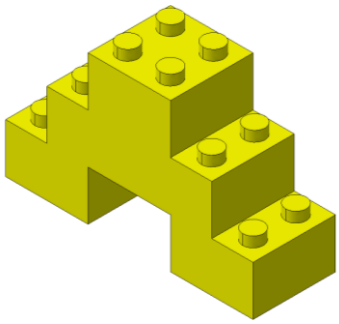
**Build your own Higgs Playground**

The Higgs playground is the winning exhibit from the 2015 CMS Create event. The event ran to encourage teams to come up with an exhibit, to be placed on the visitor path at point 5, demonstrating what CMS does and how it works.

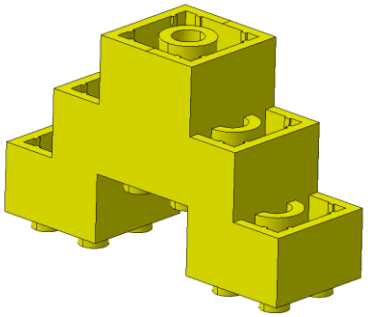
The Higgs playground demonstrates to visitors how, using small pieces of information from each sub detector, physicists at CMS collect and analyse data to support their theory.

The following documentation provides instructions on how to replicate the exhibit for your home institution.

To construct the exhibit, first manufacture all of the parts according to the part drawings that accompany this document. You will need access to a workshop and the materials listed in the BOM. The only parts not made by yourself are Lego bricks, which you must order from the Lego website. (https://shop.lego.com/en-CH/Pick-a-Brick). Simply purchase Lego bricks and glue together to make the shapes shown below:



8x (Each colour)

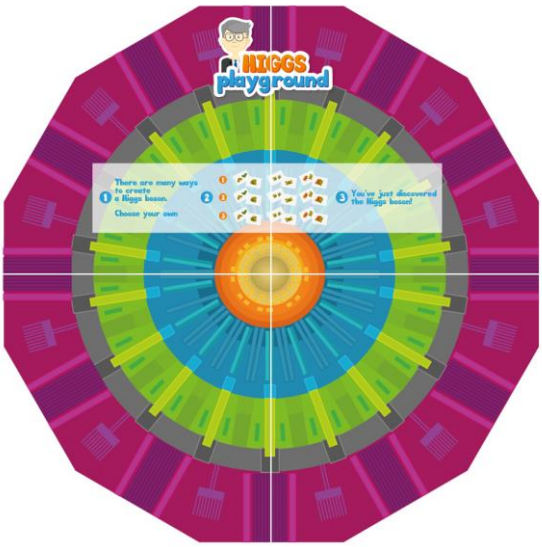


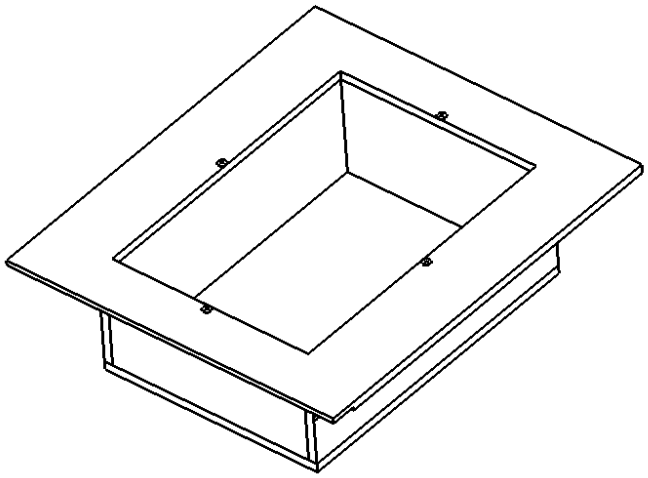
8x(Each colour)

Finally, it is recommended that the panels be printed professionally before machining them according to the part drawings. The full scale graphics accompany this document (4 pdf files).

Contact your local print service and ask for each of the 4 pieces of the board to be printed onto 110cm x 110cm of 3mm Dibond panel and then coated with a protective laminate.

When laid out, the panels should look like this:





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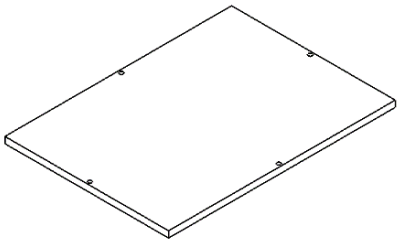

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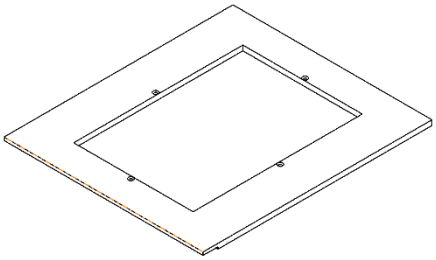

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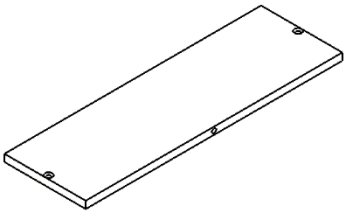

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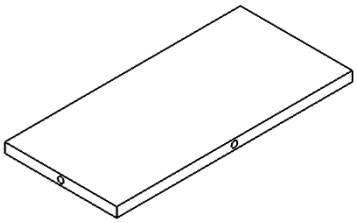
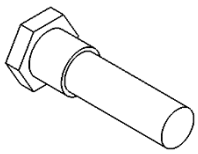


12x (M3)



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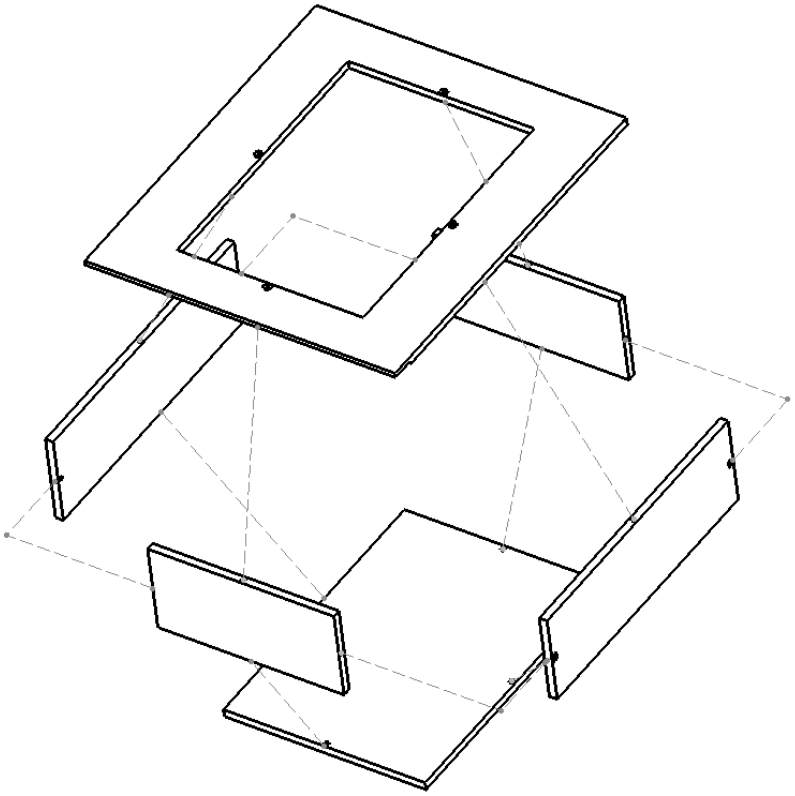

