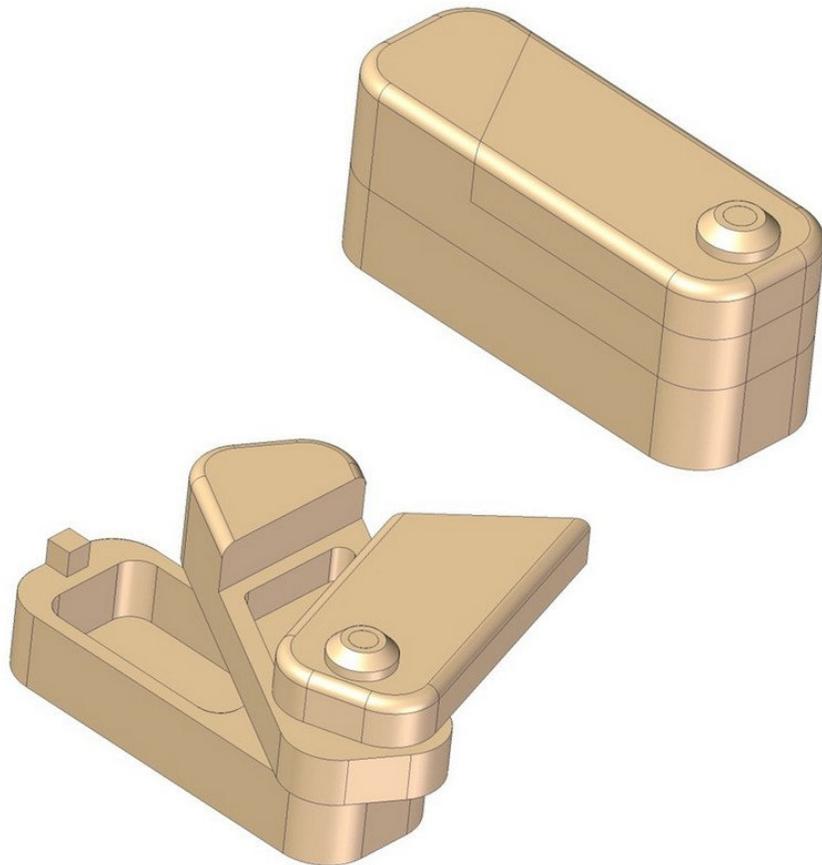


Ball puzzle box plan

At first sight it is not obvious why is this box called the Ball puzzle box, but when you study its mechanism, you will realize, that one small ball play a great role in the magic of this puzzle box. This puzzle box looks quite simple and you can not see anything unusual on it, but when you try to open it, you will see that this is not easy at all. This puzzle box consists of three parts and it has two pockets: the upper one that is easy to open, and the bottom one which is hidden. The UPPER PUZZLE PART acts like the lid, but also has a function in the puzzle mechanism. Upper pocket on MIDDLE PART is easily accessible. It opens up with the simple rotation of the upper puzzle part. Under it there is another - the hidden pocket inside the BOTTOM PUZZLE PART, and to open it, you need to solve the mechanism of the puzzle.



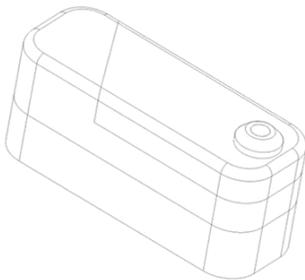
To open this puzzle box you have to rotate the MIDDLE and the TOP PUZZLE PART around the AXLE, but inside the puzzle mechanism is one hidden ball, which blocks movement of the MIDDLE PART and its

rotation around the axle as well, until the box is in the normal position (the top facing upward). Ball may be shifted in position from the middle to the top piece of the puzzle box and vice versa. On the MIDDLE PUZZLE PART is located a locking pin which prevents movement of the MIDDLE PUZZLE PART when the ball is in it.

