

Scratchbuilt Mech
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SCRATCH BUILT MECH



The piloted walking vehicles sometimes known as mechs or mecha are common in many science fiction universes, going back to the 19th century where they appeared in stories such as The War of the Worlds by H. G. Wells.

This document provides templates and instructions for making the basic core of a single pilot mech along with hints for adding details that is suitable for use in 25/28mm scale wargames.

Parts List:

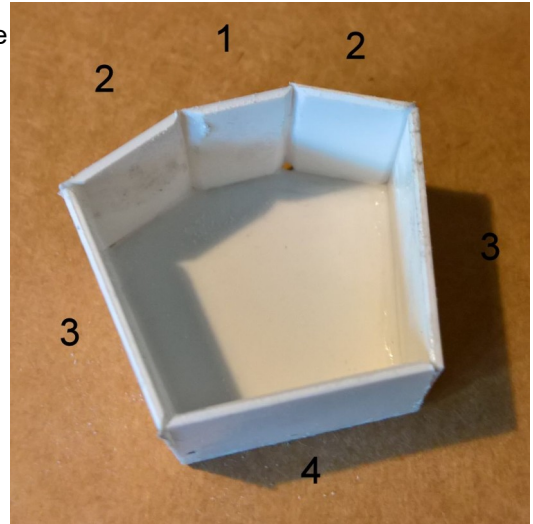
1mm thick plasticard. One sheet roughly 330x220mm will provide enough for the core.

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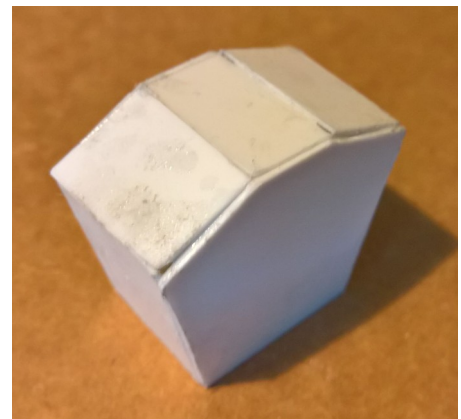
Core Block Construction.

Torso.

Taking one of the torso front/rear pieces the spacer pieces 1-4 are glued around the edges as shown. Two each of pieces 2 and 3 are needed for this. Because of the angles these meet at the ends of the spacer pieces will need sanding.



Once all the spacer pieces are in place the second front/rear piece can be fitted to seal the torso.



Engine Block.

The engine block needs one rear piece, two short sides and two long sides.

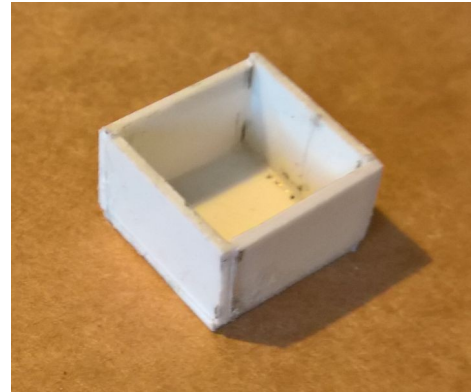
The long sides are glued along the longer edges of the rear piece and the short sides glued between these at each end.



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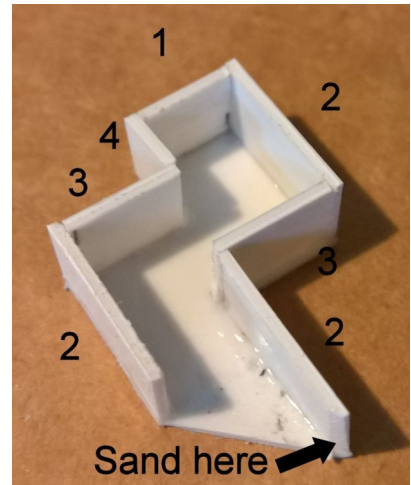
Waist.

The waist assembly requires one waist base and four waist sides glued around the edges. Using 1mm thick plasticard these overlap to fit around the edge without sanding.



Legs.

To assemble each leg take one of the leg side pieces and glue the spacer pieces 1-4 around the edge as shown. Two of piece 3 and three of piece 2 are needed. Although using 1mm thick plasticard the spacer pieces will fit around the edge without sanding, the indicated spacer 2 piece will need sanding at one end so that the leg can later be glued to a foot.



The second leg side is then glued over the spacers.

