Smaller Magnet Bases for BS

2017/1/23
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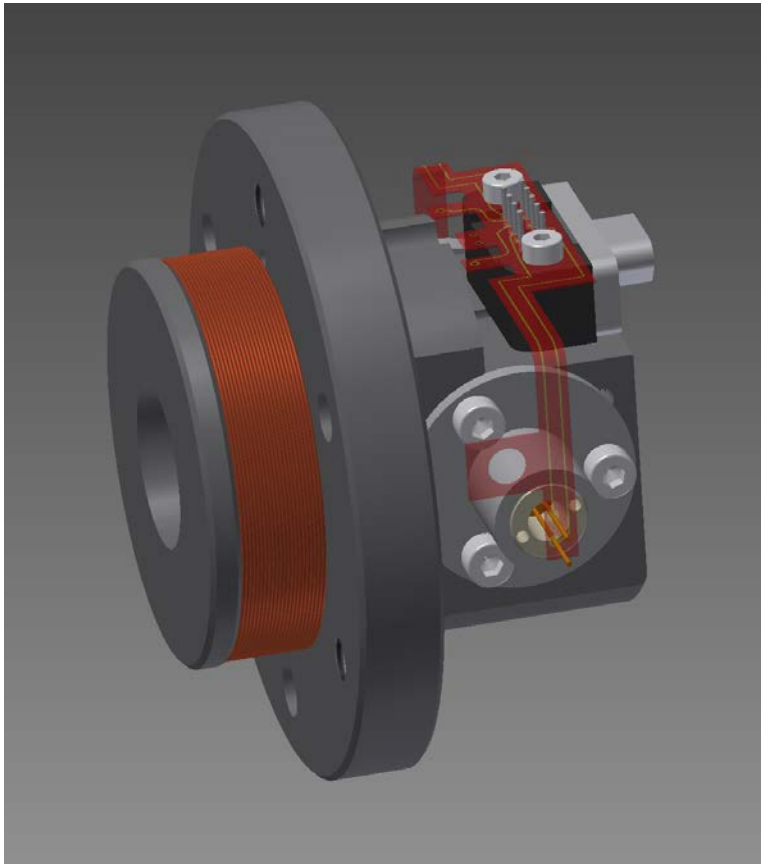
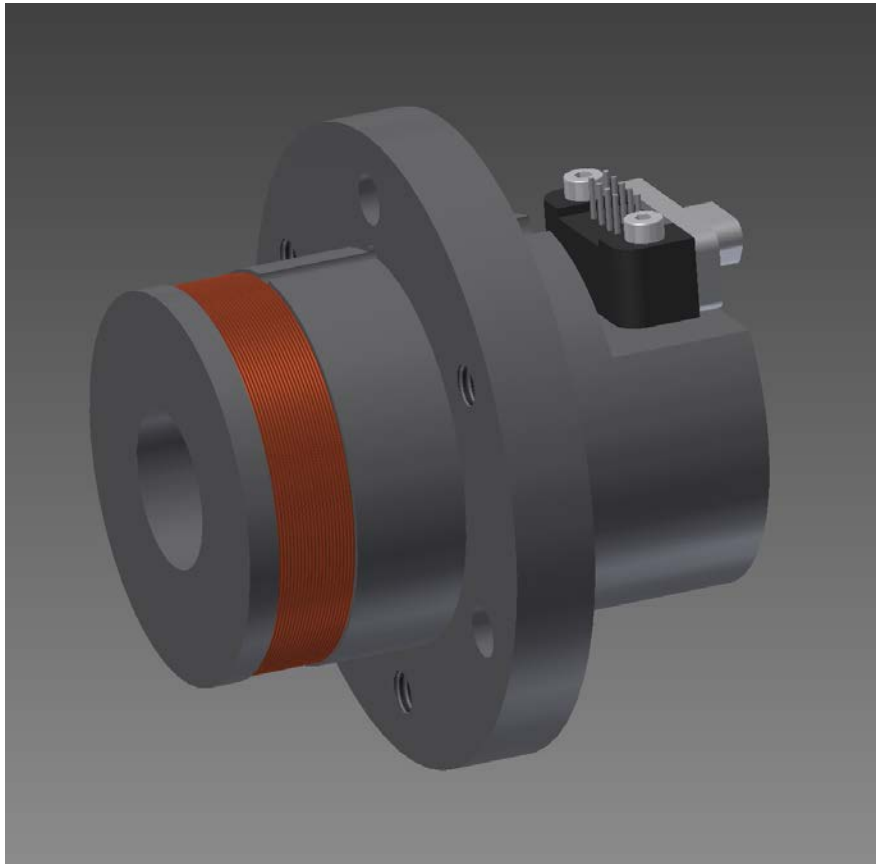
Requirements

- Make the footprint of the magnet base smaller (as small as possible)
- Elongate the coil body to maintain the relative position between the coil and the magnet
- Avoid too much weight change
- Avoid the change of the center of mass

