

スチームランチ
サブリナ

Steam launch
Sabrina

組立説明書



SAITO[®]

Steam Launch SABRINA - Assembly Instructions

Introduction:

Thank you for purchasing the Steam Launch SABRINA.

Please read these instructions before starting assembly.

*The coloring and detailed rigging positions noted in these instructions are provided as guides. You can create a launch that is uniquely your own by arranging the coloring and rigging positions to your liking.

Set contents: Please refer to the parts list at the end of these instructions and the attached cut layout

Things you will need:

Steam engine	For SABRINA, SAITO steam engine "T1DR-L" (sold separately) is a standard compliment.
Boiler/burner	Along with the "T1DR-L" engine, SAITO boiler "BT-1L" (sold separately) is a perfect fit.
RC equipment	<ul style="list-style-type: none">• An RC transmitter and receiver with more than 3 channels• 3 servos *Please select one from a reliable manufacturer.
Tools	<ul style="list-style-type: none">• Sand paper• Small saw• Box cutter• Soldering iron, solder• File• Laundry clips• Clips• Drill for opening holes
Adhesive	Epoxy adhesive that hardens in 30 minutes *Hereafter referred to as "E". High viscosity superglue *Hereafter referred to as "H". Low viscosity superglue *Hereafter referred to as "L".
Paint	The coloring in these instructions uses mainly red, black, green, aqua, and white. ①Lacquer spray can ②Lacquer basecoat (sanding sealer) *Although lacquer paint can be easily applied, it may melt with alcohol. ③Urethane paint ④Urethane basecoat (sanding sealer) ⑤Varnish for crafts (water or oil based), paint for coloring the deck (mahogany, walnut color, etc.)
Polyester putty	Used to correct scratches and gaps.

Assembly precautions:

When assembling this product, in addition to regular tools, you will be using sharp objects, a soldering iron and paint. Please be cautious to prevent injury and burns. When using paint, do so in a room with good air flow and sufficient ventilation.

1.Processing the ship's hull

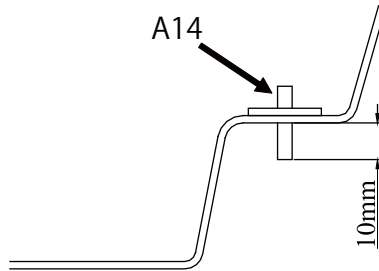
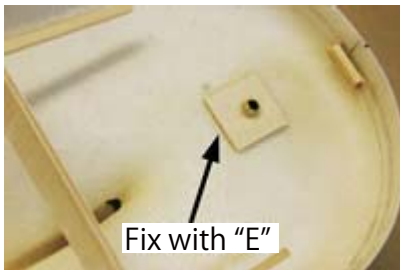
Screw shaft bearing

Lightly sand the inside surface of the ship's hull with coarse grade sandpaper, so that the veneer parts can adhere easily. To pre-process the stern tube and screw shaft bearing for attachment, widen as shown on the left with a file to make it easier to insert the stern tube and shaft.



Rudder shaft bearing

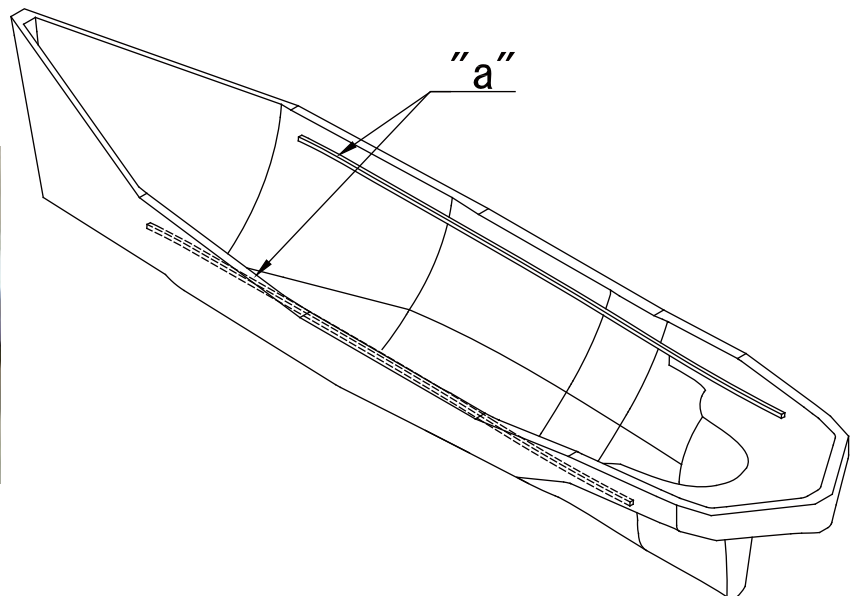
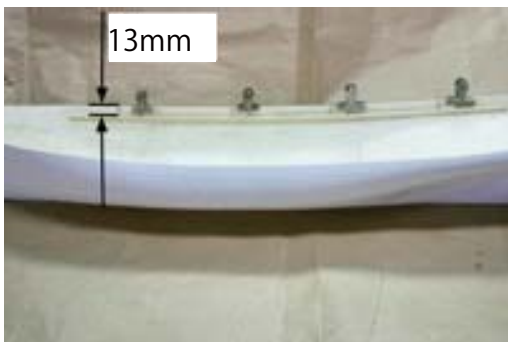
Insert the rudder bearing pipe (part no. 27) in the rudder shaft bearing, pass it through A14 inside the ship and attach with "H". Make sure that about 10mm of the pipe protrudes from the bottom of the ship as shown in the figure below.



