

# Model Support System

Construction Instructions

[www.ebmahobby.co.uk](http://www.ebmahobby.co.uk)



## Introduction

The EBMA Model Support System is produced from 3mm 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).

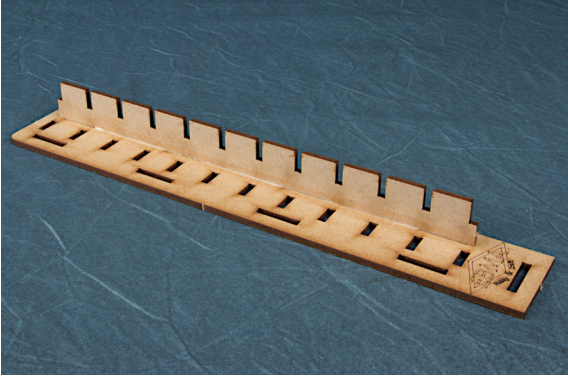
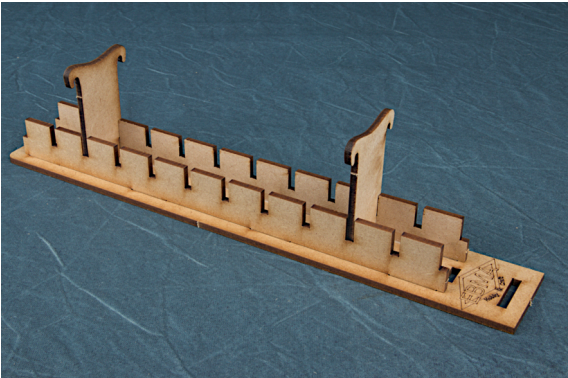
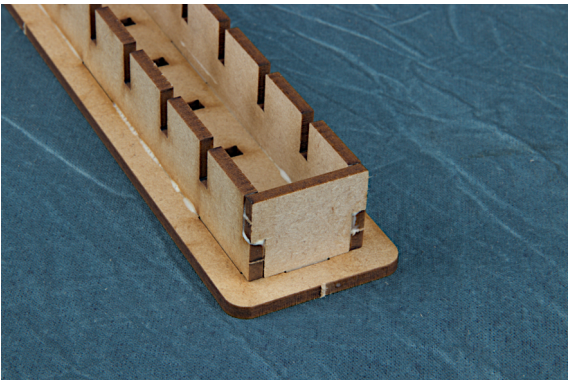
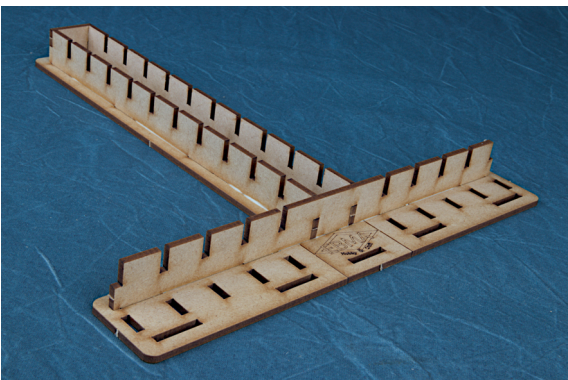
Where glue is required during assembly a good quality wood glue (PVA) should be used. When wiping the excess away wherever possible wipe it towards the burnt edge as this marks less.

