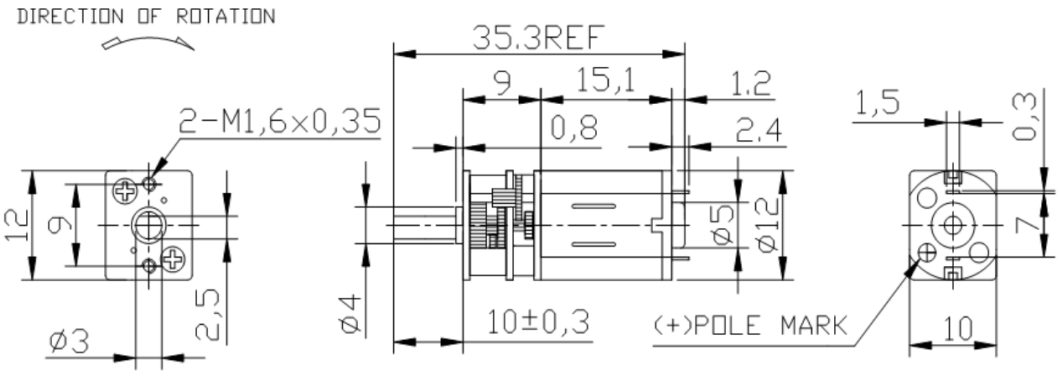
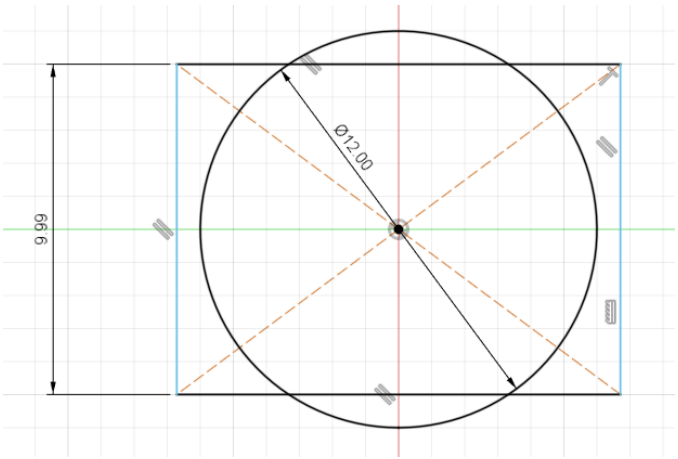
DC Motor - CAD - Fusion 360

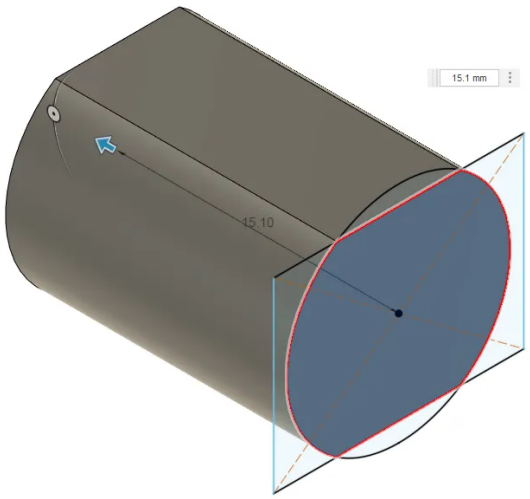
For this component we were tasked with learning to create 3D from design drawings, workshop 4 contains the full lesson.



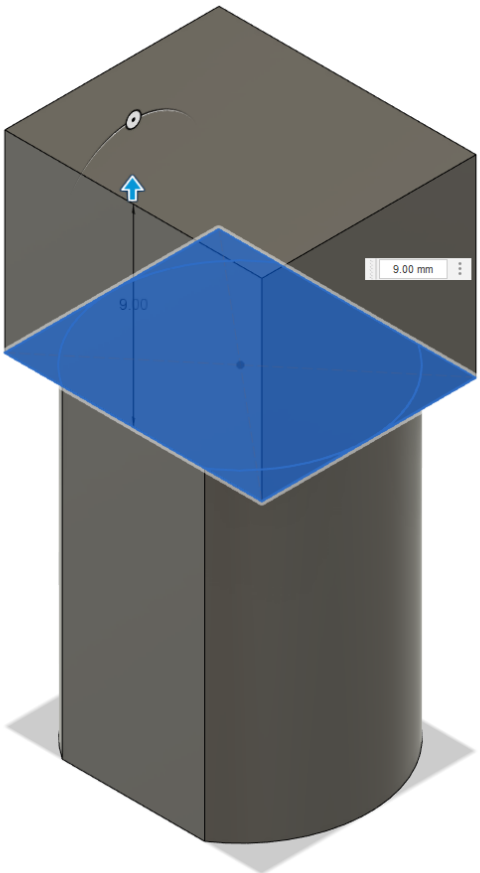
Firstly we made a new sketch and used the circle tool to create a circle with a diameter of 12mm, we overlayed a square on this circle of 9.99mm (need to ask why 9.99 again)



