

Using Siemens NX 11 Software

Creation of 3D parts from 2D plans (Stirling engine)

In this tutorial, *Sketcher* and *Part Design* workbenches will be used.

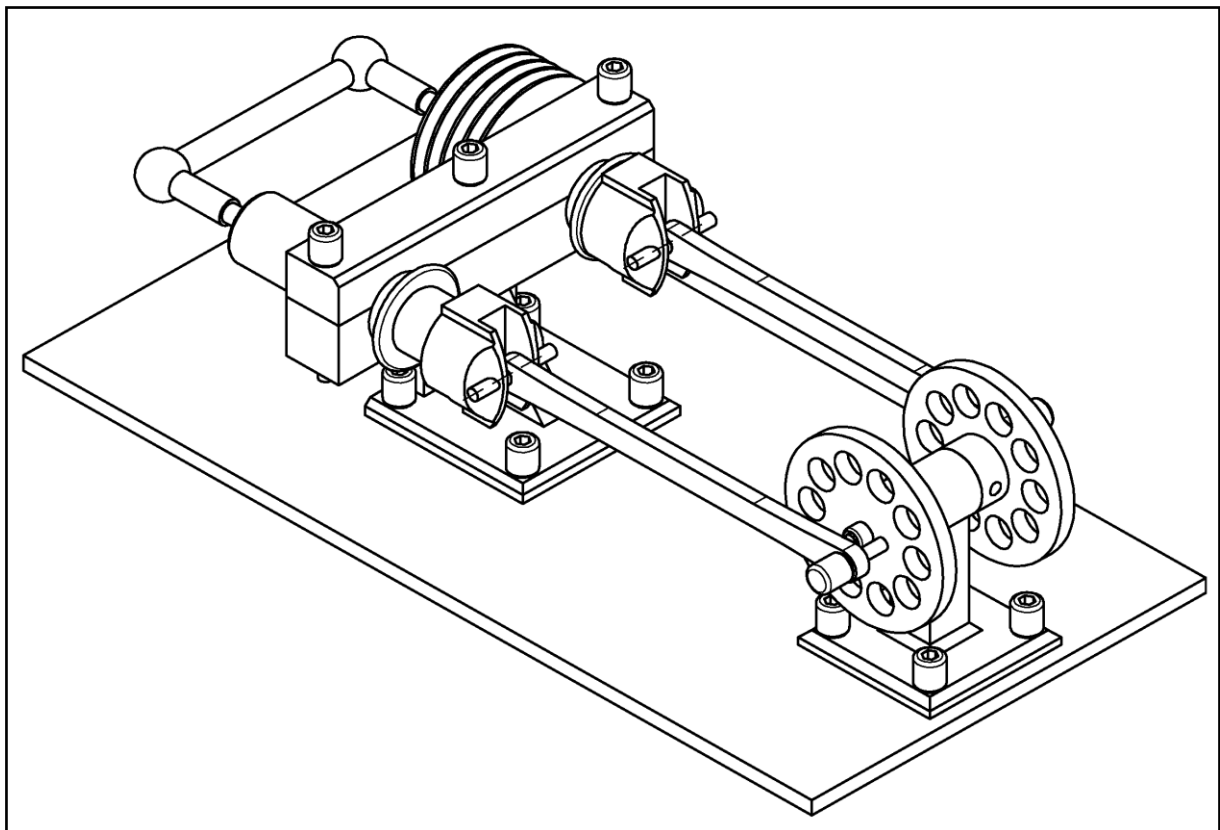
Tips:

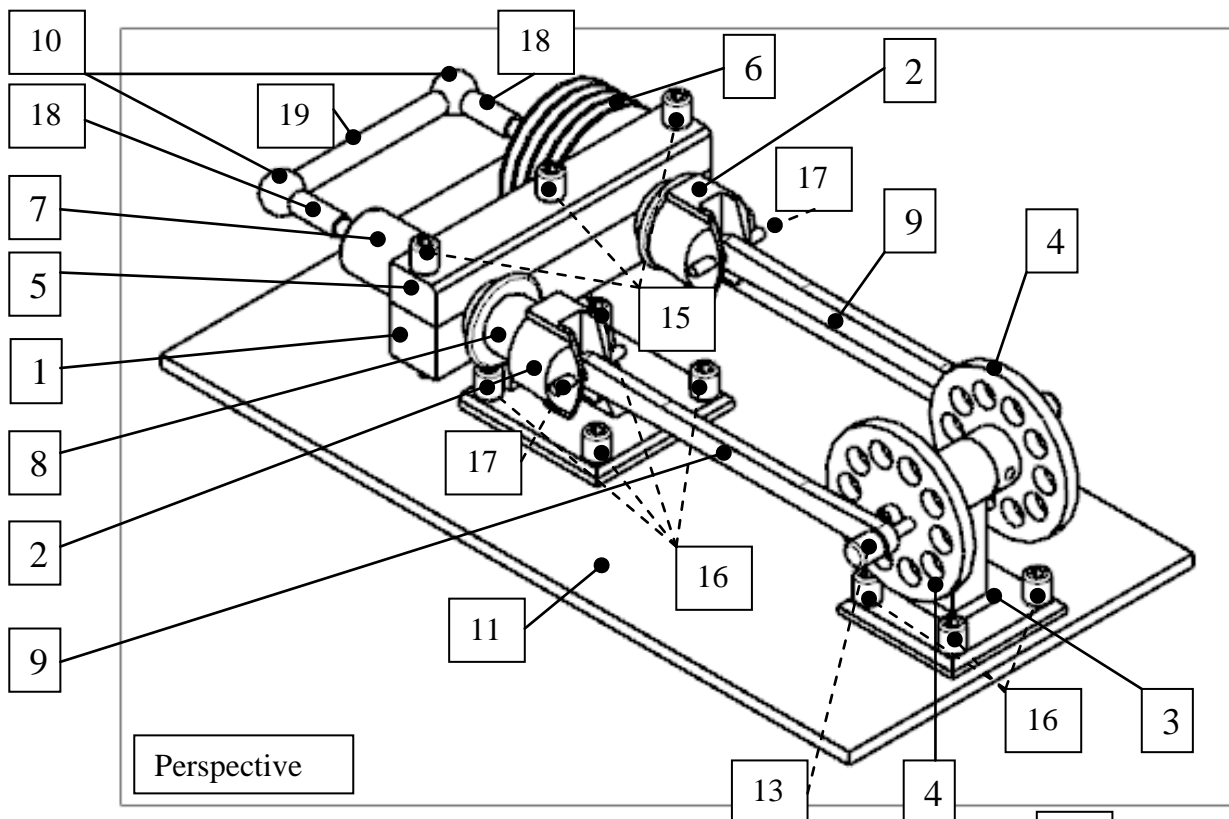
- Create a subdirectory “stirling” in your working directory where you will save all your files related to this engine. At the next session, you will indeed need to create an assembly of the various parts.
- Name your files according to the below list. It will simplify the assembly later.
- You need to create a new file for each part.

The following pages contain 2D drawings of the parts to be constructed with their dimensions.

Make first parts 1, 2, 3 and 4, then the others if time allows.