2.Assembling below the deck

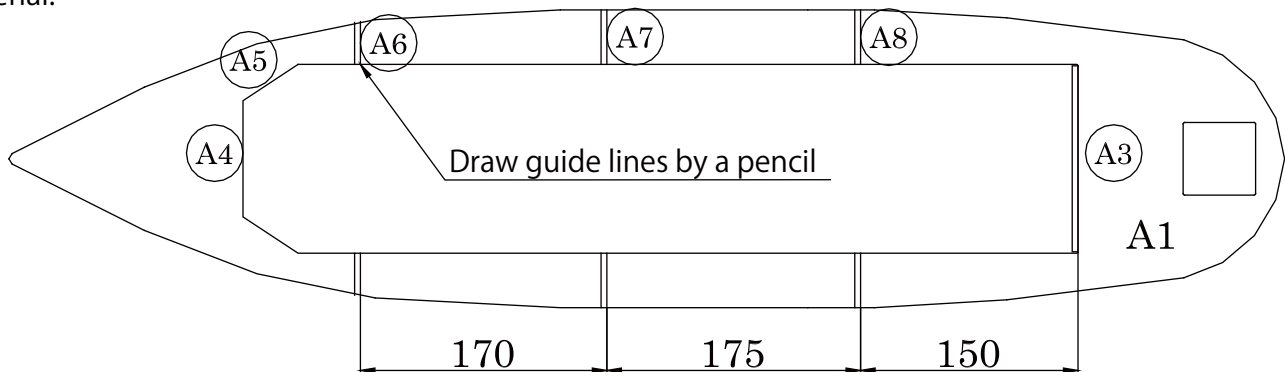
Preparing to lay the deck

Cut the four pieces of cypress bars (part no. 46-1, 4x4) into 630mm lengths. Attach two of these bars to the left and right inside surfaces of the hull with "L" 13mm below the board. We will call them "a". Using a veneer board of a width of 13mm to fix the cypress bars beforehand will make it easier to precisely attach them.



Deck A1 guide line

Using the deck as a gauge as shown in the figure below, use a pencil to mark the locations on the hull where A3, A6, A7, and A8 frame plates will be attached. Attach A5 and A4 after laying down the deck material.

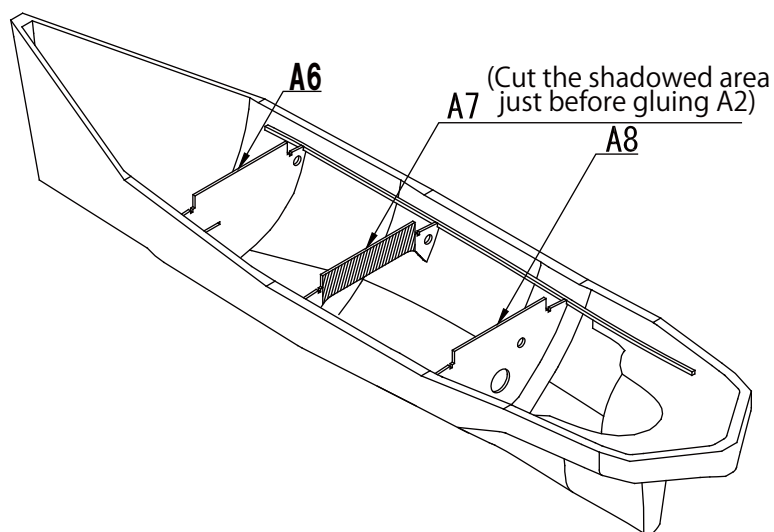


The above is the gap required for the incision on the stringer A2. It may be best to place A2 on the deck to confirm locations and positioning.

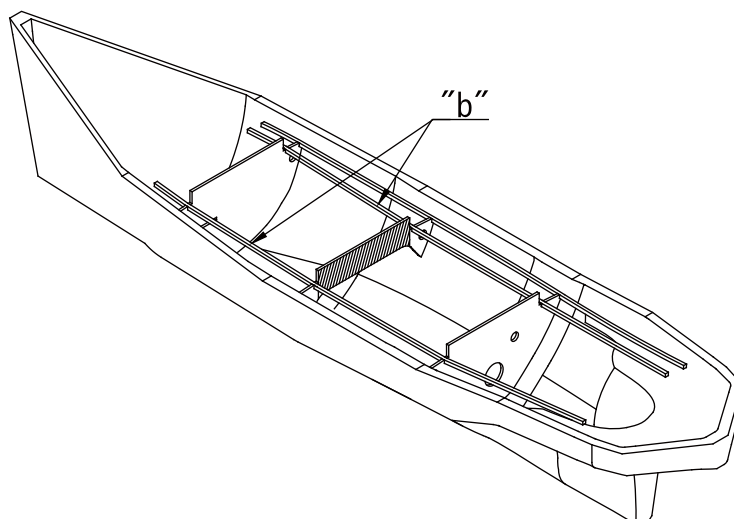
Trial attachment of the frame plate and stringer

Perform a trial attachment of frame plate A8 with "a" attached to the location marked with a gauge on the hull.

*When performing a trial attachment, slightly file down any portions of frame plates A8, A6, A7 that do not fit snugly with the protrusions and indentations of the inside of the ship. Slight looseness will make it easier to perform a trial attachment and any gaps will be filled when attaching later with "E". Perform trial attachments of A6 and A7 in a similar manner.

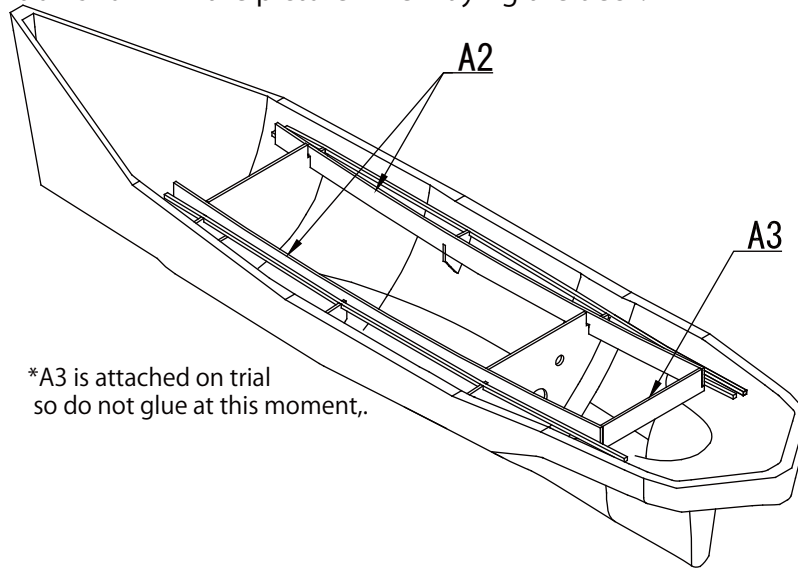


Pass the cypress boards cut to 630mm lengths previously through the grooves on both sides of the frame plate. We call them "b".