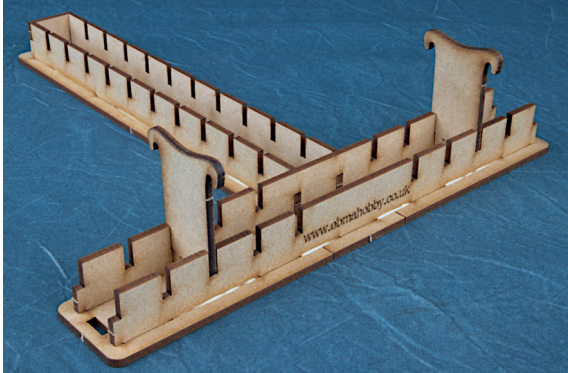
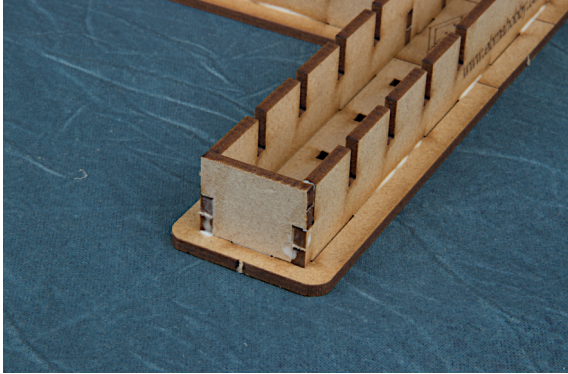
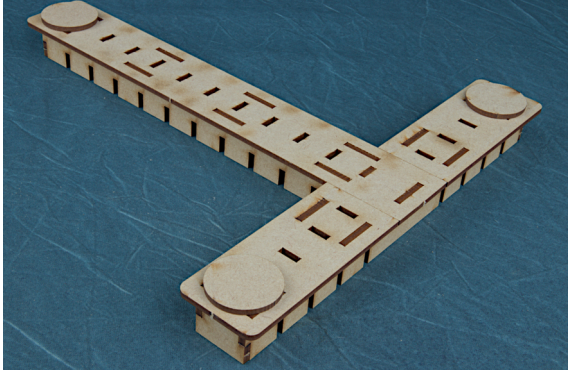
Dry fitting components prior to gluing is highly recommended, i.e. compulsory!

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.


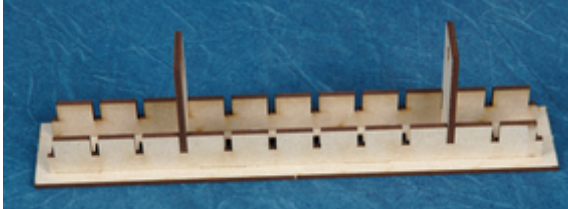
## Base Unit

The base unit is the foundation of the support system.

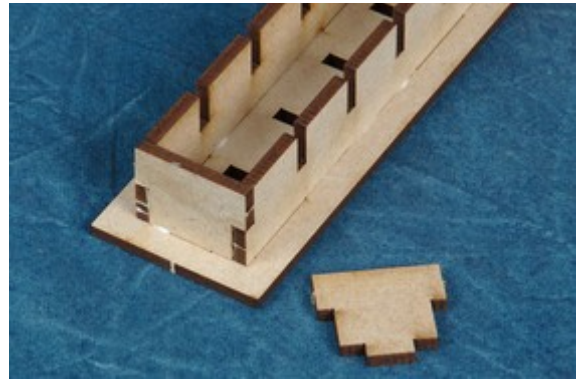
<p>1. Glue one side to the base wiping away any excess glue on the inside.</p>	
<p>2. Glue the second side on and again remove any excess glue. Use two supports to ensure that the sides are vertical, but make sure they don't get glued in. The supports should be a loose fit, i.e. don't tilt the sides inwards.</p>	
<p>3. Glue the end piece in.</p>	
<p>4. Locate the two short base pieces either side of the logo. Glue the first T piece side over the two sides and into the two short bases. Wipe away any excess glue.</p>	

<p>5. Glue the second T piece side in and wipe away any excess glue. Use two supports to ensure that the sides are vertical, but make sure they don't get glued in. The supports should be a loose fit, i.e. don't tilt the sides inwards.</p>	
<p>6. Glue the two ends.</p>	
<p>7. Turn the base over and glue on the three circular feet.</p>	

## Base Extension

<p>1. Glue one side to the base wiping away any excess glue on the inside.</p>	
<p>2. Glue the second side on and again remove any excess glue. Use two of the fuselage supports to ensure that the sides are vertical, but make sure they don't get glued in.</p>	

