

U 96

U-BOAT

Pack 11

Assembly Instructions

Kit 41: Starboard hull

Kit 42: Periscope shaft

Kit 43: Tester

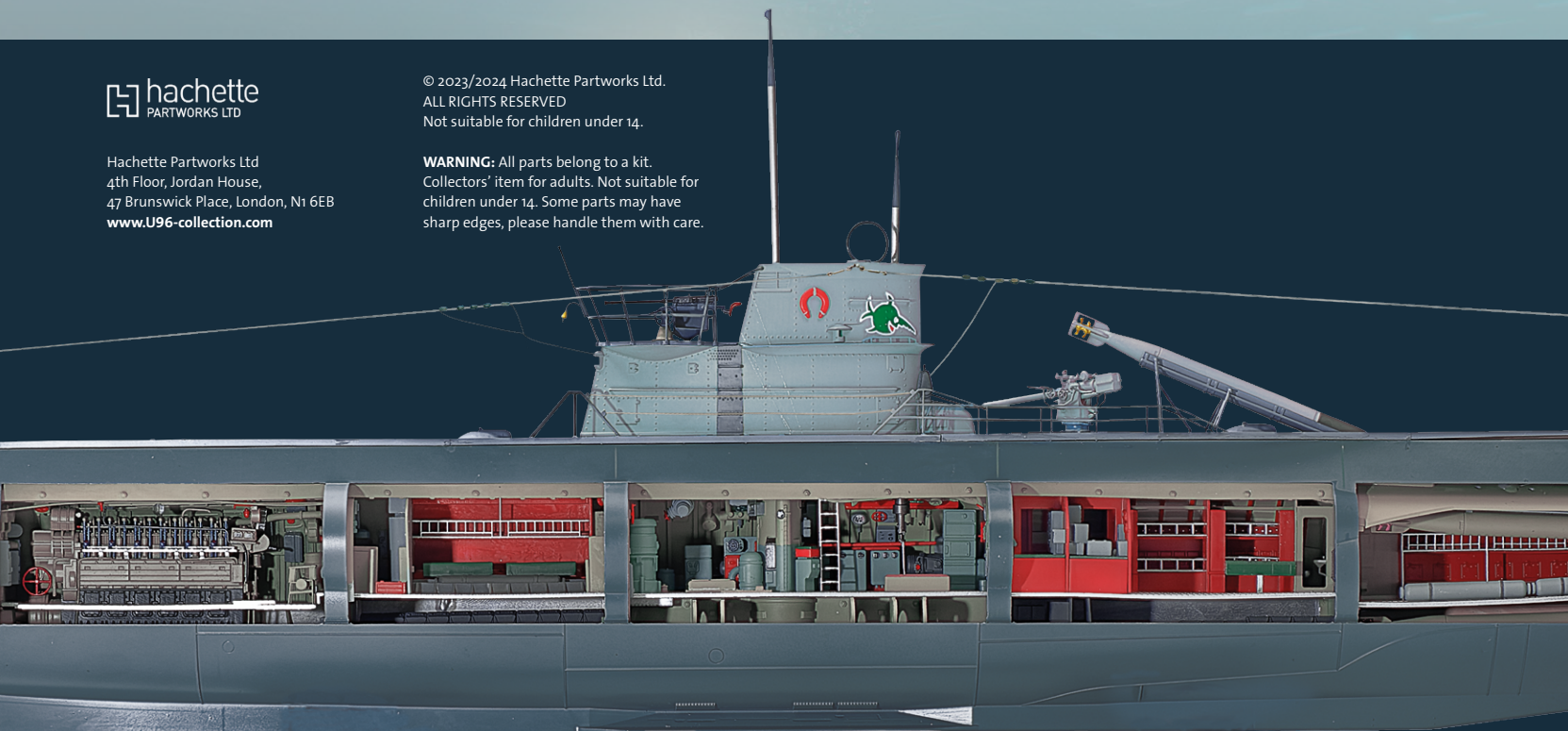
Kit 44: Attack periscope



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47 Brunswick Place, London, N1 6EB
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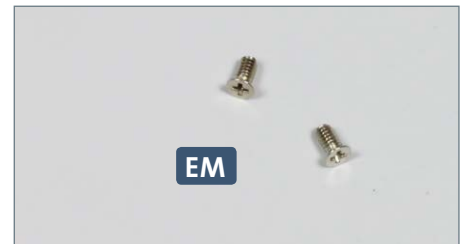
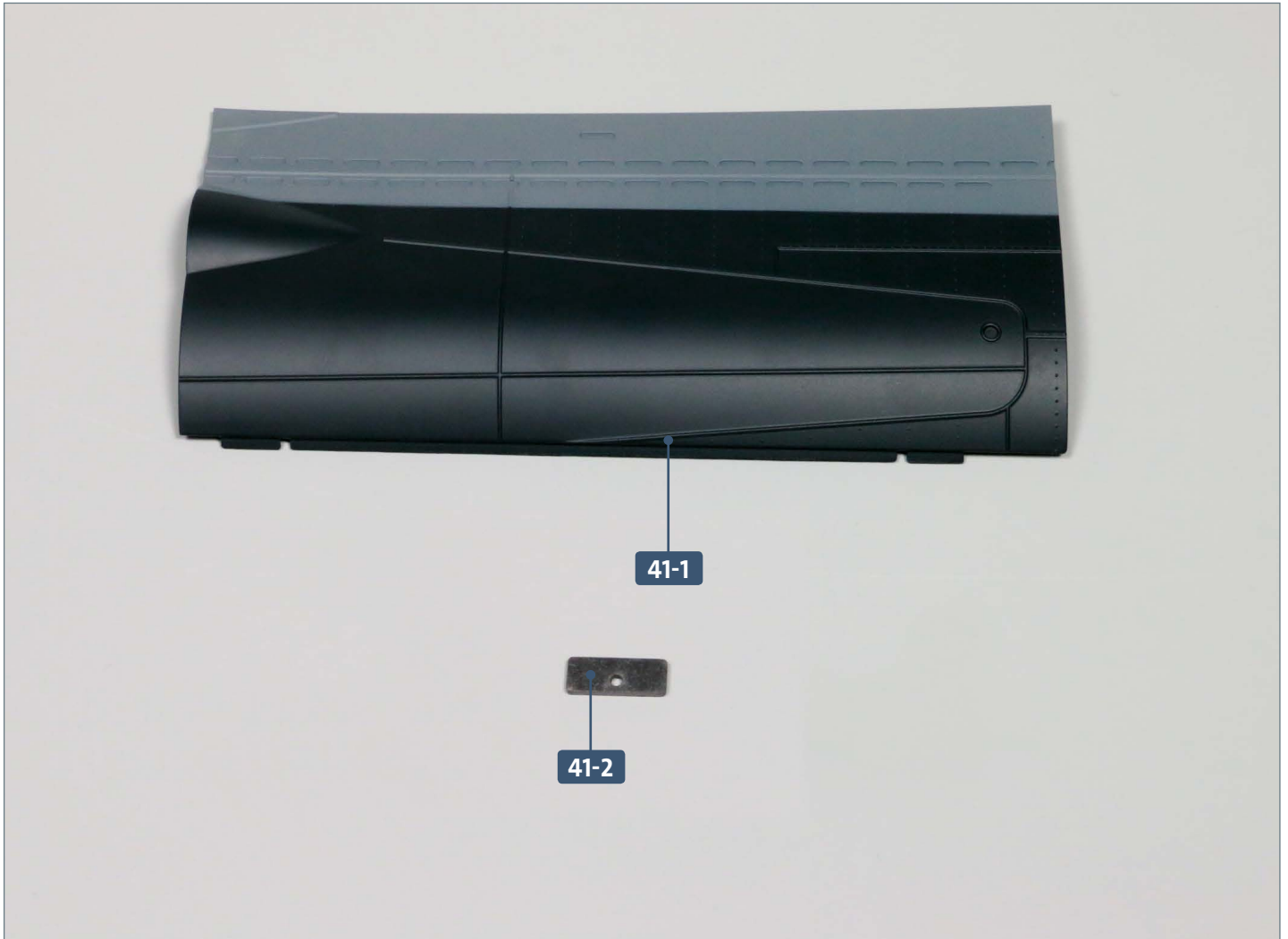
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Not suitable for children under 14.

WARNING: All parts belong to a kit.
Collectors' item for adults. Not suitable for
children under 14. Some parts may have
sharp edges, please handle them with care.



Kit 41: Starboard hull

In this kit, a metal plate is connected to the starboard (R) side of the hull, and then joined to the main hull assembly.



Parts reference list

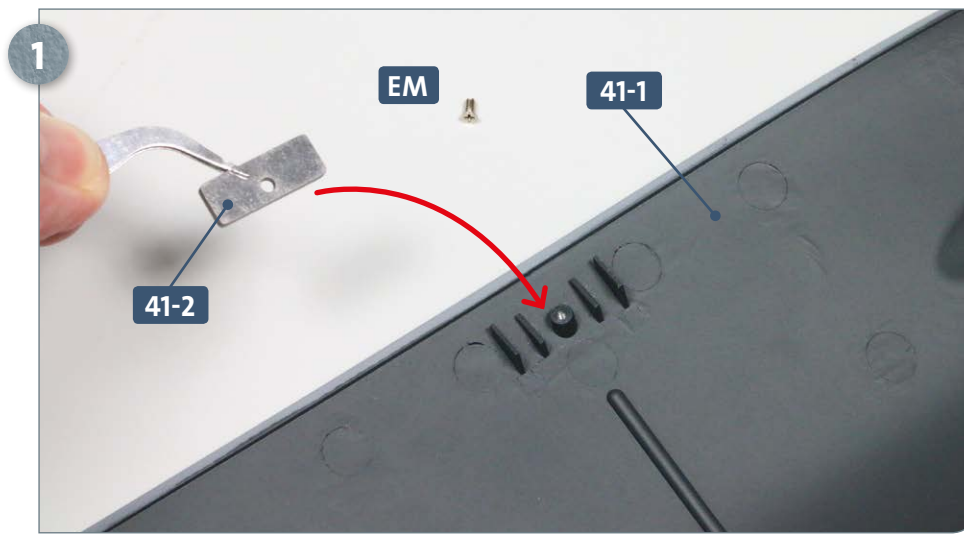
Part no.	Name
41-1	Starboard (R) hull plate
41-2	Metal plate

Screws

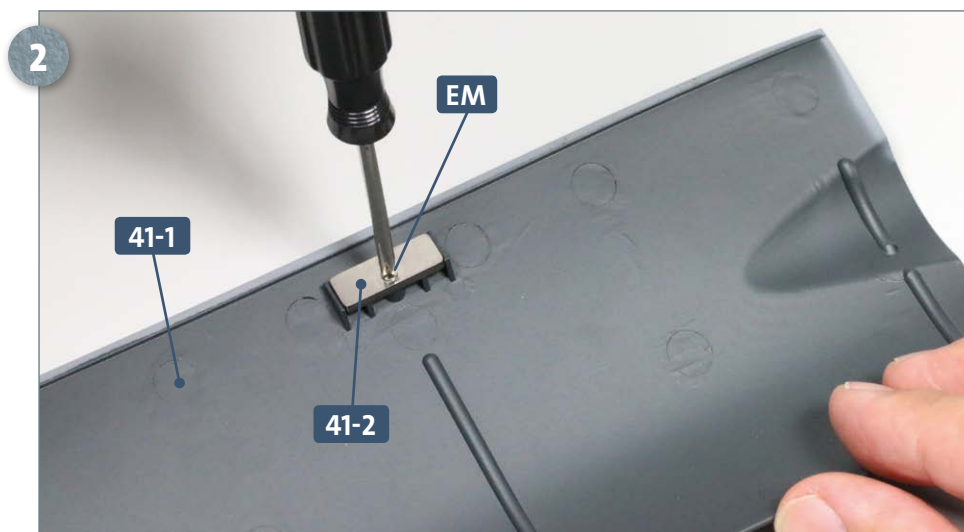
Ref	No.	Dimensions
EM	1+1	2 x 4 mm

Kit 41: Starboard hull

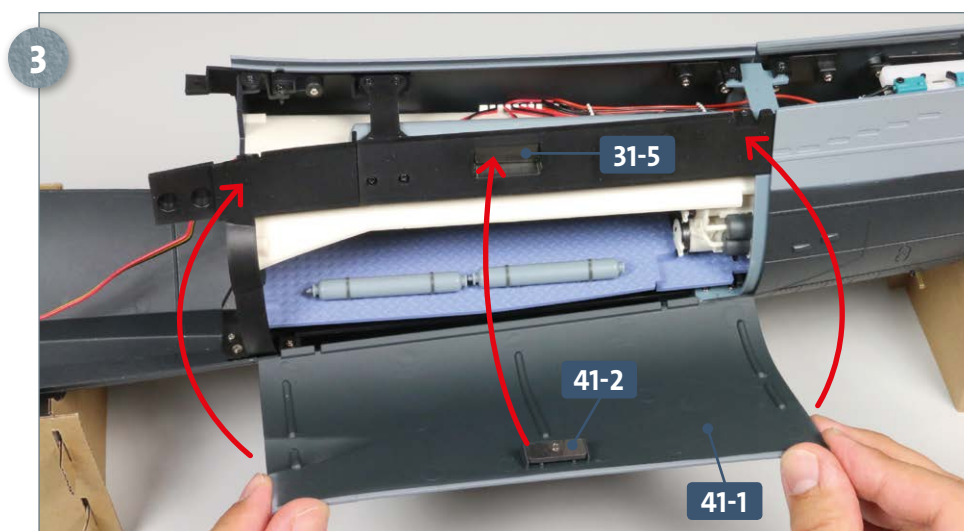
STAGE 1 → Installing the hull plate



Place the hull plate **41-1** on your worktop with the inner side facing up. Place the metal plate **41-2**, with the recess for the countersink screw upwards, over the hole in the hull section as shown, left. Have ready an **EM** screw.



