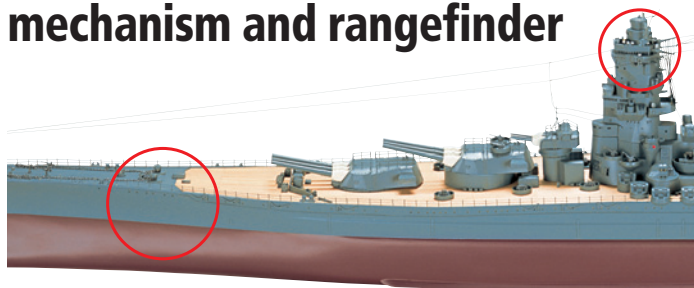




## Hull, ventilation system, machine gun firing mechanism and rangefinder



### THE HULL

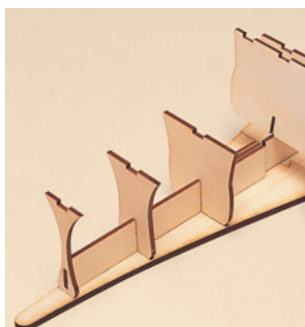
**1** Take the part of the hull that you assembled in previous steps. After applying glue in the second joint at the front end of the keel, fit frame no. 2 (1), as shown in the photo. Make sure the joint is vertically set at 90 degrees and also square to the keel.



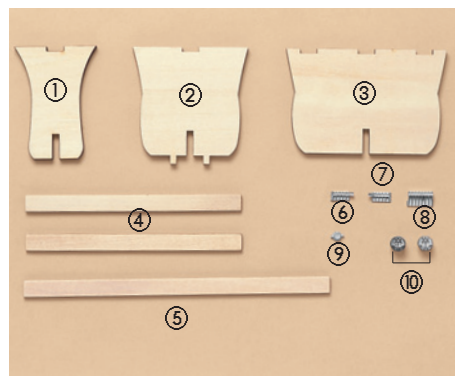
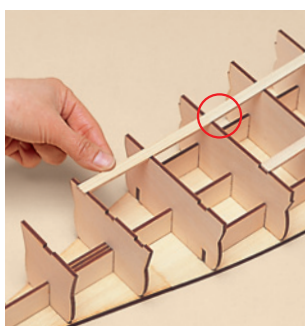
**2** After applying glue in the third joint from the front end of the keel, place frame no. 3 (2) as shown in the photo. Make sure the joint is vertically set at 90 degrees and also square to the keel.



**3** Similarly, apply glue in the fourth joint from the front of the keel and fit frame no. 4 (3) as shown in the photo. Make sure the joint is vertically set at 90 degrees and also square to the keel.



**4** Place a piece of reinforcement (4) in the notch on top of the fourth, fifth and sixth frames. Apply glue to the notch in each frame and fix the piece of reinforcing, which will reach approximately the middle of the sixth frame (red circle).



- ① Frame no. 2
- ② Frame no. 3
- ③ Frame no. 4
- ④ Piece of reinforcement x 2
- ⑤ Reinforcement
- ⑥ Ventilation system (right)
- ⑦ Ventilation system (left)
- ⑧ Ventilation system (front)
- ⑨ Rangefinder
- ⑩ Machine gun firing mechanism x 2

### Recommended tools and materials

- PVA wood glue
- Metal file
- Sandpaper (grain no. 800)
- Craft knife
- Putty
- For metal: Super Glue
- Gel or Two-part epoxy glue
- Metal mordant
- Model-making spray paint (battleship grey)
- Model-making watercolour (battleship grey no. 2, matt black)

**5** Following the same procedure, fix the second piece of reinforcement (4), applying glue in the notches of the fourth, fifth and sixth frames.

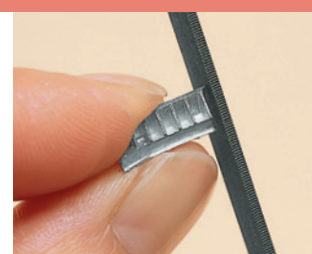


**6** Apply glue in the notches on the first, second, third and fourth frames and fix reinforcement (5).

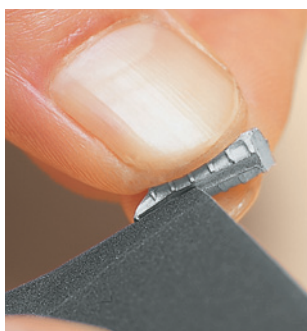


### VENTILATION SYSTEM, MACHINE GUN FIRING MECHANISM AND RANGEFINDER

**7** Prepare the flat parts of pieces no. 6 and no. 7 with the metal file, eliminating any projections.



**8** Smooth the entire surface of no. **6** and no. **7** with sandpaper (grain no. 800). To smooth the inner surfaces, fold the sandpaper in two as shown in the photo.



**13** Following the technique described in steps 7–10, prepare the outline of pieces no. **10**. Smooth the surface of the pieces with both the metal file and sandpaper.



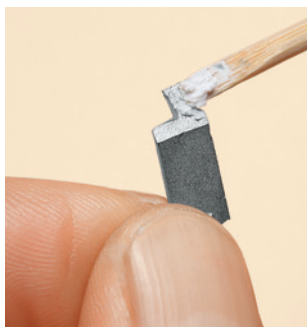
**9** In the places where it is difficult to reach with sandpaper, use a craft knife, which can also be used to correct the edges if they are not well modelled. It is easier to deal with such details if you hold the tip of the blade between your fingers.