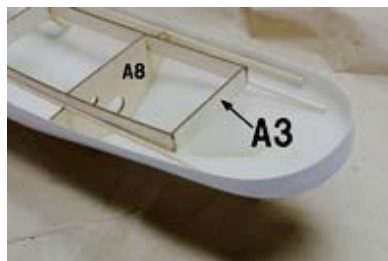
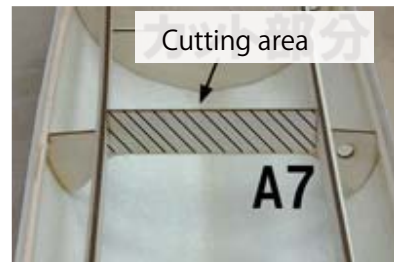
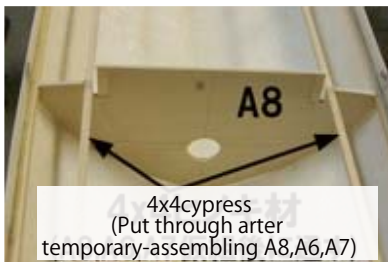


Before attaching stringer A2, cut the shaded area of A7. Pass A2 through inside of "b" of frame plates A6, A7, A8, perform a trial attachment of frame plate A3. Attach A6, A7, A8 - hull A6, A7, A8 - "a", "b", and A2 with "E".

*A3 will be precisely attached to the incision towards the rear of the deck. Do not use adhesive at this point. Attach to the portion shown in the picture when laying the deck.

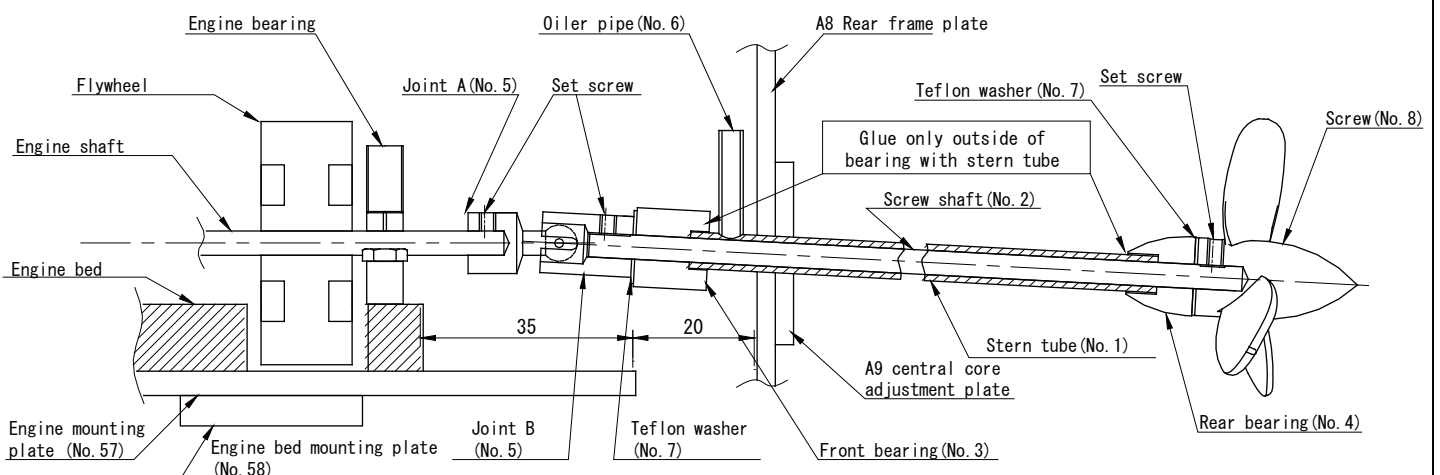


*A3 is attached on trial
so do not glue at this moment.,



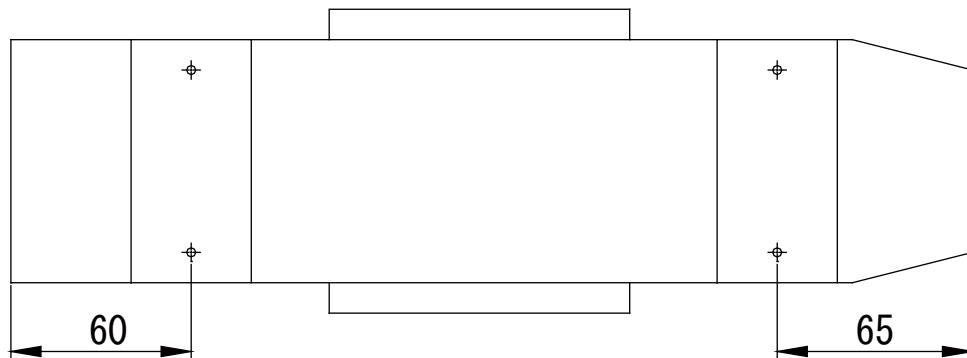
3.Attaching the engine and connecting the areas around the screw

Layout of the area around the screw



Preparing the mounting plate

Attach the engine bed mounting plate (part no. 58) to the engine mounting plate (part no. 57) at the position shown in the figure below using screws for the engine mounting plate M3x10 (part no. 34). *The figure below shows the dimensions when viewed from the reverse (underside). The screws for the engine mounting plate are attached from the front (topside).

