

## Rocking airplane kids toy plan

The Rocking Airplane plan will allow you to create a very beautiful and lasting gift for your child of 3-4 years or a little older, which will allow him/her to exercise imagination and consume inexhaustible energy.

Rocking gives pleasure to people throughout life. The first baby's crib is a rocking baby cradle. Later, children love rocking toys and swings, and we all enjoy rocking chairs. The earliest known rocking toys that had a semi-circular base date from the 17th century. The most famous of these wooden toys is the rocking horse which King Charles the First of England owned when he was a child. Through the mid 19th century, Queen Victoria ordered a rocking horse for herself, and after that these toys were becoming increasingly popular, and began to appear in homes and nurseries more often.



On the other hand, boys, who are more inclined to technology than girls, almost always experience a period in their childhood when they dream of becoming pilots. A

Rocking Airplane is an ideal combination of meeting children's needs for movement and fulfillment of a boyhood fantasy.

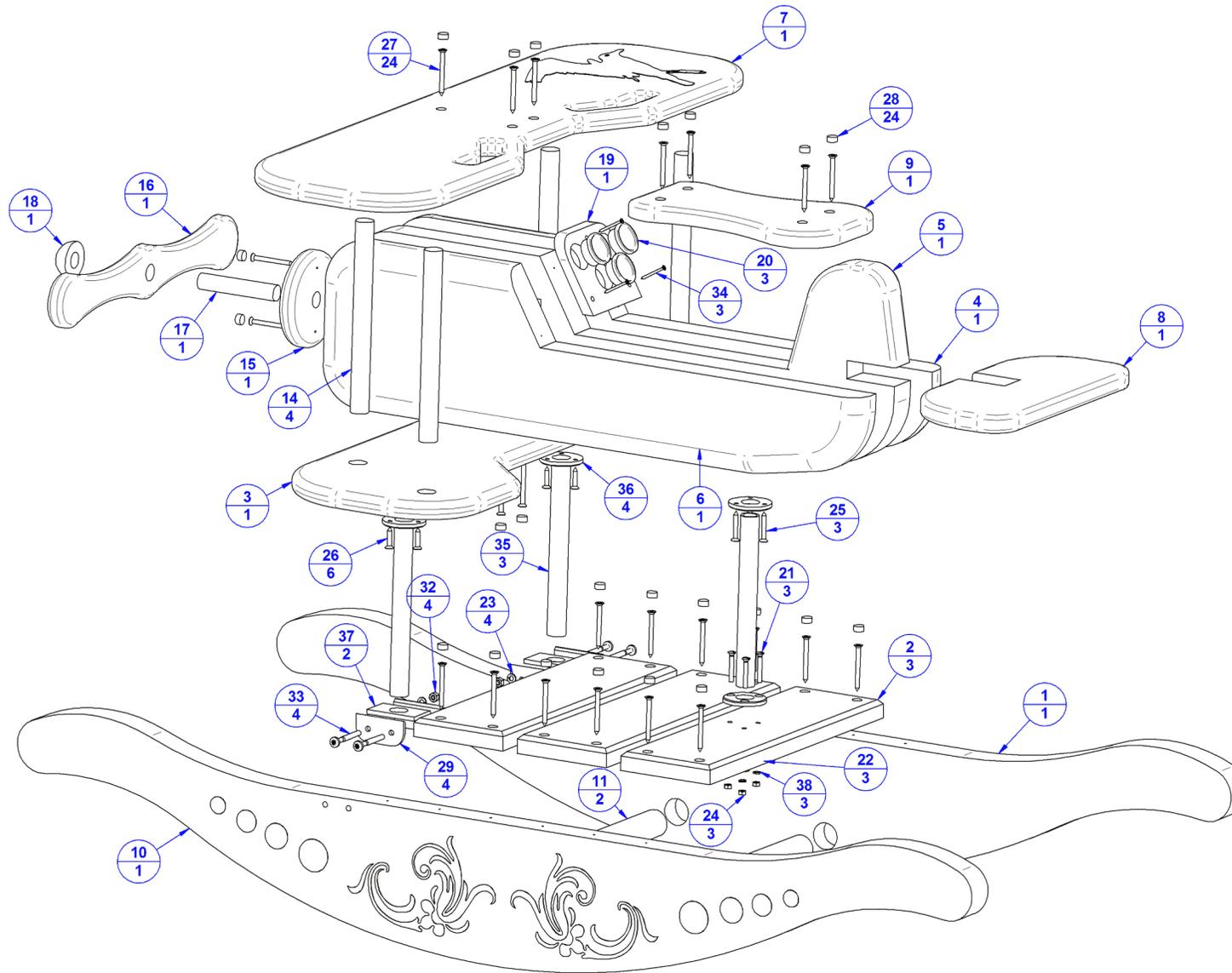
This Rocking Airplane kids' toy is designed in a retro style, like the biplanes of early 20th century. The spinning propeller increases the realistic aspect of the toy. The upper pair of wings has openings for a child to hold on to them firmly, while the child's legs will be supported by the lower pair of wings or the platform below the airplane, so that the child is comfortably and safely placed while he swings back and forth. The tail of the airplane also serves as a safety support for the child's back. The Rockers have a slight curve to ensure swinging at a safe angle, and at the ends, they have the stoppers which control the swinging angle.

During the construction of the wooden Rocking Airplane, all parts should be made of solid hardwood, except for the propeller. Since the propeller is movable, it should be made of the lightest possible wood. A great attention should be paid to fixing the propeller well, so that it would not fall off during the child's play. The metal pipes (connecting the airplane with the platform) should be made of lightweight metals such as aluminum or its alloys. For greater comfort, the seat can be covered with a cushion, which must be fixed to the underside of the seat, so that it would not slip while the child is sitting on it. To increase the child's safety, you can cover the platform with some slip-resistant material (rubber or cloth) to reduce the possibility of the child slipping. If your house space is limited, you can shorten the wings a little. It will not reduce the beauty of your wooden Rocking Airplane at all. As with all wooden toys, it is important to pay special attention to wood finishing, in order to make it completely smooth, and to prevent splinters in little fingers. You can paint the flat surfaces of the wings, while the rockers are an ideal place for chip carving. While playing, the child, as always, must be supervised by an adult, who have to help and hold the child during climbing up and down a Rocking Airplane.

When you make it well, this Rocking Airplane toy will last forever and it will be a family heirloom toy.

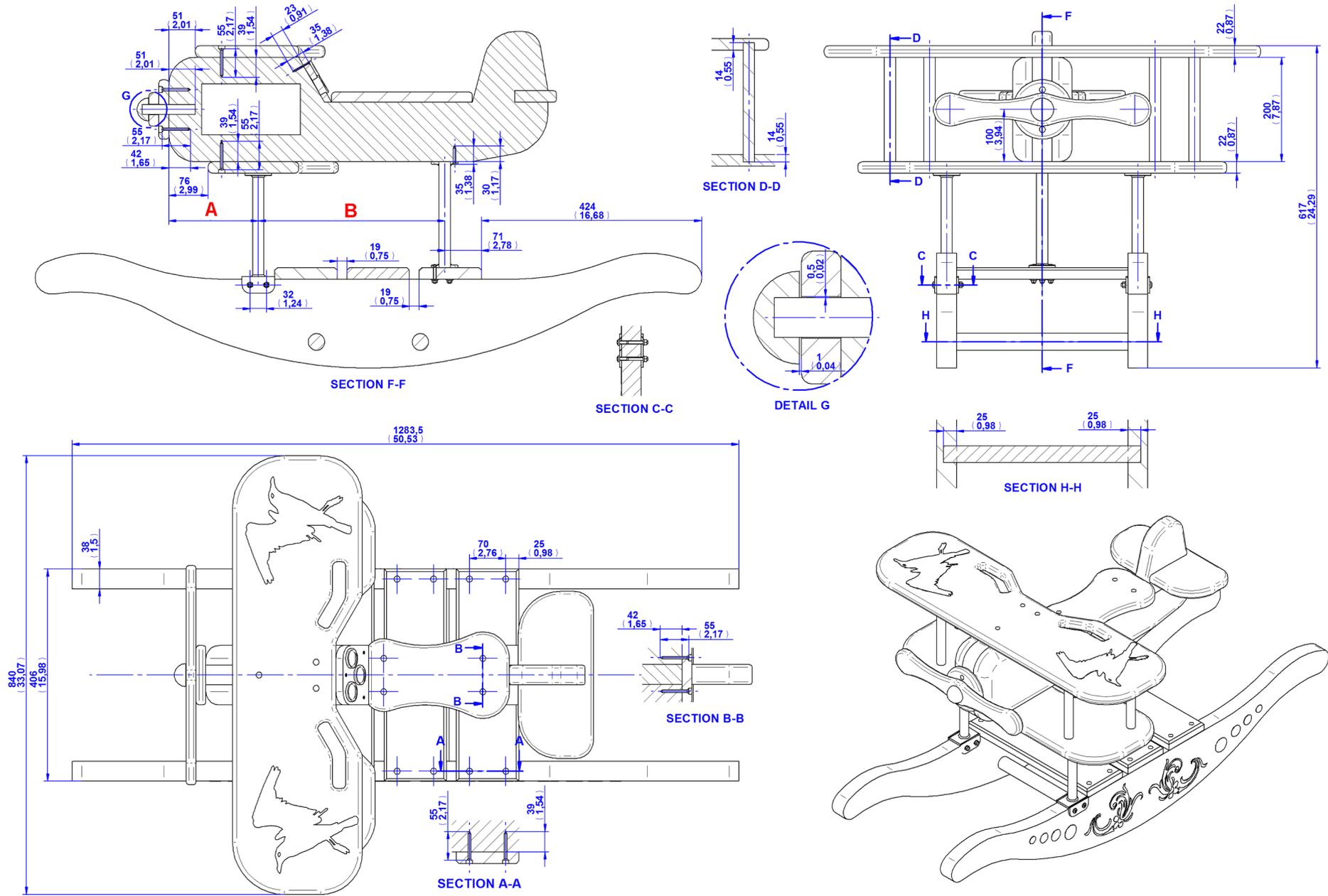
**The measurements are given in millimeters, while the measurements given in inches are in brackets (1 inch = 25,4 mm).**