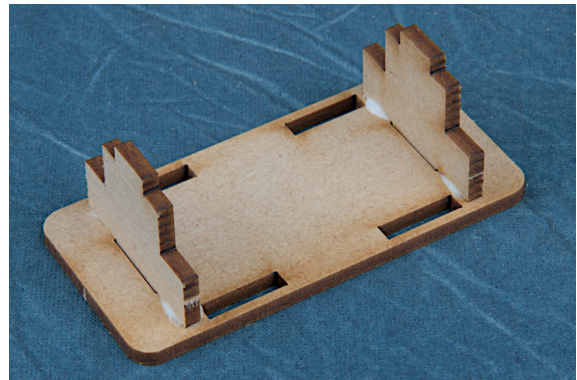
3. Glue the ends in.  
**NB.** If the extension is to be used for the wing support of the tilted fuselage then you may wish to leave one end out. This will enable the wing support to be placed closer to the main base and tilt the aeroplane closer to the vertical. This is particularly useful for smaller models.



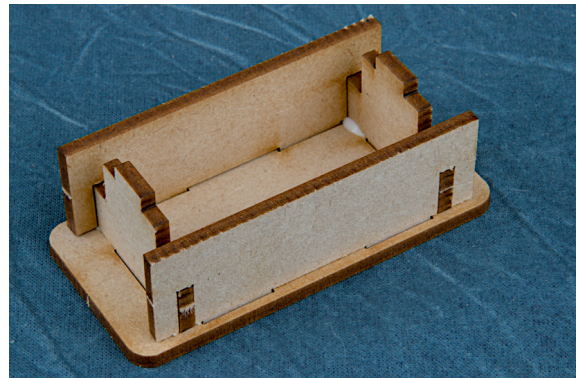
## Base Connector

The base connector can be used to connect extensions to the base unit or to connect two base units together. It can also be used with older Aircraft Paint Stand bases and Tilted Fuselage Stand bases.

1. Place the connector horizontal piece onto its back.
2. Glue the two T pieces into place.



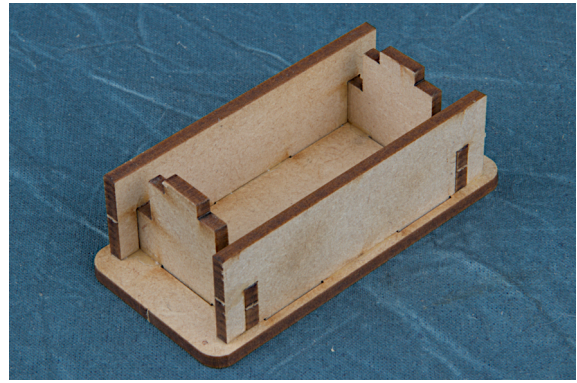
3. Use the two side pieces to hold the T pieces vertically. Do not glue them, yet.



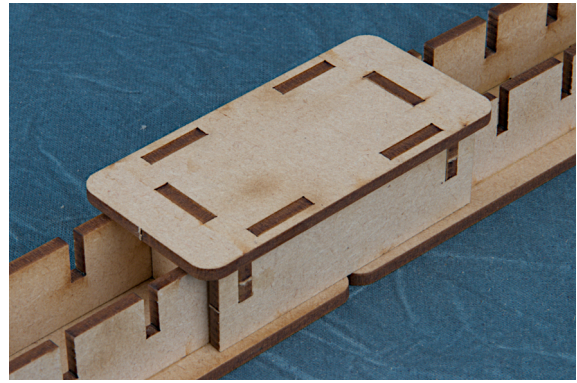
4. Once the glue has grabbed on the T pieces remove the side pieces and carefully join two bases/extensions with the connector.  
**NB.** Ensure that there is no glue between the connector and either of the bases.