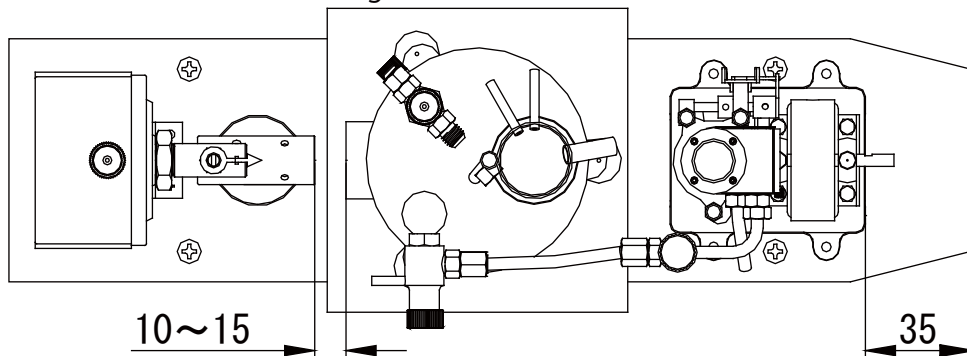


Attaching the engine, boiler/, and burner *When attaching these components, refer to the instruction manuals for each device.

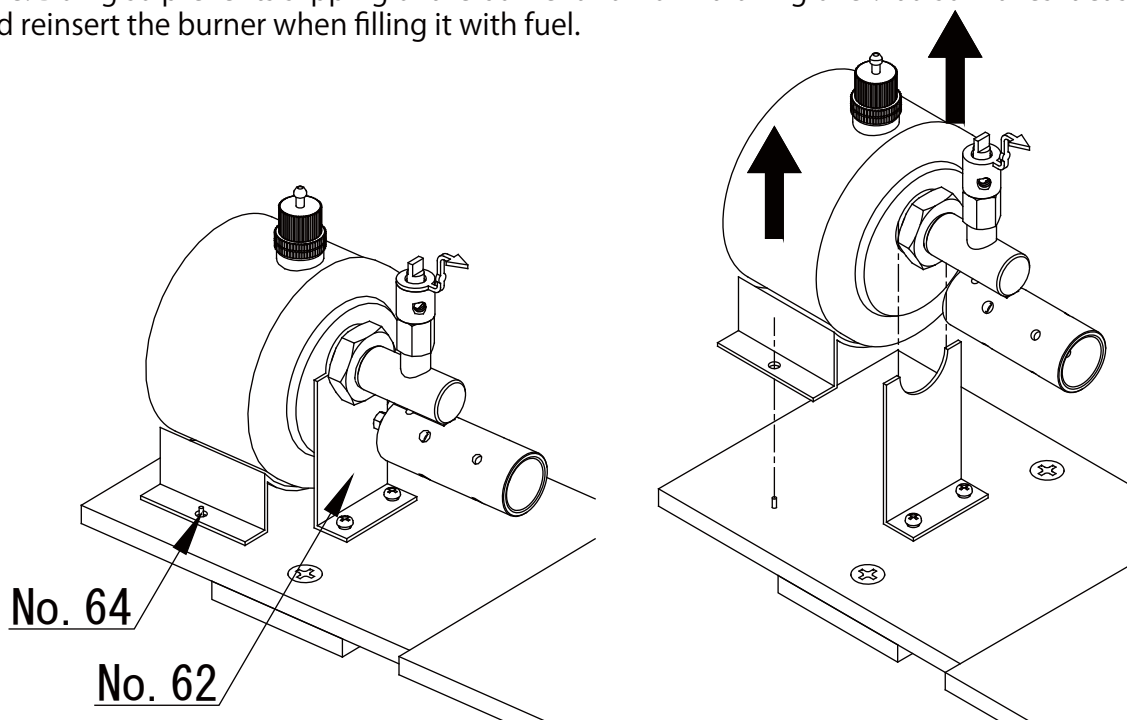
Attach the engine, boiler, and burner on the mounting plates as shown in the figure below. The attachment order is summarized below.

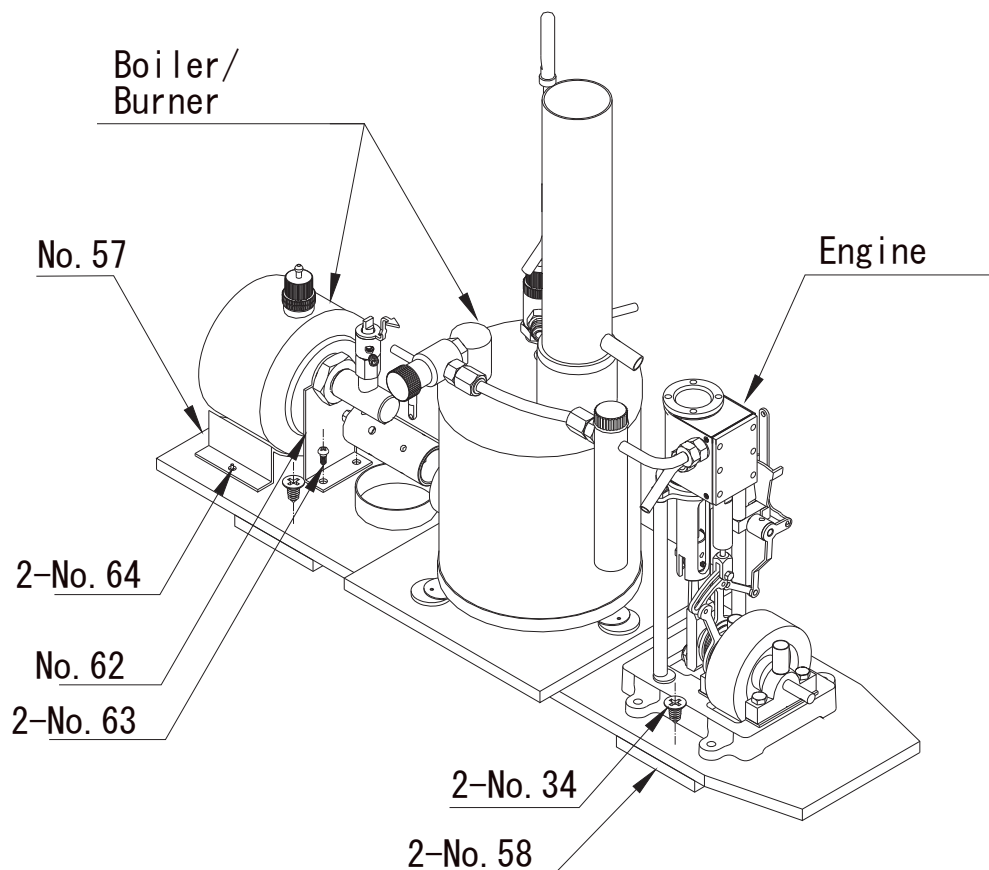
- Decide on engine position
- Connect the boiler to the engine and decide on boiler position

Leave a gap between the engine and the boiler as shown in the figure below and decide on burner position. *See below for the method for fixing the burner.