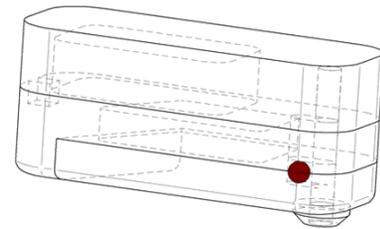
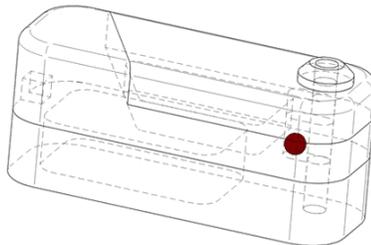
SOLUTION: The first step that you need to do is to turn the puzzle box upside down - only in this case the ball will fall from MIDDLE PUZZLE PART into the slot on the TOP PUZZLE PART. When the ball falls in, it will enable the MIDDLE PUZZLE PART to slide backward away from the locking pin. Only after sliding, the MIDDLE PUZZLE PART can be turned on the AXLE, opening up the pocket in BOTTOM PUZZLE PART. Put the coin or some small object in the bottom pocket of the box to rattle around and keep the ball from being heard. The ball is hidden within the puzzle mechanism and it is not visible during the TOP PUZZLE PART rotation. This will confuse people which do not know the solution of the puzzle, because as they will turn it and seek the solution, the box will sometimes open, but sometimes it will stay closed. And even if someone accidentally opens the puzzle box, the next time it will probably fail to do so.