Use the **EM** screw to attach the metal plate **41-2** to the hull section **41-1**.



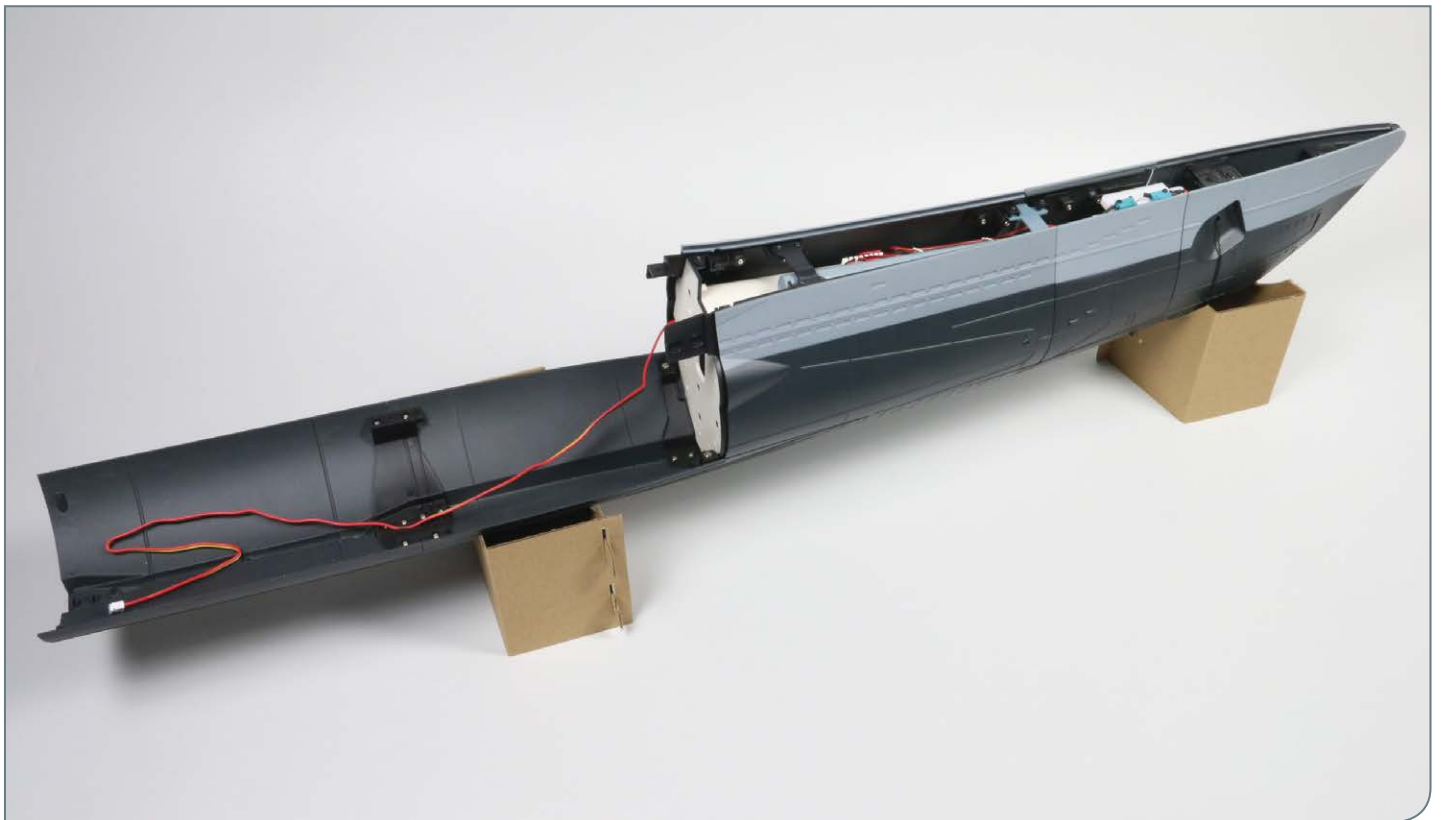
Place the main hull superstructure on your work surface so that you have access to the starboard (R) side. Fit the lip at the bottom of the hull plate **41-1** onto the edge of the keel below the first hull section. Tilt the hull plate **41-1** upwards so that the metal plate **41-2** sits against the magnet **31-5**, as shown by the arrows.

Kit 4l: Starboard hull

This photograph shows the new hull plate fitted in place.



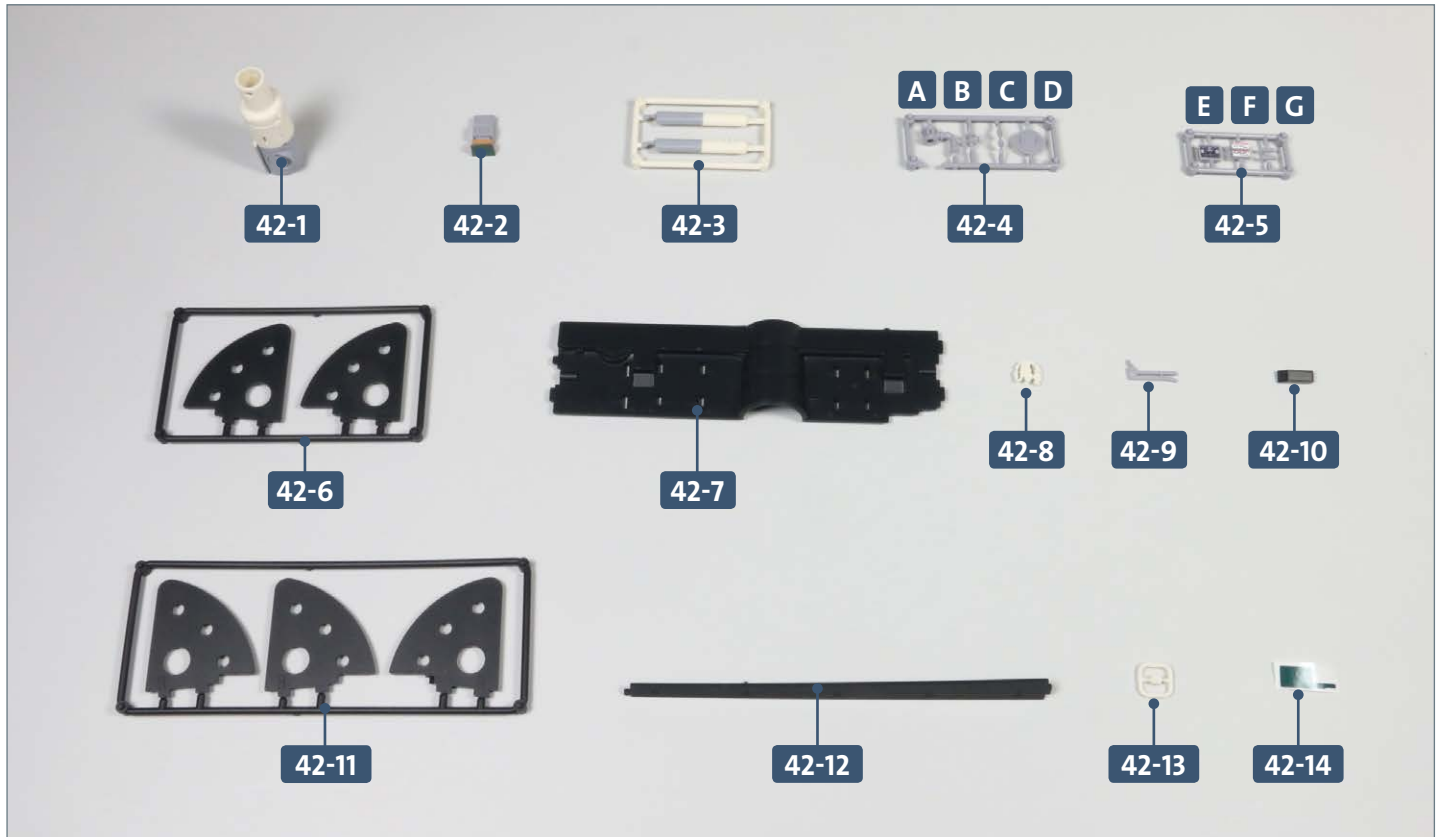
COMPLETED WORK



A removable hull plate has now been attached to the starboard (R) side of the hull structure.

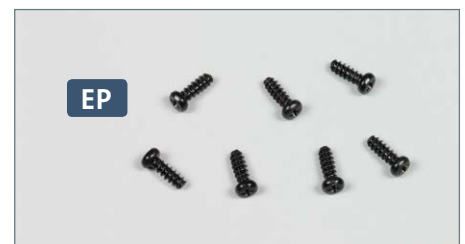
Kit 42: Periscope shaft

In this kit, the command room is equipped with additional components, including the shaft for the attack periscope. Ballast tank 3 is assembled and attached to the command room, and the assembly of the third compartment is completed.



Parts reference list

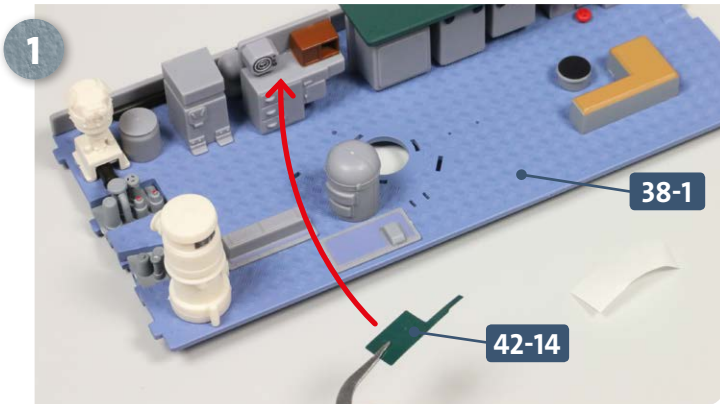
Part no.	Name
42-1	Periscope shaft
42-2	Central desk
42-3	Periscope shaft attachments
42-4	Frame (A, B, C, D)
42-5	Frame (E, F, G)
42-6	Ballast tank 3 parts
42-7	Ballast tank 3
42-8	Periscope shaft attachments
42-9	Periscope shaft attachments
42-10	Radiator
42-11	Ballast tank 3 parts
42-12	Cover strip
42-13	Deckhead attachment
42-14	Sticker



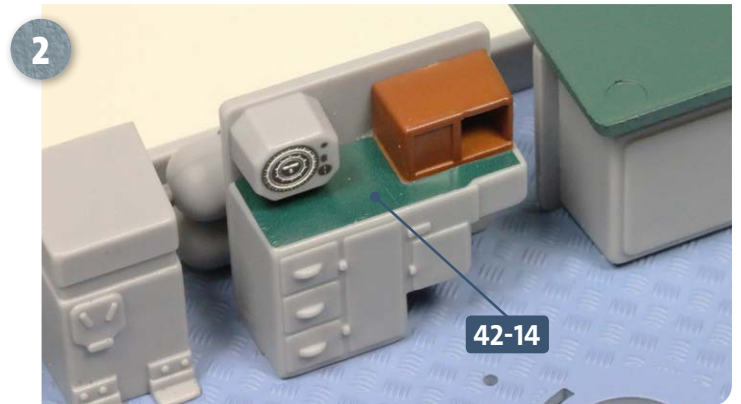
Screws

Ref	No.	Dimensions
EP	6+1	2.3 x 6 mm

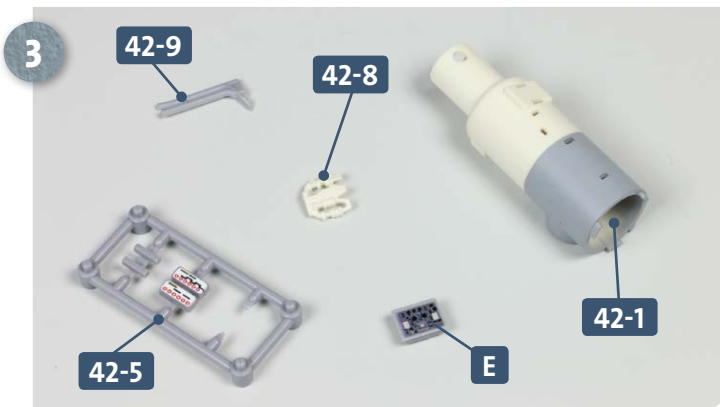
STAGE 1 → Additional components



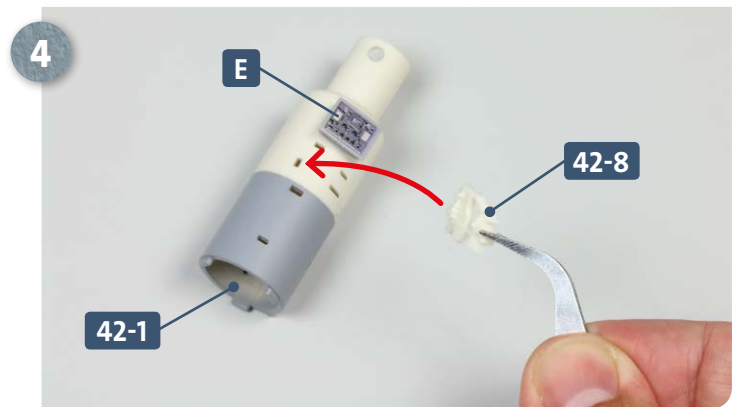
Place the central command compartment assembly on your work surface. Peel sticker **42-14** from its backing paper and stick it on top of the locker standing on deck **38-1**, as indicated by the arrow.