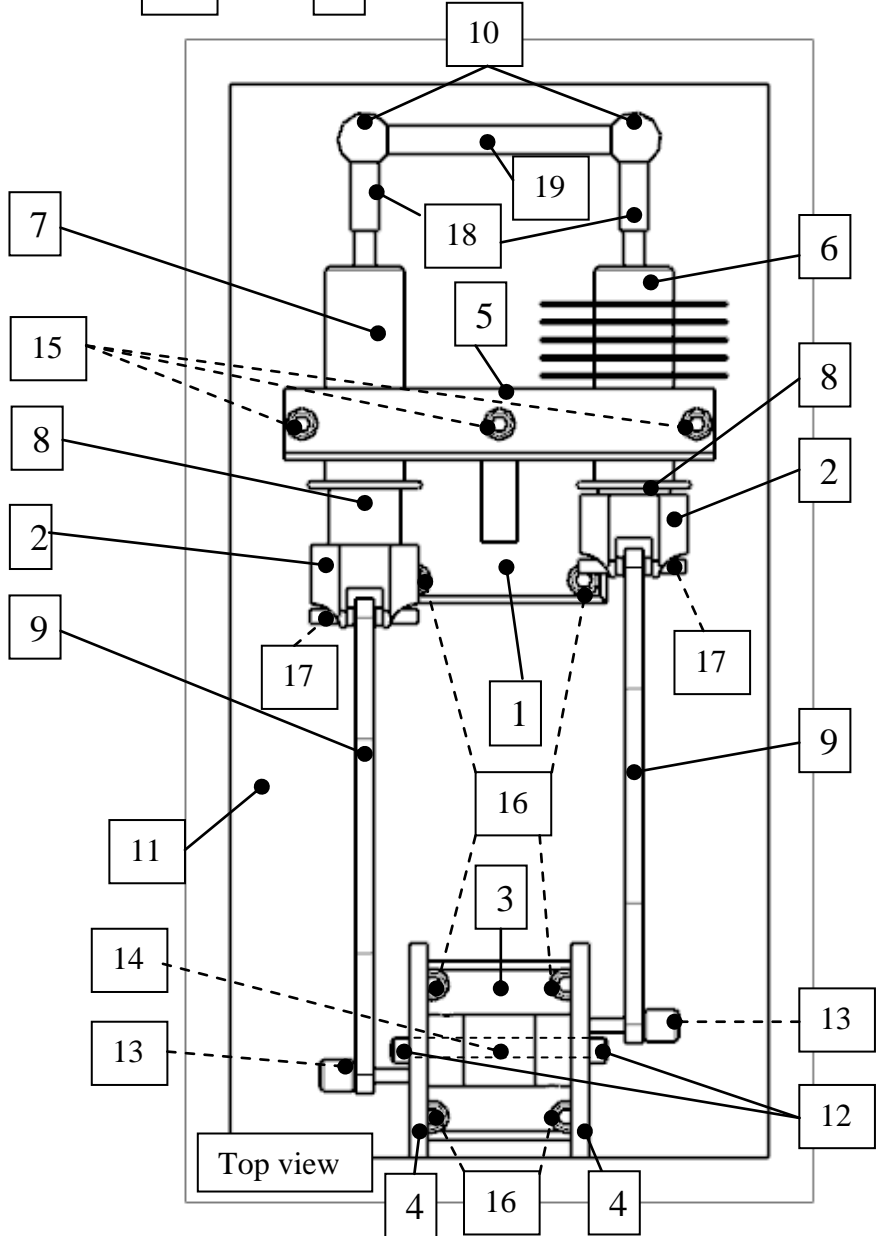
The figure below shows the configuration of these parts in space.

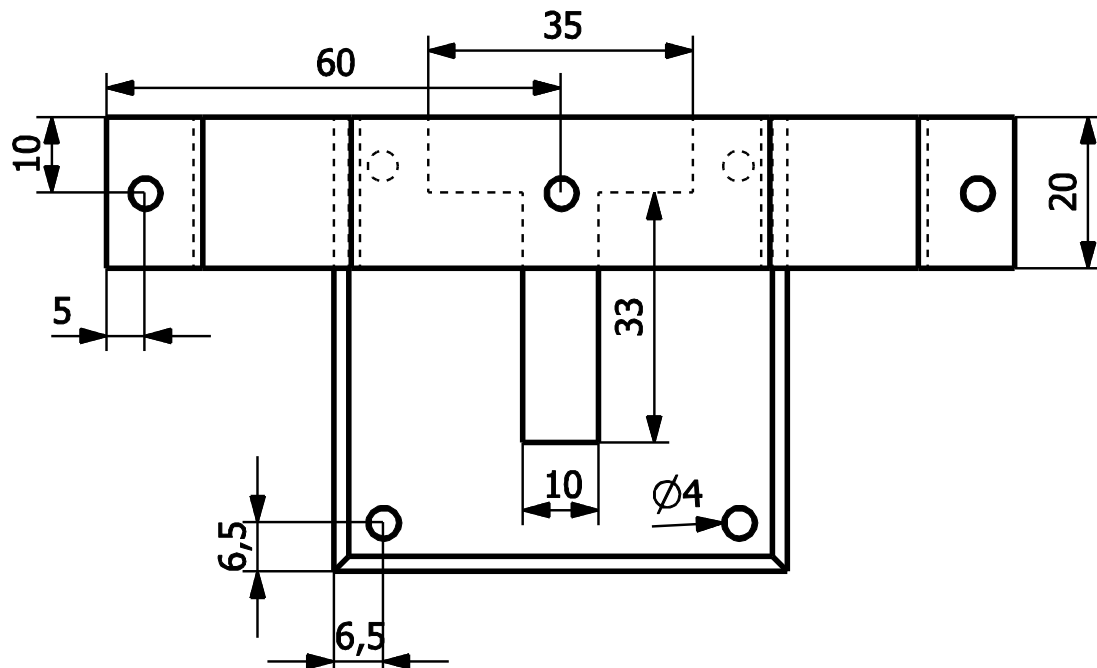
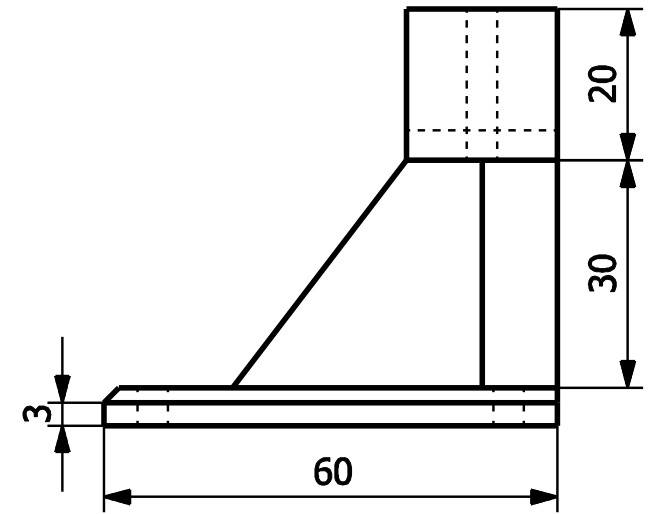
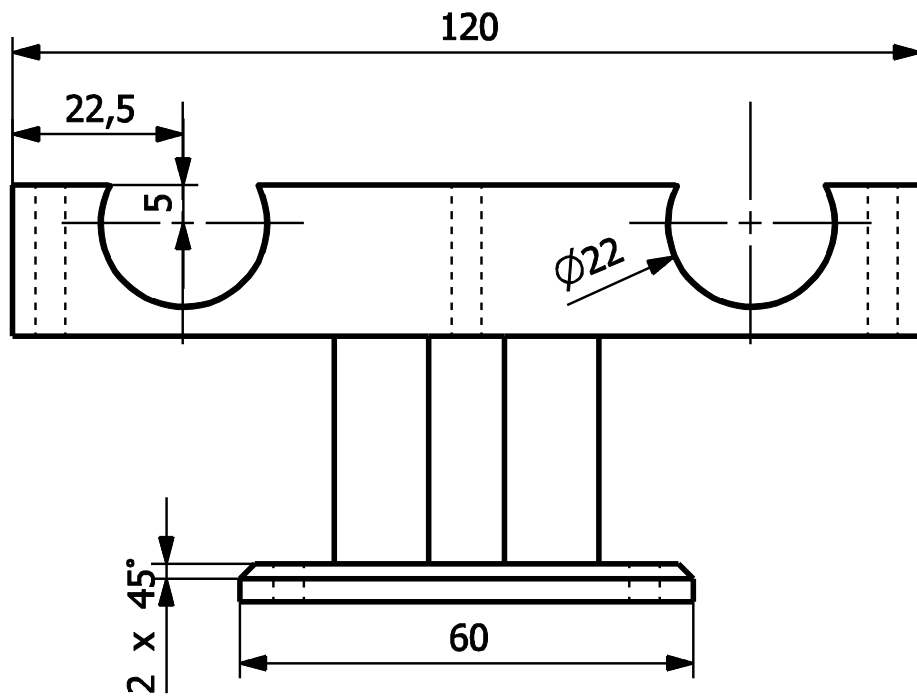




