U 96 U-BOAT

Pack 19
Assembly
Instructions

Kit 73: Engine room deckhead

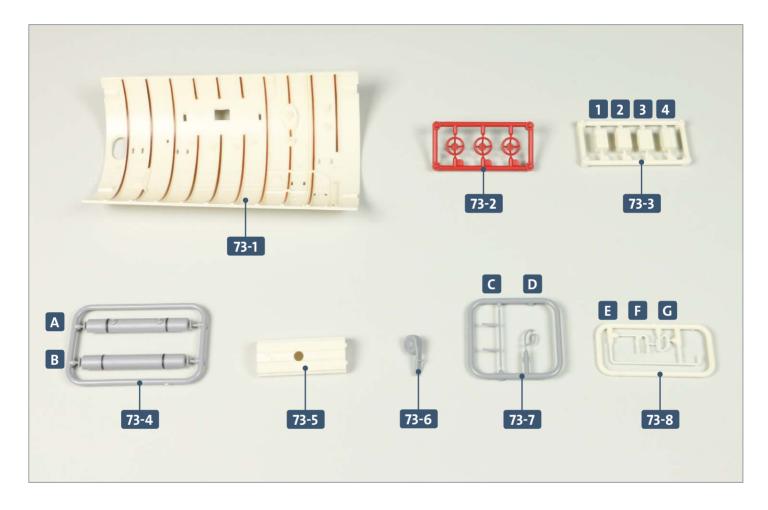
Kit 74: More deckhead details

Kit 75: Motor

Kit 76: Navigation periscope



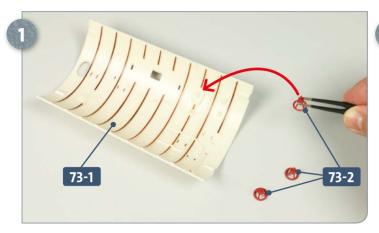
In this kit, you will attach various components to the engine room deckhead, including handwheels, fuse boxes, a silencer, the fuel oil tank, an air blower and several fuel oil lines.



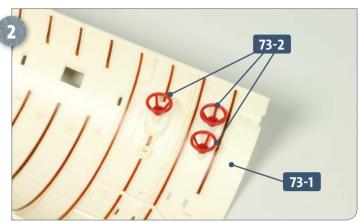
Parts reference list				
Part no.	Name			
73-1	Engine room deckhead			
73-2	Frame with three handwheels			
73-3	Frame with four fuse boxes			
73-4	Silencer in two halves (A, B)			
73-5	Fuel oil tank			
73-6	Air blower			
73-7	Two fuel oil lines (C, D)			
73-8	Three fuel oil lines (E, F, G)			

Note: The handwheels on frame **73-2**, labelled 1, 2 and 3, are identical.

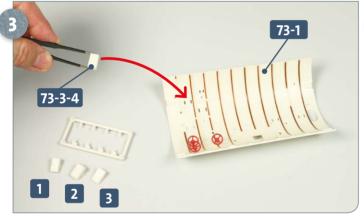
STAGE 1 \rightarrow The engine room deckhead



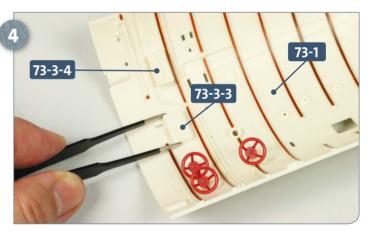
Lay the engine room deckhead **73-1** on your worktop. Detach the three identical handwheels from frame **73-2**. Apply glue to the peg of one of the handwheels and insert into the hole in the deckhead, as indicated by the arrow.



Repeat the process and glue the two remaining handwheels **73-2** to the deckhead **73-1**, as pictured.



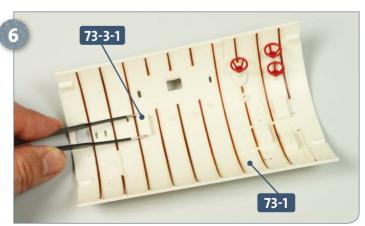
Detach the four fuse boxes 1, 2, 3 and 4 from frame 73-3. First, take part 73-3-4, apply some glue to the two tabs, and insert them into the slots in the deckhead 73-1, as shown.



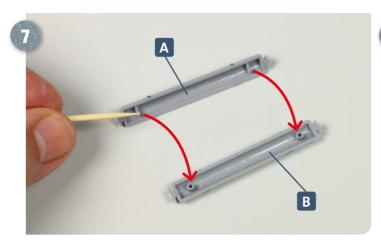
Next, repeat the process to glue box **73-3-3** into the adjacent slots, as pictured above.



