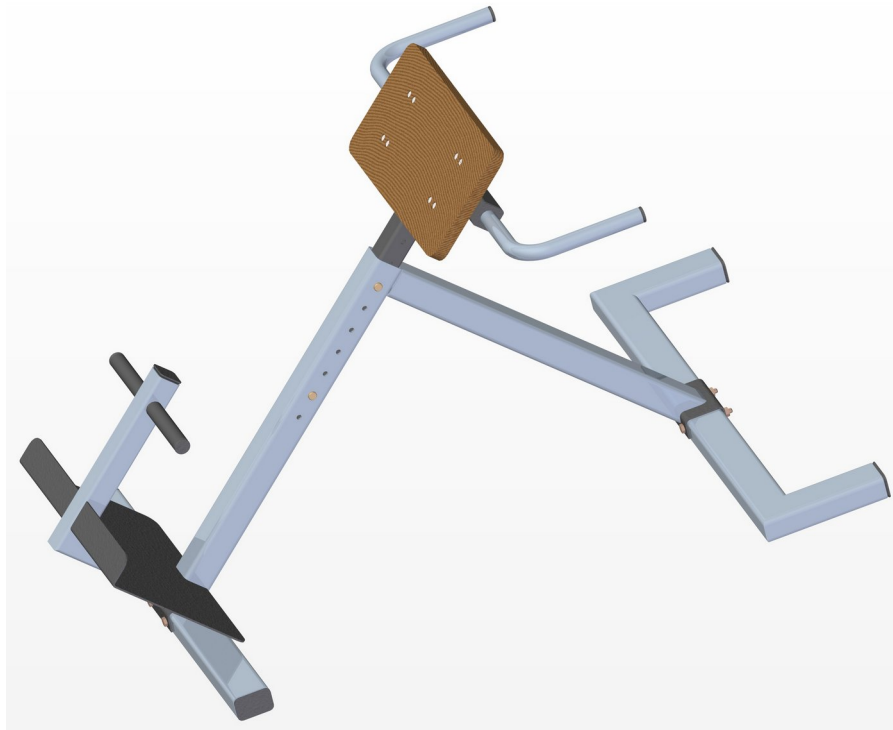


## Back extension bench plan



Here you are offered a plan for building a back extension bench (also called the hyperextension bench or Roman chair). The complete construction is metal, only the front support (upper pad - Part 15) is made of wood. The front support should be padded, and the footrest (Part 8) can be upholstered with a cylindrically-shaped sponge. The back extension bench is one of the best devices meant for lower back exercises that belong to core training. This is the incline version with a 45-degree slope.

### Guide:

1. Lie face down on a Back extension bench. Adjust the upper pad to be at crotch height so that you can bend without any restriction.
2. When the adjustment is made, start using the device. Lean the back of your leg on part 8. Cross your arms in front of you (behind your head). This will be your starting position. You can also hold a weight plate for extra resistance in front of you under your crossed arms.
3. Start bending forward at the waist as far as you can while keeping your back flat. When bending, breathe in. Never round the back as you perform this exercise. The main thing is that you go as far as your body allows you to without rounding the back.
4. Slowly raise your torso back to the initial position. In this movement, exhale.
5. Repeat the exercise a number of times. Practice this exercise at the end of your workouts, so that your back muscles do not get tired during more complex exercises.

Variations: A hyperextension exercise can be performed by lying face down on the floor and then lifting the arms and the torso off of the ground while keeping the hips and lower body even and grounded. This movement stretches muscles in the lower back.

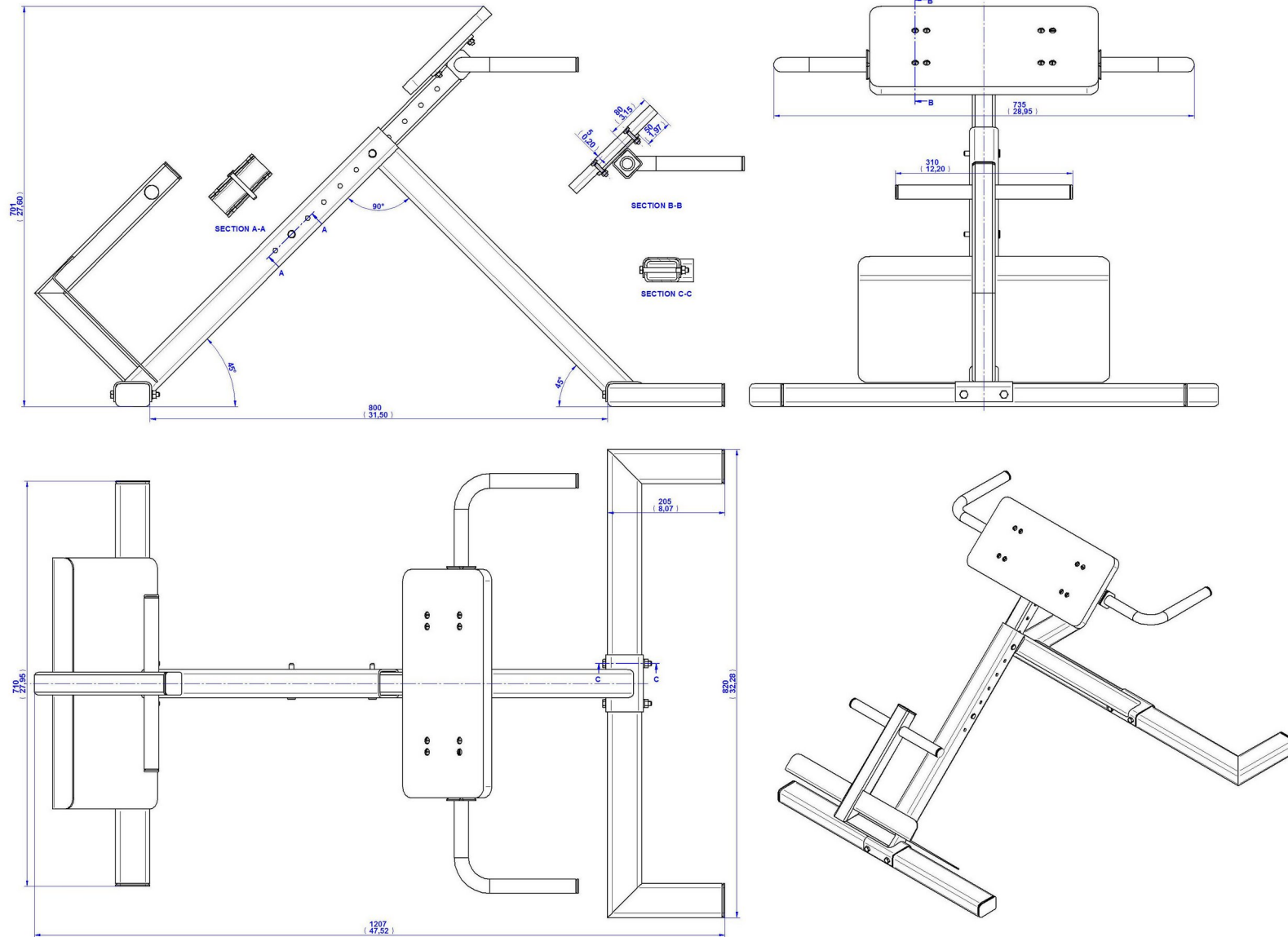
Target muscles: The exercise is aimed at developing and strengthening the middle and lower back. It works the erector spinae (iliocostalis lumborum, longissimus thoracis and spinalis) muscles the most, and slightly helps to develop the gluteus maximus, adductor magnus and hamstring muscles.

# Parts List

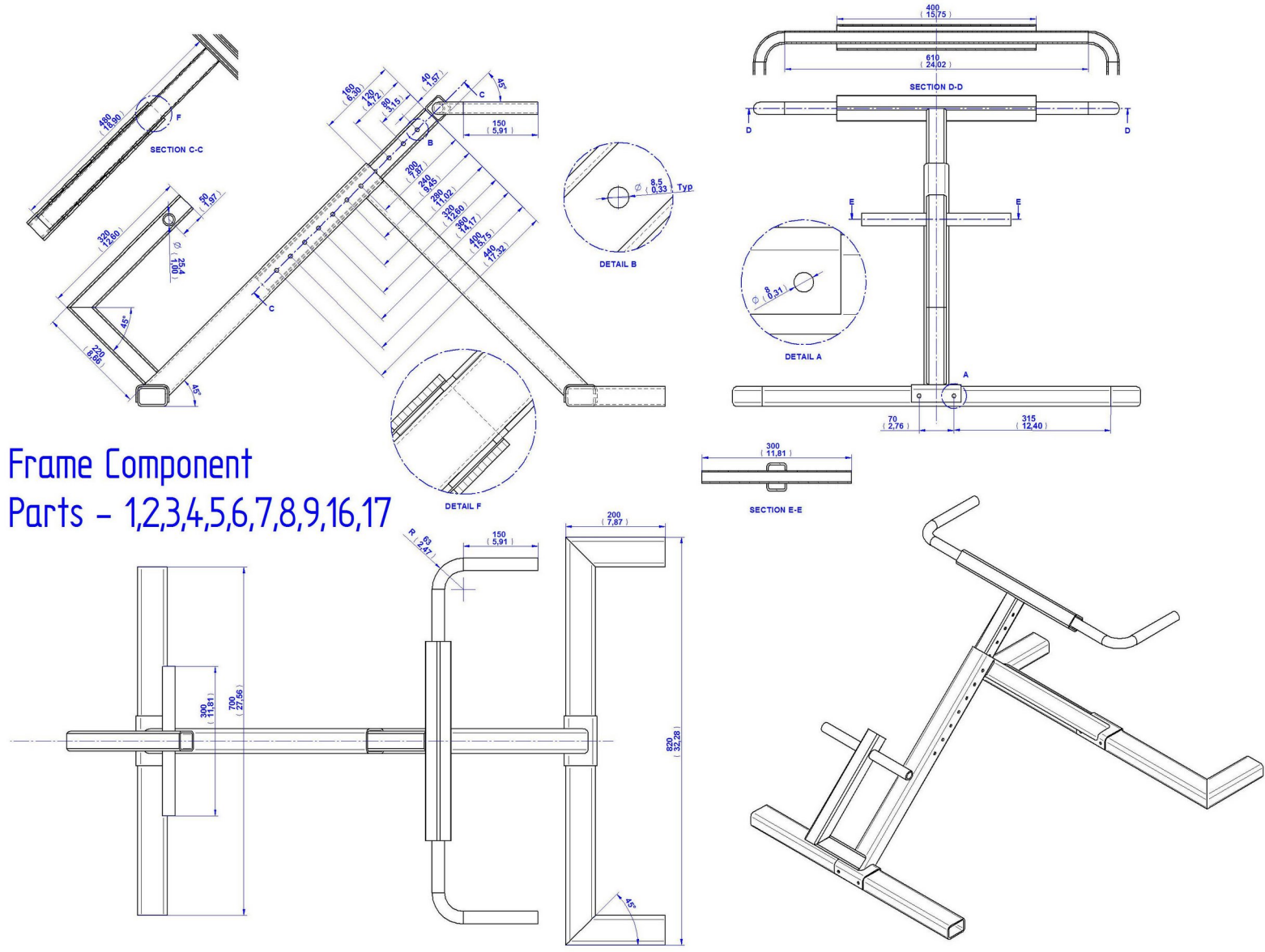
The diagram shows an exploded view of a back extension bench. It includes a main assembly drawing and three detail callouts: DETAIL A (showing a close-up of a joint with parts 20, 21, and 22), DETAIL B (showing a close-up of a joint with parts 26 and 27), and DETAIL C (showing a close-up of a joint with parts 27 and 28). The main assembly drawing shows various components like rectangular tubing, pipes, covers, and a wooden plate, all numbered for reference.

| Item Number | Title                                  | Material | Quantity | Cut Length | Category      |
|-------------|--|----------|----------|------------|---------------|
| 1           | RECTANGULAR TUBING 60x40x4             | Steel    | 1        | 700.00 mm  |               |
| 2           | RECTANGULAR TUBING 60x40x4             | Steel    | 2        | 200.00 mm  |               |
| 3           | RECTANGULAR TUBING 60x40x4             | Steel    | 1        | 820.00 mm  |               |
| 4           | RECTANGULAR TUBING 40x40x2.9mm         | Steel    | 1        | 220.00 mm  |               |
| 5           | RECTANGULAR TUBING 40x40x2.9mm         | Steel    | 1        | 320.00 mm  |               |
| 6           | PIPE D25.4 x 3.2mm                     | Steel    | 2        | 150.00 mm  |               |
| 7           | PIPE D25.4 x 3.2mm                     | Steel    | 1        | 610.00 mm  |               |
| 8           | PIPE D25.4 x 3.2mm                     | Steel    | 1        | 390.00 mm  |               |
| 9           | PIPE D25.4 x 3.2mm                     | Steel    | 2        | (78.54 mm) |               |
| 10          | Holder                                 | Steel    | 2        |            |               |
| 11          | Leg 1 - Rectangular Tubing 50 x 50 x 4 | Steel    | 1        |            |               |
| 12          | Leg 2 - Rectangular Tubing 50 x 50 x 4 | Steel    | 1        |            |               |
| 13          | Cover 40x40 HOLE                       | Steel    | 2        |            |               |
| 14          | Plate Holder                           | Steel    | 2        |            |               |
| 15          | Wooden Plate                           | Wood     | 1        |            |               |
| 16          | RECTANGULAR TUBING 40x40x2.9mm         | Steel    | 1        | 480.00 mm  |               |
| 17          | RECTANGULAR TUBING 40x40x2.9mm         | Steel    | 1        | 400.00 mm  |               |
| 18          | Cover 60 x 40                          | Steel    | 4        |            |               |
| 19          | Hexagon Head Bolt M8 x 80mm            | Steel    | 4        |            | Standard Part |
| 20          | Spring lock washer A - 8               | Steel    | 4        |            | Standard Part |
| 21          | Hexagon Nut M8                         | Steel    | 4        |            | Standard Part |
| 22          | Cover 25,4mm                           | Steel    | 4        |            |               |
| 23          | Cover 40x40                            | Steel    | 1        |            |               |
| 24          | Pin 3h11 x 60mm                        | Steel    | 2        |            | Standard Part |
| 25          | Sheet Support                          | Steel    | 1        |            |               |
| 26          | Slotted Pan Head Screw M6 x 30mm       | Steel    | 8        |            | Standard Part |
| 27          | Spring Lock Washer 6mm                 | Steel    | 8        |            | Standard Part |
| 28          | Hexagon Nut M6                         | Steel    | 8        |            | Standard Part |