Procedure to open this puzzle box

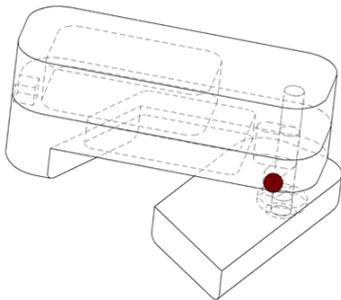
1. Beginning



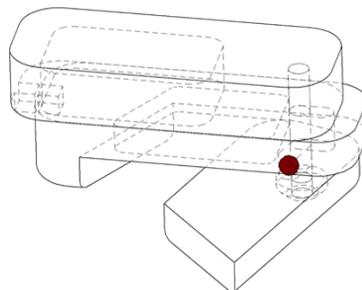
2. Turn the puzzle box upside down



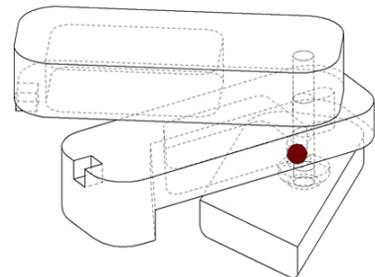
3. Rotate TOP PUZZLE PART



4. Slide MIDDLE PUZZLE PART backward



5. Rotate MIDDLE PUZZLE PART

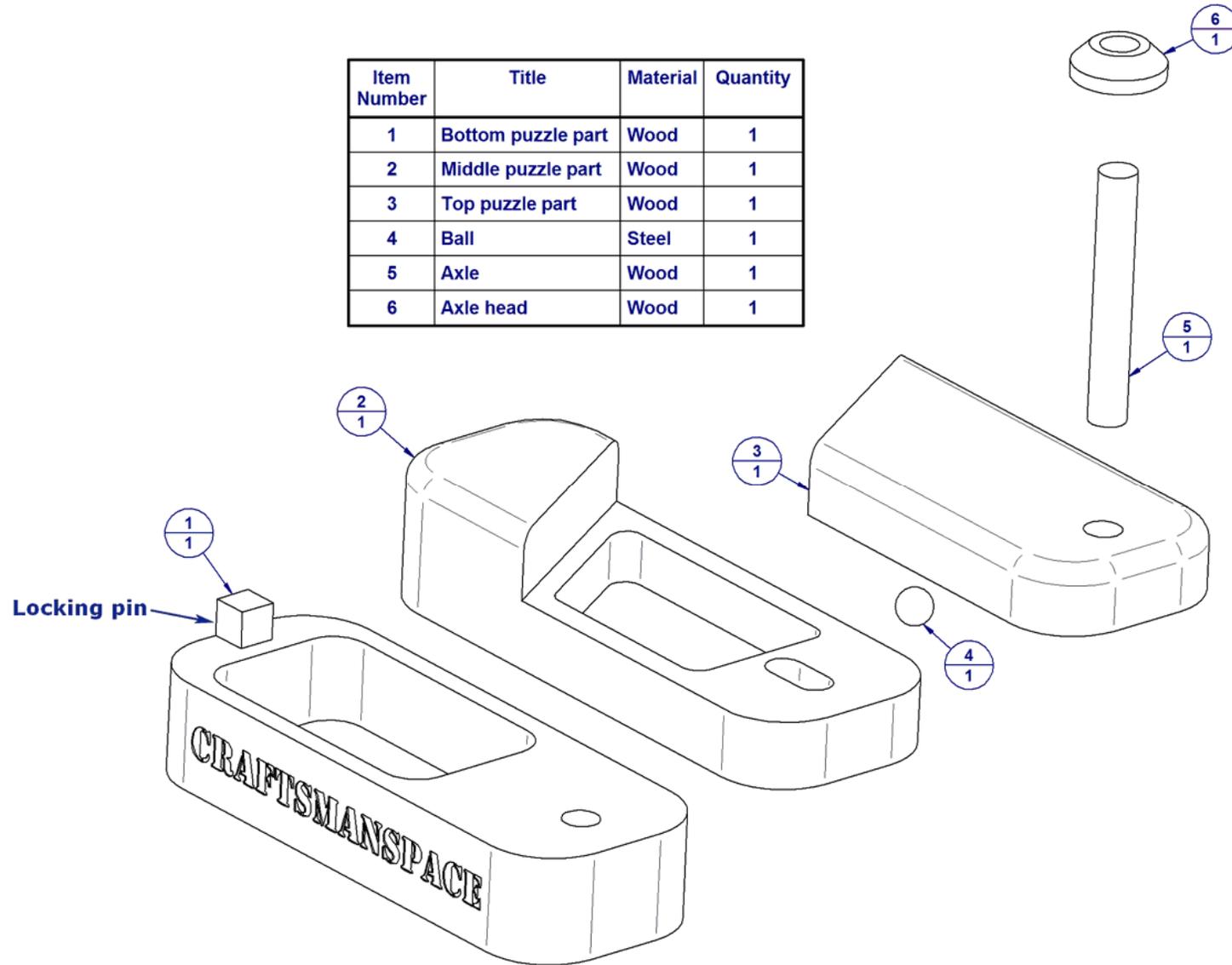


The MIDDLE PUZZLE PART and the BOTTOM PUZZLE PART have pockets in which you can put coins, jewelry or other small items. The Upper pocket located in the MIDDLE PUZZLE PART is optional, because whatever you put into it has very good chance to fall out during opening the box. Pocket in the BOTTOM PUZZLE PART is functional, but after moving the MIDDLE PART you have to turn the box to its previous position and only then to rotate the MIDDLE PUZZLE PART to get the items from inside of pocket in BOTTOM PUZZLE PART. The construction of the puzzle box is very simple and on the similar way you could make puzzle boxes of various sizes and shapes, so if you make this box big enough, it can even have some practical purpose. Do not forget that you have to turn the box upside down to open it; for this reason, you can store in it only those items that can be tumbled.