5. Once the glue has set remove the connector and glue the side pieces.

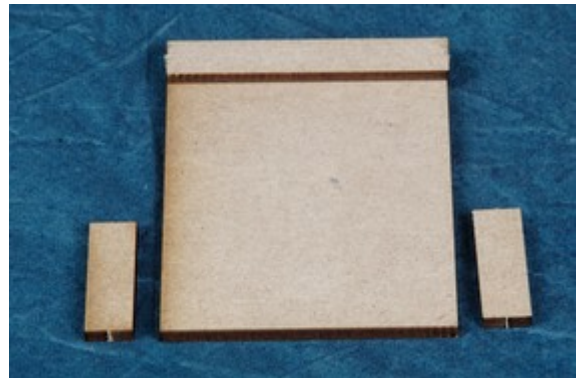


6. Once set the connector can then be used to join bases and extensions together.



## Wing Support

1. Connector support to initial base or base extension. Glue the longer guide piece to one end of the support base

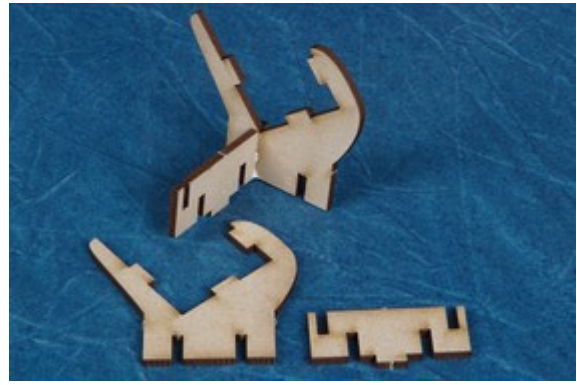


2. Using a couple of base units to set the spacing glue the two shorter guide pieces to the other end of the support base.

3. In use the initial base or base extension base unit will sit across the top of the connector support, i.e. horizontally across the picture. Meanwhile the wing support sits between the two shorter guide pieces, i.e. vertically in the picture.



4. Wing rest – Glue one of the wing support verticals to one of the cross pieces.



5. Glue in the second cross piece.



6. Glue in the second vertical.  
It may be worth inserting the wing rest into the wing support base unit and letting the glue harden off at this point. Just ensure that the rest does not get glued to the base unit.



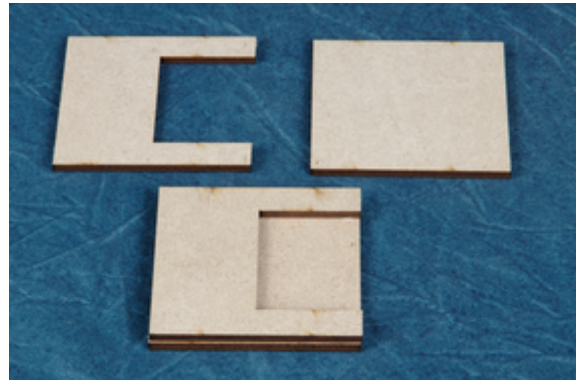
7. Glue the central cross piece into place.



8. Glue the remaining cross pieces into place.



9. Glue the two parts of an end support together. This will support the end of the wing support base unit.



## Small and Medium Fuselage Supports

1. Using a bolt as a guide glue the small rectangle with a hexagonal hole onto the lower support.
2. Once this has dried bolt the upper part of the support to the lower part.
3. Repeat for the other three supports.

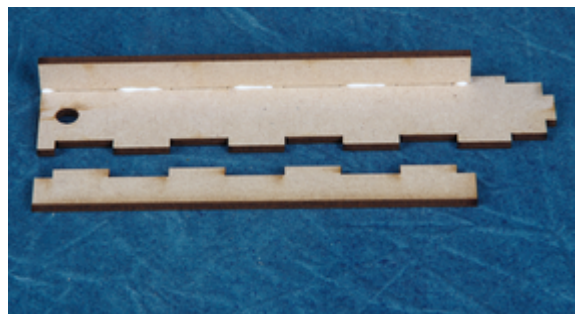


4. For each support cut a 3-4mm wide strip of neoprene and affix it to the top of the support. Please note that the neoprene is self adhesive.



## Large Fuselage Supports

1. The large supports require extra bracing to keep them sturdy. The upper part of the support slides around the outside of the lower support. The two parts should fit snugly together.
2. The smaller of the bracing pieces are for the lower support. Glue the first to the lower support keeping it as close to 90° as possible.


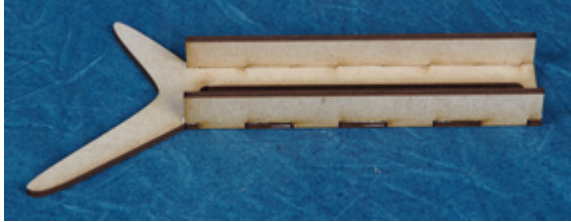


3. Glue the second bracing piece to the lower support again keeping it perpendicular.



4. Using a bolt as guidance glue the guide piece with the hexagonal hole between the two bracing pieces.
5. Repeat the process for the second lower support.