**14** If you should erase the original reliefs from the pieces no. **10**, recreate them with a craft knife.



**10** If there are irregularities on the surfaces of pieces no. **6** and no. **7**, spread a thin layer of putty over the entire surface and, when it is dry, smooth with sandpaper. If the putty gives way, repeat the operation.



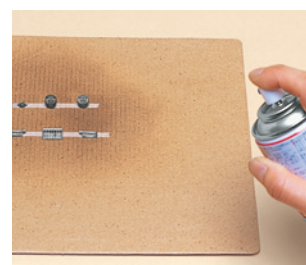
**15** Prepare piece no. **9** following the method in steps 13 and 14.



**11** To shape the outline of piece no. **8**, lightly smooth the flat part with the metal file to remove any projections.

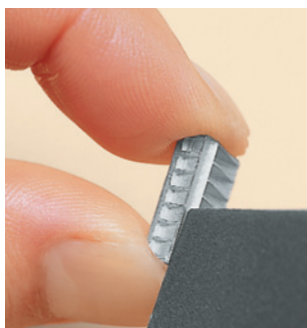


**16** Paint pieces from nos. **6** to **10**. First, spray them evenly with the metal mordant from a distance of 30cm. To avoid the pieces moving, fix them in advance onto adhesive tape.



⚠ When using metal mordant, ventilate the room well and follow the manufacturer's instructions.

**12** Smooth piece no. **8** with sandpaper. Be careful not to damage the cavities necessary for the building of the model. Fold the sandpaper in two to smooth the hollow parts, as shown in the photo.



**17** When the mordant is perfectly dry, paint the pieces with battleship grey model-making spray paint, holding the can about 30cm away.



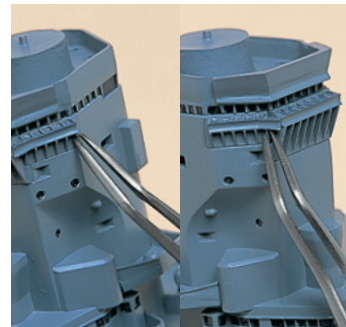
⚠ When using spray paint, ventilate the room well and follow the manufacturer's instructions.



**18** Spray several times evenly and changing direction, taking care not to fill the original small reliefs. Wait for the pieces to dry completely.



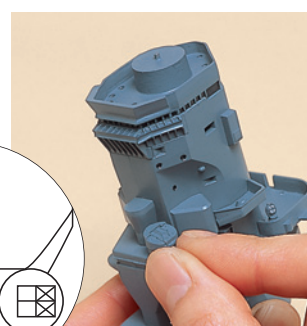
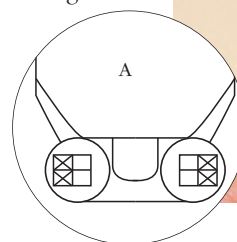
**23** Similarly, glue piece no. 7 under the window on the left side of the command bridge with quick-drying glue. Match the oblique side of no. 7 with the side of no. 8. Follow the same procedure to fix piece no. 6 on the opposite side the bridge.



**19** Take piece no. 6 as shown in the photo and paint the square upper faces. Mix an equal amount of battleship grey and matt black model-making watercolour. Paint with the tip of the brush and take small amounts of paint to prevent smudging. Follow the same procedure for piece no. 7.



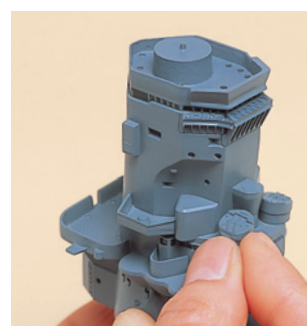
**24** Fix one of pieces no. 10 to the end of the bridge with quick-drying glue. Check against the drawing A (orthogonal view).



**20** Apply the paint to the rectangular cavities of piece no. 8, following the procedure in the previous step.



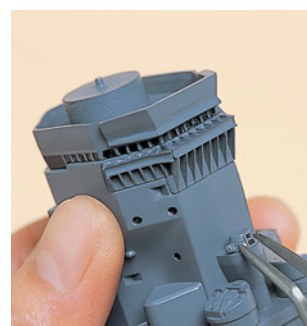
**25** Fix the remaining piece no. 10 symmetrically to the one fixed previously on the other side of the bridge.



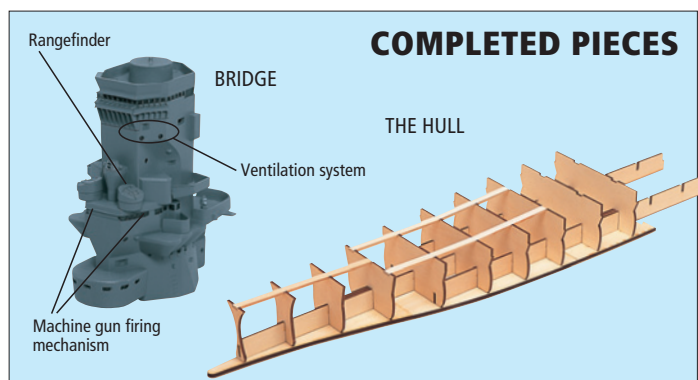
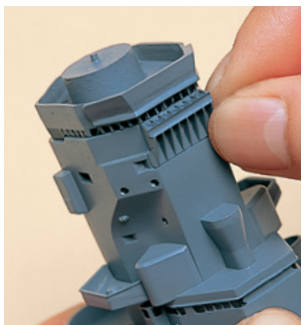
**21** Paint the two lateral cavities of piece no. 9 with matt black model-making watercolour. Since the areas are tiny, apply small doses of paint using the corner of a ruler. To make this easier, fix the piece with double-sided adhesive tape to a piece of cardboard.

