Pack 08 | Build Instructions

Your 1:200 scale model of the legendary battleship Bismarck is packed with intricate details which precisely replicate every aspect of this state-of-the-art warship. Each piece has been created using premium quality materials to bring maximum enjoyment during your complete build.

In your eighth model pack, you will assemble:

**WARNING**

Some parts are assembled using magnets. These magnets can cause serious injury if they are swallowed. Keep away from children. If you suspect a magnet has been swallowed, seek medical help straight away.

STAGE 81: A HULL SECTION AND CATWALKS
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Advice from the experts

Spare screws are included with each part. Occasionally, you may be instructed to keep spare or unused screws for a later stage. Keep these spares in a safe place and label them correctly.

Please make sure you don’t mix up the screws. They look quite similar, but the threads do vary slightly. Using the wrong screws may damage the parts.

When securing parts together using multiple screws, fit each screw loosely to ensure all the parts are correctly aligned before gently tightening them firmly, but not overtight, in the order in which you placed them.

Your screwdriver can be magnetised by stroking it with a magnet (fridge magnet, etc.) enabling it to hold the screws and make assembly easier.

If a screw is tight going into a metal part, do not force it as you may shear the head off. Remove it and put a tiny smear of Vaseline, soap or light oil on the thread. That will lubricate it and make it easier to drive home.

During the course of this build, you will receive many pieces that you will assemble immediately – following the instructions in the corresponding stage – and other pieces that you should store safely to one side, for use in future assembly stages.
STAGE 81
A HULL SECTION AND CATWALKS

COMPONENTS CHECKLIST
81-01: Upper hull section for port side
81-02: Four catwalks (A to C)

01. FITTING THE CATWALKS

Cut one of the longer catwalks, A, from frame 81-02. Use tweezers or fine pliers to bend the eight ‘legs’ up at right angles down one side of the catwalk, as shown.

In the same way, bend the eight legs up at right angles on the other side of the catwalk, as shown.
Repeat steps 1 and 2 with the second catwalk, A, so that the legs are bent up at right angles.

Take the port hangar 80-01 from the previous stage. Check the fit of the first catwalk down the centre of the roof, so that the legs fit down into the recesses. When you are happy with the fit, apply a little superglue to the base of each leg and fix the catwalk in place.

Repeat the previous step to fit the second catwalk A along the top of the starboard hangar 80-02.
Cut the catwalk C from the frame 81-02. Check the fit along the side of the boat cradle on the roof of the port hangar 80-01. Pegs on parts S, T and U from frame 80-06 fit into three slightly larger holes at the ends and centre of the catwalk (arrows). Note how the catwalk overhangs slightly to the left in the photograph. When you are happy with the fit, glue in place.

Cut the catwalk B from frame 81-02 and check the fit on the boat cradle on the starboard hangar 80-02. Again, there are slightly larger holes in the catwalk where the pegs on the frames fit. Ensure that you have it the right way round – one end extends further than the other (arrow). When you have it fitted correctly, glue it in place.

**Completed work**
Catwalks have been fitted to the top of the aircraft hangars. The hull section will be fitted in a future stage.
STAGE 82
MORE DETAILS FOR THE HANGARS AND MAIN DECK DECK

COMPONENTS CHECKLIST

82-01: Vents and details for second main gun, Bruno (A to F)
82-02: Rear port breakwater
82-03: Rear starboard breakwater
82-04: Accommodation ladder
82-05: Frame with four joints
82-06: Four levers
82-07: Catwalks and ladders (G to K)
82-08: Handrails and ladders (L to O)

01. VENTS FOR THE BARBETTE OF THE SECOND MAIN GUN

Take the upper deck structure 19-01. Cut the vent A from the frame. Check the fit on the port side of the barbette 19-02 as shown. Glue in place.

Cut the vent B and ledge E from frame 82-01. Check the fit and glue the ledge into the holes in the vent as shown.
Check the fit of the vent B on the side of the barbette 19-02 and glue in place as shown.

Cut the vent F from the frame 82-01. Check the fit to the starboard side of the barbette and glue in place as shown.

Cut vent D from frame 82-01. Check the fit on the side of the barbette and glue in place as shown, near vent F.

Finally, cut the vent C from the frame and check the fit near the vent D, slipping it behind the small rope reel 76-02. Glue in place as shown.

**02. TWO BREAKWATERS AND A LADDER**

Cut a joint from frame 82-05 and smooth the underside with sandpaper. You will also need a lever 82-06.

Push the end of the lever 82-06 into the joint 82-05 as shown. The lever clicks into place – do not use any glue.
Repeat the process with three more levers 82-06 and joints 82-05 to make a total of four lever assemblies.

Identify three recesses in the starboard side of the deck 19-01 where the ladder 82-04 fits. When you are happy that you have it positioned correctly, apply a little superglue to the pegs on the ladder and glue in place.