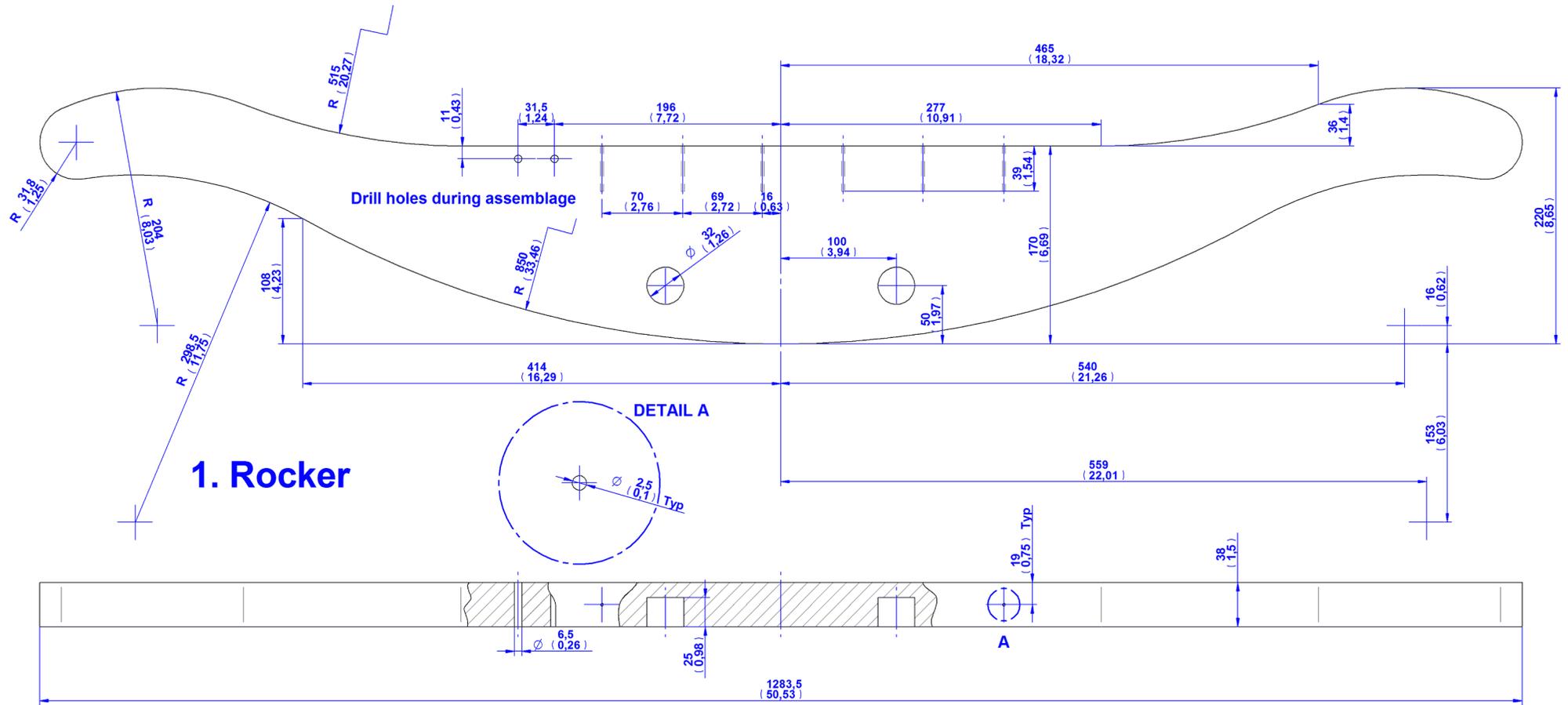
## Rocking airplane parts list

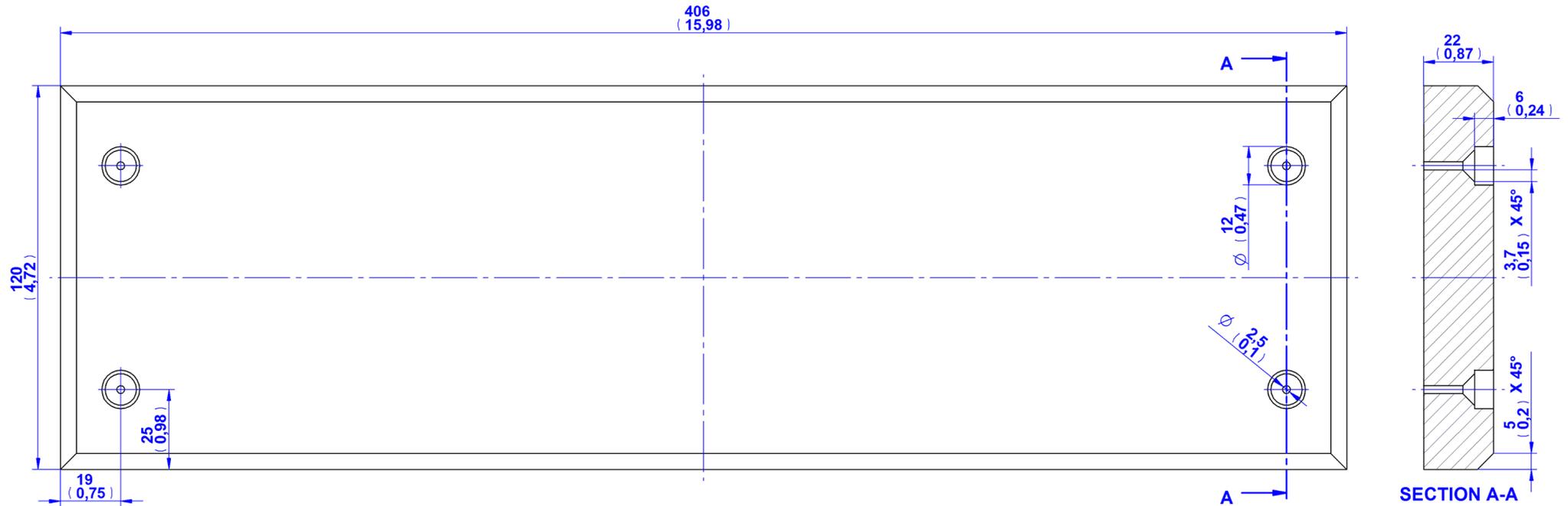


Item Number	Title	Material	Quantity
1	Rocker	Wood	1
2	Platform	Wood	3
3	Bottom wing	Wood	1
4	Fuselage side	Wood	1
5	Fuselage center	Wood	1
6	Fuselage side mirror	Wood	1
7	Top wing	Wood	1
8	Horizontal tail	Wood	1
9	Seat	Wood	1
10	Rocker mirror	Wood	1
11	Rocker crossbar	Wood	2
14	Wing connector	Wood	4
15	Propeller disk	Wood	1
16	Propeller	Wood	1
17	Propeller shaft	Wood	1
18	Propeller spinner	Wood	1
19	Control panel	Wood	1
20	Indicator	Wood	3
21	Countersunk screw M5x35mm	Steel	3
22	Washer D5,3mm	Steel	3
23	Spring lock washer D6mm	Steel	4
24	Hexagon nut M5	Steel	3
25	Wood screw D5 x 35mm	Steel	3
26	Wood screw D5 x 25mm	Steel	6
27	Wood screw D5 x 55mm	Steel	24
28	Plug	Wood	24
29	Lower support side	Steel	4
32	Hexagon nut M6	Steel	4
33	Pan head screw M6x55mm	Steel	4
34	Wood screw D3 x 35mm	Steel	3
35	Pipe D22mm	Steel	3
36	Flange	Steel	4
37	Lower support	Steel	2
38	Spring lock washer D5mm	Steel	3

