

Wing Jig

Construction Instructions

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Introduction

The EBMA Wing Jig is produced in a combination of 3mm and 6mm MDF. As such normal DIY woodwork procedures can be applied to them. The parts are cut by a laser cutter which results in smoke marks on the surface of the wood. One side of the wood will have slight marks and the other will be more pronounced. Some parts are symmetrical and you are therefore able to choose the visual effect you wish. For asymmetrical parts if you wish to remove the smoke marks then fine sandpaper may be used (use a sanding block, not just the paper on its own).

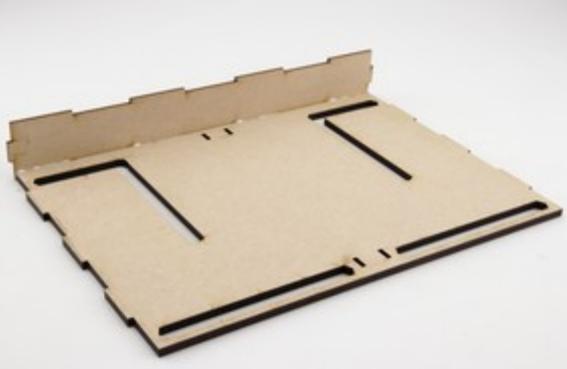
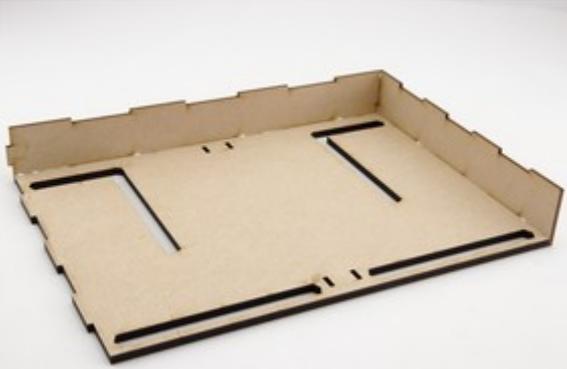
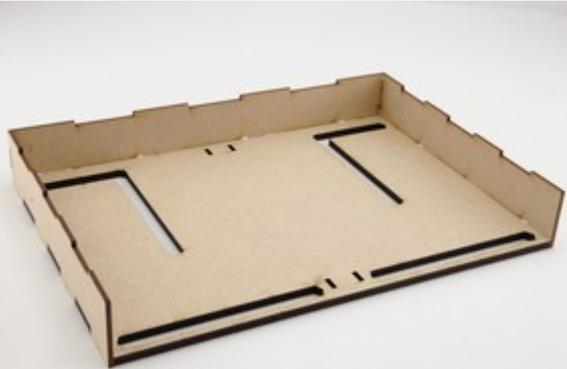
Where glue is required during assembly a good quality wood glue (PVA) should be used. When wiping the excess away wherever possible wipe it towards the burnt edge as this marks less.

Dry fitting components prior to gluing is highly recommended, i.e. compulsory! You should also use an engineers' square during construction to ensure that everything goes together absolutely square.

Whilst parts are drying it can be handy to hold them in place with masking tape. This can be used to help keep gaps closed.

Construction

Shell

<p>1. Place the 6mm thick piece with the burnt side downwards. Glue the rear to this ensuring that it is at right angles. The rear is the longer piece with tabs on all four edges.</p>	
<p>2. Glue right hand side on.</p>	
<p>3. Glue the left hand side on.</p>	
<p>4. Glue the base on. The base has tabs on three edges and one straight edge.</p>	

5. Turn the unit over and glue the top on. Use the bolt heads to align the holes. The shell is now complete, place it to one side and allow it to dry.