OSEM

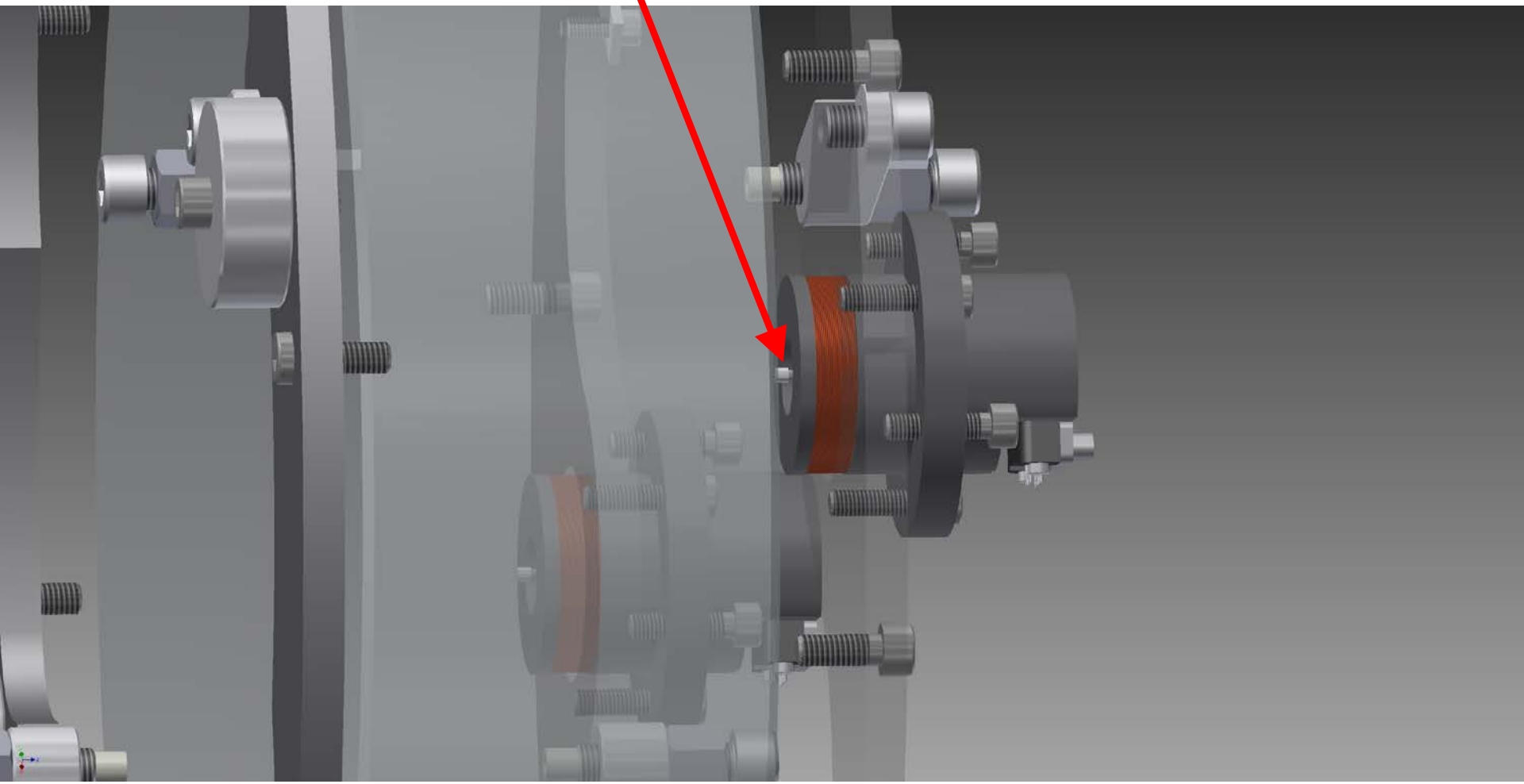


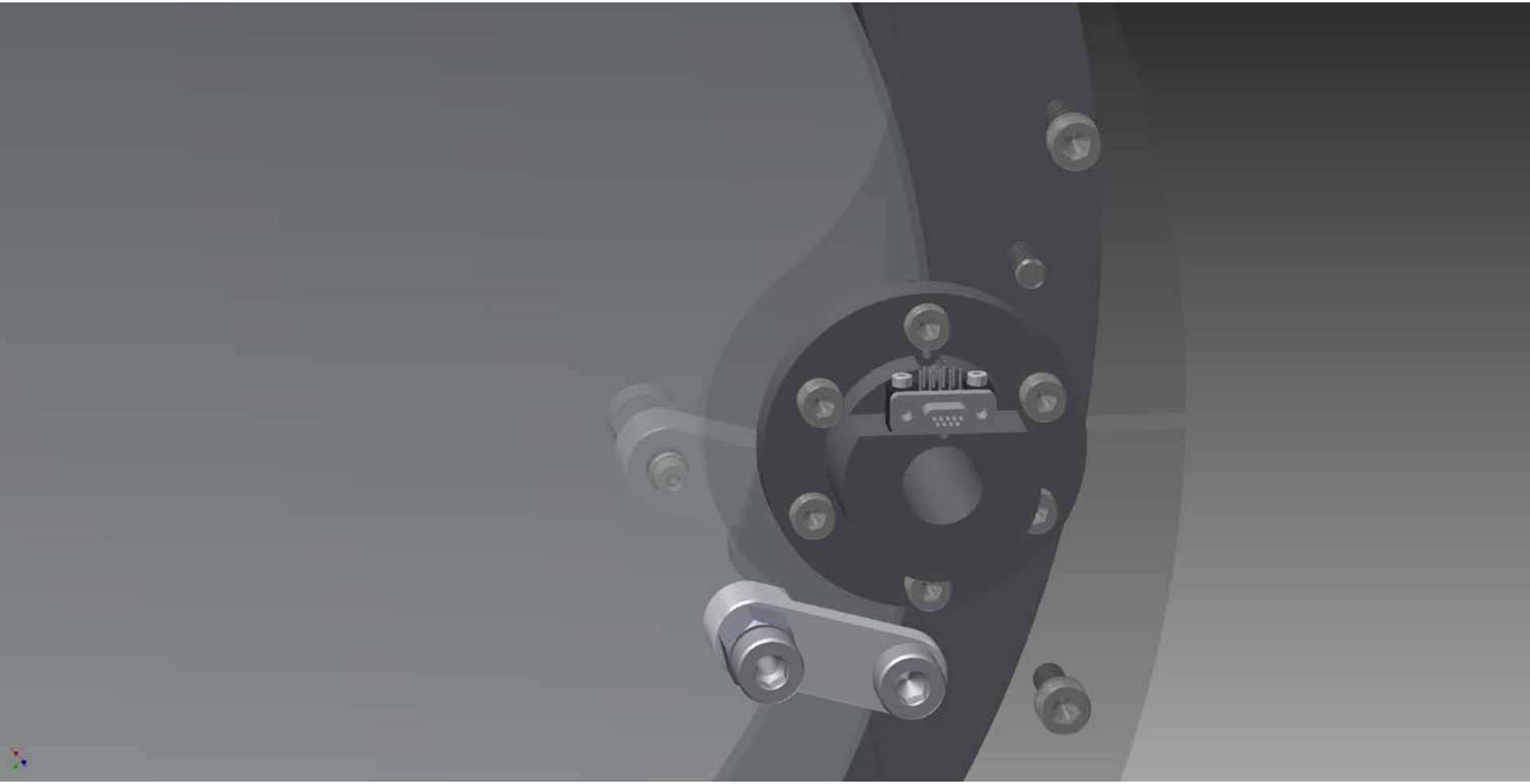