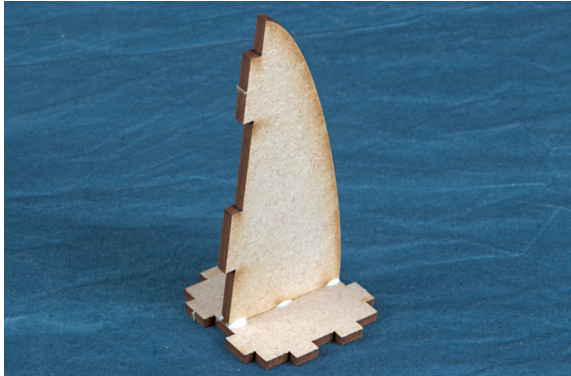
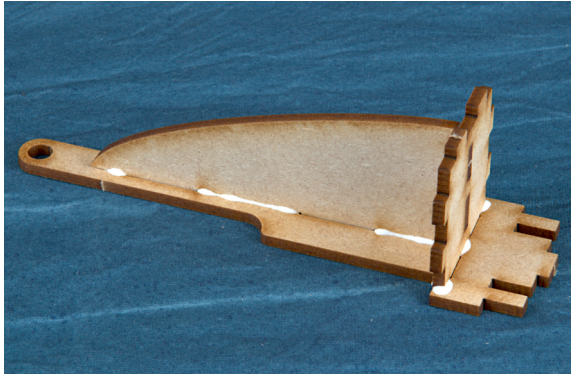
<p>6. Glue one of the larger bracing pieces to an upper support. Get it as close to 90° as possible and remove any excess glue from the inside of the joint.</p>	
<p>7. Glue the second bracing piece to the upper support removing any excess glue.</p>	
<p>8. Once the glue has dried insert the lower support into the upper support. It may be necessary to sand the lower support in order to get a good sliding fit. Do not over do the sanding.</p> <p>9. Cut a 3-4mm wide strip of neoprene and affix it to the top of each upper support.</p>	

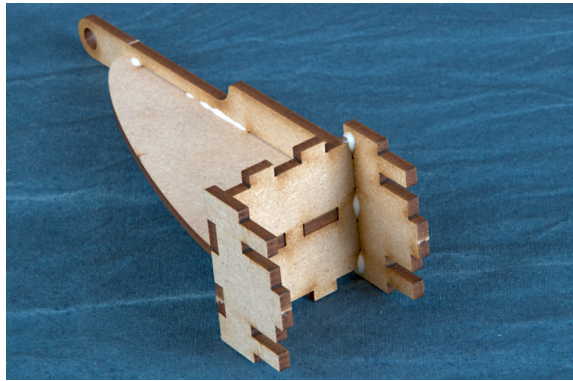
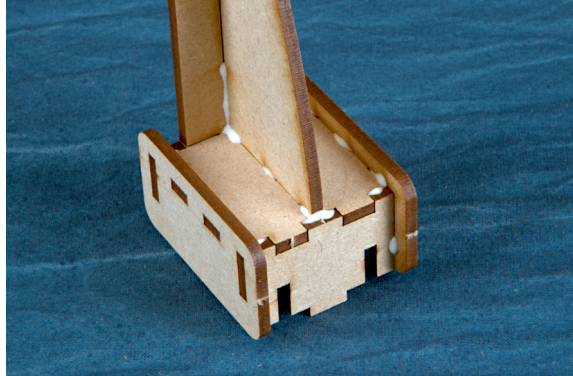
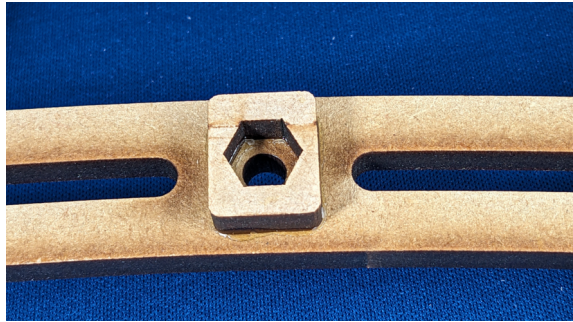
## Aircraft Stand Supports

The uprights drop into the slots dependent upon the model you are painting. Those marked 'F' are intended for the fuselage and 'W' for the wings. It is suggested that you put pieces of masking tape on the upper surfaces in order to protect the model.