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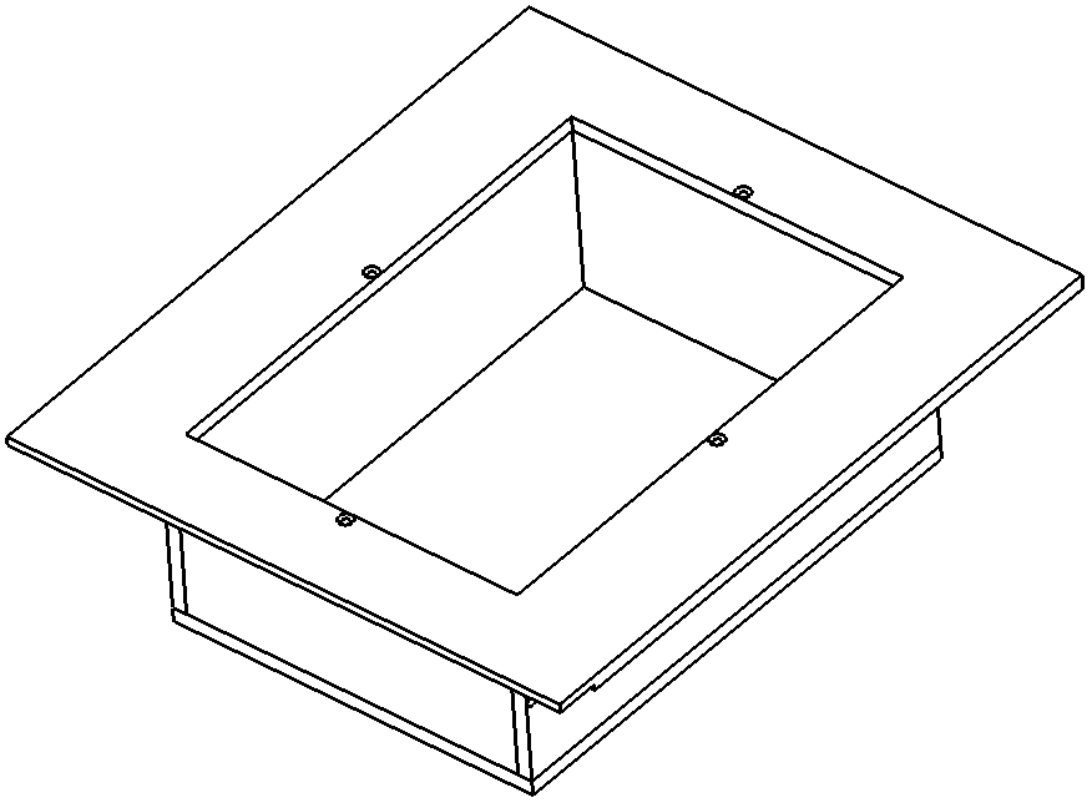

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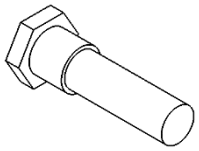

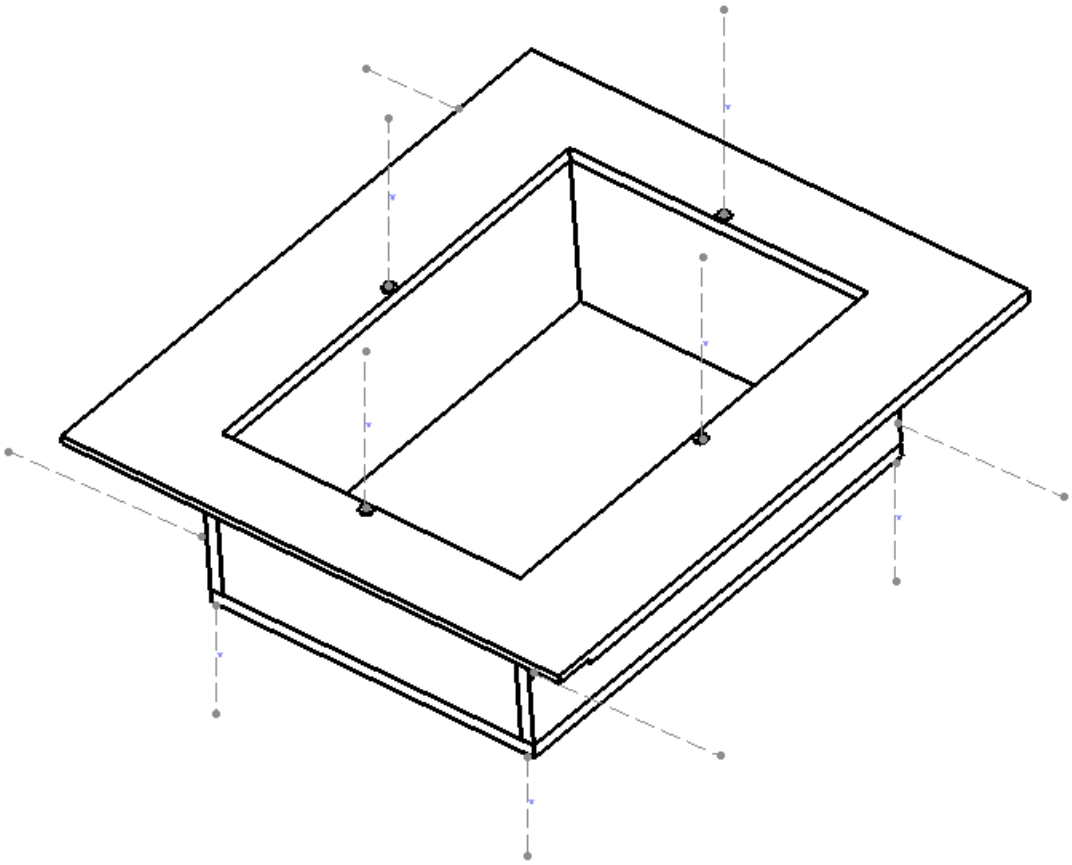

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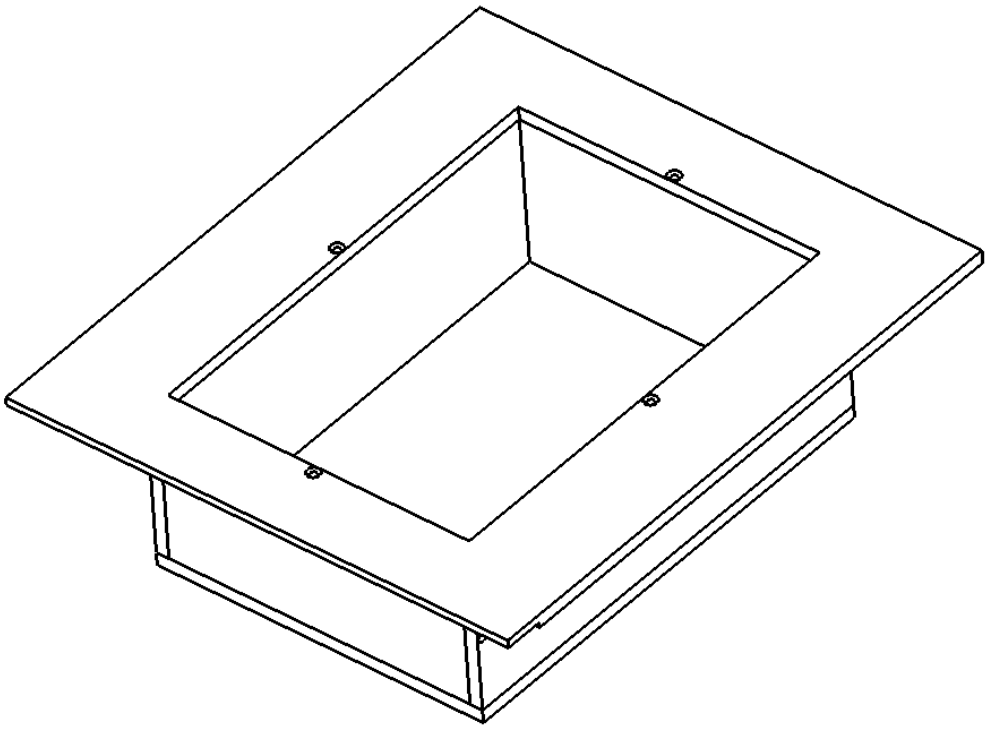
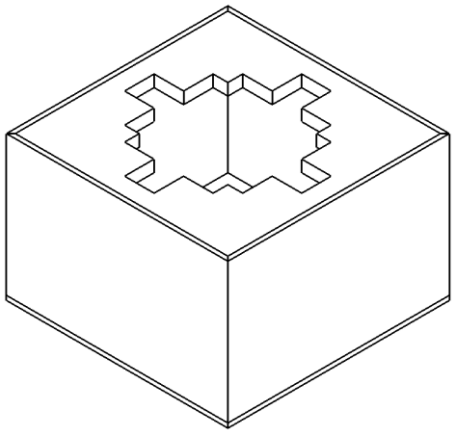
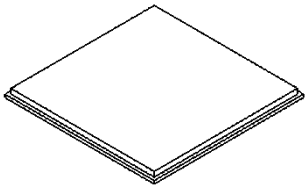
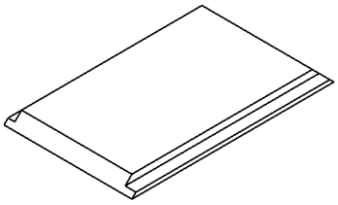
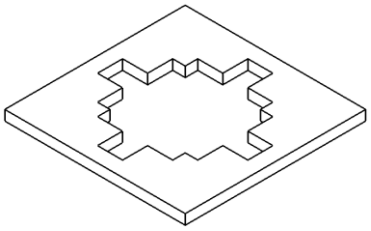