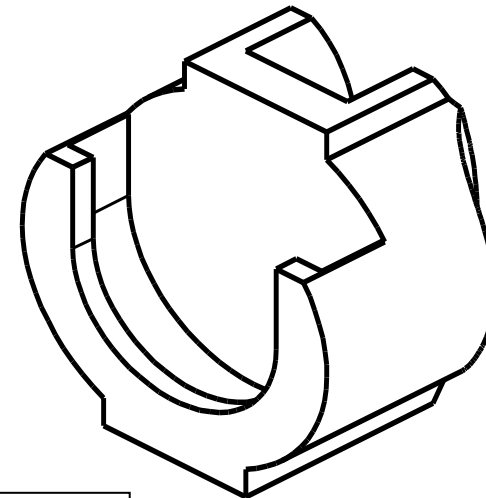
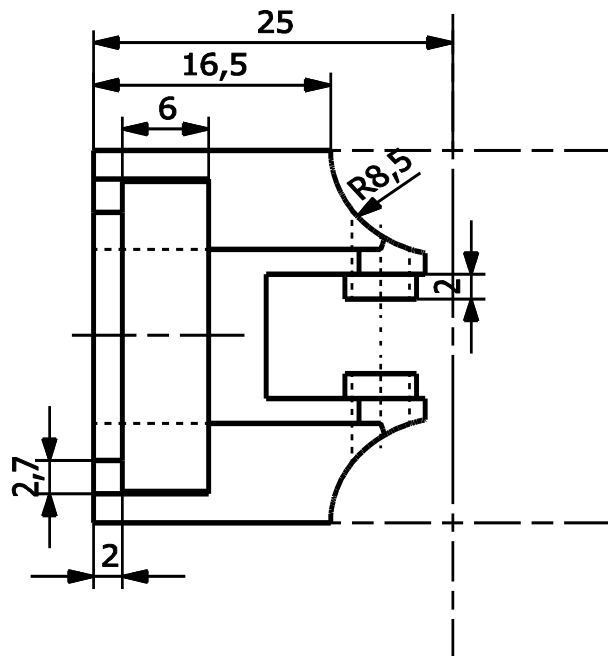
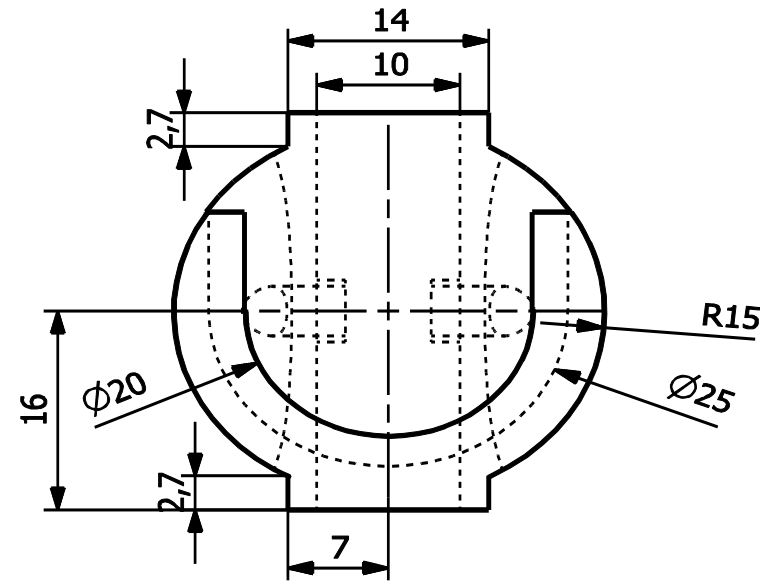
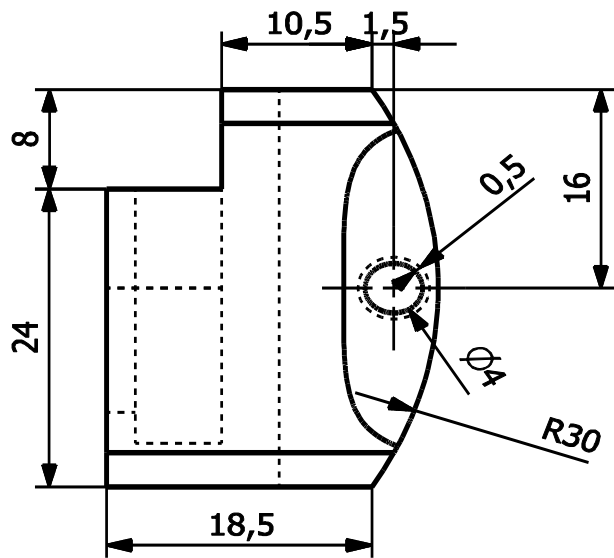
Part N°	Name	Quantity
1	Foot 1	1
2	Head	2
3	Support	1
4	Wheel	2
5	Foot 2	1
6	Cylinder 1	1
7	Cylinder 2	1
8	Cylinder 3	2
9	Rod	2
10	Connector	2
11	Plate	1
12	Nut	2
13	Screw 1	2
14	Screw 2	1
15	Screw 3	3
16	Screw 4	8
17	Screw 5	2
18	Pipe 1	2
19	Pipe 2	1

Stirling engine
Overview

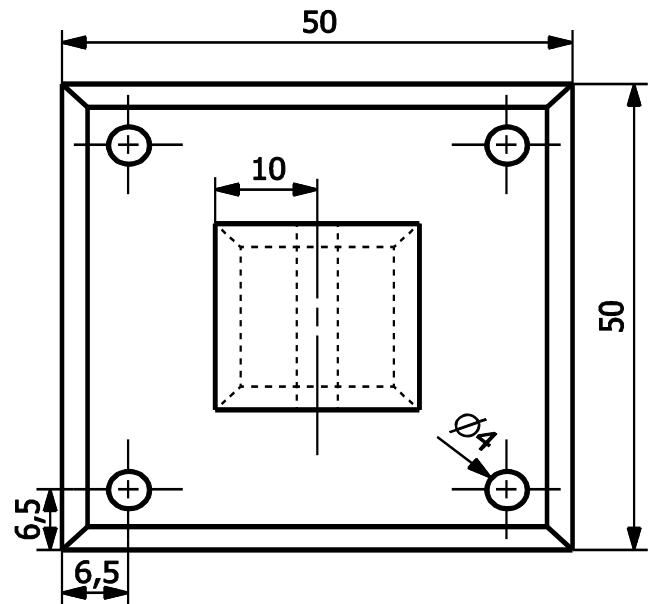
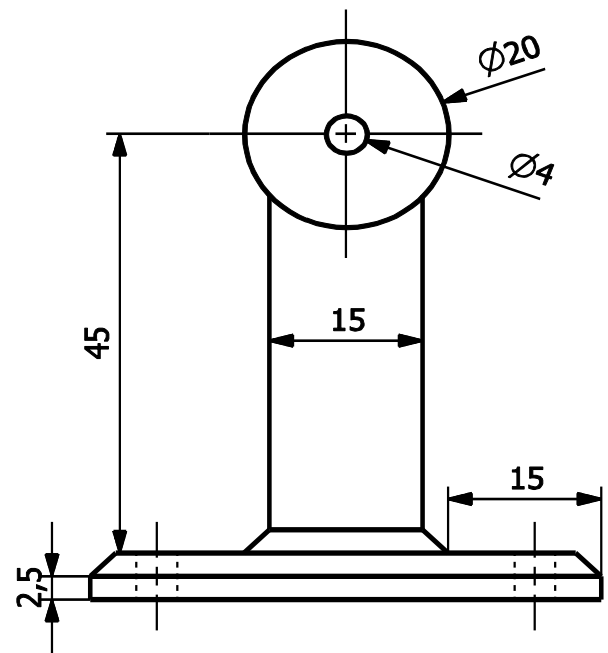
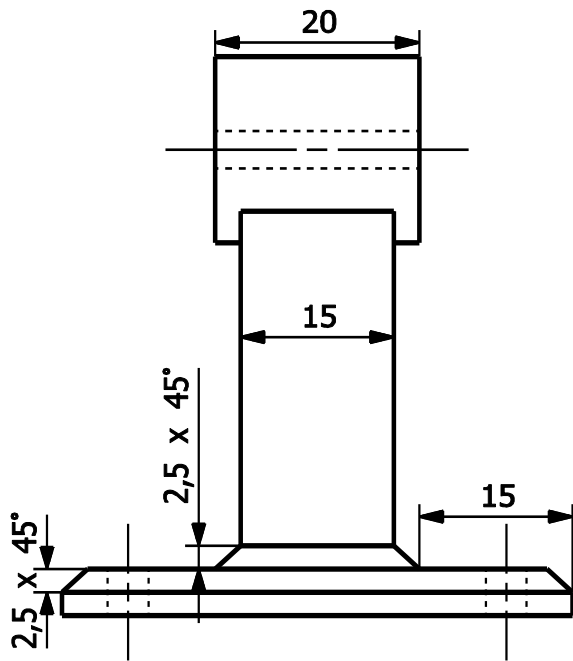