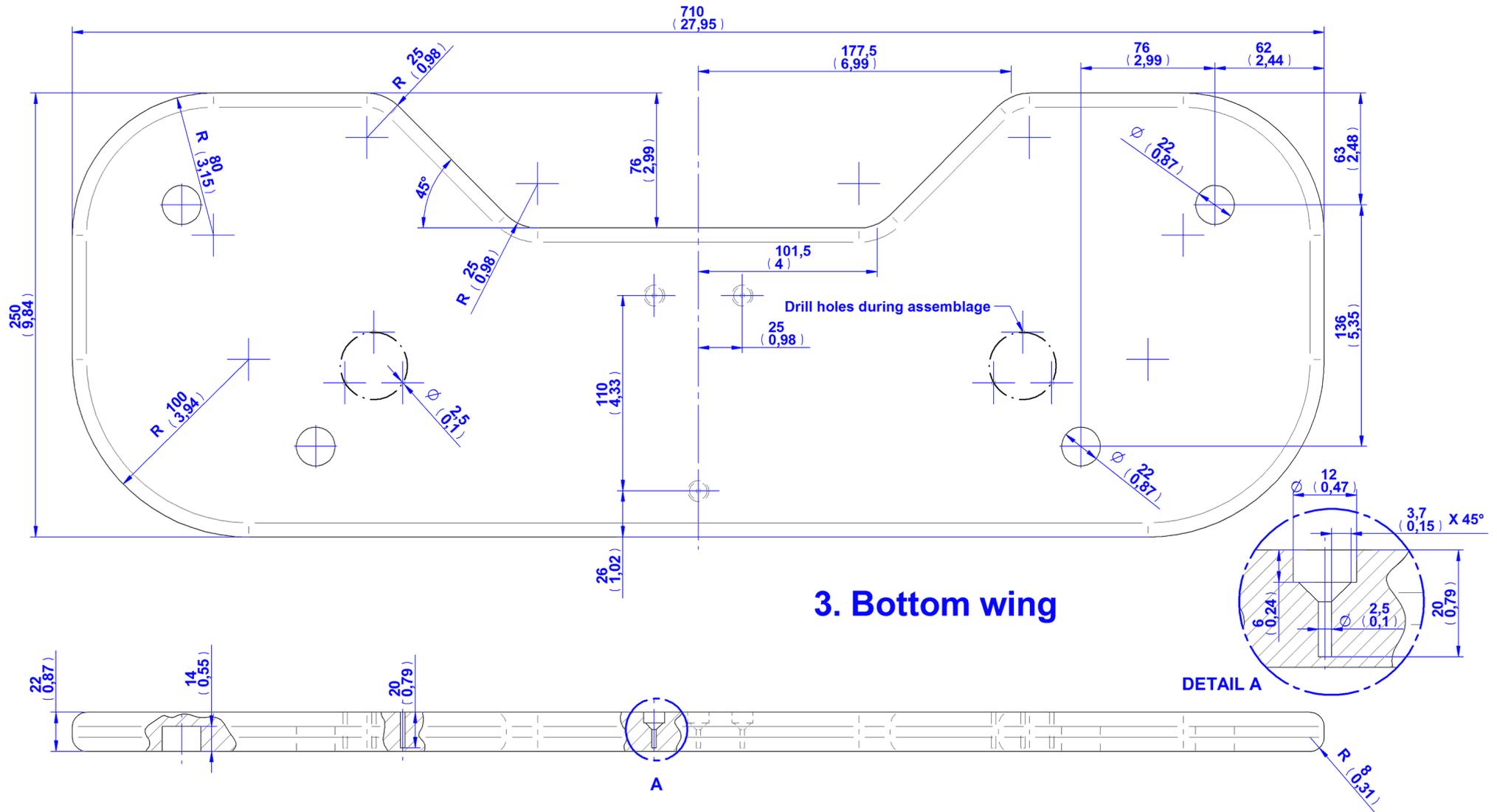
# Rocking airplane assembly 2D drawing

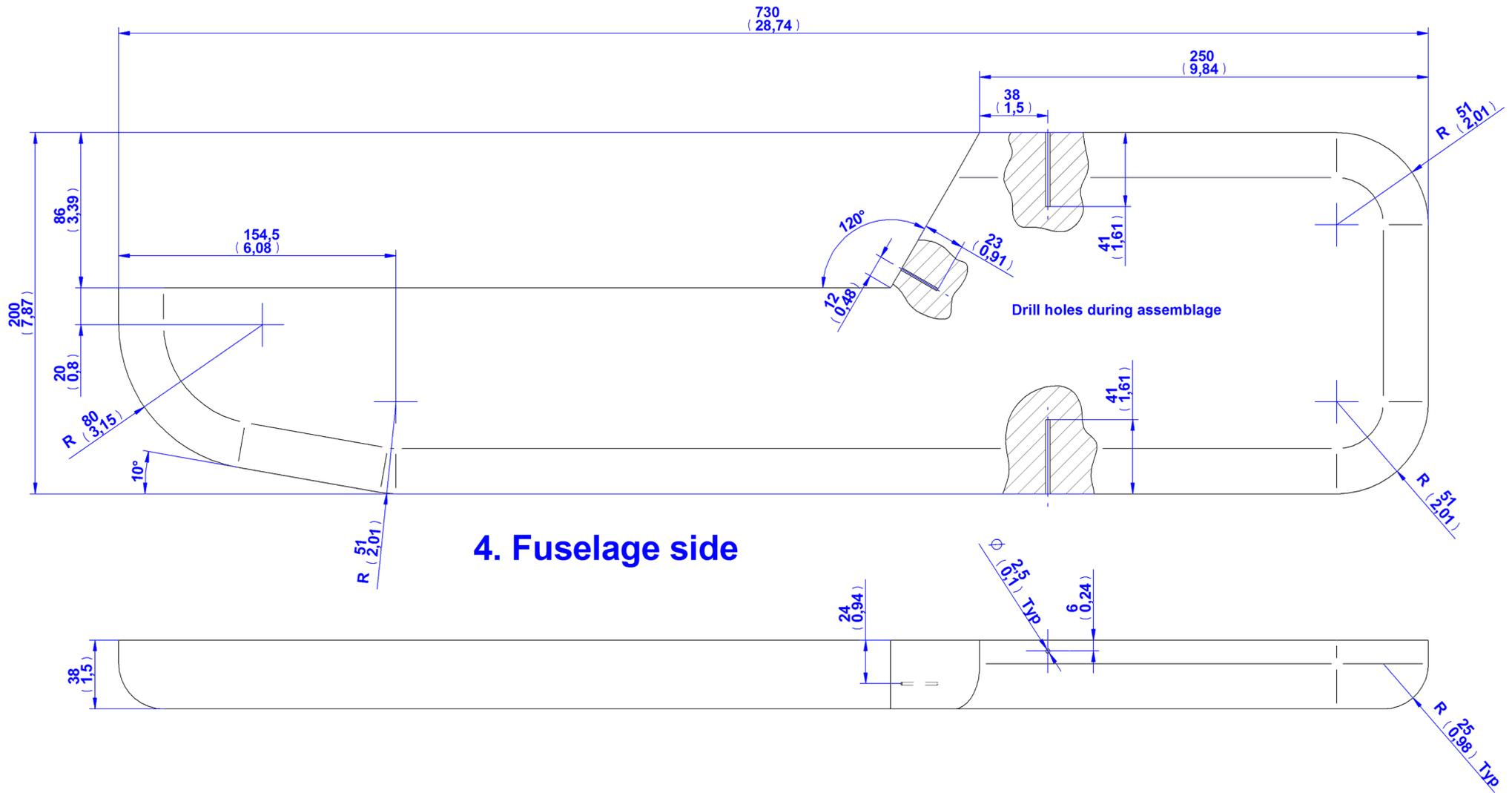




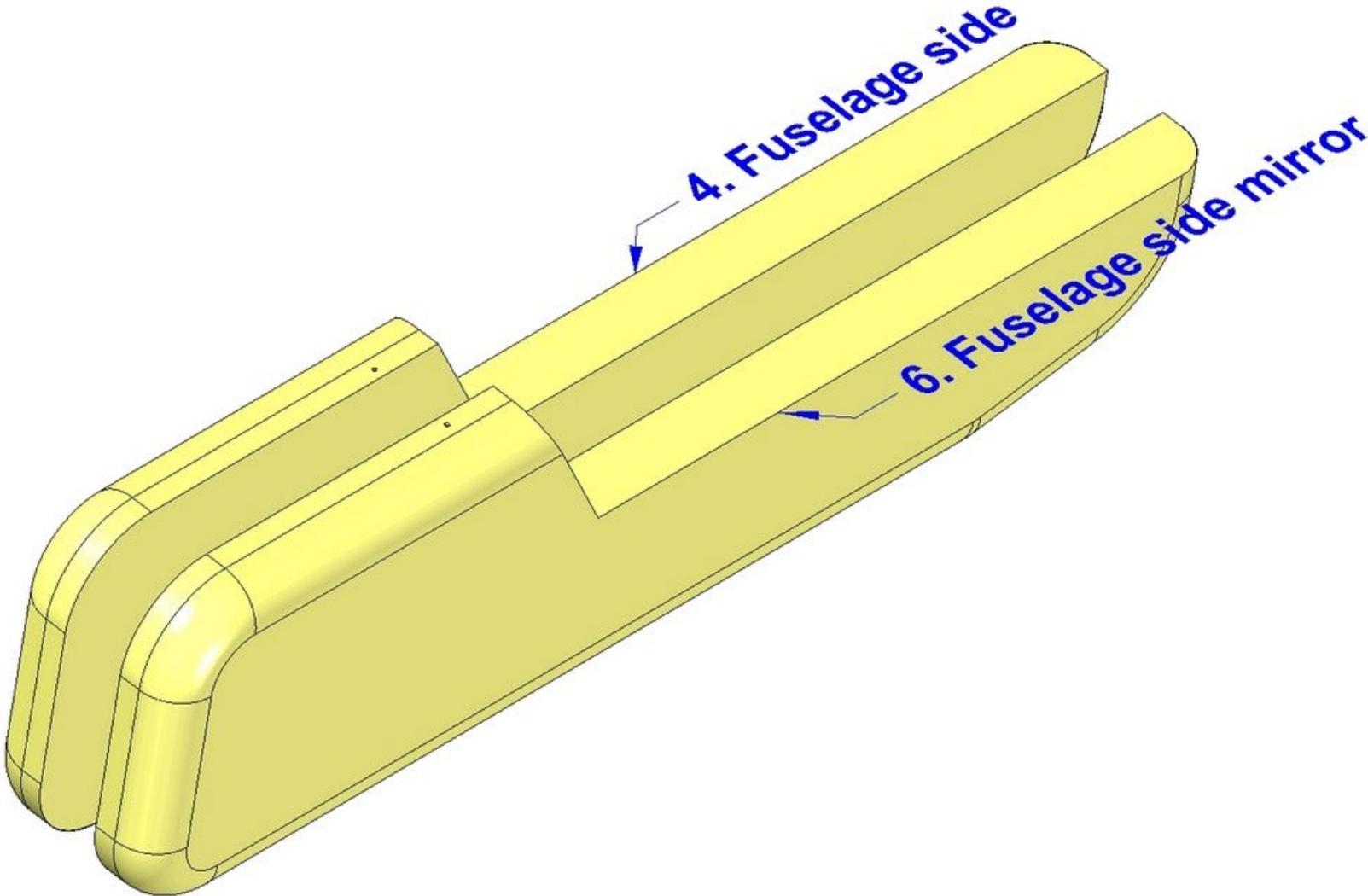


## 2. Platform

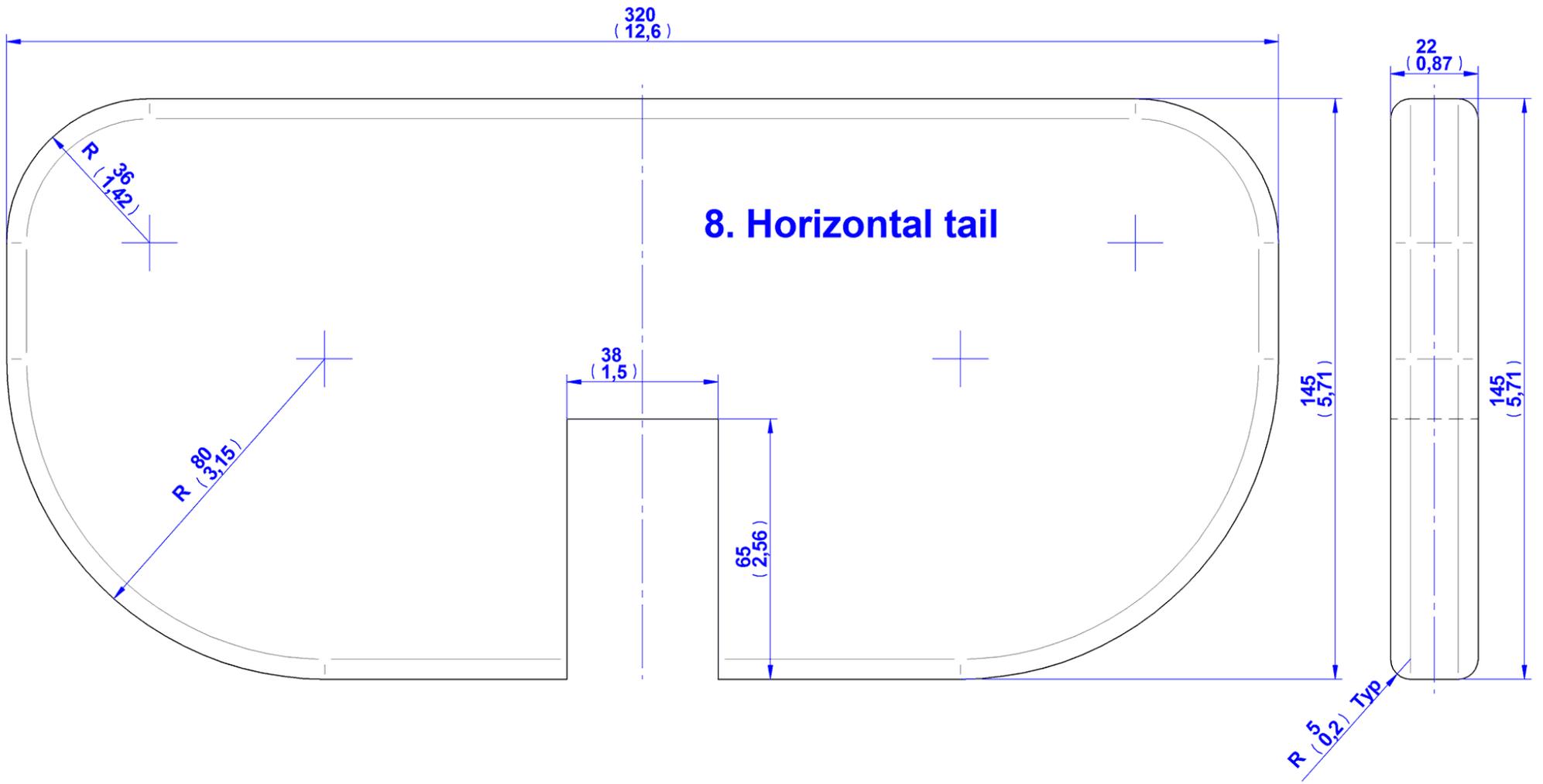


