- Pixel Local/Global Supports
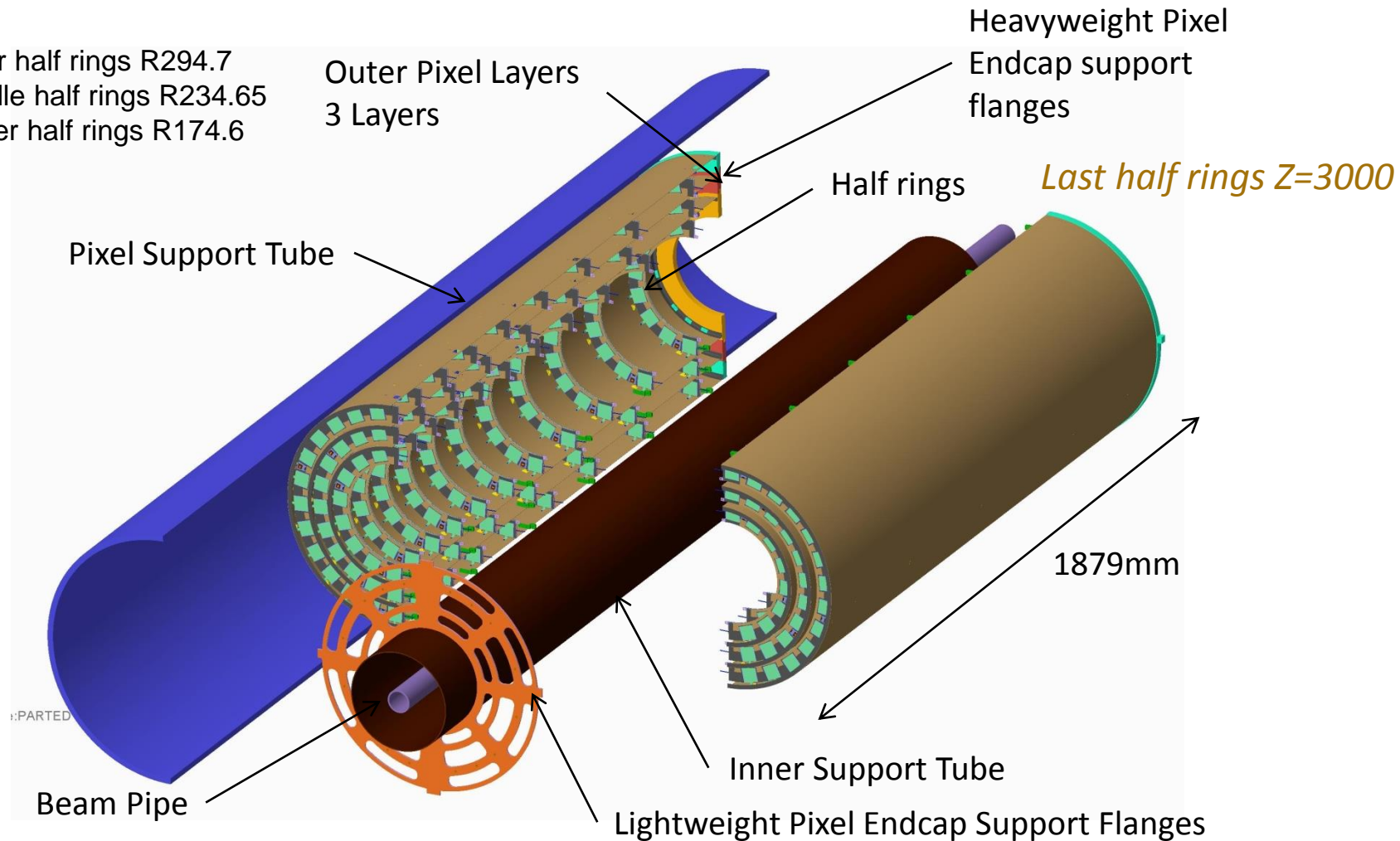
Flex insertion tool