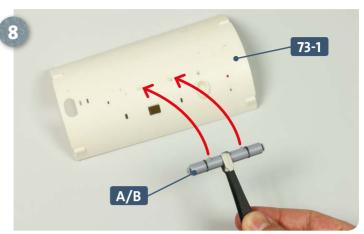
Likewise, glue fuse box 73-3-2 to the deckhead 73-1, as shown above.



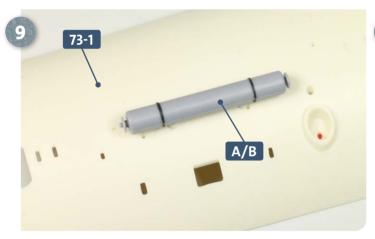
The final fuse box 73-3-1 is attached further back on the deckhead 73-1.



Remove the two halves of the silencer, **A** and **B**, from frame **73-4**. Apply some glue to the pegs on the inside of part **A** then fit the two halves together, as indicated by the arrows.



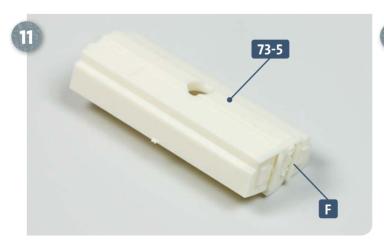
Next, take the silencer assembly A/B and apply glue to the two pegs. These fit into the two holes at the apex of the deckhead 73-1, on the outside, as pictured above.



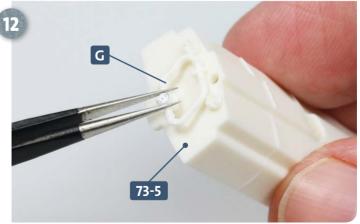
This photograph shows the silencer A/B correctly attached to the outer deckhead 73-1.



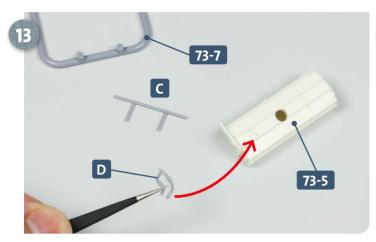
Place the fuel oil tank **73-5** on your work surface. Taking frame **73-8**, detach the three fuel oil lines: **E**, **F** and **G**.



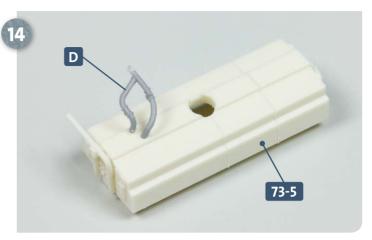
Apply some glue to the two pegs on the fuel oil line **F** and insert into the holes on the forward end of the fuel oil tank **73-5**.



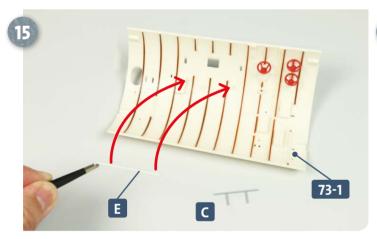
Glue fuel oil line **G** to the aft end of the fuel oil tank **73-5**, as pictured above.



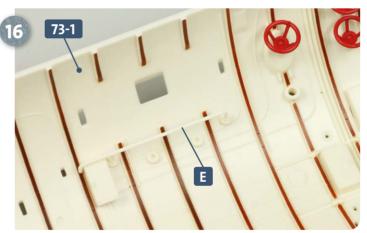
Take frame **73-7** and detach the two fuel oil lines, **C** and **D**. Apply some glue to the two ends of **D** and fit them into the recesses on the fuel oil tank **73-5**.



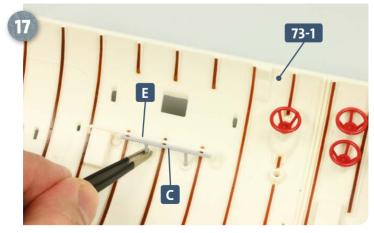
This photo shows fuel oil line **D** correctly positioned on the fuel oil tank **73-5**.



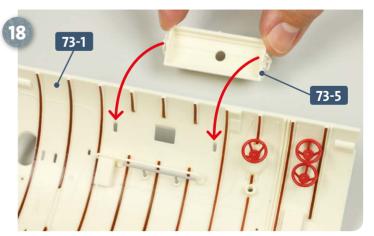
Apply some glue to the two longer legs of fuel oil line ${\bf E}$ then insert into the holes in the deckhead 73-1, as shown by the arrows. Have ready part ${\bf C}$.