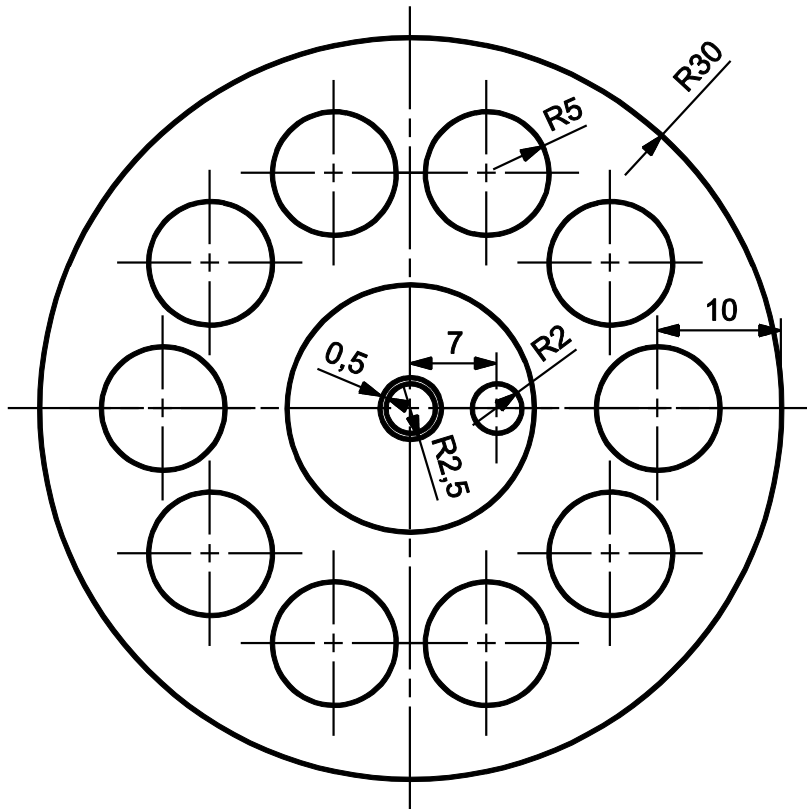
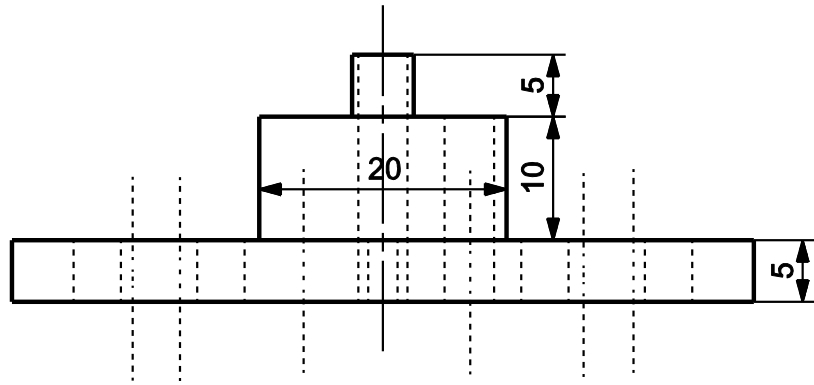
Part n°1 : Foot 1



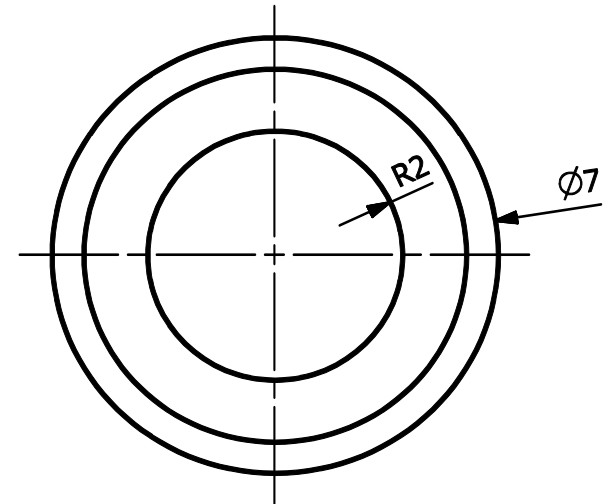
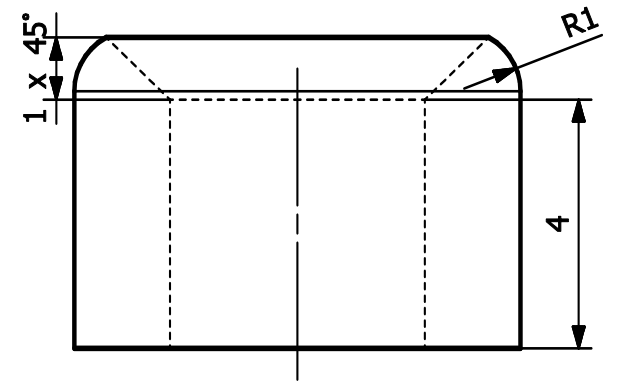
Part n°2 : Head (2x)