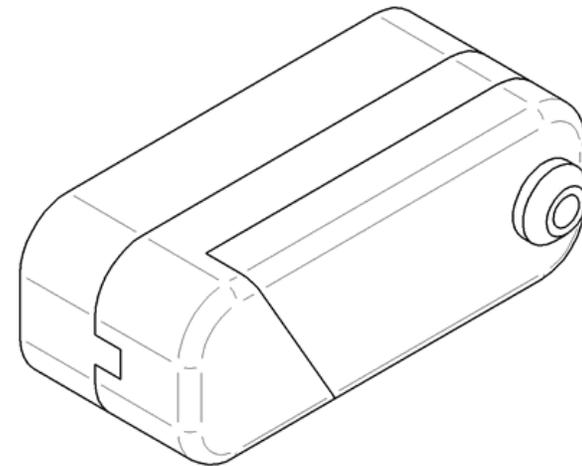
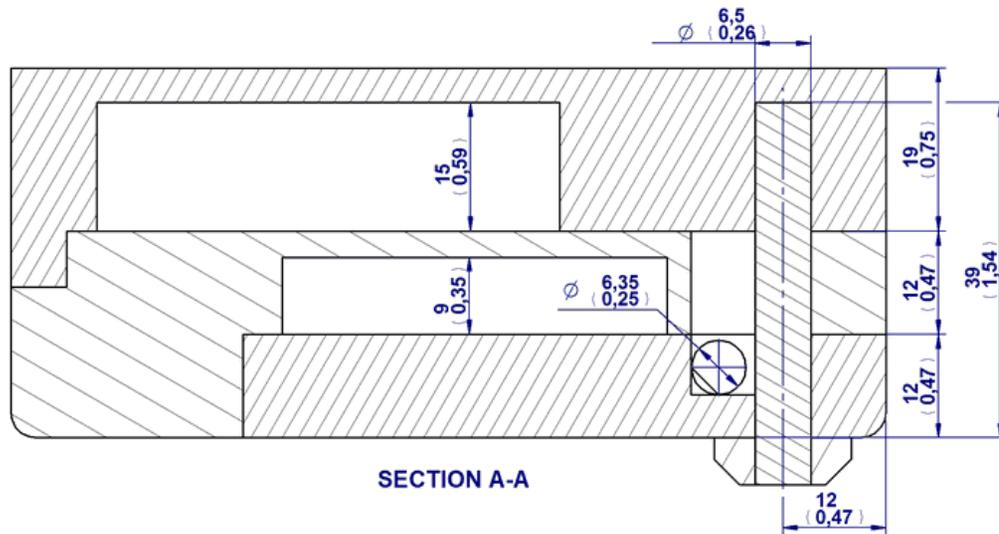
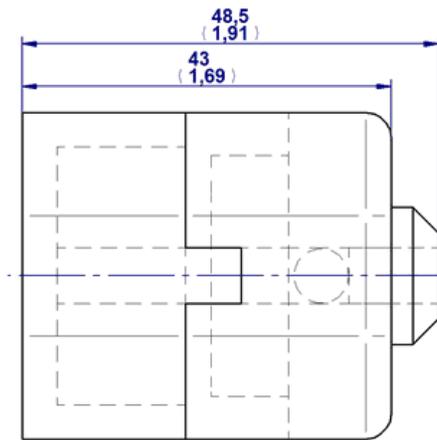
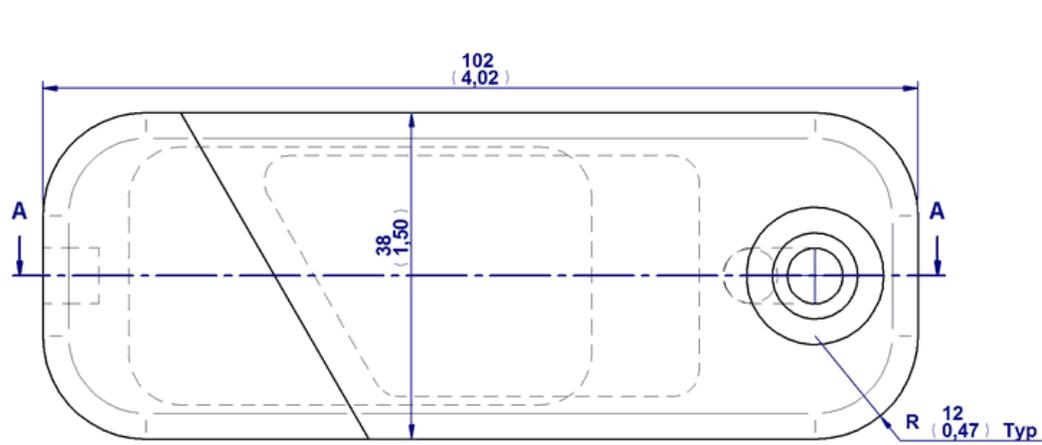
Regardless of the fact that the structure of the puzzle box is simple, you have to be very precise during the manufacture, so the puzzle mechanism could function properly. For manufacture it is best to use some kind of hardwood, so that parts would not wear down during use. You can make the locking pin separately and attach it onto the BOTTOM PUZZLE PIECE to avoid carving both from one piece. Good ball to use here is the bearing ball.