Pass the two pins for the burner stand (part no. 64) through the holes in the burner stand. Leave some play when doing so. Fix the burner by attaching the burner nozzle stabilizer (part no. 62) with the screw for stabilizer (part no. 63) so that it can be inserted in the gap between the nut and the burner unit at the base of the nozzle. Doing so prevents slipping of the burner and from it falling over. It also makes it easier to remove and reinsert the burner when filling it with fuel.

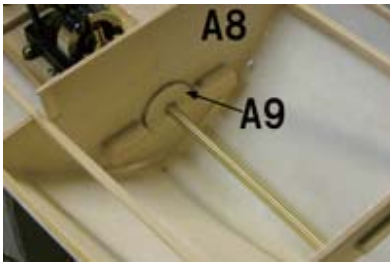




Assembling the stern tube

Fix the outer rim of the stern tube (part no. 1) pipe to the front bearing (part no. 3) using "L". Pass the stern tube through the holes in A8 and A9 as shown in the figure below and attach the oiler pipe (part no. 6) using "E".

Insert a Teflon washer between the front bearing (part no. 3) and the joint. When fixing the joint, push the screw out forwards to create a clearance of about 0.3 to 0.5mm so that there is a slight amount of play in the direction of the shaft.



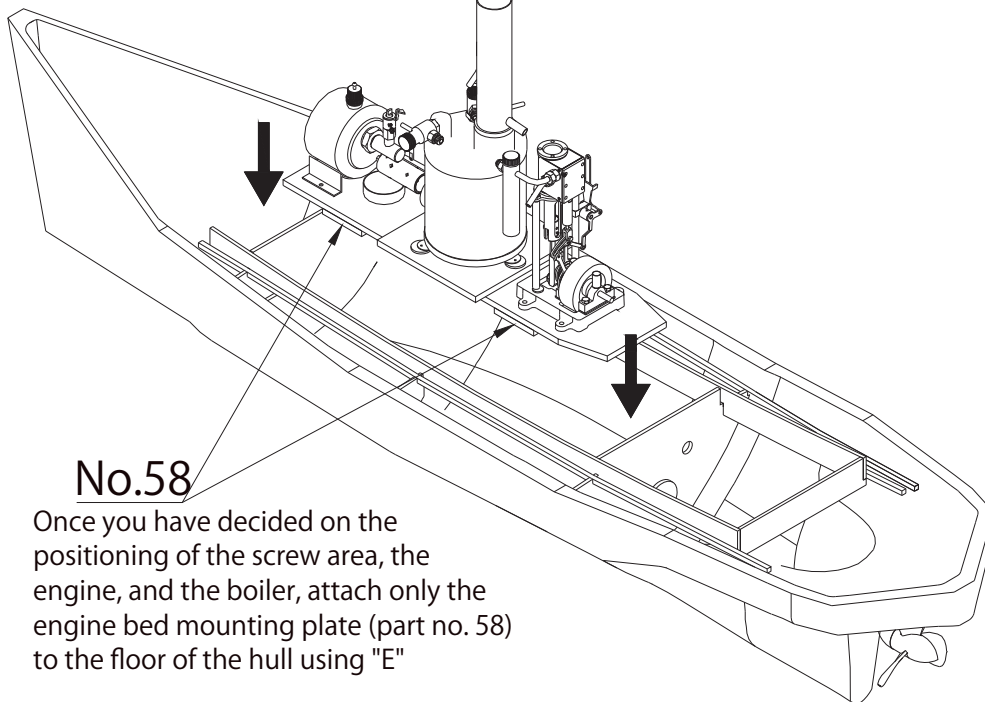
Assembling the joint

Attach joint A on the engine mounting plate side and joint B on the screw side. Before attaching, wrap Scotch tape around the ball of joint A. Align the center shaft and attach to each point on the mounting plate with "E". *The Scotch tape wound around joint A will be removed later.



Fixing the engine mounting plate

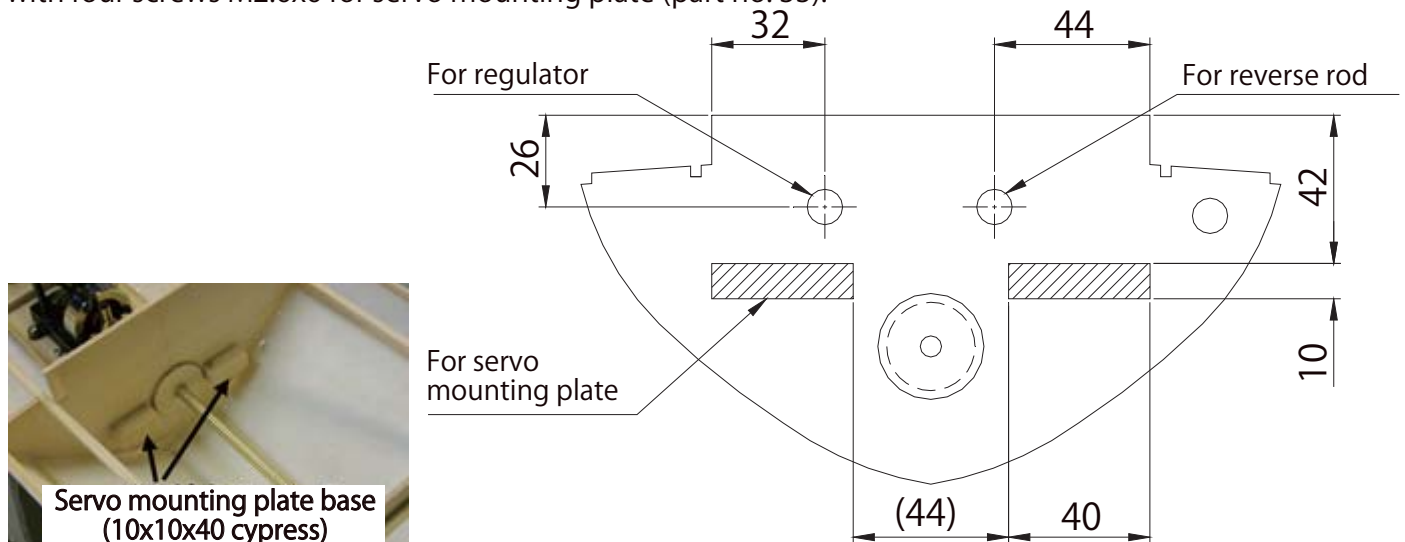
Once you have decided on the positioning of the screw area, the engine, and the boiler, attach the engine bed mounting plate (part no. 58) to the floor of the hull using "E". Once attached, this will fix the position of the engine. Remove the engine, boiler, and burner by removing the mounting plate from the engine bed mounting plate.