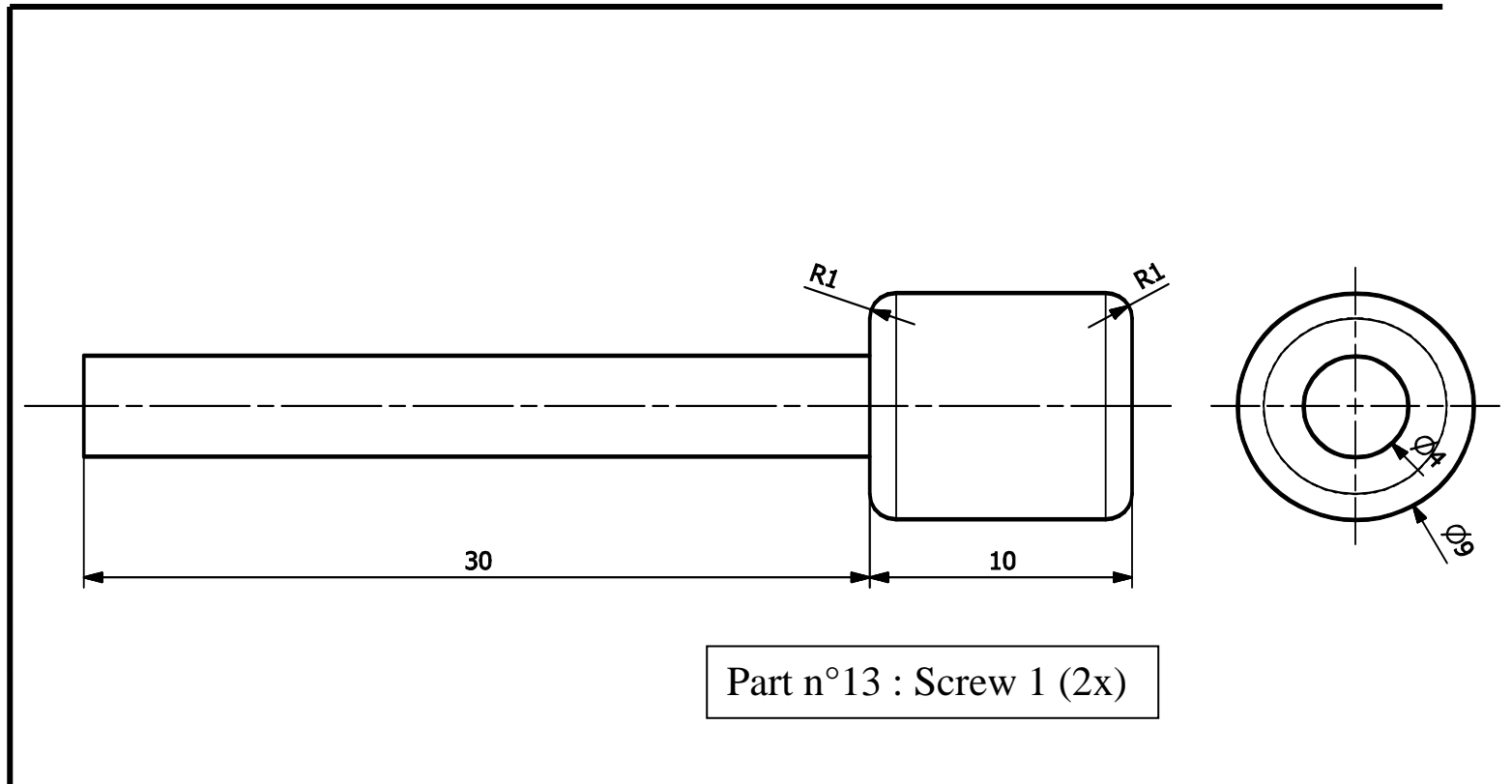
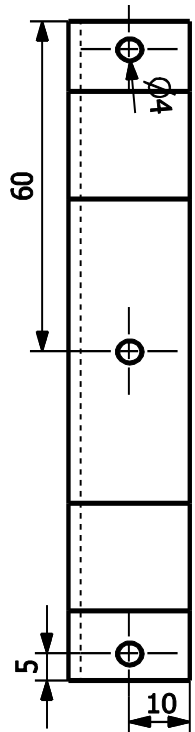
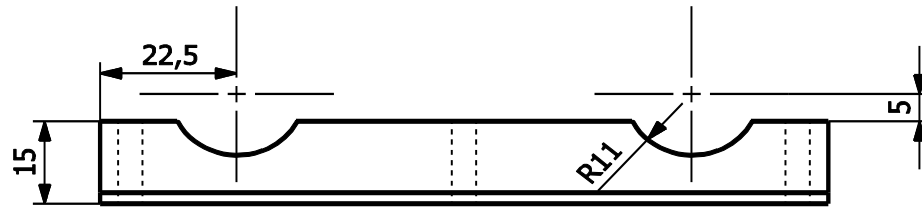
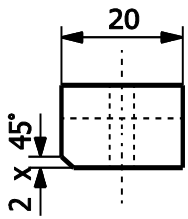
Part n°3 : Support



Part n°4 : Wheel (2x)

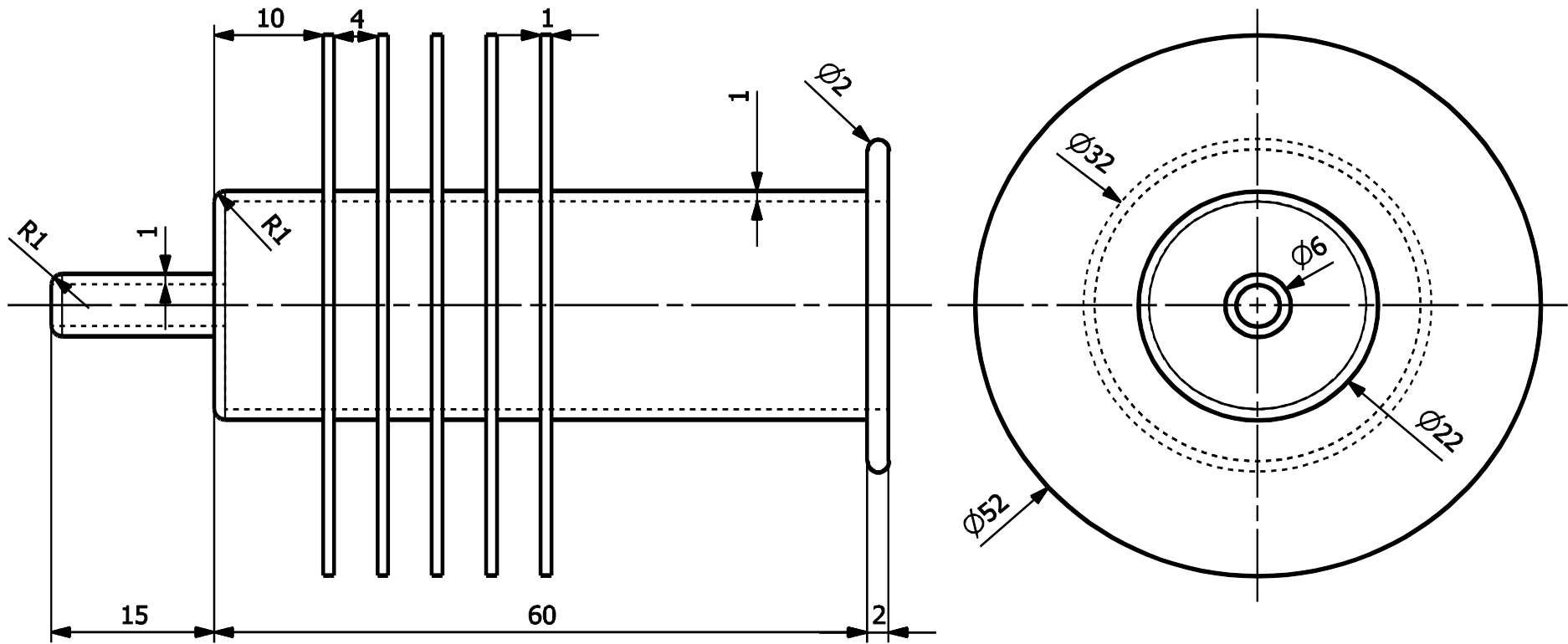


Part n°12 : Nut (2x)