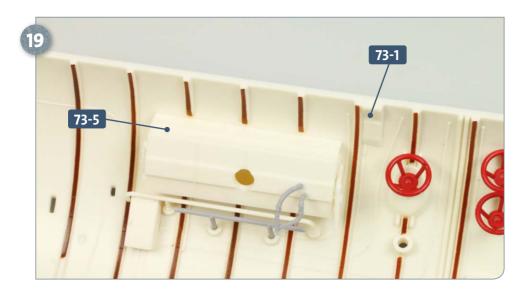
This photograph shows fuel oil line **E** correctly attached to the deckhead **73-1**.



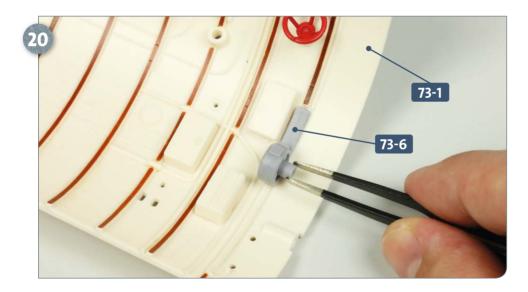
Attach fuel oil line ${\bf C}$ immediately next to fuel oil line ${\bf E}$, as shown in the photo above.



Take the fuel oil tank **73-5** and apply some glue to the two wide pegs. Fit these into the slots in the deckhead **73-1**, as indicated by the arrows. Also see the photograph in the next step.

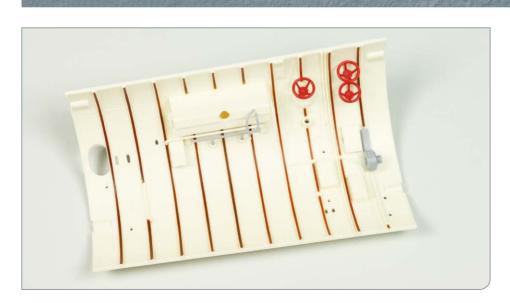


This photo shows the fuel oil tank **73-5** in its correct place on the deckhead **73-1**.



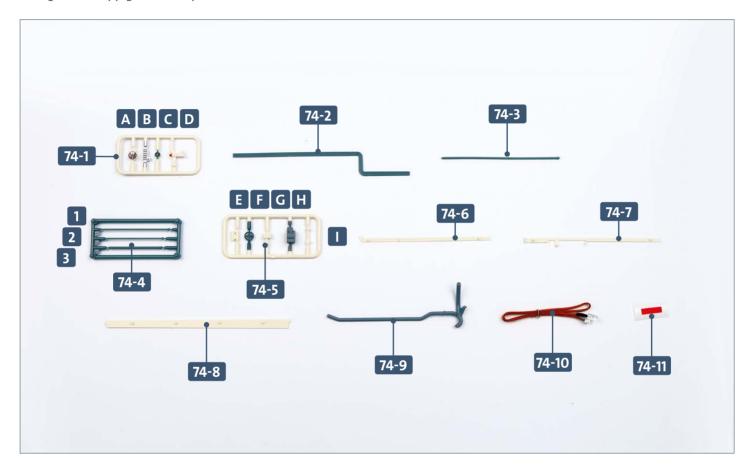
Finally, take the air blower **73-6**. Apply some glue to the peg on the back and insert this into the slot at the centre of the forward edge of the deckhead **73-1**, as pictured, left.

COMPLETED WORK



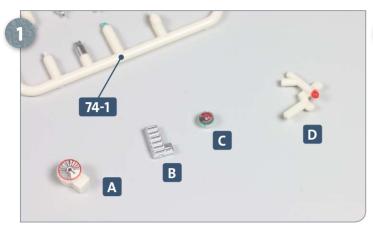
Work has started on the engine room deckhead, with various fuel lines and handwheels being attached.

In this kit, you will embellish the deckhead of the engine room with additional details: the telegraph, including displays, linkages, air supply lines and power lines as well as an LED.