New Coil



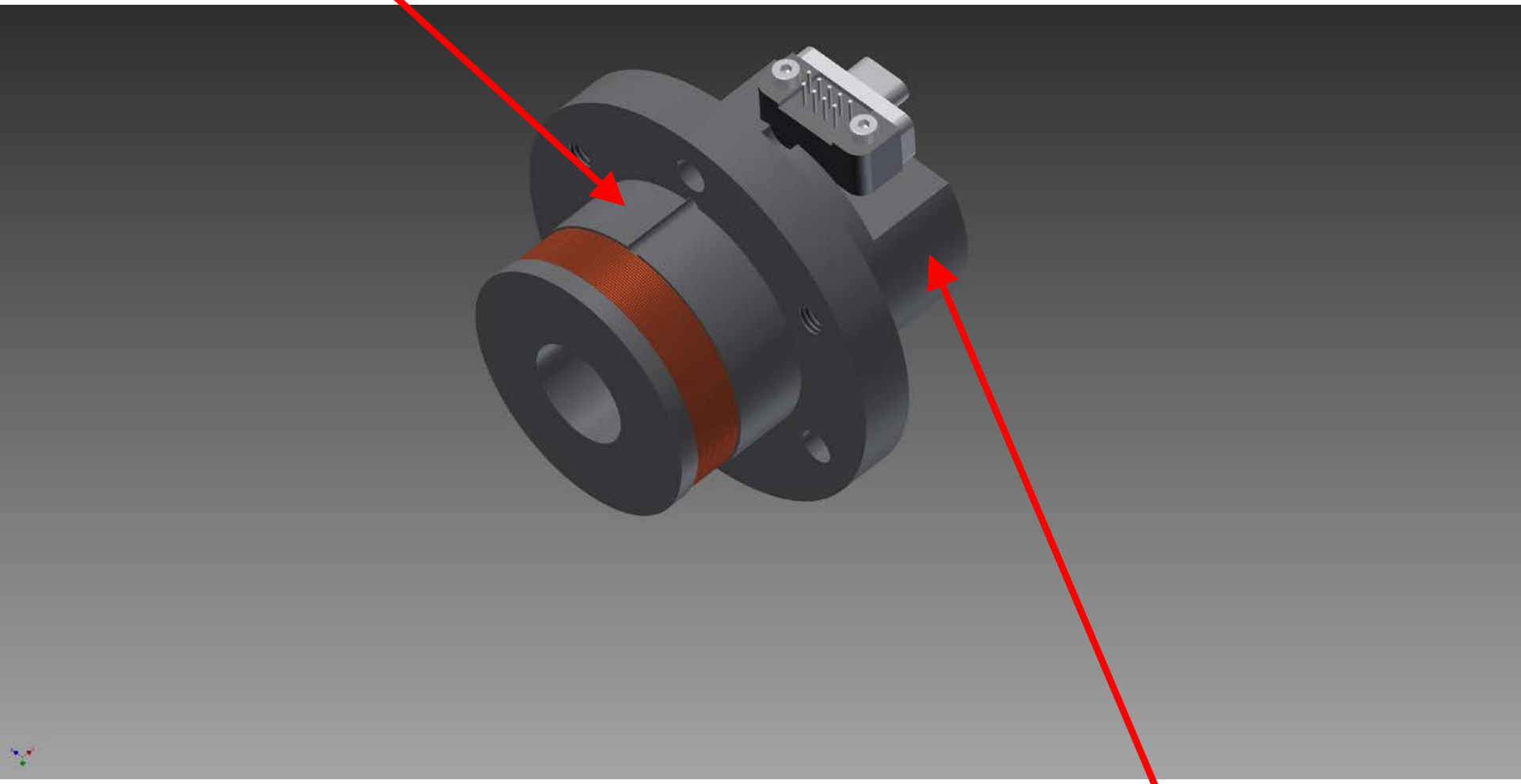
New design (BS RM assembly)