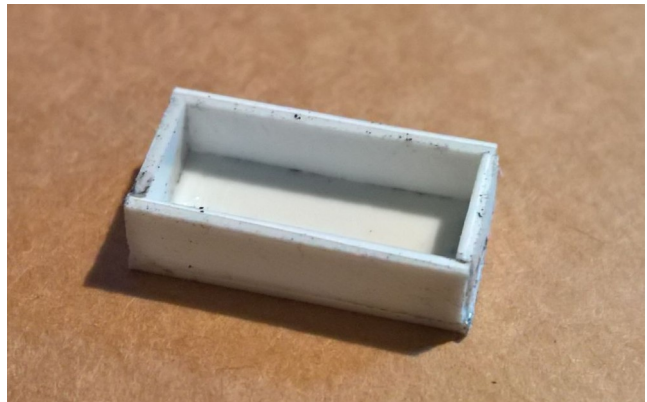


Repeat the process for the second leg.

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Feet.

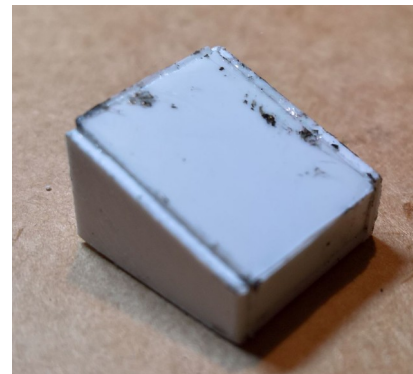
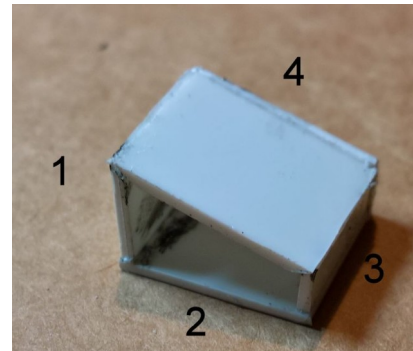
Each foot needs one foot top, two foot sides and two foot front/rear pieces. The sides are glued along the long edges of the foot top before the front/back pieces are glued between them.
Note that the image of an assembled foot shows it upside down. The foot will be solid on top and hollow underneath.



Repeat for the second foot.

Shoulders.

Each shoulder has two front/rear pieces and spacers 1-4. The spacers are glued around the edge of one of the front/rear pieces as shown before the second front/rear piece is used to close the open end. Spacers 1, 3 and 4 will require sanding to fit.



Repeat for the second shoulder.

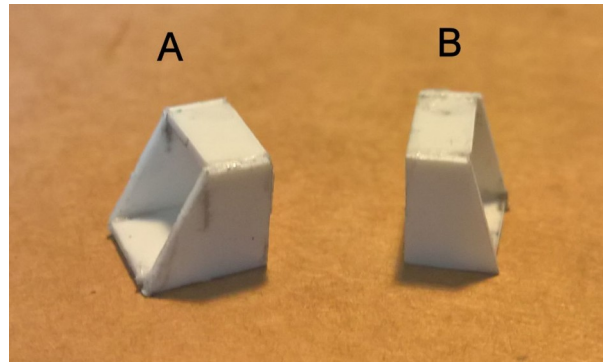
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Shoulder Joints.

Shoulder joints consist of two front/rear pieces, a short spacer and a long spacer. The short spacer is always the same size but two different front/rear piece and long spacer designs are provided. Version A uses a longer long spacer than version B and will angle the arm further from the torso.

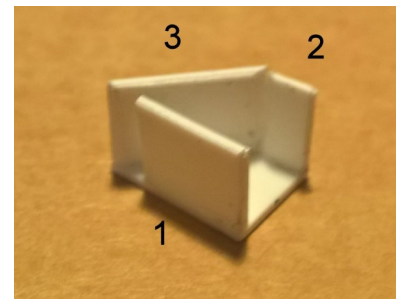
The short spacer is glued to the shortest edge of a front/rear piece while the longer spacer is glued to the opposite edge. The longer spacers should be sanded slightly to prevent it protruding past the sloping end of the front/rear pieces.

Two shoulder joints are required and these can both be of the same version, A or B, or one of each.