Ball puzzle box plan - Parts list

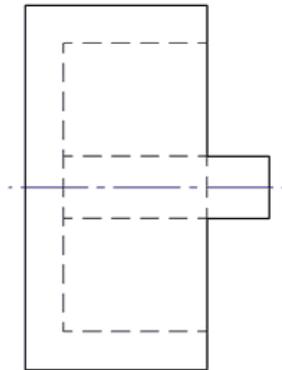
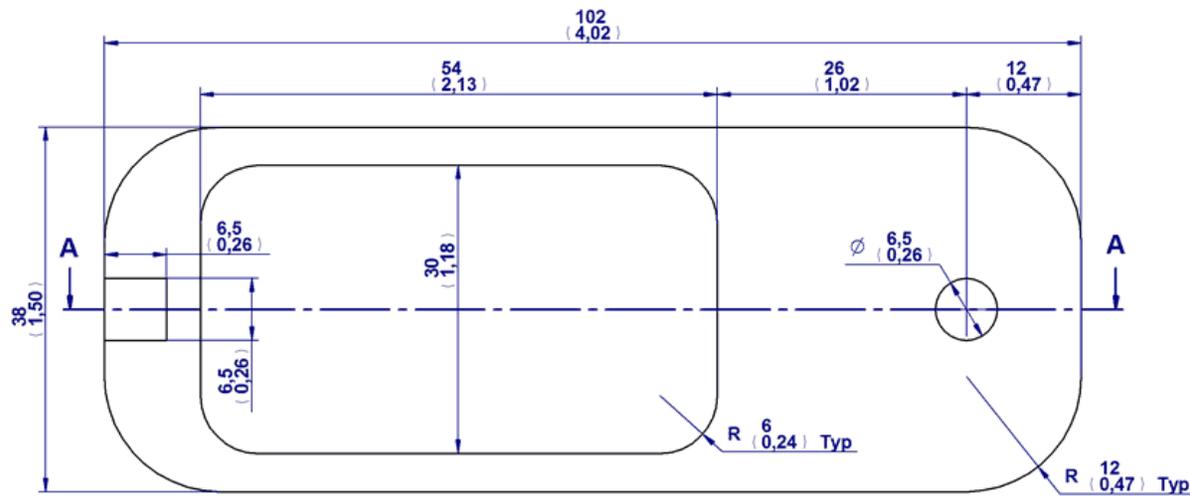
| Item Number | Title | Material | Quantity |
|-------------|--------------------|----------|----------|
| 1 | Bottom puzzle part | Wood | 1 |
| 2 | Middle puzzle part | Wood | 1 |
| 3 | Top puzzle part | Wood | 1 |
| 4 | Ball | Steel | 1 |
| 5 | Axle | Wood | 1 |
| 6 | Axle head | Wood | 1 |