The magnet goes into the coil opening by 1.2mm



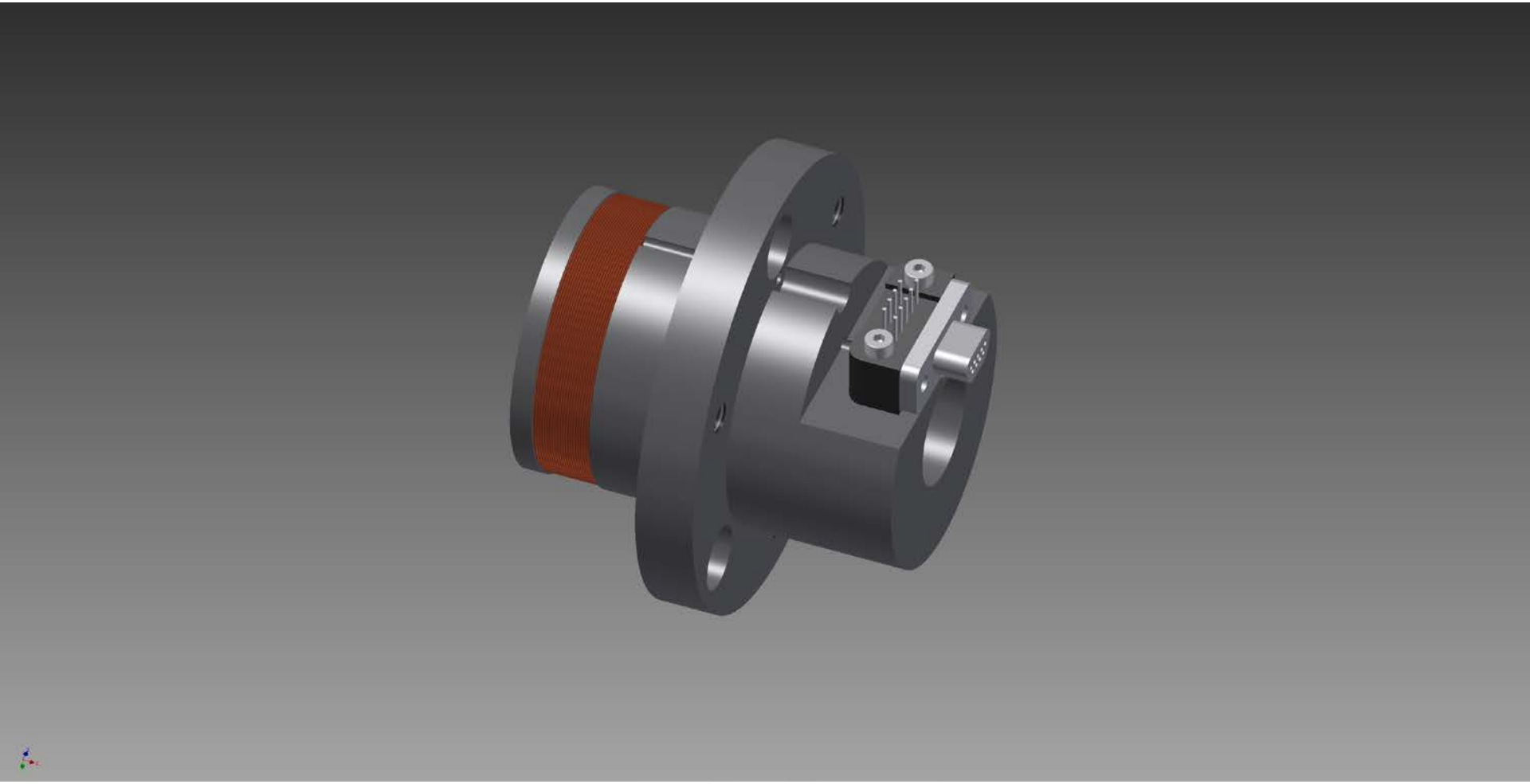


Elongated part

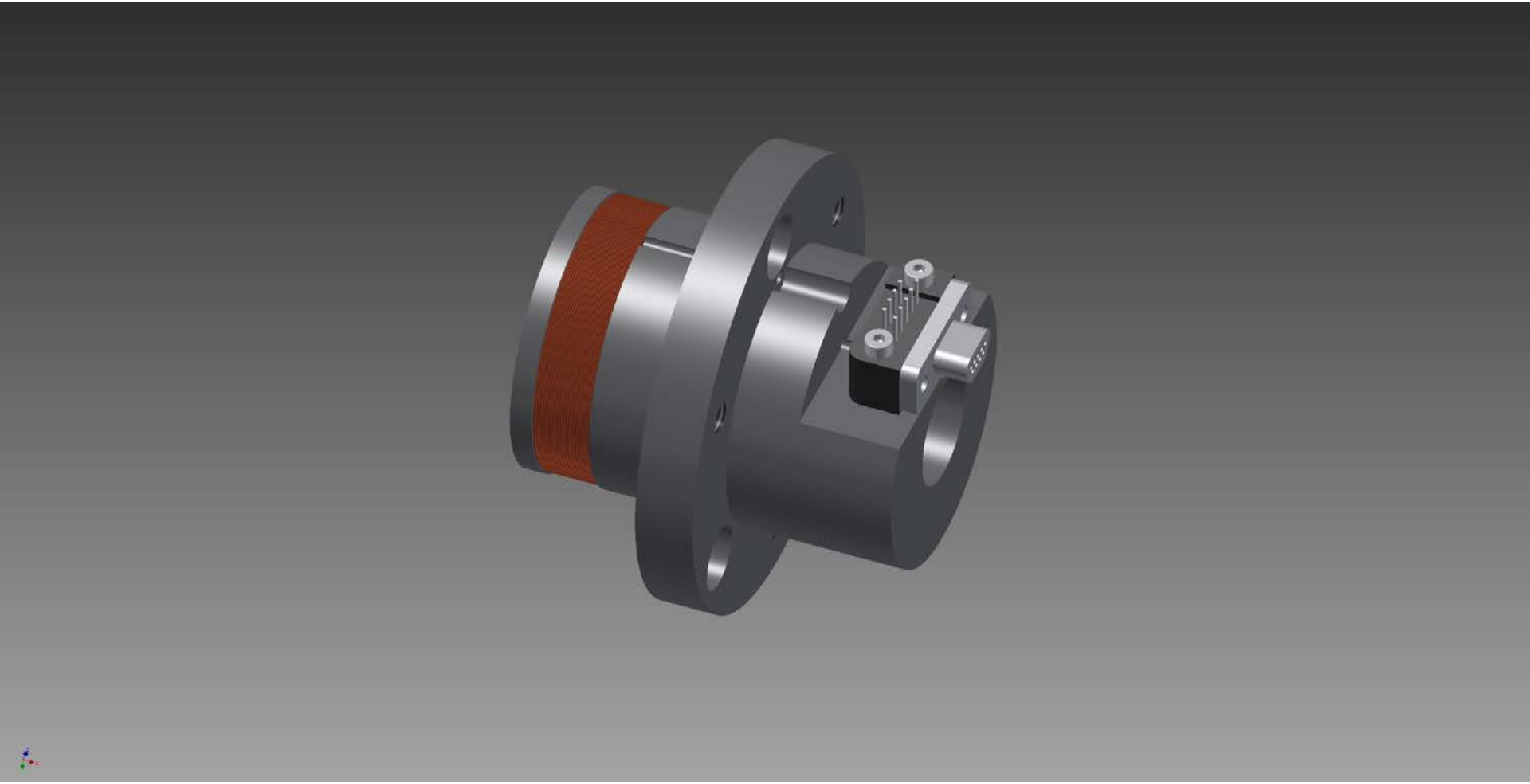


Some features removed (no sensor)