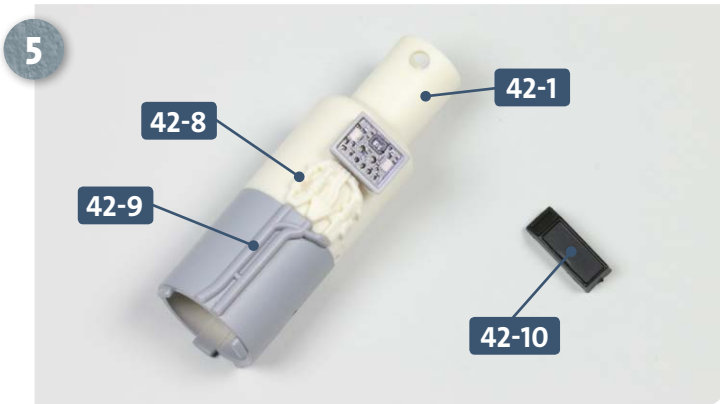
This photograph shows the sticker **42-14** correctly placed on top of the locker.



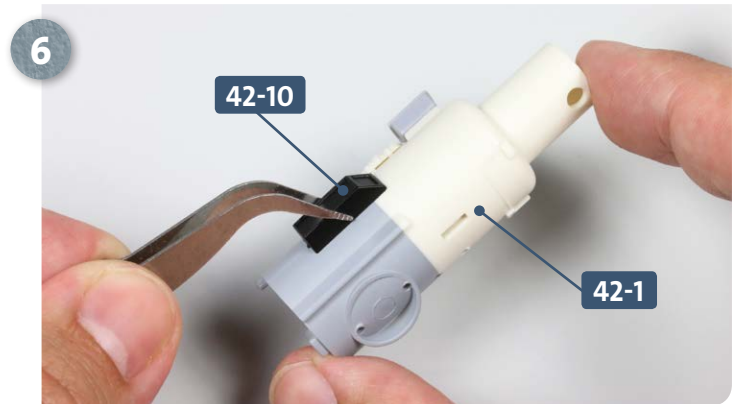
Place the periscope shaft **42-1**, attachments **42-8** and **42-9** and frame **42-5** on your work surface. Carefully remove part **E** from the frame.



Apply some glue to the two pegs on the back of part **E** and glue it to the periscope shaft **42-1**. Similarly, apply some glue to part **42-8** and fit it into the corresponding hole, as indicated.

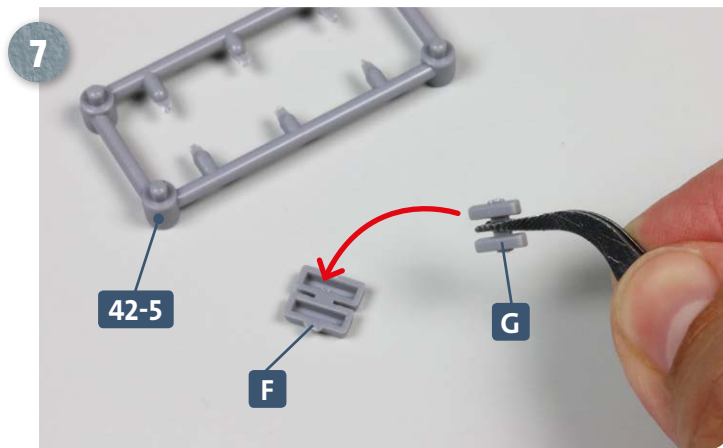


After fitting part **42-8** in place, glue attachment **42-9** below it on the periscope shaft **42-1**. Have ready the radiator **42-10**.

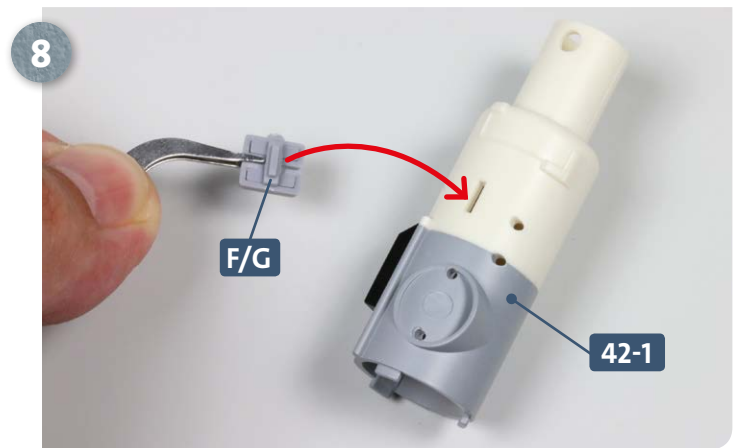


Apply some glue to the pegs on the back of the radiator **42-10** and glue it onto the periscope **42-1**, as shown in the photo.

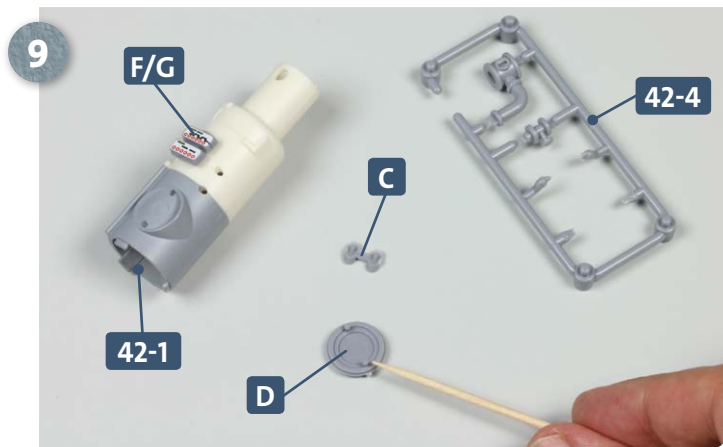
Kit 42: Periscope shaft



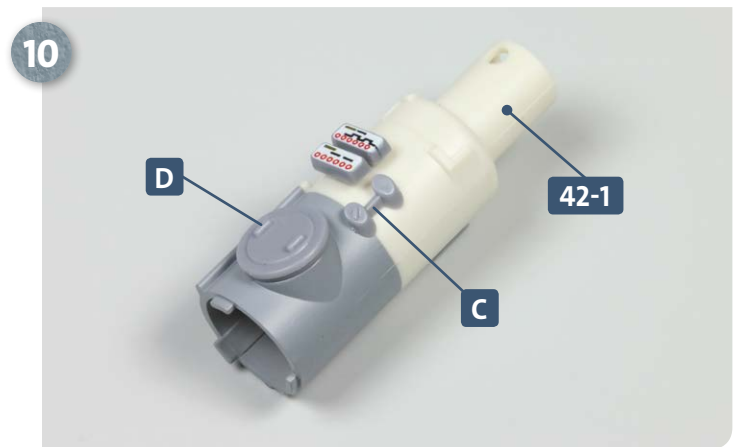
7 Separate parts **F** and **G** from frame **42-5**. Apply some glue to part **G** and fit it into the recesses on the back of **F**, as indicated.



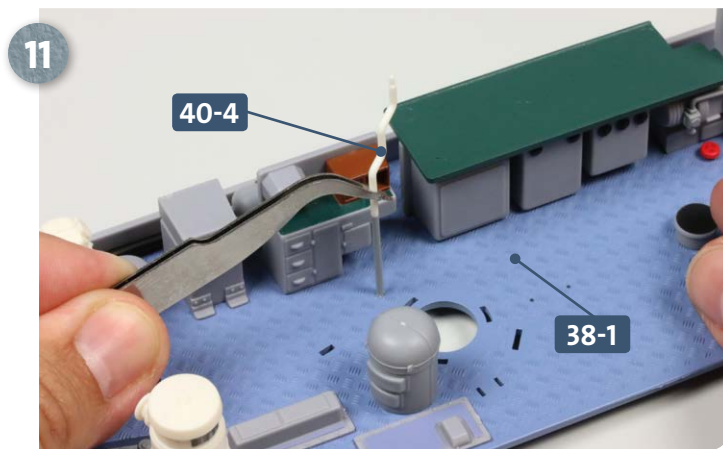
8 Glue part **F/G** into the vertical slot in the periscope shaft **42-1**, as indicated by the arrow.



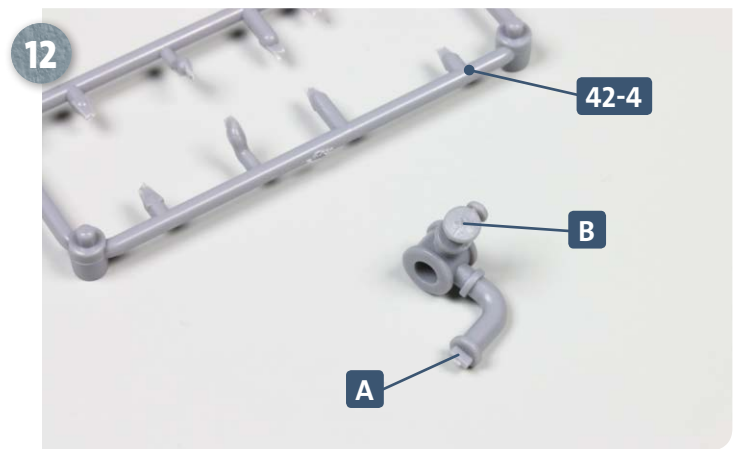
9 Part **F/G** is now attached to the shaft **42-1**. Detach parts **C** and **D** from frame **42-4**. Apply some glue to the pegs on the back of **D**.



10 After gluing part **D** in place, test-fit part **C** to ensure the correct orientation. Once tested, apply a little glue and secure in place, as shown above.

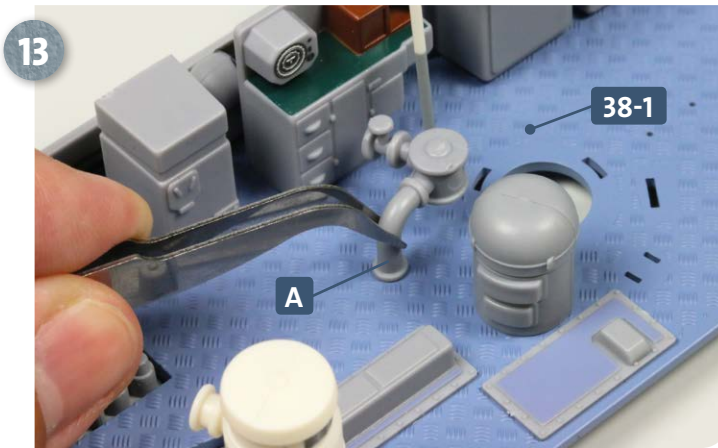


11 Take pipe **40-4** from kit 40 and apply some glue to the lower end. Insert this into the hole in the centre of the deck **38-1**, as pictured above.

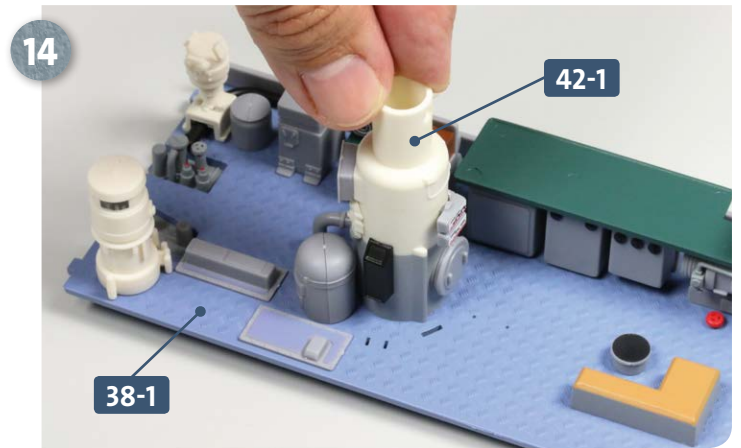


12 Separate parts **A** and **B** from frame **42-4**. Apply some glue to the peg of part **B** and insert this into the socket of part **A**.

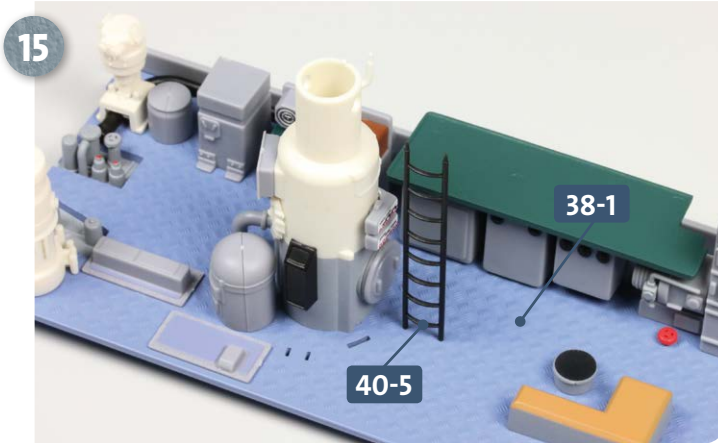
Kit 42: Periscope shaft



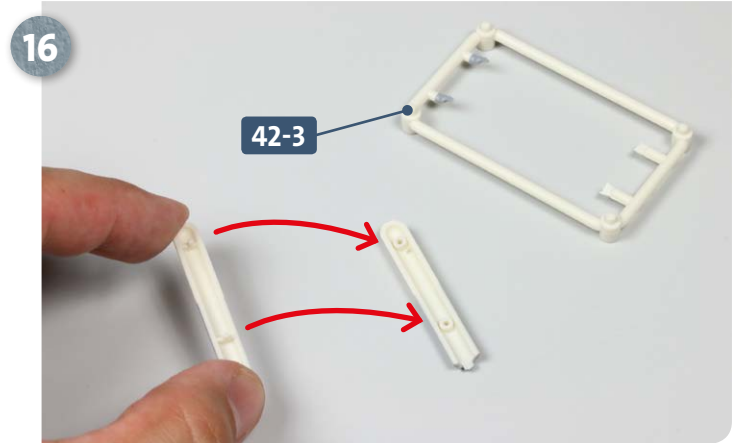
Glue part **A** into the hole in the deck **38-1**, as shown.