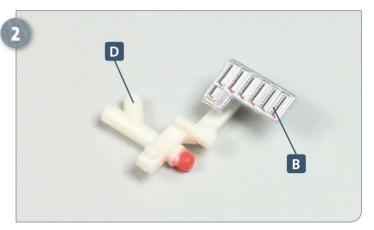


Parts reference list				
Part no.	Name			
74-1	Telegraph and displays (A, B, C, D)			
74-2	Power line			
74-3	Linkage (venting ballast chamber 2)			
74-4	Linkage (1, 2, 3)			
74-5	Engine room attachments (E, F, G, H, I)			
74-6	Power line			
74-7	Power line			
74-8	Cover			
74-9	Air supply line			
74-10	LED with cable			
74-11	Cable label			

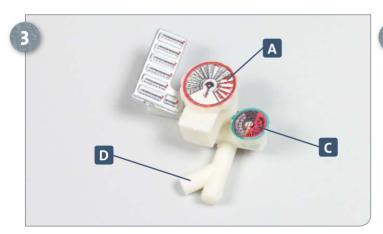
STAGE 1 → Continuing work on the deckhead



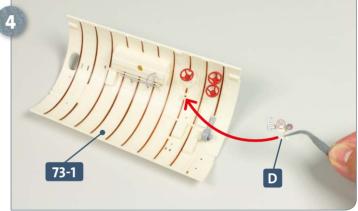
Detach the four parts from frame **74-1**: the telegraph **A**, displays **B** and **C** and bracket **D**.



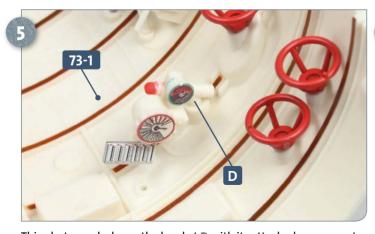
Apply some glue to the bevelled peg of bracket **D** and attach it to display **B**, as pictured.



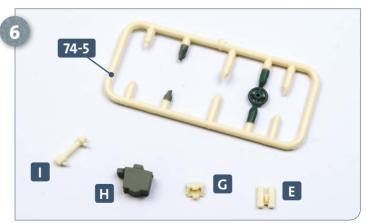
Glue telegraph **A** and display **C** to the bracket **D**, as pictured.



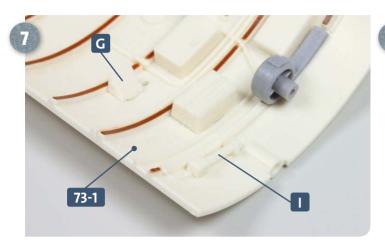
Apply glue to one end of bracket **D** and insert it into the hole in the deckhead **73-1**, as indicated by the arrow.



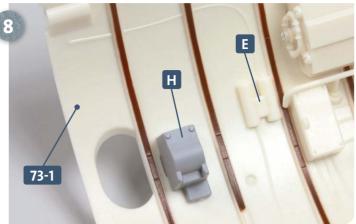
This photograph shows the bracket ${\bf D}$ with its attached components, glued to the deckhead 73-1.



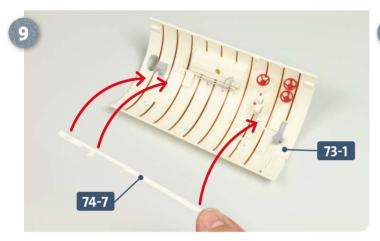
Detach parts **E**, **G**, **H** and **I** from frame **74-5**.



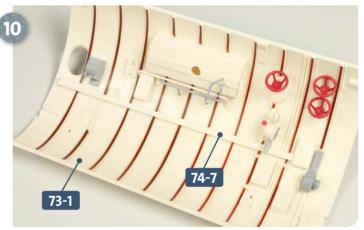
Glue attachments **G** and **I** to the forward end of the deckhead **73-1**, as shown above.



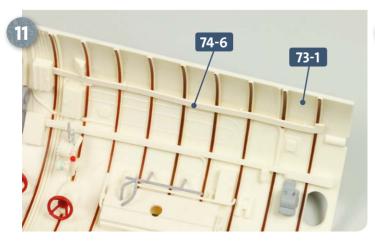
Attachment E and the inner exhaust valve H are glued to the aft end of the deckhead 73-1.



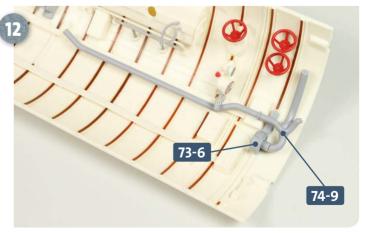
Take power line **74-7** and apply glue to its three pegs. Fit these into the holes or recesses in the deckhead **73-1**, indicated by the arrows above.



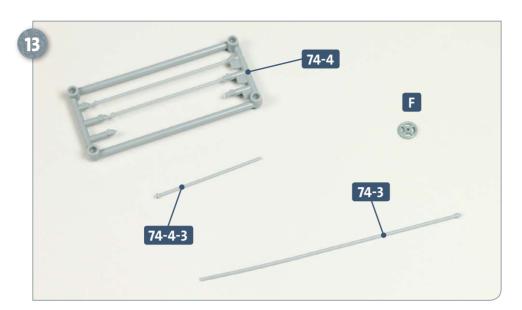
This photo shows the power line **74-7** correctly installed on the deckhead **73-1**.