1x 

4x 

1x 

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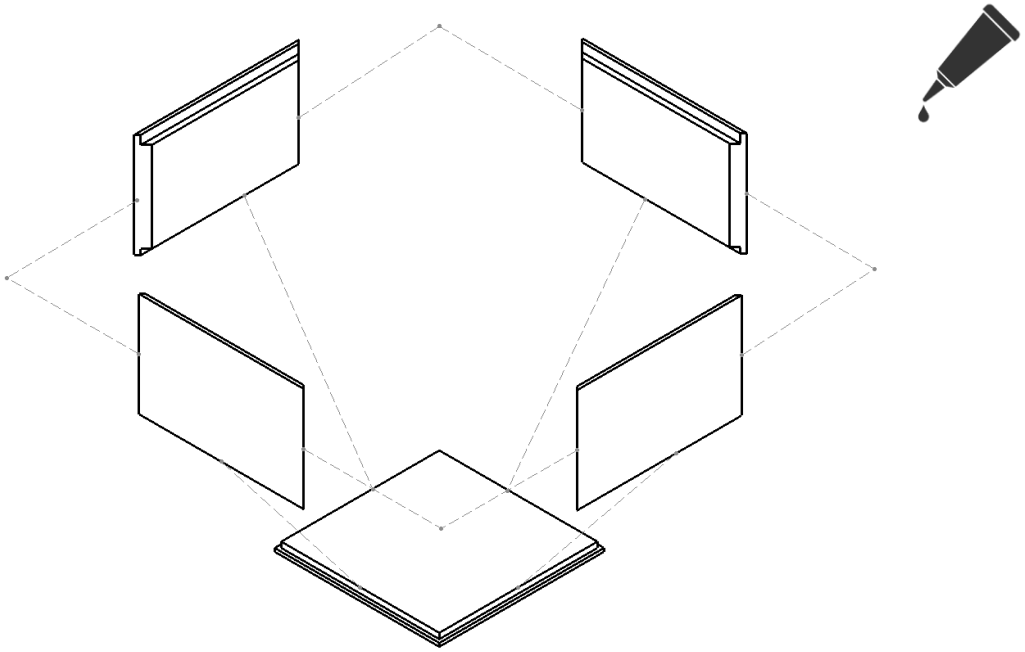

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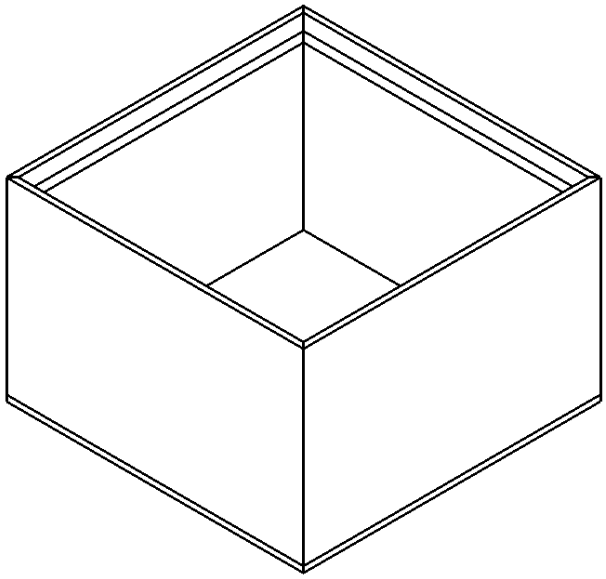

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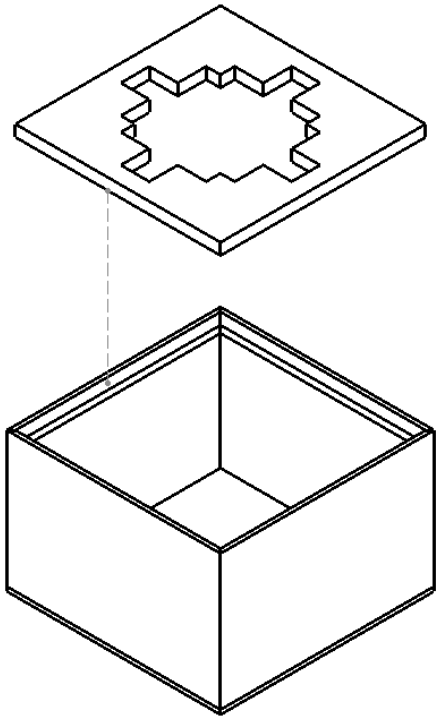

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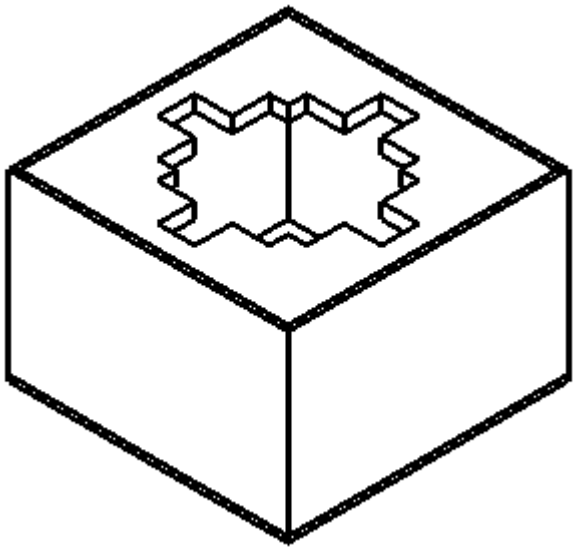

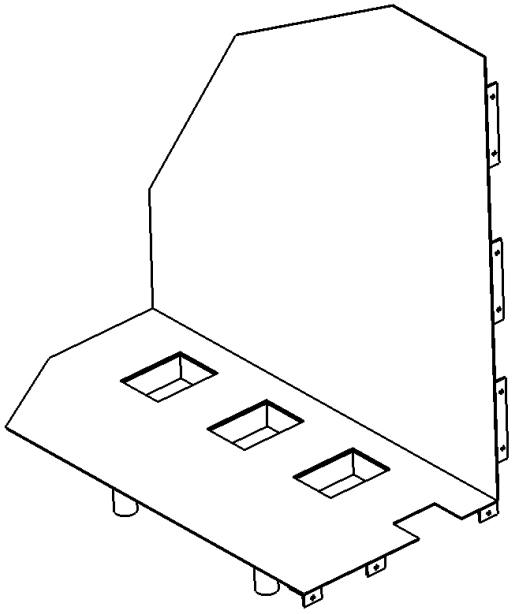

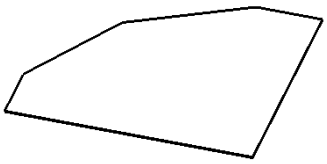

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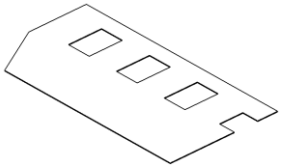

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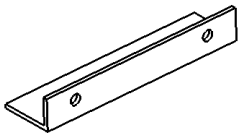

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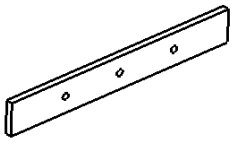

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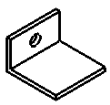

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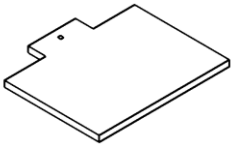

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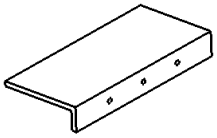

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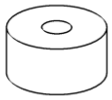

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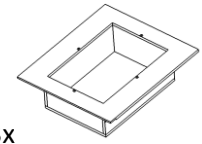

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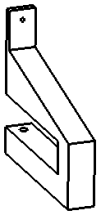

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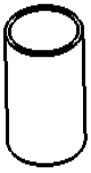
3x



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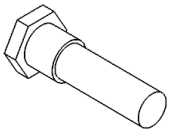
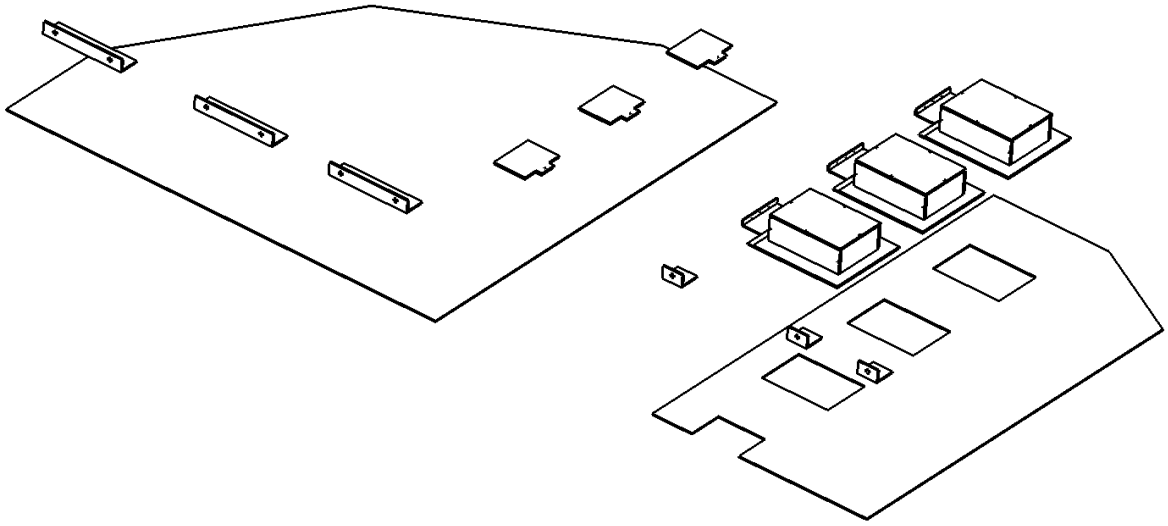


10x (M6)

9x (M6)

5a.



