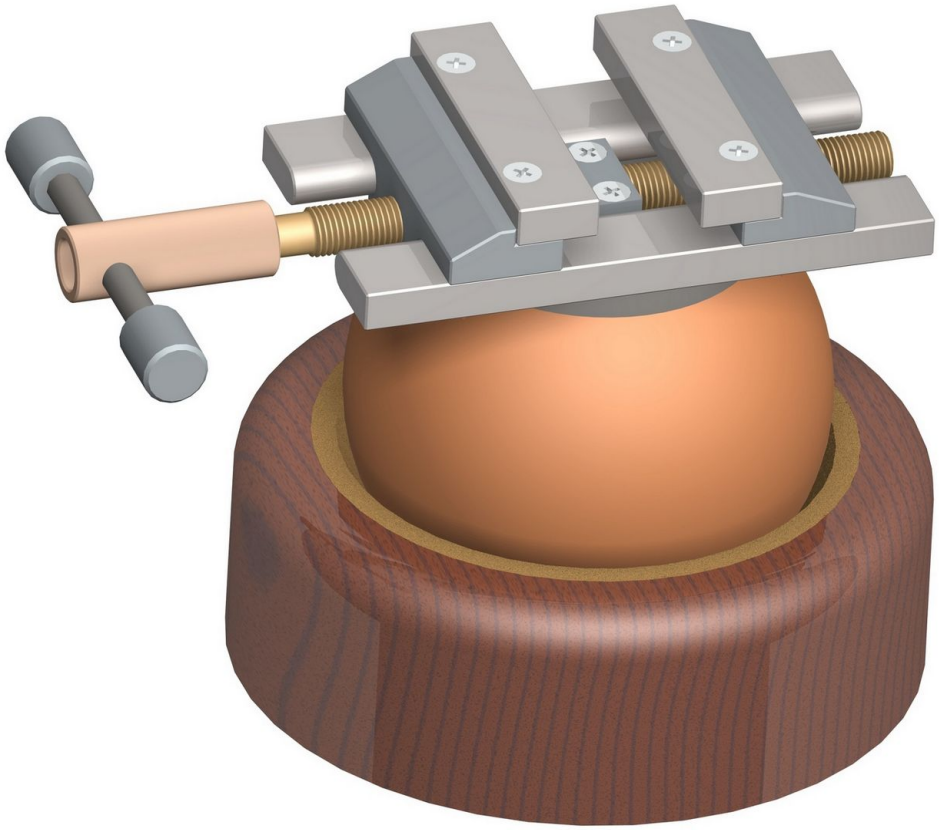
Engraving Vice

Engraving can be defined as drawing or writing in which the marks are created by removing a portion of the surface on which the drawing or writing is made. Engraving is a technique of incising a decoration onto a hard, usually flat surface, by cutting grooves on it. Engraving technique is commonly used for decorating object in itself as jewelry, glass or objects made of precious metals. The other frequent use of this technique is in intaglio printing plate of copper or other metals for printing images on paper.

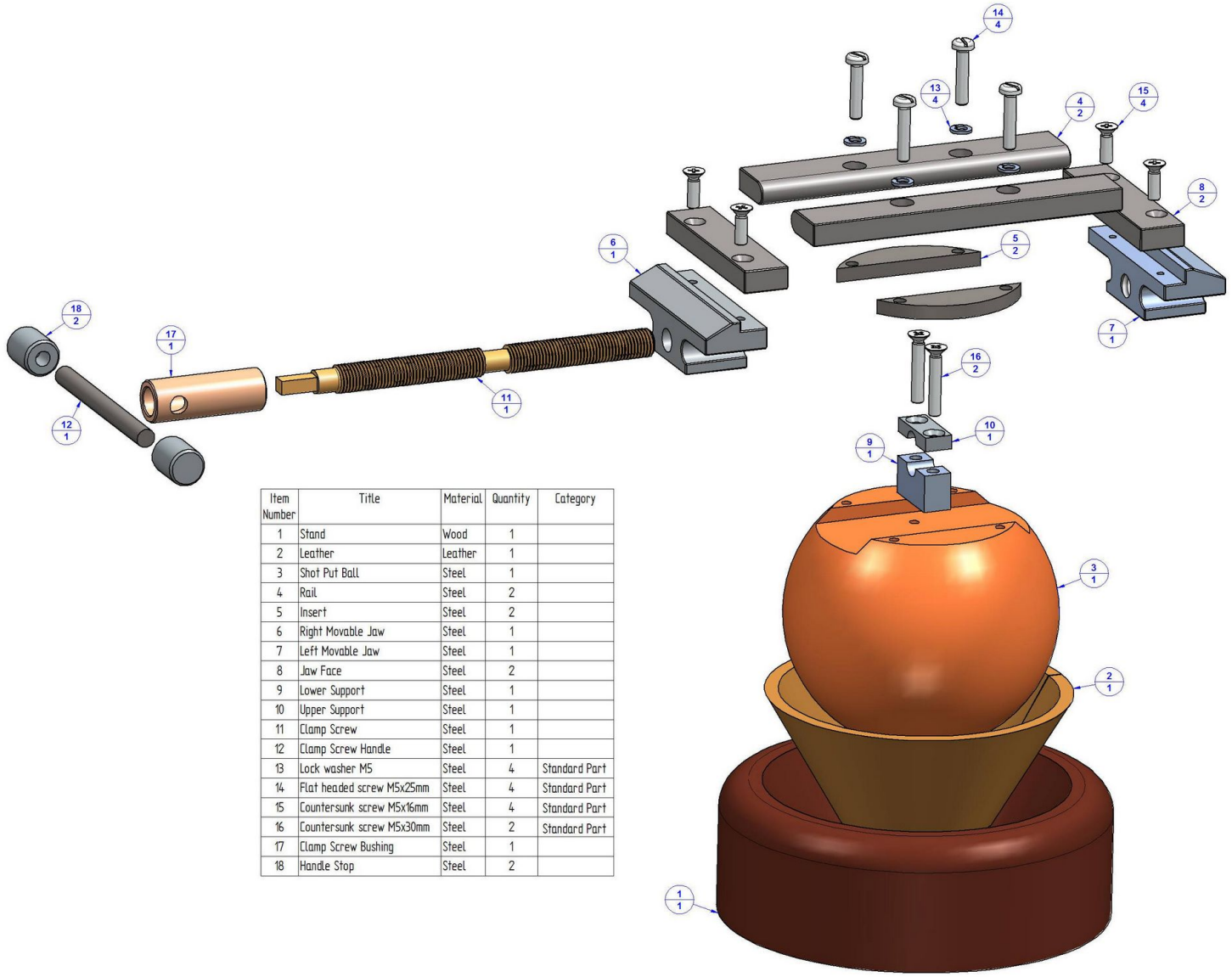


During the history engraving was used in the printing and casting industry. Besides that, engraving is an essential part of the art today, as it has been in the past. When we observe lives of the most famous engravers, like Albrecht Dürer, Francisco de Goya or Paul Gustave Doré, we can see that they were printers and artist at the same time. That was because when the images were transferred onto paper by printing in those times, the use of the engraving technique was necessary. For this reason each engraver had to have a talent for drawing and arts.

Nowadays, the engraving technique is no longer used during the printing, but it can create unique artistic artworks and various objects can be decorated. Commonly the jewelry, firearms, silver plates, knife handles and many other objects of luxury are embellished with the engraving technique, and it can be used on various materials such as wood, silver, steel, copper, gold, glass…

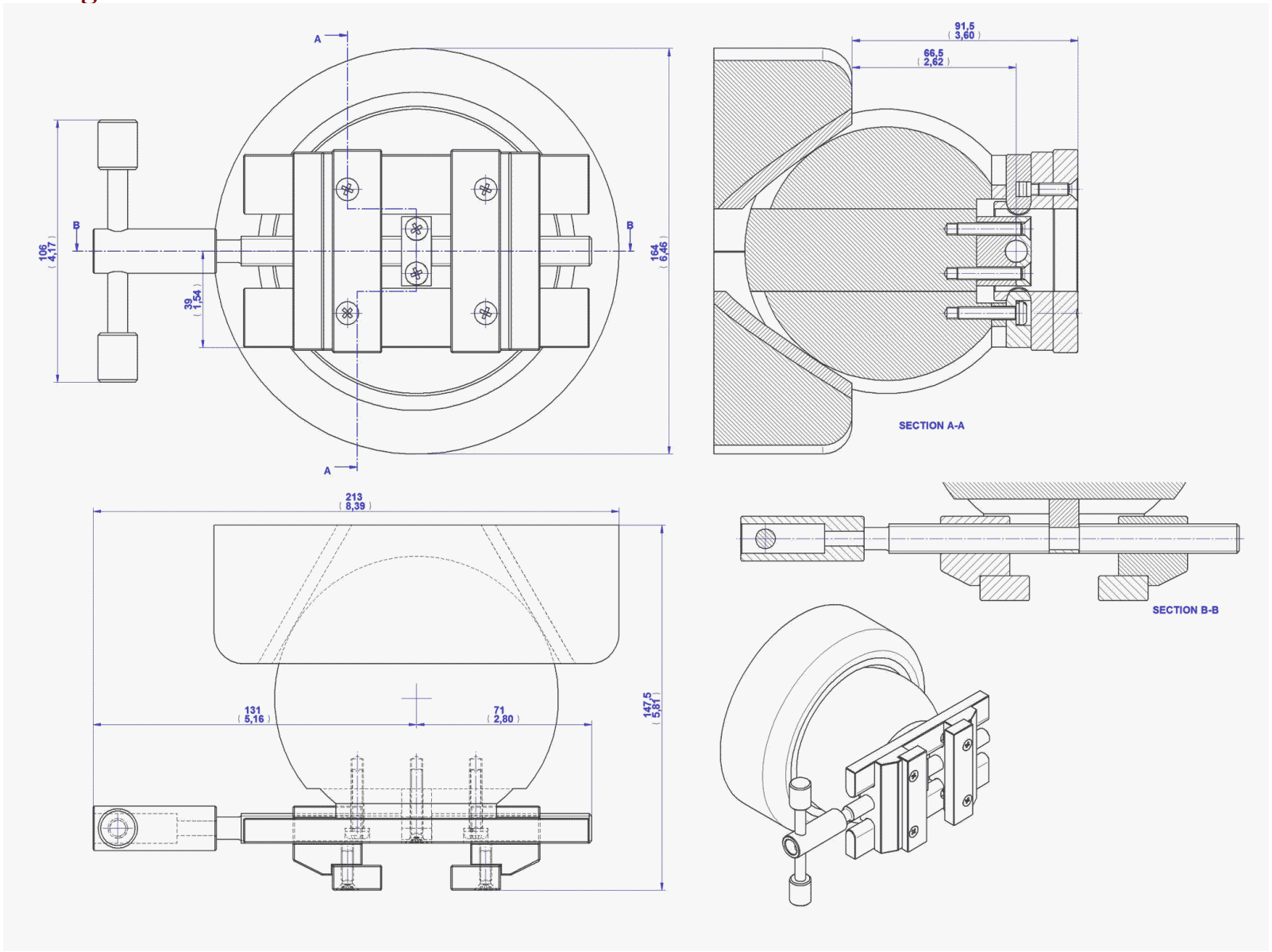
There are several different varieties of engraving: Line engraving, Etching, mezzotint, woodcut… Today, the modern technology has a strong influence on engraving. CNC machines, printers, software like ArtCAM or Aspire have almost entirely pushed out hand engraving from the industry, so that only artist and craftsmen are dealing with the hand engraving today. Because today so little people are dealing with engraving, the engraving hand tools can be found only in specialized stores and they are more expensive than the conventional widespread hand tools. The reason for this is that engraving tools are no longer manufactured in the large series. The situation has recently improved with development of the Internet, so most of the engraving tools are now available via Internet. There is also a solution to make some of engraving tools on your own. Besides various engravers sets, burins, tint tools, scoopers or chisels, one of the most needed things that one engraver should use in its work is the engraving vice. There are more types of the engraving vices, but unlike other types of bench vices which are fixed, engraving vices enable you to achieve any position you need. Engraving vice that we present in our plan consists of bowling ball mount, on which the vice is attached. You can make the vice by our plan, or you can purchase some bench vice, which will be mounted on the bowling ball. In a similar way by changing the size of the ball and size and type of the vice you can make a bowling ball mounted vice, which can be used for other purposes in the workshop or for other various techniques, like carving or making models.