Drawer

1. Glue the rear onto the base.



2. Glue the two sides on. Remove any excess glue to ensure that the drawer will run smoothly.

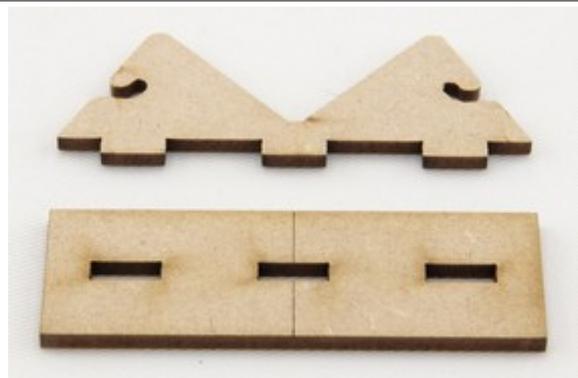


3. Glue the front on. Make sure it is a good joint as you'll be pulling the full weight of the drawer with this. The drawer is complete, but don't put it in the shell until everything is dry.

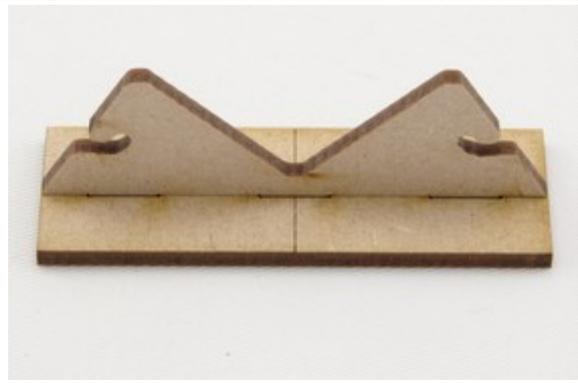


V-Shaped Fuselage Supports

1. There are two pairs of V-shaped fuselage supports. They do not have to be used in pairs and can be mixed or used singularly as the shape of your aircraft requires.



2. Ensure that the base has the centre line facing upwards and glue the support in place.



Vertical Fuselage Supports

1. There are two of these supports that are intended to work together to keep the fuselage vertical and aligned with the centreline of the jig.



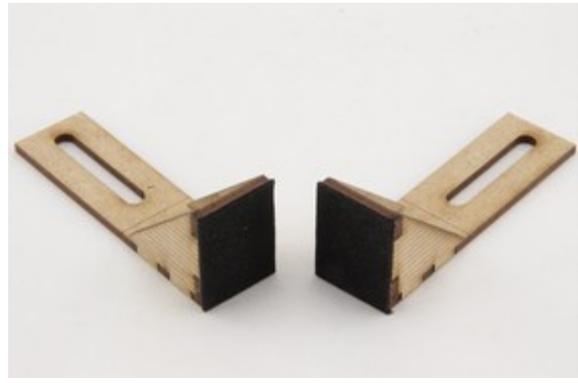
2. Ensure that the centre-line on the base is facing upwards and glue the two diagonal supports to this. The horizontal guides should face to the outside of the support as shown.



3. Glue the front face on and allow to dry before moving to step 4.

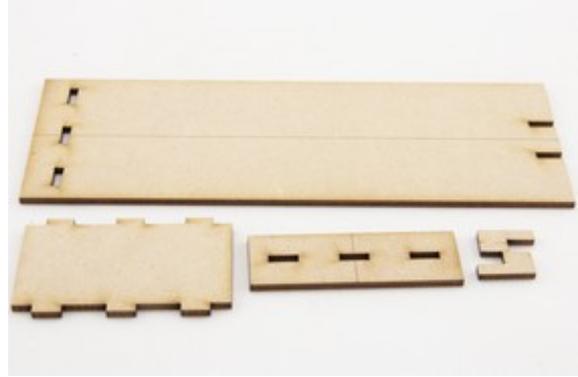


4. Cut the more square neoprene in half and stick each half to a support. On a cutting surface place the neoprene face down and using a sharp knife use the support as a guide to cut away the excess neoprene.