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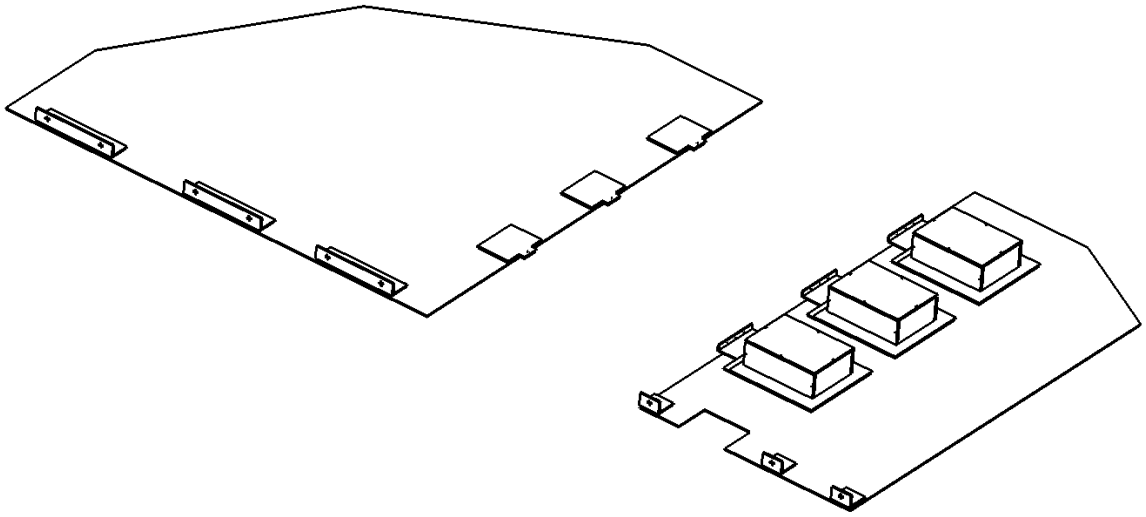

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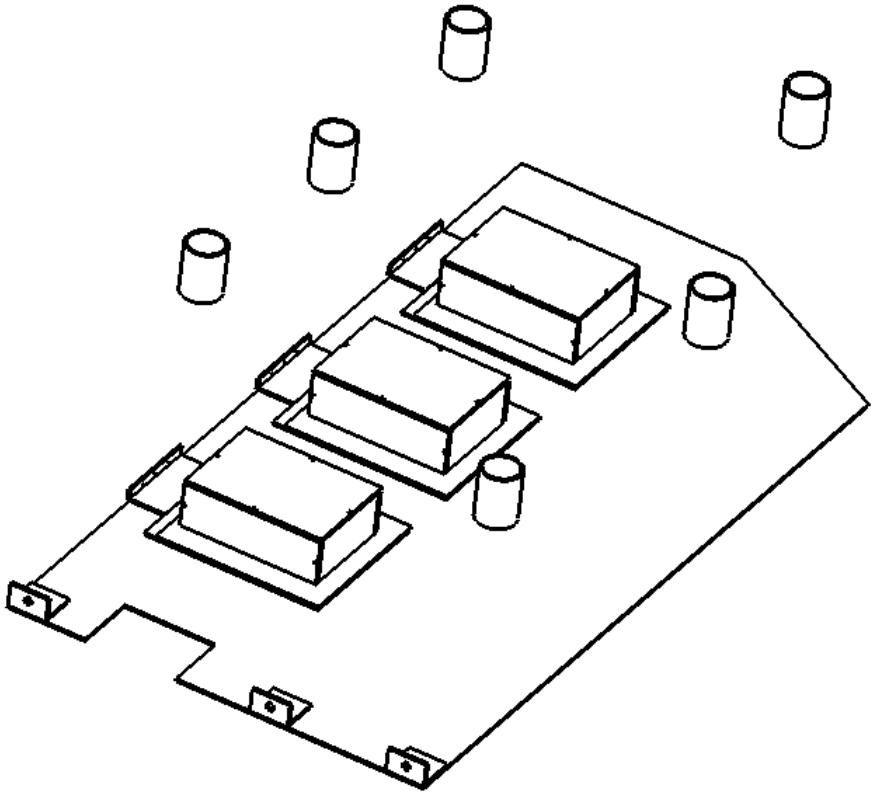

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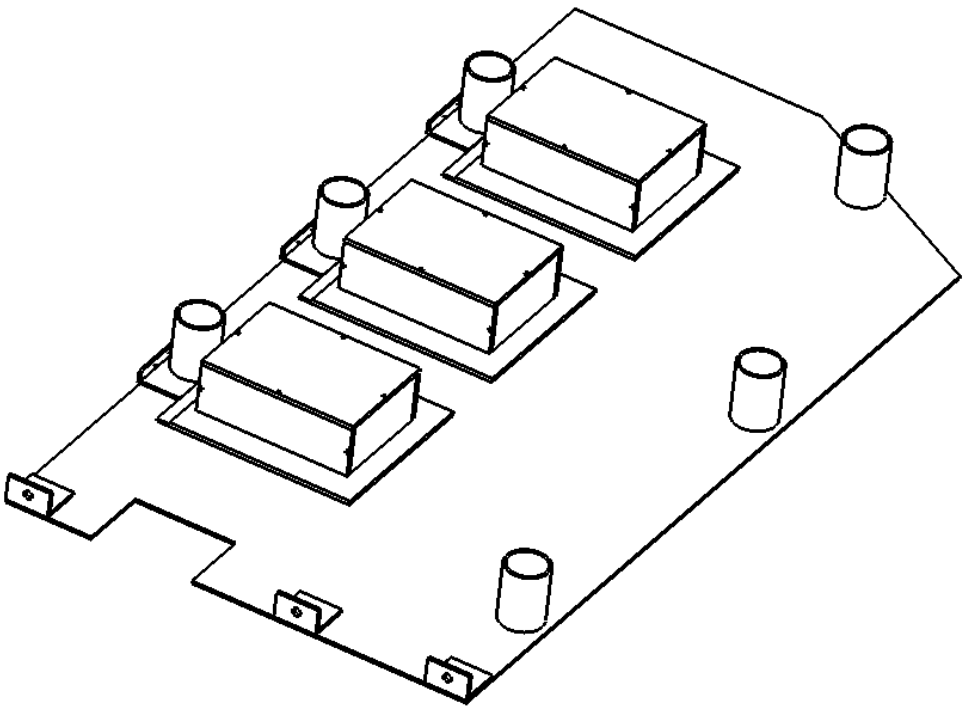

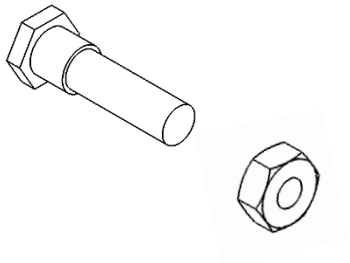

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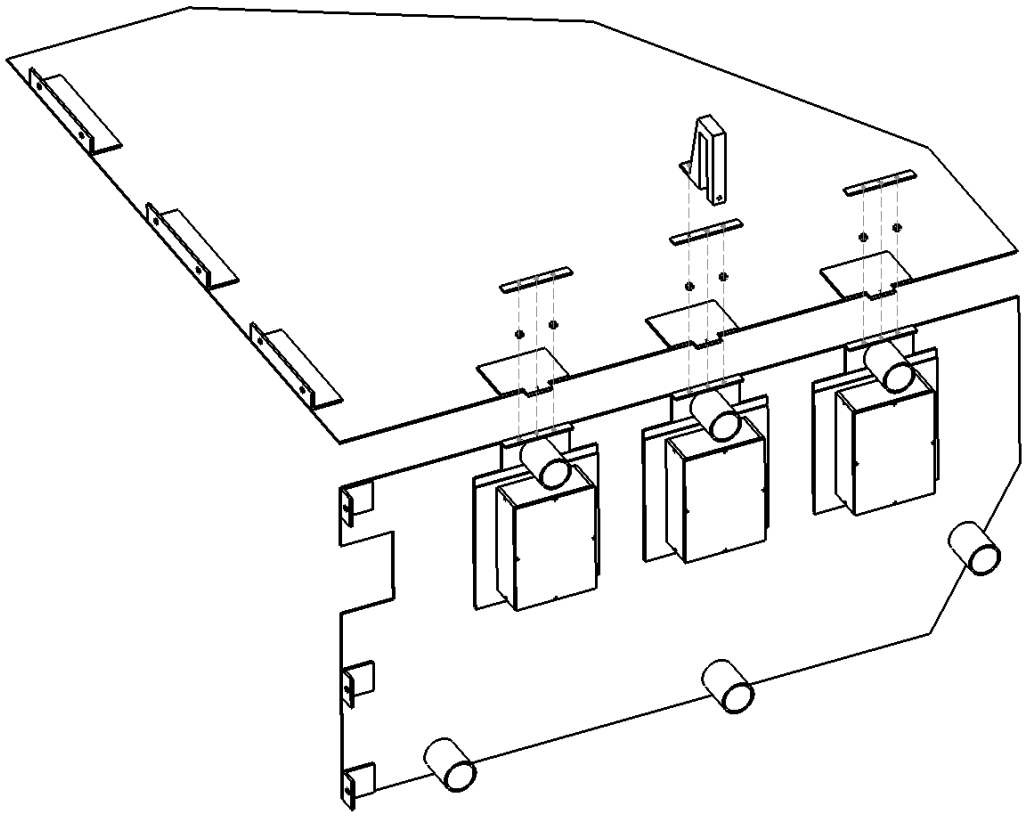