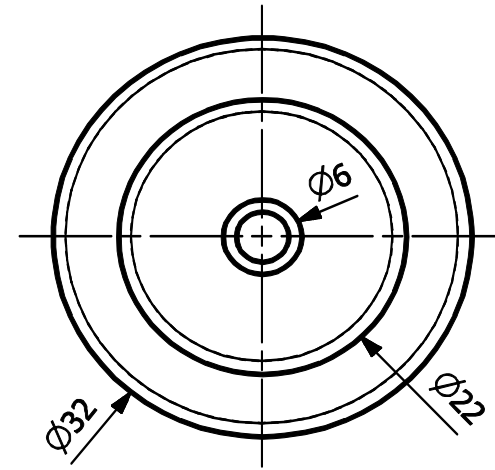
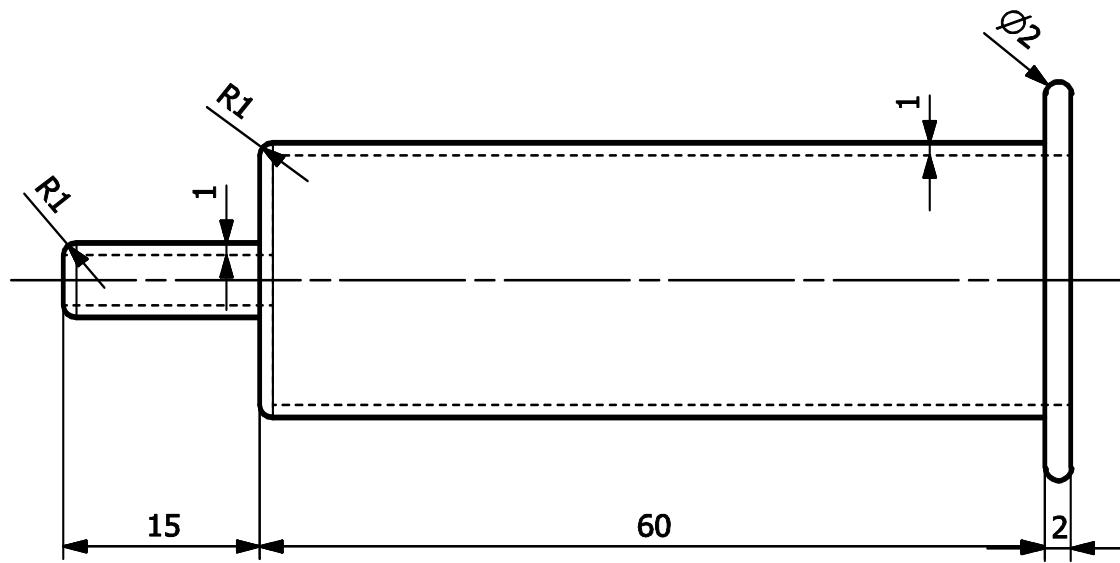


Part n°13 : Screw 1 (2x)

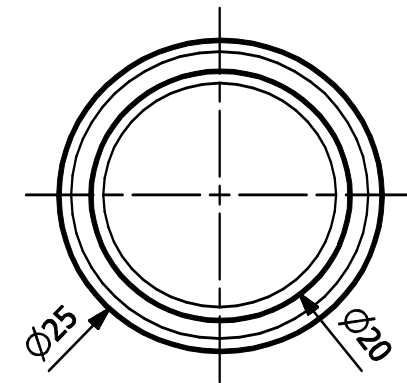
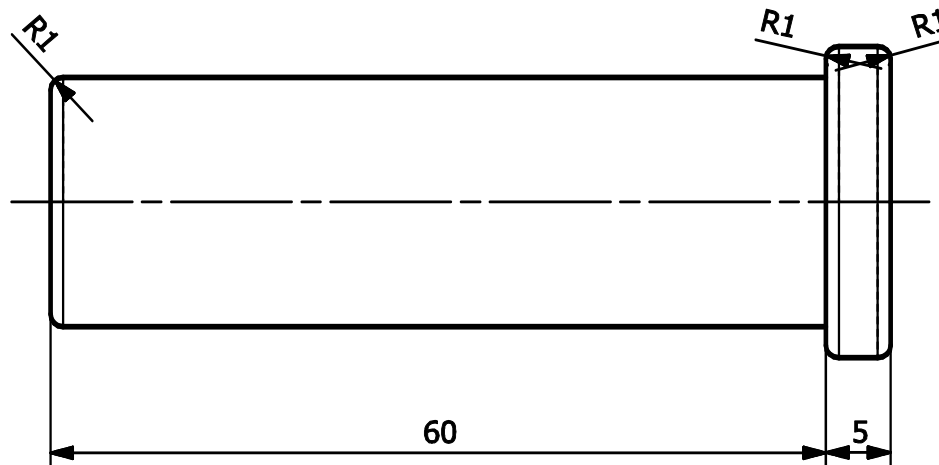
Part n°5 : Foot 2



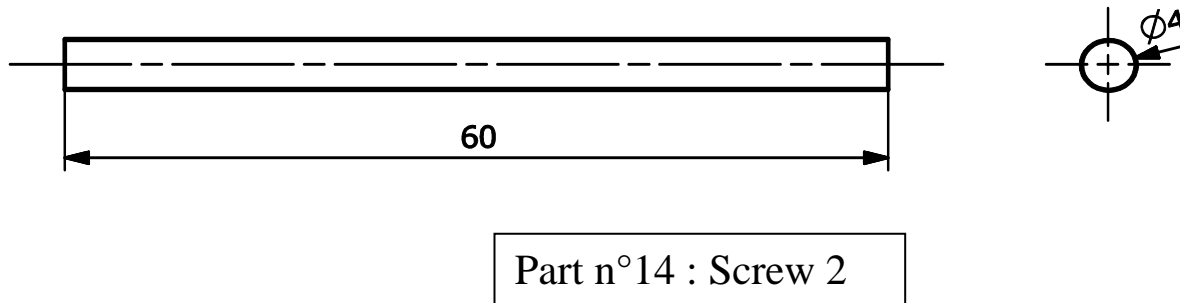
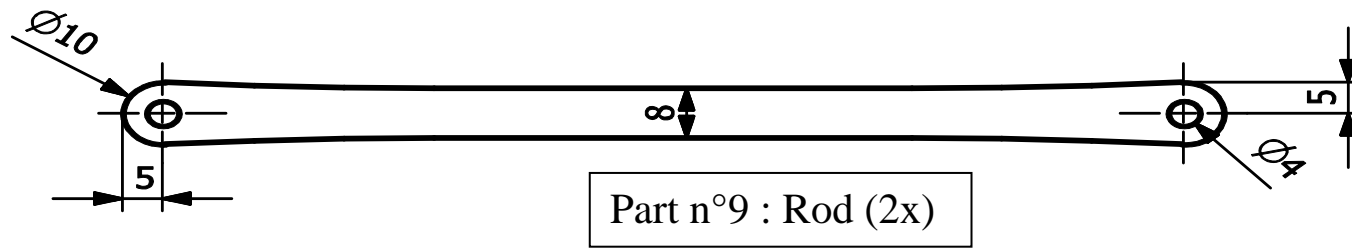
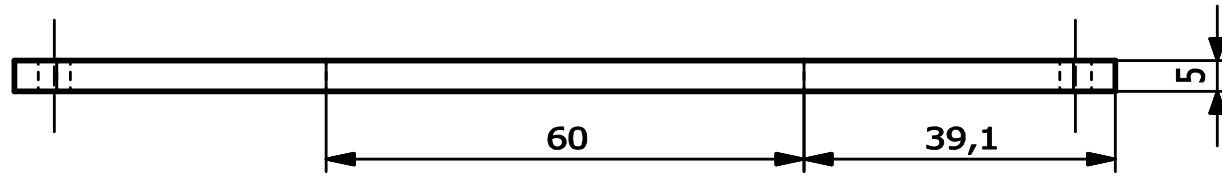
Part n°6 : Cylinder 1