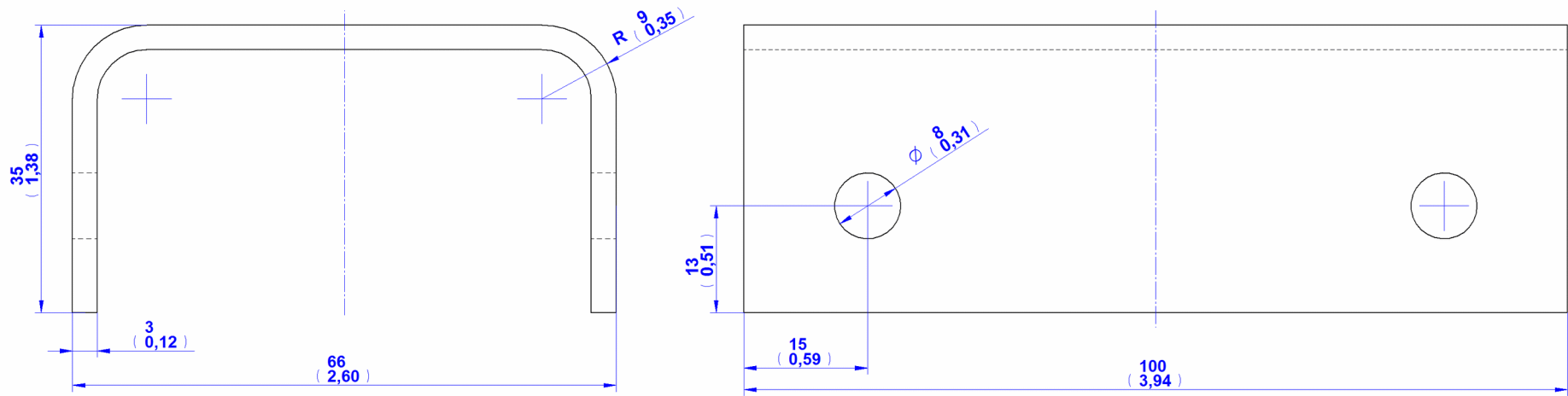
## 2D Documentation



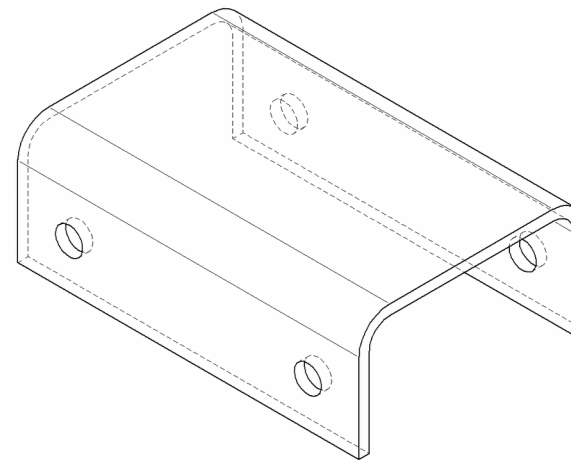
# Frame Components

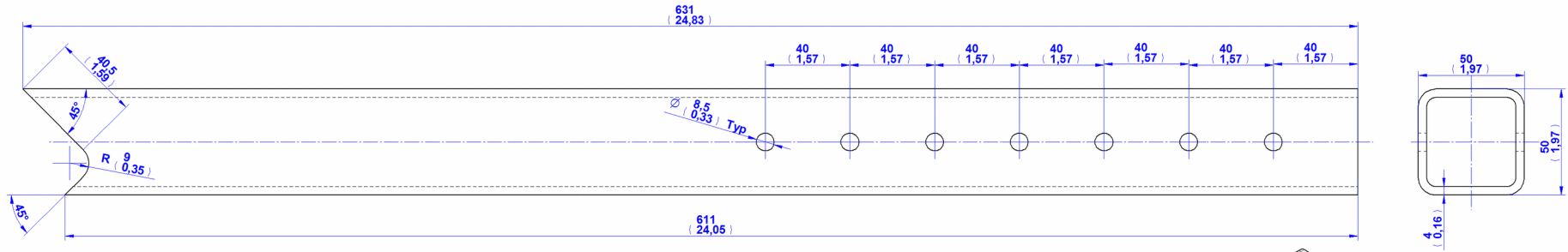


Frame Component  
Parts - 1,2,3,4,5,6,7,8,9,16,17

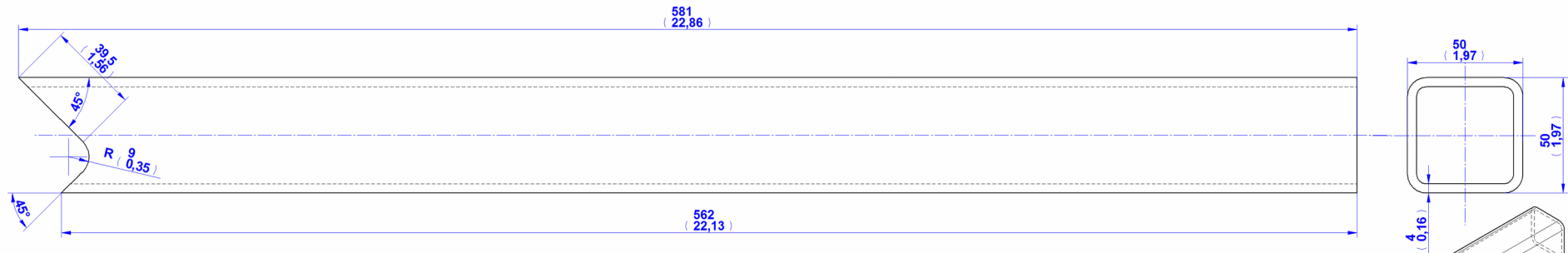
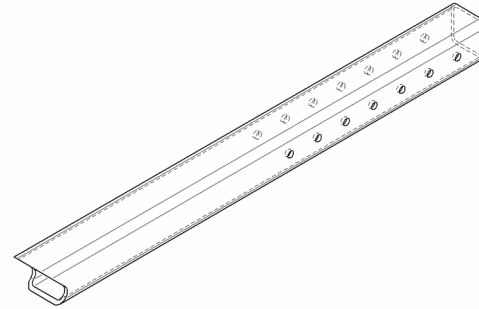


### 10. Holder

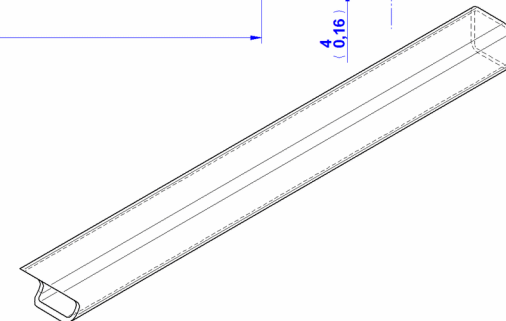


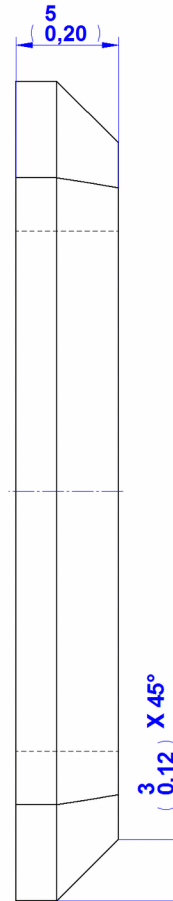
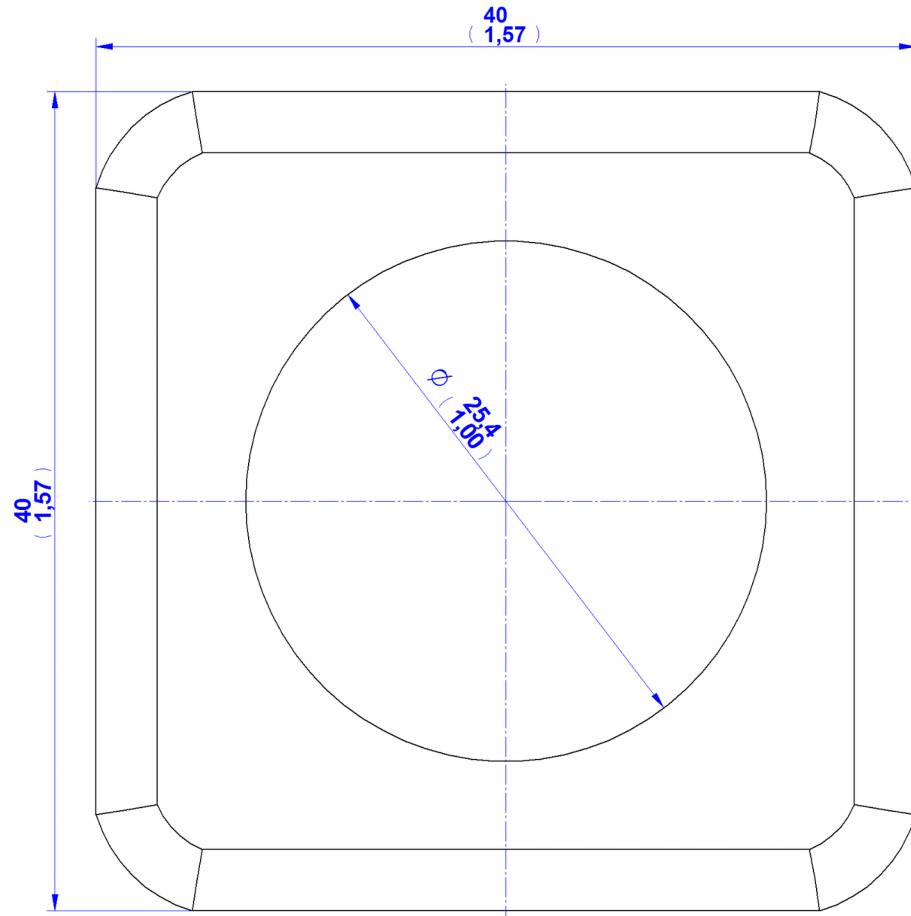


11. Leg 1 – Rectangular Tubing 50 x 50 x 4

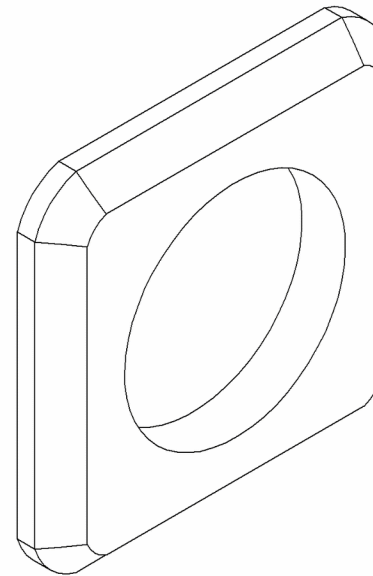


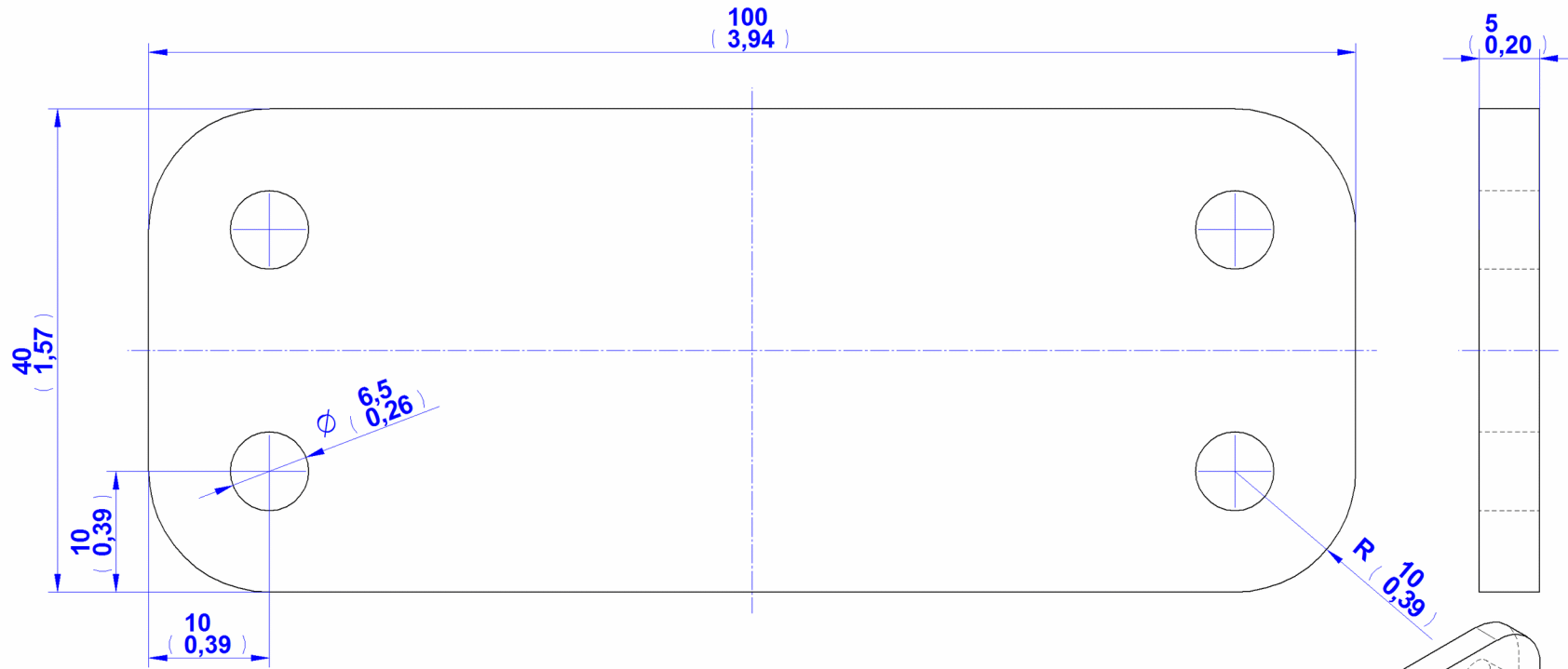
12. Leg 2 – Rectangular Tubing 50 x 50 x 4