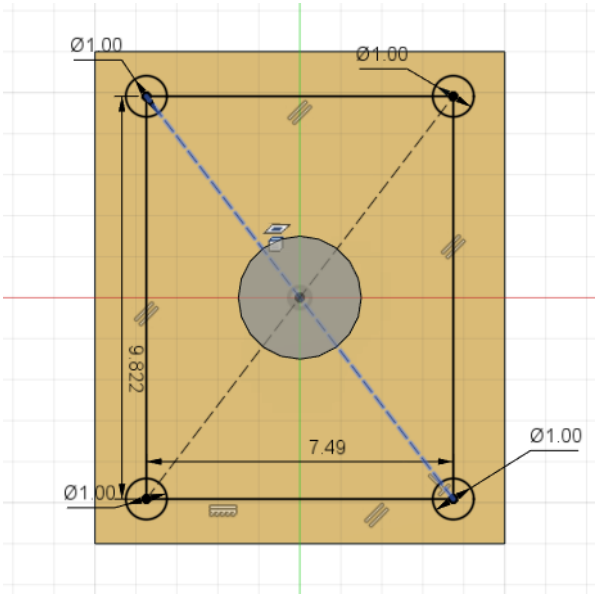
Extruding the centre area to 15.1 gives us the main body of the motor as specified by the technical drawing.

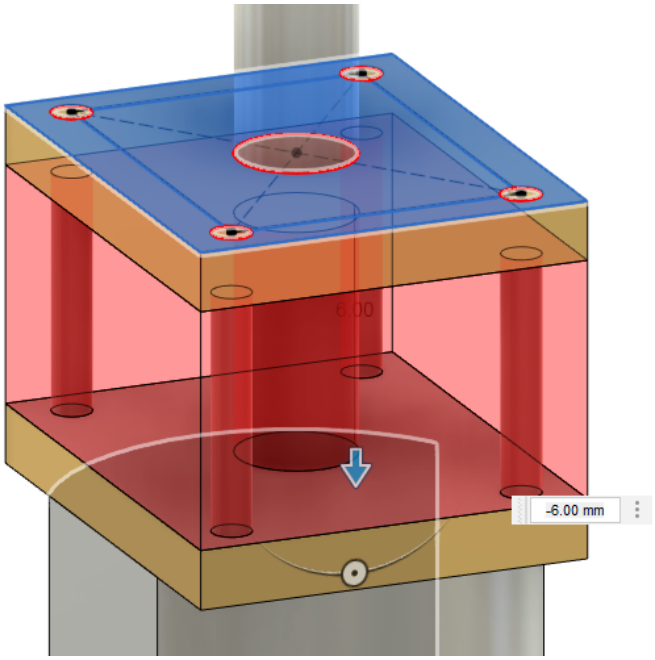


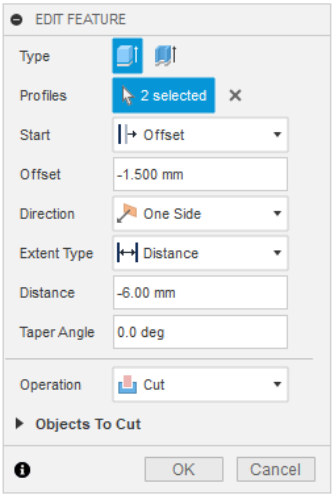
Next I extruded from the rectangle already draw for the gearbox. Again to the specifications of the drawing.



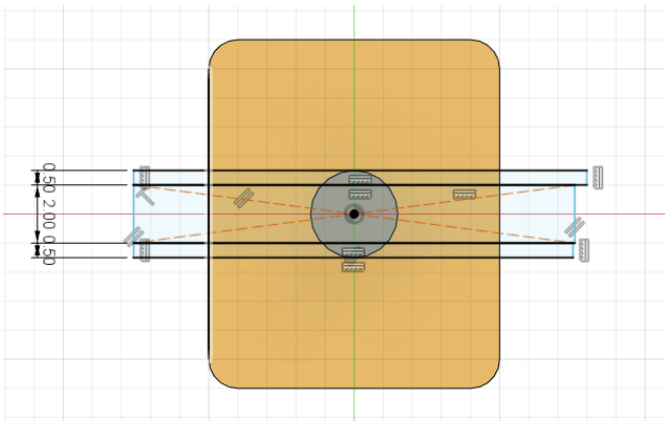
Though the basic shape is there we were shown how to use the extrude tool in a new way which is to offset the extrude. This allowed us to create the gap section in the gearbox area. Making another sketch on the top of the gearbox I added 4 circles which would end up being the pillars.