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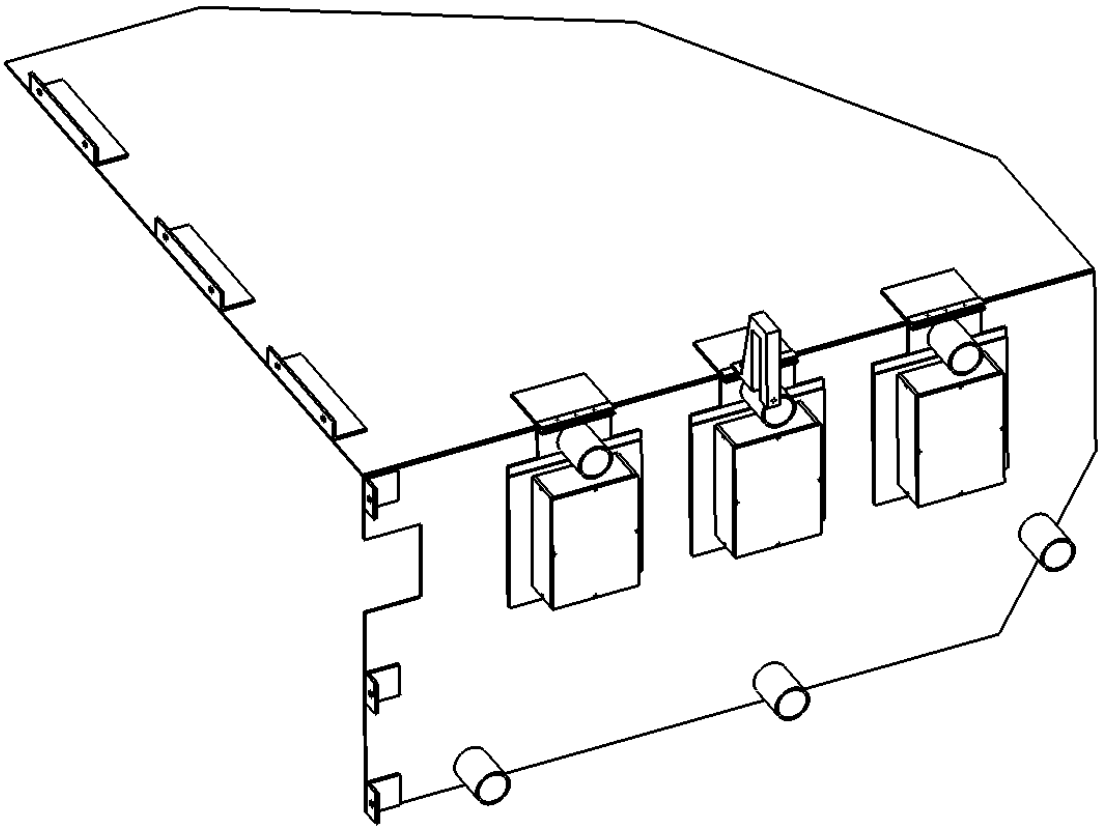

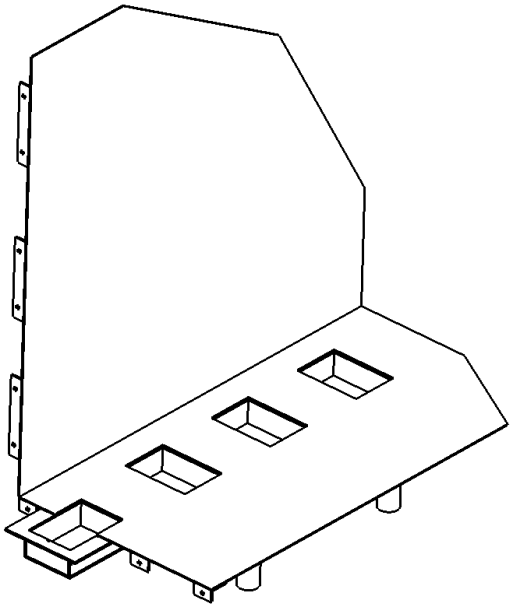

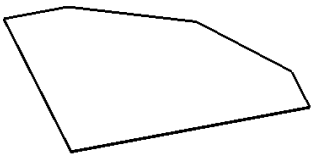
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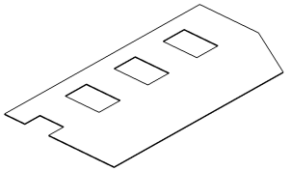
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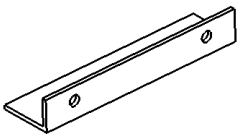
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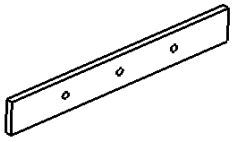
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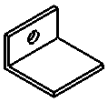
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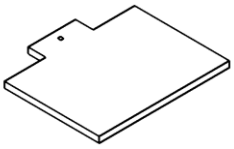
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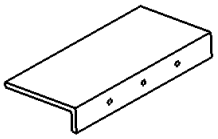
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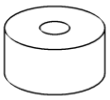
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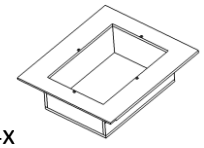
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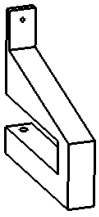
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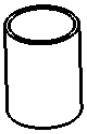
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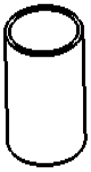
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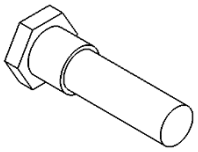
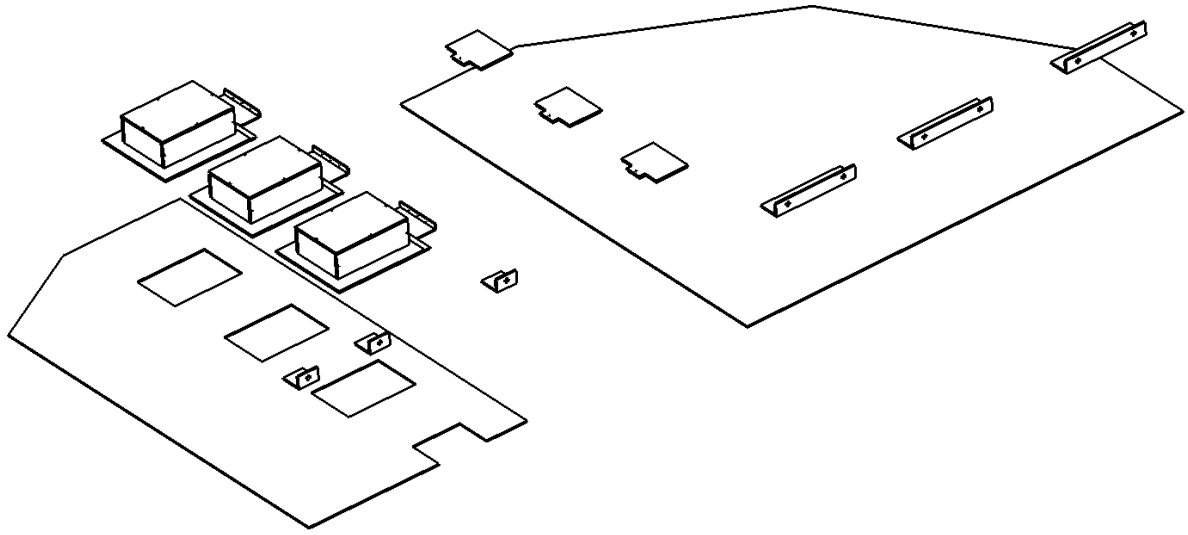

10x (M6)


9x (M6)

8a.