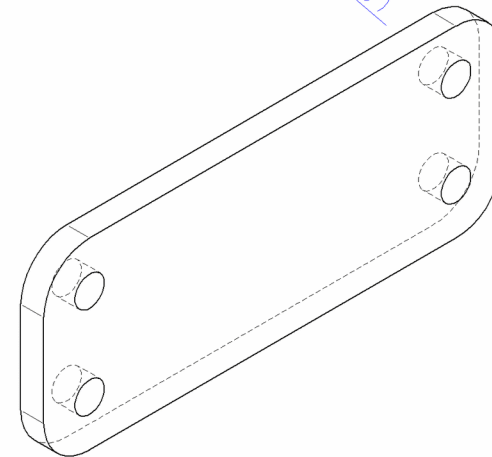


13. Cover 40 x 40mm HOLE

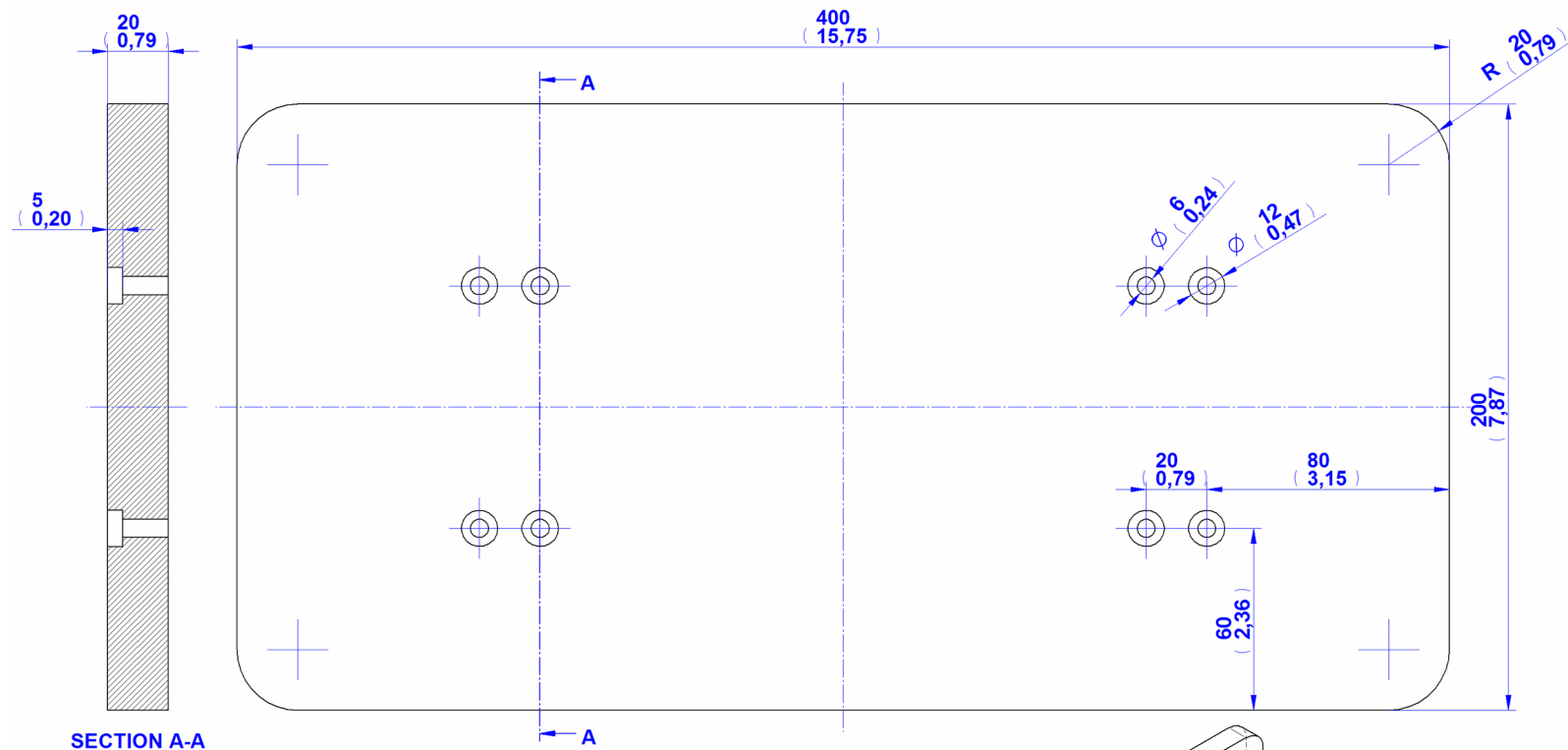




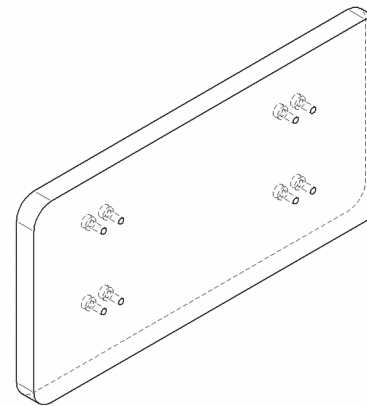
14. Plate Holder

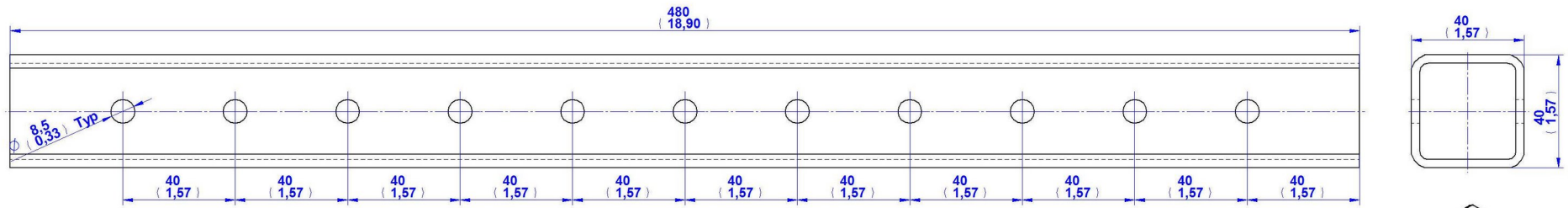




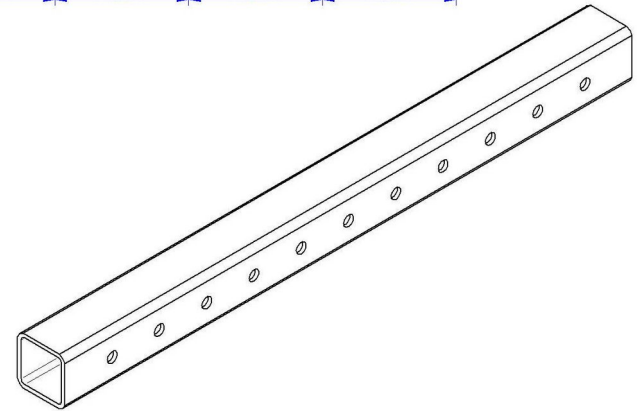


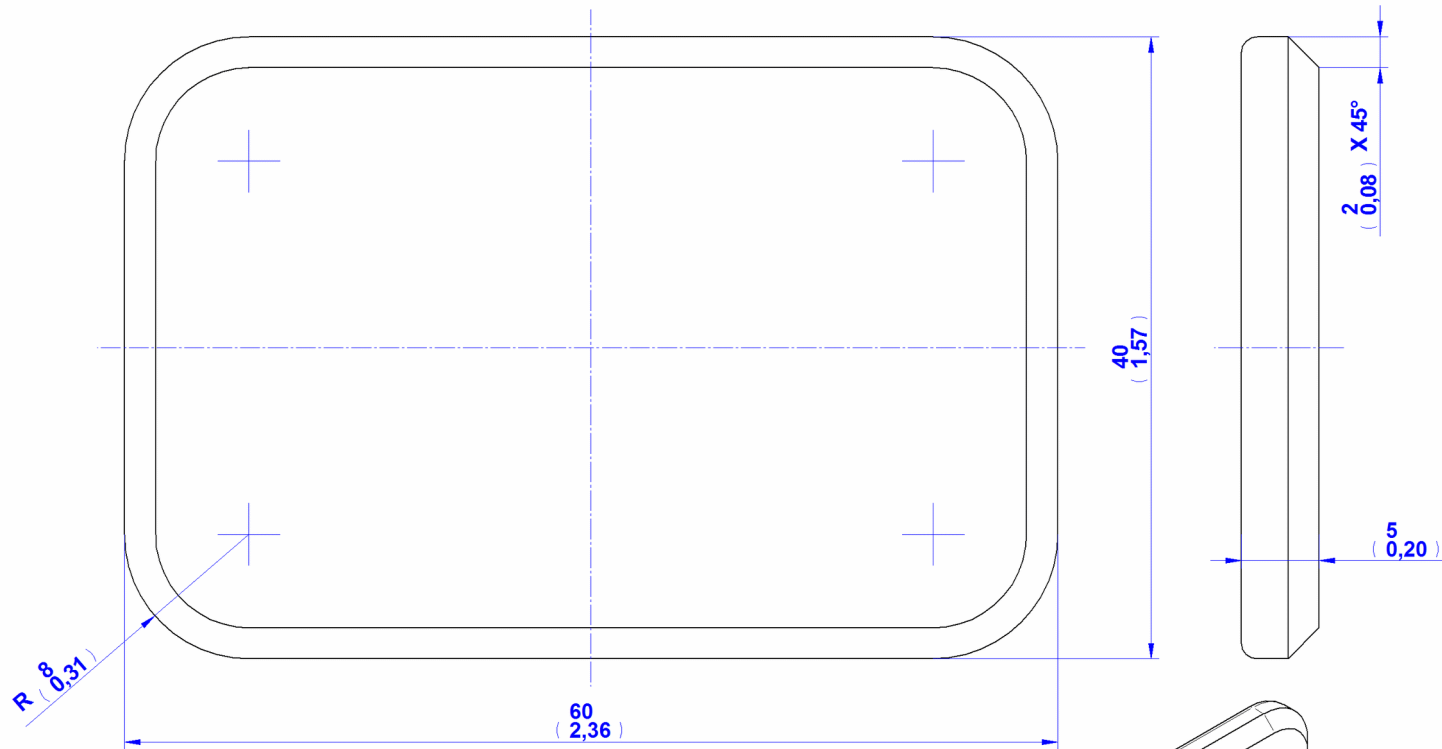
15. Wooden Plate



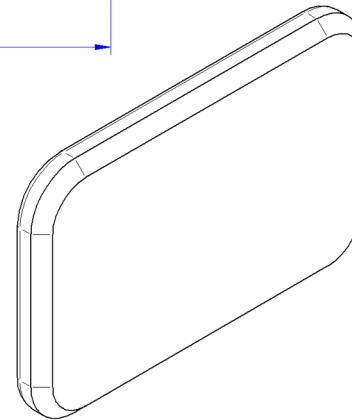


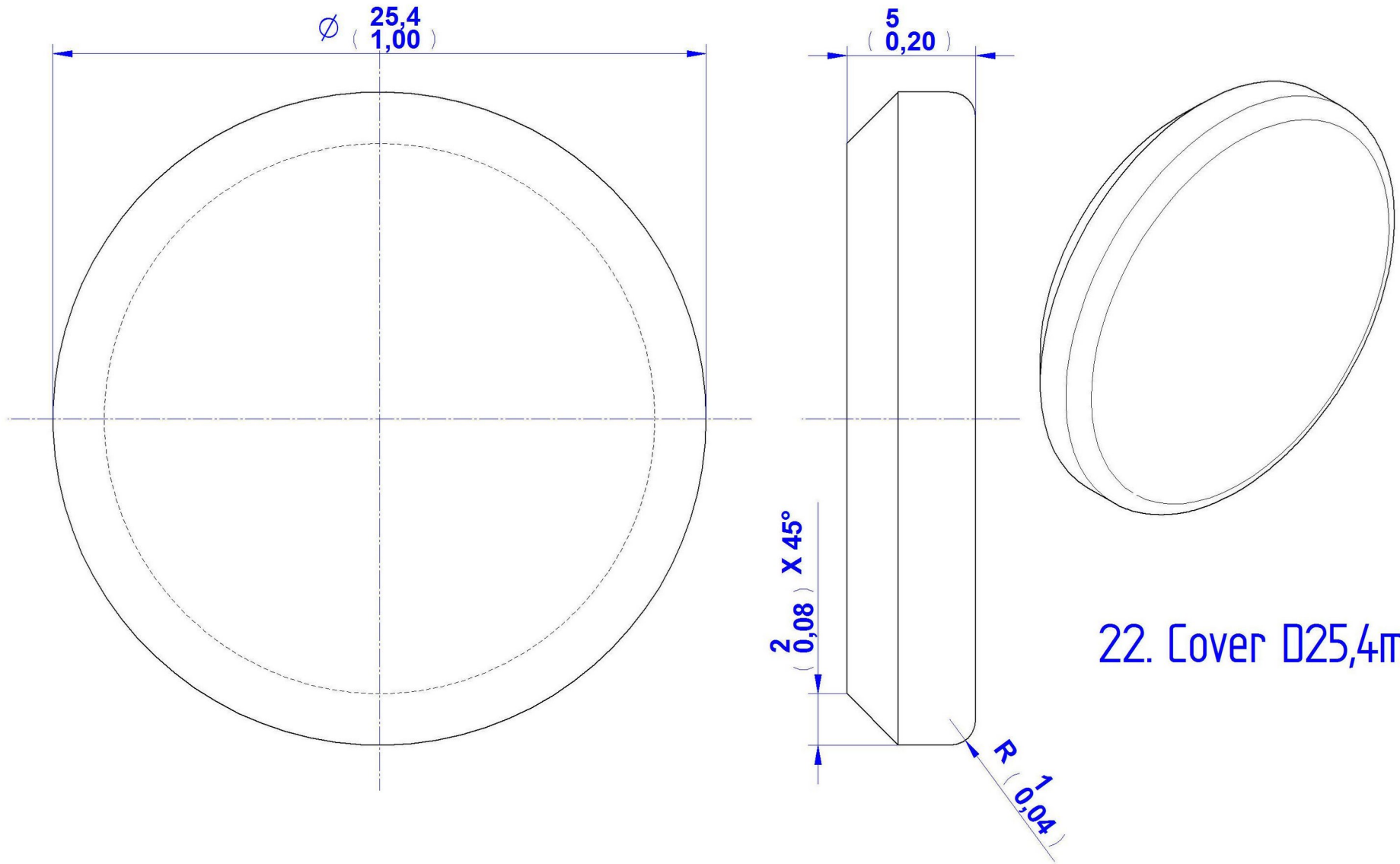
16. Rectangular Tubing 40 x 40 x 2,9mm  
Cut Length = 480,00mm