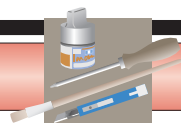


**26** Holding the bridge as shown in the photo, use quick-drying glue to fix piece no. 9 on the small ledge in the middle part so that both cavities of piece no. 9 are pointing towards the bow.



**22** Hold the command deck as shown in the photo. Use quick-drying glue to fix piece no. 8 under the windows of the front area. As can be seen in the photo, the top of piece no. 8 must align with the lower edge of the windows.



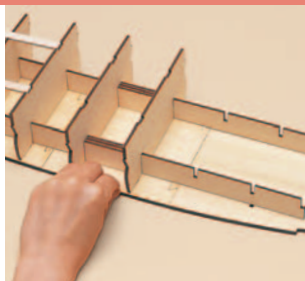


# Hull, parts of the bridge and binoculars

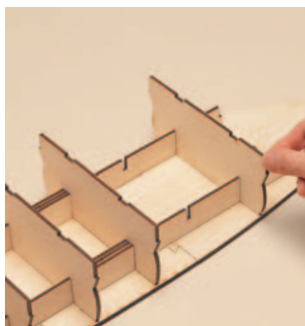


## THE HULL

**27** Take the ship's hull assembly and fit part no. 4 at the stern, as shown in the photo. Align the joints with the notches and fixing them securely with PVA wood glue. Make sure the joint is set vertically at 90 degrees and the base is perfectly flat.



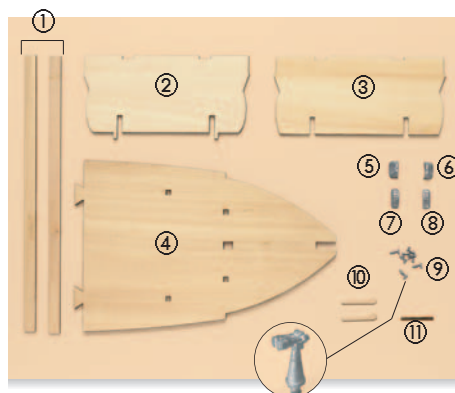
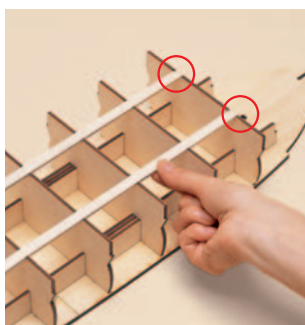
**28** Apply wood glue on the second notches from the tail of the keel and insert the frame no. 12 (2). At the same time insert the lugs under the frame in the corresponding holes on the base of the hull. Make sure the frame is set vertically at 90 degrees and the base is perfectly flat.



**29** Proceed in the same way to mount frame no. 11 (3) after applying glue on the second slot counting from the stern end of the keel. Make sure the frame is set vertically at 90 degrees and the base is perfectly flat.



**30** On both sides of the hull, place a piece of reinforcement (1), lengthwise along the upper back. Apply glue in the upper cavities from the eighth to the twelfth frame and firmly fix the piece of reinforcement. Make sure the base is on a perfectly flat surface when applying reinforcements.



- ① Pieces of reinforcement x 2
- ② Frame no. 12
- ③ Frame no. 11
- ④ Stern base for the hull
- ⑤ Piece of command bridge
- ⑥ Piece of command bridge
- ⑦ Piece of command bridge
- ⑧ Piece of command bridge
- ⑨ Binoculars x 8
- ⑩ Pieces of command bridge x 2
- ⑪ Piece of reinforcement

## Recommended materials and tools

- PVA wood glue
- Metal file
- Sandpaper (grain no. 800)
- Craft knife
- Electrician's pliers
- Bit (diam. 1.2 mm)
- Putty
- Metal mordant
- For metal: Super Glue Gel or Two-part epoxy glue
- Undercoat for wood
- Model-making spray paint (battleship grey no. 2)
- Watercolour (silver)

## PARTS OF THE BRIDGE AND BINOCULARS

**31** To prepare pieces no. 7 and no. 8, smooth the flat metal part with the file, eliminating all unnecessary projections.



**32** After removing the projections, smooth pieces no. 7 and no. 8 with no. 800 grain sandpaper, taking care not to damage the original reliefs. To smooth the hollows, fold the sandpaper in two as shown in the photo.



**33** In the places where it is difficult to reach with sandpaper, use a craft knife, which can also be used to correct the edges if they are not well modelled. It is easier to deal with such details if you hold the tip of the blade between your fingers.





**34** If there are irregularities on the surface of pieces no. 7 and no. 8, spread a thin layer of putty over the entire surface so that even small imperfections are covered. When it is dry, smooth with sandpaper. If the putty gives way, repeat the operation.



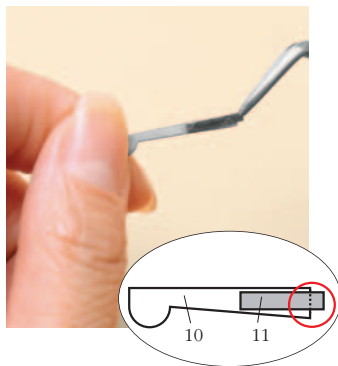
**35** To shape pieces no. 5 and no. 6, proceed as indicated in the previous steps, slightly smoothing the flat part with the metal file and then with sandpaper. For the most inaccessible points use the craft knife and, in case of imperfections, proceed as in step 34.