The starboard rear breakwater 82-03 is fitted to the starboard side of the upper deck section 19-01 not far from the accommodation ladder 82-04. Glue in place.

The port rear breakwater 82-02 is fitted in the corresponding place on the other side of the upper deck section 19-01. Glue in place.

Take two of the lever joints 82-06/82-05. They are positioned at one end of the starboard breakwater 82-03, with the joints 82-05 fitted into recesses in the deck. When you are happy with the fit, glue in place so that the levers lean up against the breakwater.

Similarly, glue two lever joints 82-06/82-05 in place at the end of the port breakwater 82-02.
03. ADDING DETAILS TO THE HANGARS AND FIXING IN PLACE

01. Cut handrail M from frame 82-08. Bend the handrail at right angles along the two fold lines (arrows).

02. Bend the handrail M again at right angles at the next two fold lines, to make a U-shape as shown.

03. Cut handrail L from frame 82-08. Bend it twice at right angles to make a U-shaped rail that is a mirror image of handrail M.

04. Take the port hangar 80-01. Check the fit of handrail M on the roof. When you have it positioned correctly, apply a little superglue to the pegs and fix them into the recesses in the roof.

05. Similarly, fix handrail L in place on the roof of the starboard hangar.

06. Cut ladder N from frame 82-08 and bend the two handrails upwards at right angles along the fold lines. Make sure you bend them in the correct direction, as shown.
Bend the two legs of the ladder **N** at right angles (arrows) as shown, making sure you bend them in the correct direction. The ladder is then bent at the central fold line so that the angles of the ladders match the pitch of the roof (see step 9, below).

Cut ladder **O** from frame 82-08. Repeat the instructions in the last two steps to create a double ladder with feet and handrails that will fit over the roof of the port hangar.

Check the fit of ladder **N** on the roof of the starboard hangar 80-02. Glue the two legs into the corresponding holes in the roof.

Fit ladder **O** into the roof of the port hangar 80-01 and glue in place as shown.

Cut catwalk **G** from frame 82-07. Bend the rails upwards at right angles and the legs downwards, as shown.

Cut the catwalk **H** from frame 82-07. Again, bend the rails upwards at right angles and the legs downwards, as shown.
Cut the small catwalk **I** from frame **82-07** and bend the rails and legs again as shown.

Take the two ladders **J** from frame **82-07** and bend the legs downwards at right angles as shown to create two identical ladders.

Take the small catwalk **K** from frame **82-07** and bend the handrail and feet as shown.

Take the starboard hangar **80-02** and check the fit of the catwalk **G** along the side of the roof. Glue in place as shown.

Glue the small catwalk **I** in place near the end of the starboard hangar **80-02** as shown.

One of the two ladders **J** is glued to the outer wall of the starboard hangar **80-02**, as shown.
Glue the catwalks H and K to the roof of the port hangar 80-01, as shown. Check the fit of the second ladder J and fix in place on the side of the hangar.

Two pegs on the base of the hangar 80-01 fit into recesses in the deck. Glue in place.

Take the forward superstructure and check the position of the port hangar 80-01 beside the funnel. The open end of the hangar butts up against the forward superstructure (arrow).

Similarly, the starboard hangar 80-02 fits on the other side of the funnel on the superstructure deck. When you are happy with the fit, glue it in place.

**Completed work**

Vents have been fitted to the barbettes and breakwaters have been fitted to the deck, along with the accommodation ladder (which is used for accessing the battleship from a boat). Ladders and catwalks have been attached to the aircraft hangars and the hangars have been fitted to the superstructure deck.
STAGE 83
FITTING THE NEXT KEEL SECTION

COMPONENTS CHECKLIST
83-01: Ninth keel section
83-02: Connector
PM: Five PM 2 x 4mm screws

01. FITTING THE KEEL SECTION
Take the hull assembly from stage 79. Fit the connector 83-02 on the two raised screw holes in the aft of the eighth keel section 71-01.
Fix the connector 83-02 to the keel section 71-01 with two PM 2 x 4mm screws. Check the orientation of the ninth keel section 83-01, aligning it as shown.

Fit the raised screw sockets of keel section 83-01 into the corresponding sockets in the connector 83-02. Fix the parts together using two PM 2 x 4mm screws.

Completed work
The ninth keel section has been fitted to the hull assembly.
STAGE 84
THE MAIN CIRCUIT BOARD

COMPONENTS CHECKLIST
84-01: Main circuit board
84-02: Hull support
PB: Eleven 2 x 5mm PB screws

Note 1: Be extremely careful when fixing the superstructure (steps 6 to 8 on page 16). In order to avoid damaging the model, it is advisable to ask someone to help you. They can hold the superstructure firmly in place while you fit the 6 screws into the upper deck from below.

Note 2: In the assembly instructions, we have used the names on the cable labels, rather than the part numbers.