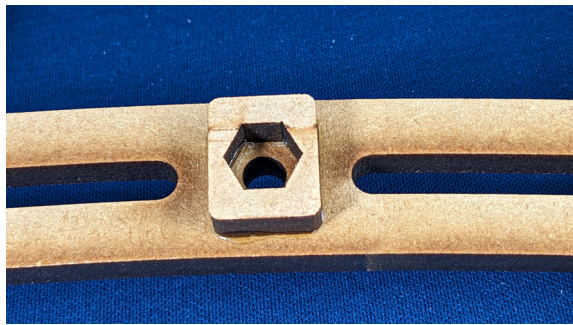
For painting the model it is recommended that it is just placed onto the supports remembering that there is nothing other than gravity holding the model onto the stand. At other times you may wish to use elastic bands to hold the model to the supports.

## Ship & Helicopter Supports – Large

<p>1. Glue the curved upright brace into the base.</p>	
<p>2. Glue the base and base into the upright.</p>	

<p>3. Glue the front to the base.</p>	
<p>4. Glue the two sides to the base, front and upright. Put the support to one side to dry.</p>	
<p>5. Glue the small part with the hexagonal hole to the horizontal support. Use one of the bolts to locate it in position. It is worth using one of the wing nuts to hold the bolt square.</p>	

## Ship & Helicopter Supports – Small

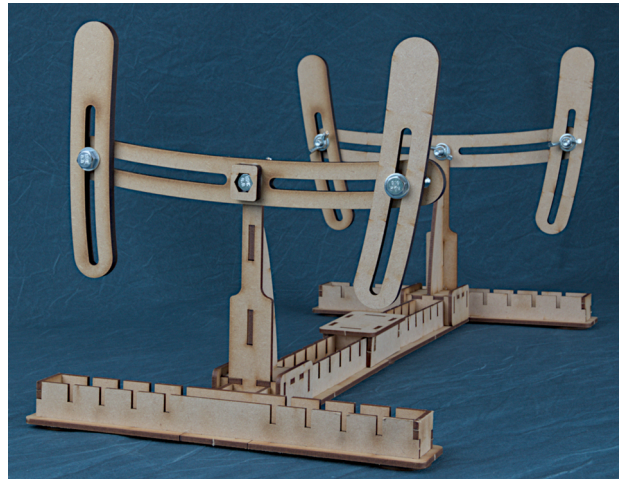
<p>1. Glue the small part with the hexagonal hole to the horizontal support. Use one of the bolts to locate it in position. It is worth using one of the wing nuts to hold the bolt square.</p>	
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## Ship & Helicopter Supports – Large & Small

For both sizes of the supports attach the horizontal support to the upright with a wing nut and bolt. The larger size should also have a washer on the wing nut side. For the smaller size the wing nuts were found to be larger than the washers making the latter pointless.

Neoprene is provided for the vertical supports, both sides of each. Cut the neoprene into 6mm wide strips for the larger size and 3mm for the smaller. The neoprene is self adhesive but can be reinforced with ca glue if necessary.

The vertical supports are bolted to the horizontal as determined by the model you wish to support. It is suggested that the vertical supports are placed on the opposite side of the horizontal support to the upright. This will maximise the rotation of the horizontal support before anything clashes and prevents further rotation.