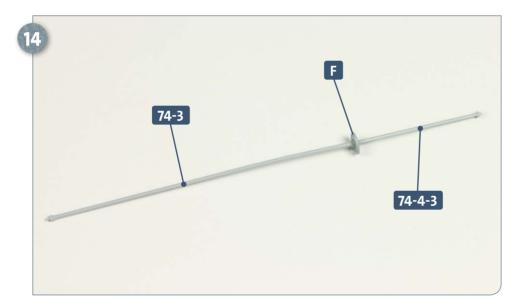
Glue power line **74-6** to the lower edge of the deckhead **73-1**: fit the two pegs into the two corresponding slots.



Take air supply line **74-9** and glue its curved end into the hole in the air blower **73-6**, as pictured.



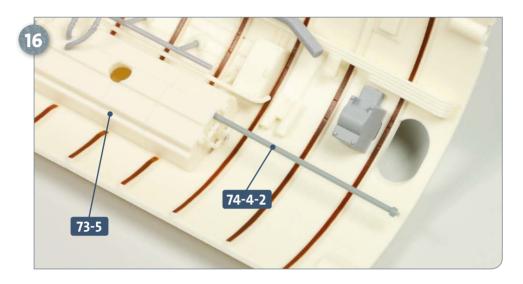
Separate handwheel F from frame **74-5** and detach the shortest linkage **74-4-3** from frame **74-4**. Also have ready linkage **74-3**.



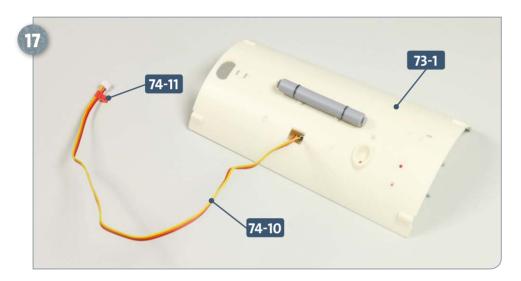
Glue the collarless ends of linkages 74-3 and 74-4-3 into the hole in handwheel F.



Detach linkage 74-4-1 from frame 74-4 and glue the collarless end into the hole in fuel line F (from frame 73-8, see red arrow) at the forward end of the oil tank 73-5, as pictured, left.

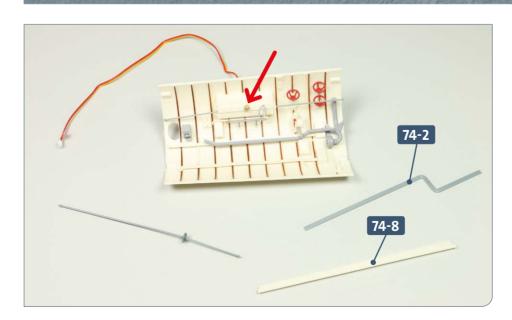


Now remove the final linkage in frame 74-4: 74-4-2. Glue the collarless end into the hole at the aft end of the fuel oil tank 73-5, as shown, left.



Take the cable label **74-11** and attach it near to the plug at the end of cable **74-10**. The LED on the other end of the cable should be fed through the opening in the deckhead **73-1** and inserted into the round hole in the fuel oil tank (for reference, see the arrow in the 'Completed Work' photo, below).

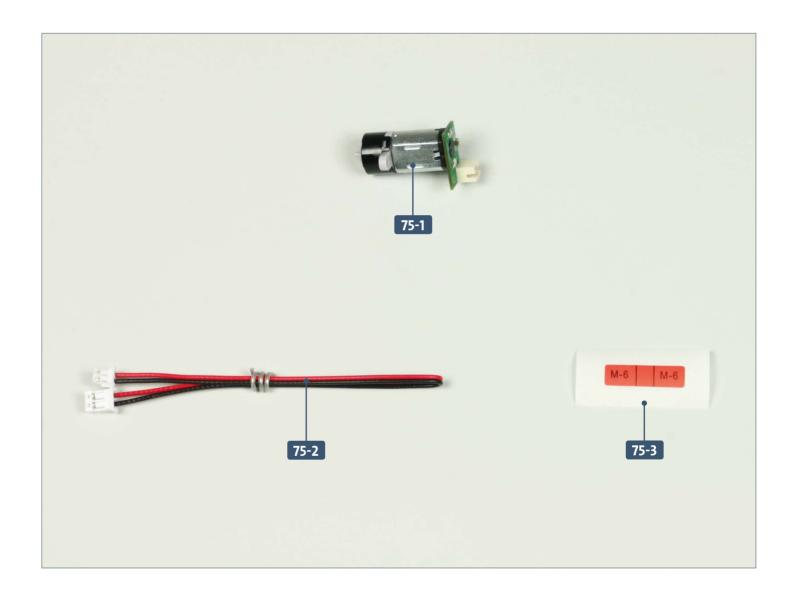
COMPLETED WORK



You have added further details to the engine room deckhead.
The linkage assembled in step 14, the power line **74-2** and panel cover **74-8**, will be attached at a later stage.