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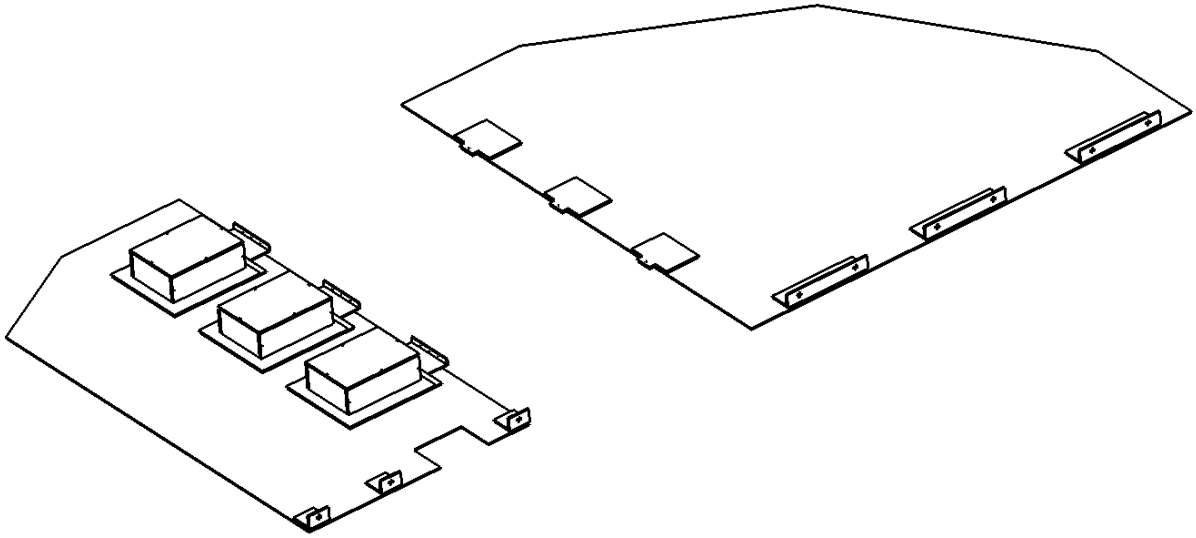

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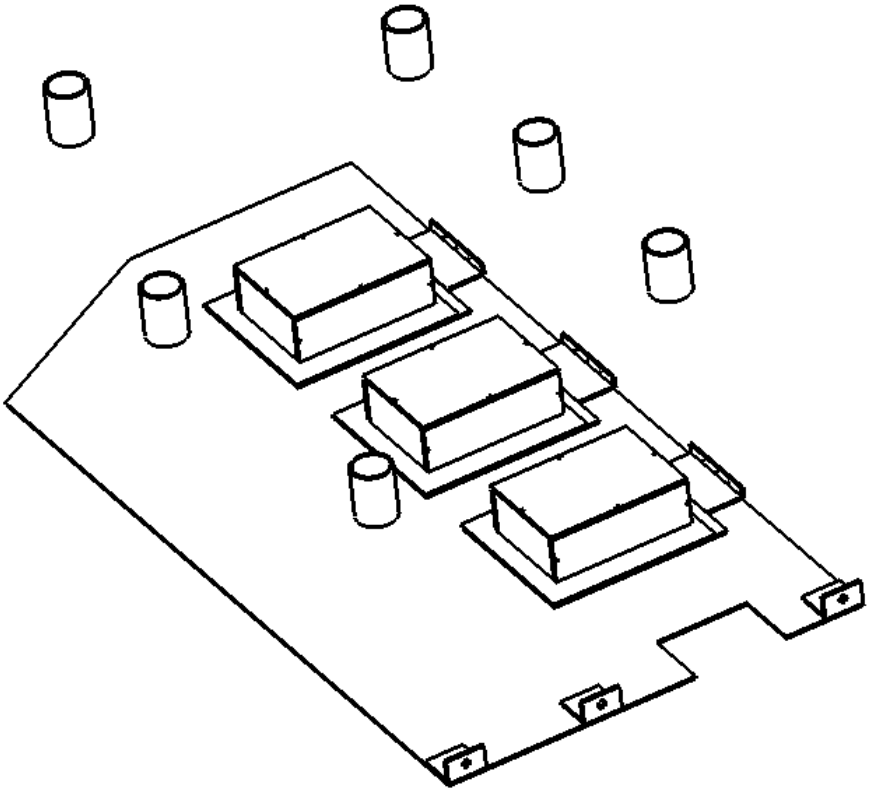
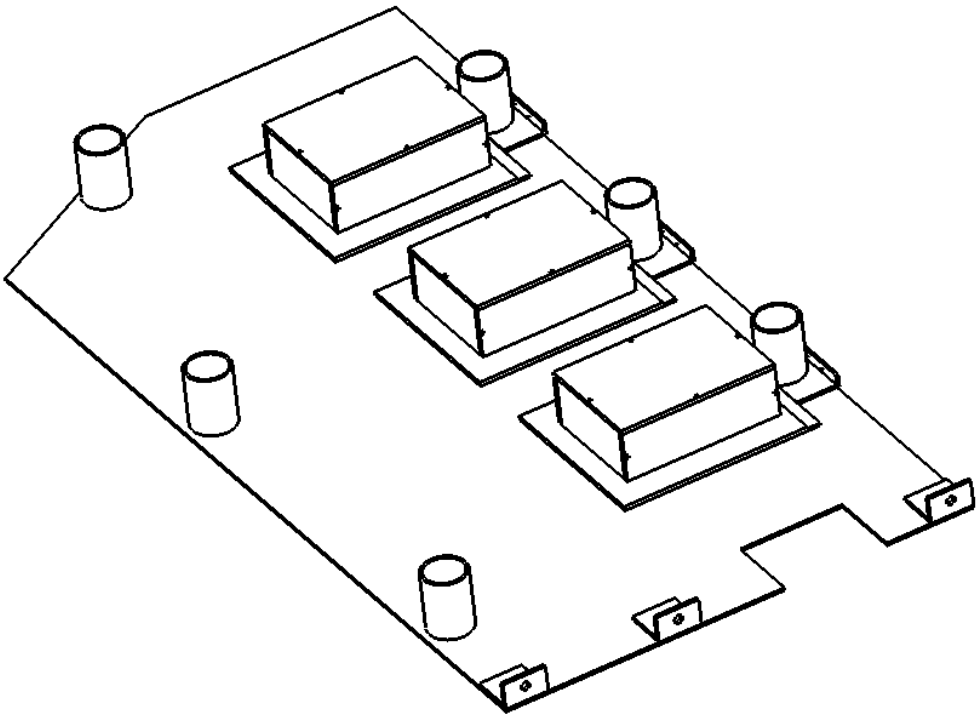


9b.



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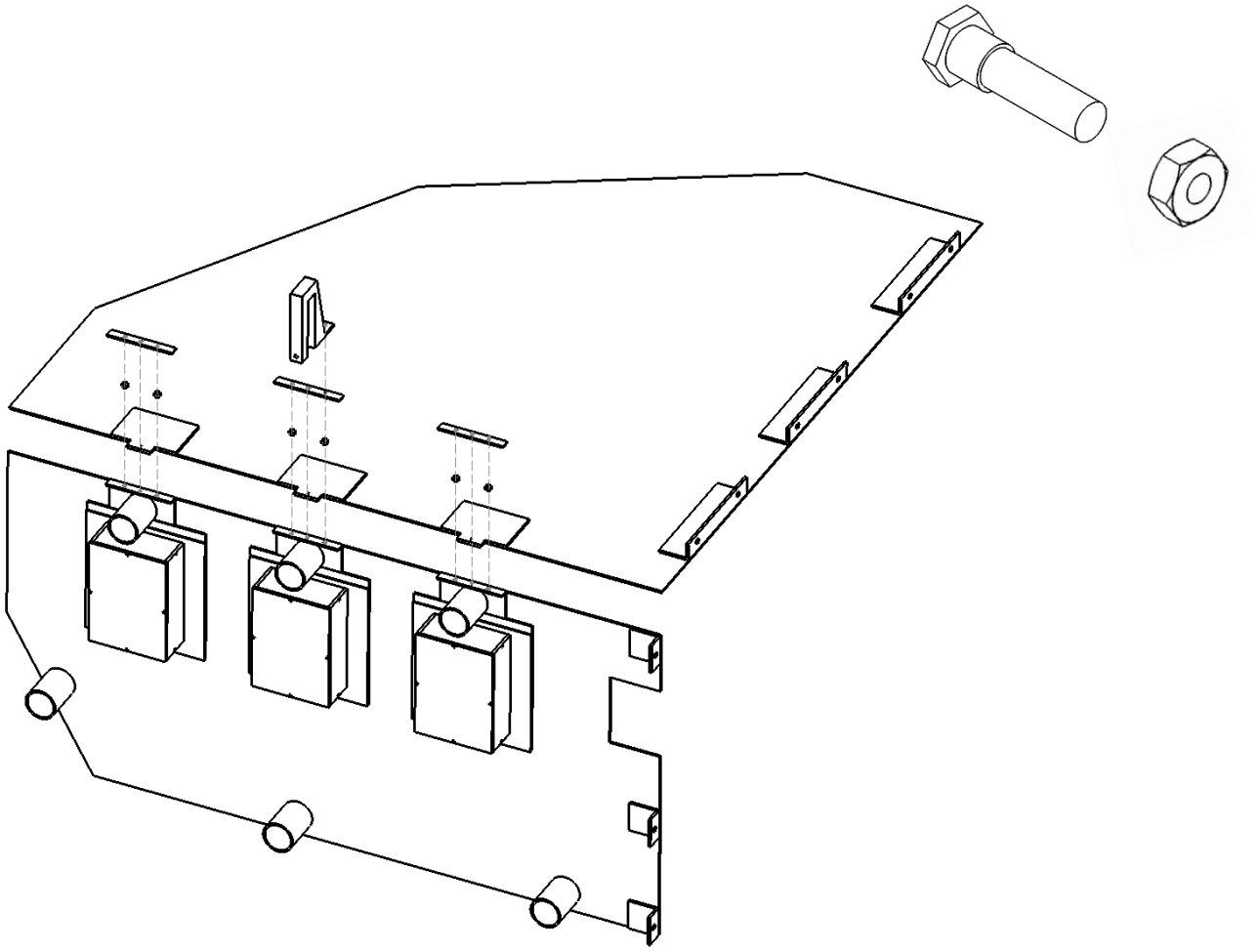