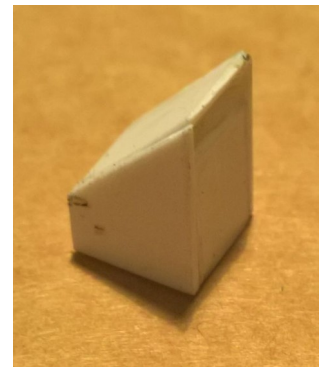


Upper Arms.

Upper arms require two side pieces and spacers 1-3. As with the torso spaces and long shoulder spacer, spacer 3 will require sanding at the ends to fit properly. All three spacers are glued to the edge of one side piece as shown. Note the gaps that are left when these are glued in place.



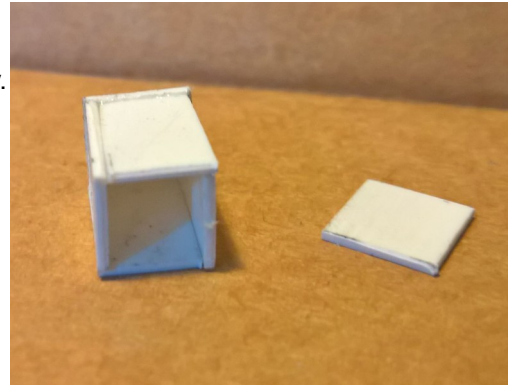
The other side piece is then glued over the spacers.



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Lower Arms.

The lower arms each need two end pieces and four side pieces.
The side pieces are glued around the edge of an end piece, fitting together in the same way as the side pieces for the waist assembly.



The second end piece is then glued over the open end.



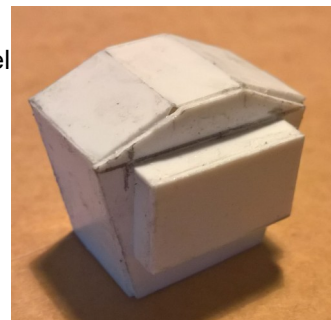
Repeat for the second arm.

This completes the construction of each core block of the mech and they can now be assembled.

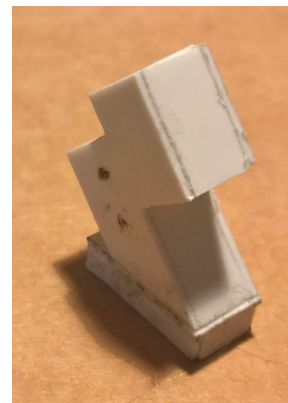
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Assembly.

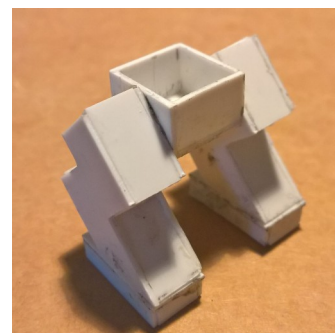
The engine block is glued to the torso (to what will from this point be termed the back). The top of the engine block (one of the longer sides) should be level with the widest point of the torso.



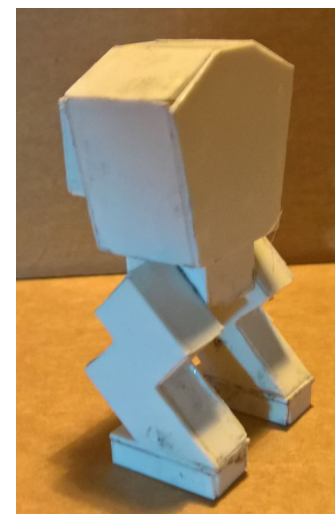
Each leg is glued to the top of a foot. The sanded end of the spacer should be against one end of the foot (this is the front of the foot).



Both legs are glued to opposite sides of the waist. The top corner of each leg should be located half way along the side and level with the open top of the waist section.

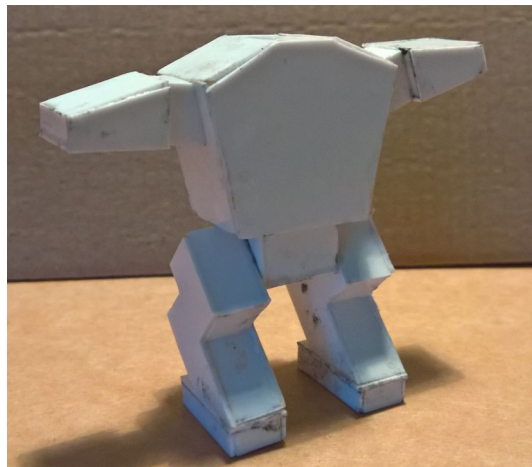


The waist and legs are then glued to the torso, located centrally.