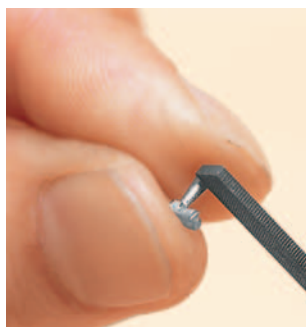
**36** Cut piece no. 11 in two equal parts with electrician's pliers.



**37** Take part no. 10 as shown in the photo. Apply quick-drying glue to one end of piece no. 11 and insert it in piece no. 10 so that it sticks out for about 1mm. Similarly, glue the other half of piece no. 11 to the second part no. 10.



**38** To prepare piece no. 9, slightly smooth the flat part with the metal file, then sandpaper to remove any projection. Remove any irregularities on the surface using a craft knife.

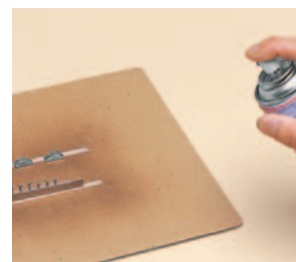


**39** Proceed to spray the undercoat on the assembly of parts no. 10 and no. 11. From about 30cm away, spray evenly 2-3 times. It may be more practical to place the pieces on a piece of cardboard.



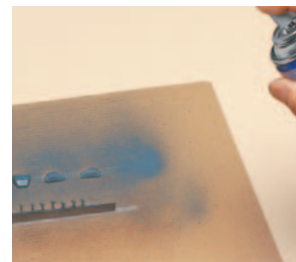
⚠ When using the undercoat, ventilate the room well and follow the manufacturer's instructions.

**40** Spray pieces no. 5 and no. 9 with metal mordant from 30cm away. Coat evenly, having set the pieces on double-sided adhesive tape. Put the binoculars (9) on a piece of stiff cardboard to make the spraying easier.



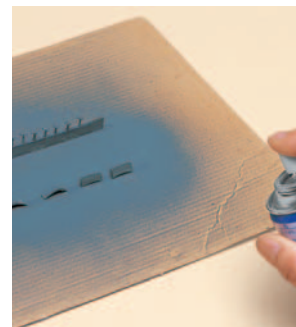
⚠ When using metal mordant, ventilate the room well and follow the manufacturer's instructions.

**41** When the mordant is perfectly dry, give a light and even coating with battleship grey model-making spray paint, holding the can about 30cm away. Apply it in the same way to piece no. 11 and let it dry completely.



⚠ When using spray paint, ventilate the room well and follow the instructions on the packaging.

**42** Spray several times evenly while changing direction, taking care not to fill the original small reliefs. Wait for the pieces to dry completely.



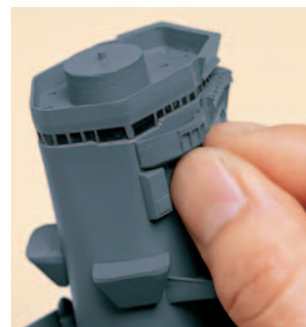
**43** Using the silver watercolour, paint the lenses of the binoculars (9). Paint with the tip of the brush and take small amounts of paint to prevent smudging. To make this easier, fix the pieces with double-sided adhesive tape to a piece of cardboard.



**44** Apply the paint to the back, following the procedure in the previous step.



**49** In the same way, use quick-drying glue to fix piece no. 8 on the opposite side of the bridge, so that it sticks perfectly to piece no. 7 assembled in the previous step.



**45** Prepare the main guns command post by using quick-drying glue to stick piece no. 11 under the rangefinder, as shown in the photo. The right end of piece no. 11 must be glued to the lower surface of the rangefinder. Repeat the operation on the opposite side.



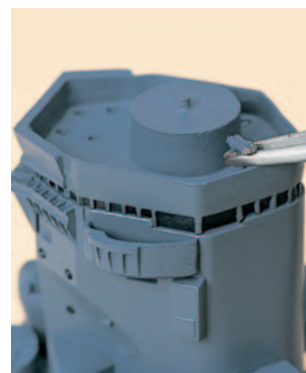
**50** To fix the binoculars on top of the bridge, make the necessary holes with a 1.2mm bit, following the sequence indicated by the red circles in Figure A below.



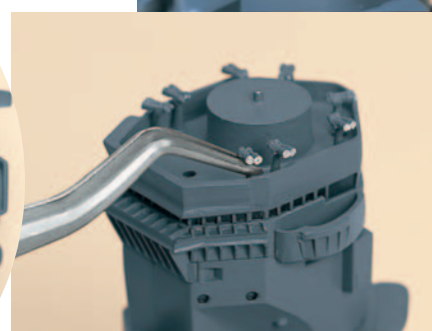
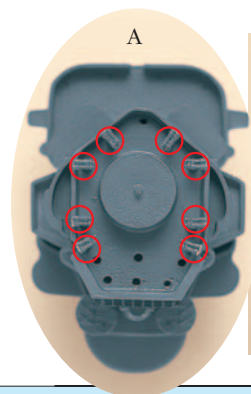
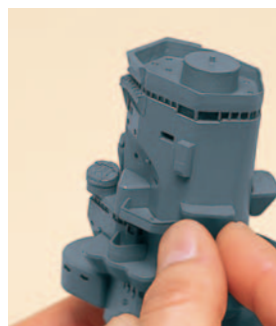
**46** Take the bridge as shown in the photo and use quick-drying glue to fix piece no. 5 in the middle of the rear side (see the detail in the photo below).