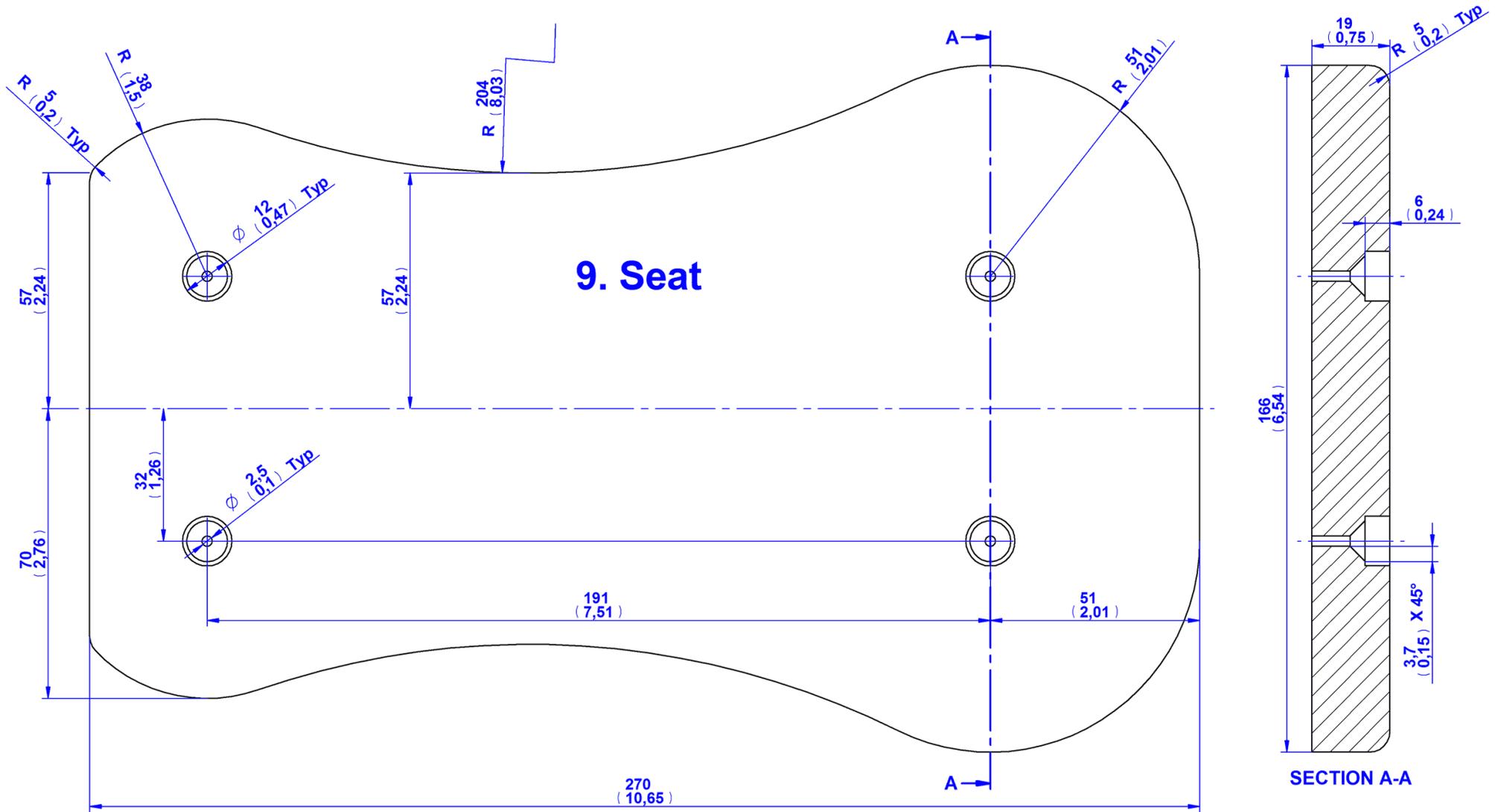


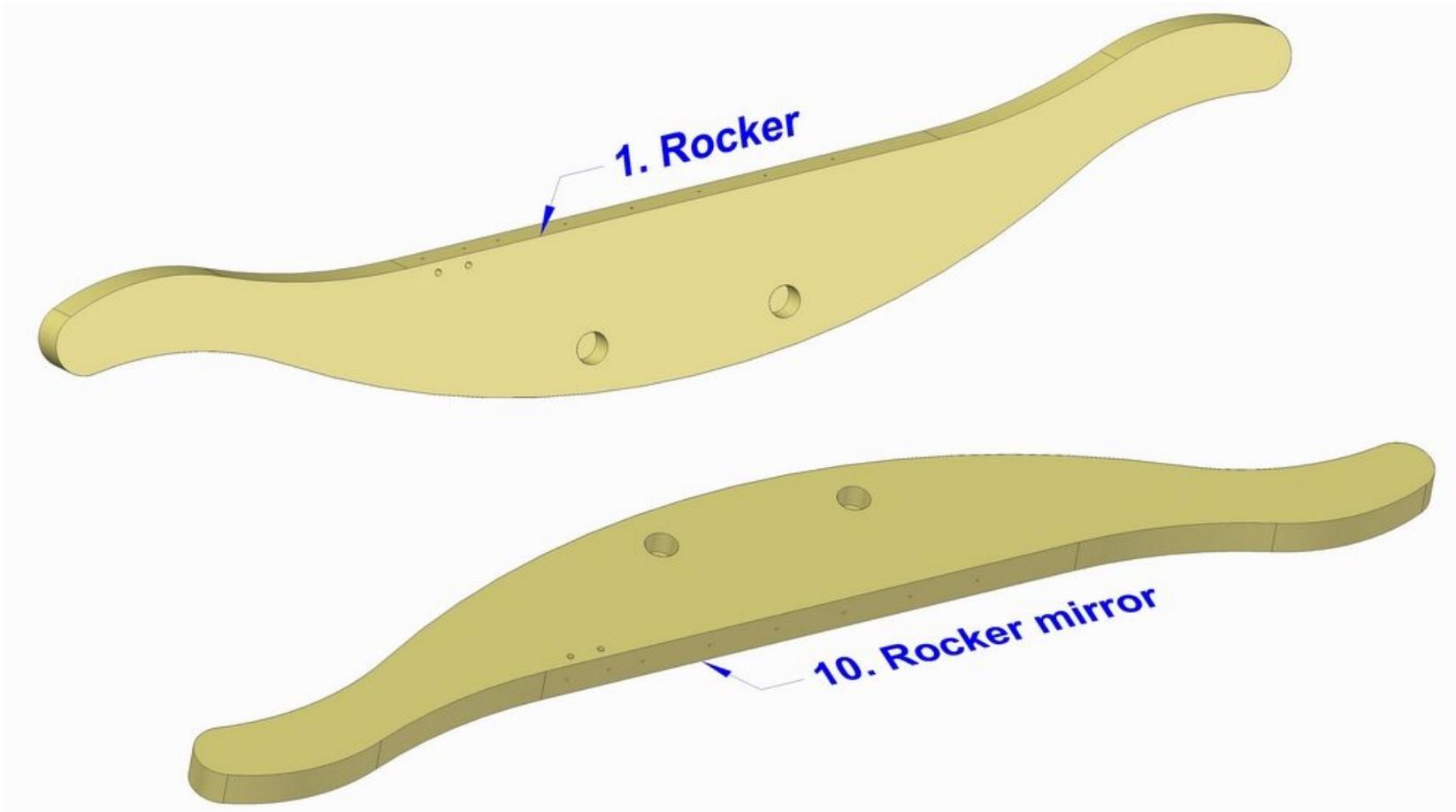


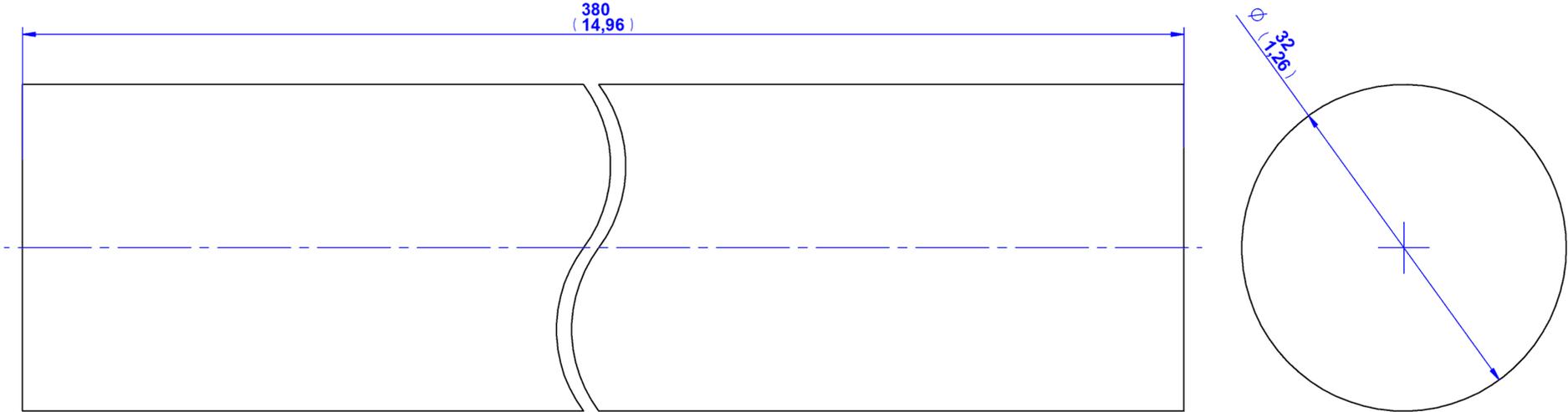




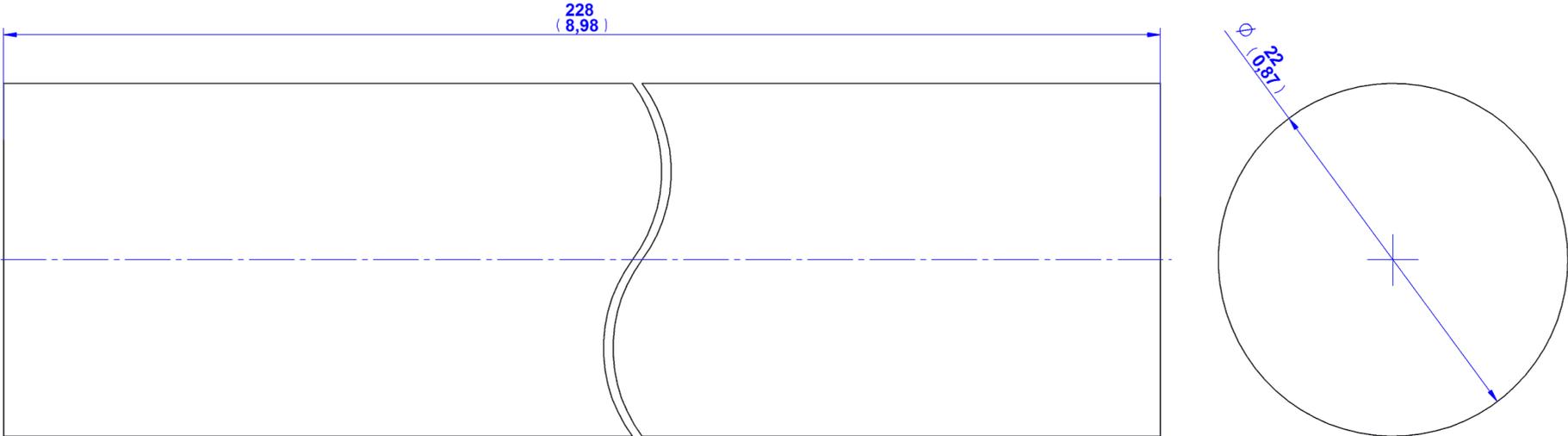






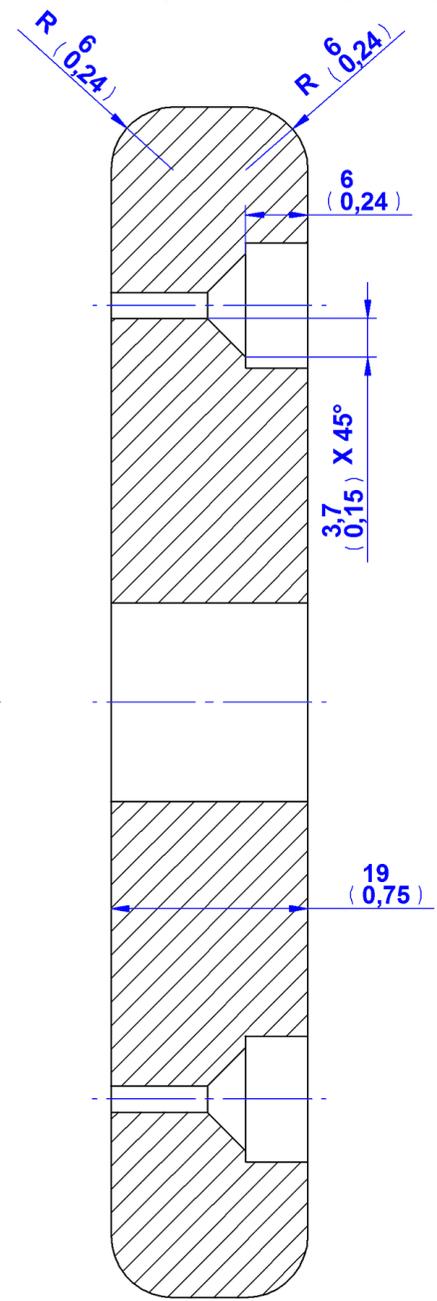
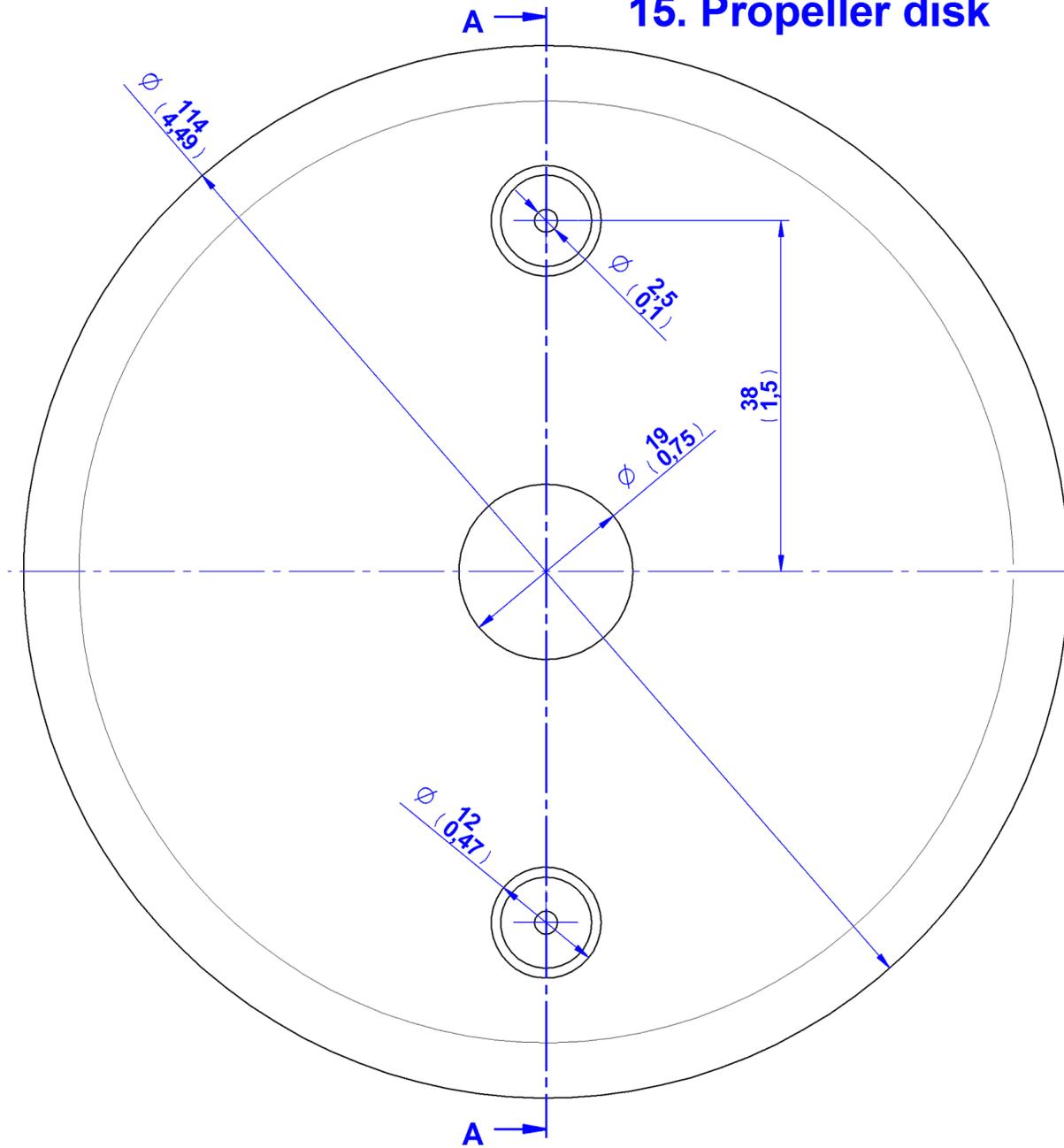