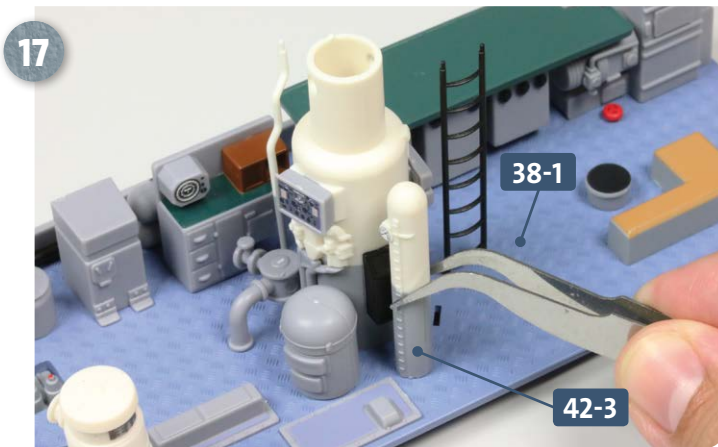
Apply glue to the three pegs on the bottom of the periscope shaft **42-1** and insert into the slots in the deck **38-1**.



Take the ladder **40-5** and apply glue to the pegs at one end, before inserting these into the holes in the deck **38-1**.



Separate both parts from frame **42-3**. Apply some glue to the pegs of one part and join the two together as indicated by the arrows.



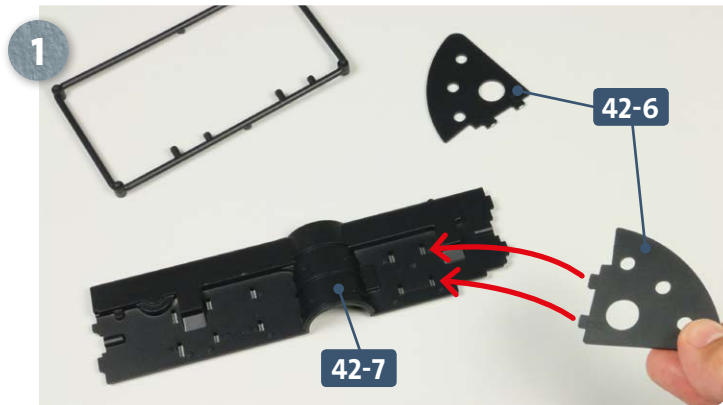
The resulting part assembled from the two halves, **42-3**, is glued to the deck next to the periscope shaft, as shown.



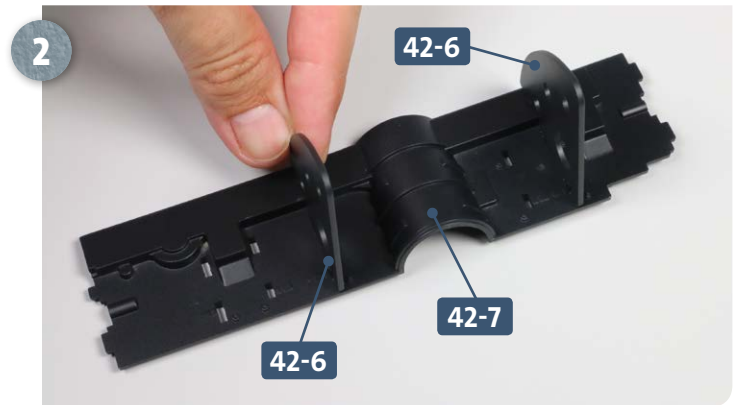
Finally, the central desk **42-2** is glued next to the periscope shaft as pictured above.

Kit 42: Periscope shaft

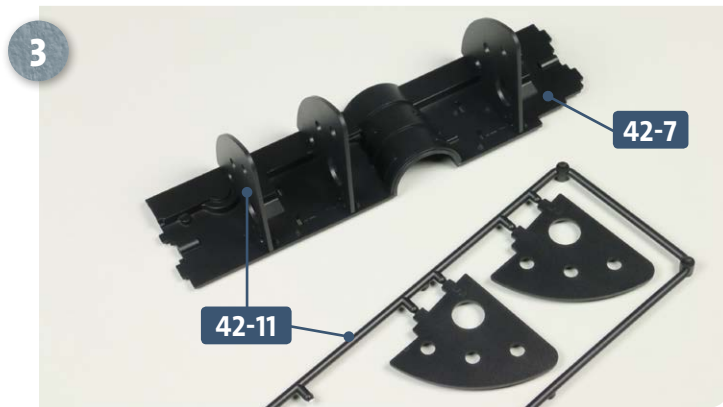
STAGE 2 → Assembling ballast tank 3



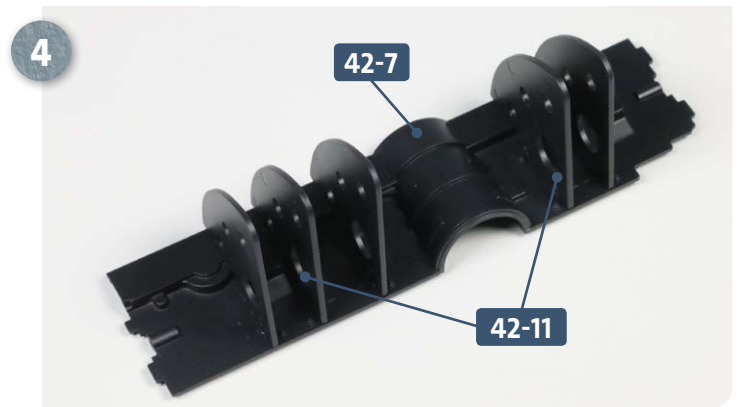
Place the ballast tank **42-7** on your work surface and separate both parts from the frame **42-6**. After glue is added to the tabs, the first bracket **42-6** is fitted into the slots of the tank, as indicated by the arrows.



The second bracket **42-6** is similarly glued and slotted in place on the ballast tank, as shown above.

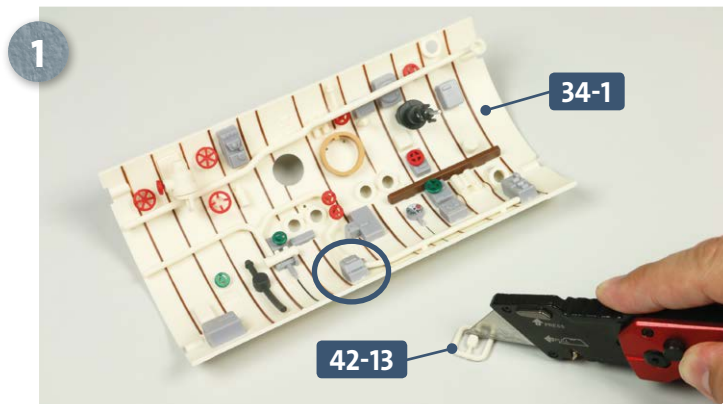


Take frame **42-11**. Remove the first bracket, which is a different way round to the other two, and glue it into the outermost two slots of the ballast tank **42-7**, as shown.

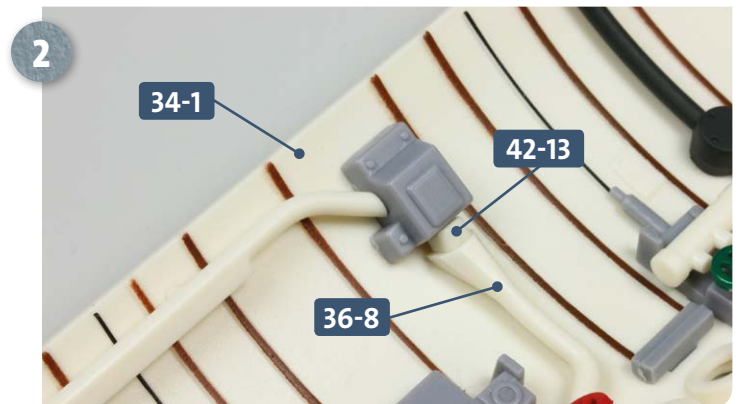


The two remaining brackets **42-11** are fixed in the remaining free slots in the ballast tank **42-7** with glue.

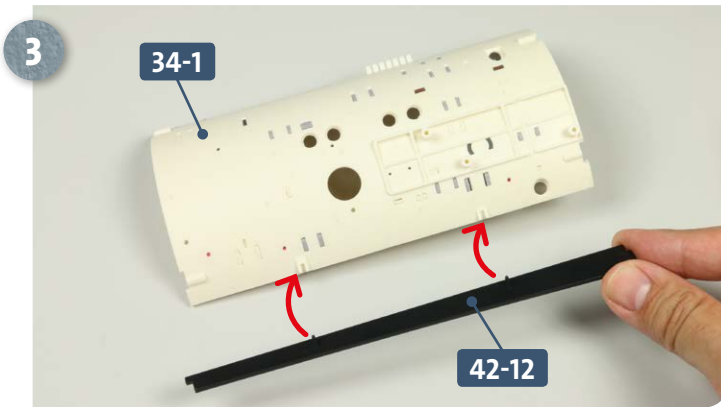
STAGE 3 → Additional details



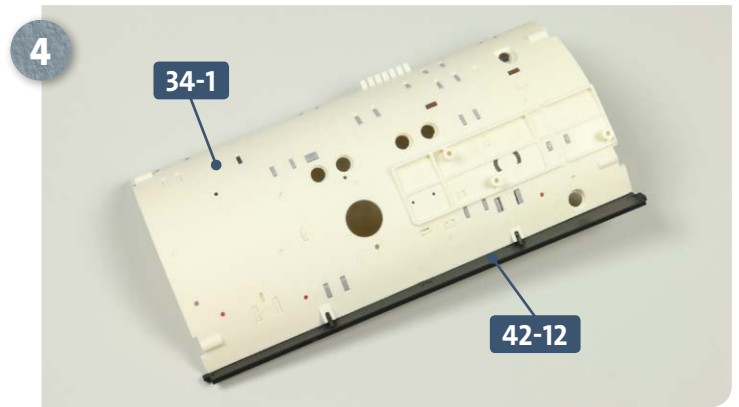
Lay the deckhead panel **34-1** for the central compartment on your work surface. Remove the attachment from frame **42-13**. The blue circle indicates where it should go.



Turn the deckhead panel around, apply some glue to the peg of **42-13** and fit it into the opening of the pipe **36-8**. To do this you may need to lift the end of the pipe slightly away from the deckhead **34-1**.

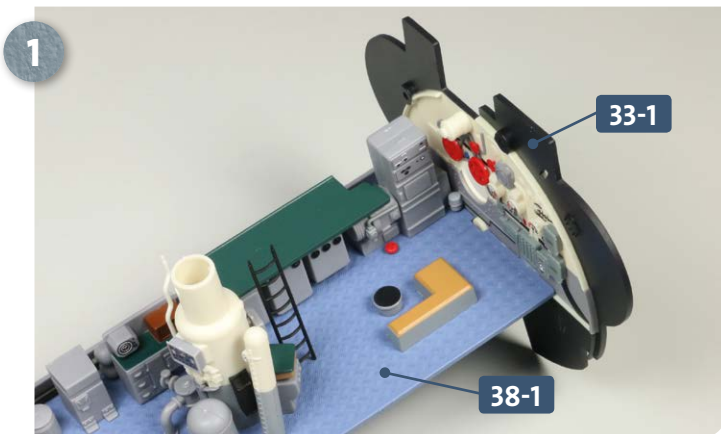


Turn the deckhead panel **34-1** over. Take the cover strip **42-12**, add some glue to its two pegs, and fit these into the mounts on the deckhead.

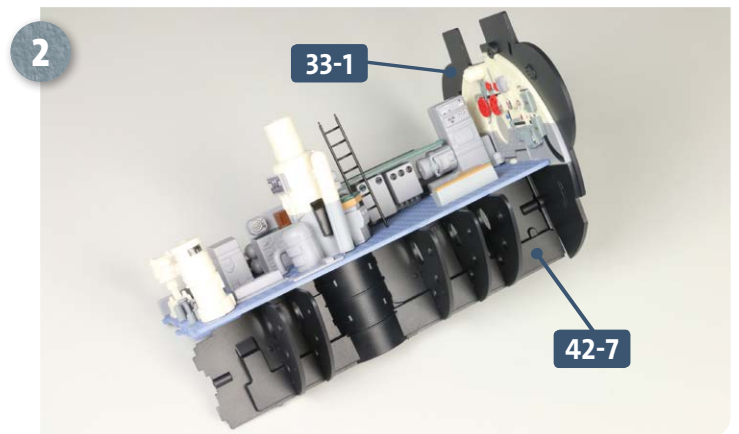


This photograph shows the cover strip **42-12** attached to the deckhead **34-1**.