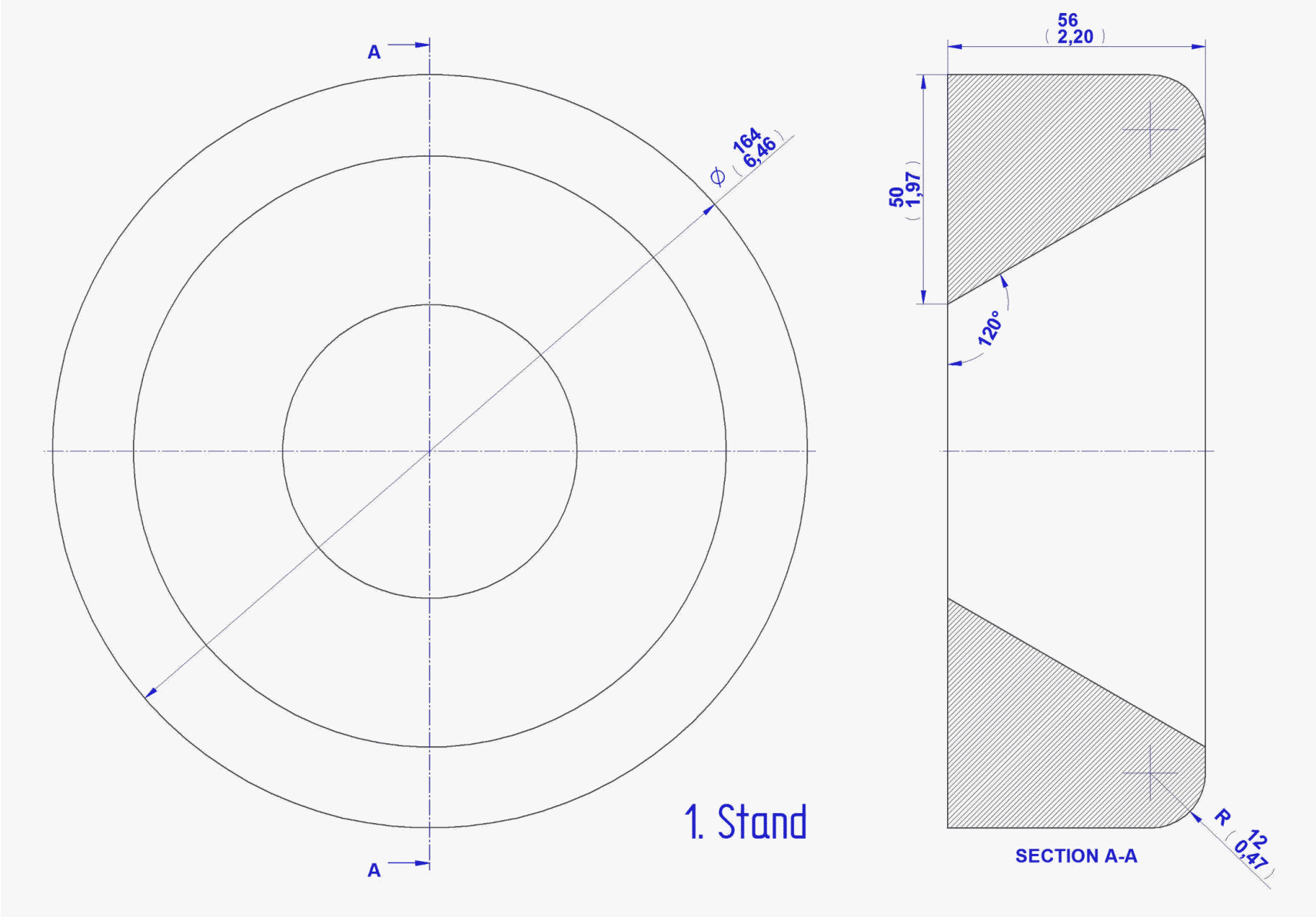
Parts List

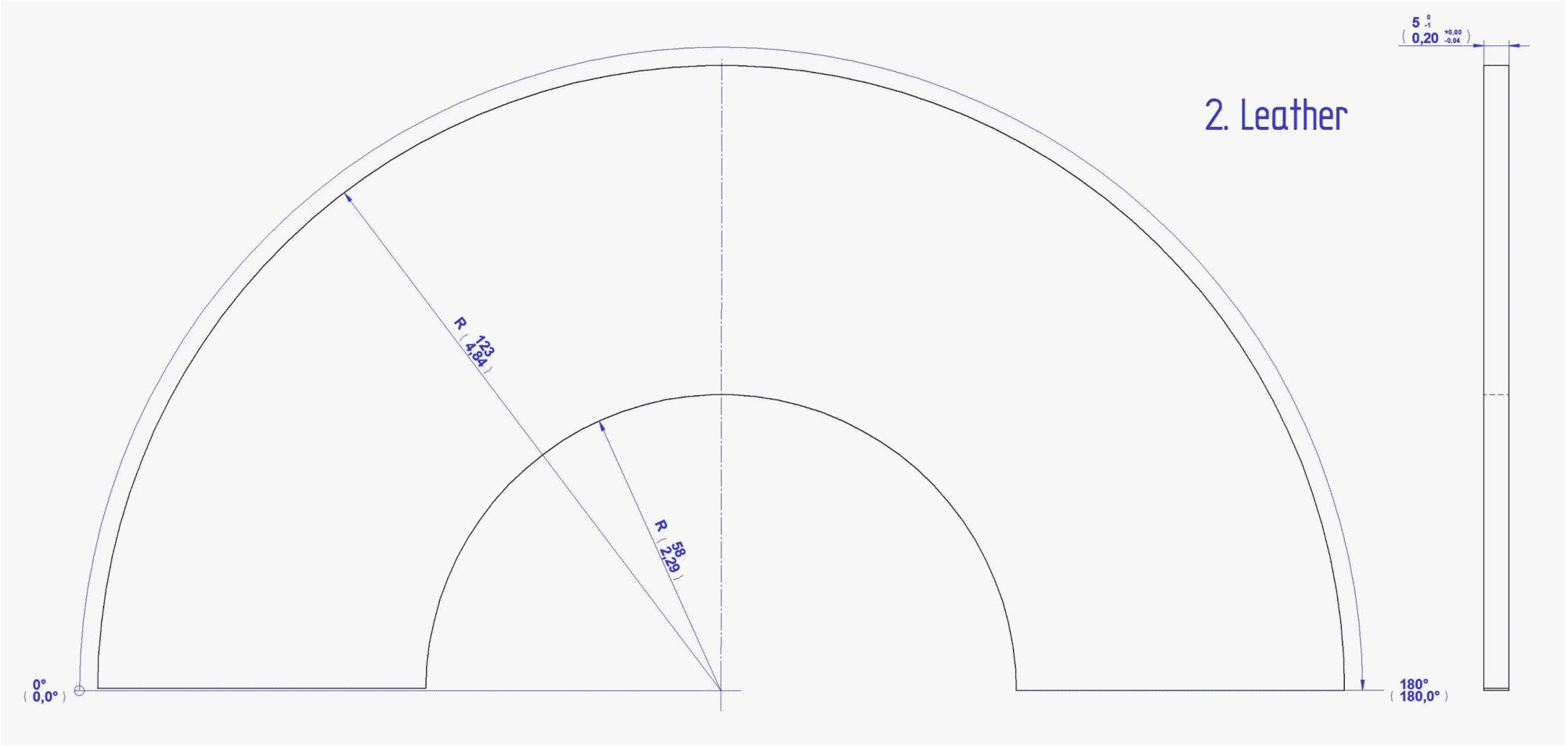


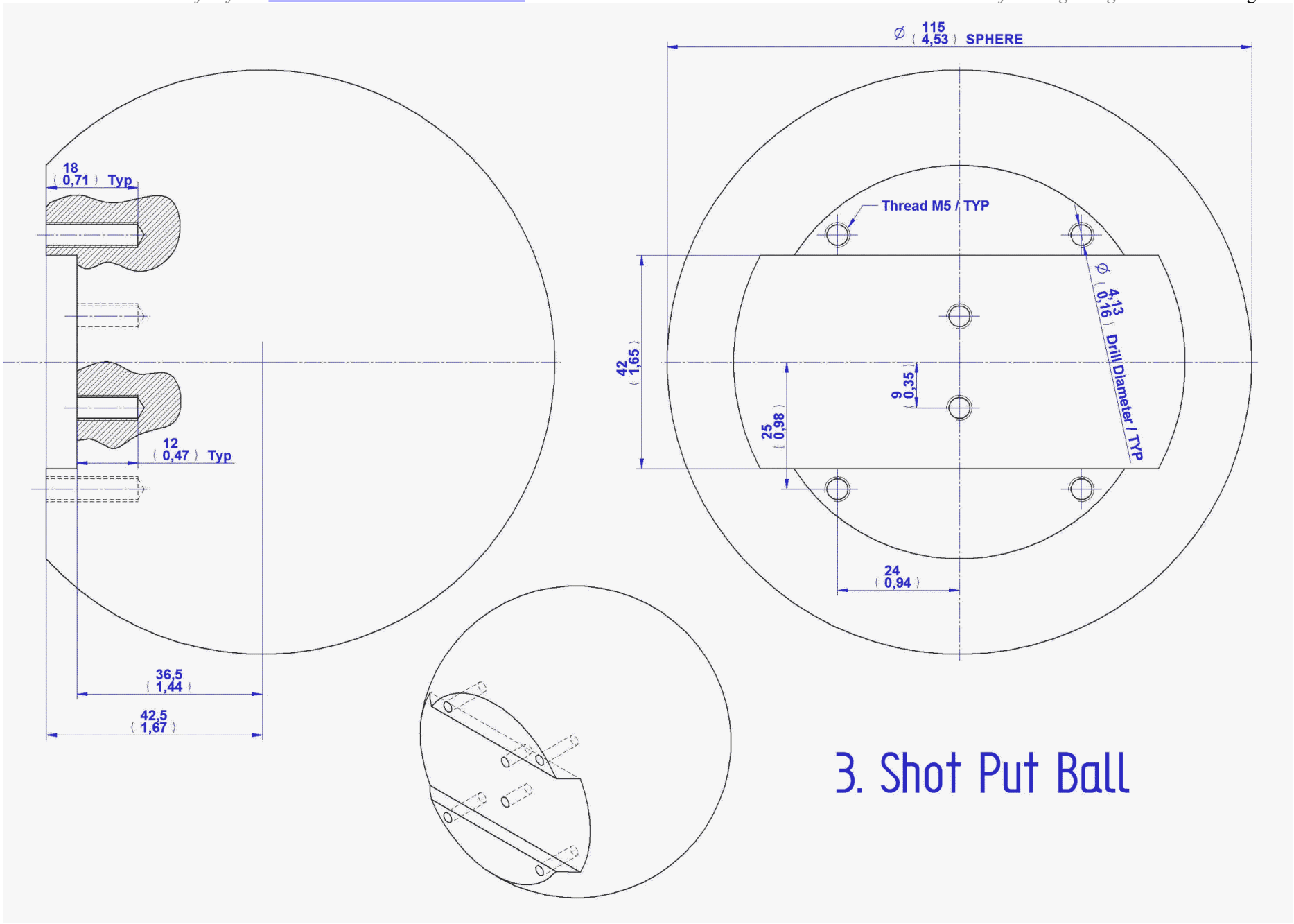
Item Number	Title	Material	Quantity	Category
1	Stand	Wood	1	
2	Leather	Leather	1	
3	Shot Put Ball	Steel	1	
4	Rail	Steel	2	
5	Insert	Steel	2	
6	Right Movable Jaw	Steel	1	
7	Left Movable Jaw	Steel	1	
8	Jaw Face	Steel	2	
9	Lower Support	Steel	1	
10	Upper Support	Steel	1	
11	Clamp Screw	Steel	1	
12	Clamp Screw Handle	Steel	1	
13	Lock washer M5	Steel	4	Standard Part
14	Flat headed screw M5x25mm	Steel	4	Standard Part
15	Countersunk screw M5x16mm	Steel	4	Standard Part
16	Countersunk screw M5x30mm	Steel	2	Standard Part
17	Clamp Screw Bushing	Steel	1	
18	Handle Stop	Steel	2	