**11. Rocker crossbar**

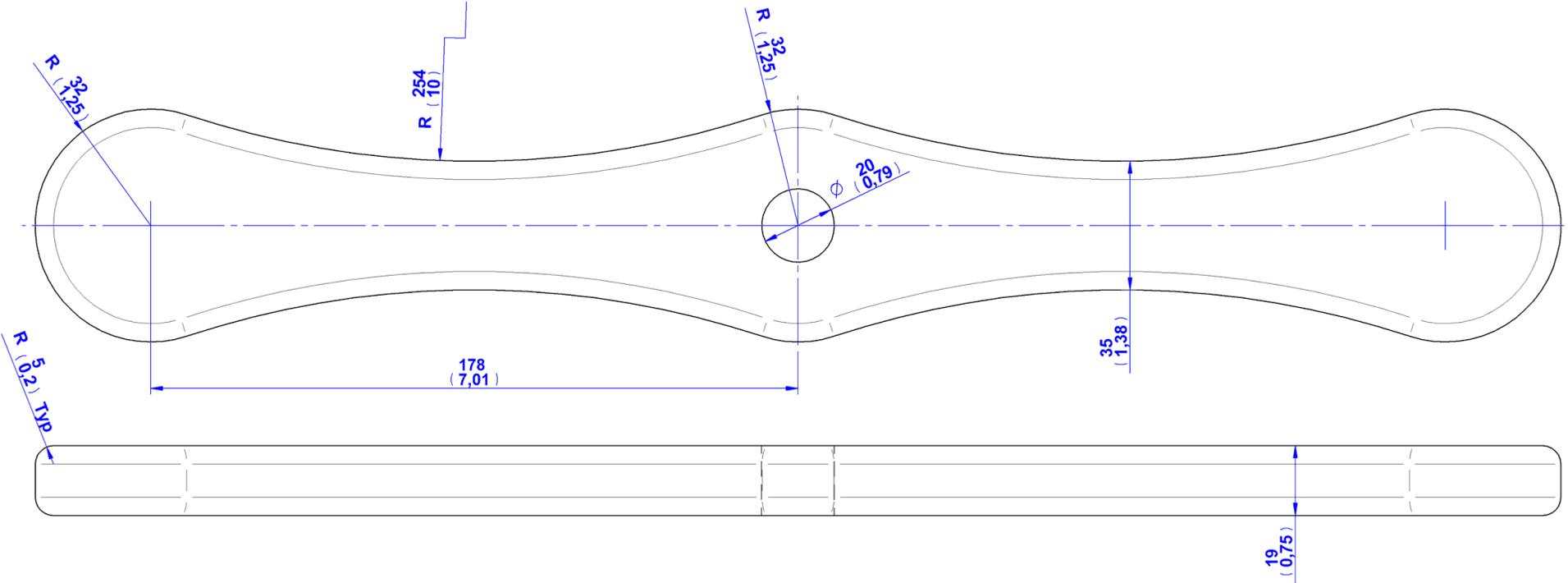


**14. Wing connector**

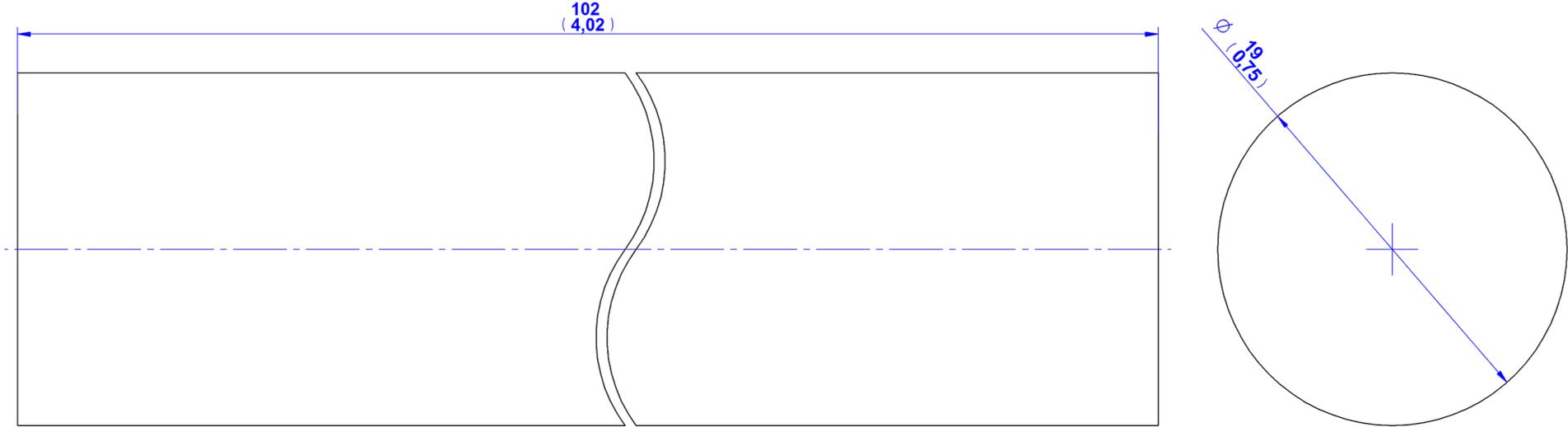
# 15. Propeller disk



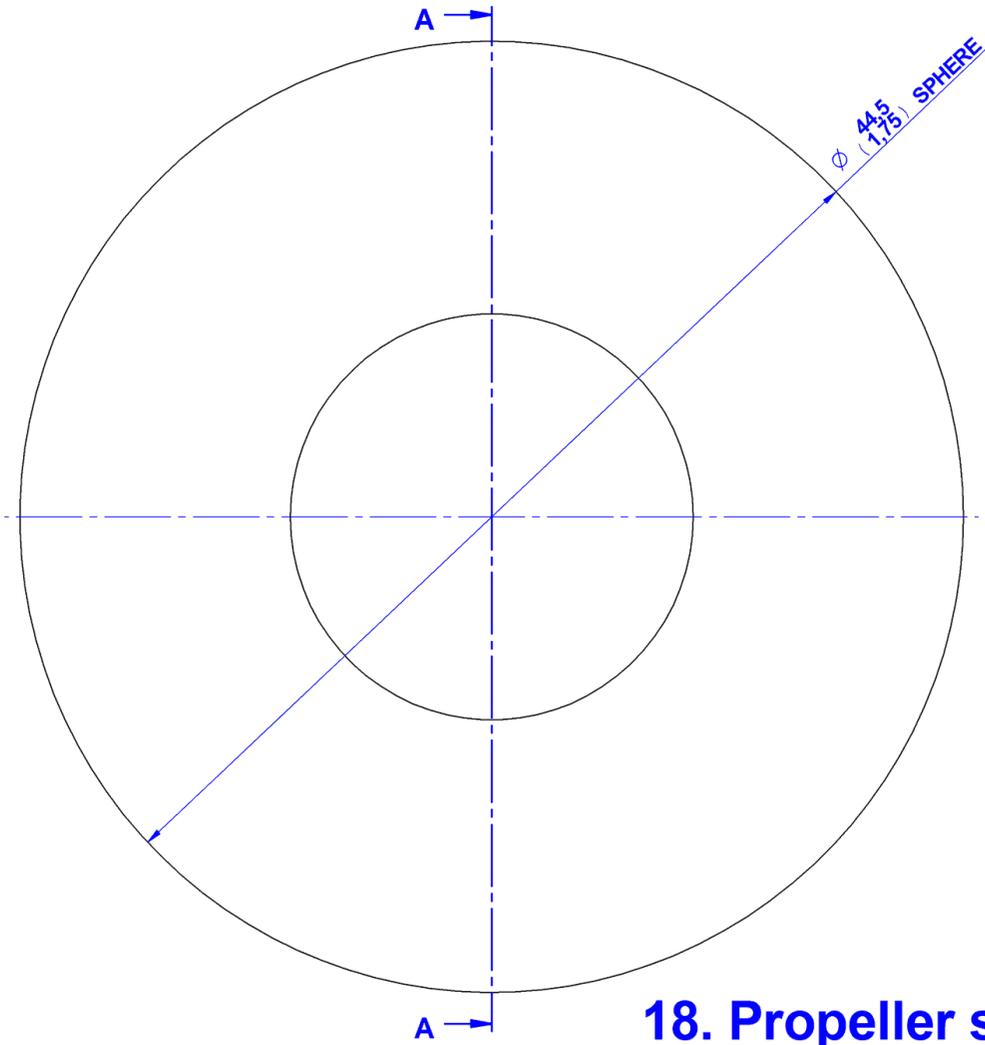
SECTION A-A



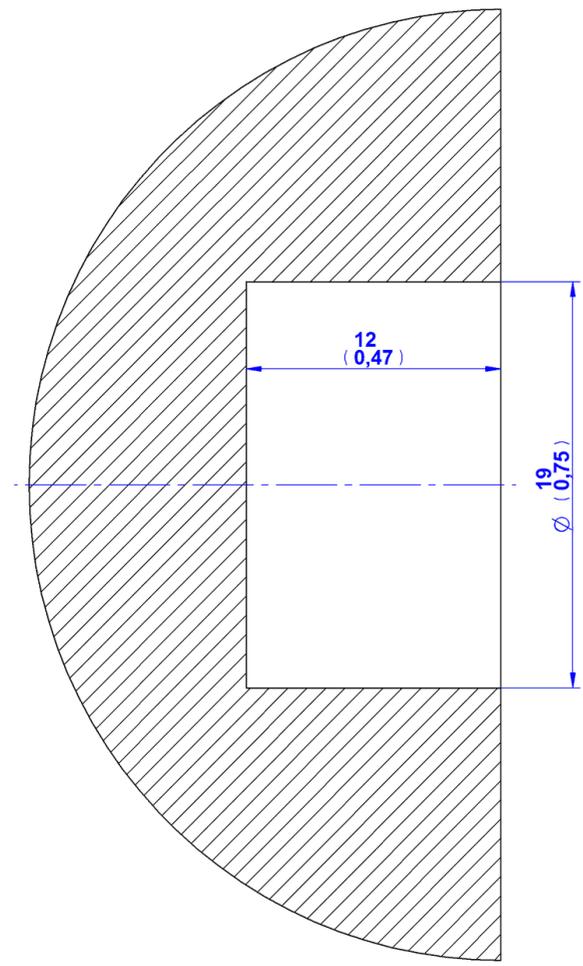
**16. Propeller**



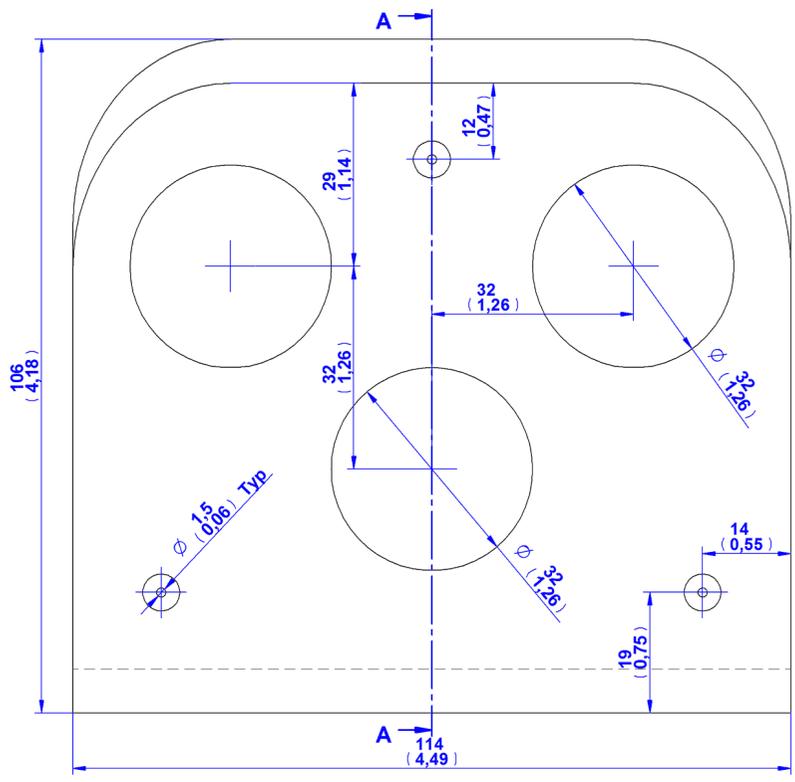
**17. Propeller shaft**



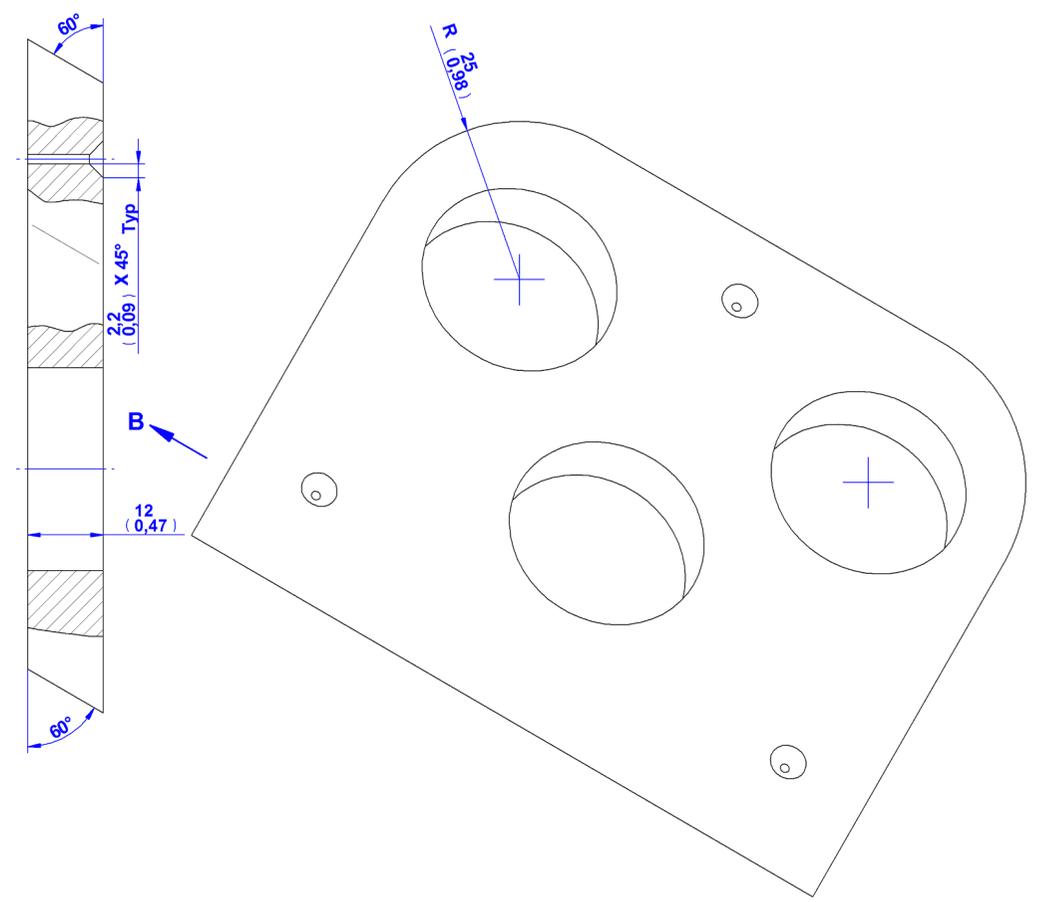
**18. Propeller spinner**



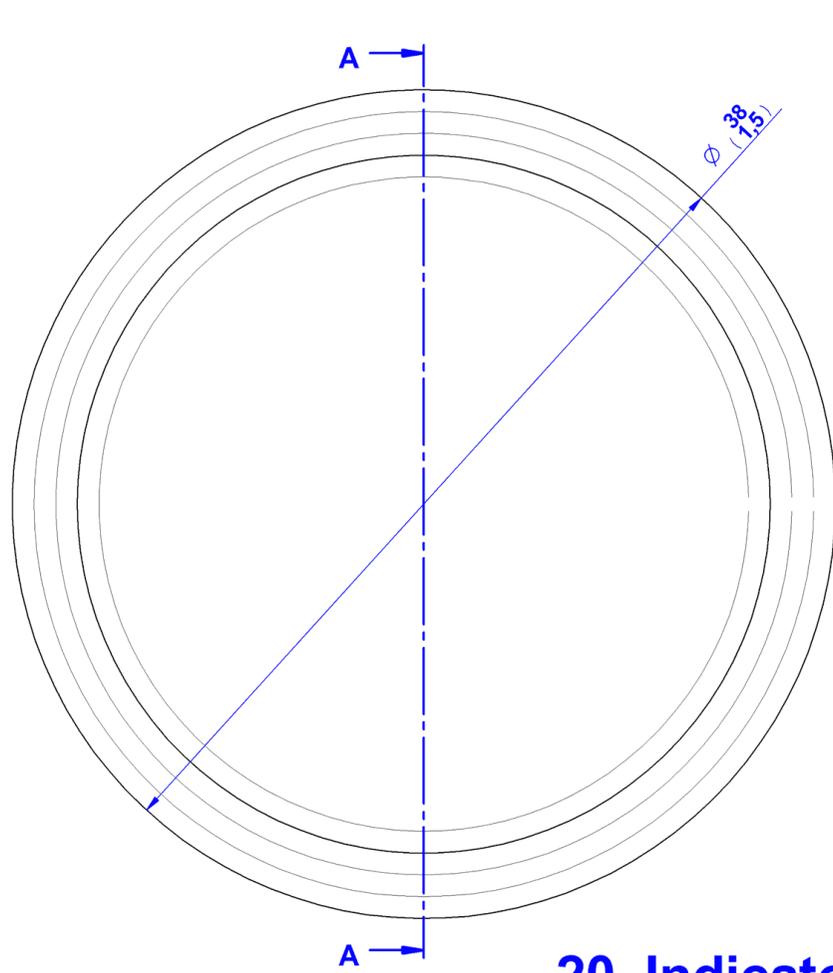
**SECTION A-A**



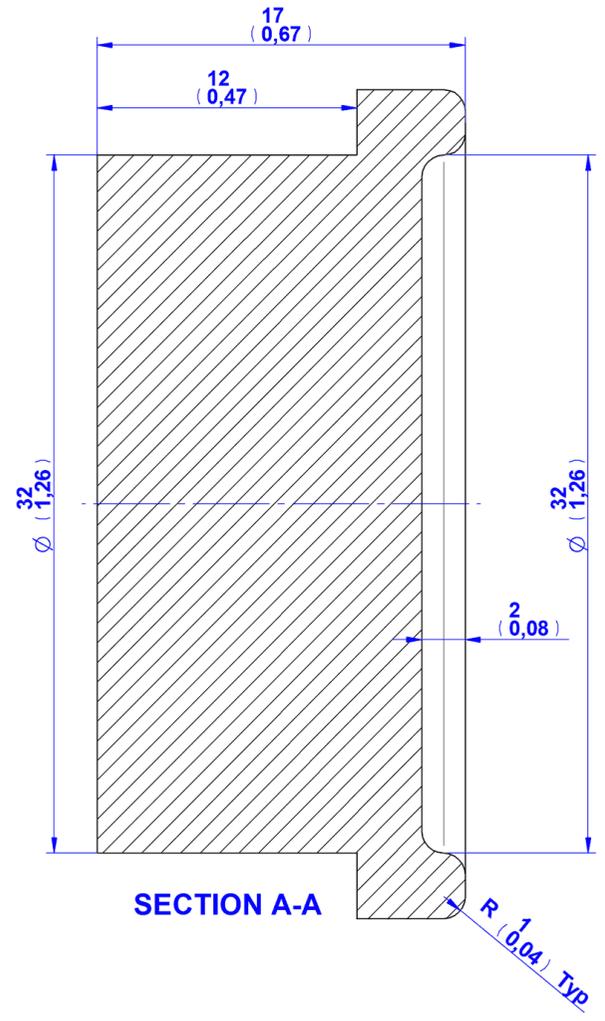
19. Constrol panel



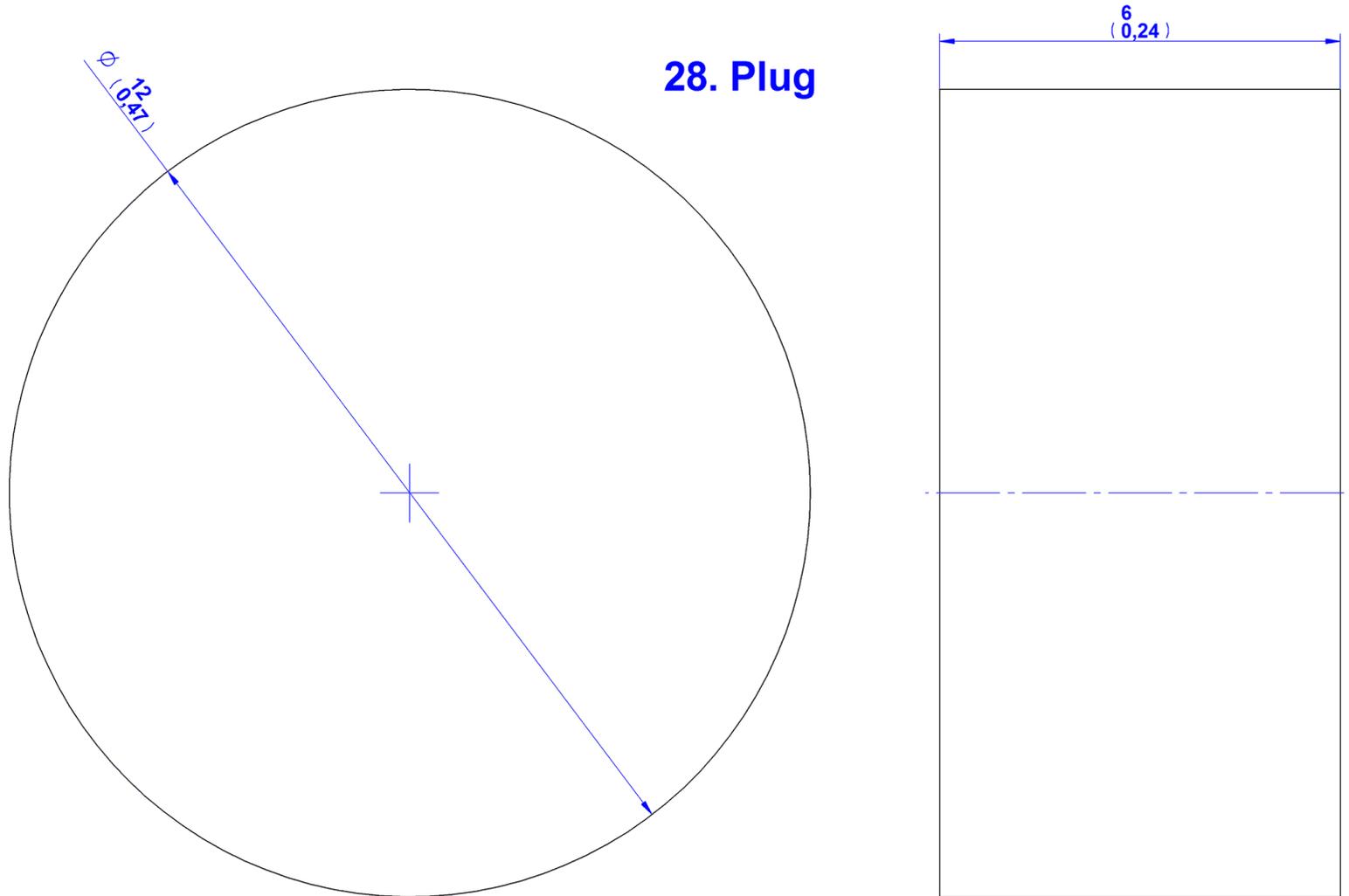
VIEW B

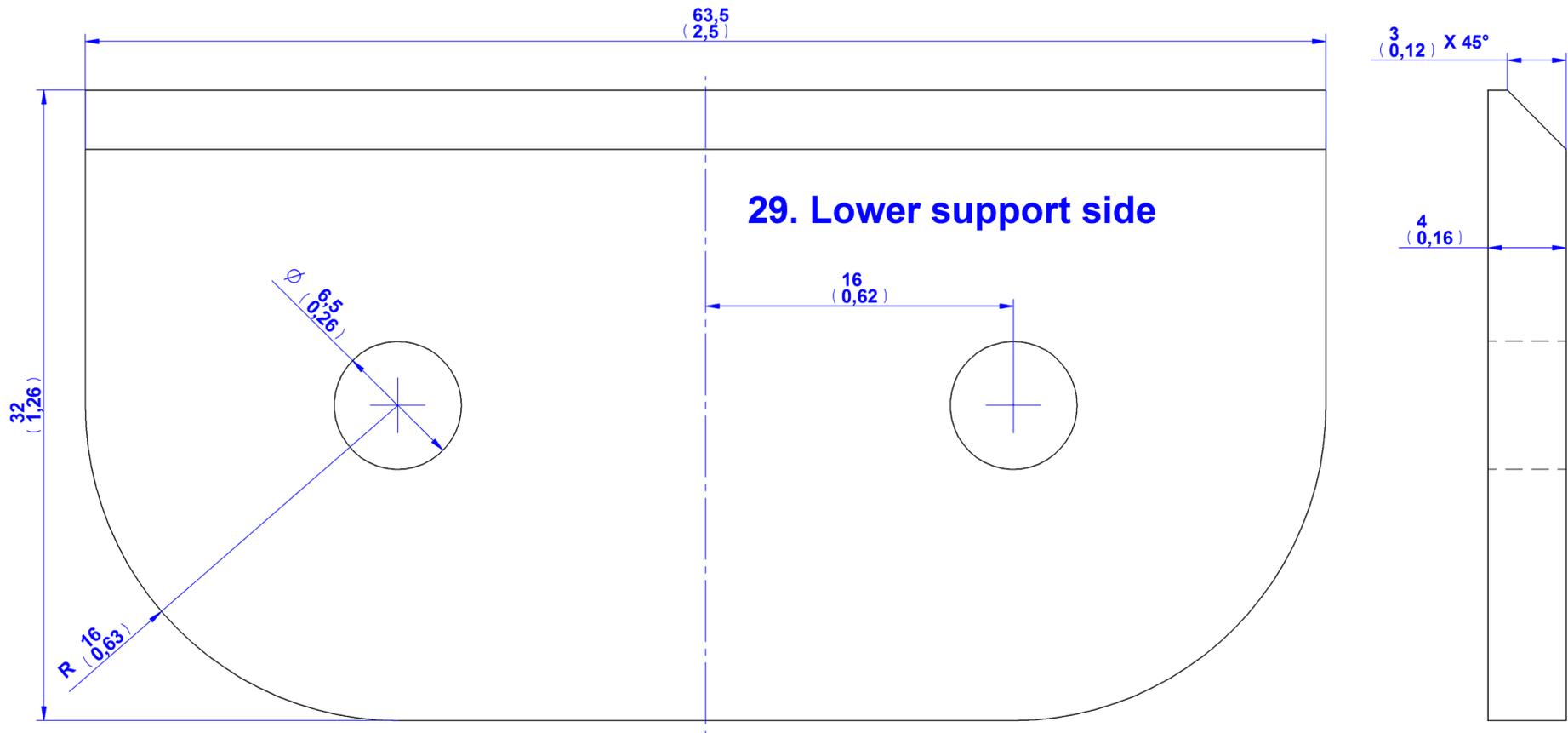


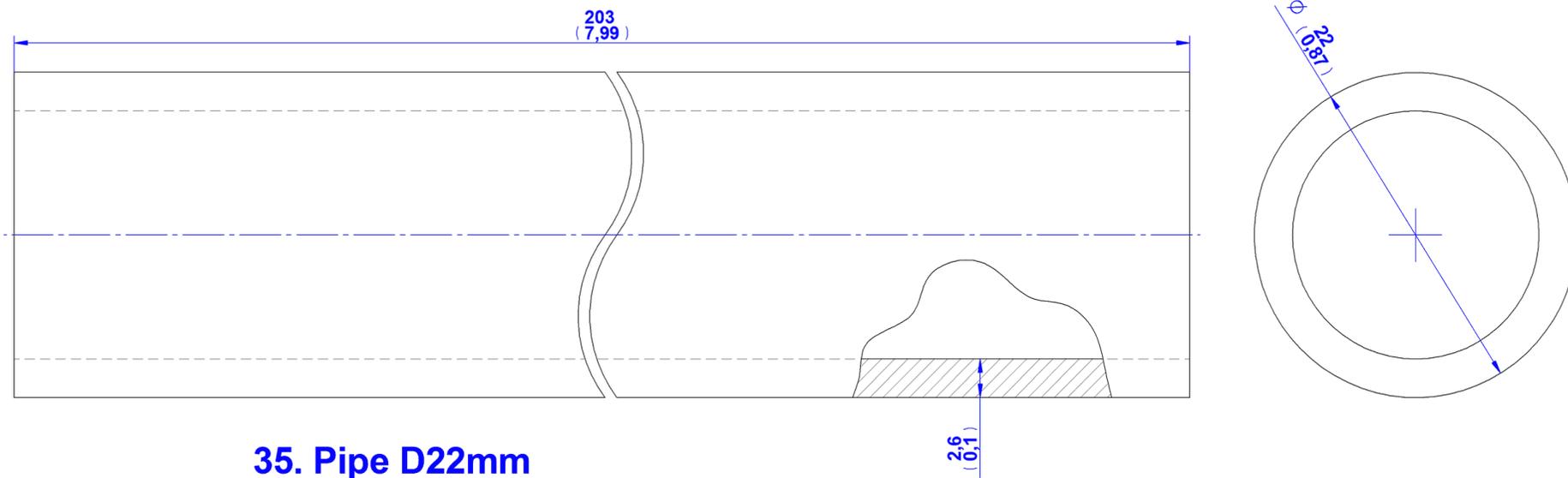
20. Indicator



### 28. Plug

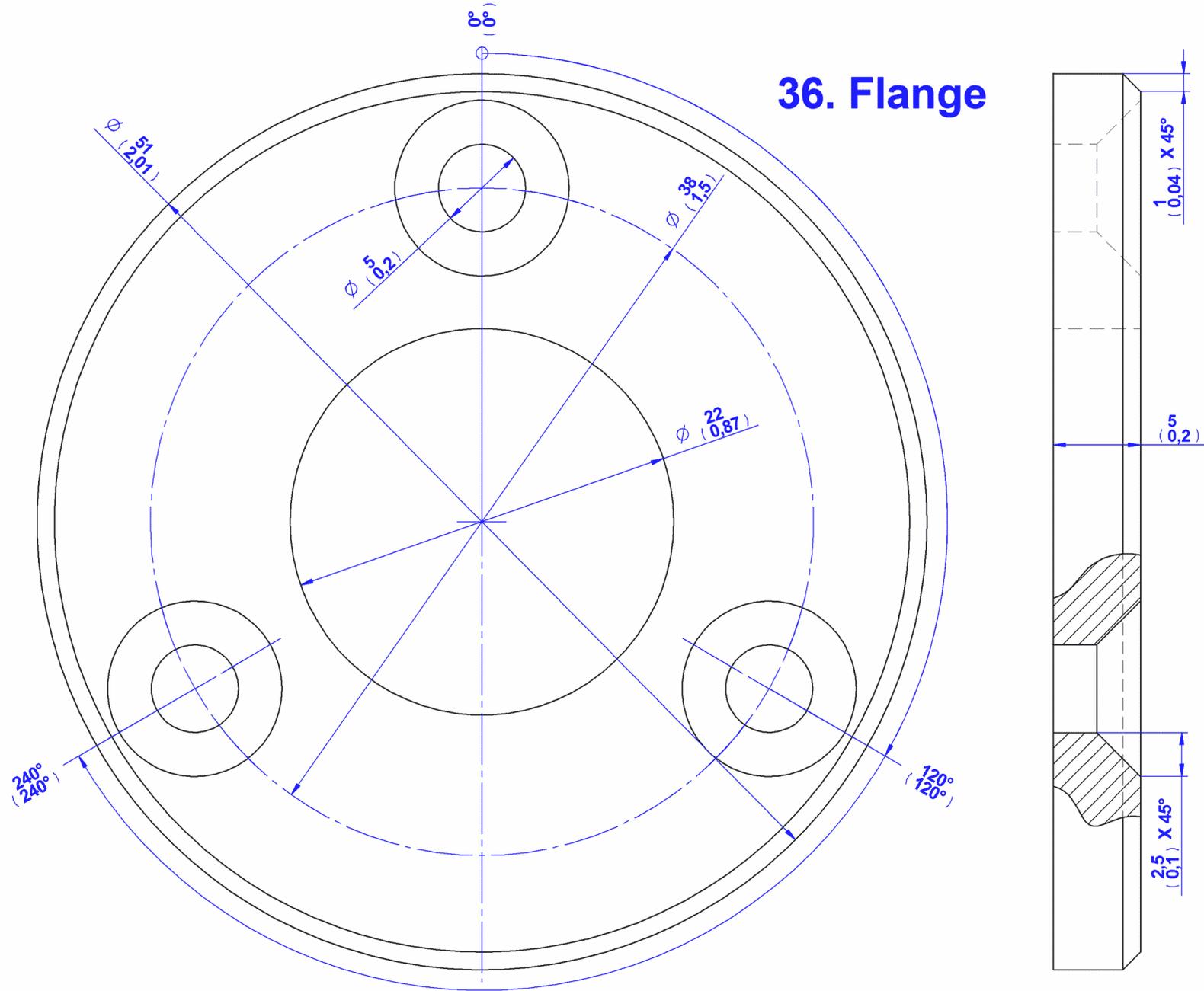


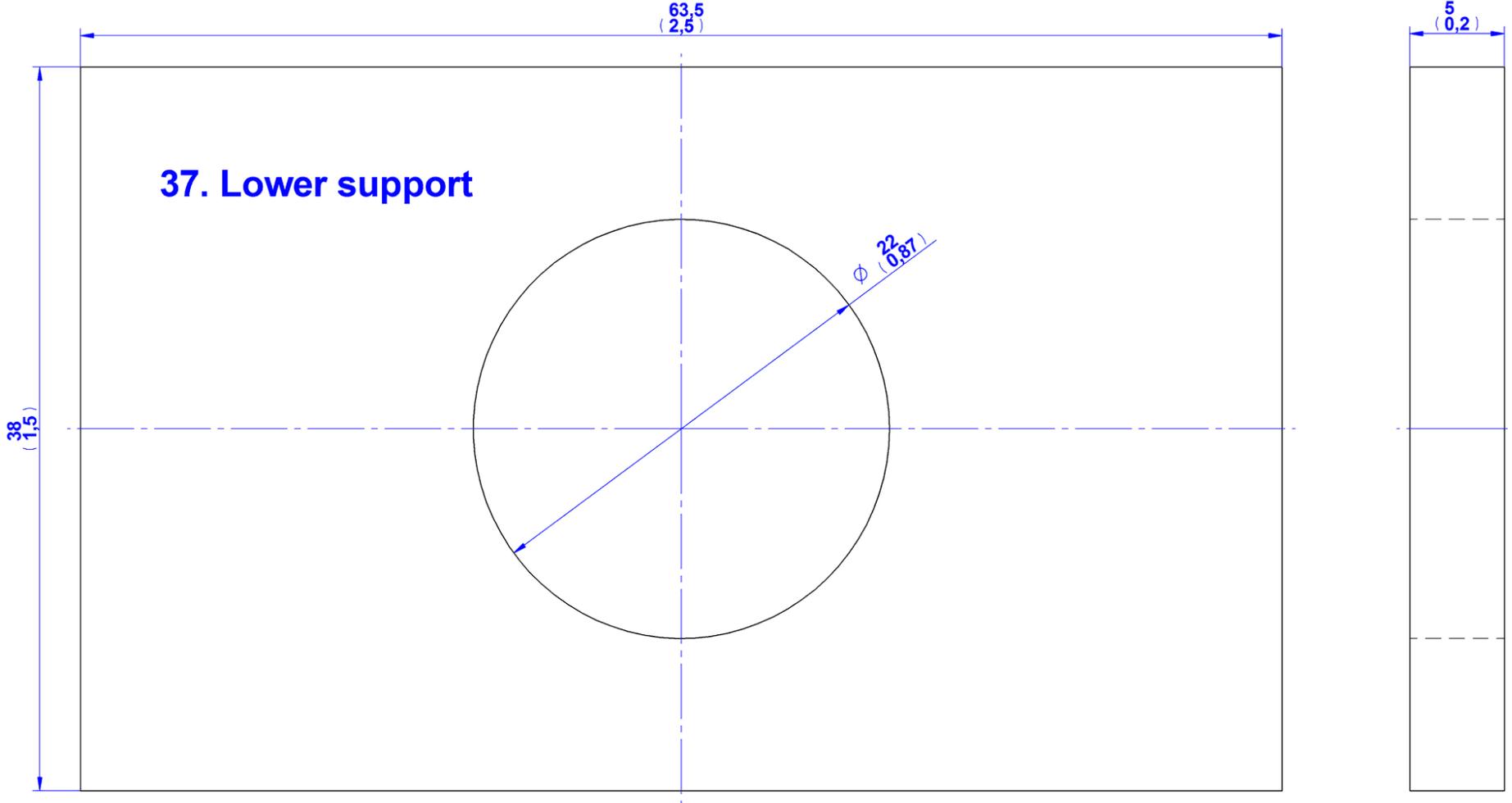