STAGE 4 → Completing the third compartment



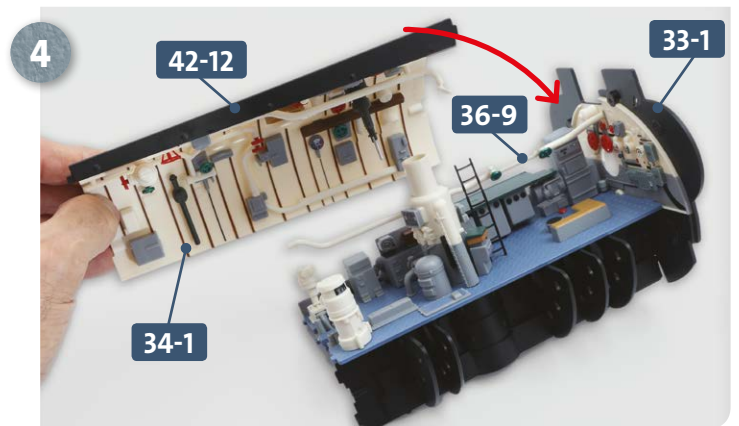
Take time to read through the following steps before starting work on this stage. Apply some glue to the two tabs on the forward edge of the deck panel **38-1** and fit these into the slots in the forward bulkhead **33-1**.



Add glue to the two tabs at the front of the ballast tank **42-7** and insert these into the lower slot in the forward central bulkhead **33-1**.

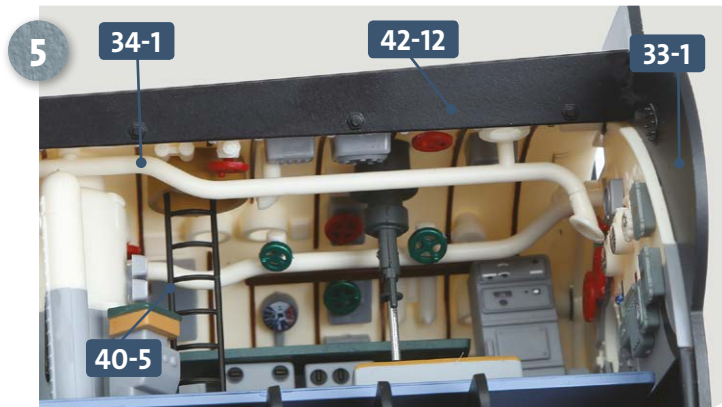


Fix the ballast tank **42-7** to the bulkhead **33-1** by inserting an **EP** screw from the forward end inwards, as shown.

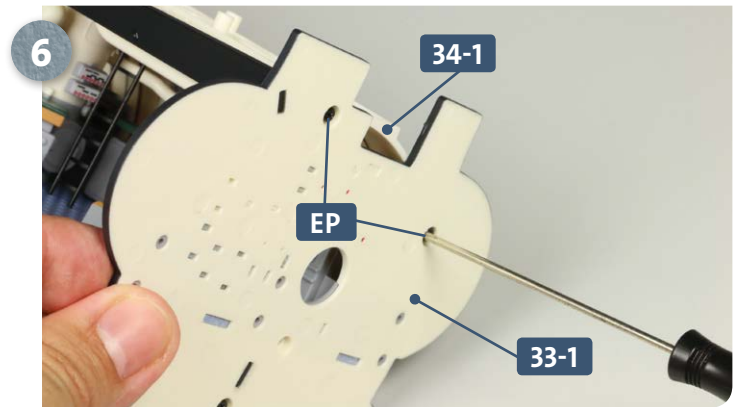


Take pipe **36-9**, apply some glue to the peg at the forward end, and insert this into the slot on the forward bulkhead **33-1**. Take the deckhead of the compartment **34-1**. Add some glue to the tab of the cover strip **42-12** and insert into the slot of **33-1** (as shown by the arrow).

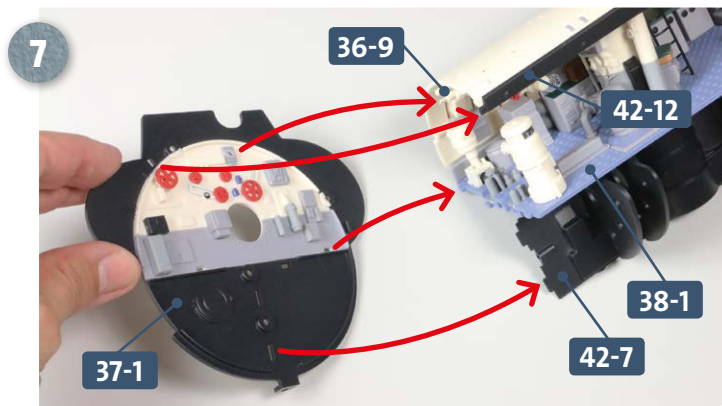
Kit 42: Periscope shaft



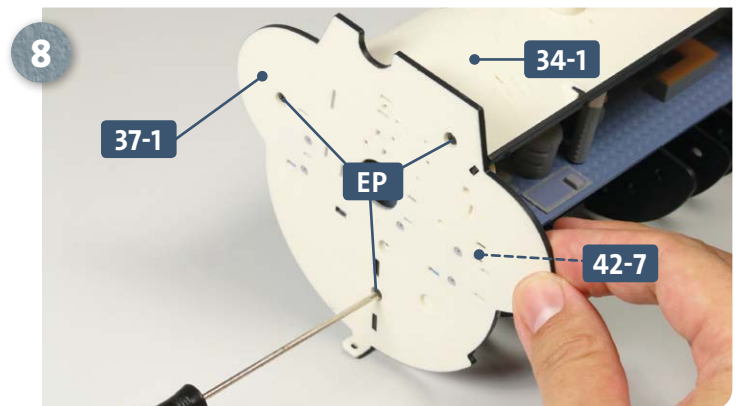
This photograph shows the deckhead panel **34-1** in place; the upper tips of the bars of the ladder **40-5** fit in recesses in the deckhead.



Attach the deckhead **34-1** to the forward bulkhead using two **EP** screws inserted from the outside of the compartment.



Now working at the aft end: the slots on the aft bulkhead **37-1** should accommodate the glued pegs of the pipe **36-9**, strip **42-12**, the control room deck **38-1** and the ballast tank **42-7**, as indicated by the arrows.



Attach the aft bulkhead **37-1** to the deckhead panel **34-1** and the ballast tank **42-7** using three **EP** screws, inserted from the outside, as shown.

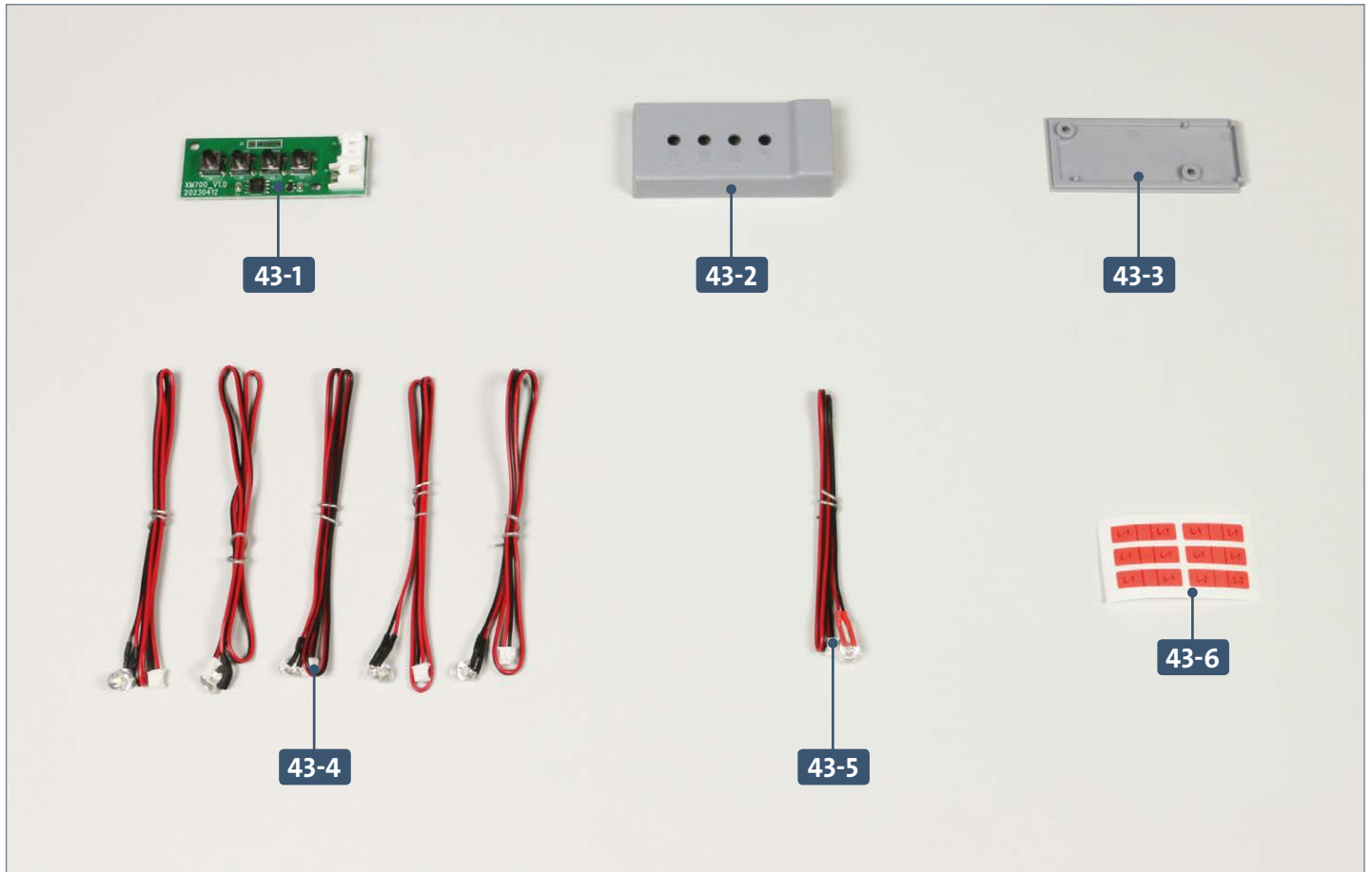
COMPLETED WORK



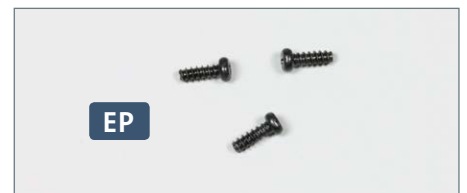
The third compartment of the U-Boat has been completed, joining the deck, bulkheads and ballast tank to form a single assembly.

Kit 43: Tester

In this kit, you will mark and test six cables before inserting their LEDs into openings in the command compartment deckhead. The tester is assembled and used to test various deck functions.



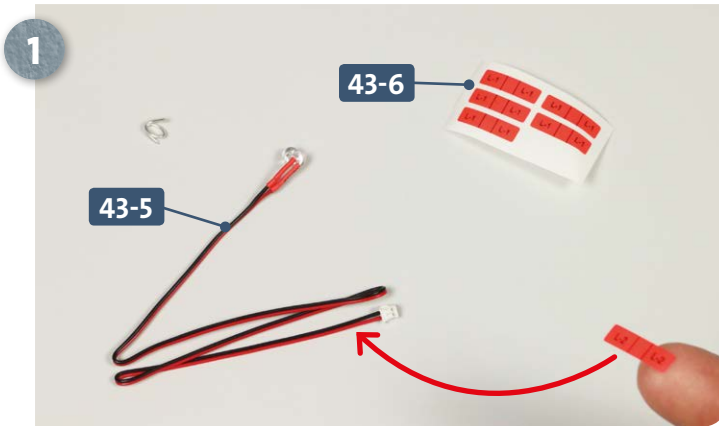
Parts reference list	
Part no.	Name
43-1	PCB function test board
43-2	PCB test board cover
43-3	Back cover
43-4	Five white LED cables
43-5	Red LED cable
43-6	Cable labels (6)



Screws		
Ref	No.	Dimensions
EP	2+1	2.3 x 6 mm

Kit 43: Tester

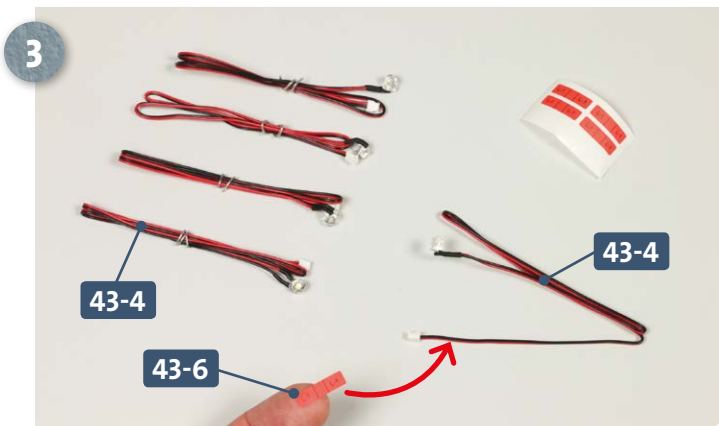
STAGE 1 → Test and assemble the six cables



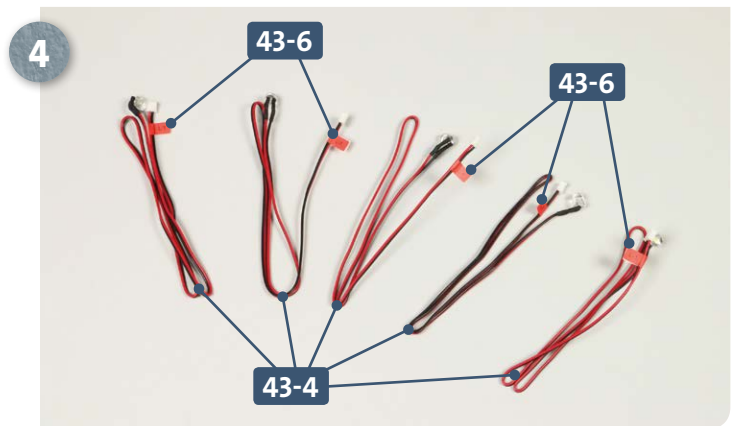
Take the red LED cable **43-5** (with the red sleeve). Peel the cable label **43-6** labelled **L-2** from the backing film in preparation to wrap around the end of the cable **43-5**, as shown.