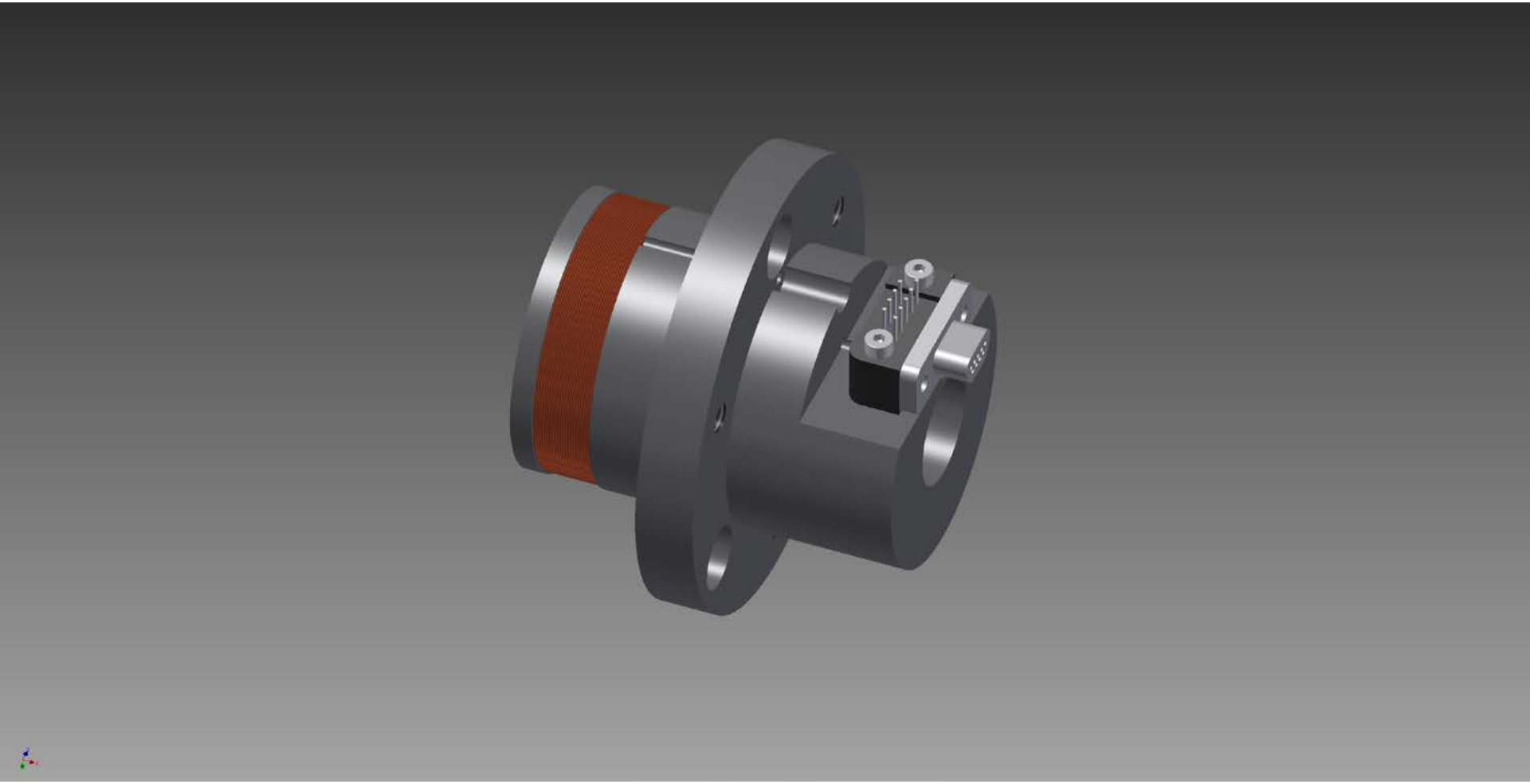
How to connect the coil wires to the micro-D connector ?