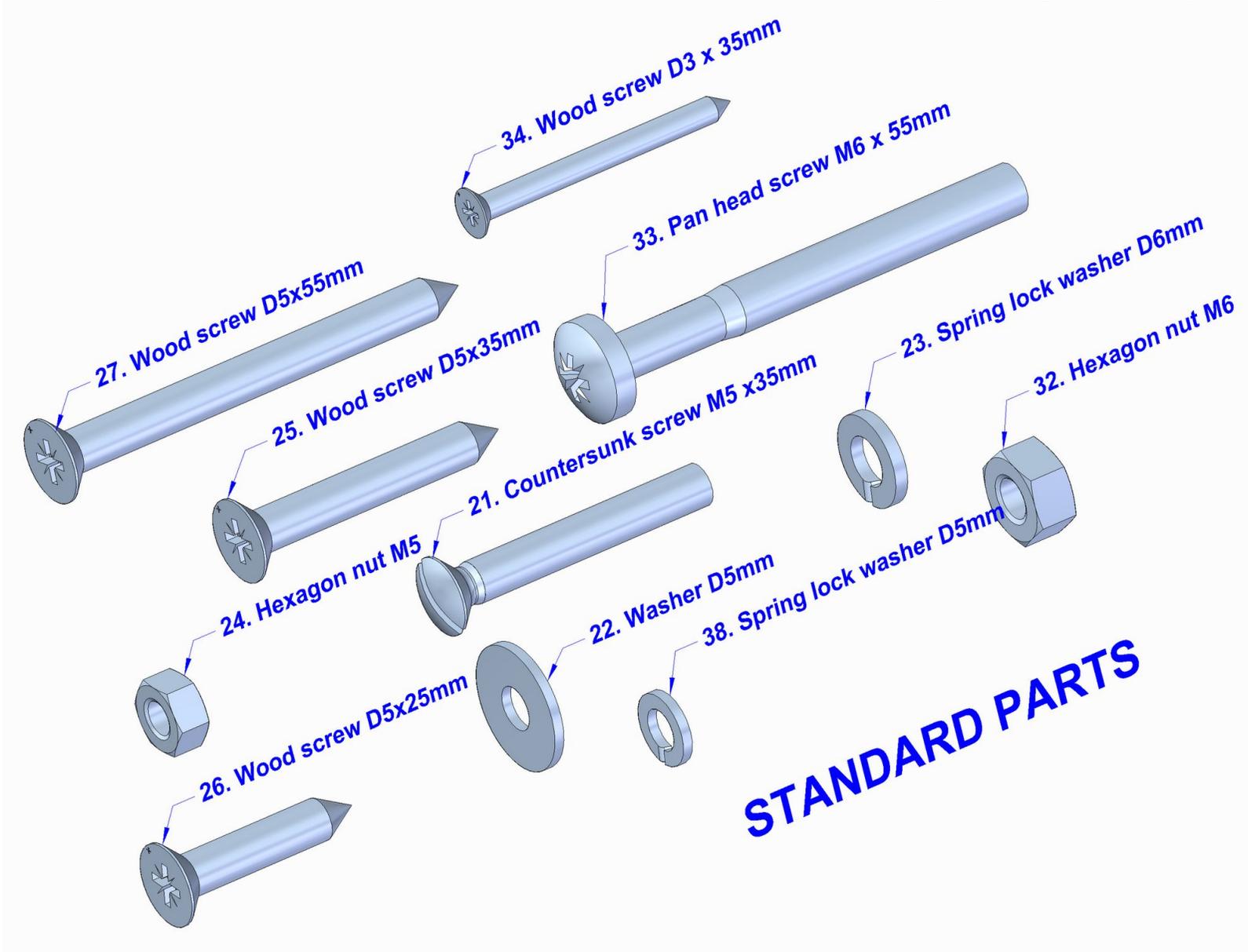


**35. Pipe D22mm**

### 36. Flange





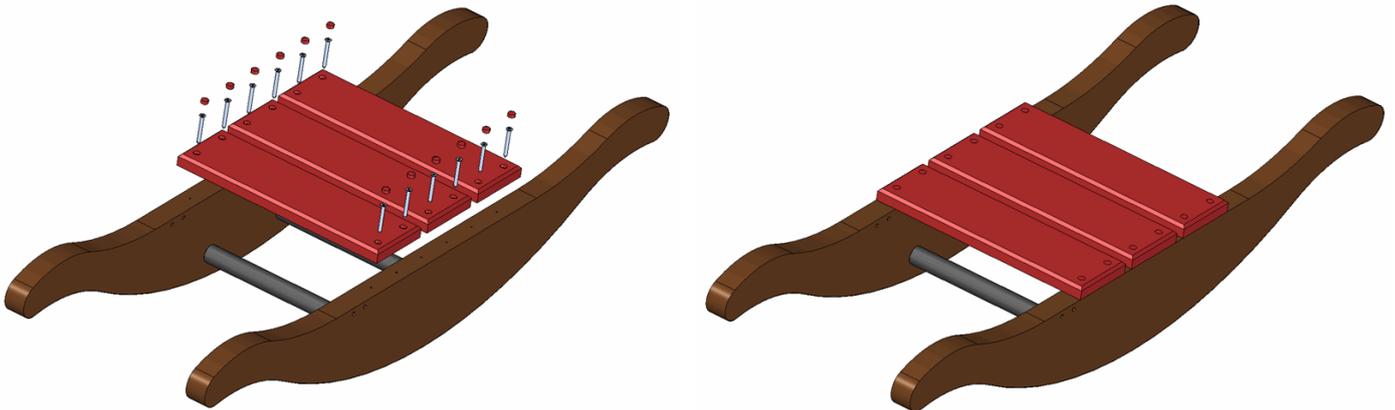


## Assemblage images

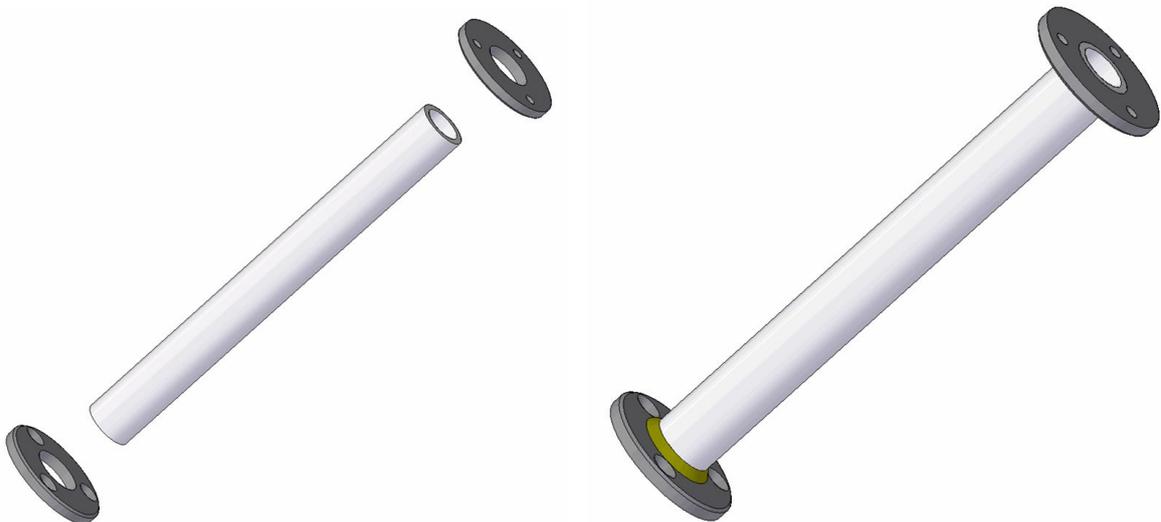
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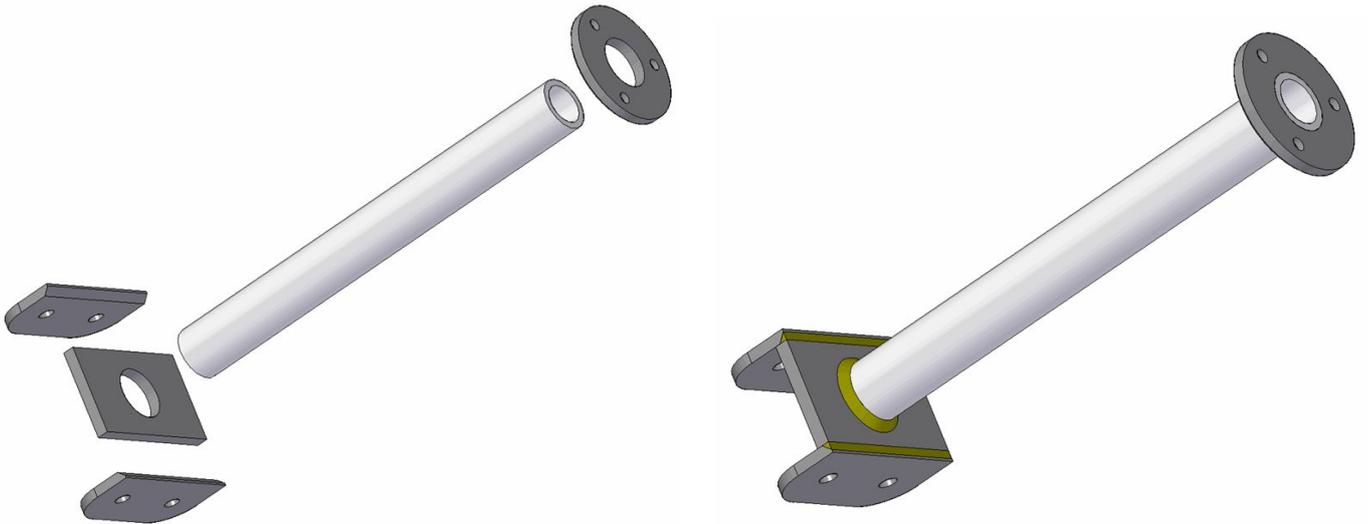
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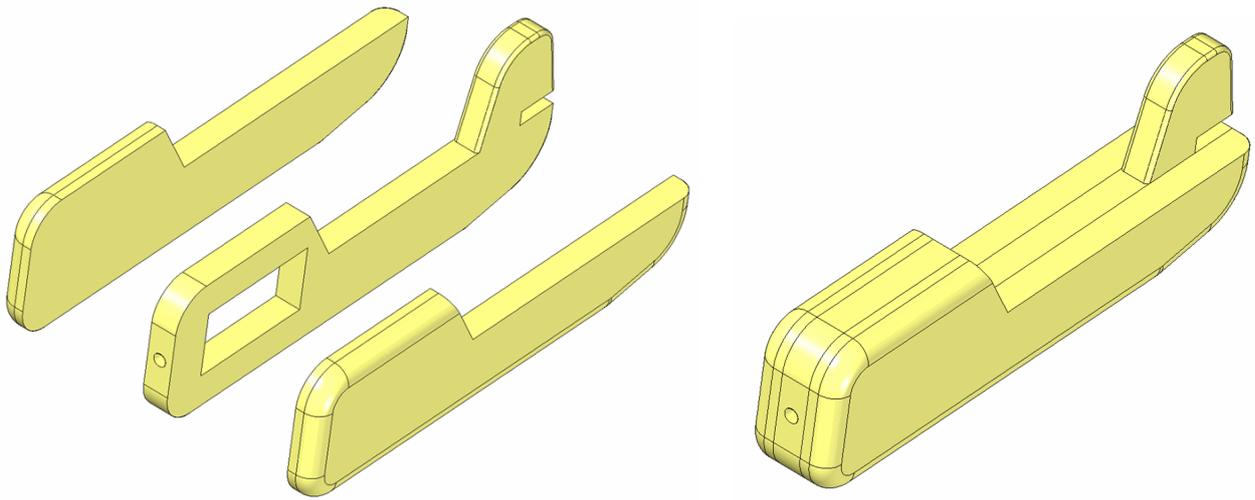
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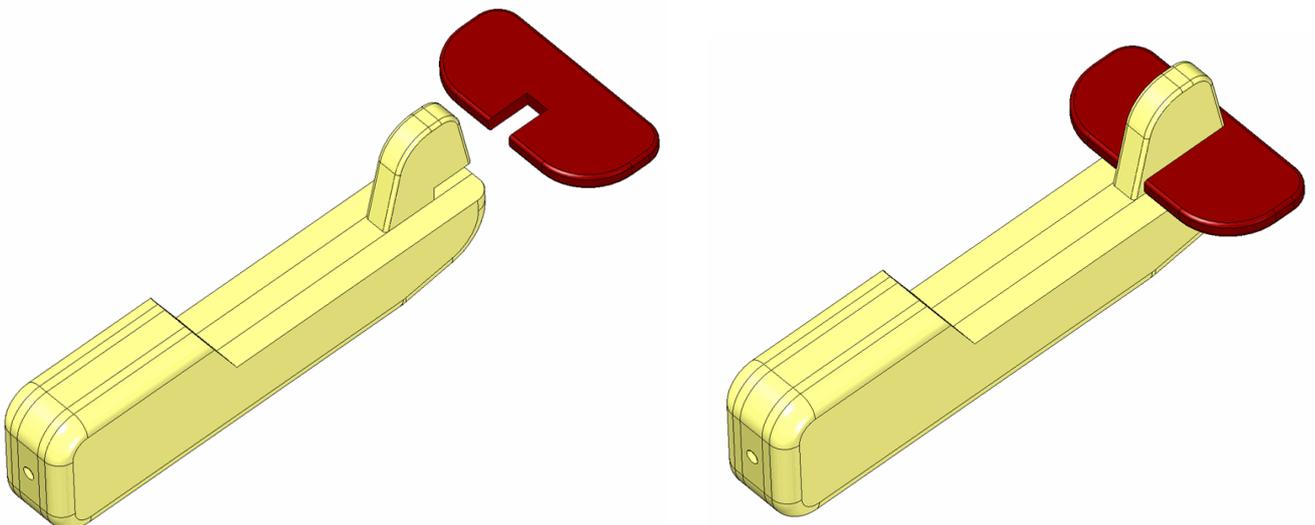
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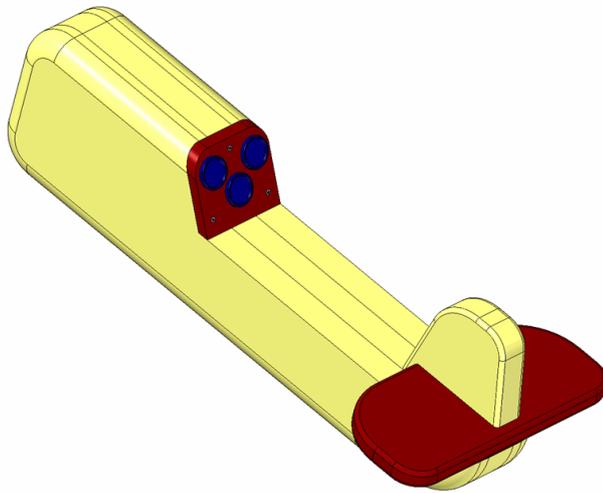
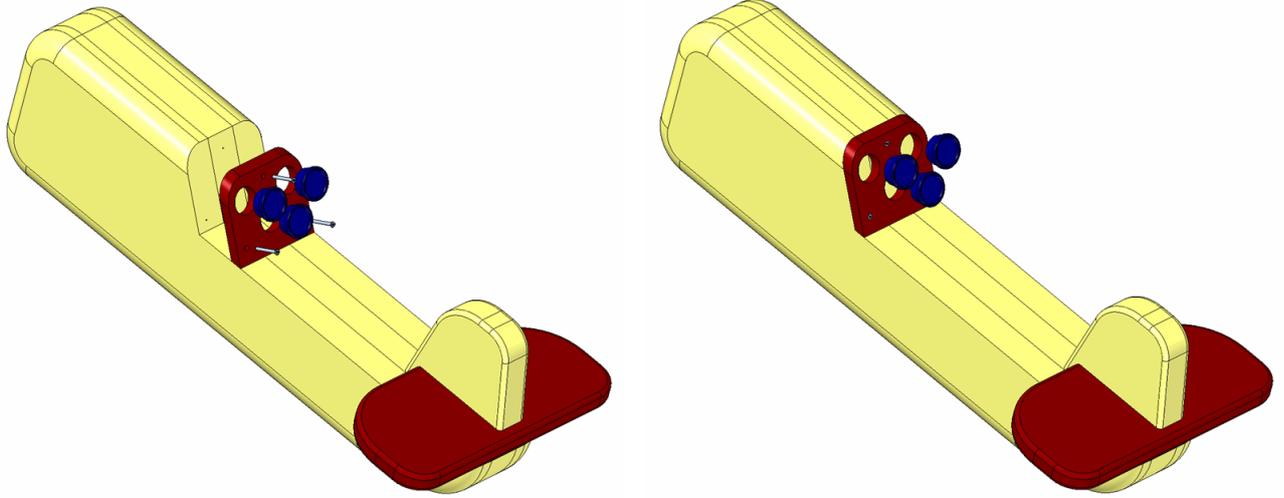
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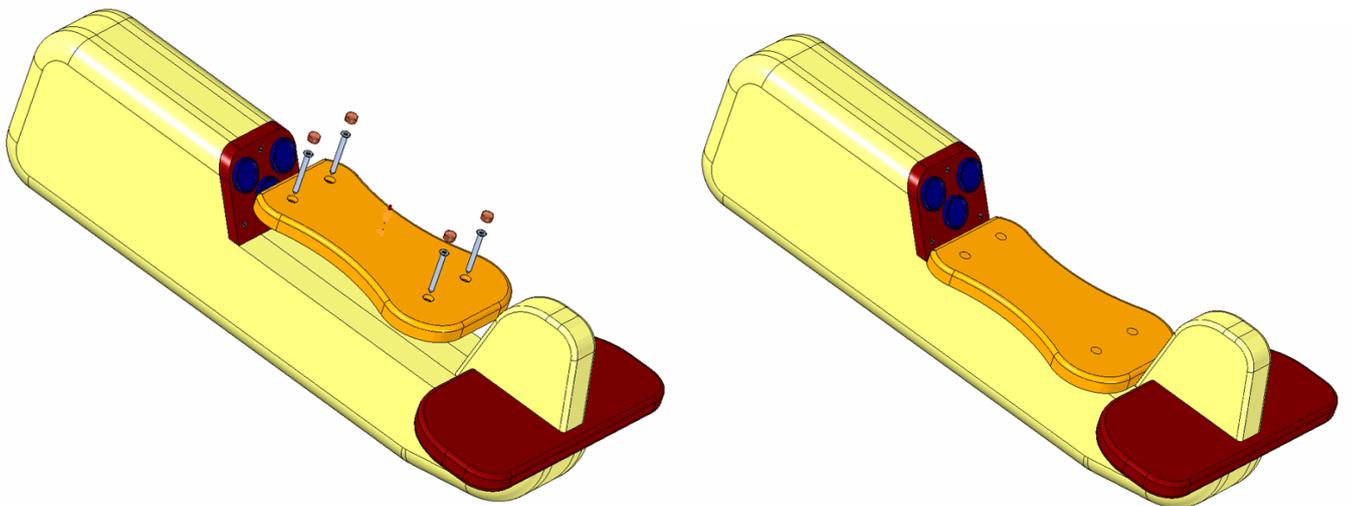
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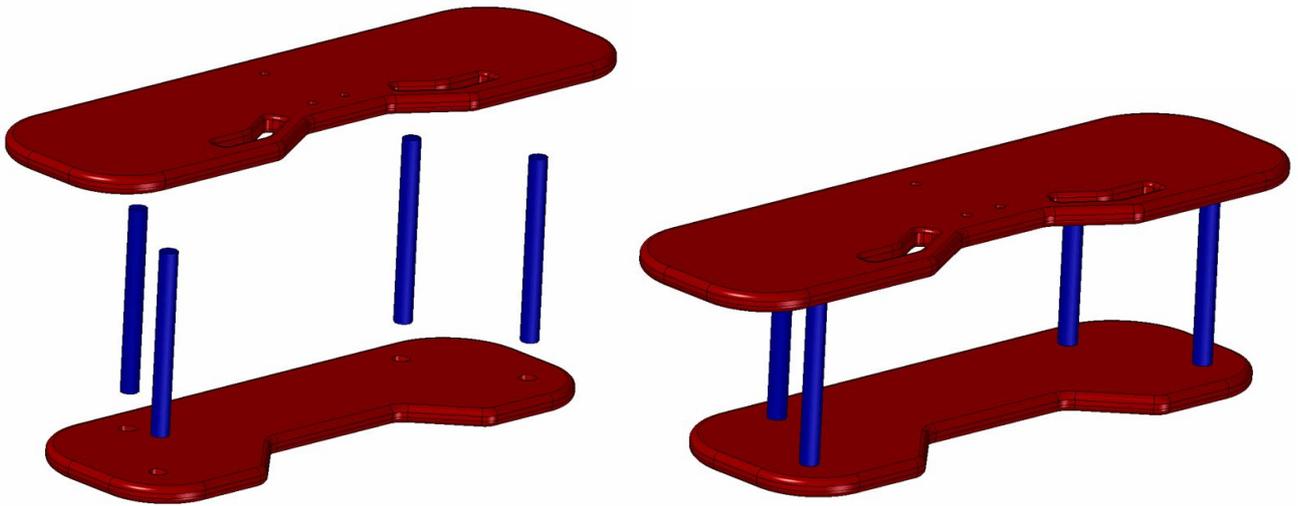