01. FIXING THE FORWARD SUPERSTRUCTURE

Take the two support stands assembled in stage 11. Remove the hull supports 11-02 and 11-03 from the bases 11-04, as shown in the photo.

Position the two bases 11-04 side by side and spaced apart, as shown. Fit the pegs on the hull supports 11-02 and 84-02 into the sockets at each end of the bases 11-04, to make a temporary support stand.
Place the deck assembly 19-01 upside down on your worktop, taking care not to damage any parts. Loosen the two PWB screws so that you can remove the motor 55-01. The red arrows indicate where the screws were fixed.

Take the forward superstructure and position it as shown next to the deck assembly, so that you can thread the cables from the bridge through the large triangular opening and the cables from the funnel through the slot at the rear of the deck (arrows).

Fit the forward superstructure in place on the deck assembly 19-01 / 22-01 / 48-01.

With the superstructure firmly supported, fix the front of the forward superstructure in place using two PB screws, fitted from underside of the deck section 19-01.

With the superstructure still carefully supported, use four more PB screws (circled) to fix the next two sections of deck, 22-01 and 48-01, to the superstructure.

Place the support stand assembled in steps 1 and 2 (on the previous page) on your work surface. Fit the end of the deck into the stand and support the funnel on a blister pack, a bundle of bubble wrap or similar.
02. FITTING THE CABLES

Supporting the deck from behind, fix the motor 55-01 in place with the two PWB screws that were removed.

Thread the cable from the motor 55-01 (labelled B-20) through the slot at the edge of the deck 19-01 (arrow).

Thread the cables labelled B-21 and B-22 through the same slot, in the same direction.

Identify the cable slot at the edge of deck section 22-01 (white arrow). Thread the cables labelled B-3, B-4, B-5, B-6, B-7, B-8 and B-9 through the slot.

There is a second cable slot to the other side of the deck section 22-01. Thread the cables labelled B-14, B-15, B-18, B-19, B-20, B-21 and B-22 through the slot, as shown (red arrow).

Identify the bracket with slots on the underside of deck section 48-01 (arrow). Fit the cable labelled B-19 into the first slot as shown.
Fit the cables labelled B-18, B-17, B-15 and B-14 into the remaining slots in the bracket in the order shown.

The cables labelled B-1, B-3 and B-4 fit into slots in the corresponding bracket at the other side of the deck.

Another bracket with slots runs across the underside of deck section 48-01. Fit the cables labelled B-5, B-6, B-7, B-8 and B-9 into the slots, as shown.

Make sure that all the cables are clear from the area where the main board 84-01 will be fitted (see also below).

Position the main circuit board 84-01 on your work surface, together with four PB screws. Identify the four fixing points (white arrows).

Fix the main board 84-01 in place on the underside of the deck section 48-01 using four PB screws. Note that the ports marked 1 – 4 are on the left-hand side of the circuit board (circled).
03. CONNECTING THE CABLES

Fit the plugs on the ends of the 22 cables into the corresponding ports on the board 84-01. The cable marked B-1 fits into the port marked 1; the cable marked B-2 fits into port 2, and so on. Work around the board, fitting each of the cables. The cables should be inserted with the plain side facing away from the deck. You may find it helpful to use tweezers to hold the plugs and cables. Ensure that the plugs are fully inserted. The ports marked 23 and 24 (circled) remain empty at this stage.

Completed work
The forward superstructure has been fitted to the deck. The electrical wiring from the superstructure has been connected to the main circuit board. Double check that all of the wires are in the correct sockets, and that they are fully inserted.

Now you can carefully remove the superstructure from the temporary support and stow it horizontally again. Then reassemble the supports and bases 11-02/11-04 and 11-03/11-04 so that you can fit the model on its supports again.
**STAGE 85**

A SECTION OF HULL AND DECK DETAILS

**COMPONENTS CHECKLIST**

- **85-01**: Lower port hull section
- **85-02**: Details for the ‘Bruno’ barbette (A to E)
- **85-03**: Further details for the ‘Bruno’ barbette (G to J)
- **PM**: Four 2 x 4mm PM screws

**01. FITTING THE HULL SECTION**

Place the hull assembly on your work surface so that you can access the port side. Take the hull section and fit the screw sockets over the raised screws sockets in parts **75-01** and **83-01**, as shown.

Fix hull section **85-01** in place using three PM screws, as shown.
02. PREPARING THE METAL DETAILS

01. Remove the grille, part A, from frame 85-02. Bend the small tab (circled) at right angles. Bend the part down the centre at a slight angle, as shown.

02. Take the handrail B from frame 85-02 and bend the ends at right angles along the fold lines, as shown.

03. Take the ladder C from frame 85-02 and bend the two tabs (circled) at right angles. The ladder can be bent slightly as shown, although you may prefer to do this when you come to fit it in place.

