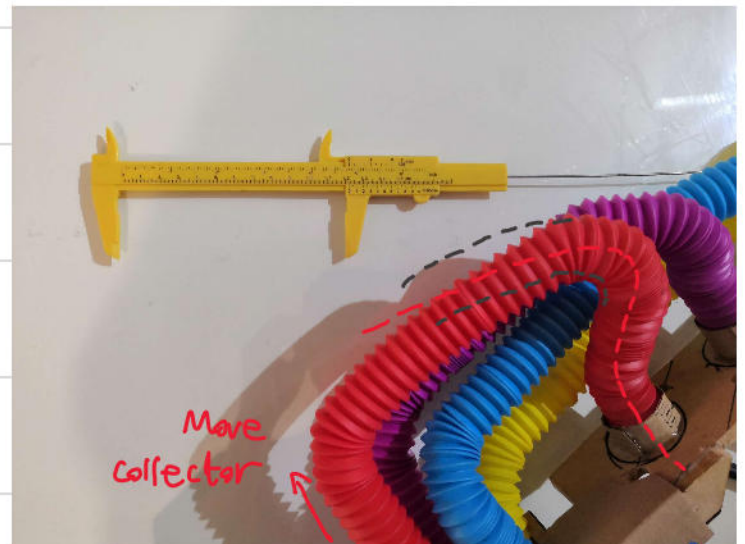
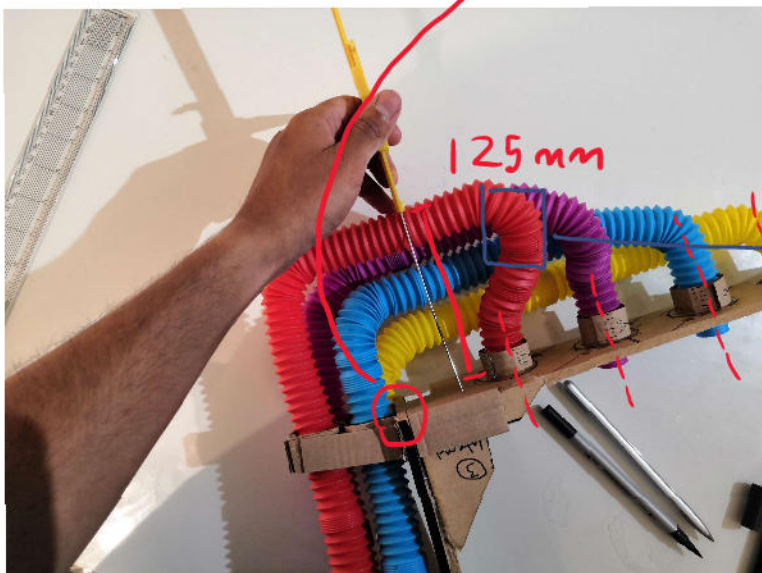
- Sliding the Collector plate up and down relaxes bend radii (do no need to individually adjust primaries, all in on go!)



~increase as tubes  
pushed forward +  
curve more

Details:

- Position A'
- Reduced primary length: approximately 155 Half segments per primary
- Most compact of this arrangement (constrained by corner bend of yellow primary)



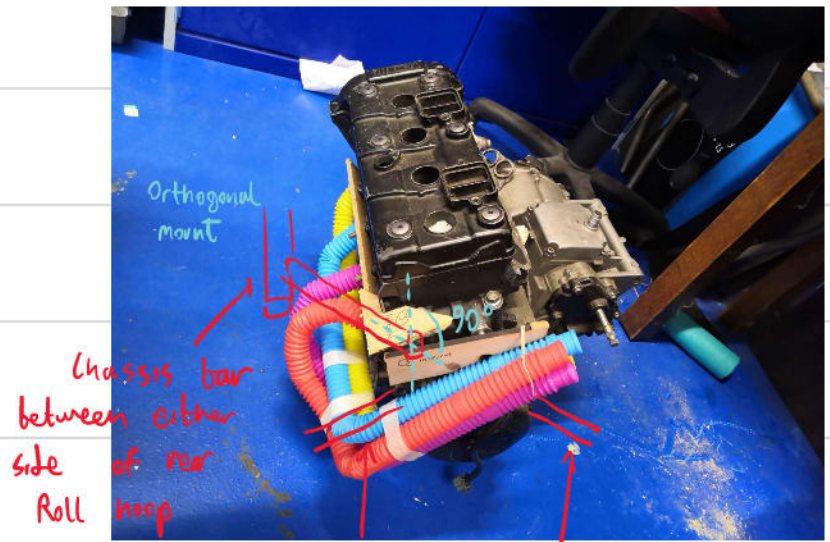
Potential issue:

- Bend radius of this site
- Can be relieved by slightly migrating collector plate forward

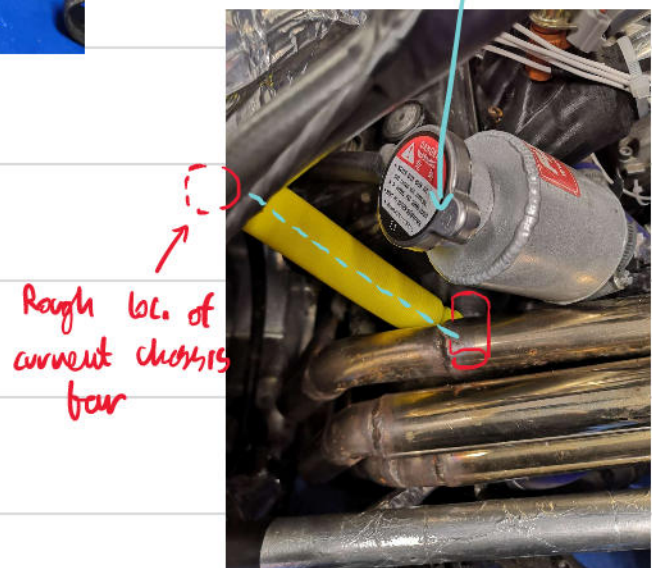
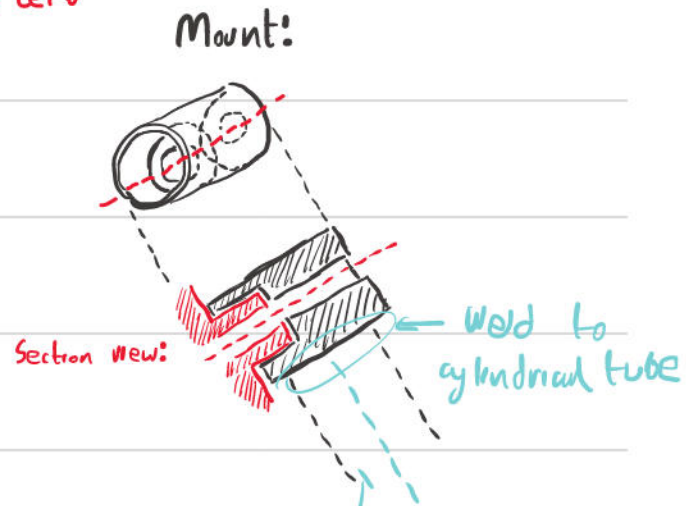
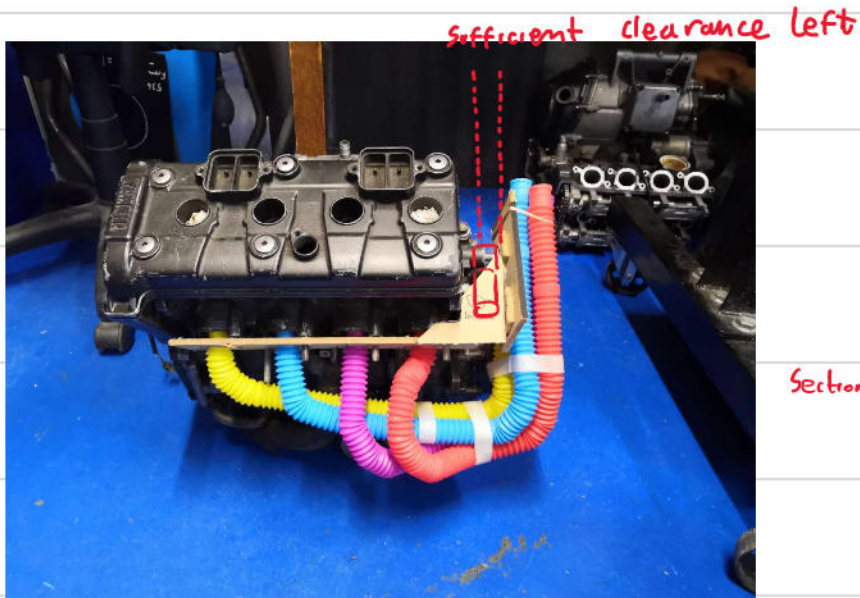
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## (New) Engine Mount location