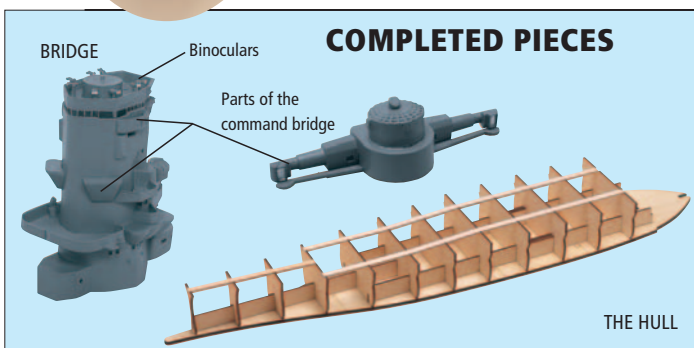
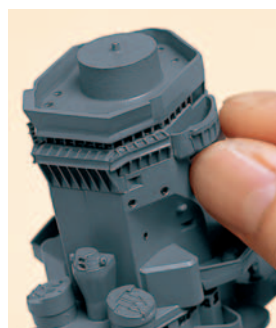
**51** Take the binoculars (9) and, as shown in Figure A, insert one in each of the holes made in the upper part of the bridge, fixing them with quick-drying glue. Place each pair of binoculars against the perimeter wall and face them squarely outwards.



**47** On the opposite side, use quick-drying glue to fix piece no. 6 so that it is laterally aligned with piece no. 5, which was fixed in the previous step.

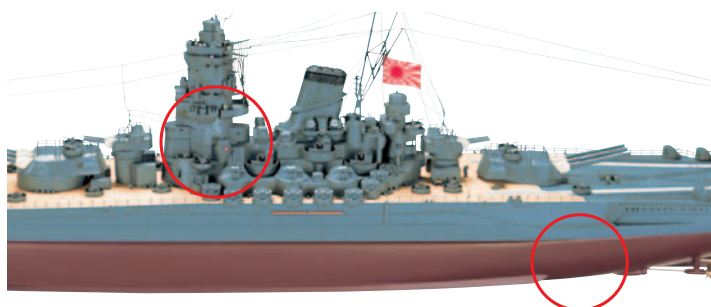


**48** Use quick-setting glue to fix piece no. 7 under the windows, as indicated in the red oval below.



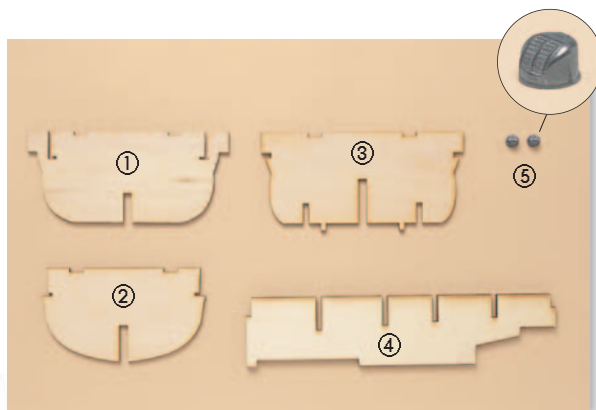


# The hull and machine gun firing mechanism



## Recommended tools and materials

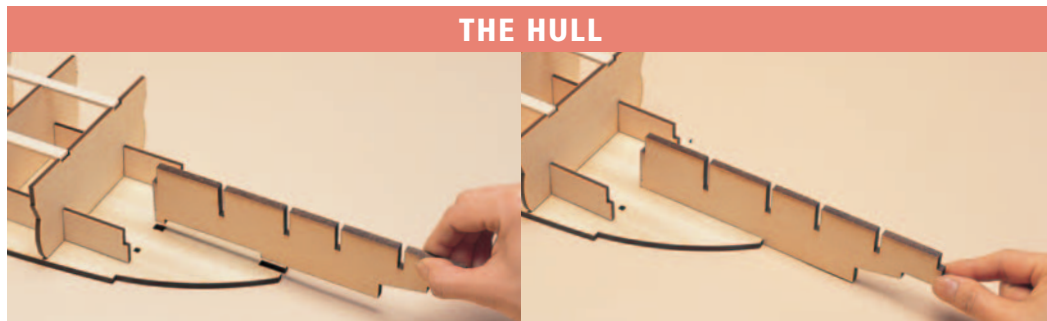
- PVA wood glue
- Metal file
- Sandpaper (grain no. 800)
- Craft knife
- Putty
- Metal mordant
- Model-making spray paint (battleship grey no. 2)
- Model-making watercolours (battleship grey, matt black)
- For metal: Super Glue Gel or Two-part epoxy glue
- Pliers



- ① Frame no. 14
- ② Frame no. 15
- ③ Frame no. 13

- ④ Keel of the stern
- ⑤ Machine gun firing mechanism x 2

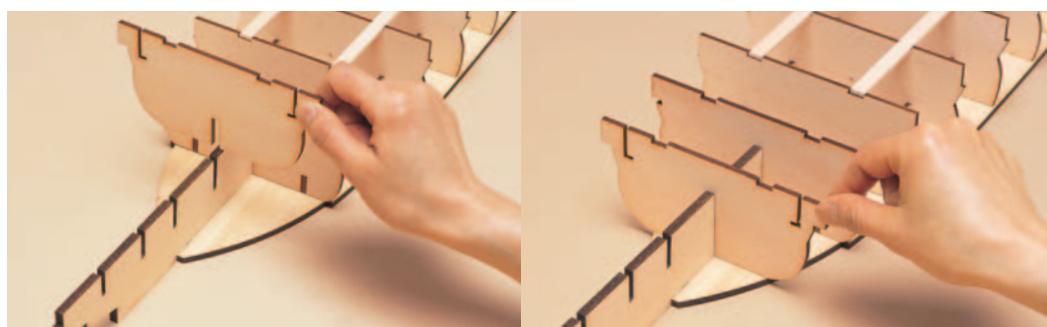
**52** Insert the projections on the stern keel (4) in the holes on the base of the stern and fix it with wood glue. The keel must be parallel to the keels fixed previously and set 90 degrees to the base.