04. Take part D from frame 85-02 and bend the tabs at right angles, as shown.

05. Take the walkway E from frame 85-02. Bend the end of the rail at right angles along the fold line, and bend the two uprights at right angles close to the platform.

06. Take the two ladders, F and G from frame 85-03 and bend the tabs on ladder G at right angles, as shown.
Take the two grilles H and I from frame 85-03. Bend them as shown, taking care to get the correct angle. You may prefer to bend these parts when you fit them.

Take the walkway J from frame 85-03 and bend the two struts upwards at right angles as shown.

**03. FITTING THE METAL DETAILS**

Take the forward superstructure and deck from the previous stage and place it on your worktop, taking care not to damage the parts on the underside. Fit the tab on ladder F from frame 85-03 into the recess on the vent. Glue in place.

Fit the grille I from frame 85-03 on the vent near ladder F, as shown. The tab on the grille fits into a recess (circled red). Glue in place.

The grille H from frame 85-03 is glued to the same vent, above grille I, with the tab fitting into a recess. The larger section of the grille is horizontal, as shown.

Ladder C from frame 85-02 fits on the outside of the same vent, with the tabs in recesses (circled). When you are happy with the fit, glue in place.
On the port side of the barbette, fit the ends of handrail B from frame 85-02 into the recesses. When you are happy with the fit, glue in place.

Ladder G from frame 85-03 and grille A from frame 85-02 fit on the fan on the starboard side at the front of the barbette, as shown. Glue in place.

Fit grille D from frame 85-02 on the adjacent vent, as shown. When you are happy with the fit, glue in place.
Completed work

Metal grilles, ladders and walkways have been fitted to the vents around the barbette of Bruno.

The walkway J from frame **85-03** fits between the two vents, with the tab fitting into the recess on the left, as shown. The right-hand end of the walkway rests on a ledge on the vent. Glue in place.

Walkway E from frame **85-02** fits between the two vents on the starboard side of the barbette. Glue in place.
STAGE 86
TWO TWIN 10.5cm GUNS AND RAILINGS

COMPONENTS CHECKLIST
86-01: Vent shafts (x 10)
86-02: 10.5cm AA gun housing (x 2)
86-03: Twin barrels of 10.5cm guns (x 2)
86-04: Base plate of gun mounting (x 2)
86-05: Vent grilles (x 10)
86-06: Railing
86-07: Railing
86-08: Railing
86-09: Railing
86-10: Frame with two railings (A) and five ladders (B and C)

01. ASSEMBLING AND FITTING THE VENTS

Take the two frames 86-01 and 86-05. Remove the shafts and grilles from the frames.
Identify the recess on one of the shafts 86-01 and check the fit of a grille 86-05, ensuring they are aligned as shown. When you are happy with the fit, glue in place.

Repeat step 02 to assemble the remaining parts 86-01 and 86-05, creating 10 identical vents.

Place the forward superstructure on your worksurface, supporting it carefully. The vents are fitted to the superstructure deck around the outside of the barbette of the second 15cm guns 53-01. Here, the first two have been fitted.

Continue fitting the vents into the recesses around the outside of the 15cm gun on the port side, near the hangar. Glue each one in place.

Turn the deck so that you can access the starboard side. Continue gluing the vents in place in the recesses around the starboard 15cm gun. The first two have been fixed on the starboard side.

Fit three more vents around the starboard 15cm gun.
02. THE FIRST HEAVY ANTI-AIRCRAFT GUNS

Take the first of the twin barrels **86-03** and fit it into one of the gun housings **86-02**. The pegs on the side of the gun fit into semicircular recesses (arrows).

Check the fit of the base plate **86-04** in the base of the gun housing. Apply a little superglue around the lower edge of the housing **86-02**.

Fix the base plate **86-04** into the housing **86-02**.

Repeat the previous three steps to fit the second pair of gun barrels **86-03** into the second gun housing **86-02** and fix the second base plate **86-04** in place.

Identify the hole in the superstructure deck on the port side where the first 15cm AA gun **86-03/86-02/86-04** fits. Push the peg on the base of the gun into the hole. No glue is needed.

The second AA gun assembly fits into a hole slightly to the aft of the first one. Push it in place. Check that the guns can rotate and the barrels can go up and down. They are operated manually.
1. RAILINGS AND LADDERS

03. RAILINGS AND LADDERS

Continuing on the port side, take the first section of railing 86-07 and identify the fixing points along the outer edge of the superstructure deck. When you are happy with the fit, glue the pegs on the railing in place.

The second section of railing 86-09 fits directly to the aft of the first, continuing the line. Fix in place with a little superglue, as before.

Turn the model so that you can access the starboard side. Test the fit and fix the railing 86-06 in place, as shown, using a little superglue.

The length of railing 86-08 continues the line of railings to the aft of railing 86-06. Test the fit and fix in place with a little superglue.