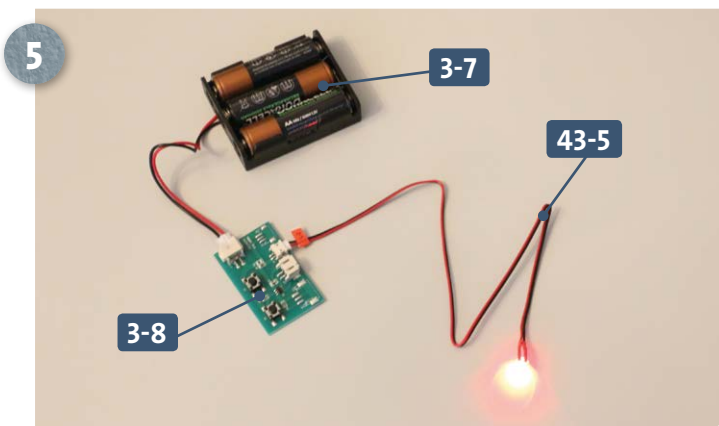
Now attach the sticker approximately 8mm from the connector, see photo above.



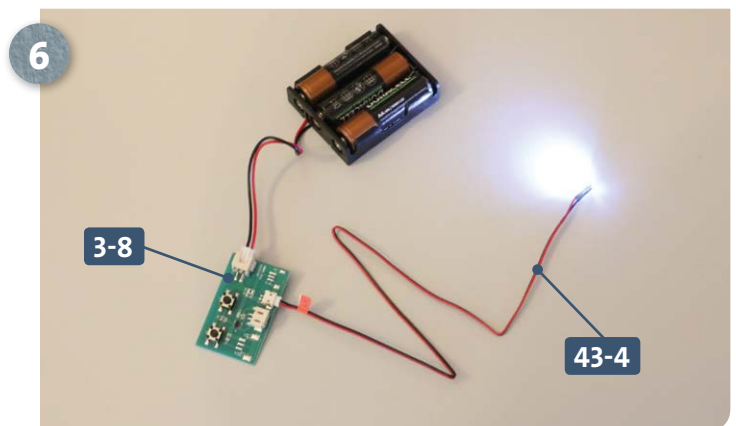
Have ready the five white LED cables **43-4** (with black sleeves). Remove one of the cable labels **43-6** labelled **L-1** from the backing film and attach it approximately 8mm from the connector at the end of one of the cables **43-4**, as indicated by the arrow.



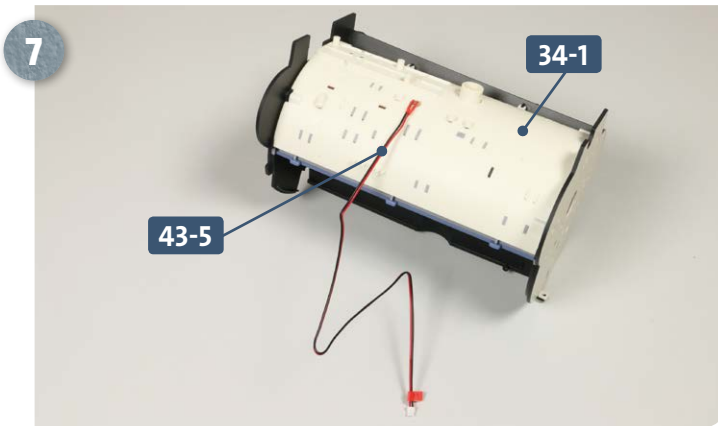
Attach an **L-1** label to each of the remaining white LED cables, approximately 8mm from the terminal connector.



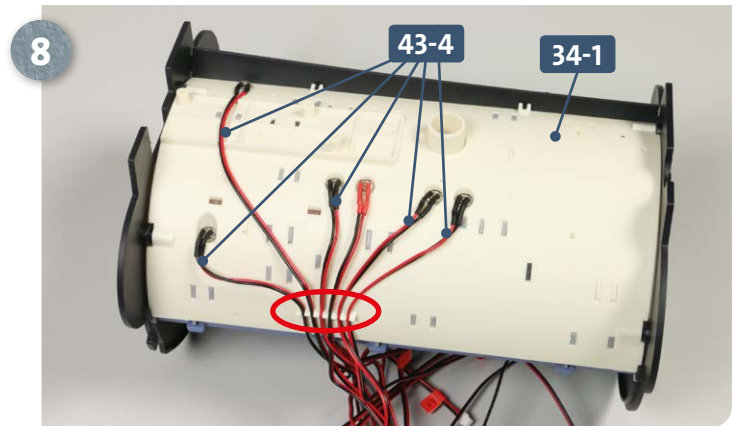
Take the battery compartment **3-7** with connected test PCB **3-8**. Plug the connector at the end of cable **43-5** into the small socket on the PCB: the red light should light up.'



Repeat the test with the five other cables **43-4**: these should each illuminate a white LED.

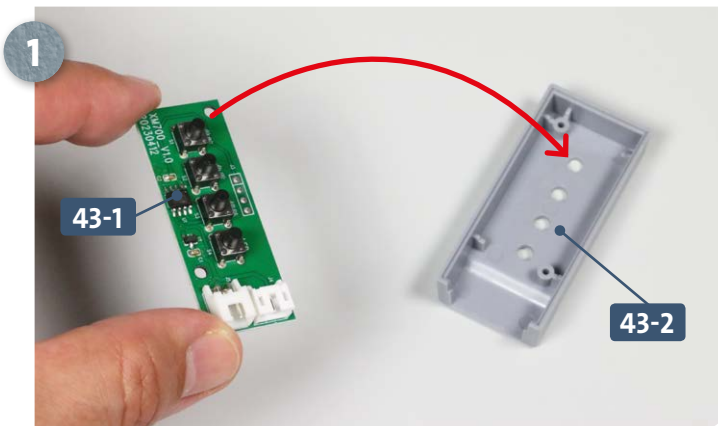


Fit the red LED 43-5, labelled L2, into the indicated hole in the central compartment deckhead 34-1.

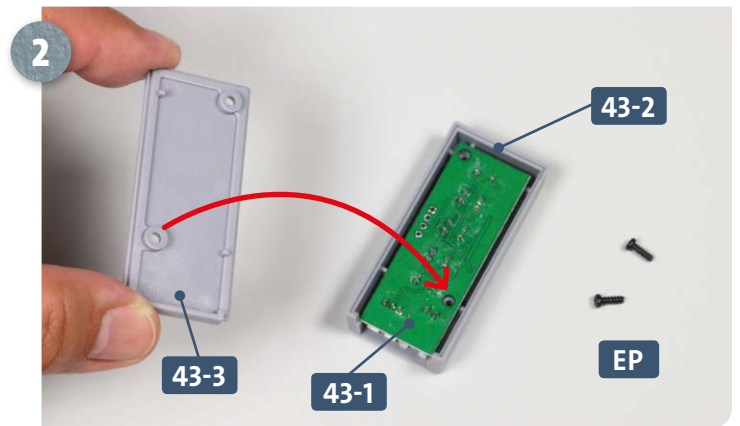


The five white LEDs 43-4 belong in the five other holes in the deckhead 34-1, as shown in the photo. Route the six cables through the slots in the cable guides (circled).

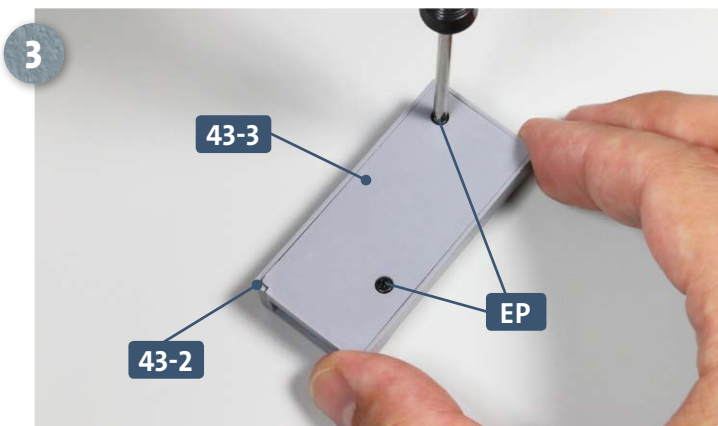
STAGE 2 → Assembling the tester



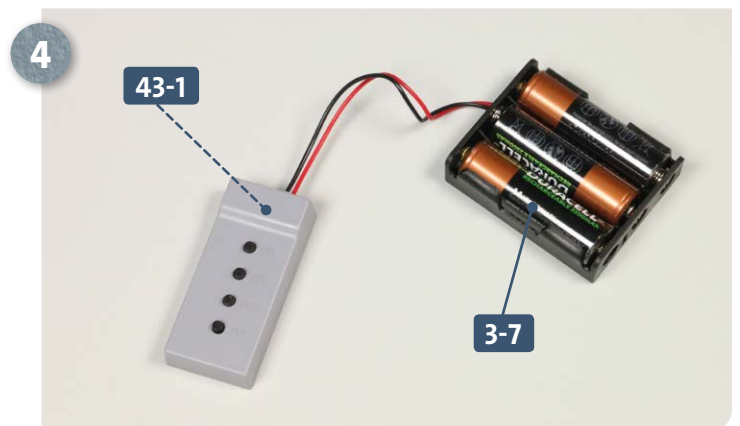
Place the PCB test board cover 43-2 inner side facing up on your work surface. Insert the function test PCB 43-1 into the cover so that its buttons fit through the holes.



Once the function test PCB 43-1 is correctly fitted into the cover 43-2 place the back cover 43-3 over the top, as indicated. Have two EP screws ready.



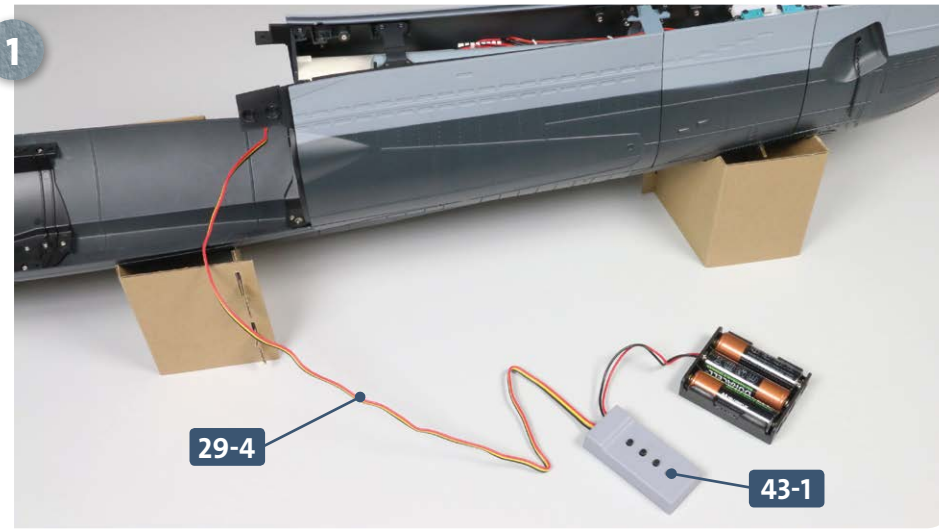
Next, fix the back cover 43-3 to the front cover 43-2 using the two EP screws.



Disconnect the battery compartment cable 3-7 from test PCB 3-8 and insert it into the right-hand side of test board 43-1, as shown.