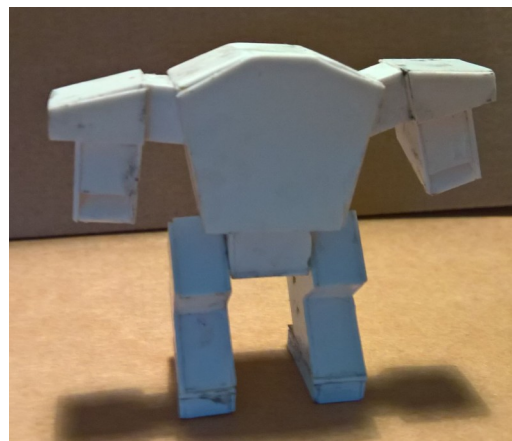


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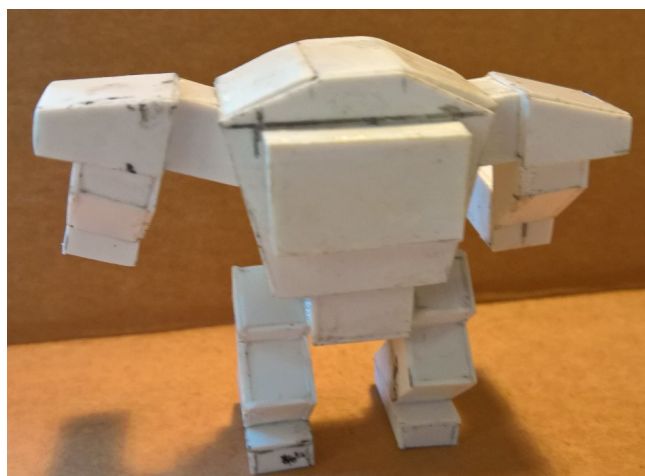
Shoulder joints are glued to the torso with the short spacer meeting the torso at its widest point by the sloping end. These should be positioned centrally before the shoulders themselves are glued over the open ends of the shoulder joints as shown.



The upper arms are glued under the shoulders centrally by their open ends so that the open slot faces forwards.



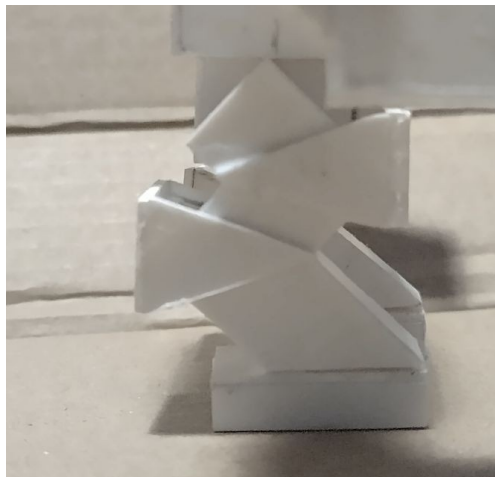
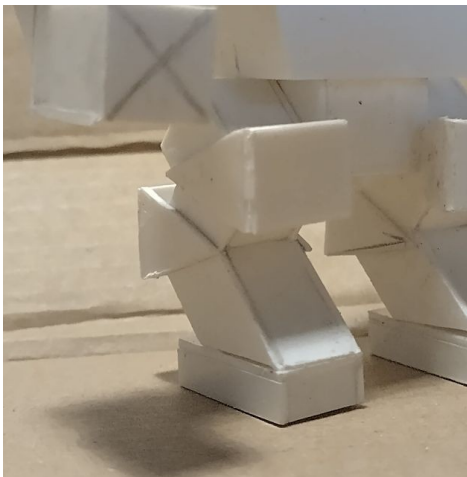
The core is then completed by gluing the lower arms to the upper arms so that the open slot is covered to leave a 9mm gap between the top of the lower arm and the bottom of the shoulder. This finishes the construction of the basic core covered in this document.



Detailing.