Cut one of the short rails A from frame 86-10. Check how it fits at the front of the superstructure deck, near the first starboard 15cm gun. Glue the pegs on the base of the railing in place with a little superglue.

Take one of the two ladders C from the frame 86-10. Identify the two recesses below the gap in the railings on the starboard side. Glue the pegs on the back of the ladder in place, as shown.
Completed work
Two AA guns have been assembled and fitted to the port side of the superstructure (not shown). Railings and ladders have been fitted around the superstructure deck.
STAGE 87
HEAVY AA GUNS AND BRIDGE WINGS

COMPONENTS CHECKLIST

87-01: 10.5cm AA gun housing (x 2)
87-02: Twin barrels for guns (x 2)
87-03: Base plate for the guns (x 2)
87-04: Bridge wing (port, A to C)
87-05: Bridge wing (starboard, D to F)
87-06: Railings for the bridge wings (G, H)
87-07: Railing (port)
87-08: Railing (starboard)
87-09: Railings (I to L)

01. ASSEMBLING THE ANTI-AIRCRAFT GUNS

Take the first of the twin barrels 87-02 and, after checking the orientation, fit it into one of the gun housings 87-01. The pegs on the side of the barrels fit into semicircular recesses (arrows).

Check the fit of the first base plate 87-03 in the base of the gun housing. Apply a little superglue around the lower edge of the housing 87-01 and fix the base plate in place.
Repeat the previous two steps to fit the second pair of gun barrels 87-02 into the second gun housing 87-01 and fix the second base plate 87-03 in place.

Fit the two anti-aircraft guns on the superstructure deck, near the funnel. The pegs on the base plates fit into holes in the deck. Do not use any glue – the guns rotate and the barrels can be raised and lowered by hand.

**02. BRIDGE NAVIGATION WINGS**

For the port navigation wing, separate parts B and C from frame 87-04. Apply a little glue to the square peg of part B as shown.

Fix part B into part C to create the support arm for the port bridge wing.

Fit the round peg on part B into the hole on the port side of the bridge deck. Do not use any glue as the arm needs to rotate.

Remove the walkway A from the frame 87-04 and check the fit along the top of the support arm. The peg on the walkway fits into the hole in the flange at deck level – do not glue the peg. When you are happy with the fit, apply a little glue to the slot in the top of the arm and fix the walkway in place.
This shows the walkway in place on the wing. The wing can be swung back against the side of the bridge deck, as indicated by the arrow.

The starboard bridge wing is assembled in a similar way, using parts D, E and F from frame 87-05. Start by fitting parts E and F together.

Fit the peg on the base of the support arm, part E, into the side of the bridge deck. Apply adhesive to the central slot in the arm, part F.

Fix the walkway, part D, in place, with the peg in the hole in the flange, so that it can swing backwards. Do not use any glue, as this part needs to move.

**03. FITTING THE RAILINGS**

Cut part G from frame 87-06. Bend it twice at right angles along the fold lines as shown.

Cut railing H from frame 87-06. In the same way, bend it at right angles as shown. This railing is a mirror image of part G.
Identify the fixing points on the starboard walkway for the pegs on the lower edge of the railing G. Use a little glue to fix the pegs in place.

In the same way, fix the railing H in place on the port walkway.

Separate railing I from frame 87-09. Bend the railing along the folds, creating a right angle at point 1. Before bending at point 2, check the angle required with the photograph in step 11, opposite.

Make two further right angle bends in railing I at points 3 and 4, as shown.

Take railing J from frame 87-09 and bend it at four points as shown. Check the angle for the bend at point 1 when you fit the railing in the next step. The other bends are right angles.

Check the fit of railing J along the starboard side of the lower mast deck, as shown.
On the bridge deck, below the railing J fitted in the previous step, fit the railing 87-08, gluing the pegs on the lower edge of the railing into the recesses in the deck.

Turning to the port side of the superstructure, take the bent railing I from frame 87-09. Fix it in place along the edge of the port side of the lower mast deck.

Take the short railing K from frame 87-09 and fit it to the edge of the bridge deck, to the aft of the rangefinder. Glue in place.

Completed work
Two more 10.5cm twin anti-aircraft guns have been assembled and fitted to the port side of the superstructure. Two navigation wings have been fixed in place, together with various railings on the lower mast deck and bridge deck.
STAGE 88
THE NEXT SECTION OF THE HULL

COMPONENTS CHECKLIST

88-01: Lower starboard hull section
88-02: Bollards (A), fairleads (B), sounding line platforms (C)

01. FITTING THE HULL SECTION

Take the lower starboard hull section 88-01 and fit the three raised screw sockets into the raised screw sockets in parts 77-01 and 83-01 as shown in the photo.

Fix the lower starboard hull section 88-01 to hull section 77-01 and keel section 83-01 using three PM screws.
02. DETAILS FOR THE UPPER DECK

Take the upper deck structure with the forward superstructure. Cut a sounding line platform C from one of the two frames 88-02. Fix it in place on the port side in front of the rear breakwater, using a little superglue.