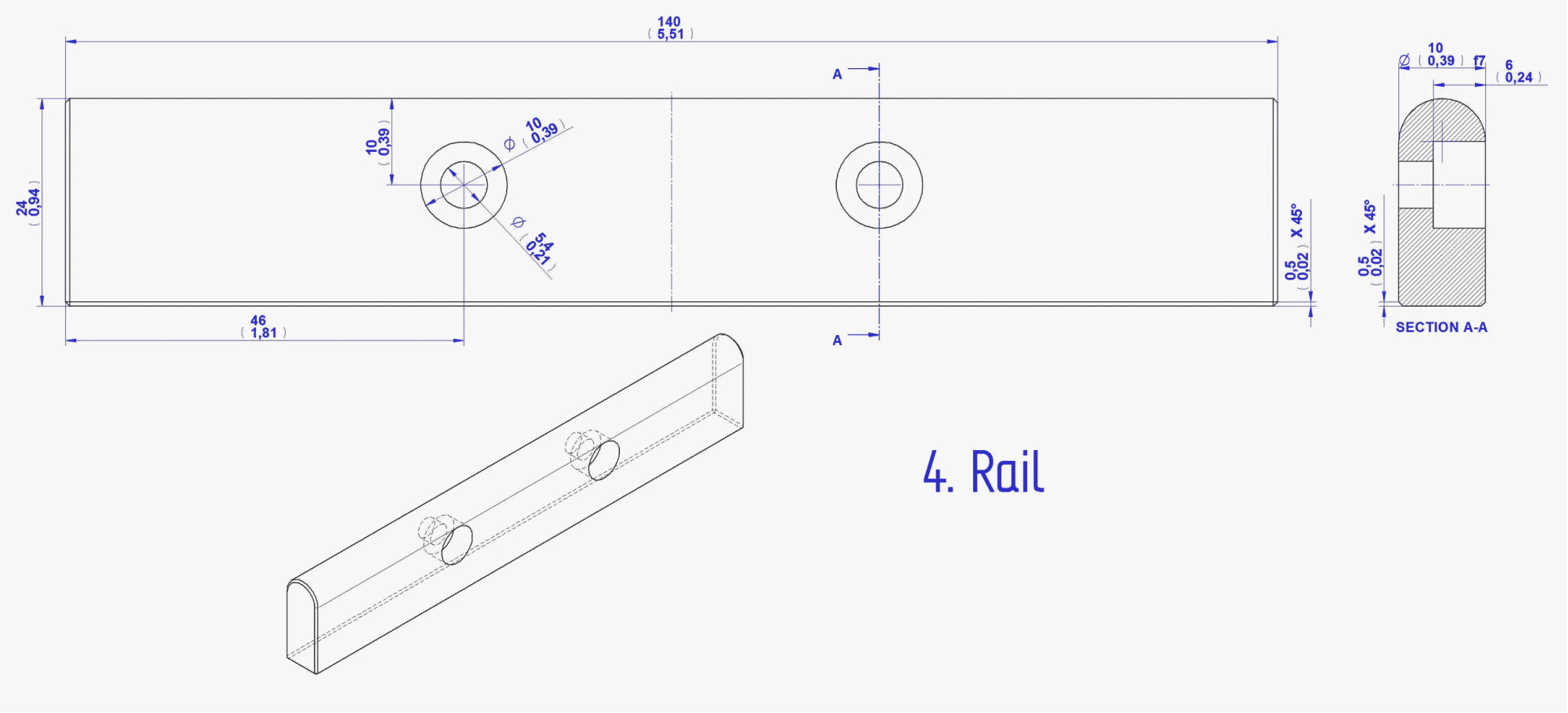
Assembly Drawing

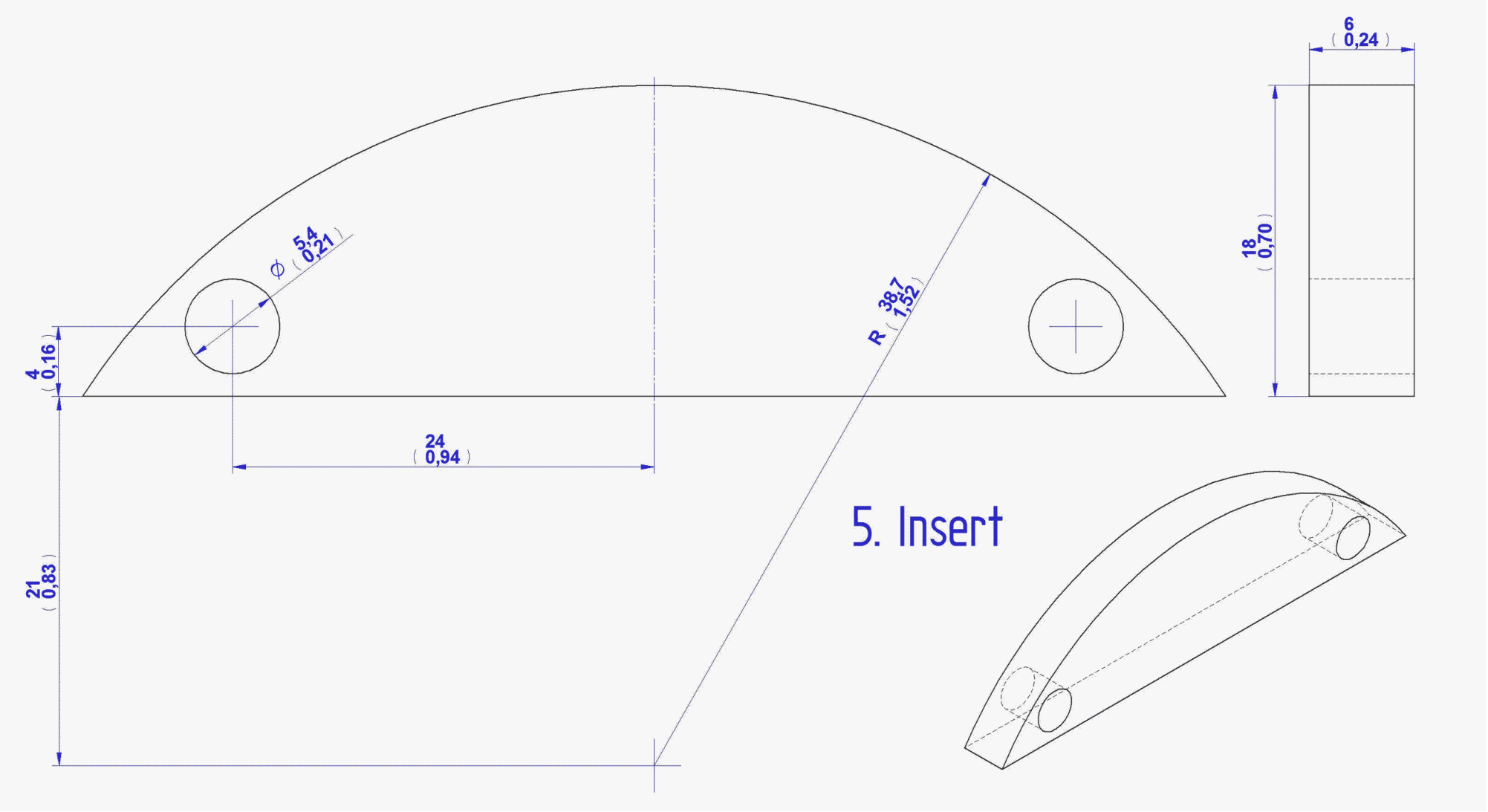


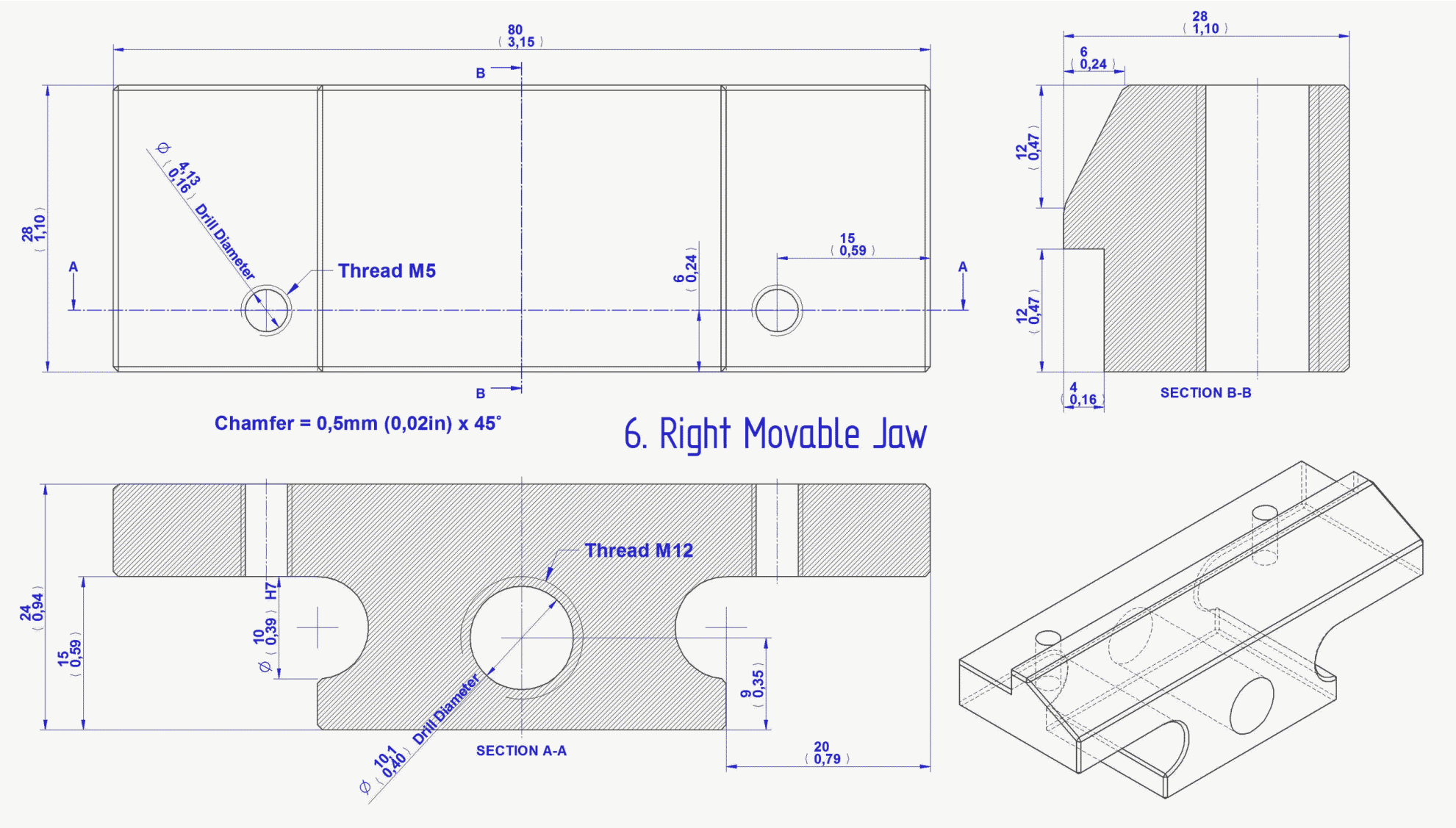

A
A
Ø 164 (6,46)
1. Stand
56 (2,20)
50 (1,97)
120°
R 12 (0,47)
SECTION A-A

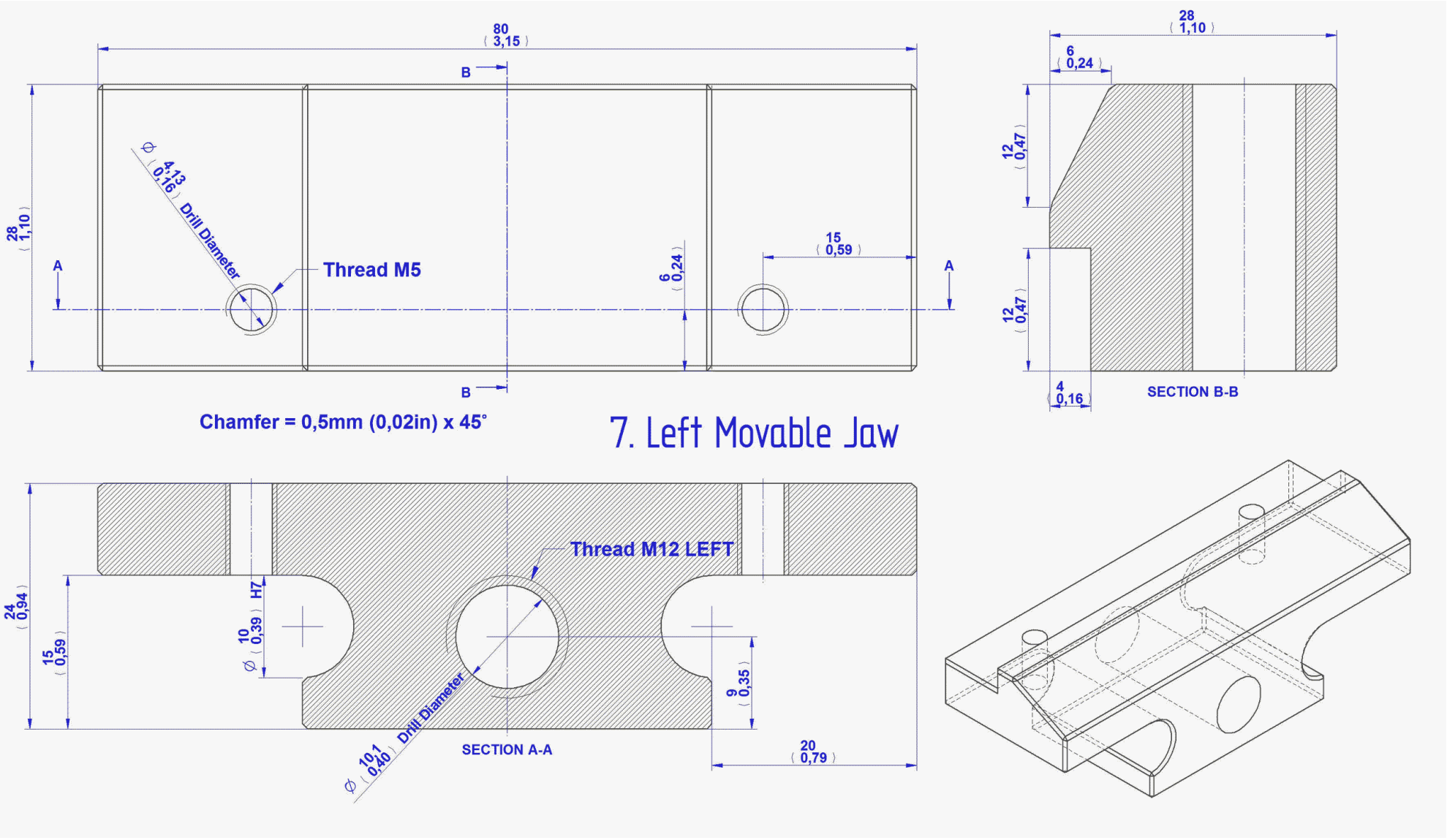

2. Leather
5 +0,00 -0,04
(0,20)
R 123 (4,84)
R 58 (2,29)
0° (0,0°)
180° (180,0°)

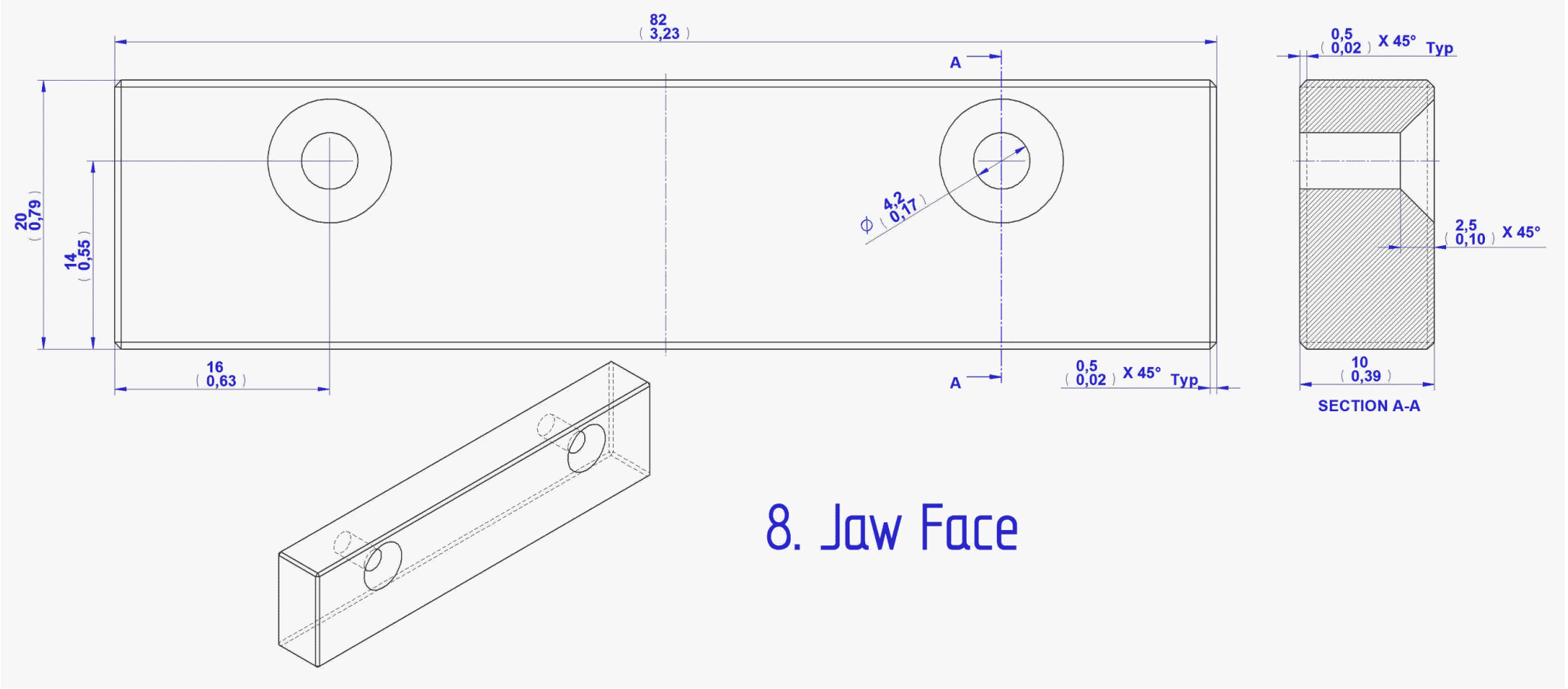

Ø 115 (4,53) SPHERE
Thread M5 / TYP
Ø 4,13 (0,16) Drill Diameter / TYP
42 (1,65)
9 (0,35)
25 (0,98)