Once attached, this will fix the position of the engine. Remove the engine, boiler, and burner by removing the mounting plate from the engine bed mounting plate.

Fixing the servo mounting plate

Cut two pieces of cypress bar B (part no. 46-2, 10x10) to 40mm and attach with "E" next to where the A8 rear frame plate and the central core adjustment plate A9 were attached. Fix the servo mounting plate on top with four screws M2.6x6 for servo mounting plate (part no. 33).



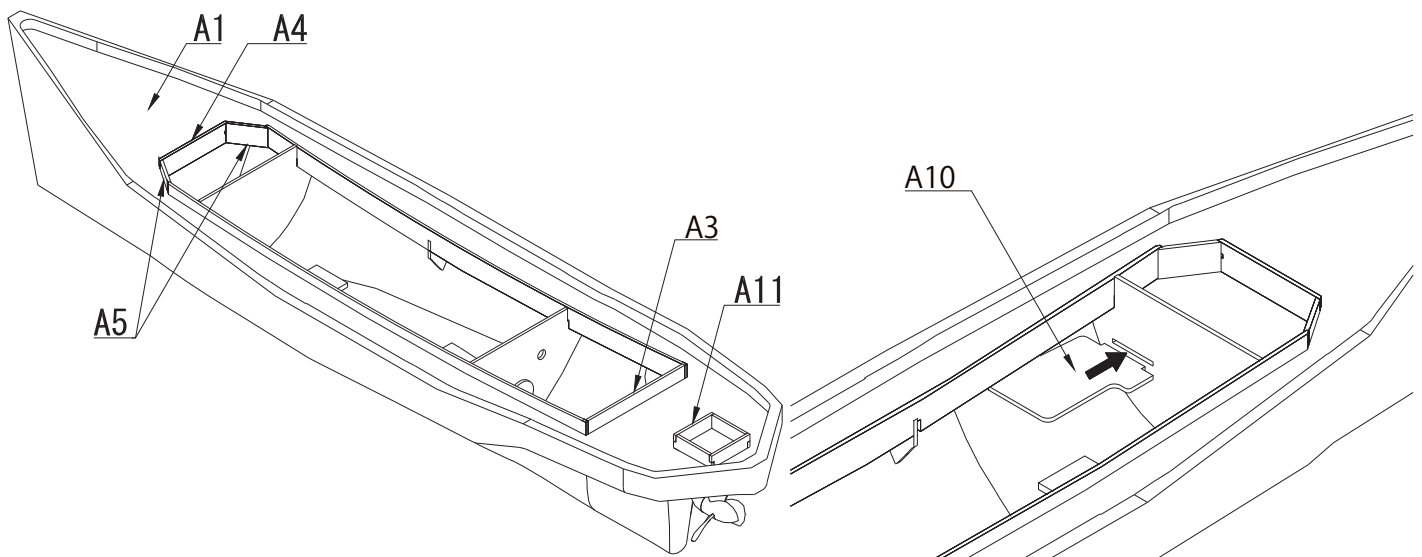
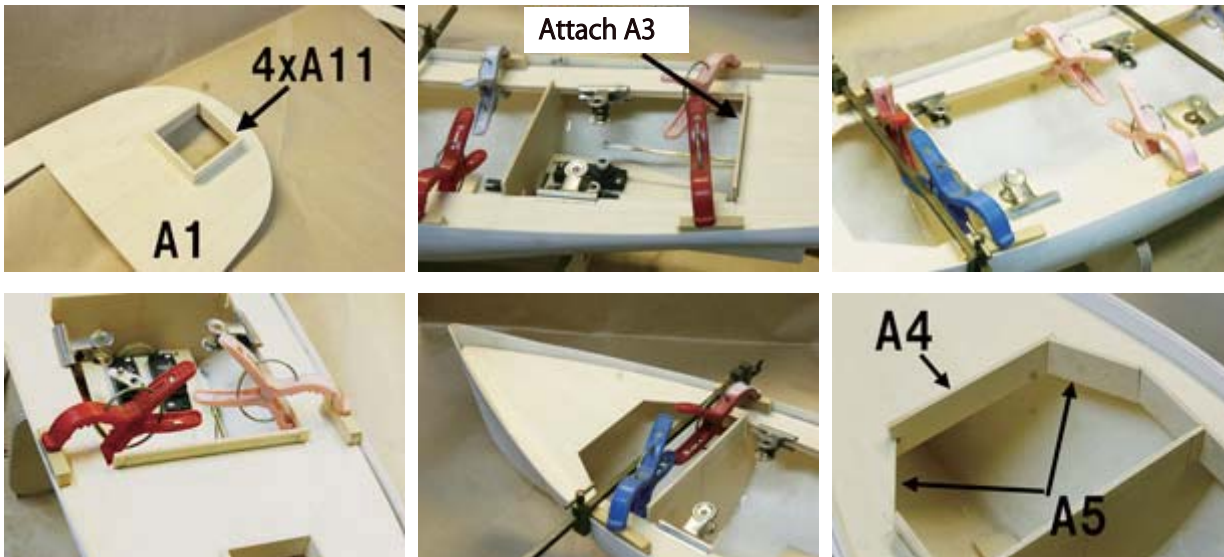
The servo will be attached later in the Linkage section.