Attach QI connector female contacts



Then insert them into the pins

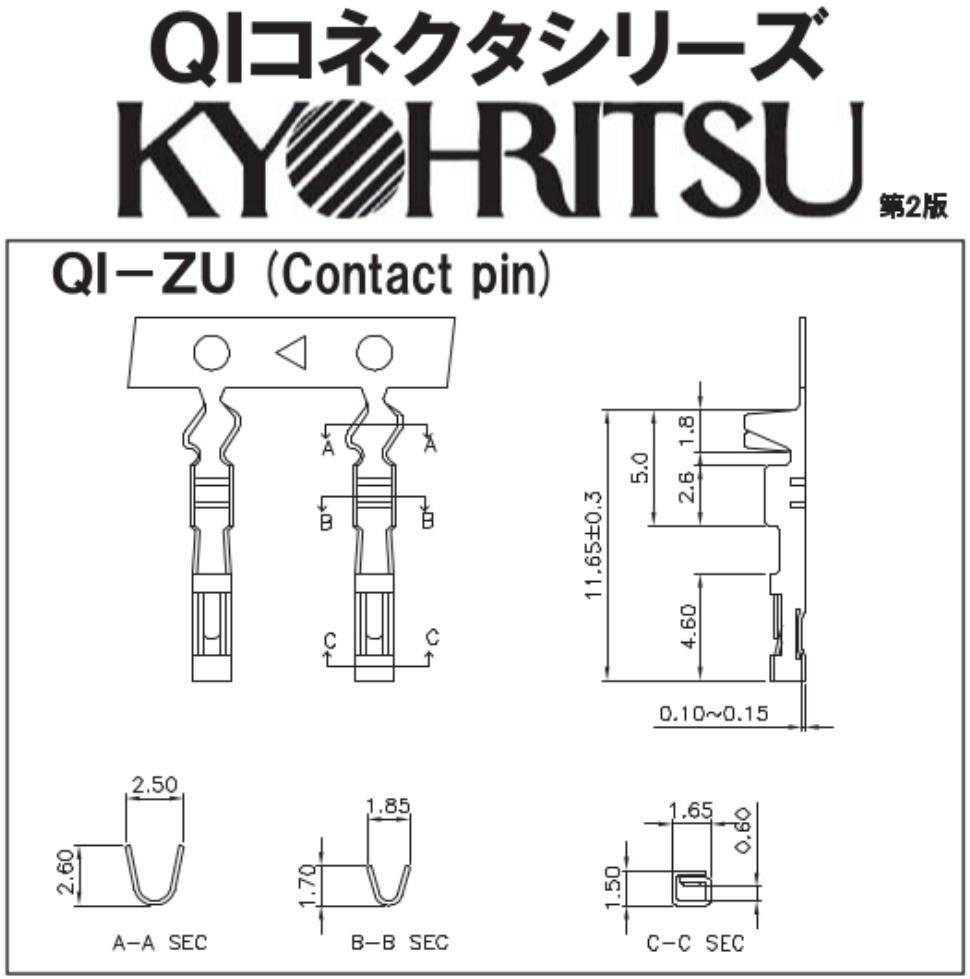


- QI connector: hole size is 0.6mm.
- Micro-D: pin diameter is 0.5mm
- We may need to squash the female contact a bit
- We don’t know if we can hold the thin coil wire by crimping the contact

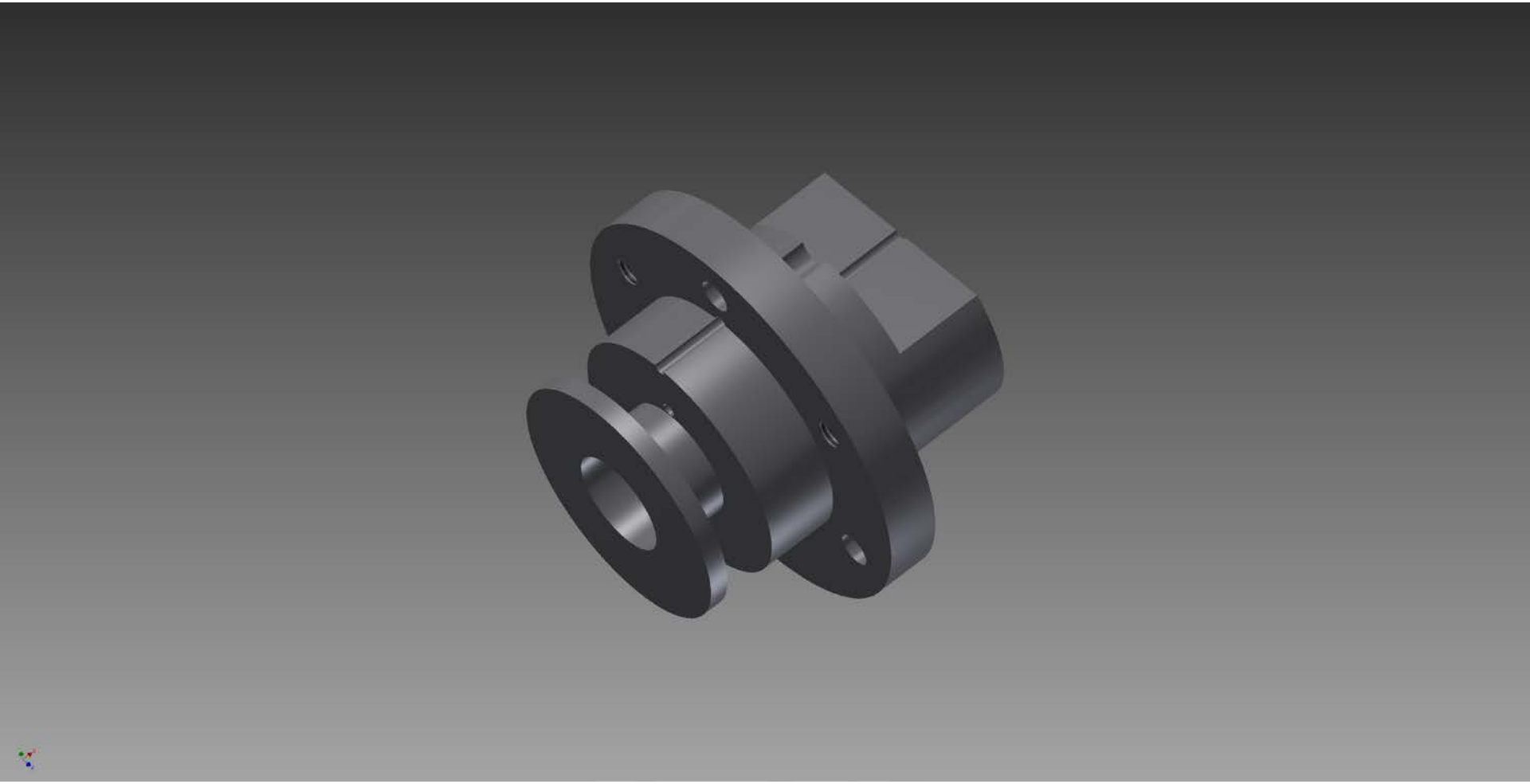
We need to test this method

Other possibilities:

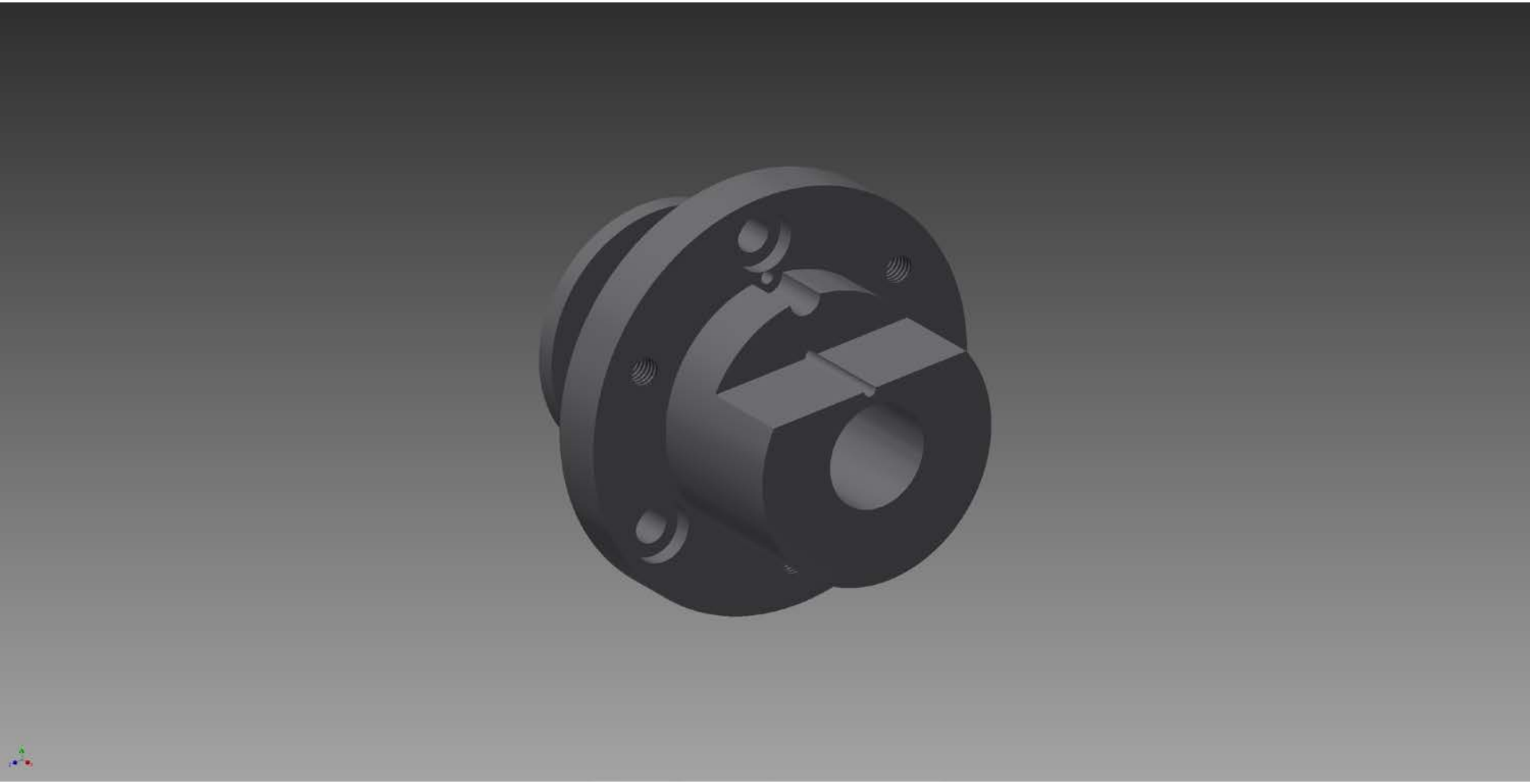
- Use the flexible circuit
- Directly solder the wires onto the Mirco-D pins.