24 (0,94)
18 (0,71) Typ
12 (0,47) Typ
36,5 (1,44)
42,5 (1,67)
3. Shot Put Ball

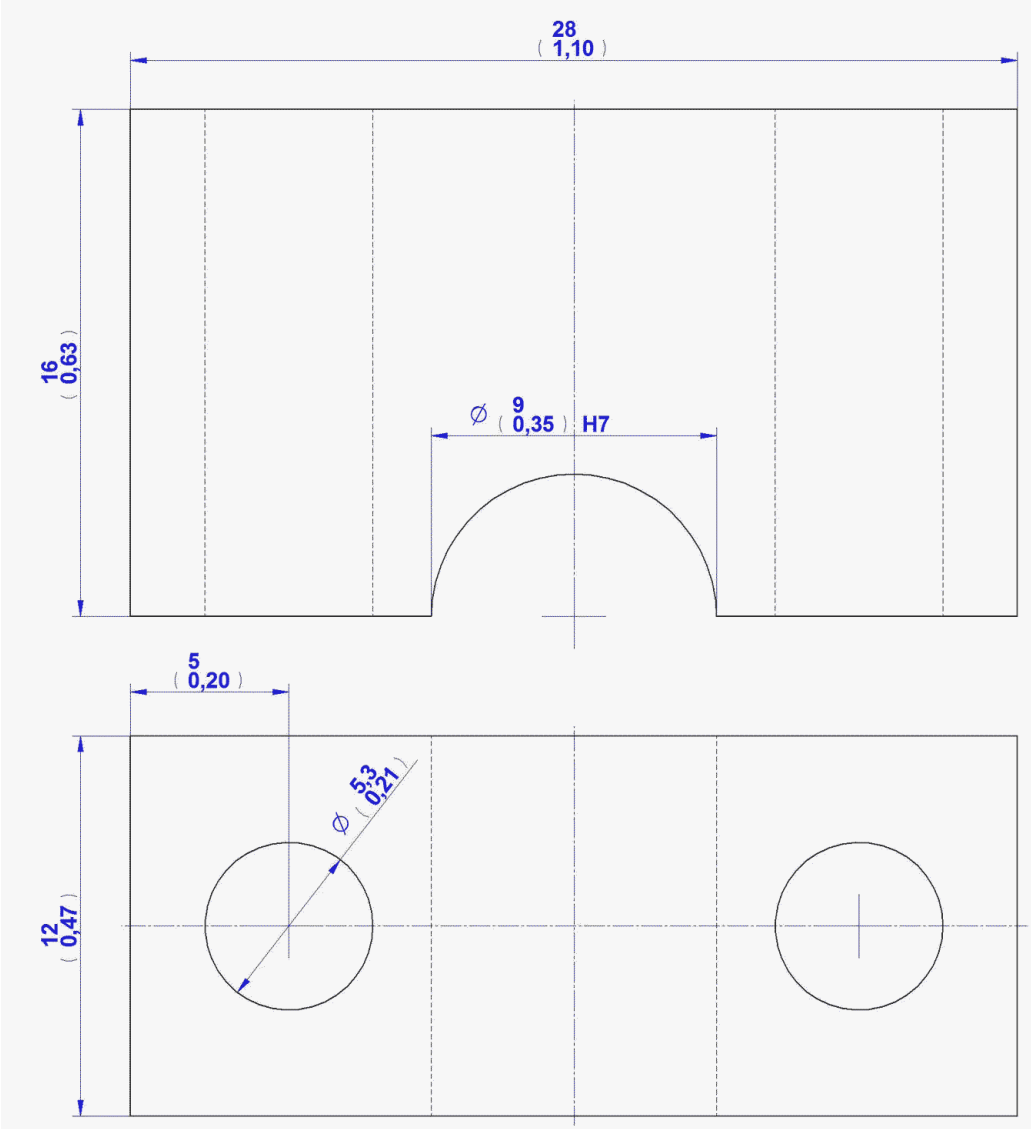

140
(5,51)
A
10
(0,39)
Ø 10
(0,39)
Ø 5,4
(0,21)
24
(0,94)
46
(1,81)
0,5
(0,02) X 45°
Ø 10
(0,39) f7
6
(0,24)
SECTION A-A
4. Rail

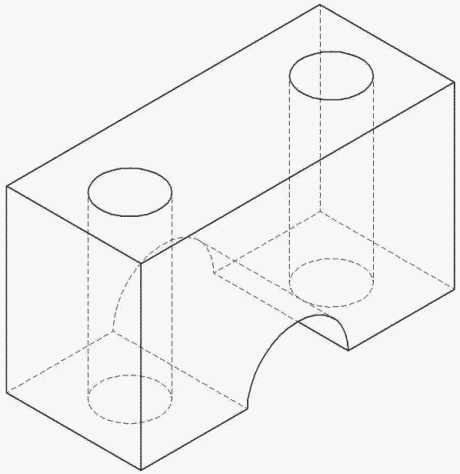

6
(0,24)
18
(0,70)
ϕ 5,4
(0,21)
R 38,7
(1,52)
4
(0,16)
24
(0,94)
21
(0,83)
5. Insert


80
3,15
B
28
1,10
A
Ø 4,13
0,16
Drill Diameter
Thread M5
6
0,24
15
0,59
A
B
Chamfer = 0,5mm (0,02in) x 45°