Kit 43: Tester

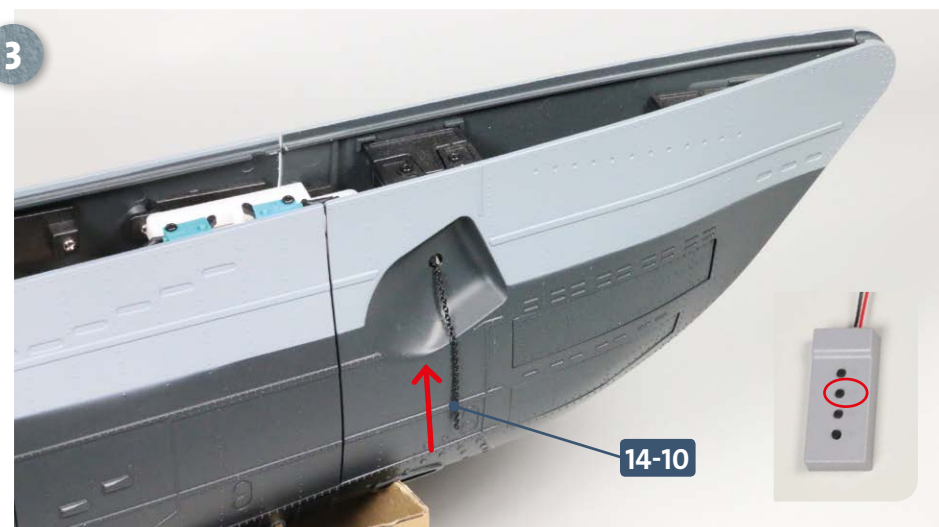
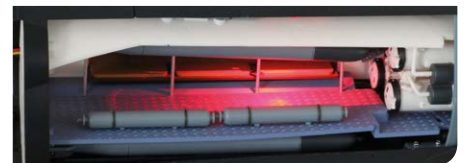
STAGE 3 → The first function test



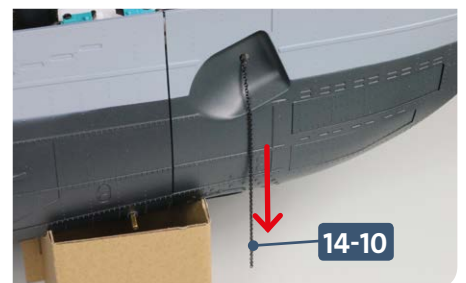
Before commencing the test, ensure the batteries are in good condition. Insert cable 29-4 (labelled A-1) into the left side of the tester 43-1. Once connected, the anchor chain, forward rudder shaft and torpedo flaps should initialise, before returning to their former position.

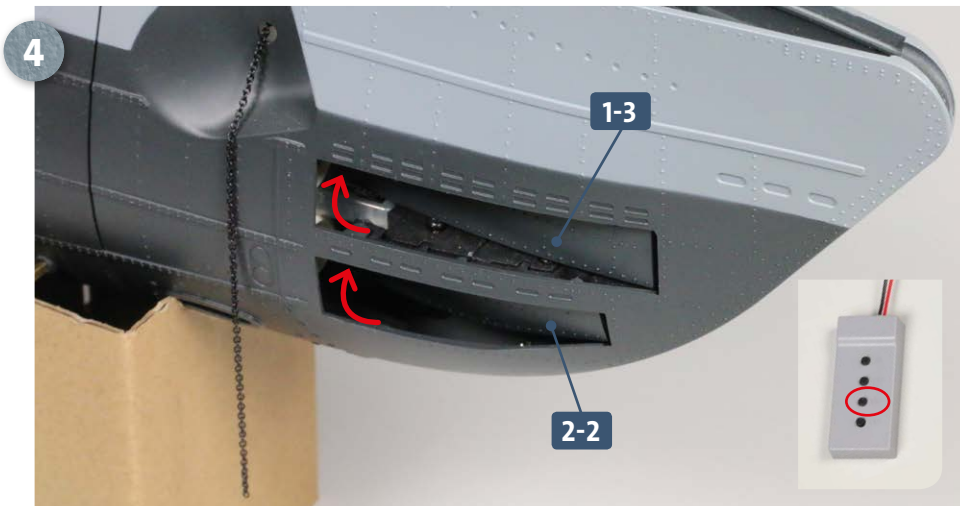


Remove hull plate 41-1 from the hull superstructure. On pressing the top button, marked S-1, on the test board (see left, circled), the white LEDs in the compartment should light up. Pressing a second time should extinguish them. Pressing a third time causes the red LED to illuminate (see inset below). A fourth press extinguishes the red LED again. The next time the S-1 button is pressed, the cycle begins again.



Pressing button S-2 on the test board (circled in the inset image, left), the anchor chain 14-10 is retracted. Pressing a second time drops the chain again (see inset detail, below).





Pressing button **S-3** on the test board (circled in the inset image left) opens the four muzzle flaps of the forward torpedo tubes (left). Pressing the button a second time, closes them (see below).

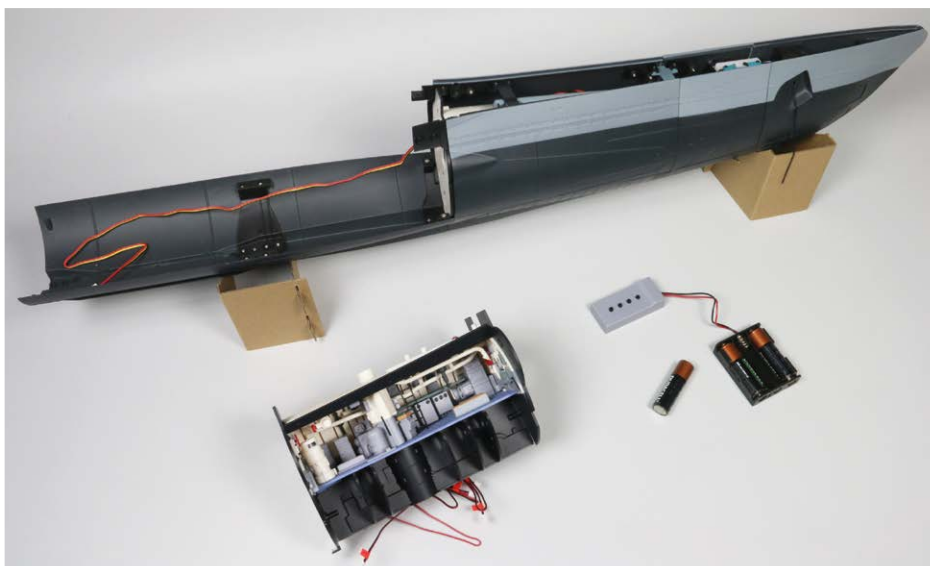


A first press of button **S-4** (circled in the inset image, left) rotates the forward rudder shaft **6-5** upwards. A second press returns the shaft to its original position (left). A third press turns it downwards. A fourth press returns it to its original position again.

Note: The adhesive paper in all three pictures has been added to highlight the angle of rotation of the shaft.



COMPLETED WORK



Six LED cables have been installed in the deckhead of the central compartment, and functional tests for the foredeck have been carried out.

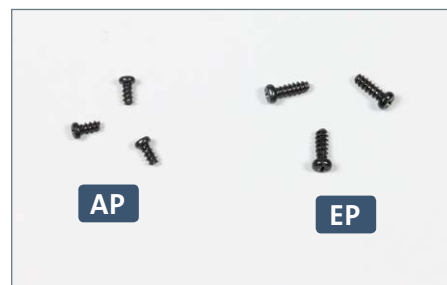
Once the tests have been completed, disconnect cable **29-4 (A-1)** from the PCB board, remove a battery and replace the hull plate **41-1**.

Kit 44: Attack periscope

In this kit, the attack periscope is connected to the spring and rack and fitted into a cover. An extra screw is attached to each of the two central bulkheads.

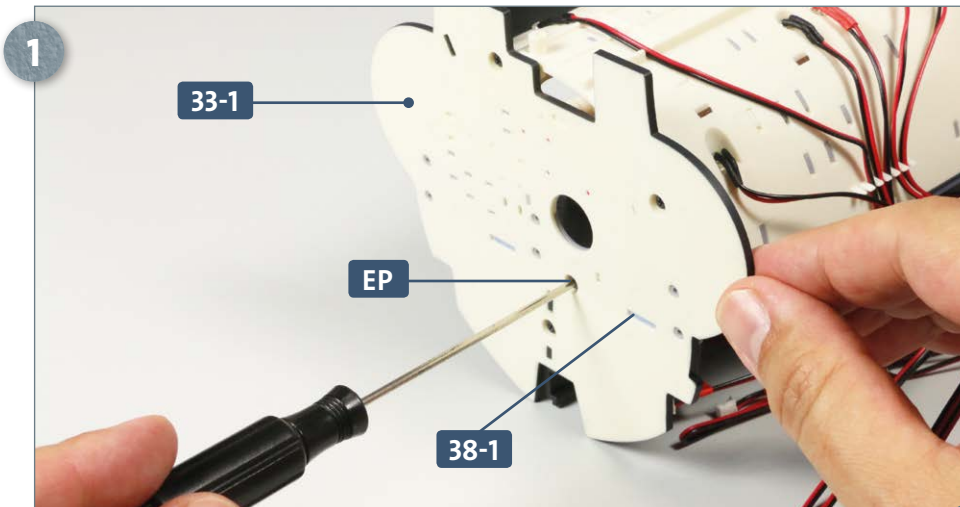


Parts reference list	
Part no.	Name
44-1	Rack front cover
44-2	Rack back cover
44-3	Rack
44-4	Attack periscope
44-5	Connector
44-6	Spring

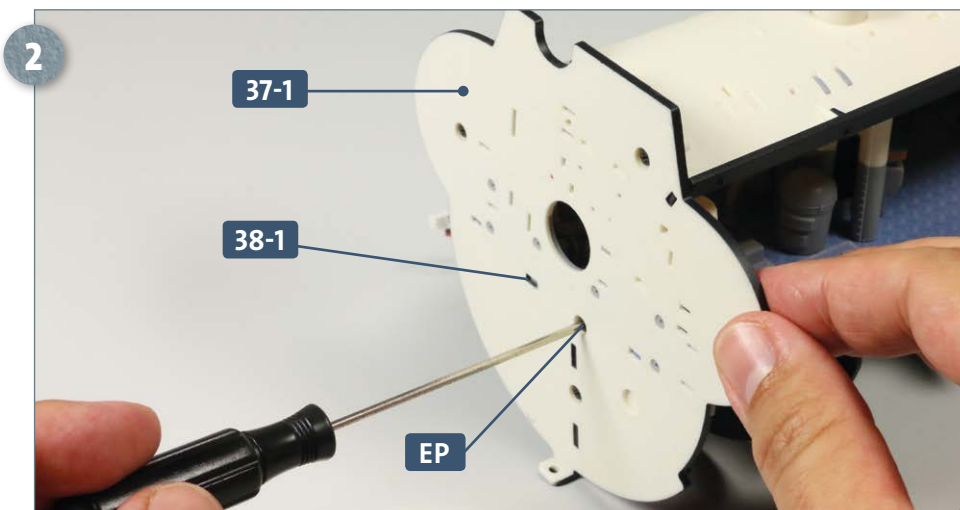


Screws		
Ref	No.	Dimensions
AP	2+1	2 x 4 mm
EP	2+1	2.3 x 6 mm

STAGE 1 → Two additional screws

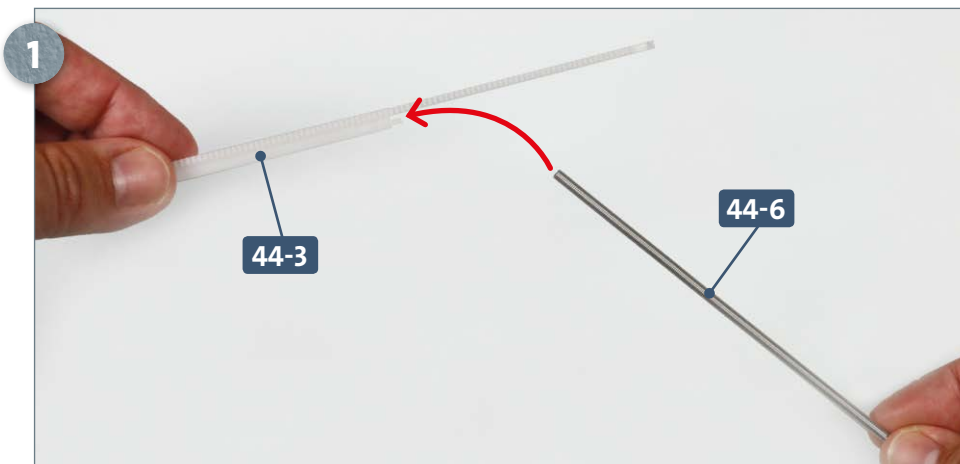


Place the central command compartment assembly on your work surface. Add an additional EP screw to attach the forward bulkhead 33-1 to the deck plate 38-1, as shown in the photo.



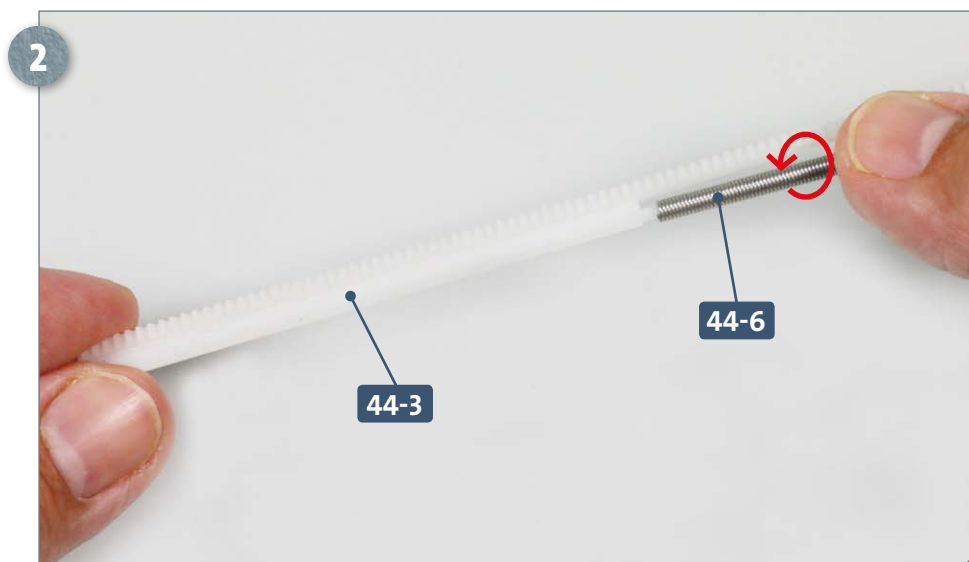
The aft bulkhead 37-1 is also fixed to the deck plate 38-1 with another EP screw.