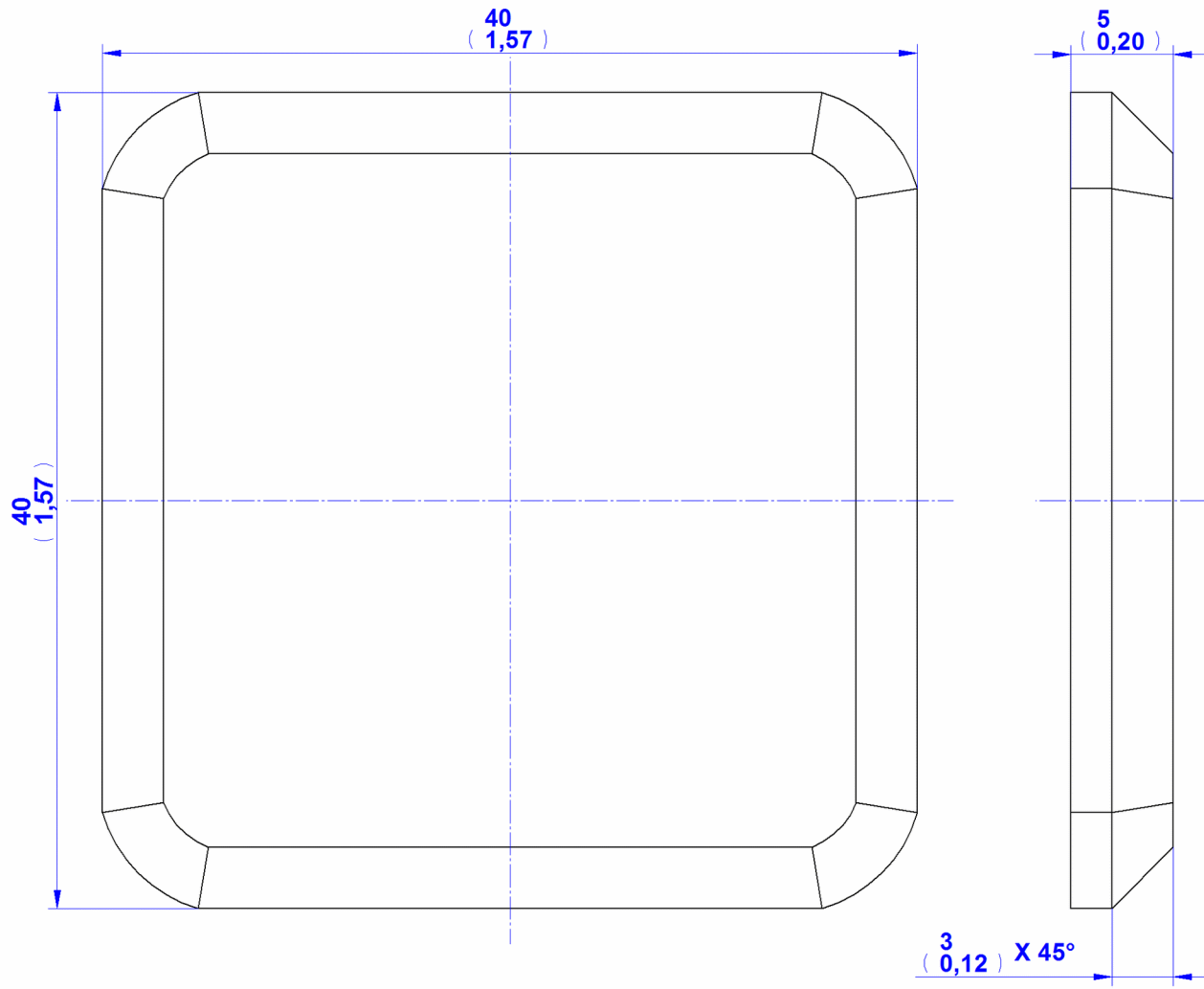


18 Cover 60 x 40mm

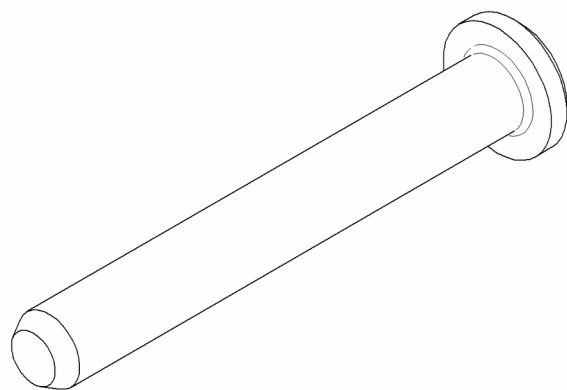
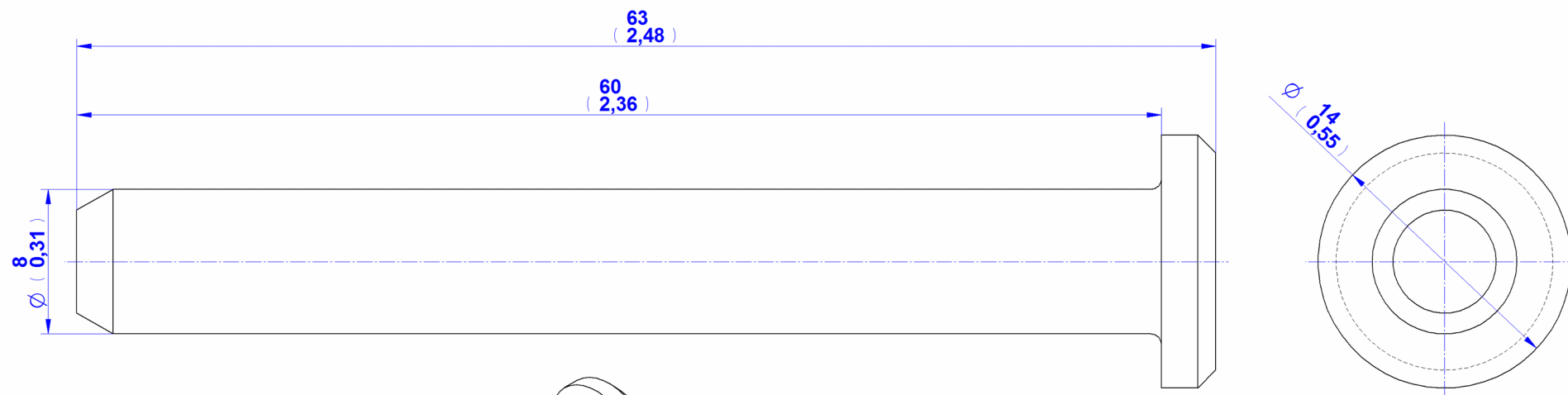