Peter Sutcliffe
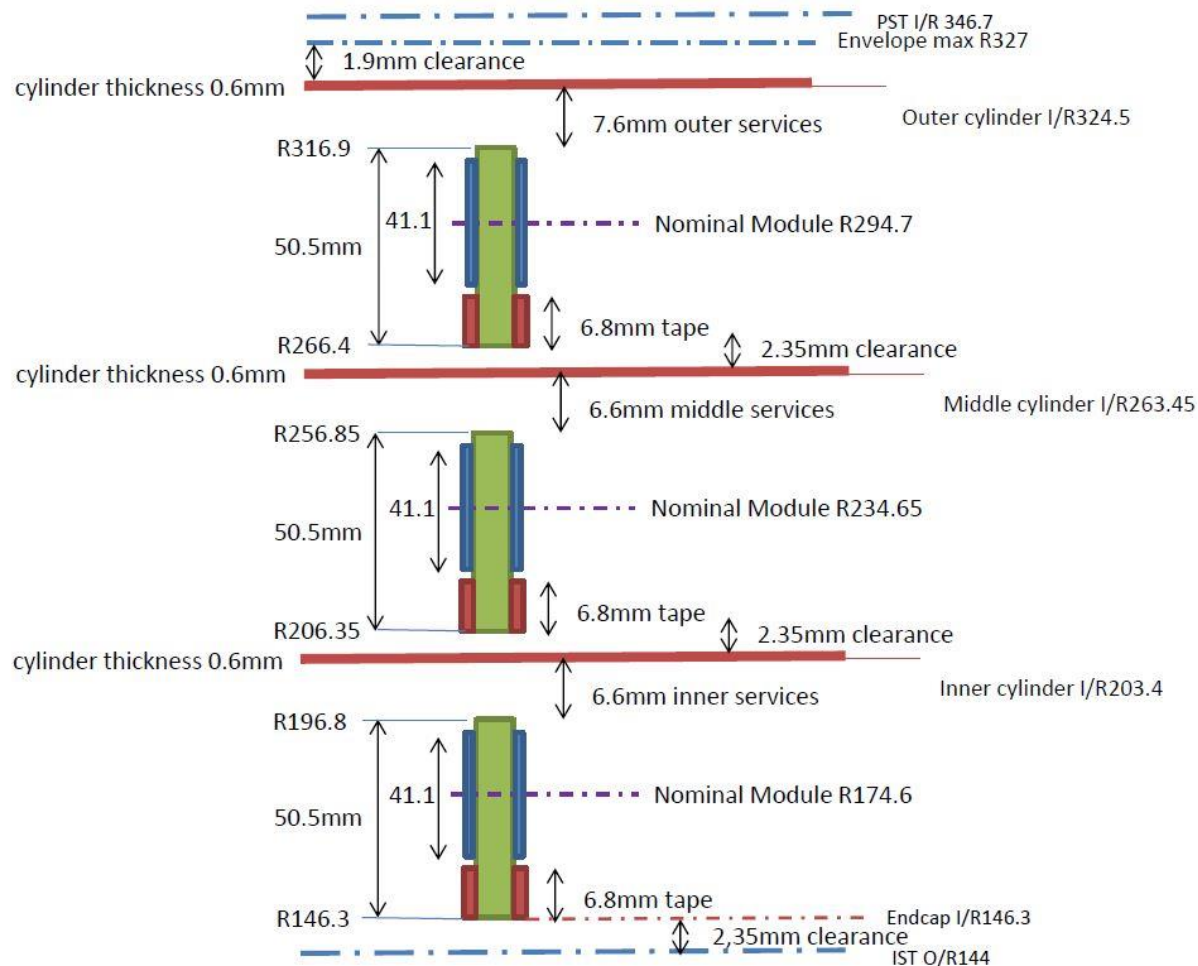
15th May 2020

UNIVERSITY OF LIVERPOOL

- 9 outer half rings R294.7