STAGE 2 → Rack cover for attack periscope

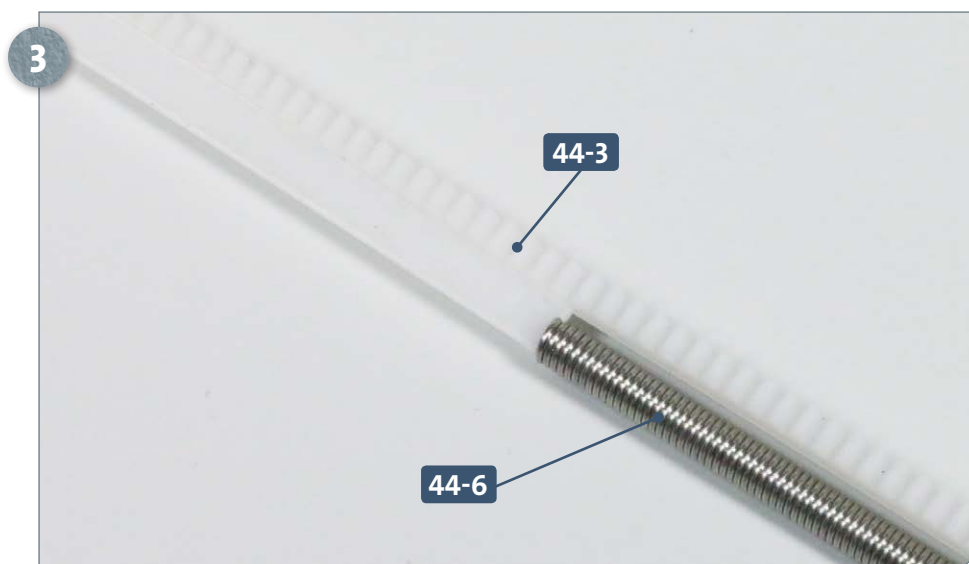


Take the rack 44-3 and have ready the spring 44-6 as indicated by the arrow.

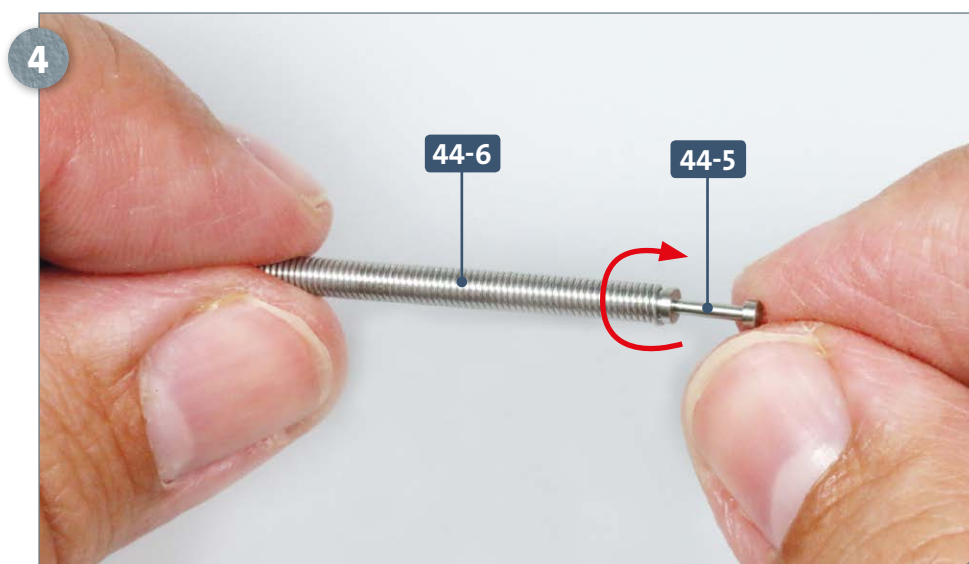
Kit 44: Attack periscope



Place the end of the spring **44-6** flush against the threaded peg of rack **44-3** and screw the spring onto the peg, as indicated.

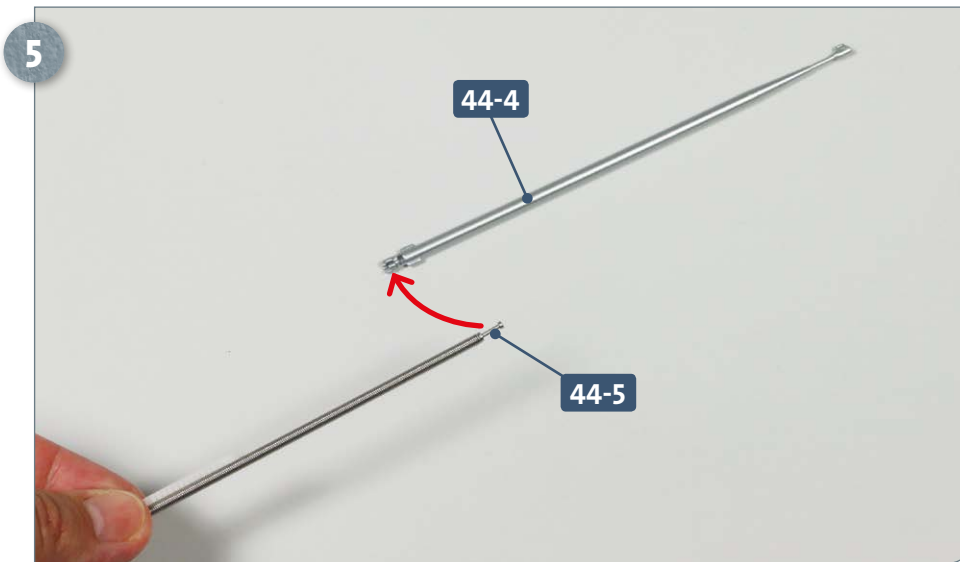


Turn the spring **44-6** until it stops on the screw of the rack **44-3**, as shown.



At the other, free end, of the spring **44-6** fit the connector **44-5** by screwing it in, as shown in the photograph.

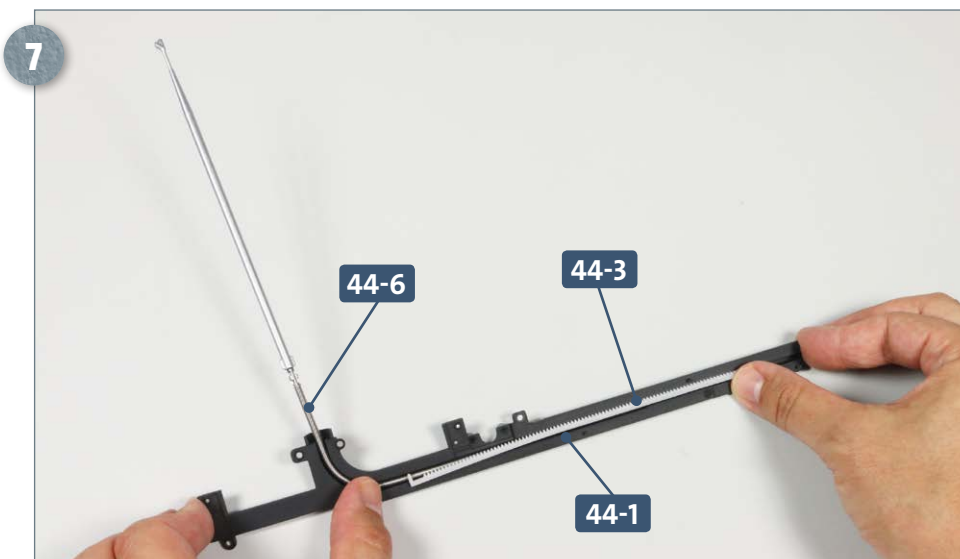
Kit 44: Attack periscope



Take the attack periscope **44-4**, orienting it as pictured. Guide the connector **44-5** to the socket at the lower end of the attack periscope, indicated by the arrow.

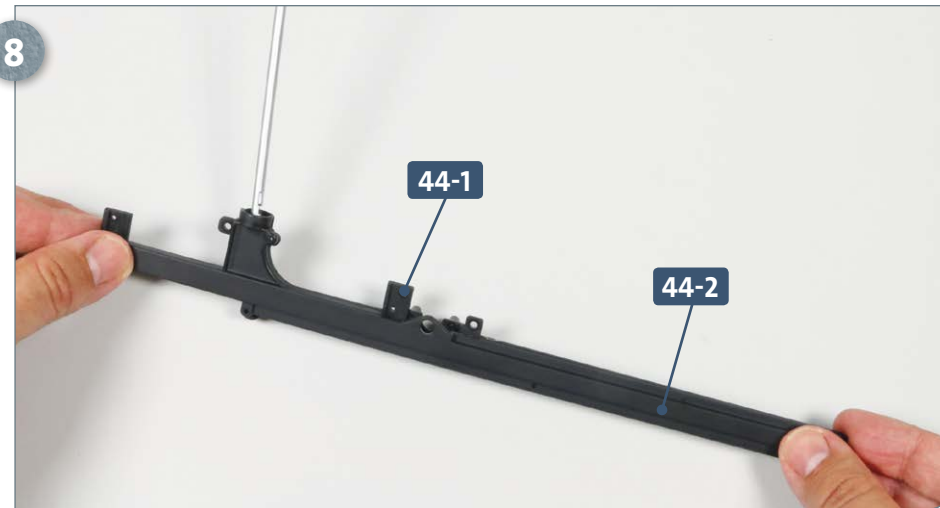


Attach the connector **44-5** to the attack periscope **44-4**, pressing the pin firmly into the socket. The two components are now connected, but can still rotate.

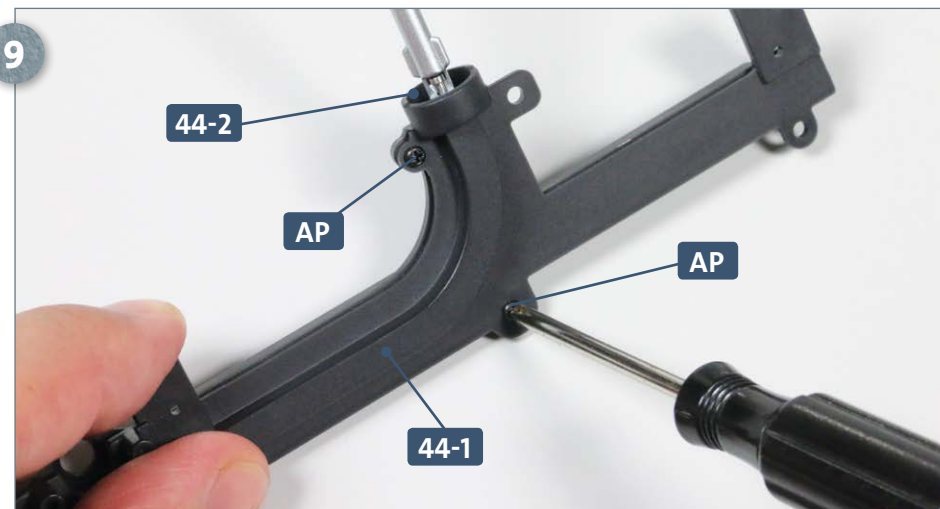


Fit the spring **44-6** and the toothless section of the rack **44-3** into the front rack cover **44-1**. The spring can be pushed back and forth within the cover.

Kit 44: Attack periscope

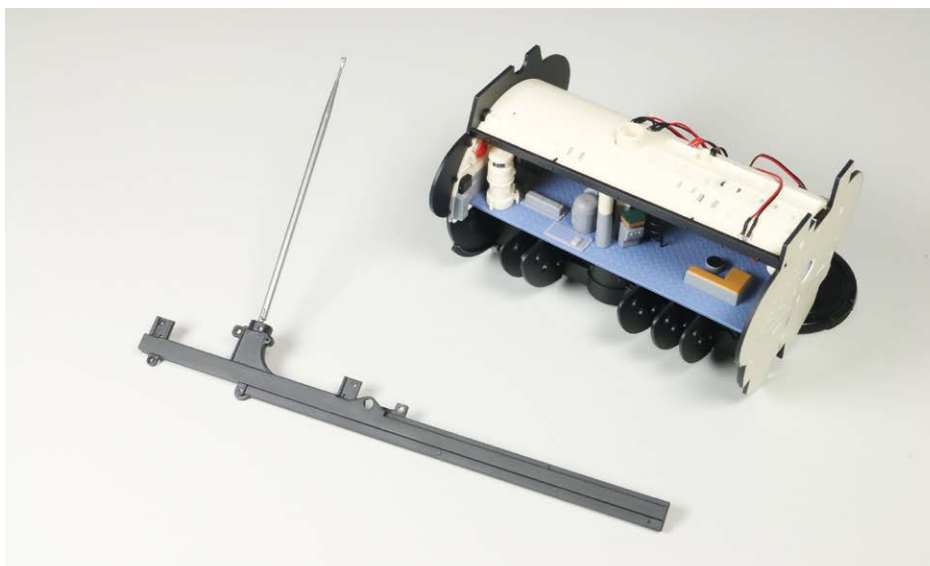


Holding the spring and periscope assembly in position, place the back rack cover 44-2 onto the front cover 44-1, as shown in the photograph, left.



Carefully turn the assembly over. Attach the two halves of the rack cover 44-1 and 44-2 together using two AP screws into the lugs at the aft end.

COMPLETED WORK



Two additional screws have been added to the command compartment assembly, and the attack periscope has been fitted with a spring, rack and cover.