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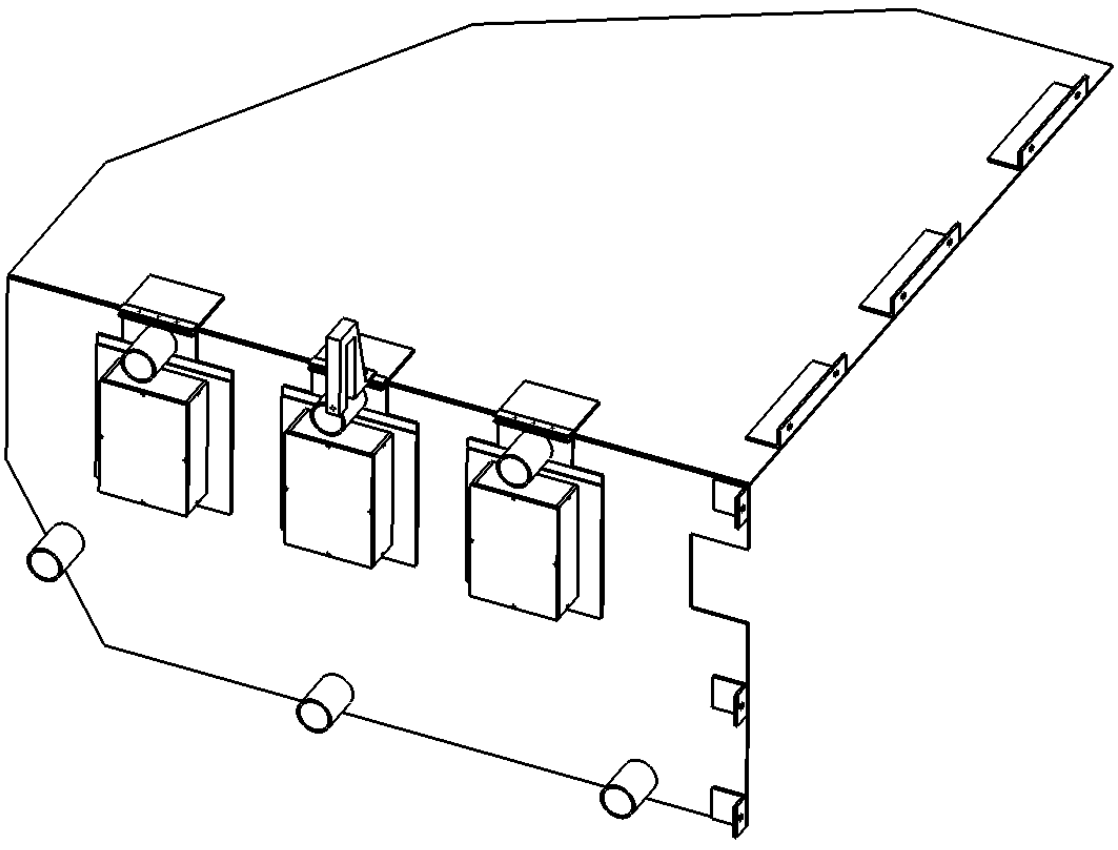
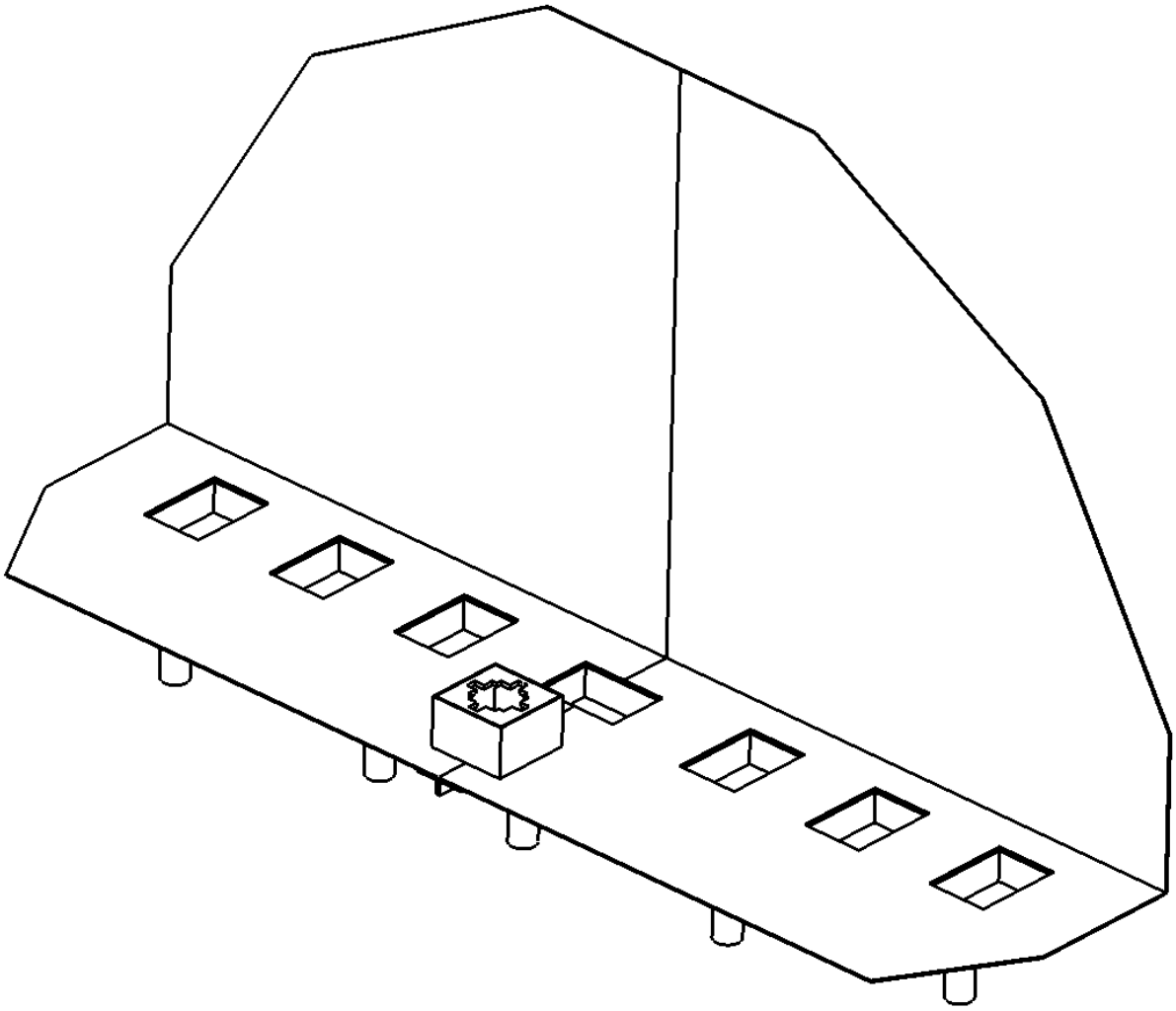
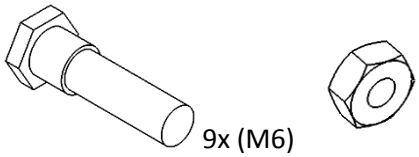
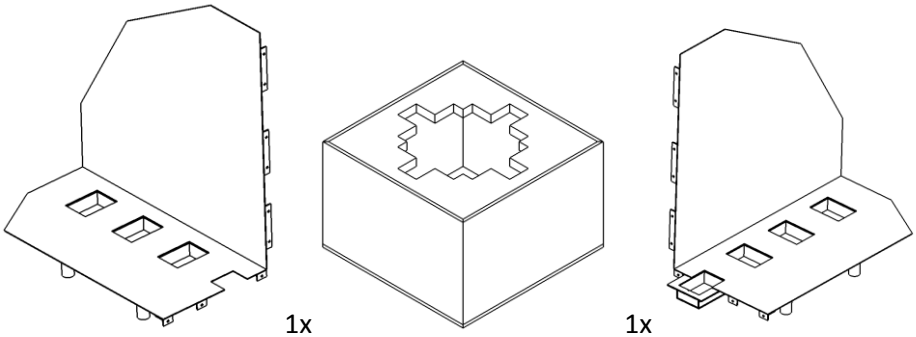