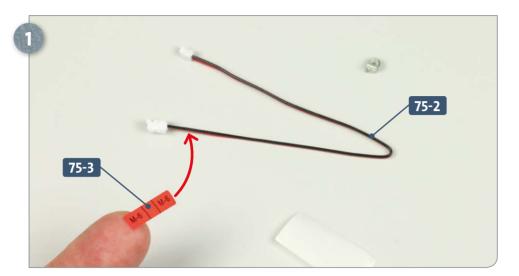
Kit 75: Motor

In this kit, a motor, responsible for rotating the periscope, is fitted with a cable (complete with label).

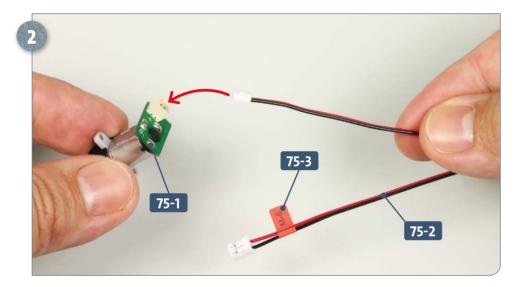


Parts reference list				
Part no.	Name			
75-1	Motor			
75-2	Cable			
75-3	Cable label			

STAGE 1 \rightarrow Attaching the label and cable

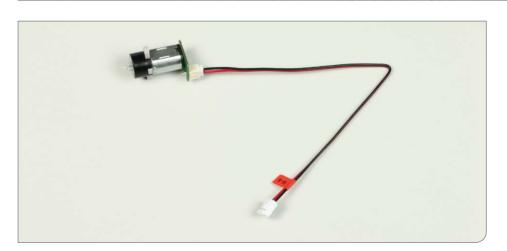


Take the cable label 75-3 and cable 75-2. First, remove the wrapping from the cable. Next, remove the backing film from the cable label and attach it to the cable, approximately 8mm from the end with the widest plug, as pictured.



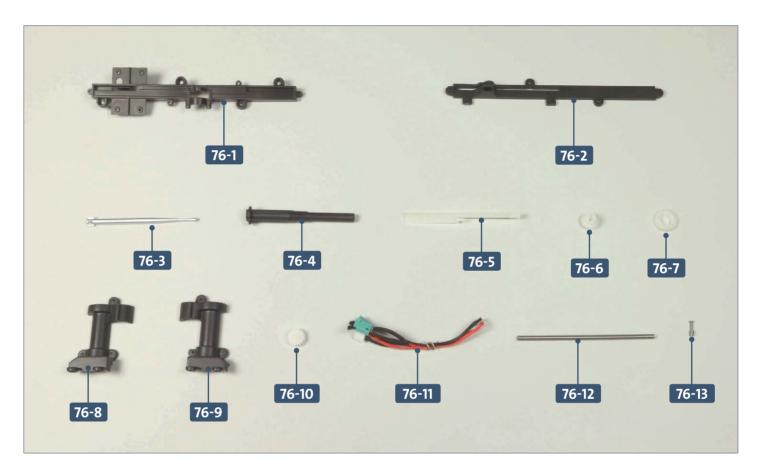
This photograph shows the cable label 75-3 attached to the cable 75-2. Next, insert the smaller connector into the socket on the circuit board attached to the motor 75-1, as indicated by the arrow.

COMPLETED WORK

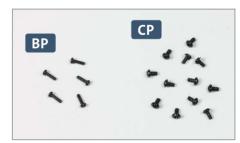


The motor for the periscope now has the cable and cable label attached to it.

In this kit, the substructure for the periscope is assembled. It consists of a guide channel with a spring and rack attached, limit switches, the shaft and the motor mount.