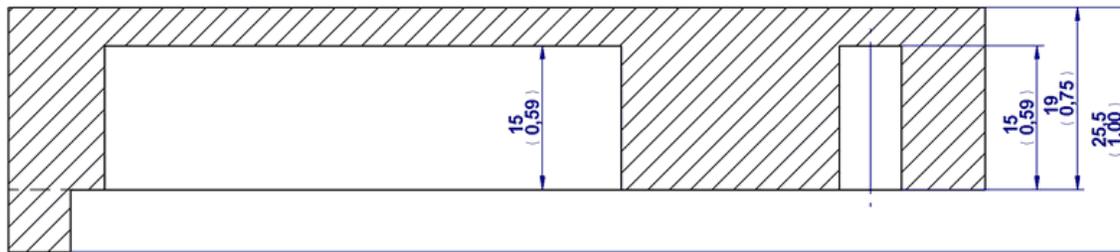
Ball puzzle box plan - Assembly drawing



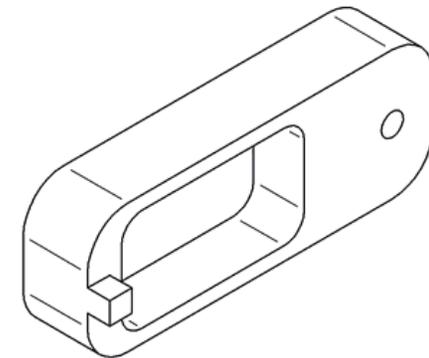
Ball puzzle box plan - Parts

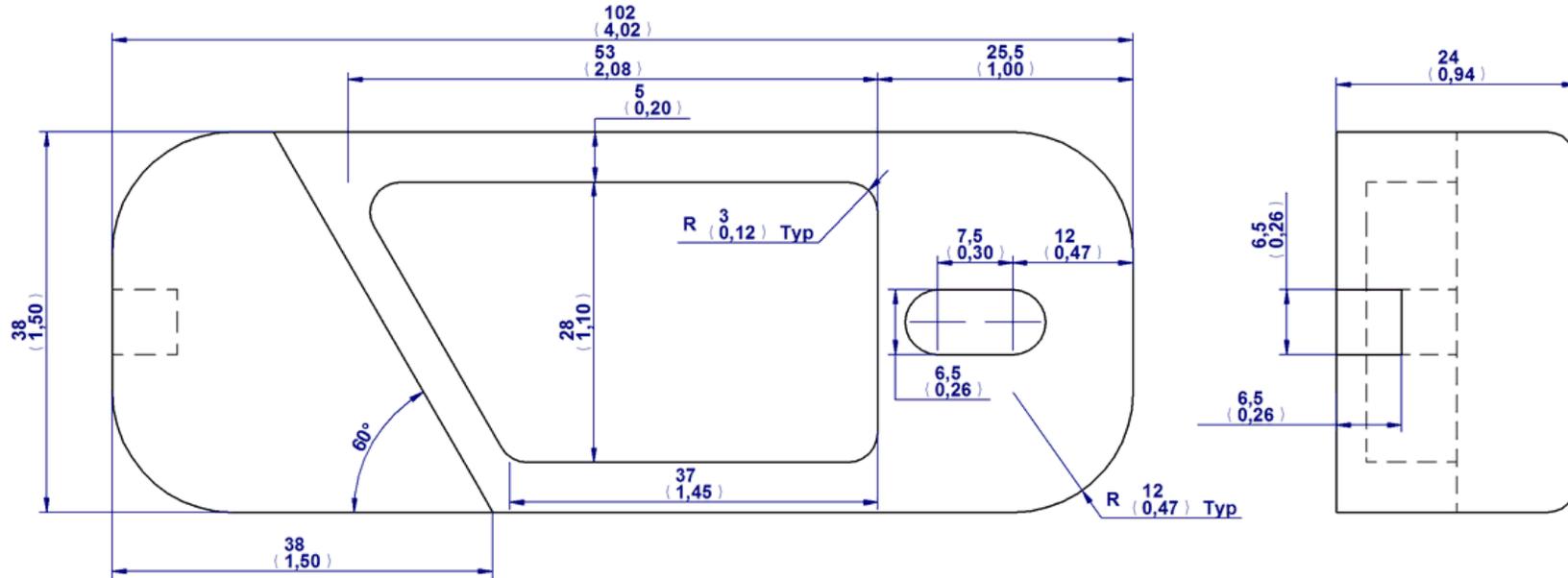


1. Bottom puzzle part

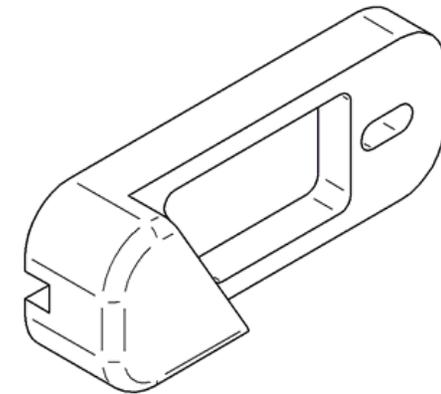