Long Fuselage Support

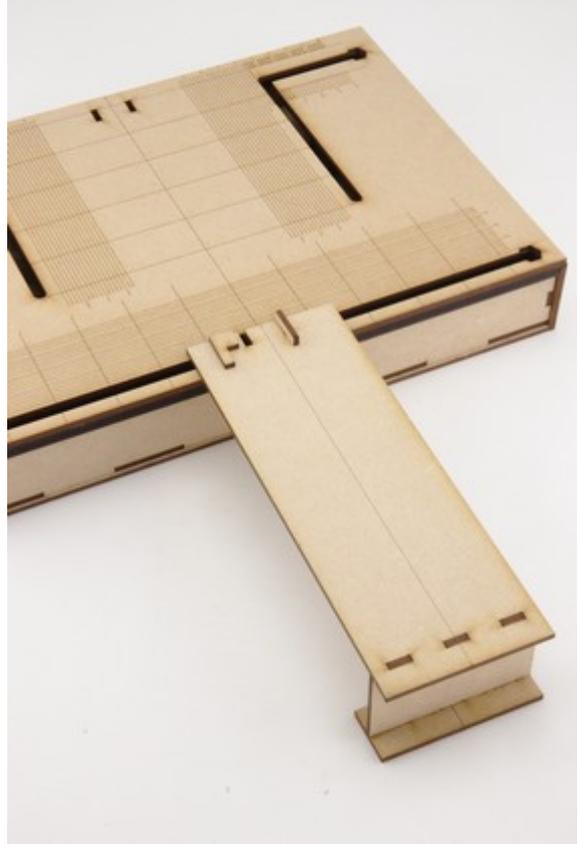
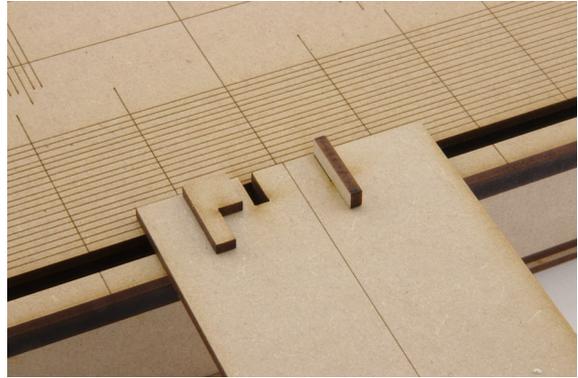
1. The long fuselage support is an extension to the base unit. It may be fitted to the front or rear of the unit to cater for larger aircraft.



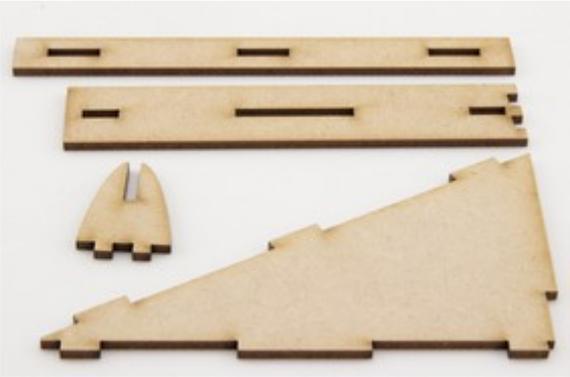
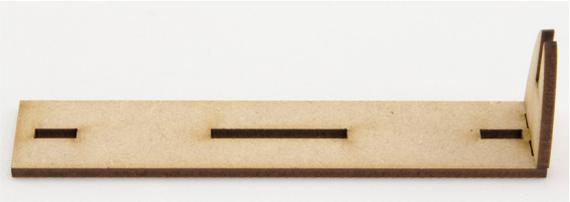
2. Ensure that the centre-line on the base is upwards and glue the support to it. **Do not** glue this to the longer piece or you won't be able to pack it away.



- Using the support from step 2 and the base unit glue the two tab locators to the long piece. The centre line on the long piece should face upwards.
A small amount of glue between the top surface of the long piece and the tabs is all that is required.
Do not glue the long piece or the tabs to the base unit or the support from 2.