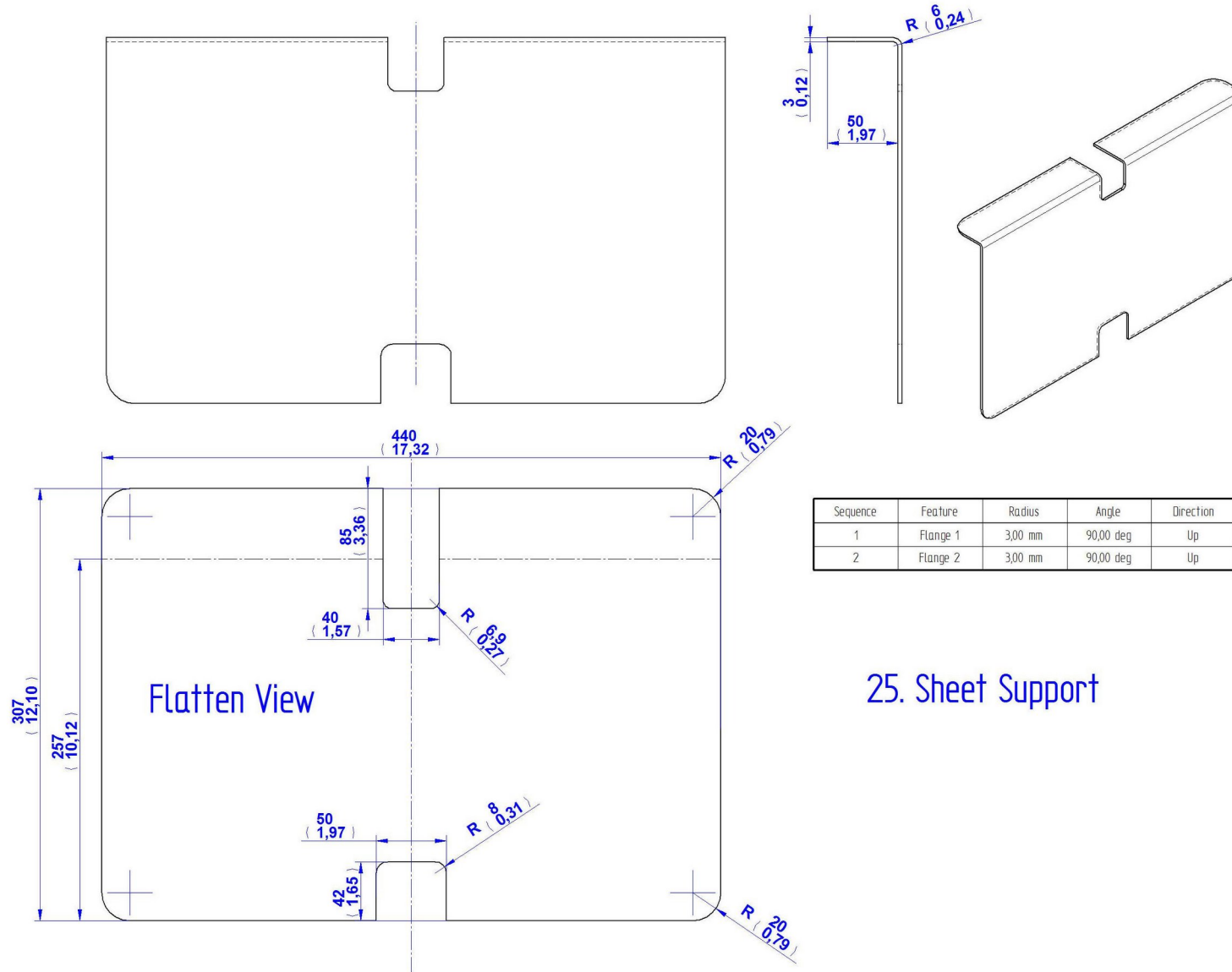
22. Cover Ø25,4mm



23. Cover 40 x 40mm

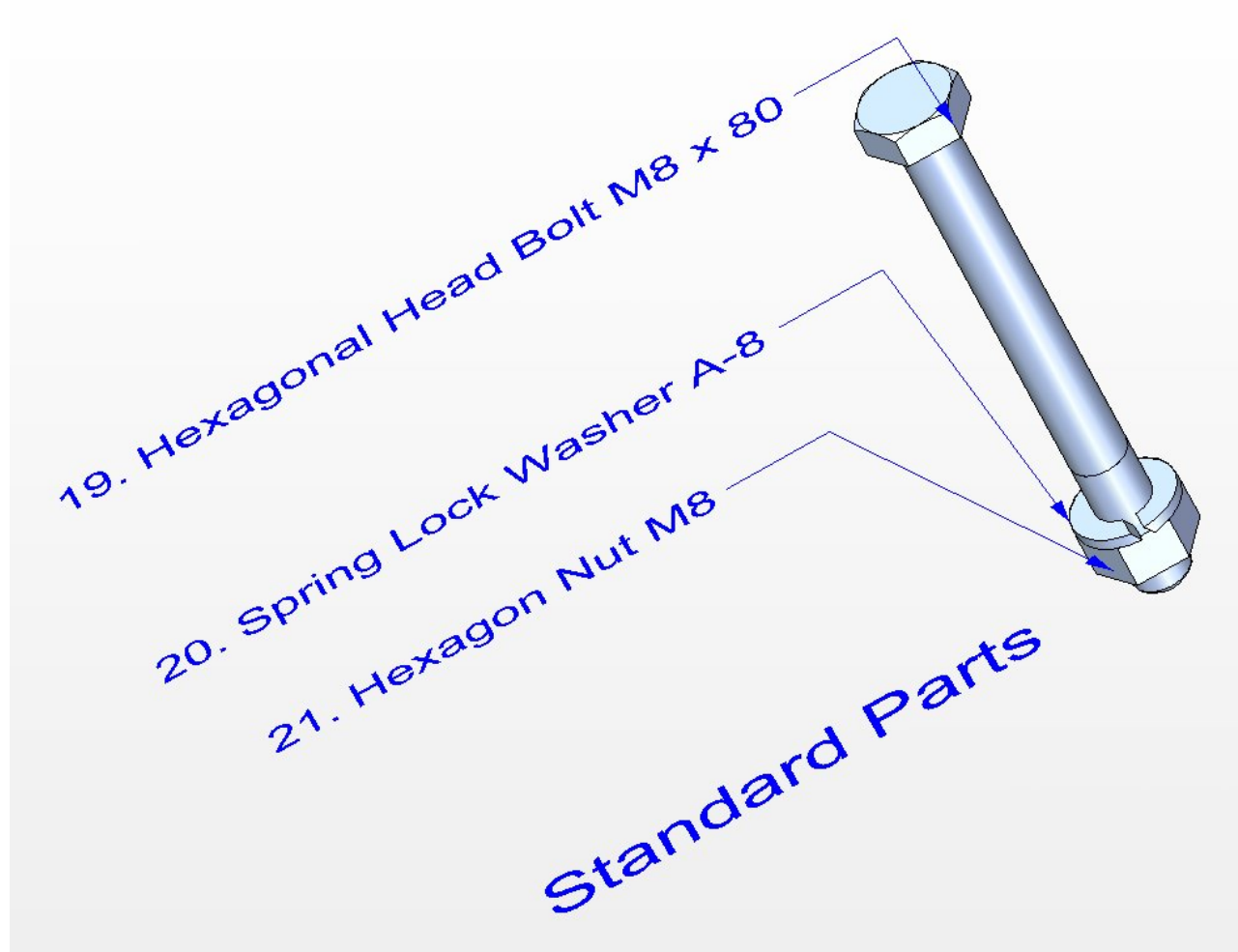


24. Pin 8h11 x 60mm

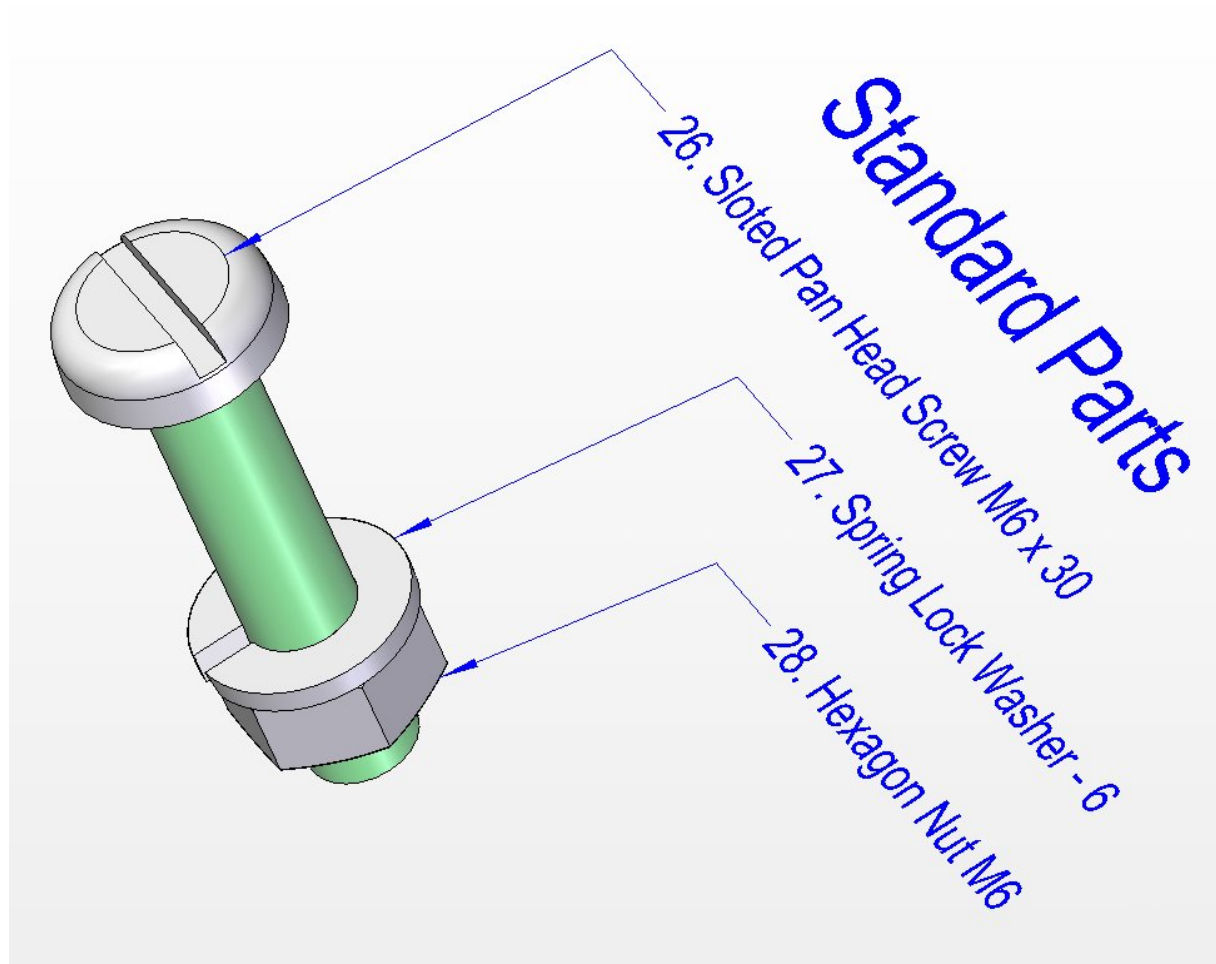


## 25. Sheet Support

## Standard Parts

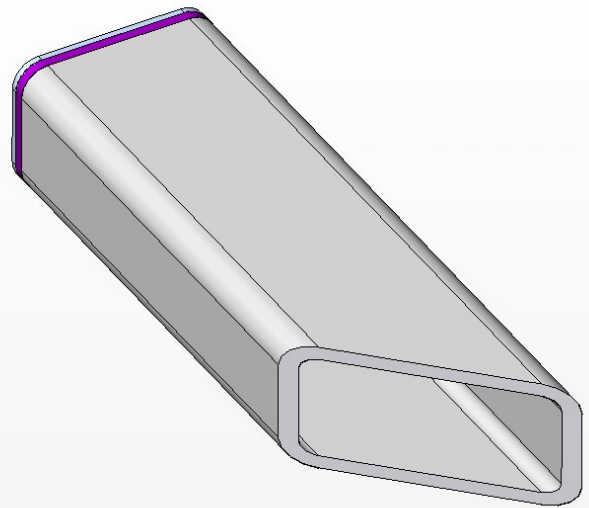
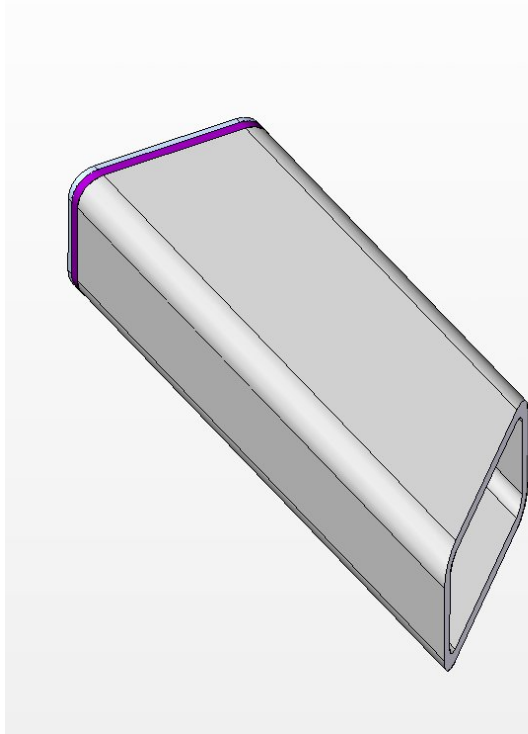
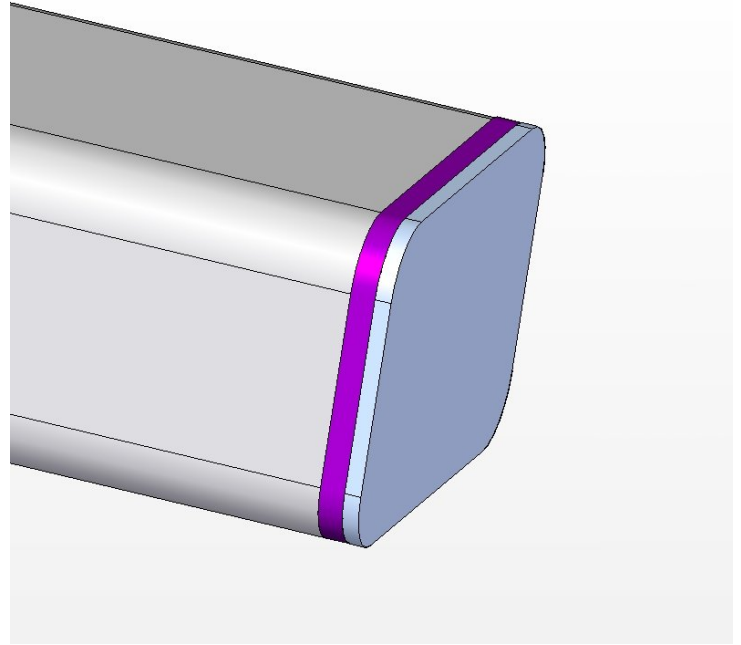
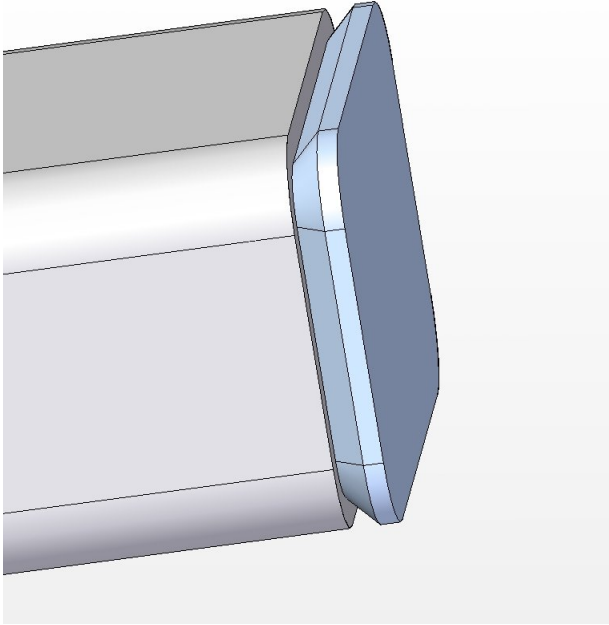


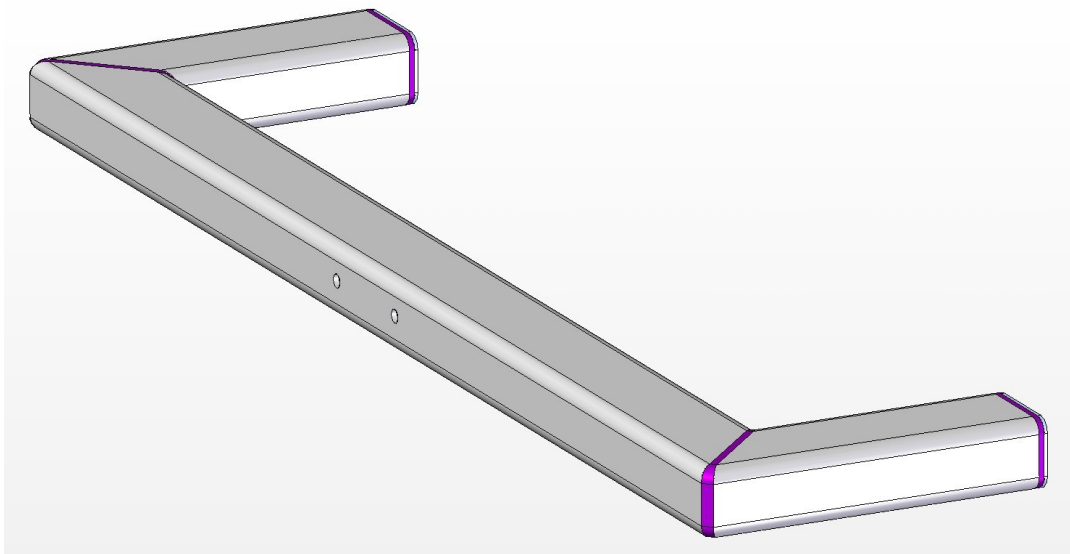
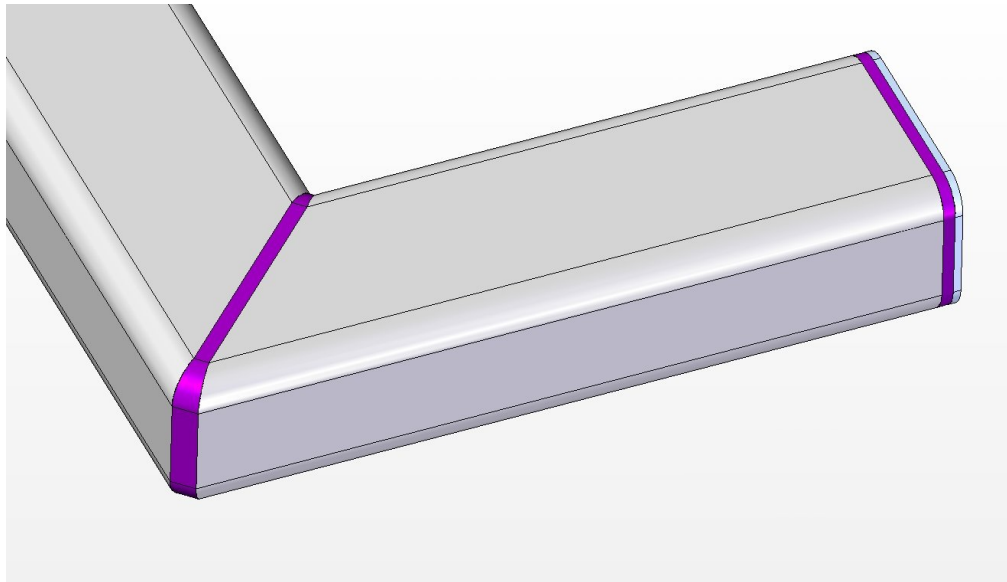
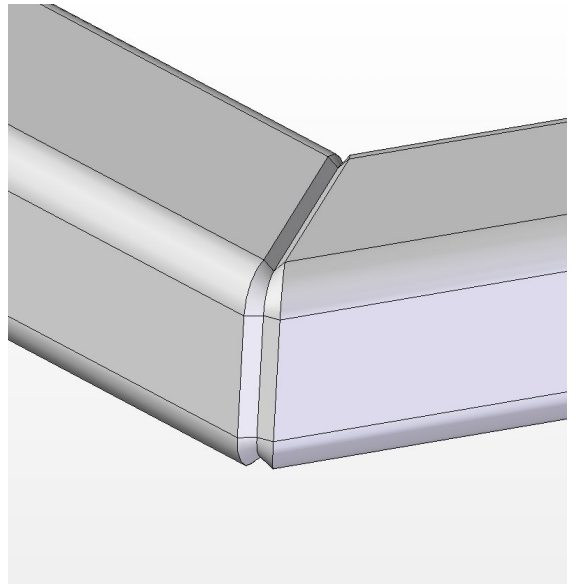
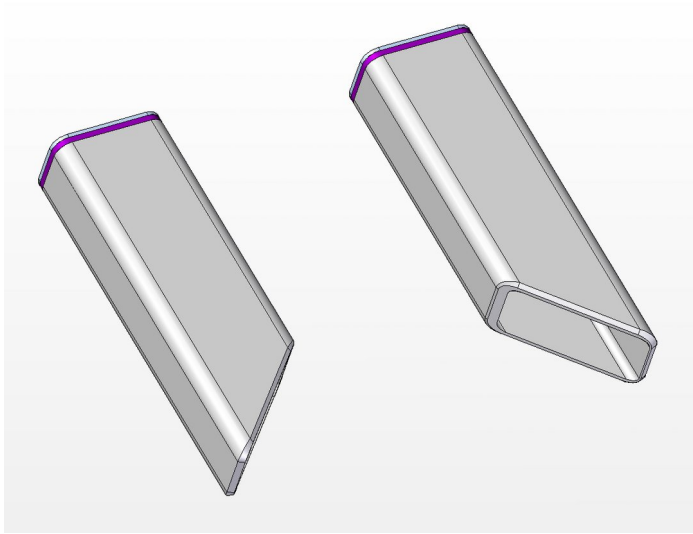




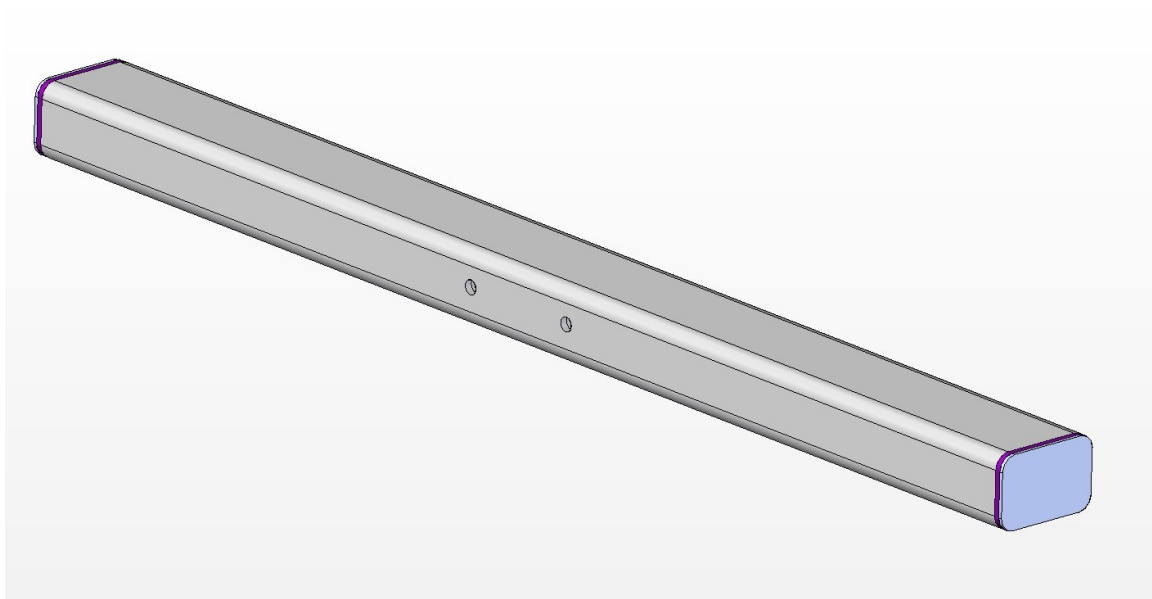
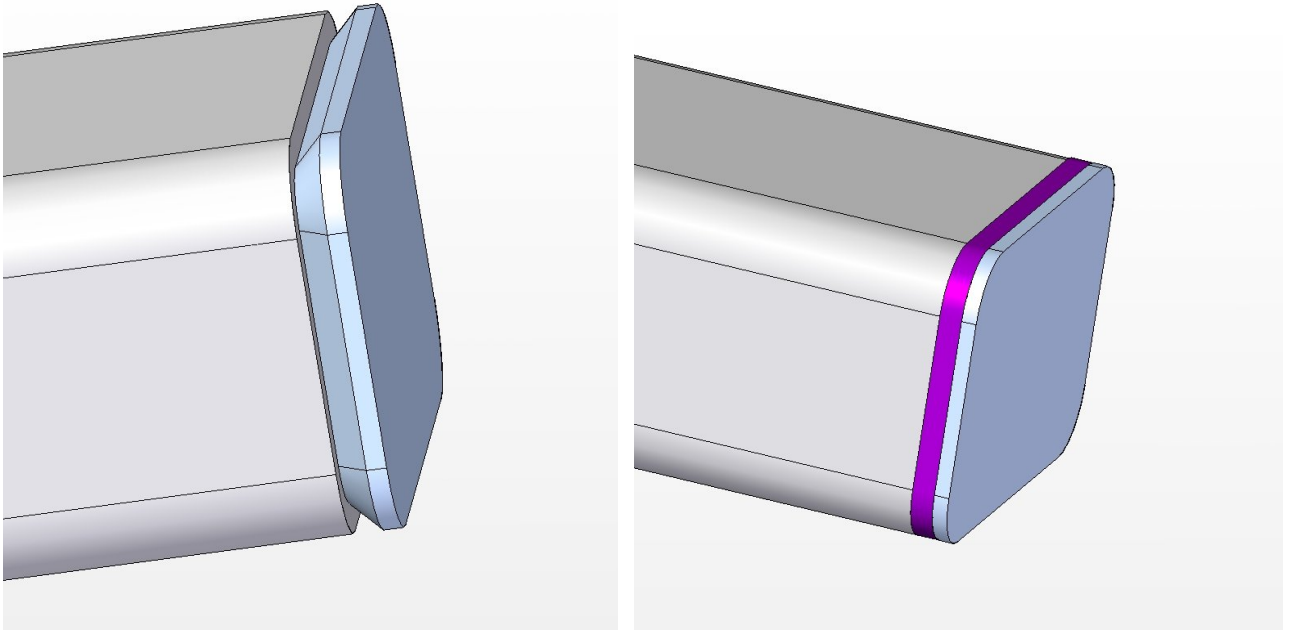
# Assemblage Instruction

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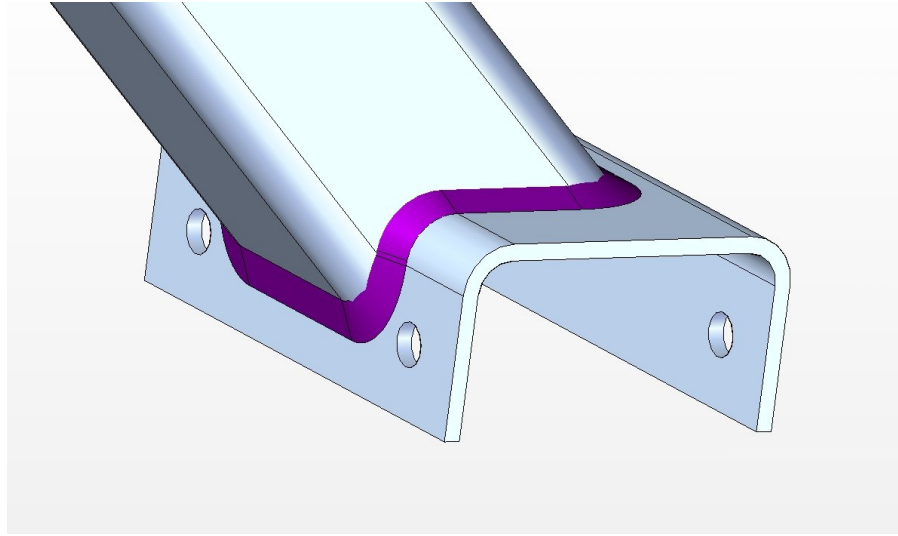