Slightly further aft, a fairlead B from one of the frames 88-02 is glued to the port side of the upper deck, as shown in the photo.

Two bollards A from one of the frames 88-02 are glued into the holes in the upper deck, as shown.

Another fairlead B is fixed in place towards the aft of the upper deck assembly on the port side.

Two more bollards A are glued in place to the aft of the previous fairlead B.

Moving to the starboard side, the second sounding line platform C is fitted in front of the rear breakwater. Glue in place, as shown.
Halfway down the starboard side of the upper deck assembly, two bollards A and one fairlead B are glued in place, as shown.

The last two bollards A and the last fairlead B are glued to the aft of the starboard side of the upper deck assembly.

**Completed work**

Various details have been fitted to the upper deck and another section of the hull has been fitted (not shown).
STAGE 89
MOTOR FOR THE AFT FIRE CONTROL POST

COMPONENTS CHECKLIST
89-01: Motor for the aft fire control post
89-02: Cable
89-03: Cable label
PB: Three 1.7 x 6mm PB screws

01. ASSEMBLING THE ENGINE

Take the cable 89-02 and the cable label 89-03. Remove the cable label from its backing as shown.
Wrap the cable label 89-03 around one end of the cable 89-02, close to the connector.

Fit the connector on the other end of the cable 89-02 into the socket in the motor 89-01.

Completed work
A labelled cable has been fitted to the motor for the aft fire control post. The screws will be used in a future stage, when the motor is fitted to the control post, so store them carefully.
STAGE 90
A HULL SECTION AND MAGNETS

COMPONENTS CHECKLIST
90-01: Upper port hull section
90-02: Four magnet holders (2 x A, 2 x B)
90-03: Four magnets
PM: Seven 2 x 4mm PM screws

01. FITTING THE HULL SECTION

Take the port hull section 90-01 and position it above hull section 85-01 so that the screw holes are aligned with the sockets, as shown.

Fix the hull section 90-01 in place with two PM screws.
02. FITTING THE MAGNETS

Take the upper port hull section 81-01, supplied with stage 81. Place two magnets 90-03 on your worktop, with the letter S facing upwards. Apply a little superglue in the first recess (arrow).

Fix one of the magnets 90-03 into the first recess in part 81-01, positioning it so that the letter S (circled) is facing you.

Fix a second magnet 90-03 into the second recess at the top of part 81-01, using superglue, as before. Ensure that the letter S is facing you.

Check the difference between the magnet holders A and B on frame 90-02. The holders A are slightly smaller than B. For the two magnets that have been fitted, you will need two A holders and two PM screws. Fit one of the brackets in place, as indicated.

Fix the first magnet holder A to the hull section 81-01 with a PM screw. The holder covers the end of the first magnet 90-03.

Fix the second magnet holder A in place on the other side of the hull section with a PM screw.
Take one of the magnet holders B and another magnet 90-03. Apply a little superglue into the recess on the back of the magnet holder and fit the magnet in place so that you CANNOT see the letter S.

Attach one of the magnet holders B to the hull section 90-01 using a PM screw.

Fit the last magnet into the second magnet holder B, again gluing it in place so that you CANNOT see the letter S.

The last magnet holder is fixed in place to hull section 66-01 using a PM screw.

Fit the hull section 81-01 in place between the hull sections 91-01 and 66-01. The magnets fitted into magnet holders B connect with the magnets in the hull section 81-01 to hold the panel in place.

Completed work
A hull section has been fitted with magnets and inserted into the hull assembly so that it can be removed.
STAGE 91
THE AFT FIRE CONTROL POST

COMPONENTS CHECKLIST
91-01: Small parts for the rotating dome and the control post (A to D)
91-02: Aft rotating dome
91-03: Base of the rotating dome
91-04: Aft control post
91-05: Base plate
91-06: Cog
91-07: Cog
91-08: Cog
91-09: Ladders with rails
91-10: Cooling coil
91-11: Rails and ladders (E to G)
91-12: Radar antenna
91-13: Two shafts
PB: Three 2 x 5mm PB screws
PB: Two 1.7 x 4mm PB screws

01. FITTING THE MOTOR IN THE AFT CONTROL POST

Place the aft control post 91-04 on your worktop and fit the cog 91-06 in place as shown. Have two shafts 91-13 ready.
Fit one shaft 91-13 through the centre of the cog 91-06 and into the socket in the control post 91-04. Fit the second shaft into the hole in the aft control post 91-04.

Fit cog 91-07 on the second shaft 91-13 (on the right in the orientation shown). The teeth on the base of cog 91-07 interlock with the teeth on the rim of cog 91-06. Cog 91-08 will be fitted next.

Fit cog 91-08 on the shaft 91-13 (not visible) on top of cog 91-06. The teeth on cog 91-08 interlock with the teeth on the rim of cog 91-07.