4. Assembling the deck

Laying the deck

Combine four of the base A11 of the rear box by arranging them with the deck cut outs. First, place deck A1 on the cypress bar "a" laid on the inside of the hull. File off any parts that are too tight so that A1 can be inserted in the hull. Once everything has settled on bars (a) and (b), apply "E" and firmly fix the deck to the hull using laundry clips and clips as shown in the picture. *It may be better to use a tie when fixing the deck with laundry clips.

At this time, attach A3 to deck A1. Once the deck is fixed, attach the left and right of A4 and A5 to the very front part of the opening. Fix in a similar manner until dry even if there are gaps between each part, the hull and the deck, or between A2, A3, A4, A5 and the deck. Although the picture shows a tool that clamps the hull from both sides, you can also fix the hull by wrapping it with duct tape.



Next, insert step A10 in the rectangular hole in frame plate A6 and attach with "E" so that it is level with A6 and the hull. If it interferes with the hull, attach after filing down A10.
A ladder will be attached to A10 later.

Processing the deck strips

Cut ABS plate B (part no. 50, 1x10) and attach on top of the rear deck of the hull using "E". Because the accompanying width increases as the broadside of the hull nears the bow, use ABS plate C (part no. 51, 1x20) for the stern portion.

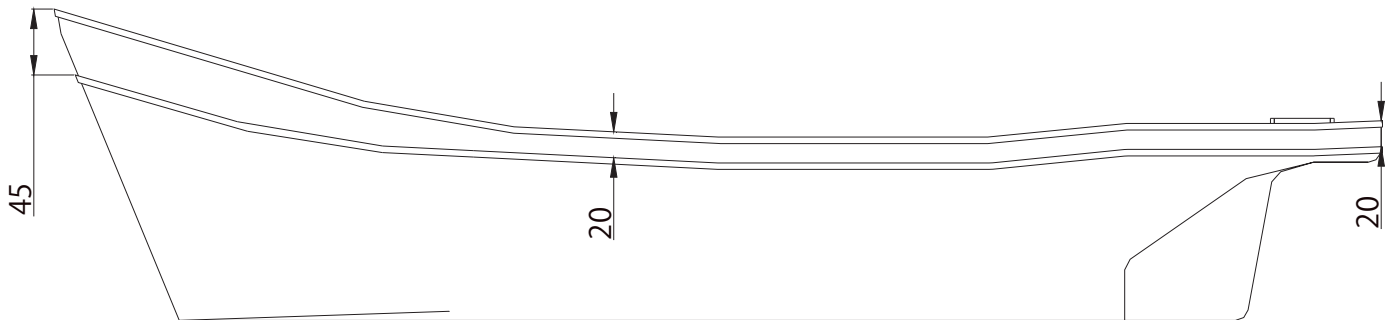


In order to precisely attach to the broadside, place a tie on the straight portions in the same manner as when laying down the deck. Fix the curved portion of the stern with small laundry clips. Once the adhesive around the entire rim has dried, cut off and file any protrusions that appear when combined with the broadside.



5. Assembling the outside of the hull

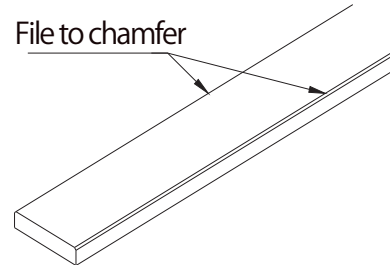
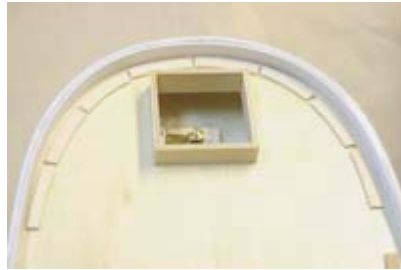
Use "L" to attach the ABS plate A (part no. 49, 2x5) for the top broadside plate on the outside of the hull. Once dry, finish with a file and sandpaper. Use the same ABS plate A for the belly of the ship. Using the figure below for reference, using paper tape to determine the position for the plate and attach 5mm of the top surface with "L". Fix the curved portion of the bow in the same manner. If there are any gaps in the ABS plate A laid on the stern, fill in with putty before painting.



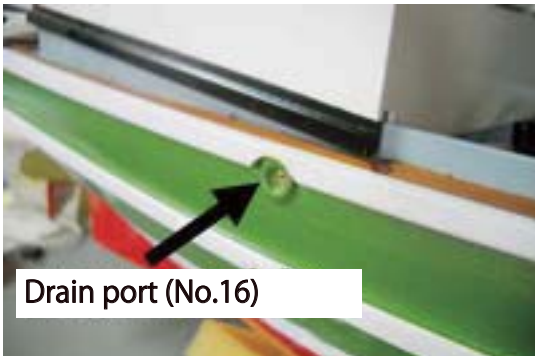
6. Assembling the deck

Attaching the deck floor

Cut deck material B (part no. 48) to create eight 8x32 boards to attach to deck strip R. For the R portion on the outside, mark with a pencil to match R on the inside of the hull. Create a guide line 8mm wide with a compass by copying the guide line for the outer side R for R on the inner side. Cut out the deck boards for the deck, straight portions, edge portions and triangular portions and trim. Apart from the strips, cut deck material A (part no. 47) and attach from the center out as shown in the picture. File both sides of the top surface of the deck strips. This makes the borders more defined when they are all combined, giving it more texture.



Once you have finished attaching the deck material, before painting, open holes on the port and starboard sides to attach the drain port for deck (part no. 16) from the outside, and attach with "L". Refer to the picture for the location of the drain port for deck (the picture was taken after painting).