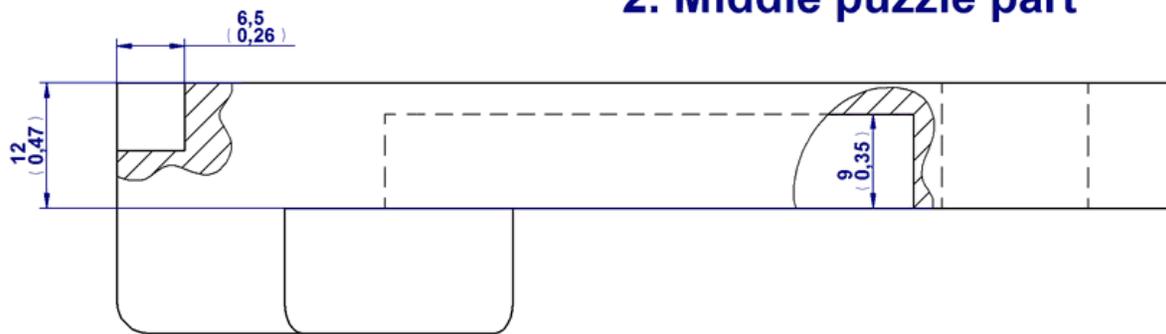


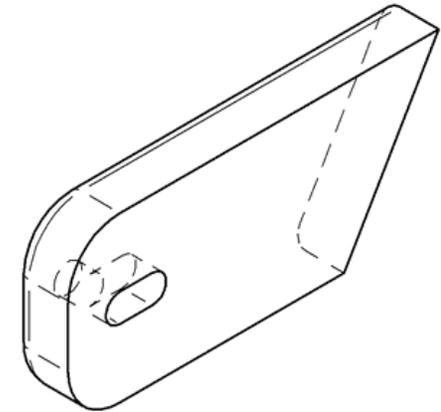
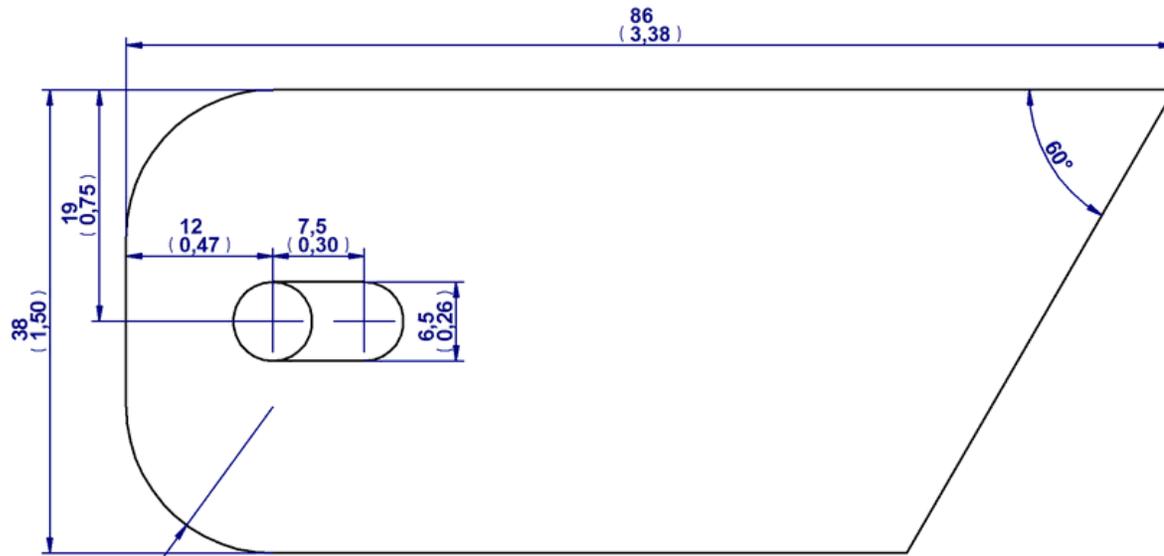
SECTION A-A





2. Middle puzzle part





3. Top puzzle part

R 12 (0,47) Typ

R 3 (0,12) Typ