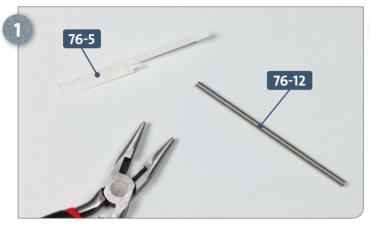


Parts reference list				
Part no.	Name			
76-1	Guide (lower)			
76-2	Guide (upper)			
76-3	Periscope			
76-4	Rotatable shaft			
76-5	Rack			
76-6	Cog			
76-7	Cog			
76-8	Motor mount, back half			
76-9	Motor mount, front half			
76-10	Cog			
76-11	Limit switch			
76-12	Spring			
76-13	Connector			

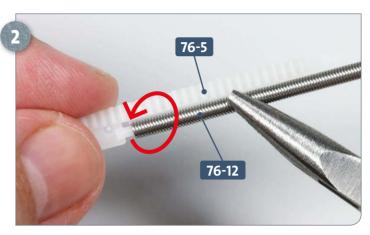


Screws				
Ref	No.	Dimensions		
ВР	4+1	1.7 x 6 mm		
СР	11 + 1	2 X 4 mm		

STAGE 1 → Periscope substructure



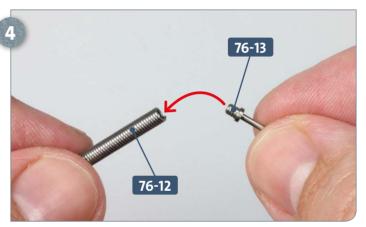
Place the rack **76-5**, spring **76-12** and a suitable pair of flat nosed pliers on your work surface.



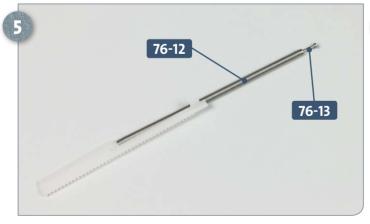
Place the end of the spring **76-12** so that it sits fully flush against the screw connection point of the rack **76-5** and start turning the spring, in the direction indicated by the arrow. Use the pliers if preferred.



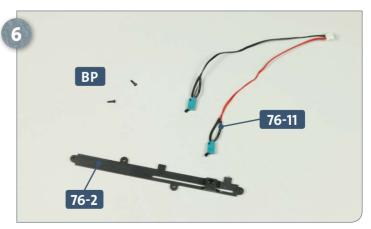
Tighten the spring **76-12** until it stops against the rack's screw connection **76-5**, as shown.



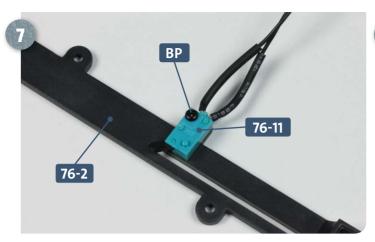
Take the connector **76-13** and screw it onto the other end of the spring **76-12**, as indicated by the arrow.



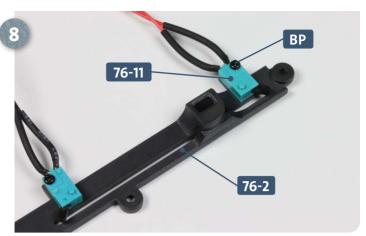
Screw the connector **76-13** into the free end of the spring **76-12** as far as it will go.



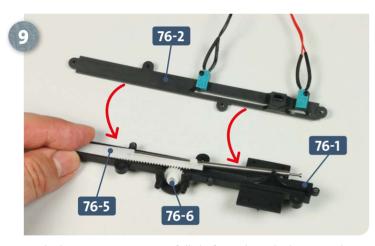
Next, take the upper part of the guide **76-2**, the cable with the two limit switches **76-11** and two **BP** screws.



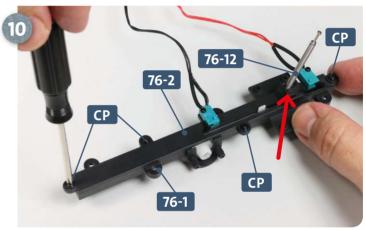
Now attach the limit switch with the black cable **76-11** to the guide **76-2** using one of the **BP** screws.



Attach the limit switch with the red cable **76-11** near the end of the guide **76-2** using the other **BP** screw.



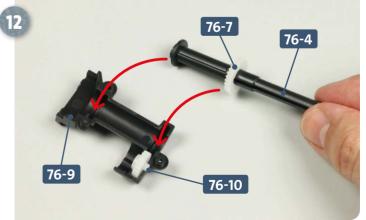
Study the next two steps carefully before taking the lower guide **76-1**. Insert the cog **76-6** and the previously assembled rack assembly **76-5** into the guide **76-1**, as shown. Note that the recessed cross on cog **76-6** is facing outwards. The upper part of the guide **76-2** is then placed on top, as shown by the arrows.