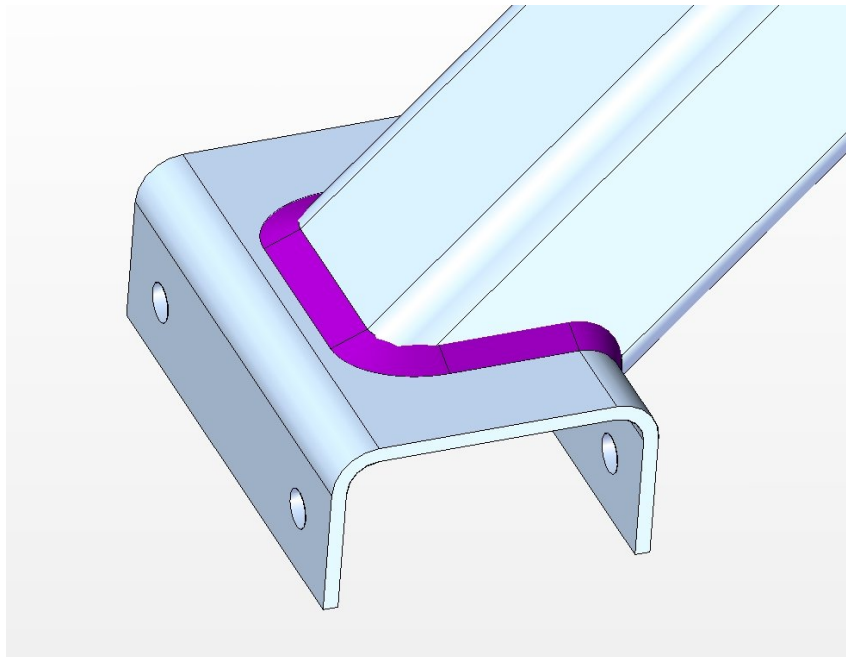
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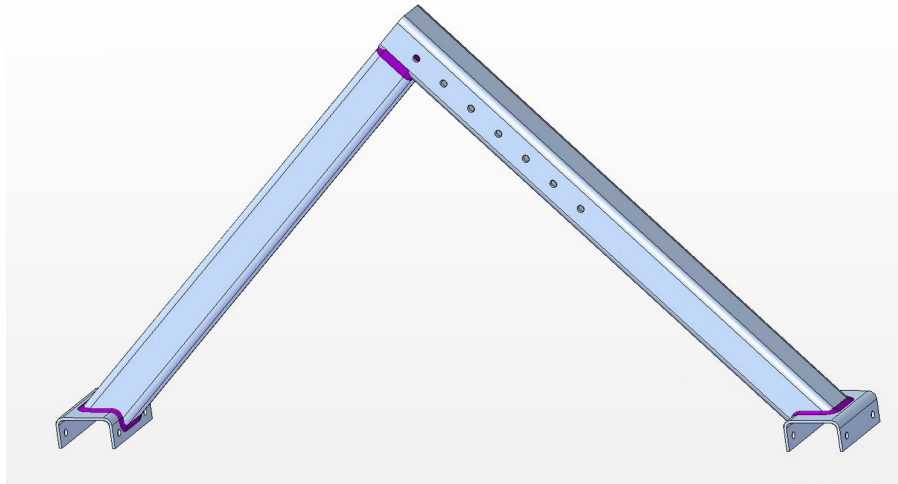
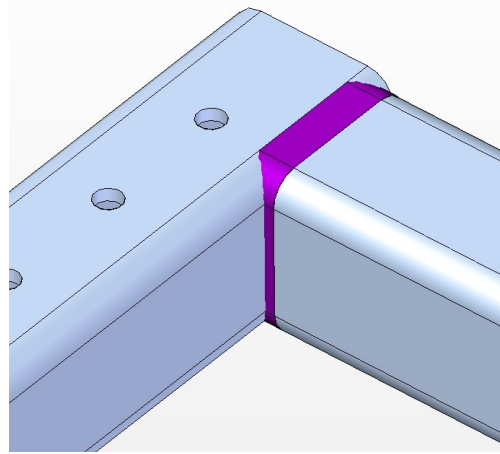
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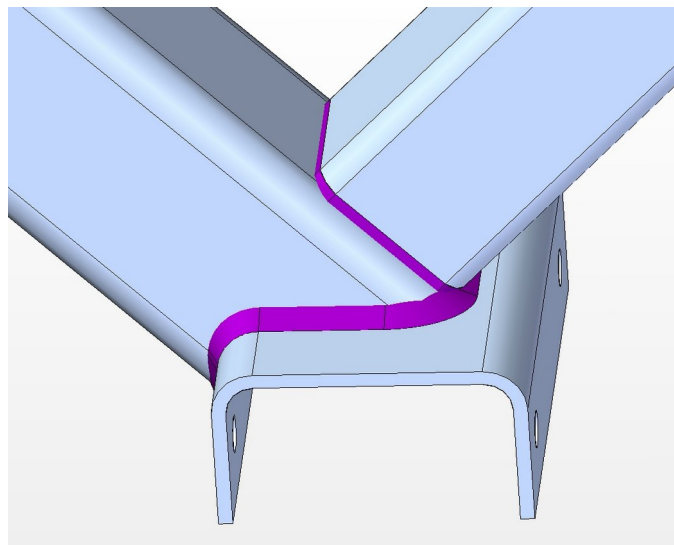
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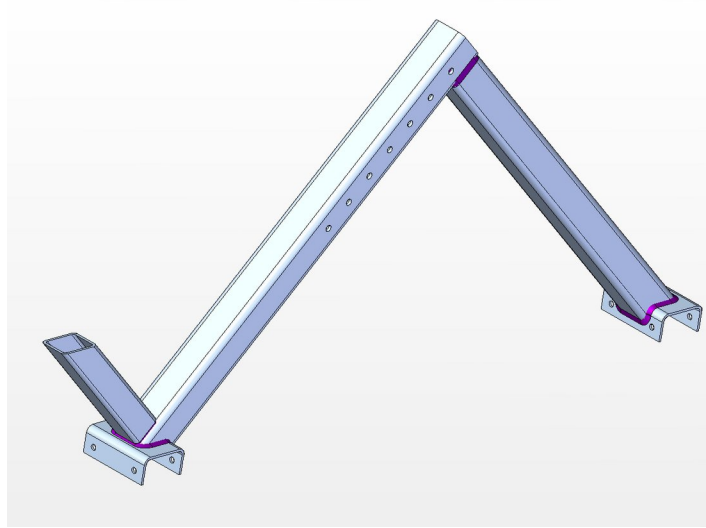


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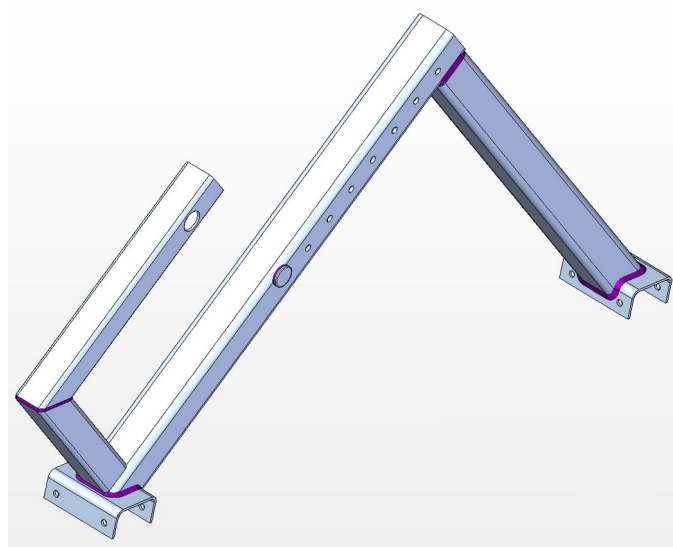
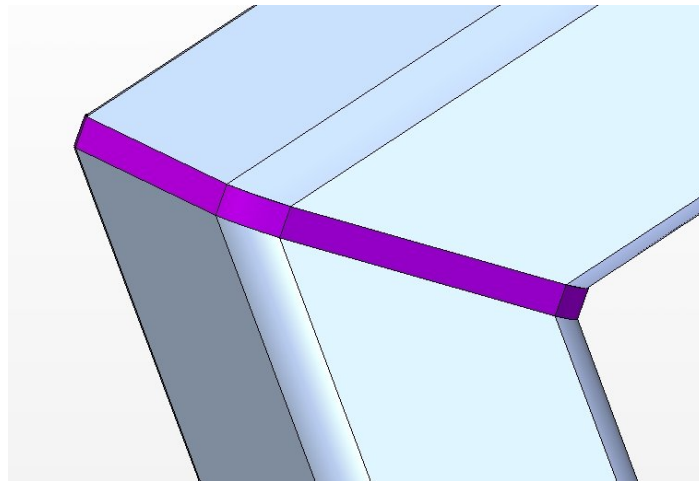


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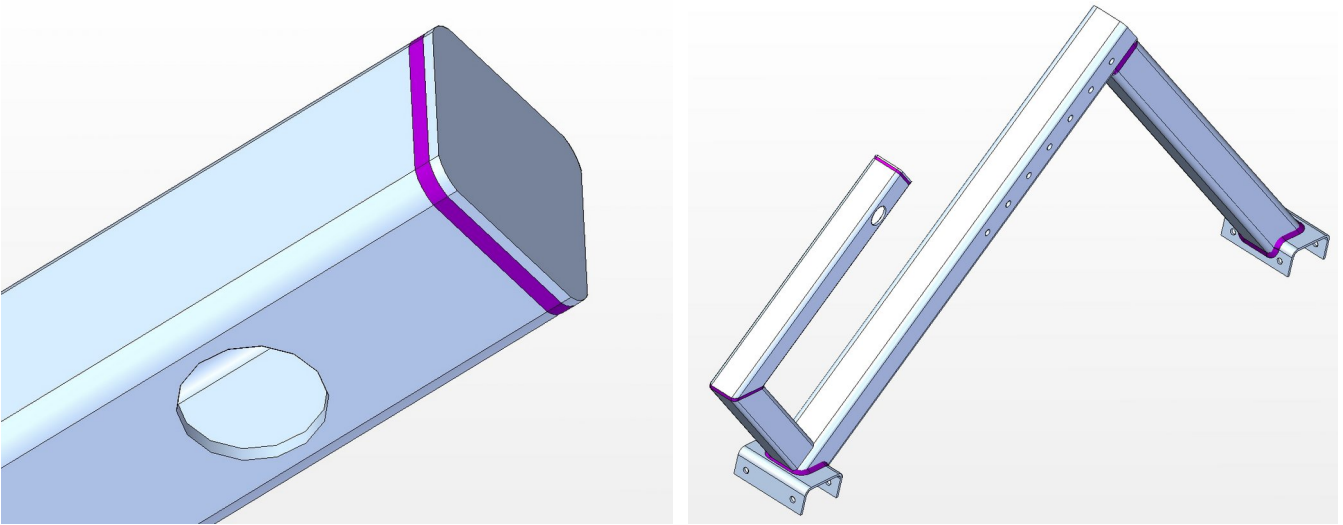




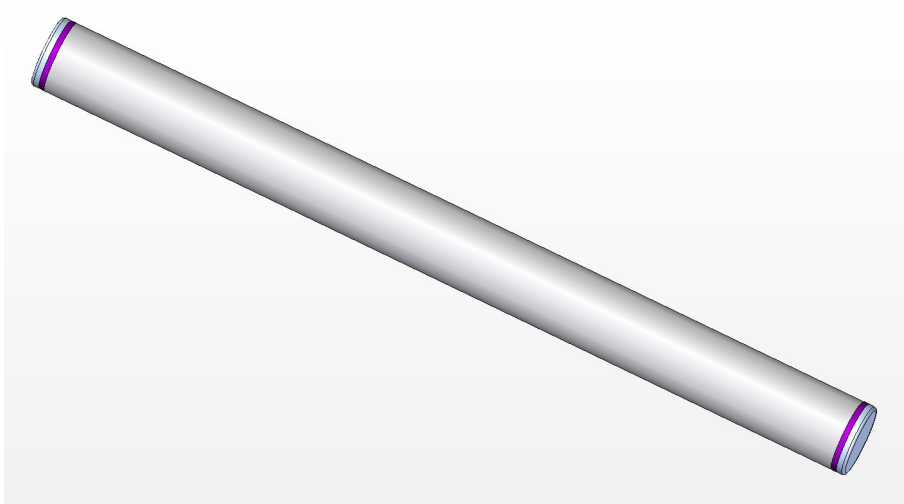
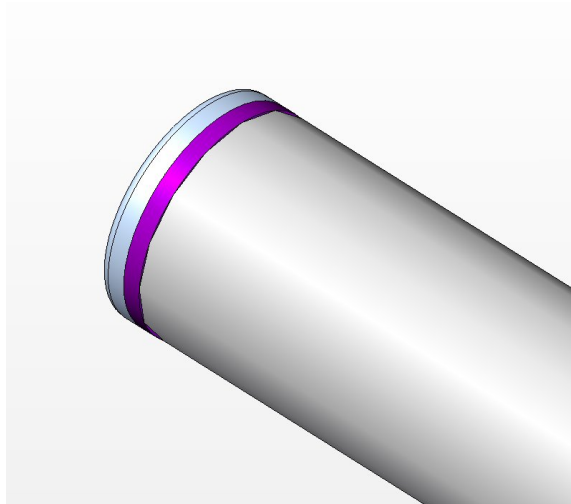
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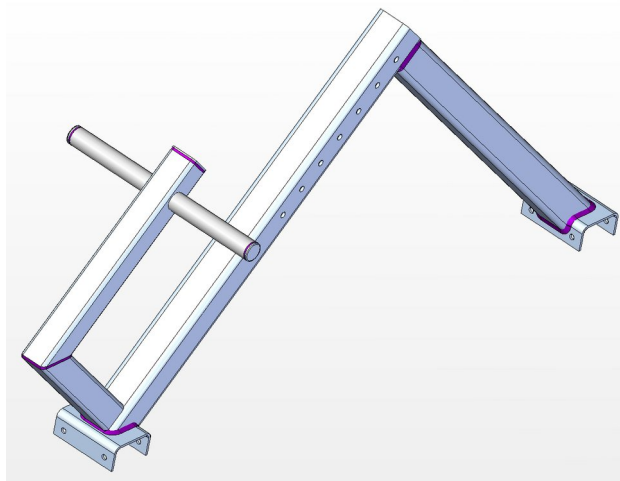
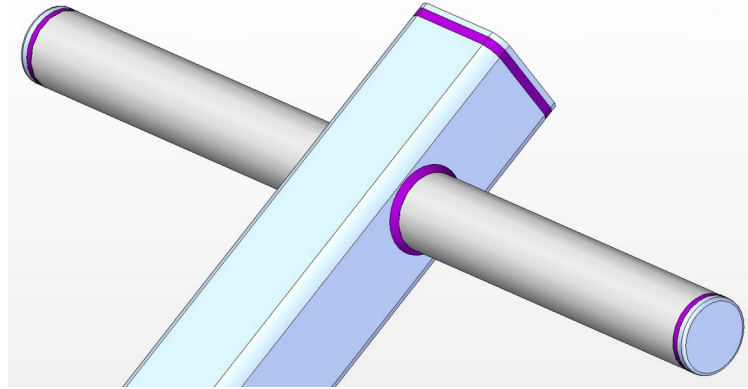