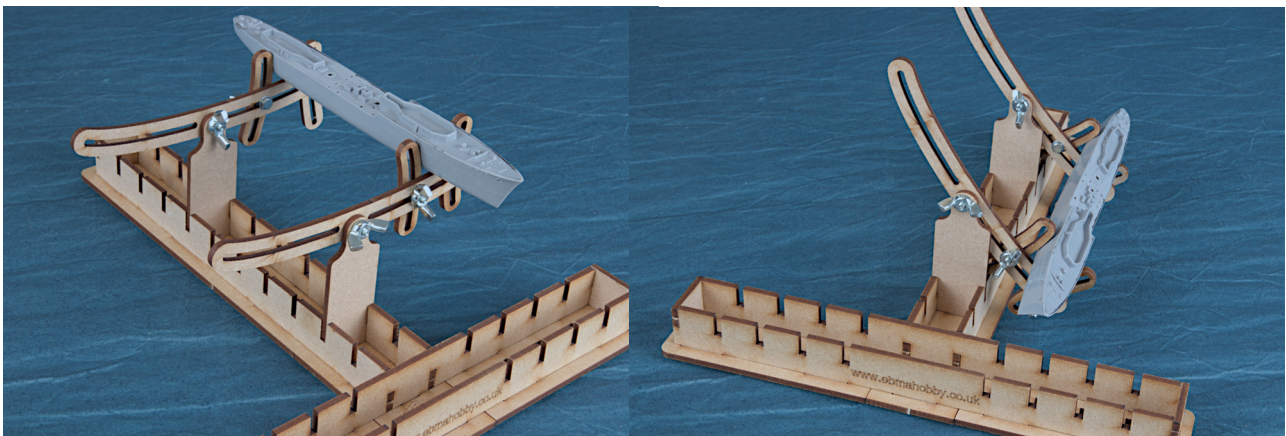
## Ship & Helicopter Supports – Sample Positions

The following are examples of models being held on the supports. They are not exhaustive.

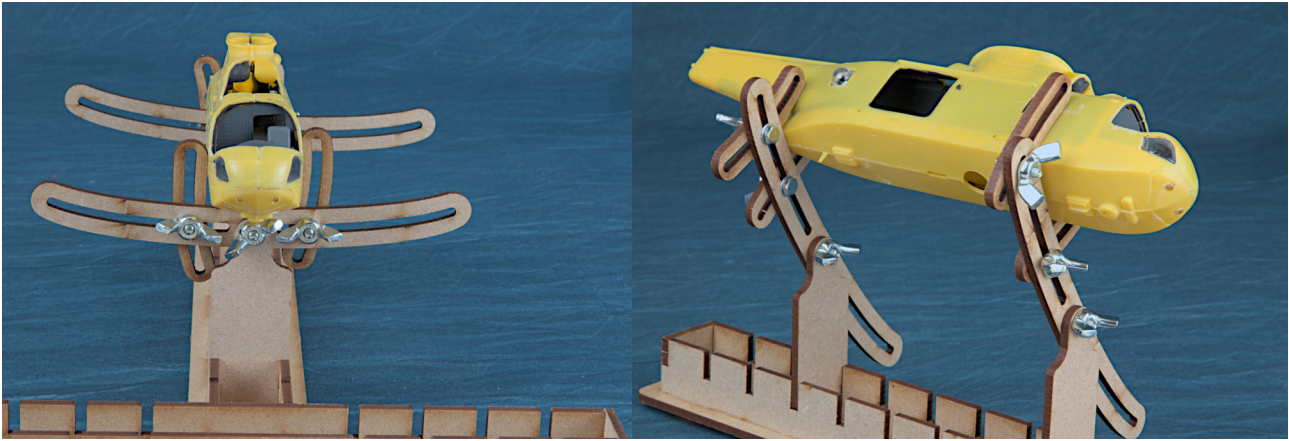
Straightforward ship holding. The photo shows a 1:200 Yamato being held in the large supports. This can be rotated about the uprights.



Small ship holding. Holding a small vessel with a support each side of the upright will quickly run into the issue of the structure clashing and restricting rotation. An alternative is to position the hull to one side of the upright. Note also that the vertical supports are the opposite way around to the those shown above.



A 1:72 Sea King could be held centrally or to one side as above.



Note the use of different sides of the vertical supports for the front and rear.

For a 1:48 Sea King it can be held centrally. Another option for all models is to retract (or remove) one of the vertical supports thus giving free access to a side.