When fitting the upper part of the guide **76-2**, make sure the spring **76-12** passes through the slot indicated by the arrow. Fasten the two halves of the guide **76-1** and **76-2** together using four **CP** screws.



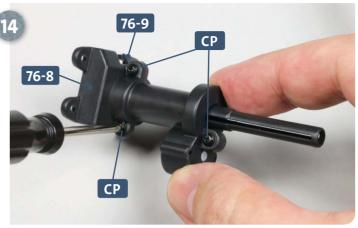
Take the cog **76-7** and fit it over the narrow end of the shaft **76-4** so that its notches engage with the locating tabs on the shaft, as shown above.



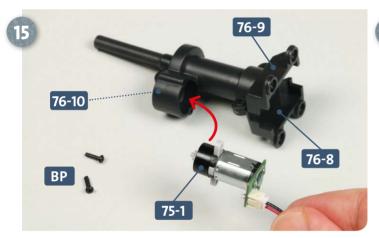
Take the front of the motor mount **76-9** and place the cog **76-10** inside, as shown. Then take the shaft **76-4** and position it in the mount so that the cogs **76-7** and **76-10** mesh together.



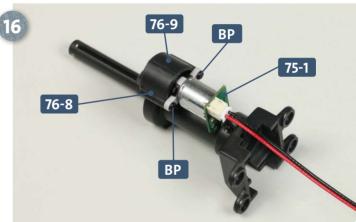
With the shaft **76-4** in place in the mount **76-9**, take the back half of the mount **76-8** and fit it onto the assembly, as indicated by the arrows.



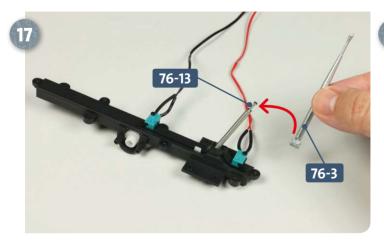
Join the two halves of the mount **76-8** and **76-9** using three **CP** screws.



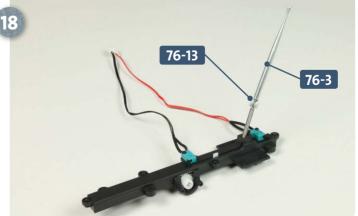
Have ready two **BP** screws. Take the motor **75-1**, supplied in the previous kit, and insert it into the mount **76-8/76-9**, so that the cross at the end engages with cog **76-10**.



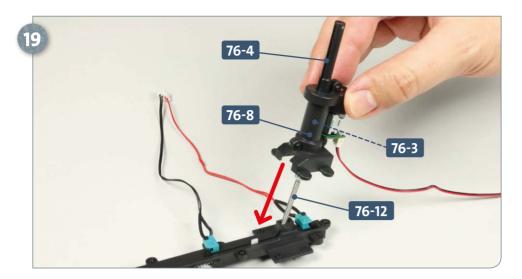
Fix the motor **75-1** in place using two **BP** screws.



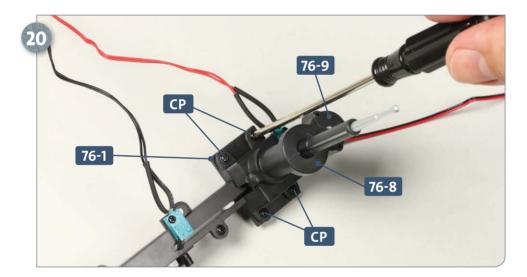
Take periscope **76-3** and study how its lower end is joined to the connector **76-13**.



Attach the connector **76-13** to the periscope **76-3** by pressing it firmly into the recess. Note that the two components should be connected but still able to rotate.

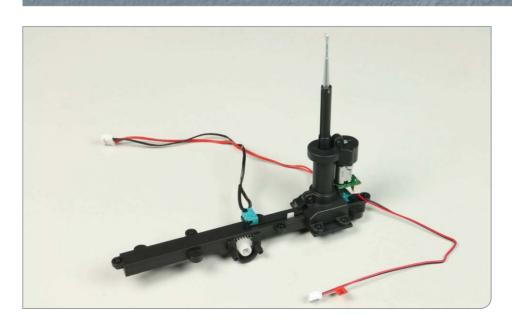


Taking the shaft/mount assembly **76-8**, fit it over the periscope **76-3** and onto the spring **76-12**, as indicated by the arrow. Note that the tabs on the side of periscope **76-3** fit into notches inside shaft **76-4**.



Fasten the mount **76-8/76-9** to the base of the guide **76-1** using four **CP** screws, as pictured, left.

COMPLETED WORK



The substructure for the periscope has been assembled and attached to the motor responsible for rotating it.