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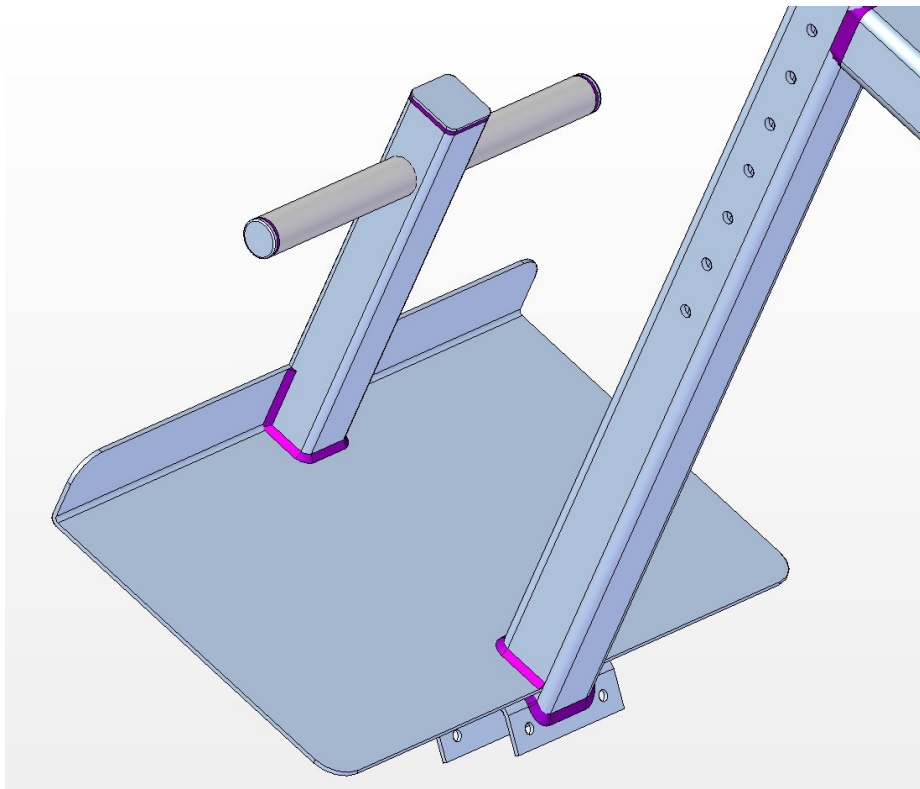




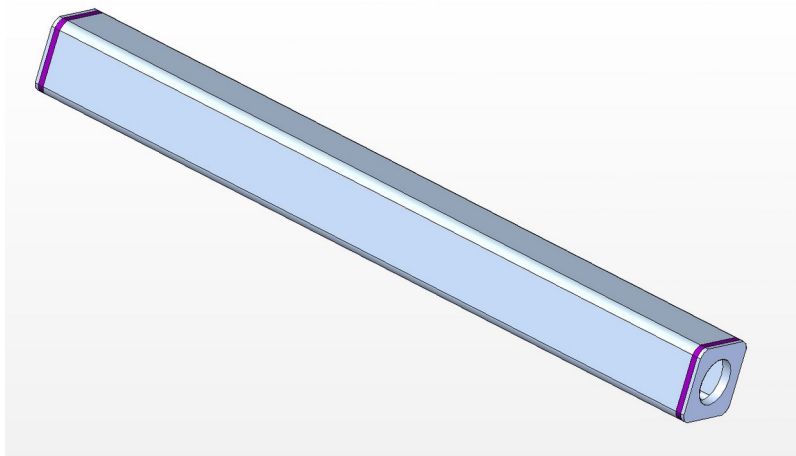
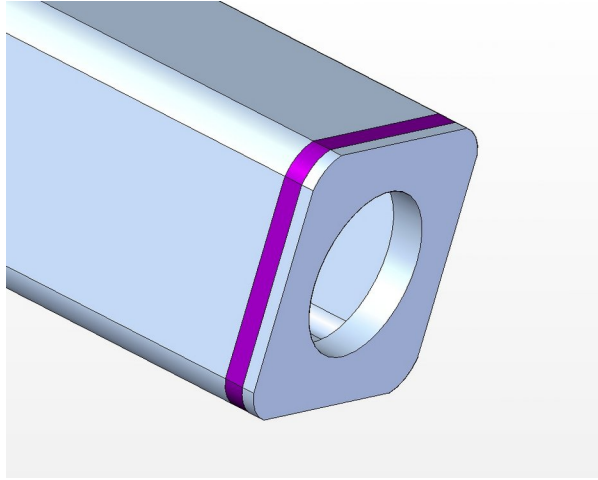
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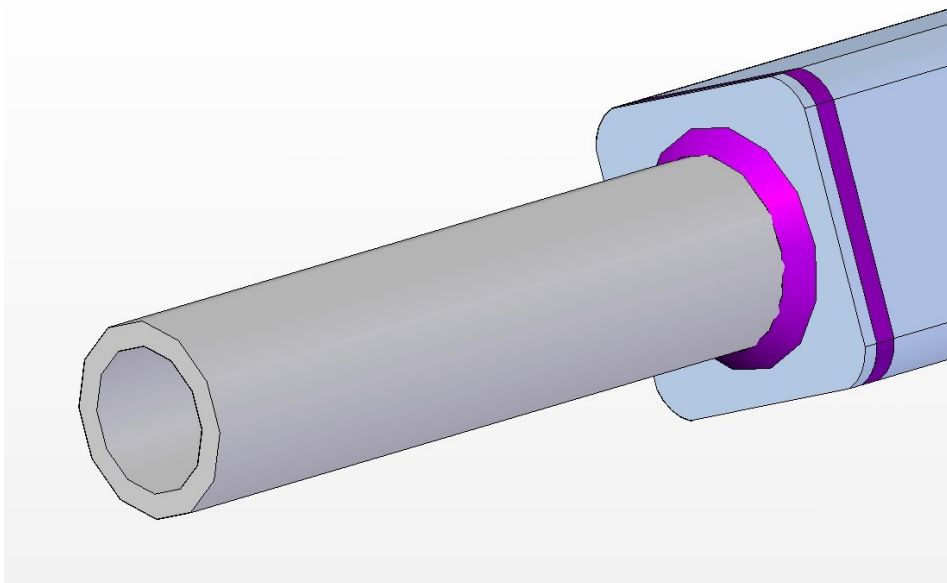
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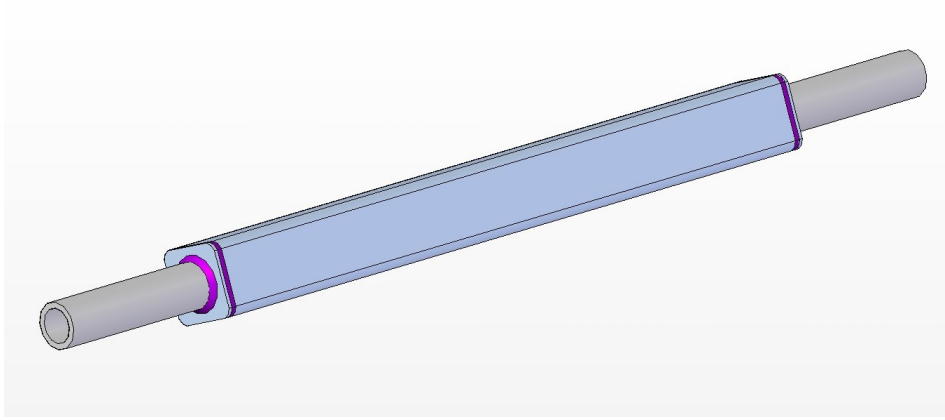


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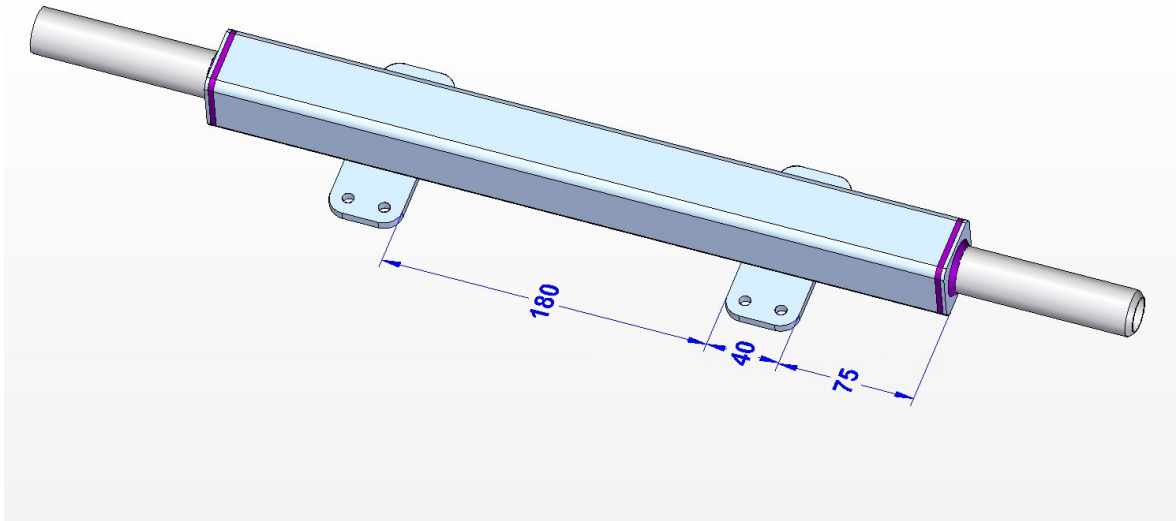


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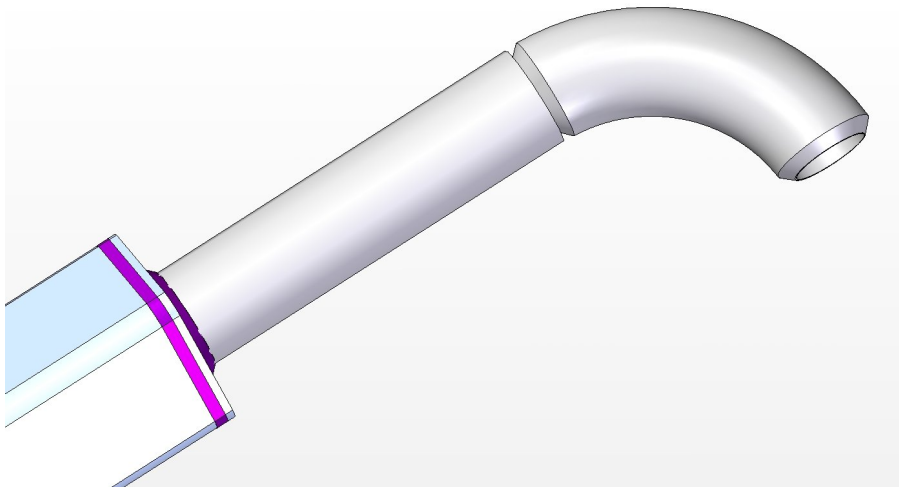


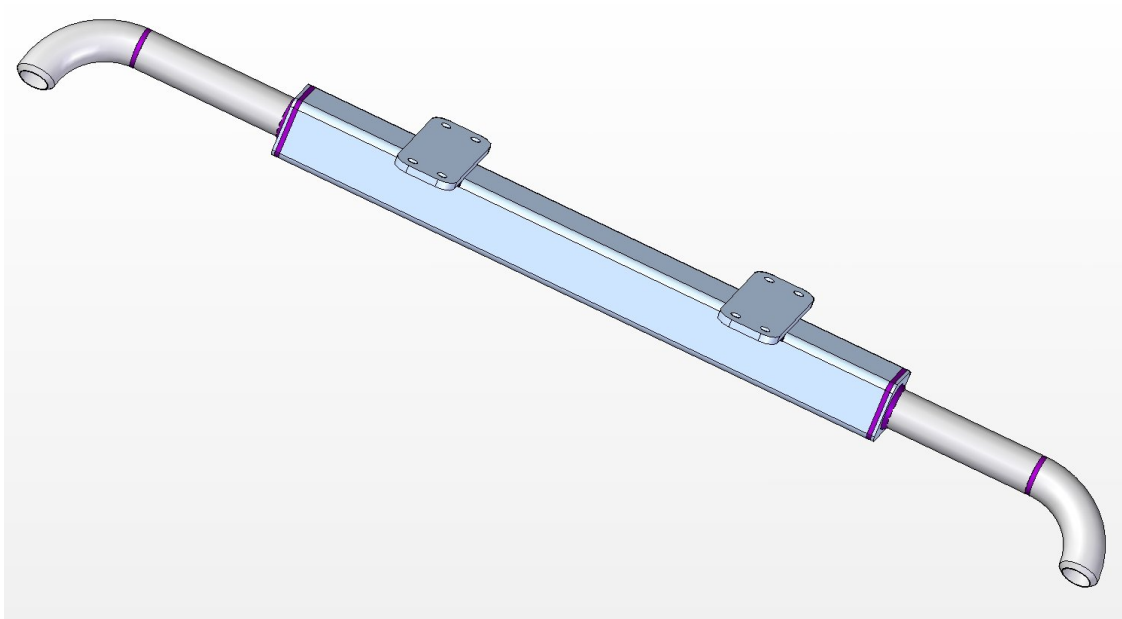
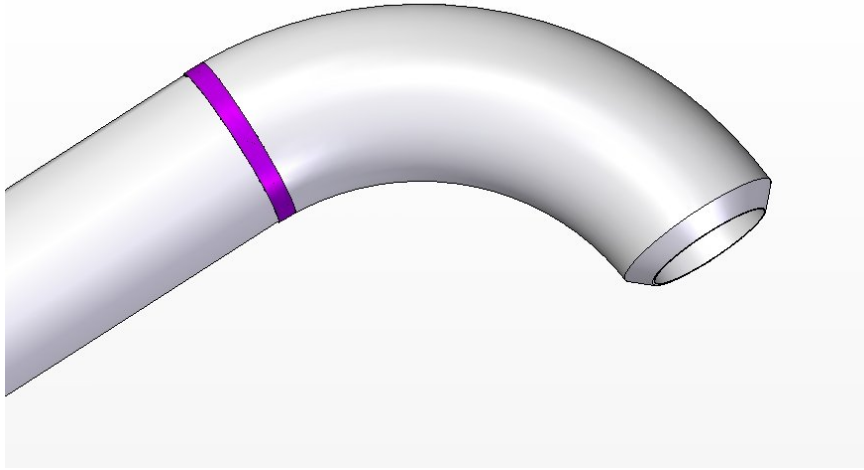


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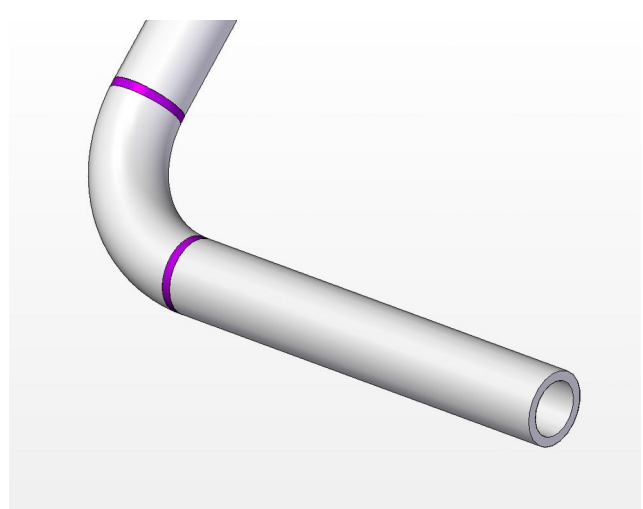
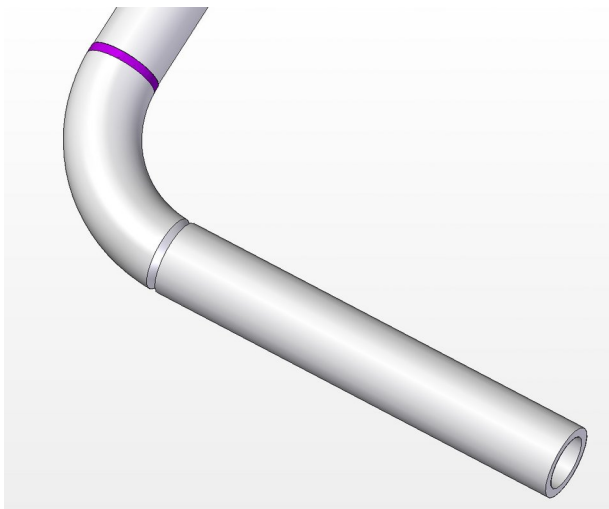