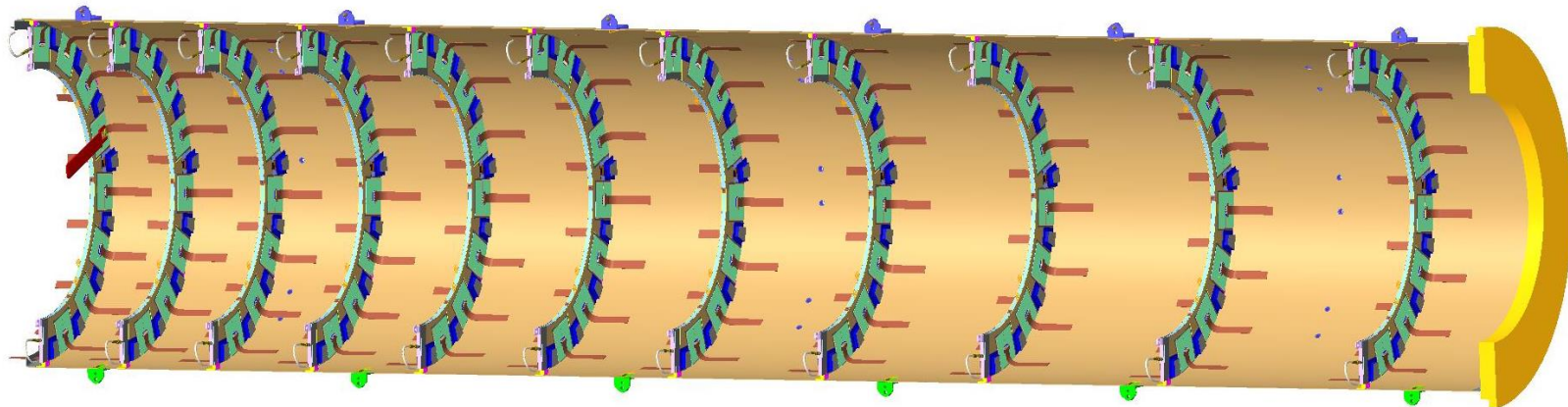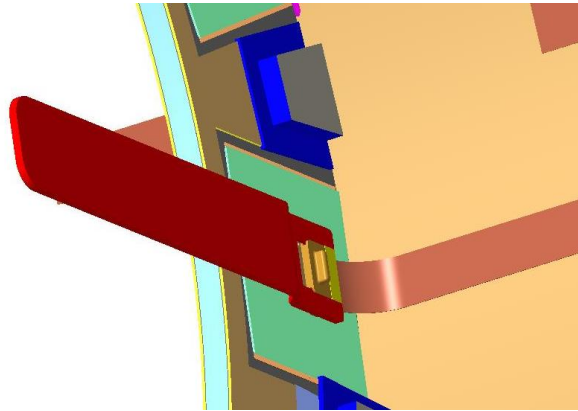- 8 middle half rings R234.65
- 11 inner half rings R174.6