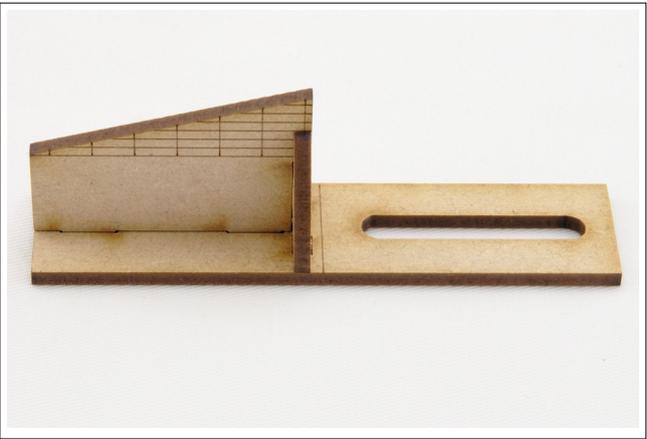
Main Plane Supports

<p>1. There are two large supports intended to aid the orientation of the main wings, i.e. to stop them rotating about their axis.</p>	
<p>2. Glue the curved support to the base.</p>	
<p>3. Glue the vertical into place.</p>	
<p>4. For the diagonal support piece the longer strip of neoprene needs to be cut in half (lengthways) and then applied to the support. Using a sharp knife and the support as a guide remove the excess neoprene. Then glue the support to the vertical.</p>	

Wing Setting Guides

<p>1. The wing jig comes with five pairs of supports to set the angle of the wings or stabilisers. The pair to use will depend upon the geometry of the aircraft. Each support consists of a base, curved support and graduated vertical support. It should be noted that there are three sizes of curved support. Match the curved piece to the size of the graduated support ensuring that the curved piece does not rise above the graduated one.</p>	
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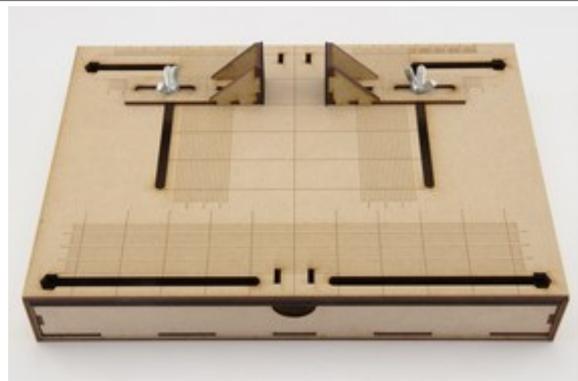
2. Ensure that the line on the base is facing upwards. Glue the curved support to the base and then the graduated support to both the curved and base pieces.



Using the Jig

Holding the Fuselage

1. It is important that the fuselage is held centrally and vertically on the wing jig. To aid this there is a centre line cut down the middle of the jig. The two vertical supports should be used along with the calibrations front to back on the jig to help hold the fuselage vertically.



2. Align the aircraft fuselage along the centre line of the jig.
3. Slide the vertical supports in so that they hold the model vertically. Use the graduated markings on the jig to ensure that the supports are symmetrical about the centre line. Use the left to right lines to ensure that the supports are perpendicular to the centre line.



4. For larger models use the extension piece and one or more of the V supports. The extension piece can move from side to side so care will need to be taken that the centre line is correctly aligned. Elastic bands can be used around the hooks of the supports to aid holding a fuselage in place.



5. Here the fuselage for a 1:72 Revel Viking BV222 has been setup using the vertical supports and one of the large V supports on the extension piece.



Setting the Horizontal Stabilisers

1. With the fuselage held centrally and vertically on the jig select the pair of Wing Setting Guides that will support the tail plane best. This largely dependent upon the height of the stabilisers above the jig.
2. Using a combination of the base marker on the setting guides with the graduation marks on the jig and also the graduation marks on the setting guides set the angle of the stabilisers.



For larger models it may be necessary to utilise the main plane section of the jig in order to set the horizontal stabilisers.

Setting the Main Plane

1. With the fuselage held centrally and vertically on the jig select the pair of Wing Setting Guides that will support the wings best. This largely dependent upon the height of the wings above the jig.
2. Set one wing to approximately the correct angle and then use the Main Plane Supports to hold the wing at the correct rotation to get a good joint with the fuselage.
3. Set the second wing approximately the same and check that the fuselage is still correctly aligned.
4. Adjust the wing supports using the graduation markings on the supports and the base to help get both sides the same.