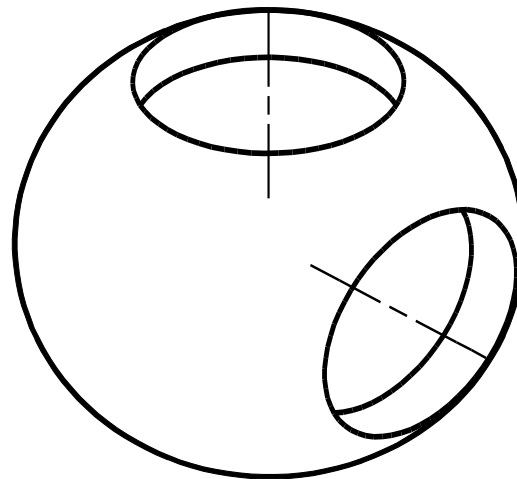
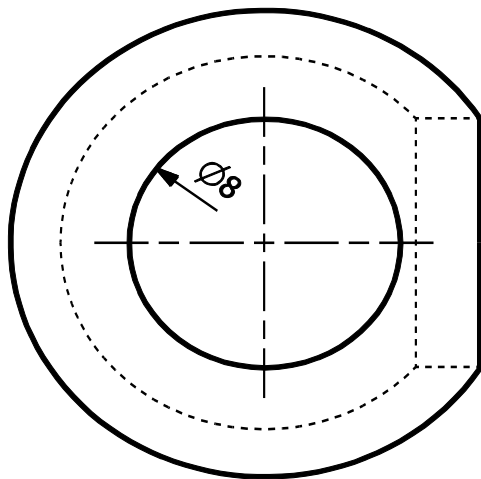
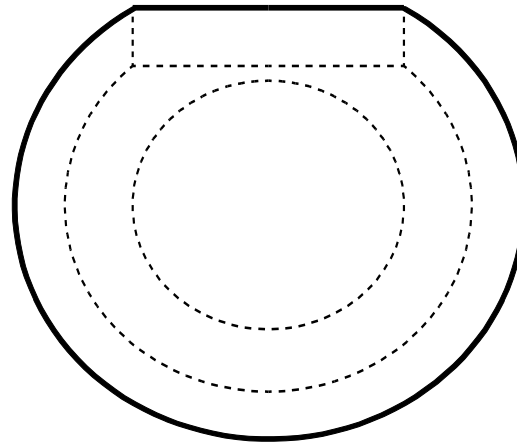
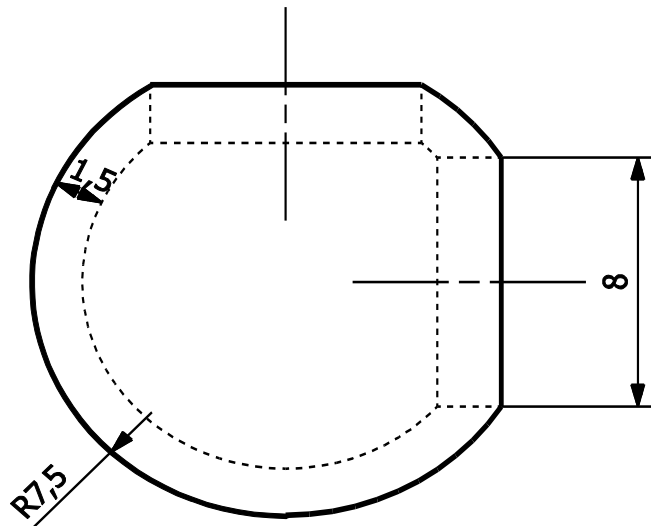


Part n°7 : Cylinder 2

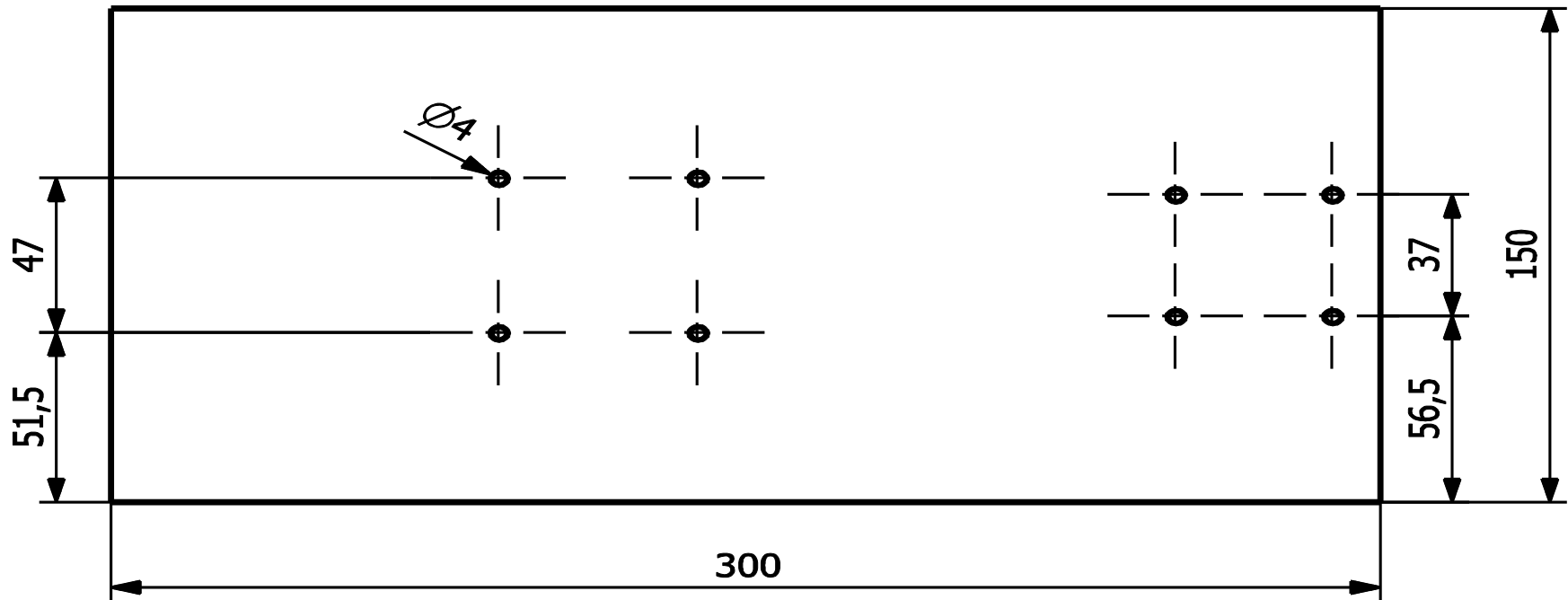
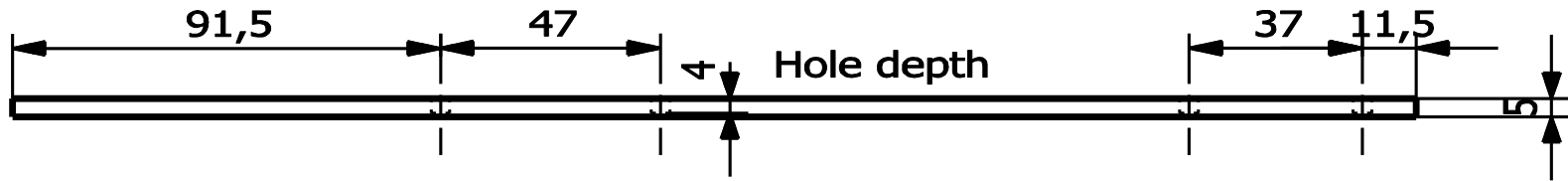


Part n°8 : Cylinder 3 (2x)