Outer Pixel Layers 3 Layers

Heavyweight Pixel Endcap support flanges

Half rings

Last half rings Z=3000

Pixel Support Tube

1879mm

Beam Pipe

Inner Support Tube

Lightweight Pixel Endcap Support Flanges

:PARTED
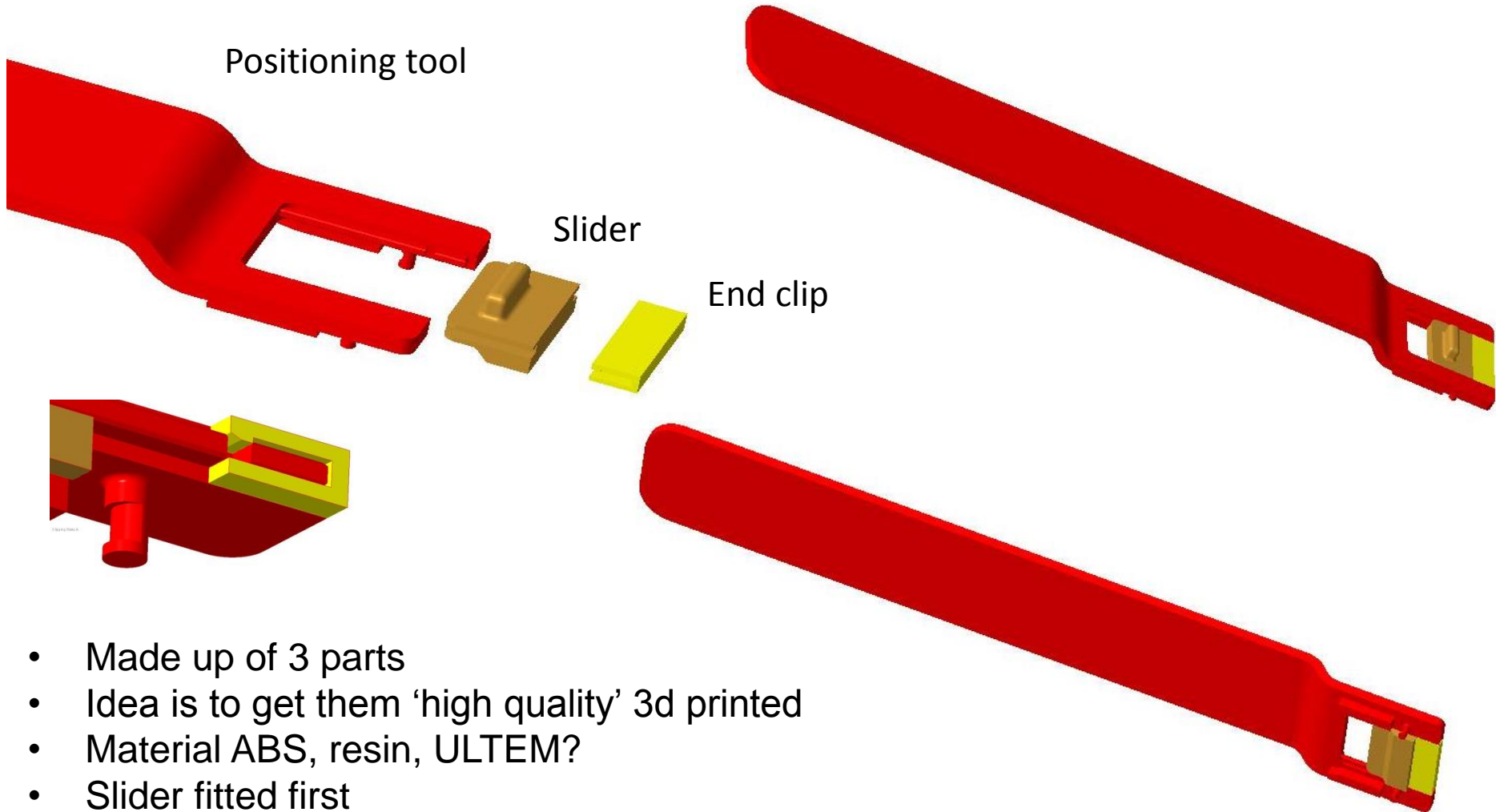
Endcap envelopes – 26th June 2019