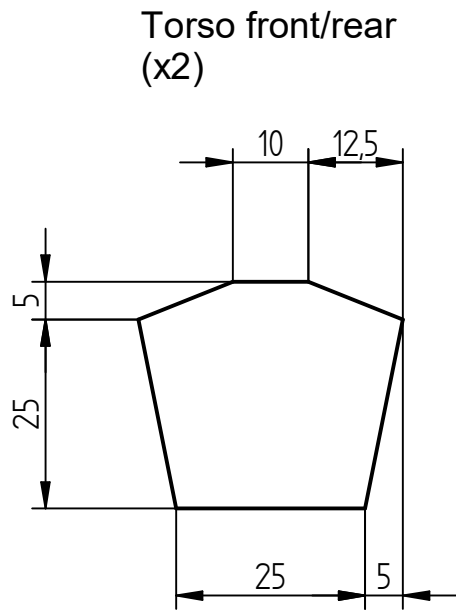
With the core complete the model can be detailed. Examples of this include:

1. Plasticard can be used to make a cockpit. This could be largely armoured with a narrow vision slit or largely transparent, using thin plasticard strips to create the frame.
2. Thin wire can create antennas.
3. Hands or claws could be created and mounted on the ends of the arms if the mech is intended to engage in melee combat or handle large objects.
4. Weapons can be made from plastic tubing. This could be large calibre cannons or smaller calibre multi-barrelled weapons. Alternatively box shaped missile launchers could be made from plasticard using small squares of thin plasticard to represent missile doors. Alternatively spare model parts could be used for weapons. Narrow strips of ribbon cable can make belts of ammunition.
5. Leg and arm joints can be given a reinforced appearance (these would be weak points on such a vehicle) by building protruding armour plates over them.

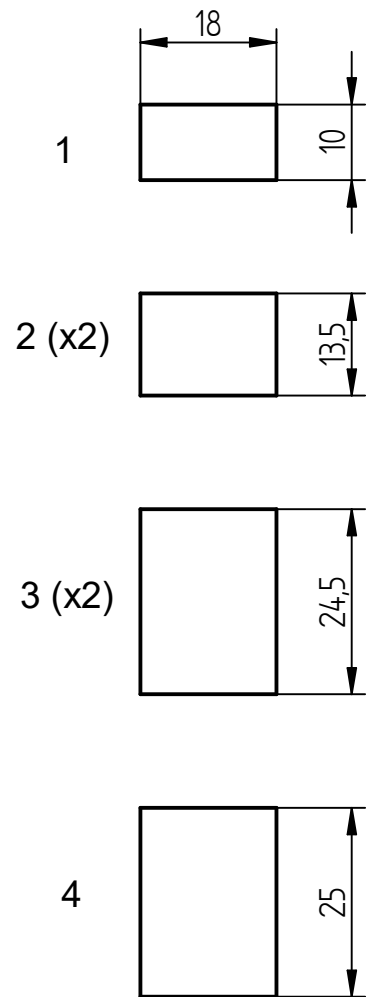


Here are examples of fully detailed mechs ready to be painted. The front cover photograph shows them once painted.

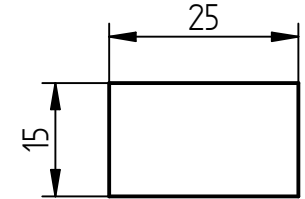




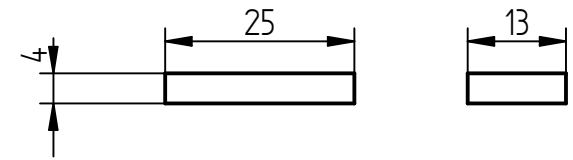
Torso spacers



Engine block rear

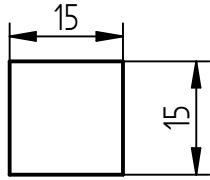


Engine block sides (x2 each)

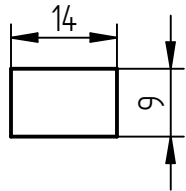


All dimensions in millimetres
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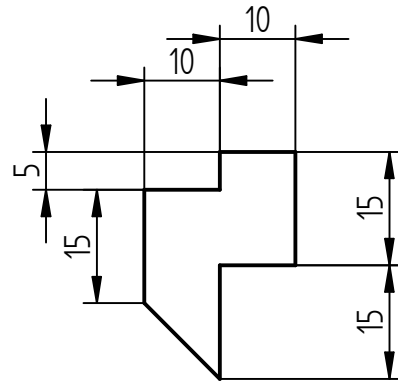
Waist base