6. Right Movable Jaw
28
1,10
6
0,24
12
0,47
12
0,47
4
0,16
SECTION B-B
24
0,94
15
0,59
10
0,39
H7
Thread M12
9
0,35
20
0,79
Ø 10,1
0,40
Drill Diameter
SECTION A-A

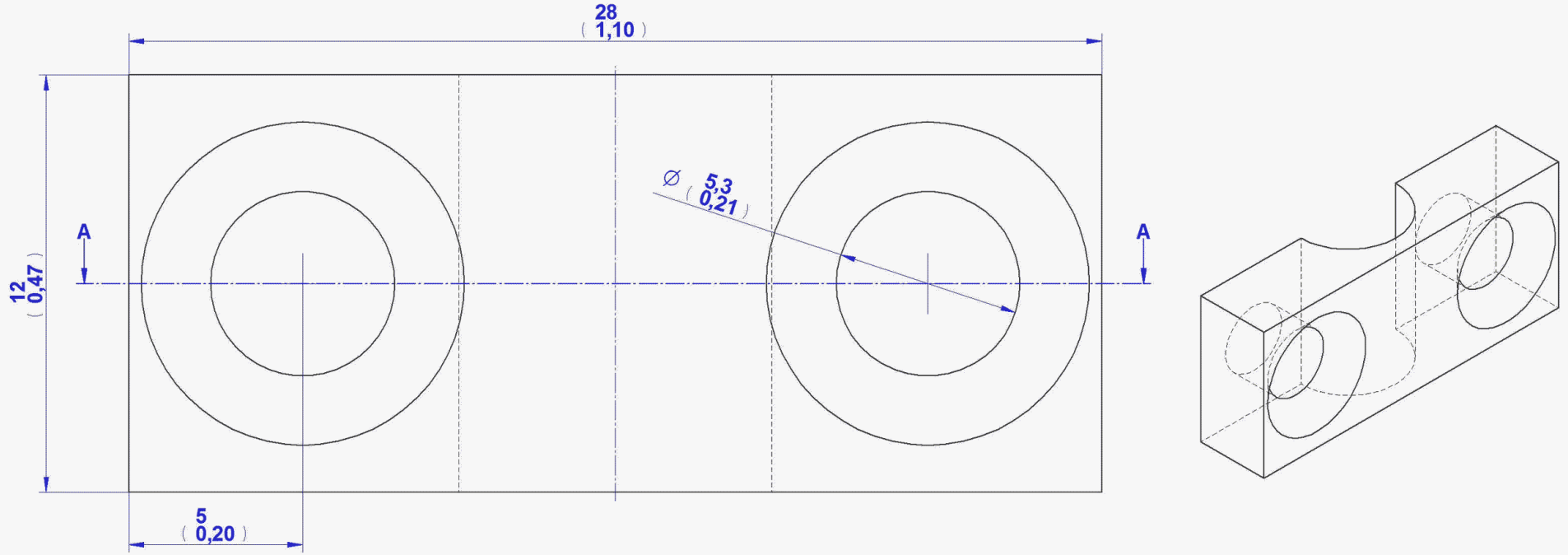

80
3,15
B
28
1,10
A
Ø 4,13
0,16
Drill Diameter
Thread M5
6
0,24
15
0,59
A
B
Chamfer = 0,5mm (0,02in) x 45°
7. Left Movable Jaw
28
1,10
6
0,24
12
0,47
12
0,47
4
0,16
SECTION B-B
24
0,94
15
0,59
10
0,39
H7
Thread M12 LEFT
9
0,35
20
0,79
Ø 10,1
0,40
Drill Diameter
SECTION A-A