**53** Apply wood glue in the first notches of the keel, and insert frame no. 13 (3). At the same time insert its lugs into the corresponding holes on the base of the ship. Fix firmly making sure the frames are set square to the base.



**54** Apply wood glue in the next notch of the keel, counting from the bow, and add frame no. 14 (1). Fix firmly making sure the frames are set square to the base.





**55** Proceed in the same way with the next notches of the keel, and insert frame no. 15 (2). Make sure the frames are set square to the base.



### MACHINE GUN FIRING MECHANISM

**56** Work the flat part of piece no. 5 by filing away all unnecessary projections. The bottom of the piece must be flat.



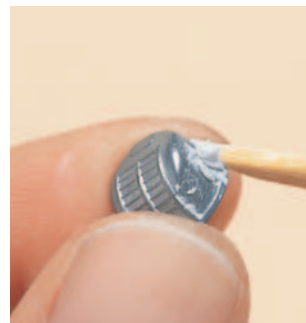
**58** In the places where it is difficult to reach with sandpaper, use a craft knife, which can also be used to finish the edges.



**57** Smooth piece no. 5 with grain no. 800 sandpaper, taking care not to damage the original reliefs.



**59** If there are irregularities on the surface of piece no. 5, spread a thin layer of putty over the entire surface. When dry, the putty may have dents; in which case, repeat the operation.



## THE PROPER USE OF PUTTY

### Repair of small imperfections

With the tip of a toothpick, place a slightly excessive amount of putty in the cavity without leaving trapped air. Depending on the quality, once dried, putty can shrink, leaving gaps in the cavity.

### Removing unevenness and dents

1. Put on excess

2. It shrinks with drying

3. Smooth off excess putty with sandpaper



Apply the putty 2 to 3 times at intervals for it to dry more quickly, and avoid unwanted unevenness formed through shrinkage.

### The putty must dry completely

Before sandpapering, make sure the putty is completely dry, especially the inner layers, otherwise it may come off or become misshapen. The time required for drying varies according to the quality of the putty and the room temperature. The putty for this job dries in half a day if used in small quantities, although it is better to wait at least 30 hours.

### How to shorten drying time

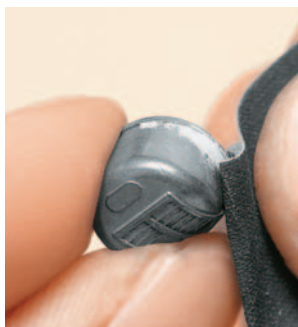
Putty dries more quickly when mixed with instant glue. Place the required amount of putty on a piece of cardboard, add a third of instant glue and mix well with a spatula.

### Choosing the type of putty

You can buy different types of putty in model-making shops or DIY stores. Those best for metal, in order of efficiency are: with epoxy, with varnish and with acrylic resin. Beginners are advised to use putty with varnish.



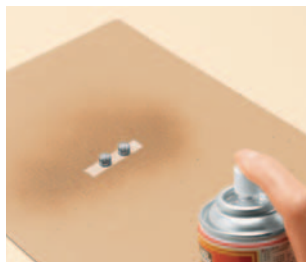
**60** When the putty is completely dry, smooth with no. 800 grain sandpaper to get the required finish.



**64** Paint the cavities of piece no. 5, as shown in the photo. Mix an equal amount of battleship grey and matt black model-making watercolour. Paint with the tip of the brush, using small amounts of paint to prevent smearing.



**61** To paint piece no. 5, spray metal mordant evenly from a distance of 30cm. To prevent the pieces moving, fix them on double-sided adhesive tape.

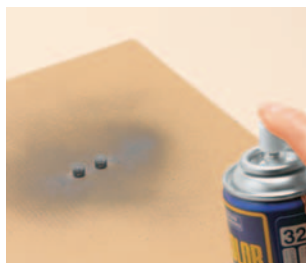


⚠ When using metal mordant, ventilate the room well and follow the instructions on the packaging.

**65** Take the bridge assembled in previous stages, as shown in the photo. Glue piece no. 5 on the base below (position A in the second photo of step 70). Piece no. 5 should protrude slightly from the base. The front must face outwards.



**62** When the mordant is perfectly dry, give a light and even coat with battleship grey model-making spray paint, holding the can about 30cm away. Let it dry thoroughly.



⚠ When using metal mordant, ventilate the room well and follow the instructions on the packaging.

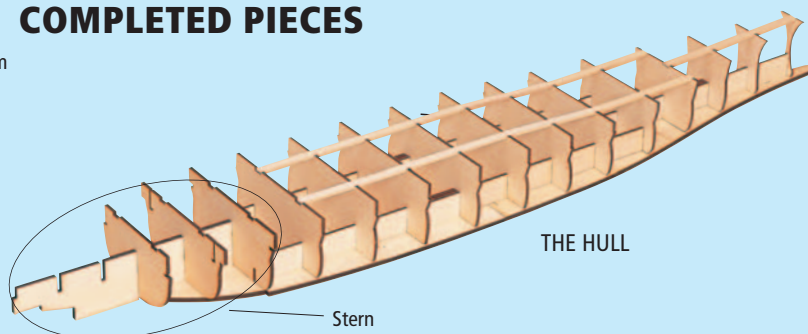
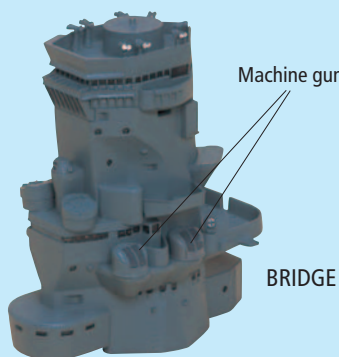
**66** Similarly, glue the other piece no. 5 on the opposite side, always with its front facing out (position B in the photo below).