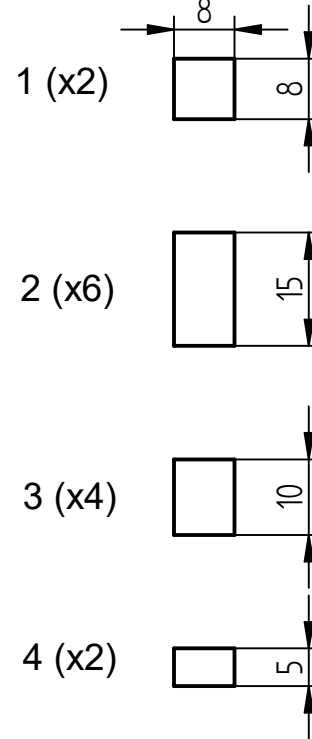
Waist sides (x4)



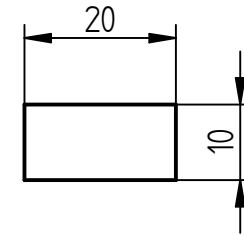
Leg side (x4)



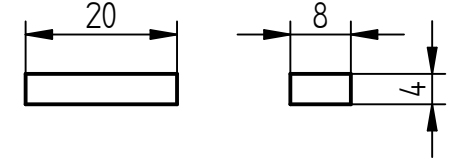
Leg spacers



Foot top (x2)



Foot sides (x4 each)



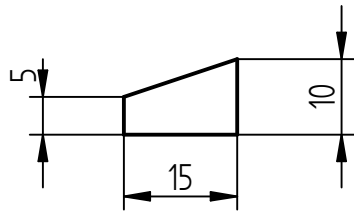
All dimensions in millimetres

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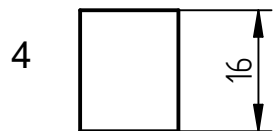
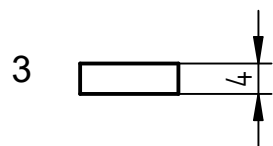
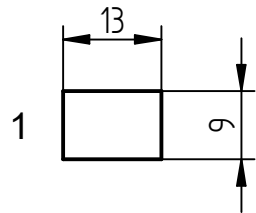
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Shoulder front/rear (x4)

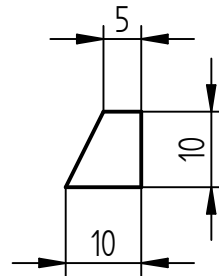


Shoulder spacers (x2 each)

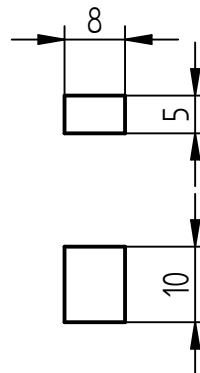


Shoulder joint 'A'

Front/rear (x2)

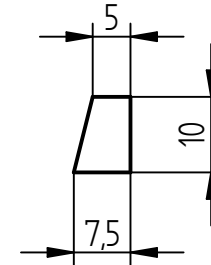


Shoulder joint spacers

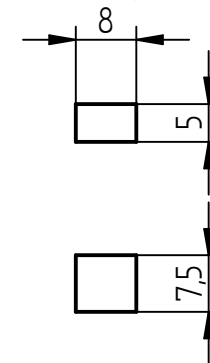


Shoulder joint 'B'

Front/rear (x2)



Shoulder joint spacers



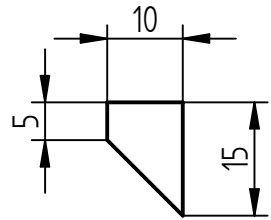
All dimensions in millimetres

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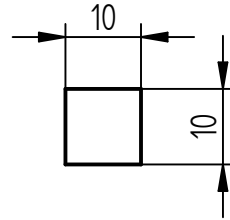
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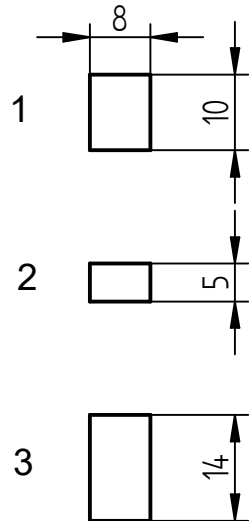
Upper arm sides (x4)



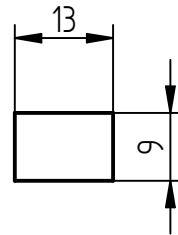
Lower arm end (x4)



Upper arm spacers (x2 each)



Lower arm side (x8)



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