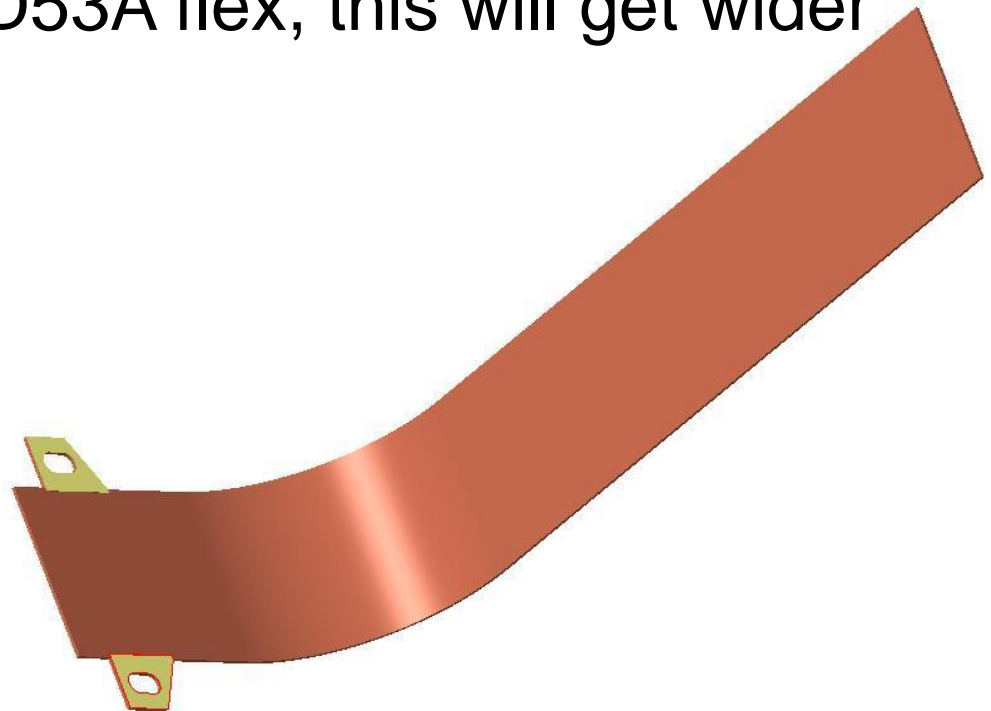- Shows the space around the half endcap
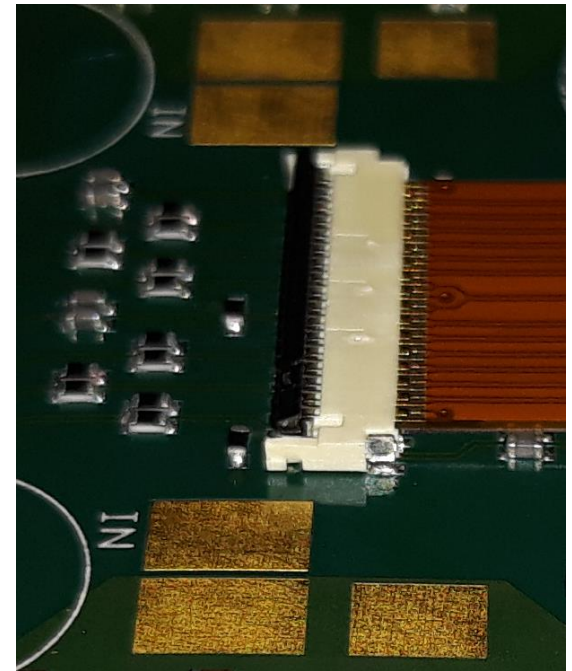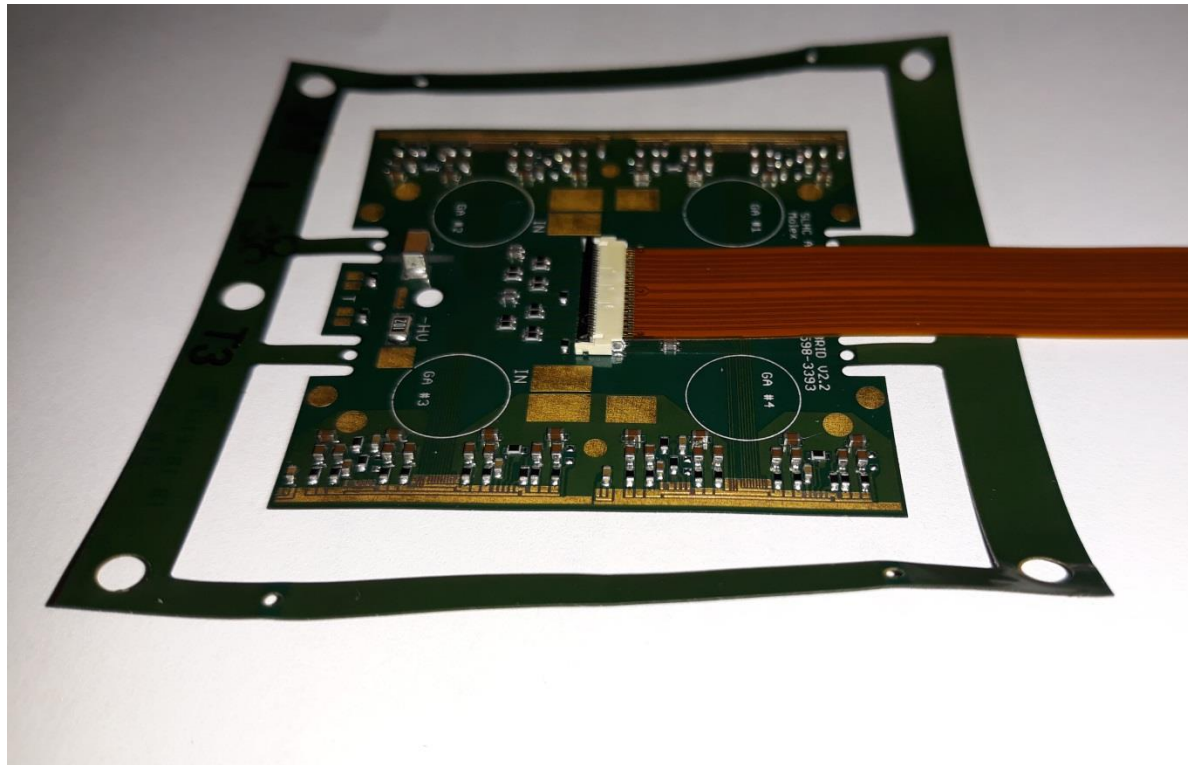
Positioning tool