**63** Spray evenly several times from different directions, taking care not to fill the original small reliefs. Then let them dry thoroughly.

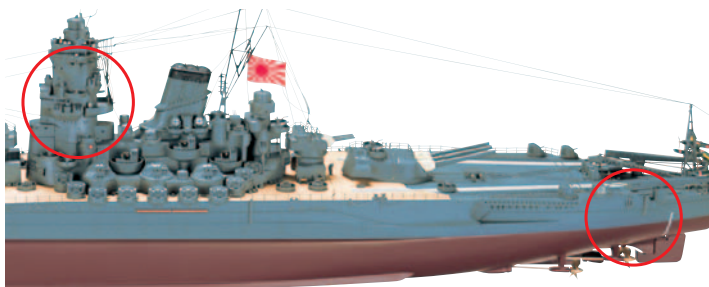


## COMPLETED PIECES



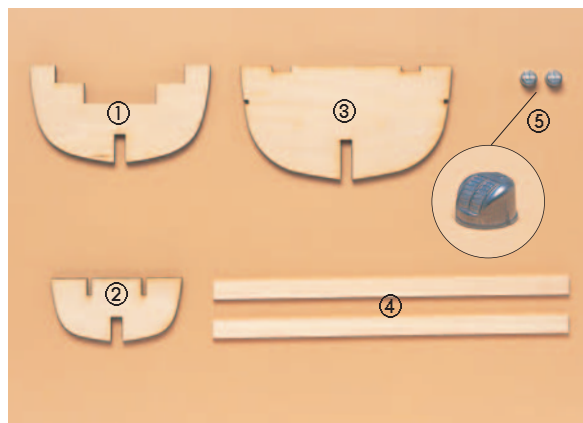


# The hull and machine gun firing mechanism



## Recommended tools and materials

- PVA wood glue
- Metal file
- Sandpaper (grain no. 800)
- Craft knife
- Putty
- Metal mordant
- Model-making spray paint (battleship grey)
- Model-making watercolour (battleship grey, matt black)
- For metal: Super Glue Gel or Two-part epoxy glue
- Pliers



① Frame no. 17

② Frame no. 18

③ Frame no. 16

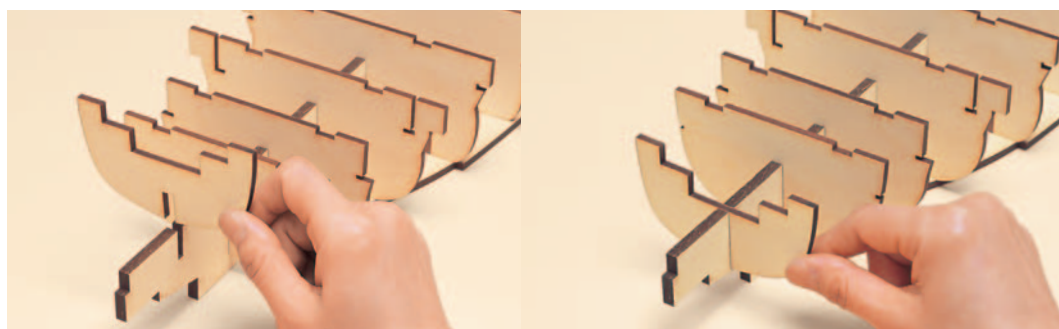
④ Reinforcements x 2

⑤ Machine gun firing mechanism x 2

**67** Apply glue in the third notch of the keel, counting from the stern end, and insert the slot of the frame no. 16 (3). Make sure the frames are set square to the base.



**68** After applying glue in the second notch of the keel, counting from the stern end, insert the frame no. 17 (1). Make sure the frames are set square to the base.



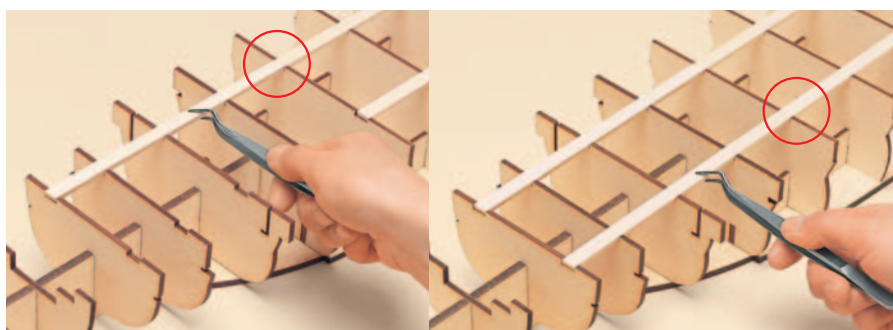
**69** Apply glue in the first notch of the keel and add frame no. 18 (2). Make sure the frames are set square to the base.





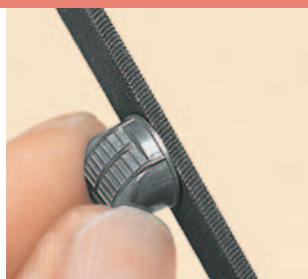
**70** After applying glue in the relevant notches on the upper edge of frames nos. 12 and 16, fit the two reinforcements (4). The right edge of the reinforcements reaches the middle of the upper edge of frame no 12 (red circles in the photo).