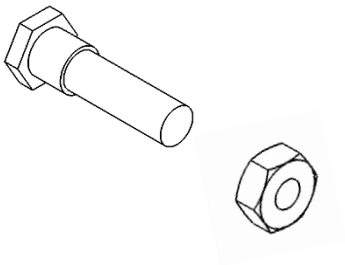




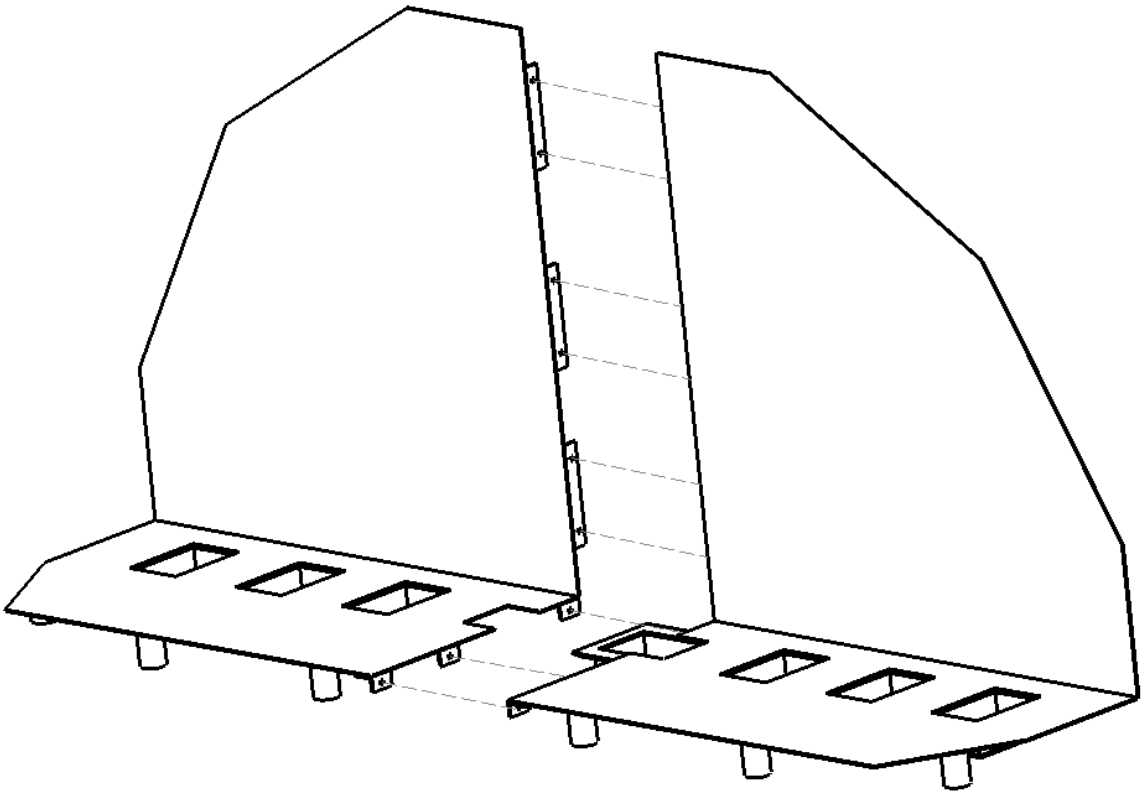
9x (M6) 9x (M6)



1x 1x 1x



11a.



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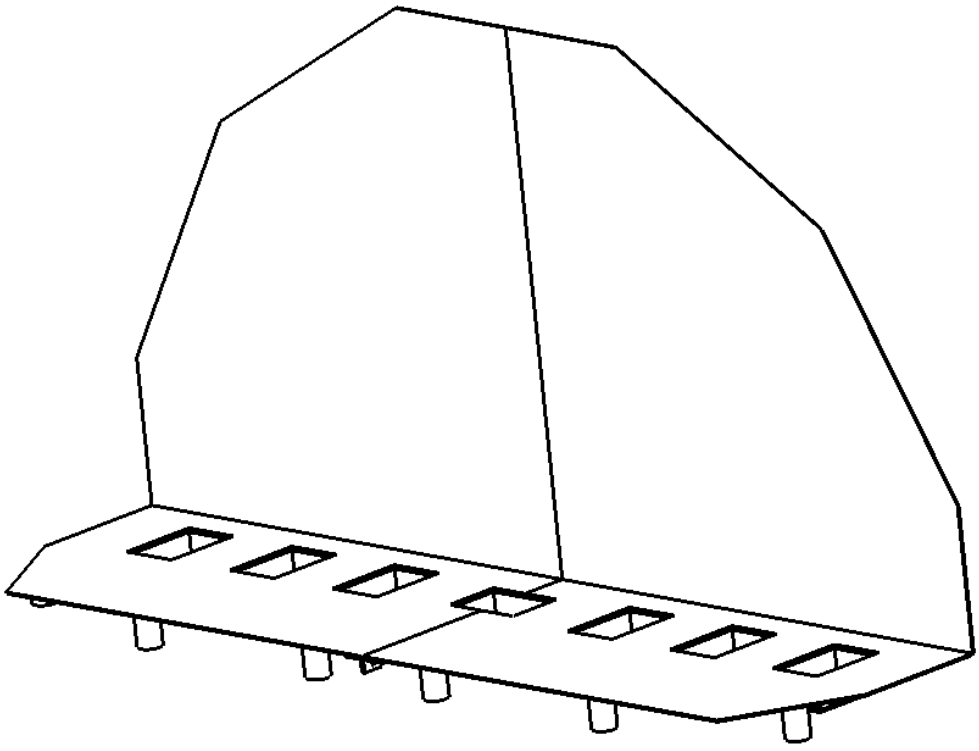

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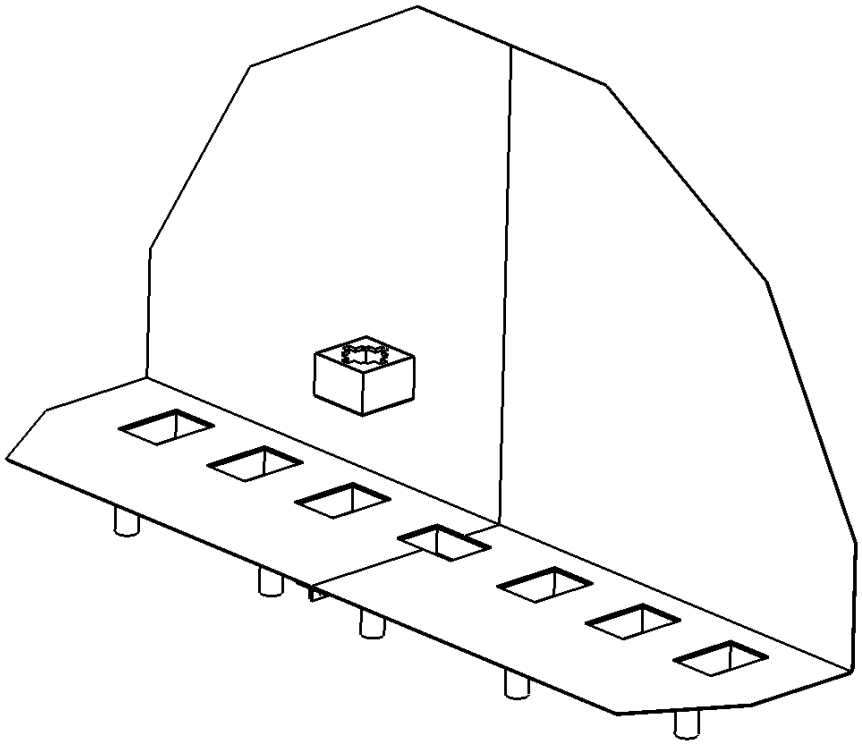

12b.