Slider

End clip

- Made up of 3 parts
- Idea is to get them 'high quality' 3d printed
- Material ABS, resin, ULTEM?
- Slider fitted first
- Push on end clip which is not removable after

- Data flex will need wings and slots added and possibly 'stiffening'
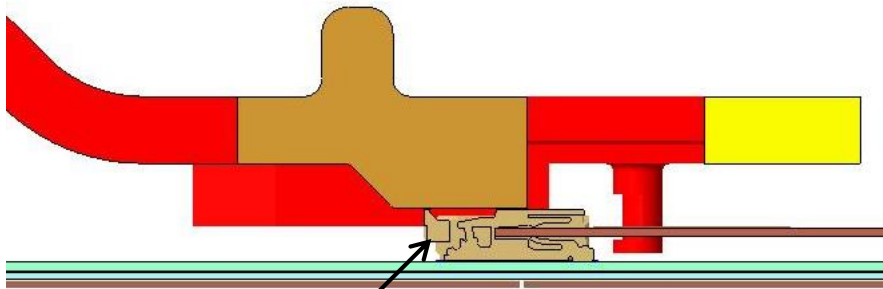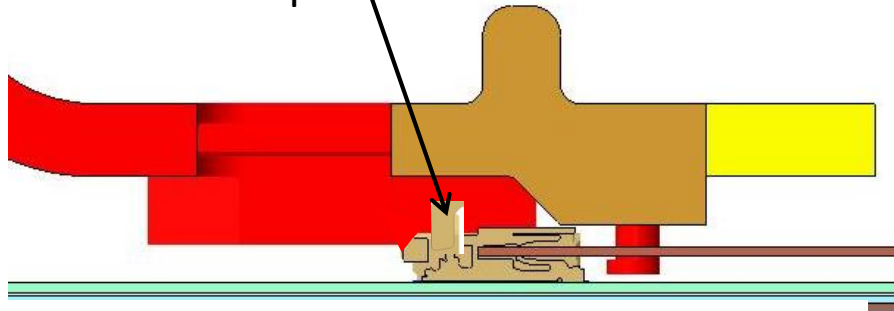- Note: This is the RD53A flex, this will get wider