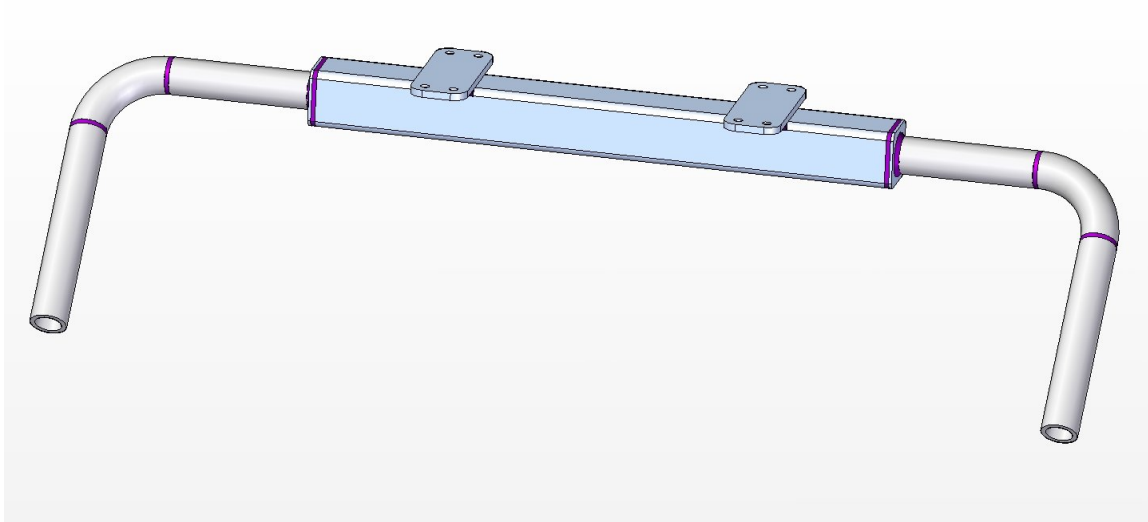
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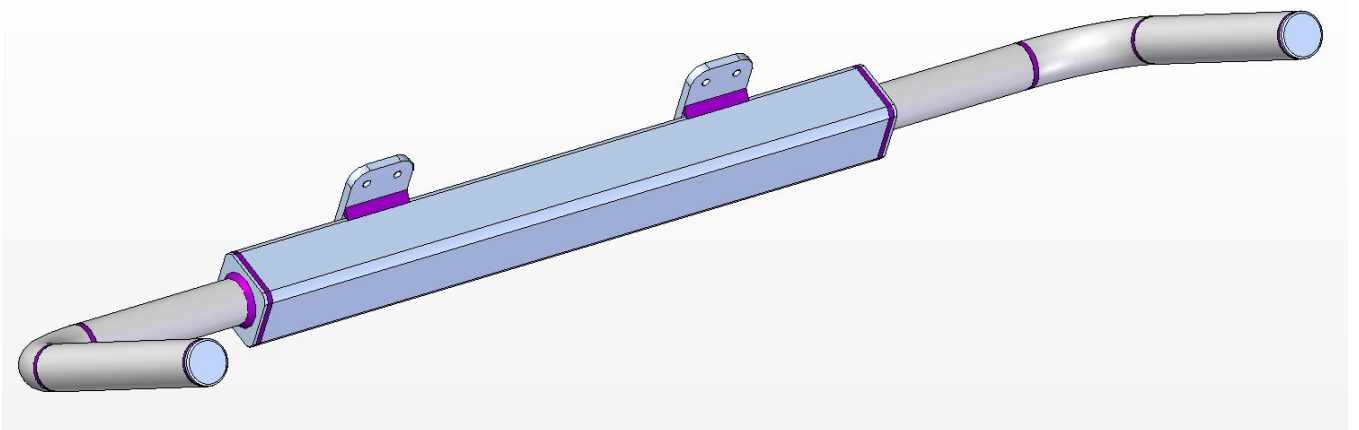
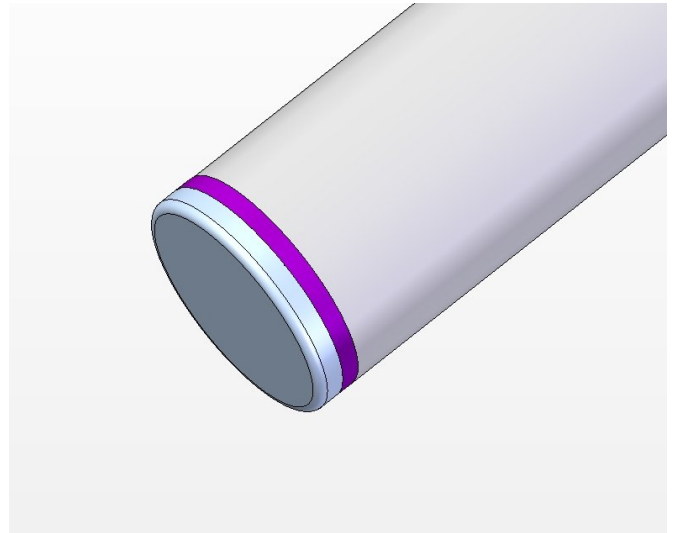
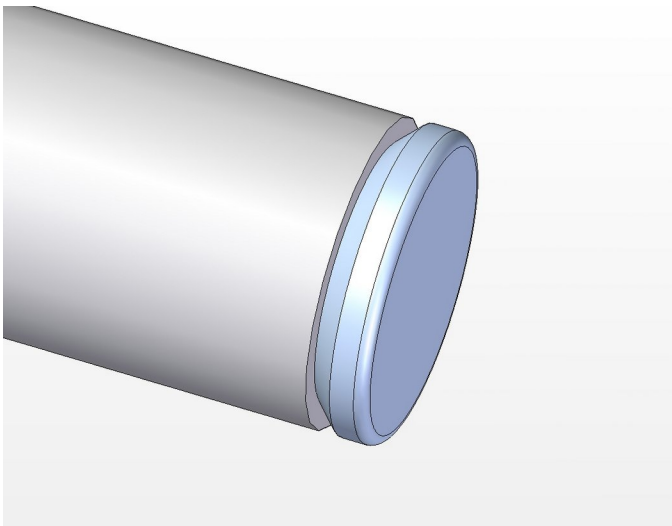


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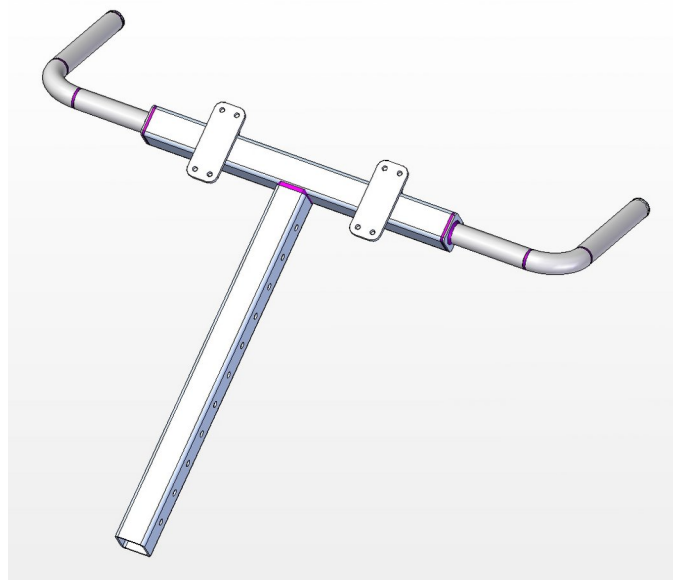
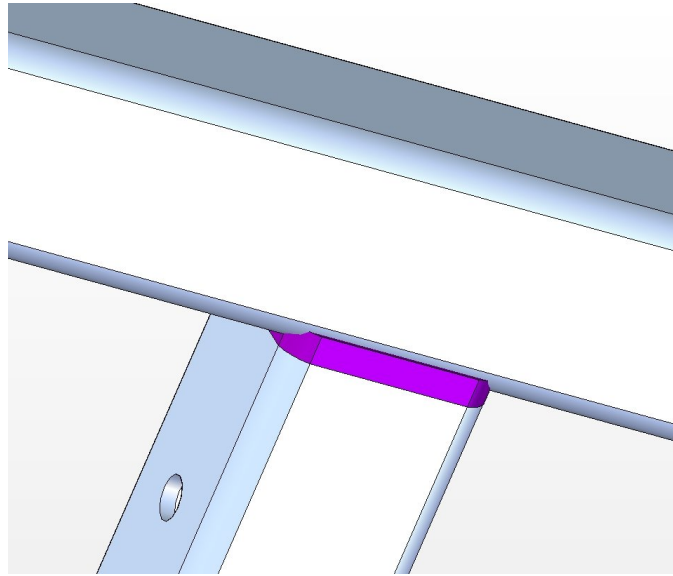




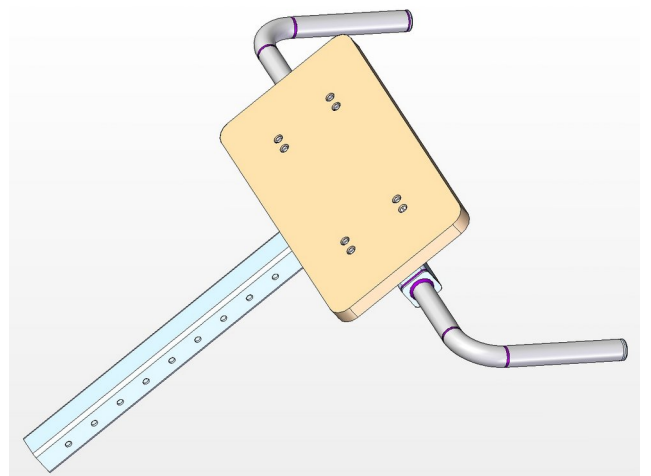
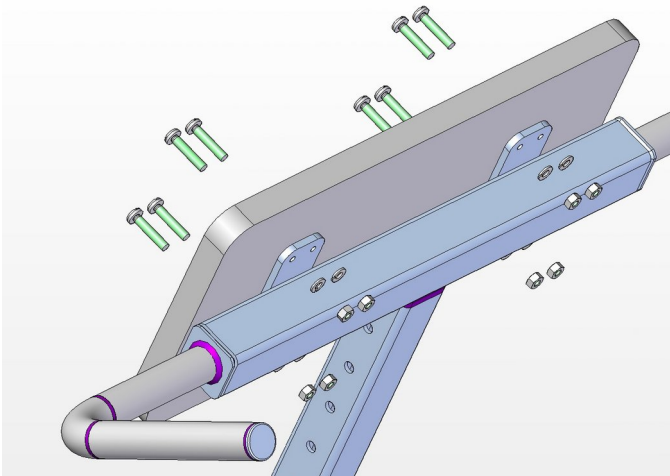
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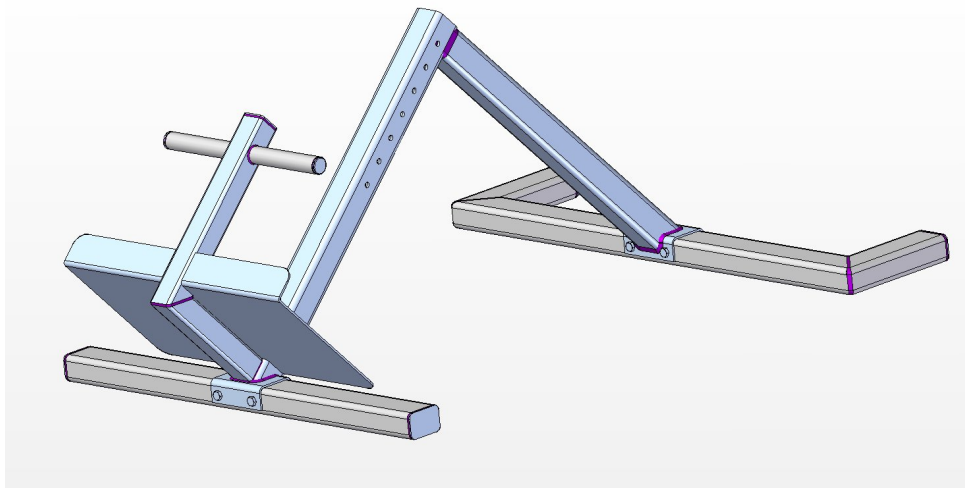
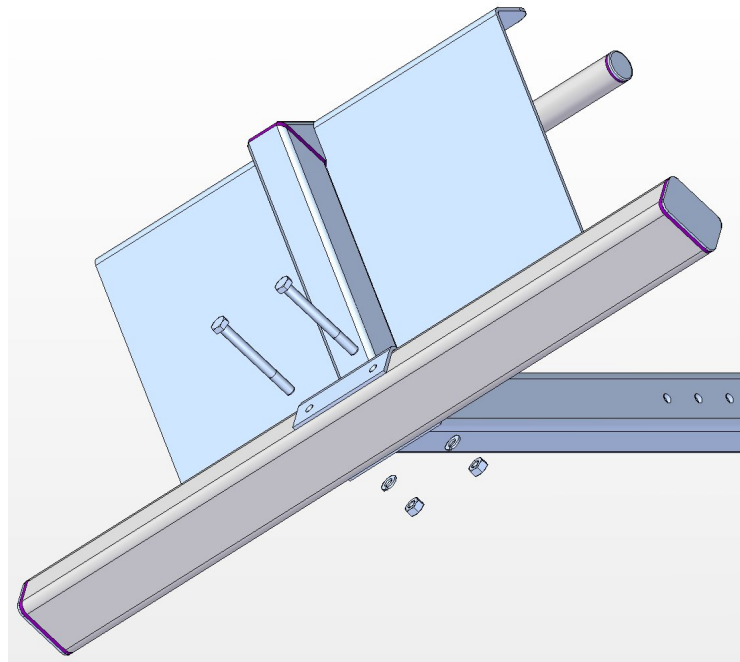
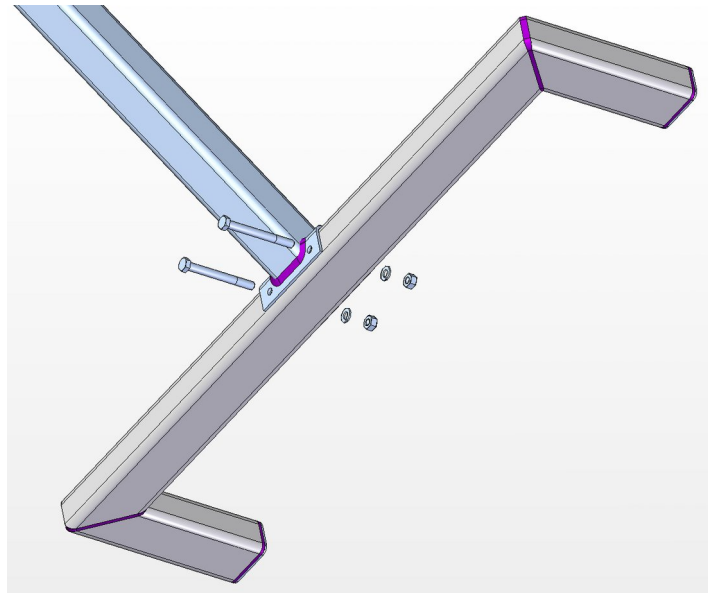
18.



19.



20.





21.