82
(3,23)
A
20
(0,79)
14
(0,55)
16
(0,63)
ϕ 4,2
(0,17)
A
0,5
(0,02) X 45° Typ
0,5
(0,02) X 45° Typ
2,5
(0,10) X 45°
10
(0,39)
SECTION A-A
8. Jaw Face

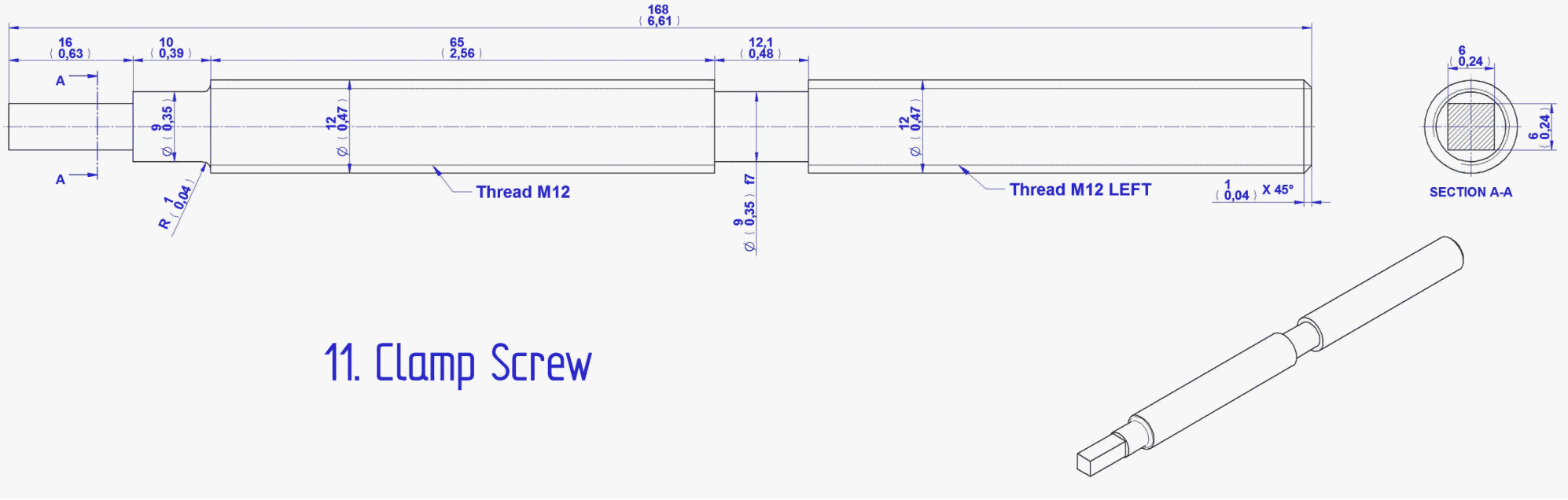




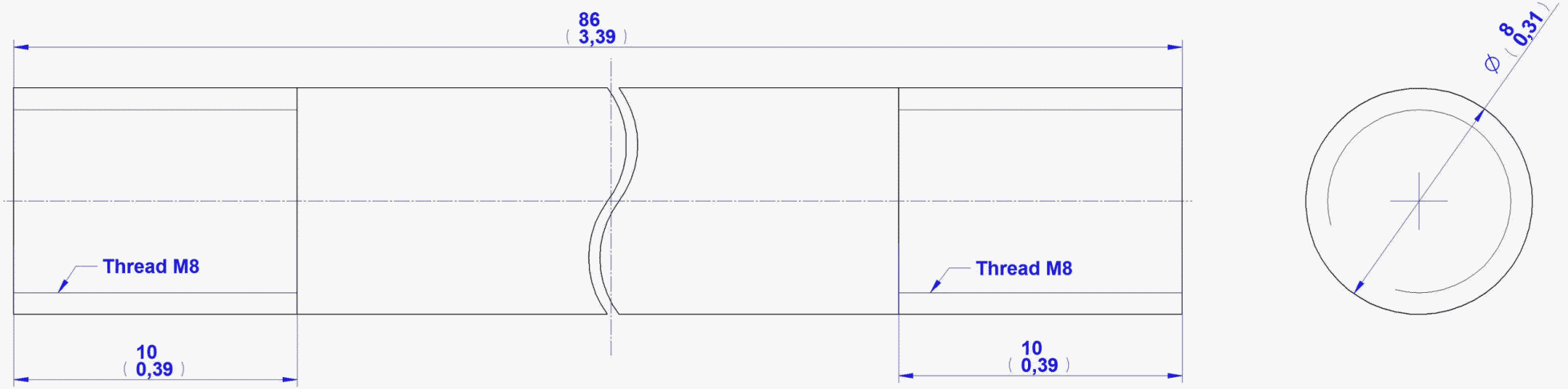
9. Lower Support



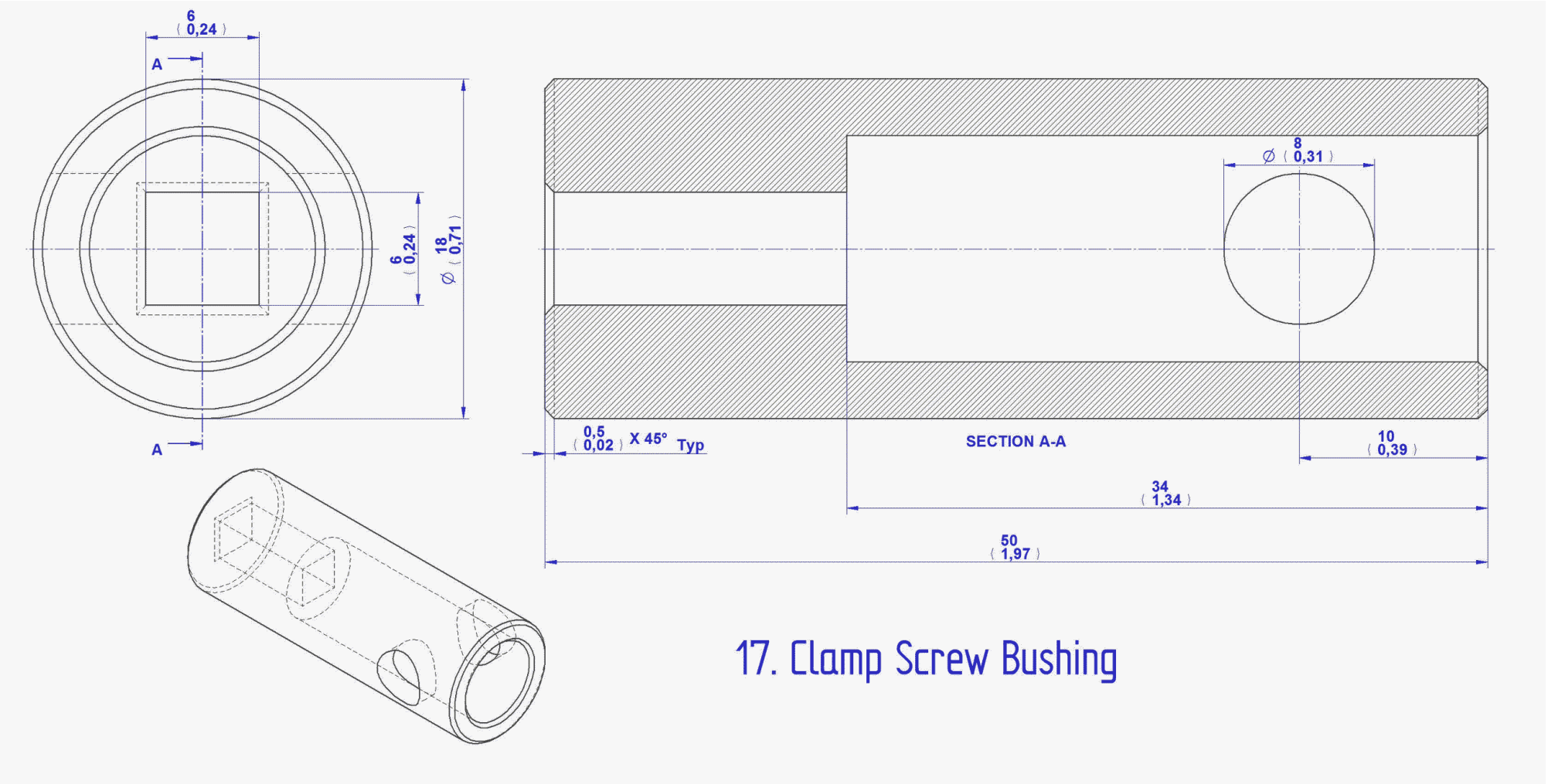
10. Upper Support