Fit the base plate 91-05 on the base of the aft control post 91-04. You will need two 2 x 5mm PB screws.

Fix the base plate in place with two 2 x 5mm PB screws.

Take the motor 89-01 and fit it into the base plate 91-05 so that the shaft of the motor engages in the centre of cog 91-08 (the cog is not visible from this angle).
Fix the motor **89-01** in place on the base plate **91-05** using two 1.7 x 6mm PB screws (supplied with stage 89).

Turn the control post **91-04** over. Fit the base of the dome **91-03** on the top of the control post. Fix it in place with a 1.7 x 4mm PB screw.

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### 02. ASSEMBLING THE ROTARY DOME

**01**

Place the aft rotating dome **91-02** on your worktop. Separate the aft mast **A** from frame **91-01** and check how it fits into part **91-02**. Apply some adhesive to the peg on the base of the mast.

**02**

Fix the mast **A** in place on the rotating dome. Cut the two side parts **D** from frame **91-01**. Check the fit of the side parts **D** on the side of part **91-02**.

**03**

Apply a little superglue to the pegs on parts **D** and fix in place as shown.

**04**

Separate the two rangefinder arms **B** from frame **91-01**. Check the fit of the first part **B** into one of the side pieces **D**, as shown.
Identify the back of the rotating dome 91-02 (arrow). Make sure that the peg on the end of arm B faces backwards (arrow). Apply a little glue to the end of the first part B and fix in place. Repeat to fit the second part B, ensuring the peg is pointing backwards (arrow).

Cut the two target indicators C from frame 91-01. Check the fit on the roof of the control post 91-04, ensuring that they are facing the right way, as shown. Glue in place.

Check how the rotating dome 91-02 fits on the base 91-03. Apply a little glue to the rim of part 91-02.

Fix the rotating dome 91-02 in place on the base 91-03 (not visible)

Cut the hand/foot rails structures E from frame 91-11. Check how they fit on the rangefinder arms. Glue in place as shown.

Cut the ladders F and G from frame 91-11. Bend the fixing tabs (four on part F and two on part G) at right angles, as shown.
Check how ladder **G** fits on the front of the aft mast. Glue in place.

Ladder **F** fits on the back of the control post **91-04**. Glue in place.

The cooling coil **91-10** fits on the front of the rotating dome **91-02**: pegs on each end fit into holes in the rotating dome. Glue in place.

The ladders with rails **91-09** fit across the back of the rotating dome **91-02**. Pegs on the ladders fit into corresponding holes in the rotating dome. Glue in place.

The radar antenna **91-12** has two pegs that fit into the two central holes on the back of the rotating dome **91-02**. Make sure you have it the right way up, as shown. Glue in place.

**Completed work**

The aft fire control post has been assembled, with many detailed features. The motor has been attached to the base of the fire control post.
STAGE 92
THE TURBINE ROOM

COMPONENTS CHECKLIST
92-01: Floor section
92-02: Turbine support
92-03: Gangway
92-04: Bolts x 4
92-05: Transverse dividers x 8
92-06: Transverse support brackets (A) and a longitudinal bulkhead (B)
92-07: Turbine parts (C to G)
92-08: Turbine head
92-09: Turbine pipe
92-10: Cable guides (H, I)
92-11: Gangway (J), supports (K) and angled brackets (L)
92-12: Angled bulkhead
92-13: Torpedo bulkhead
92-14: Longitudinal bulkhead
92-15: Front transverse bulkhead
92-16: Rear transverse bulkhead
92-17: Back wall
92-18: Armoured deck
92-19: Three railings (M to O)

01. ASSEMBLING THE TURBINE

Take the frame 92-07 and separate the turbine parts F and G from it. Check how the parts fit together.
Apply some glue to the rim of part G.

Glue parts F and G together as shown.
Take the two halves of the turbine, C and D, from frame 92-07. Two pegs on part D fit into sockets in part C. Apply a little glue to the pegs and fix the parts together.

Check the fit of the turbine head 92-08 on the wider end of the turbine assembly. Apply a little glue to the end of the turbine and fix part 92-08 in place.

Check the fit of the shaft of the turbine in the centre of assembly F/G. Apply some glue to the turbine shaft and glue in place to the assembly F/G, as indicated.

This shows the turbine assembly. Next you will need the two small parts E from frame 92-07.

Apply a little glue to the ends of the pegs of parts E and fix in place on the side of the turbine assembly, as shown. Next you will need the pipe 92-09.

Check the fit of part 92-09 on the turbine. Two pegs on the end of the pipe fit into the double hole on the side of the turbine. Glue in place, as shown.
02. ASSEMBLING THE TURBINE ROOM

01. Place the floor 92-01 on your worktop. Check how the turbine support 92-02 fits on the floor: four raised sockets on the underside of part 92-02 fit over raised pegs on the floor 92-01, as indicated.