Coil Body



Coil Body

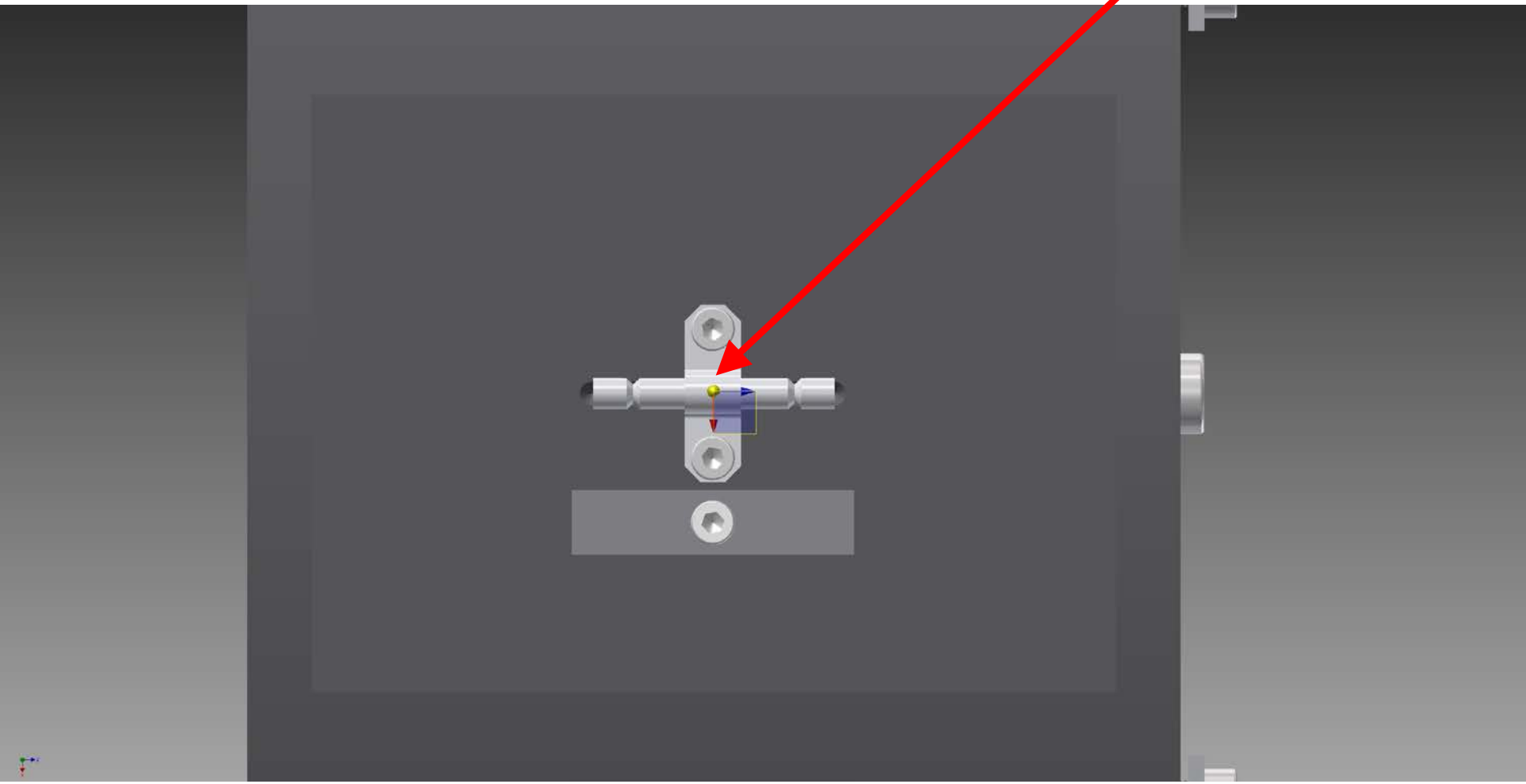


Mass Difference

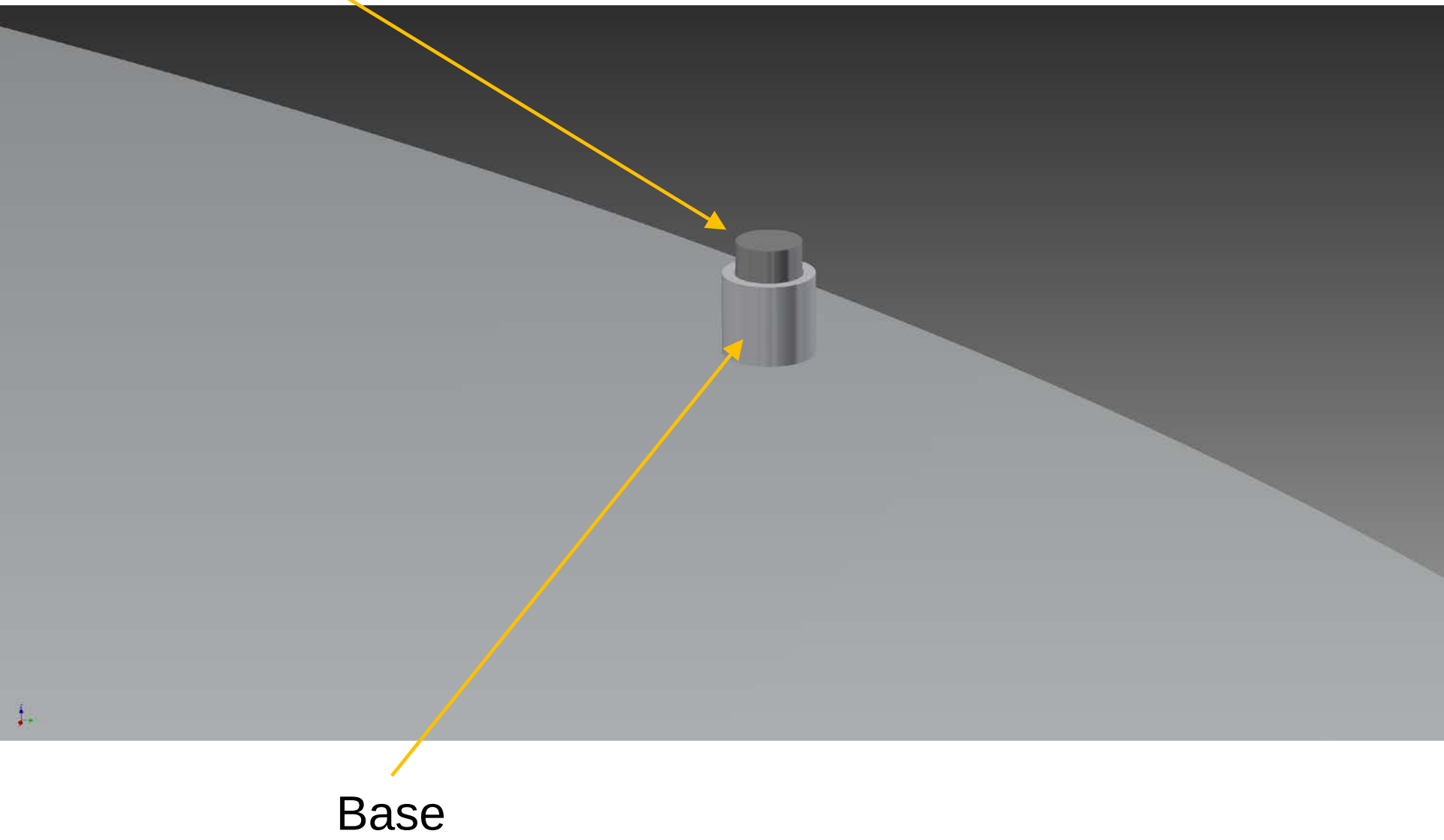
OSEM: 75.6g each

Smaller Coil: 89.7g each

Center of mass of the entire BS RM assembly



Looks like within the range of ballast mass adjustment


Magnet
Base