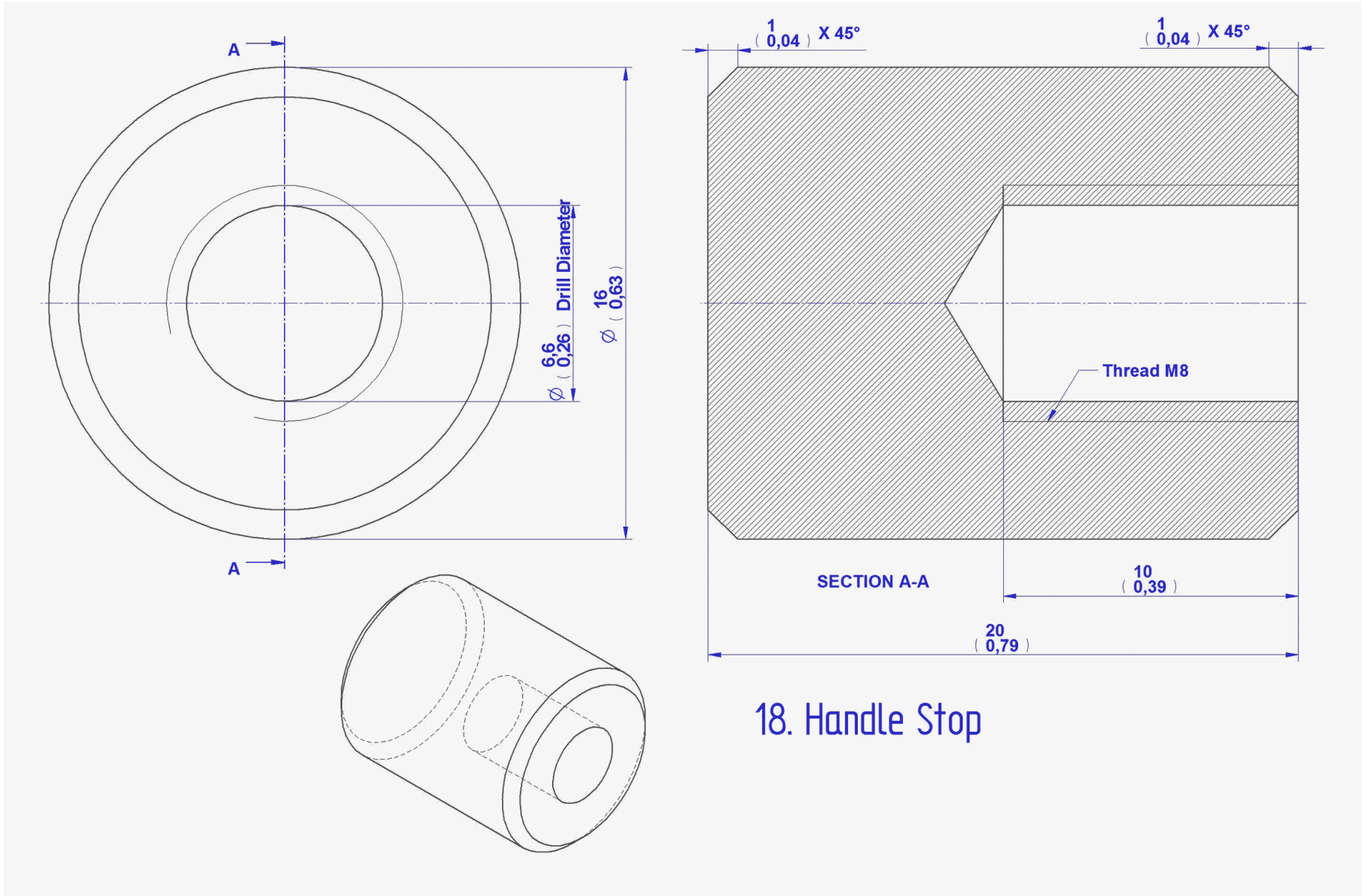
11. Clamp Screw



12. Clamp Screw Handle

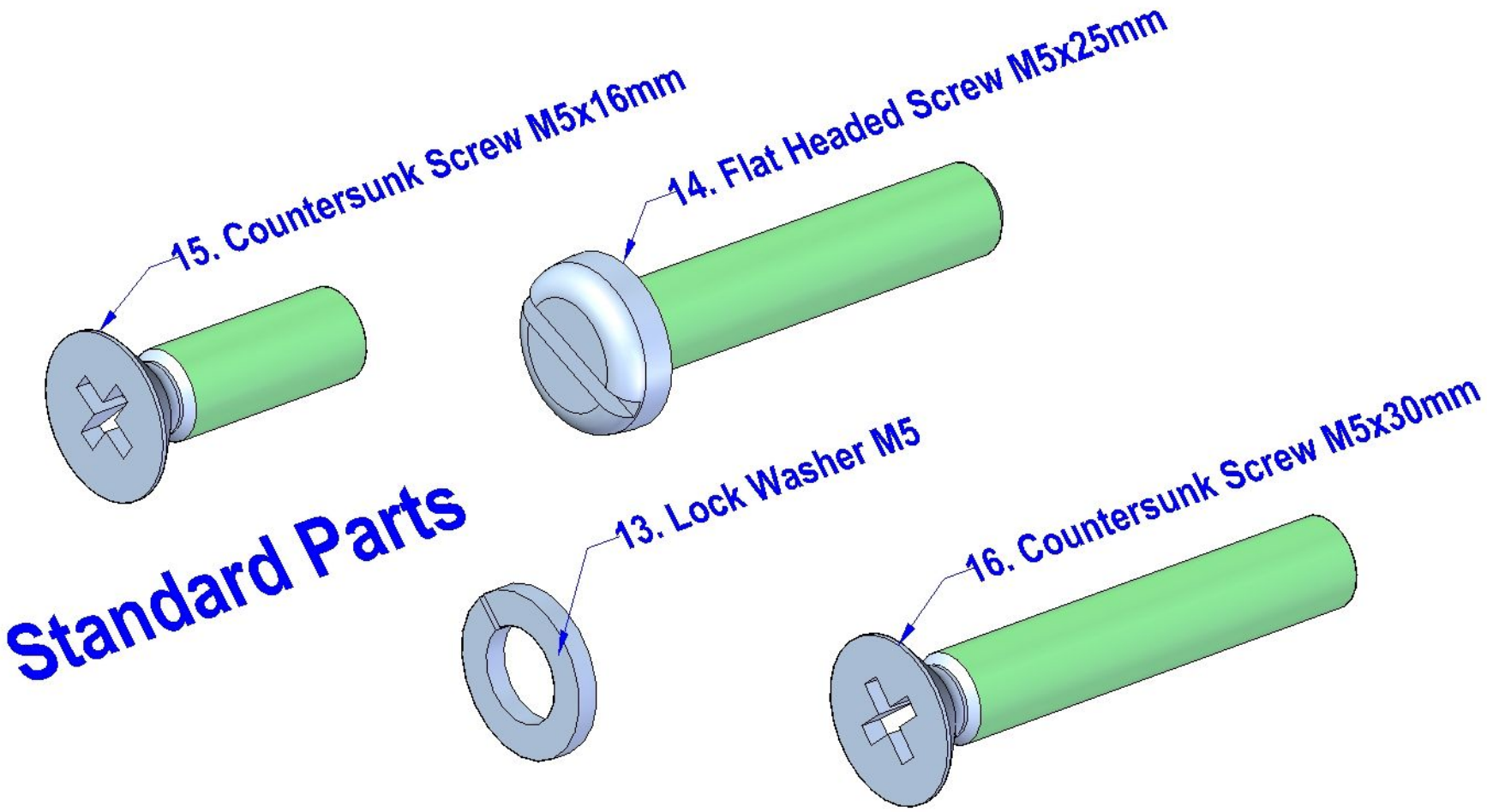


17. Clamp Screw Bushing



18. Handle Stop

Standard Parts



Assemblage images

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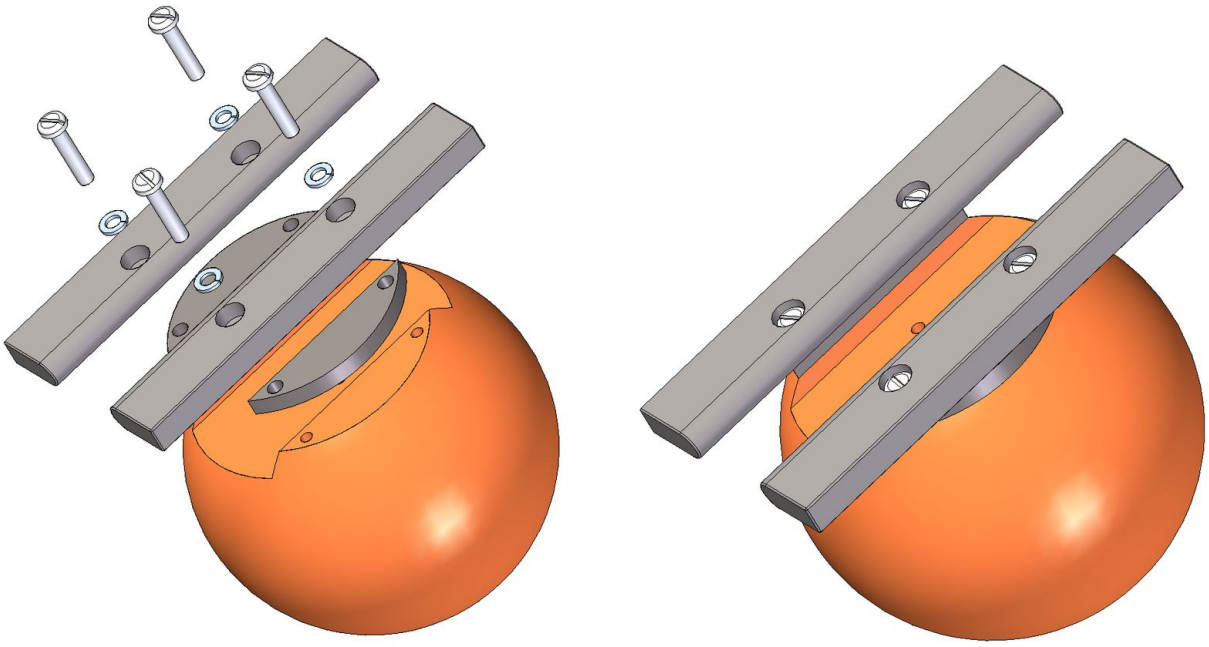