! When the wood has been assembled, place the hull assembly on a flat surface, preferably secured or weighted. This keeps the hull assembly as straight as possible, reducing any warp in the ply.



## MACHINE GUN FIRING MECHANISM

**71** To prepare piece no. 5, smooth the flat part with the file, removing unnecessary projections. The bottom of the piece must be flat. Remember, too much pressure can leave marks that are difficult to erase.



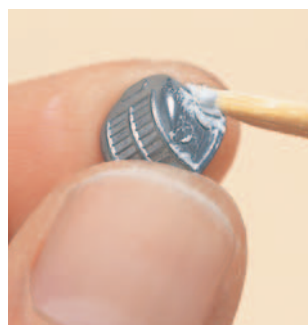
**72** After removing the projections, smooth piece no. 5 with grain no. 800 sandpaper, taking care not to scratch the original reliefs.



**73** In the places where it is difficult to reach with sandpaper, use a craft knife. This can also be used to correct the edges if they are not well modelled.

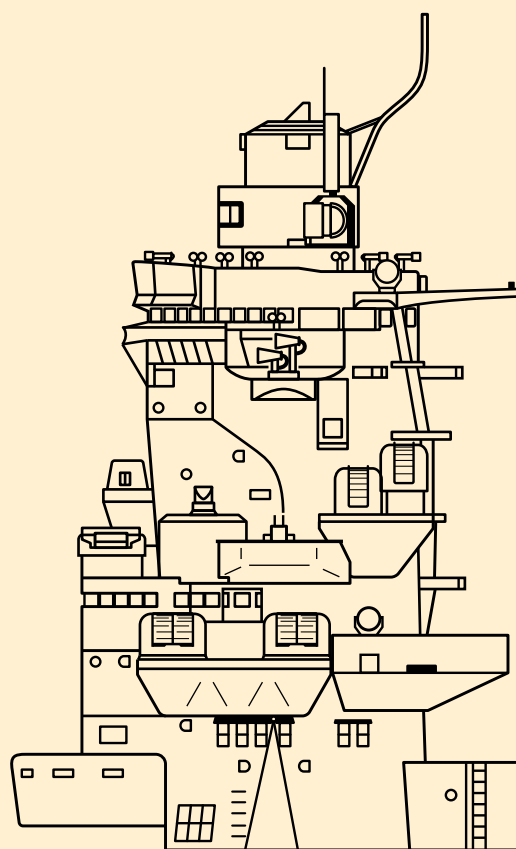


**74** If there are irregularities on the surface of piece no. 5, spread a thin layer of putty over the entire surface, so that even small imperfections are covered. When dry, the putty may shrink and have dents; in which case, repeat the operation.

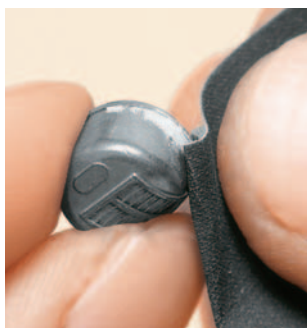


## THE BRIDGE: PROJECTION OF THE MODEL IN FULL SCALE

The bridge is the central component of the deck and, in addition to the machine gun firing mechanism, it is fitted with many features. Use this projection for reference when attaching the individual elements.



**75** When the putty is completely dry, use grain no. 800 sandpaper to achieve the required smoothness and remove excess putty.



**79** Paint the inside of the cavities of pieces no. 5, as shown in the photo. Mix an equal amount of battleship grey and matt black model-making watercolour. Paint with the tip of the brush and use small amounts of paint to prevent smearing.

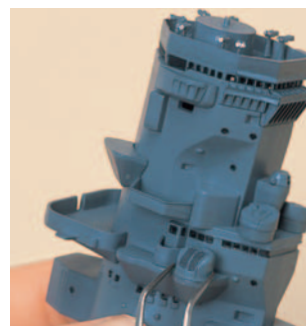


**76** Proceed to painting pieces no. 5. Holding the metal mordant spray can at a distance of 30cm, spray the entire piece evenly. To prevent the piece moving, set it on double-sided adhesive tape.



⚠ When using metal mordant, ventilate the room well and follow the instructions on the packaging.

**80** Take the bridge assembly and glue one piece no. 5 in position A in the second photo of step 81. Piece no. 5 should protrude slightly beyond the base. The front must be outside.



**77** When the mordant is completely dry, paint the pieces with battleship grey model-making spray paint, holding the can about 30cm away.

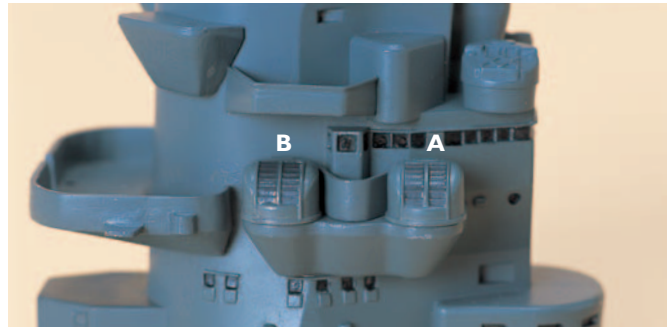


⚠ When using spray paint, ventilate the room well and follow the instructions on the packaging.

**81** Glue the other piece no. 5 in position B in the photo below, always keeping the front part to the outside.



**78** Spray several times from different directions, taking care not to fill the original small reliefs. Let it dry thoroughly.



## COMPLETED PIECES