- This will connect orthogonal to the chassis bar just behind the firewall
- Requires current chassis bar to be lowered
- Cylinder for mount partially wraps around cylindrical 'head' enclosing the bolt hole
- Both of the lower mounts stay the same



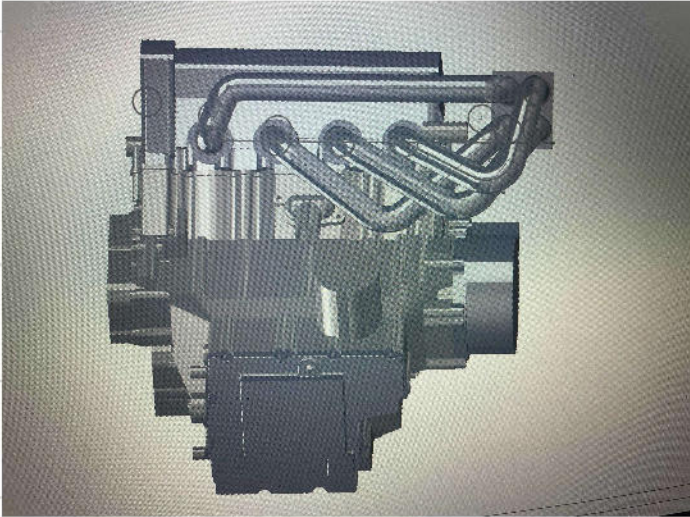
[Approx. location of pre-existing lower mounts]





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2nd design iteration: significant changes to method of CAD in primaries – as there are 3 bends, just 3 planes, angles between those planes, and axes with angle between the axes are sufficient to define the whole geometry.



### Testing geometric compatibility:

The primaries were cadded with laser cut tubes of 31.25 width (equivalent tube diameter). Circles with slots were used to generate the profile at different bend angles. This is assembled and tested on current chassis.

Issues:

①



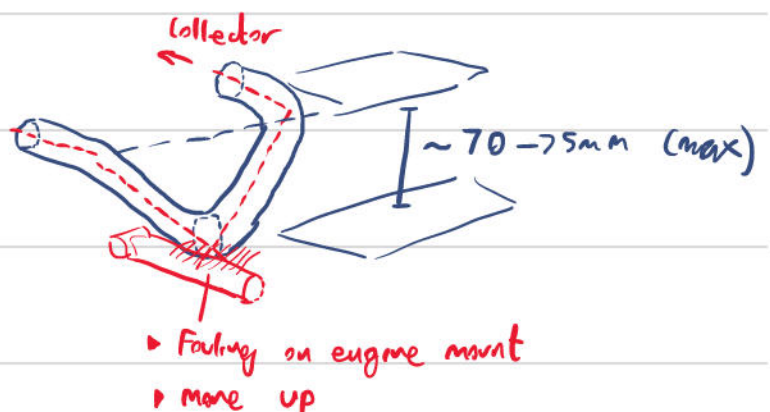
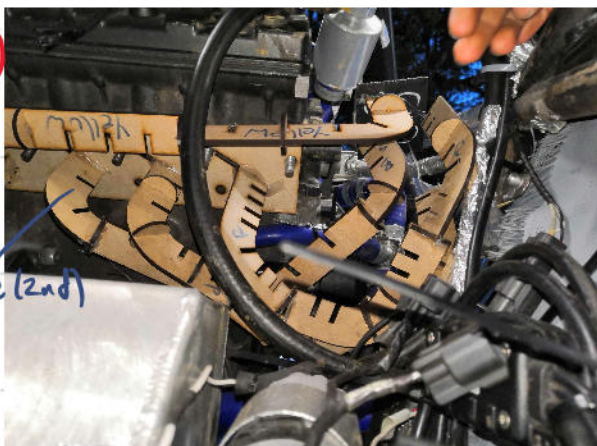
②



2nd bend primary 4 (Red)  
requires decrease – fitting on chassis bar

furthest extrusion  
distance ~ 15cm

③



Blue (2nd)

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2) Note really an issue- maximum perpendicular distance from the outlet to tangent plane to closest edge of fuel tank is approx. 150cm. This lies below the largest initial buffer of 170mm mentioned in Sept. 2022.

3) Blue primary fouling on engine mount- requires bend to be moved up, total buffer of approx. 75 mm max leaves enough room to the engine mount.