- Existing hybrid and flex and components in the way, also no power connector.
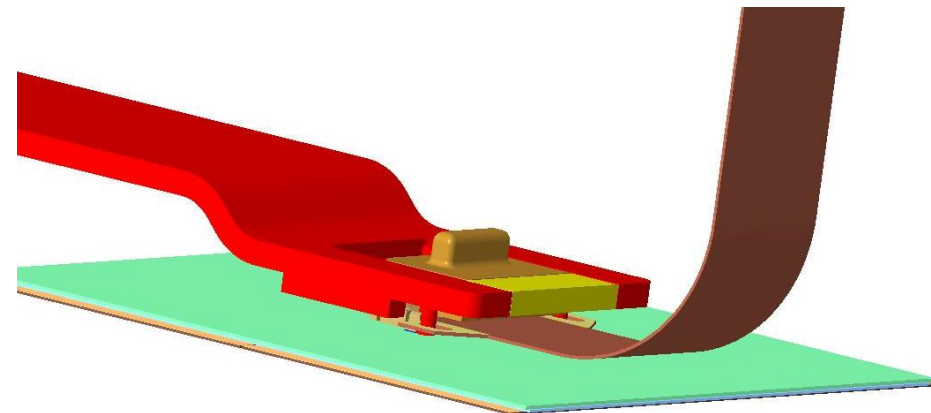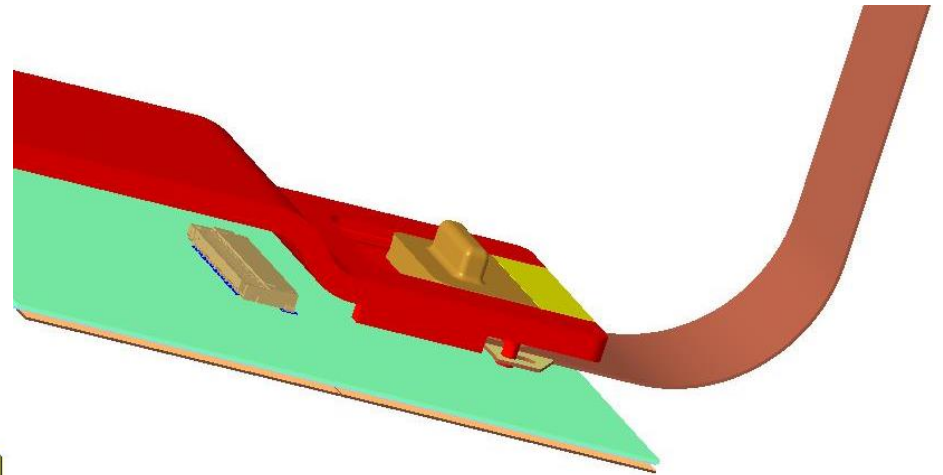
Insertion into Molex Connector