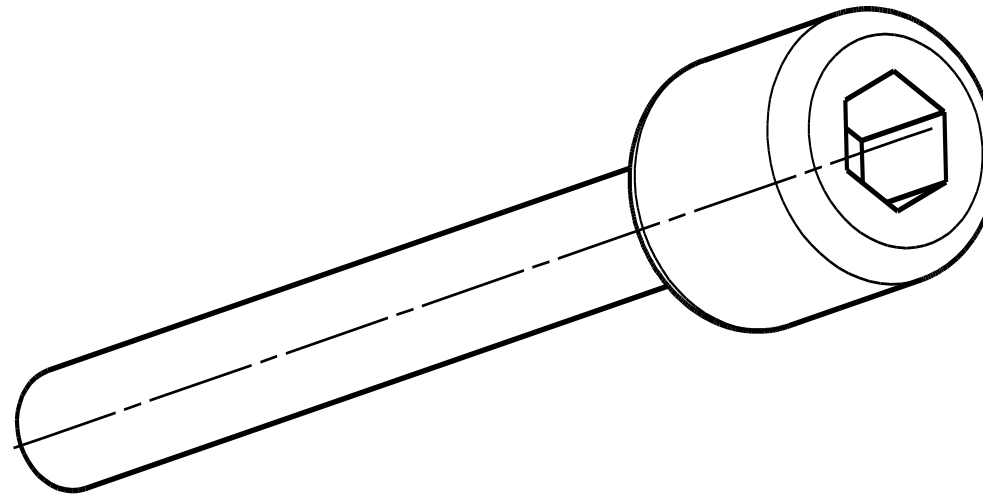
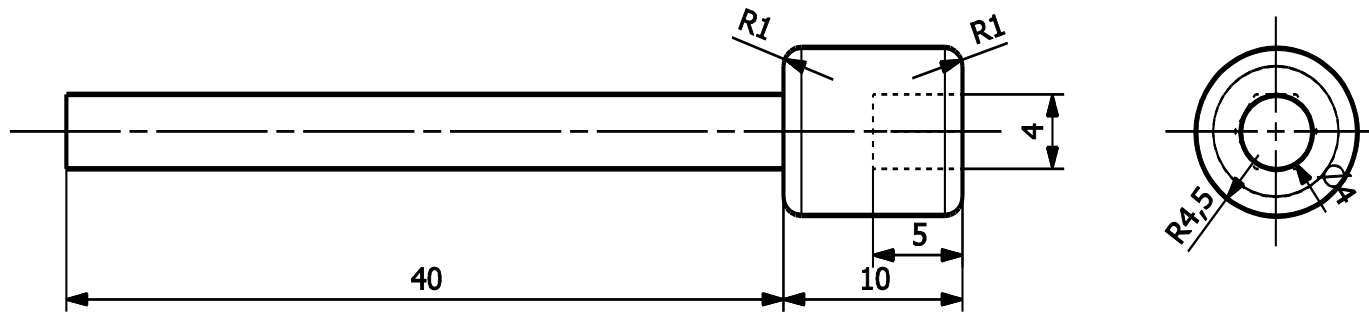




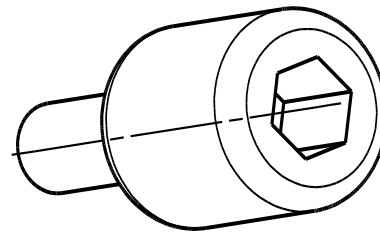
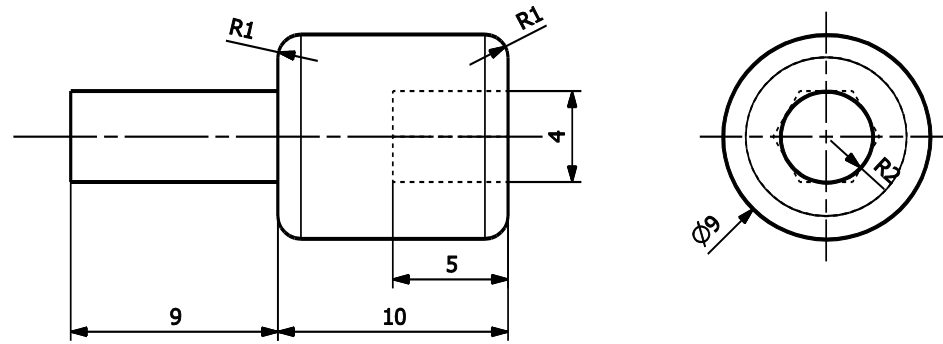
Part n°10 : Connector (2x)



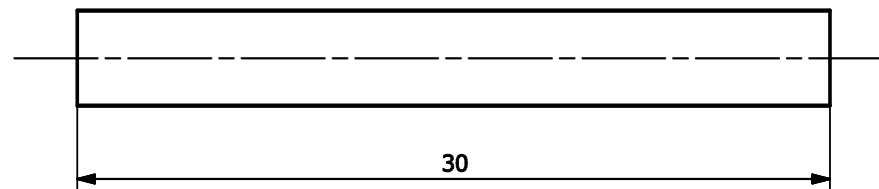
Part n°11 : Plate



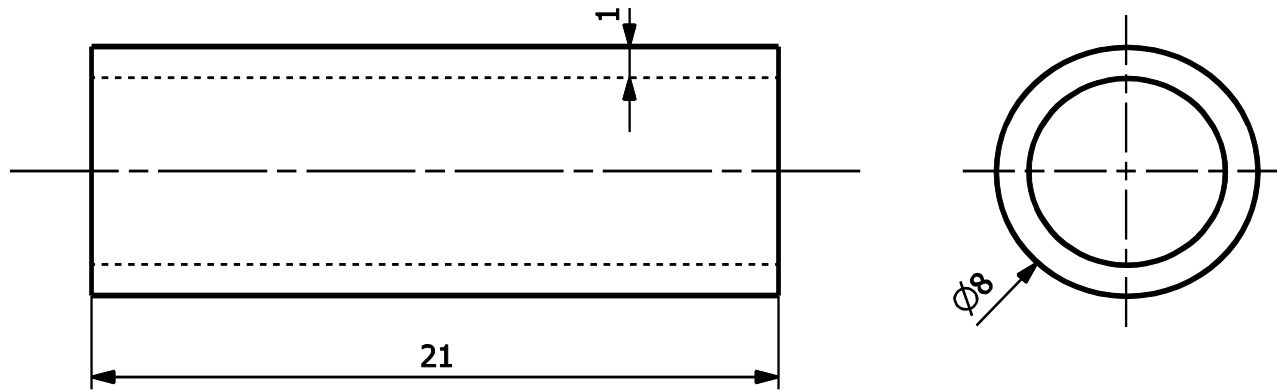
Part n°15 : Screw 3 (3x)



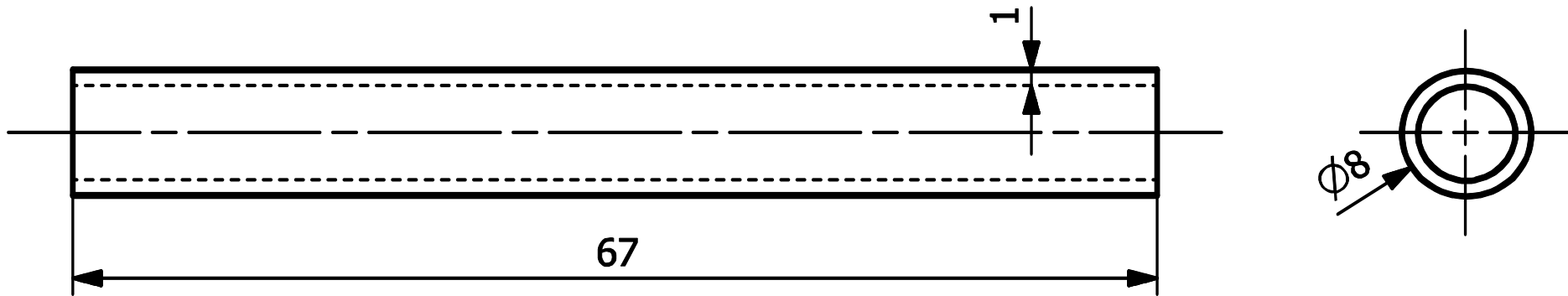
Part n°16 : Screw 4 (8x)



Part n°17 : Screw 5 (2x)



Part n°18 : Pipe 1 (2x)



Part n°19 : Pipe 2