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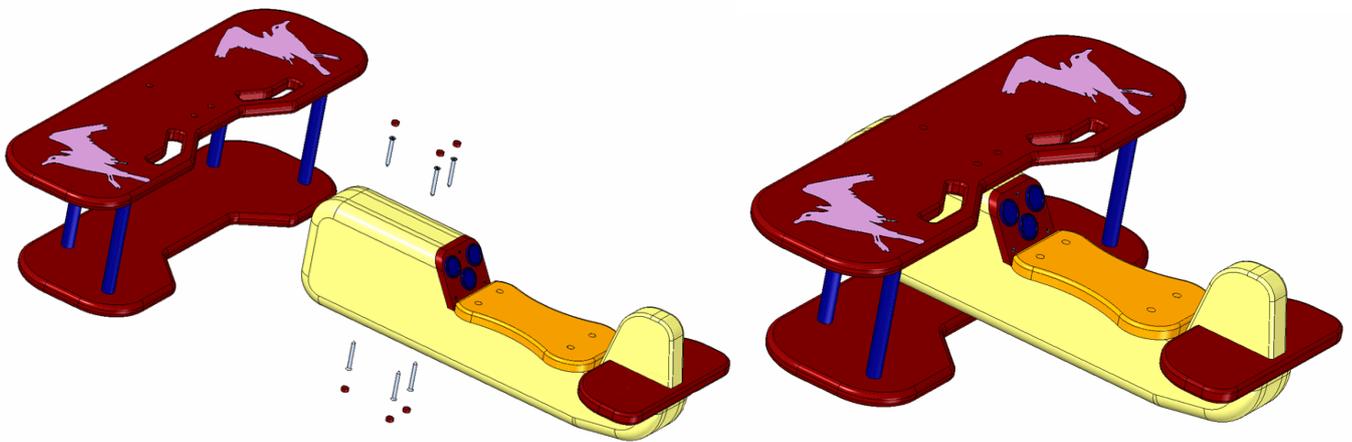
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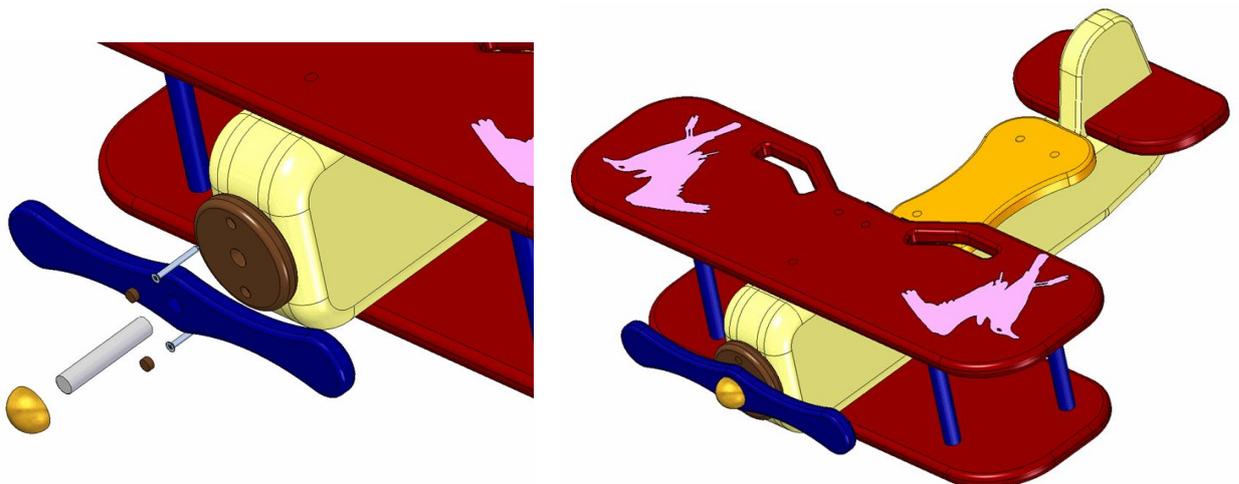
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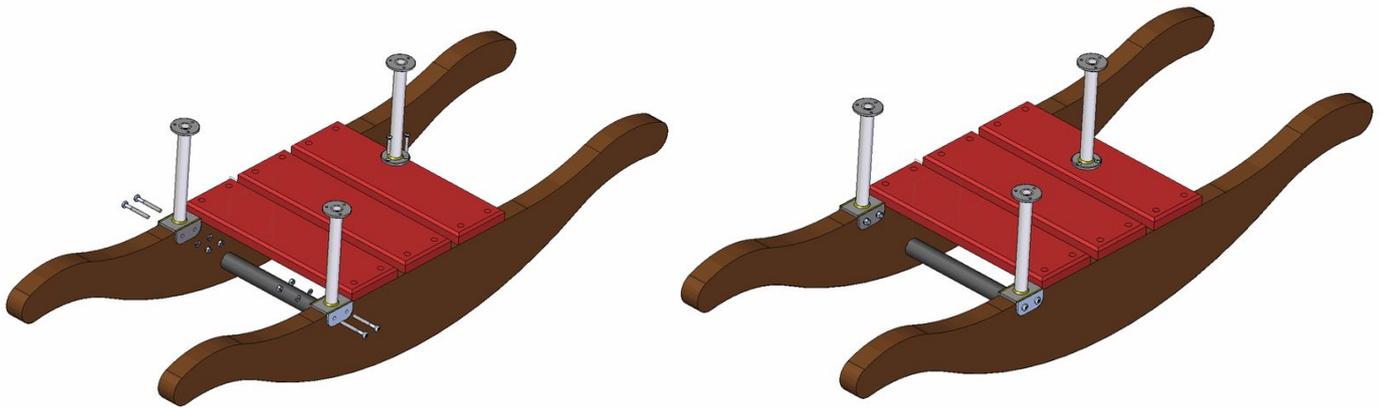
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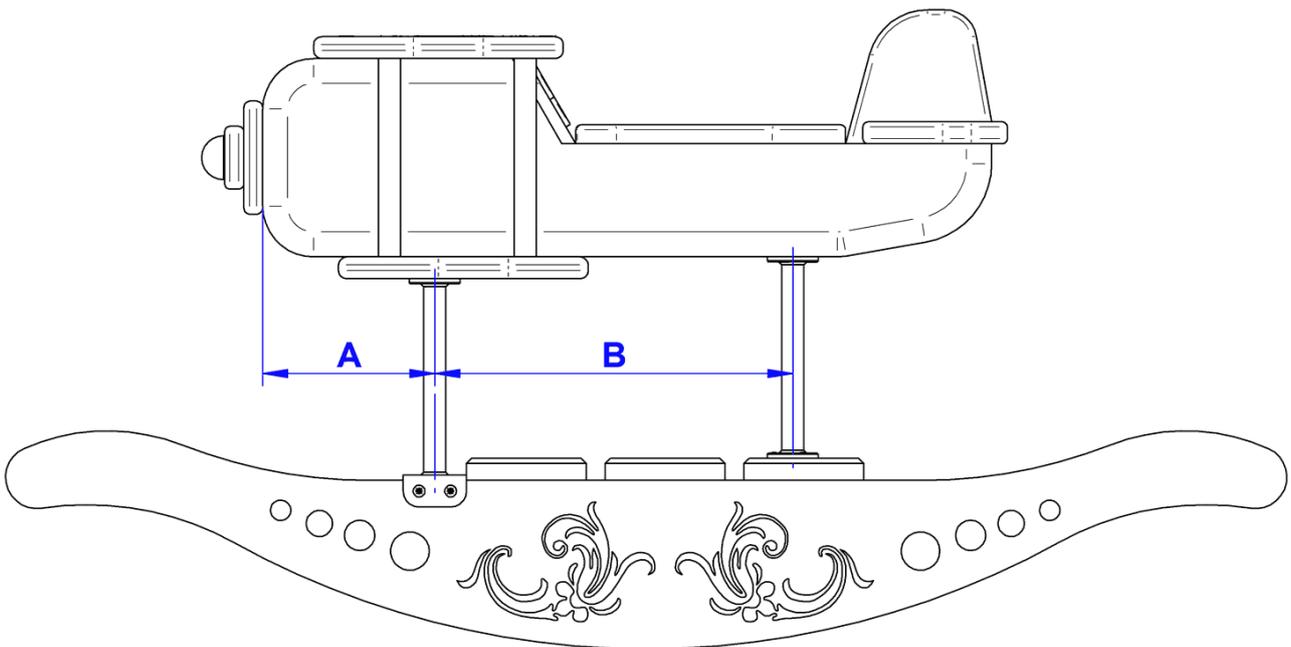
11.



12.



**13.** All that you need to do now is to fasten the subassembly made in step 11 to the subassem. To make rocking as good as can be, you need to make this fastening on determined distance A (see the picture below).



The A distance depends mostly on:

- the type of wood you used (its density and mass),
- the child's weight,
- accuracy in making and joining the parts,
- the mass of metal parts (for example, the aluminium is almost 3 times lighter than steel).

The standard parts like the Pipe D22mm (part 35), Flanges (part 36), Lower support sides (part 29) and the Lower support (part 37) does not have to be out of steel – you can easily use some other metals, or they alloys.

This distance is best to establish by trying the certain distance variety. You can do this by fastening the subassemblies with the woodworking clamps on some A distance and ask your child to try to rock the toy. For the best result, repeat this procedure with a different A distances and choose the best one for your child. Then mark holes, drill the pilot holes and attach the subassemblies one on other with the Woodscrews D 5 x 25 (part 26) and Wood screws D5 x 35 (part 25).