- Clip the two hooks into the slots
- Pull into connector
- Slide slider along to engage connector clip
- Give a slight 'tug away' to see if flex is engaged
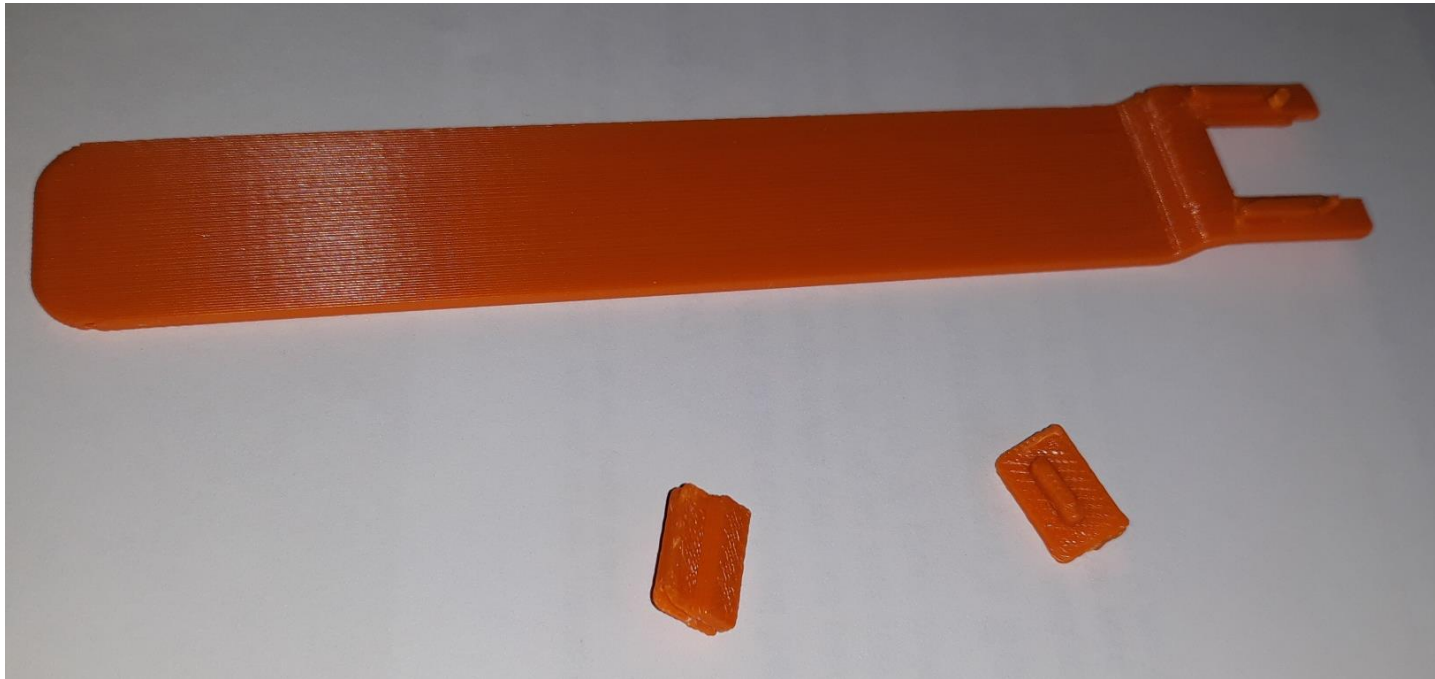- Carefully remove insertion tool

Latch open

Latch closed

- 3d printed prototype..
- Does not work due to quality
- Will need to go to a finer detail with a 3D printing specialist
- I think the pins will need to be a metal (brass) to get the detail

- The detail needed on the part is quite fine and will probably be a mixture of plastic parts and machined pins.
- The lever to close the connector is quite stiff and the slider may need fine 'dressing'
- Next step is to look into further prototypes
- The 'spatula' is quite thin and fleible, so maybe I need to go thicker and more robust.
  - Possibly add webbing to stiffen
- Which version do I prototype?
  - Can we have a mockup with the right connector and flex?