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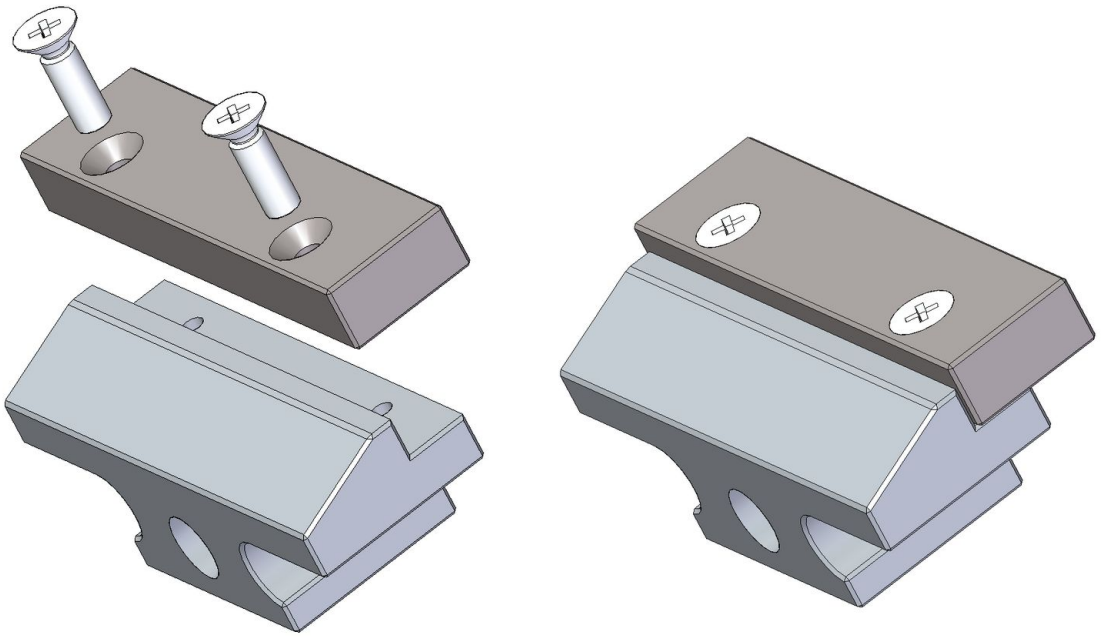

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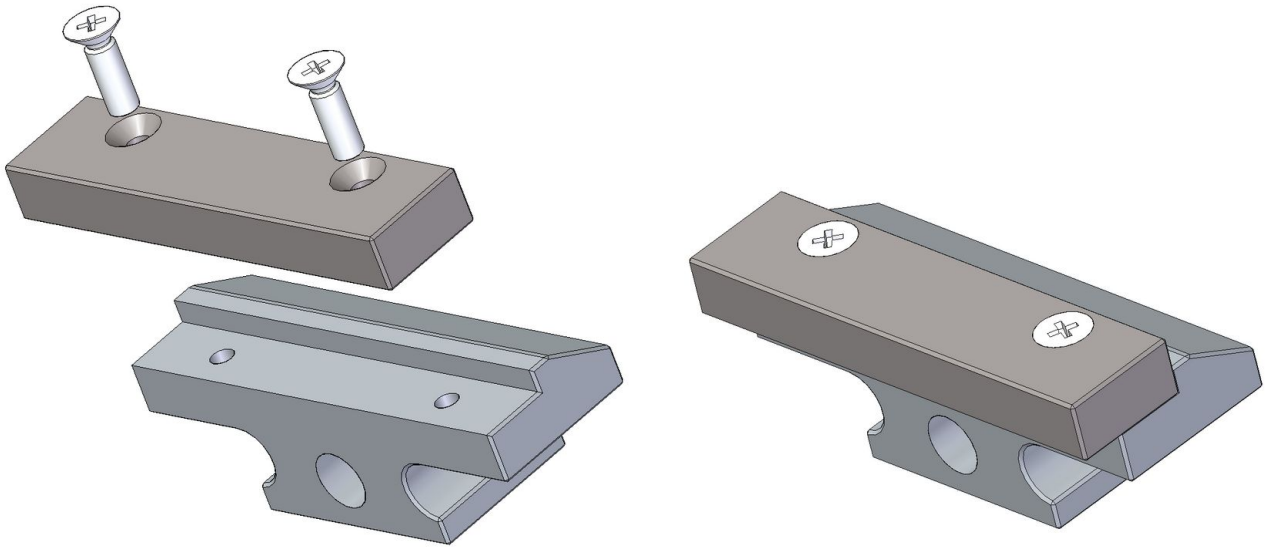

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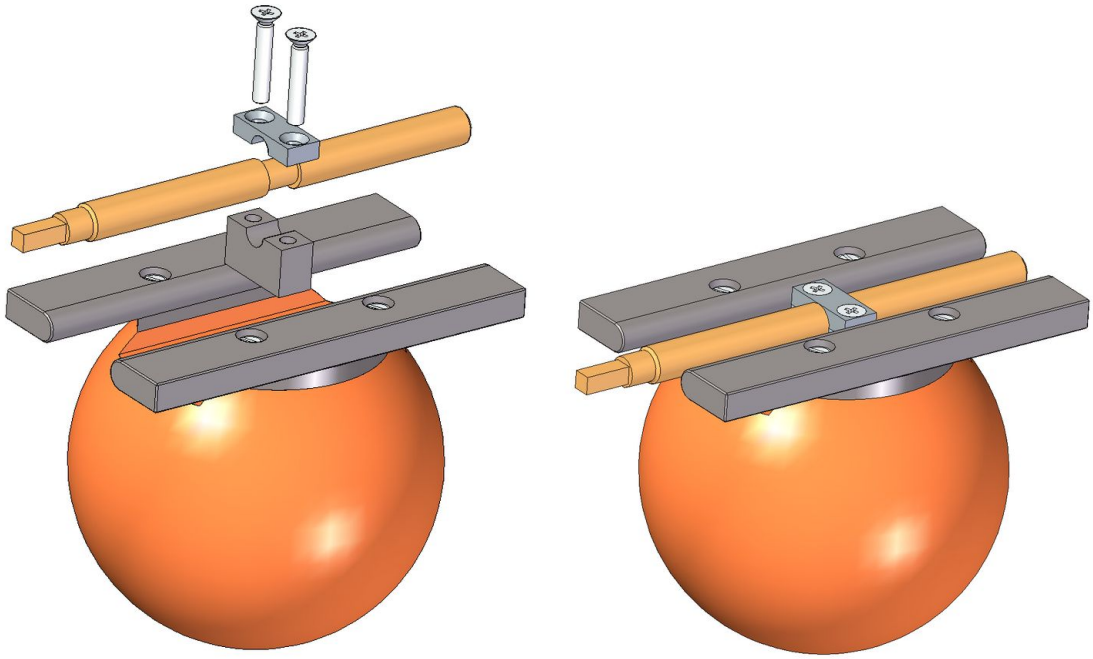

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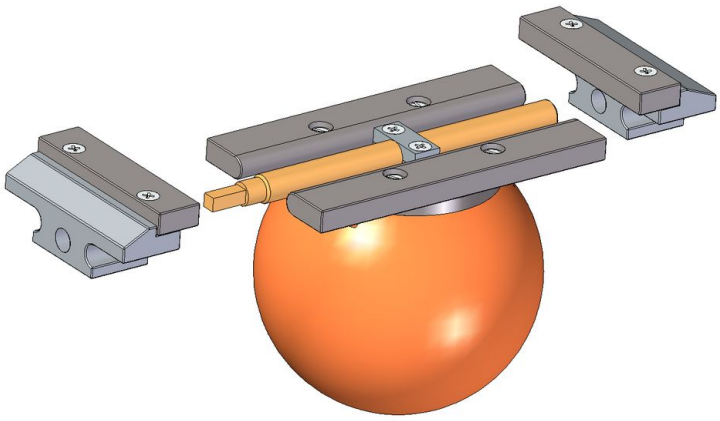

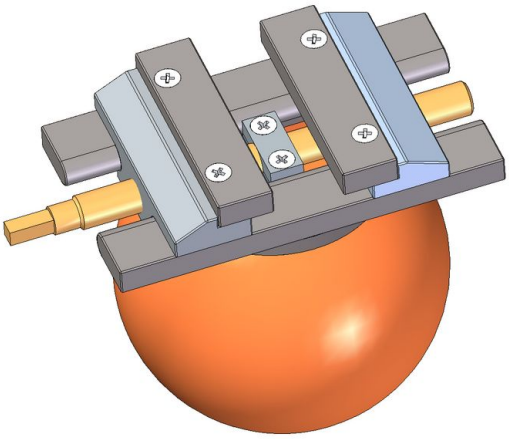

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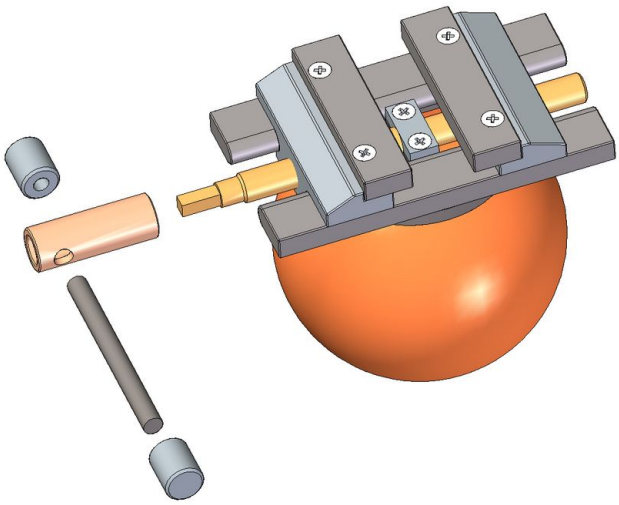

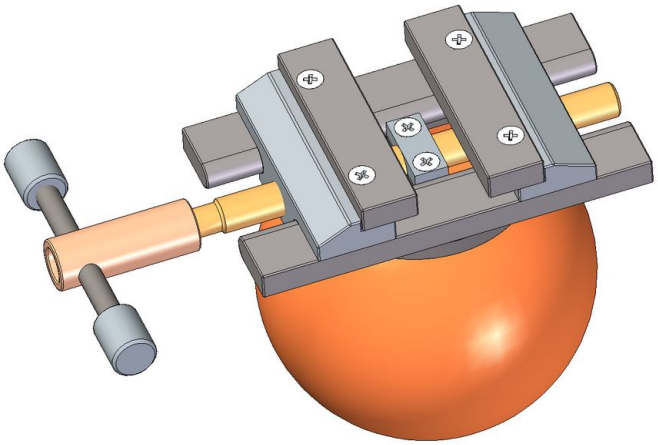

7.