02. Apply some glue to the four pegs on the floor 92-01 and fix the turbine support 92-02 in place. Remove the four bolts from the frame 92-04.

03. Glue the four bolts 92-04 into the sockets in the turbine support 92-02, as shown.

04. Take the eight transverse dividers from frame 92-05. Slide the first divider into the slots on the floor 92-01 and underside of the turbine support 92-02. Note the orientation of the floor/support assembly and the notch on the corner of the divider (thick red arrow).

05. Insert the remaining seven transverse dividers from frame 92-05. They slot into the guides in the same way as the first divider.

06. Take the five matching transverse support brackets A from frame 92-06. These fit on the top of the turbine support 92-02, parallel to the brackets that are part of the support panel. Pegs on the lower edges of the brackets fit into holes in part 92-02. Note the position of the notched edge of the brackets (thick red arrow).
07 This shows the five support brackets A in place on part 92-02, with the notched edges aligned (arrow). Note the pegs on the support brackets (circled).

08 Check how the turbine assembly fits on the turbine support 92-02 and brackets A so the pegs (circled in previous step) are located in sockets in the turbine assembly. When you are happy with the fit, apply a little glue to the pegs and fix in place.

09 Glue the gangway 92-03 onto the turbine support brackets as shown. Two pegs on the base of part 92-03 fit into corresponding holes in part 92-02.

10 Take the small gangway J from frame 92-11 and glue in place across the support brackets as shown.

03. SHAPING AND FITTING THE RAILINGS

01 Separate the railing M from the frame 92-19. Bend the railing three times at right angles at the notched points as shown. See also step 5.

02 Take the railing N from frame 92-19. Bend it once at a right angle, as shown.
Take railing 0 from frame 92-19 and bend it once at a right angle.

Check the fit of the railing 0 on the gangway 92-03. Apply a little glue to the two pegs on the lower edge of the railing and fix in place, as shown.

Check the fit of the railing M on the stairs and corner of the gangway 92-03. Apply a little glue to the two pegs on the lower edge of the railing and fix in place, as shown.

Check the fit of the railing N on the short flight of stairs and top of the gangway 92-03. Apply a little glue to the two pegs on the lower edge of the railing and fix in place, as shown.

04. THE BULKHEADS, ANGLED BRACKETS AND SUPPORTS

Take the longitudinal bulkhead B from frame 92-06. Check how the tab on part B fits into the torpedo bulkhead 92-13. To get the bulkhead B at the correct angle, use the angled brackets L from frame 92-13 as a guide (see next step). Glue the bulkhead B in place.

Take the four angled brackets L from frame 92-11. They fit into the grooves in torpedo bulkhead 92-13 and longitudinal bulkhead B, with tabs located in the slots, as shown.
Glue the angled brackets **L** to the torpedo bulkhead **92-13** and longitudinal bulkhead **B** as shown.

Identify four tabs on the longitudinal bulkhead **92-14** (circled). Check how they fit into the slots on the bulkhead **92-13**.

When you are happy with the fit, glue the bulkhead **92-13** in place. It sits at a slight angle, as shown.

Check the fit of the angled bulkhead **92-12** on the bulkhead assembly: a rib on part **92-12** fits beneath the edge of the bulkhead **92-13** (arrow). Apply a little glue to the edge of the bulkhead **92-13** and the lower edge of bulkhead **92-12** and fix in place, as shown.

The three small supports **K** from the frame **92-11** are glued into the three openings of the angled bulkhead **92-12**. The angled end of the supports fit into part **92-12** so they appear vertical, as seen in the next step.

Check the fit of the bulkhead assembly from step 7 on the curved part of the floor **92-01**. Pegs on the edges of the longitudinal bulkhead **92-14** and torpedo bulkhead **92-13** fit into recesses of the floor panel **92-01**. When you are happy with the fit, glue in place.
Completed work
The turbine room has been assembled and fitted into the hull. You can now fit magnetised part 81-01 back in place. The guides from frame 92-10 will be used in a future stage.

Take the armoured deck 92-18 and check the fit on the longitudinal bulkhead, the angled bulkhead and the three small supports, as shown. Glue in place.

Check the fit of the transverse bulkhead 92-15 on the aft end of the turbine room assembly. Tabs at the top and bottom of the turbine room assembly fit into slots in the transverse bulkhead (circled). Glue in place.

Fit the transverse bulkhead 92-16 to the foward end of the turbine room as shown. Again, it is held in place by tabs located in slots. Glue in place.

Fit the back wall 92-17 onto the turbine room, locating the tabs on the turbine room assembly into the slots in part 92-17 (circled). Glue in place.

Remove the hull section 81-01 from the hull assembly (held in place by magnets). Four raised sockets on the base of the turbine room assembly floor 92-01 (white arrows) fit onto corresponding pins on the keel section. No glue is needed.