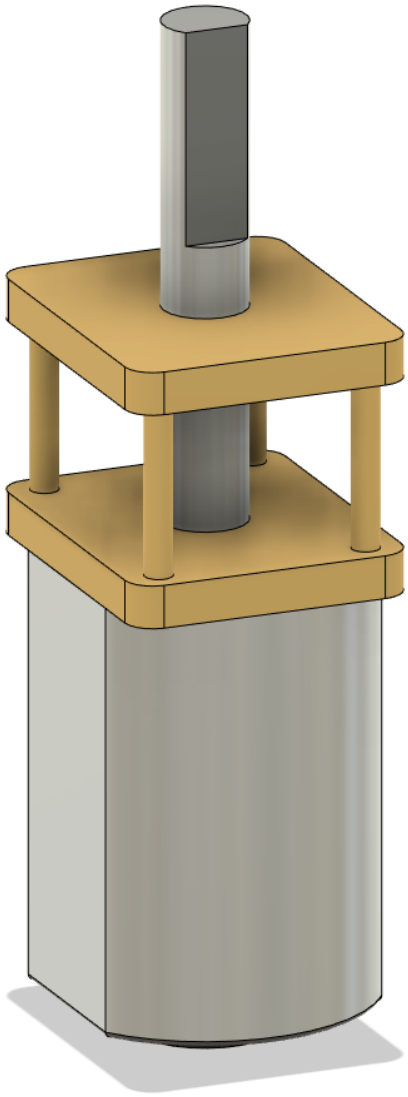


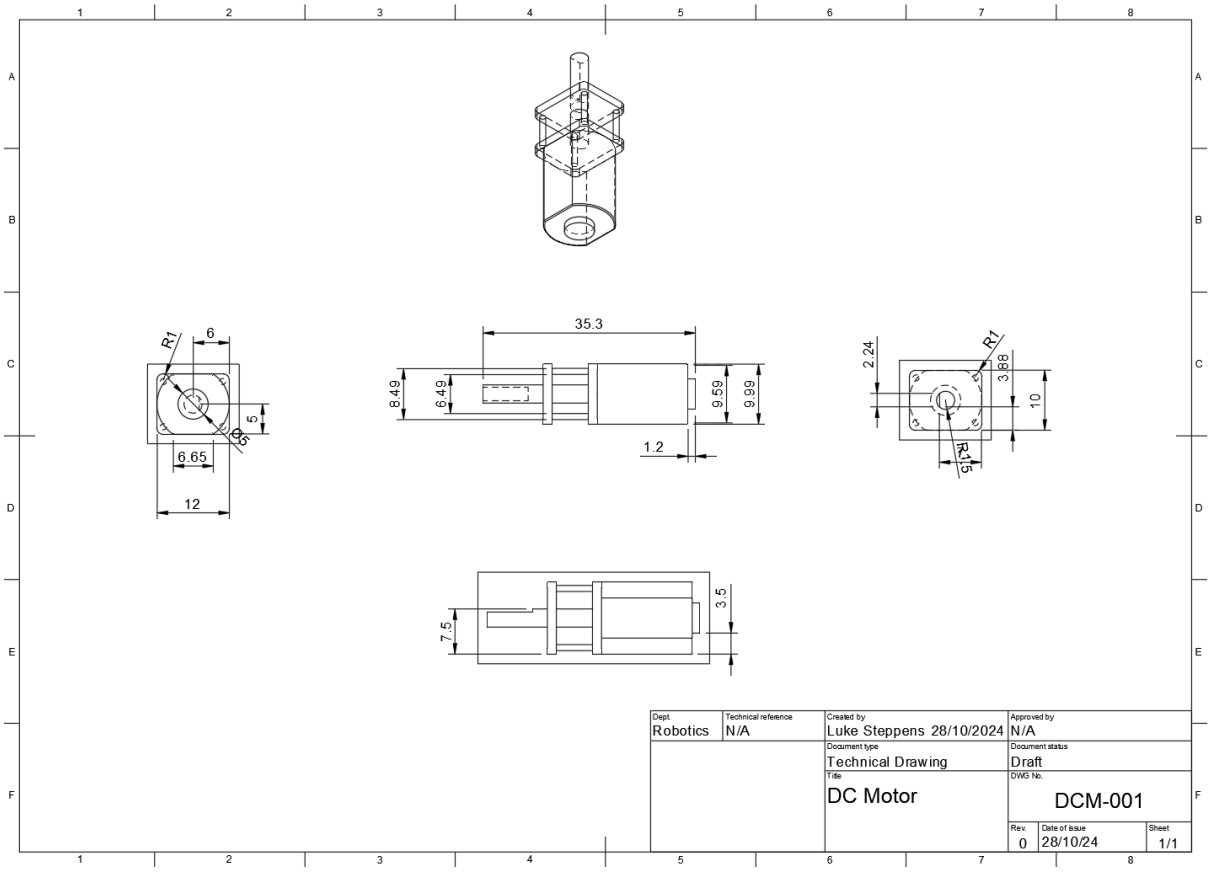


All that was needed was the shaft and to fillet the edges and to use the appearance option to change the colours. For the shaft a new sketch was added to the top of the rectangular box and a 3mm diameter circle was added and then extruded.



A sketch was made on the top of the shaft, and using the centre rectangle tool I made a box with a width of 2mm. This left a 0.50mm segment on the top and bottom from which to negative extrude from one of them. This left the shape ready for a wheel to be placed upon it.

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R1
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R15
7.5
3.5
Dept.
Robotics
Technical reference
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Created by
Luke Steppens 28/10/2024
Approved by
N/A
Document type
Technical Drawing
Document status
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Title
DC Motor
DWG No.
DCM-001
Rev.
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Date of issue
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