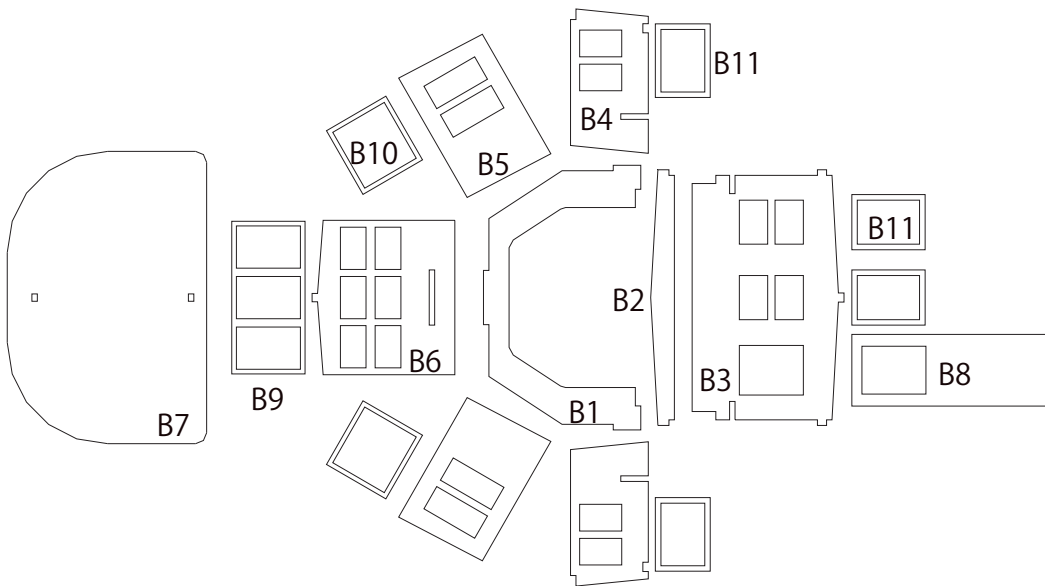
Paint the deck first before painting other parts (paint only the deck). Mahogany and walnut colors are relatively typical and blend well.



7. Assembling the cabin on the deck and rear box

Assembling the front cabin

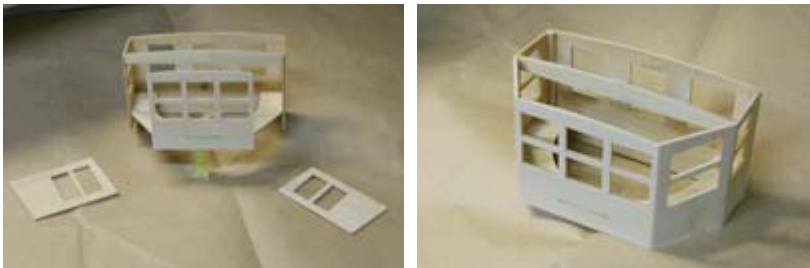
First, check the materials below that will be used for the front cabin.



Assemble B1, B2, B3, and B4 by aligning the cut grooves and apply "L" to each attachment point.



Assemble the front of B6 and the angled sides of B5.



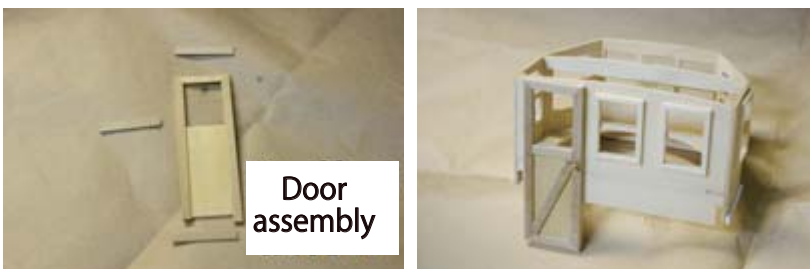
Cut deck material A (part no. 47) to make a door frame and attach to the door. Attach the completed door to the cabin. Attach with "L",

from four window frames B11, two to the rear window of B3, another two to both sides of B4, two B10 window frames to the angled B5 windows,

and one (triple) window frame B9 to the front B6 window.

Attach the roof B7. After attaching the roof with "E", fix with laundry clips.

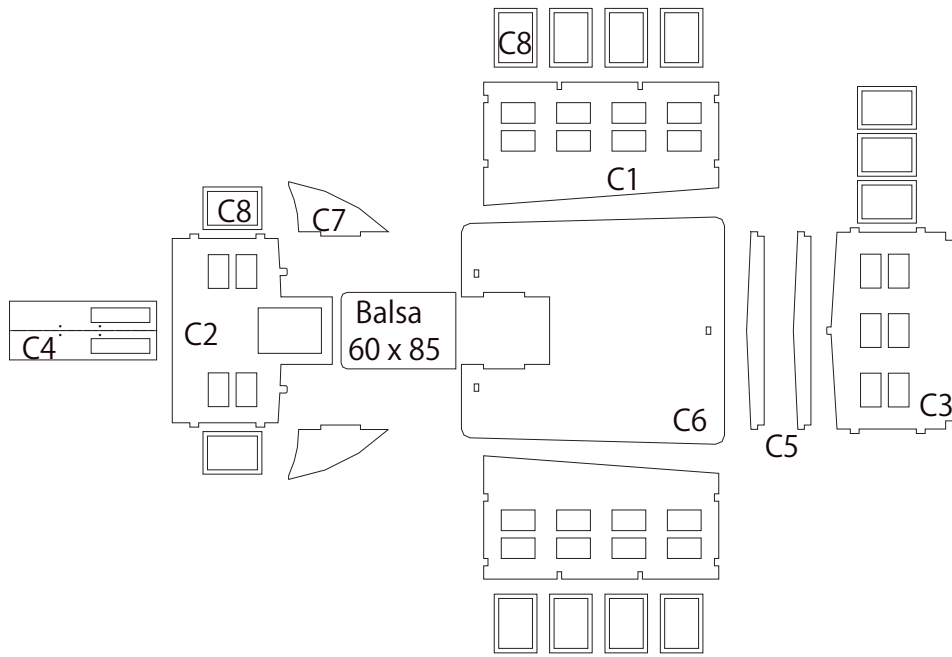
Attach ABS plate A (part no. 49, 2x5) to the bottom of cabin using "L".





Assembling the rear cabin

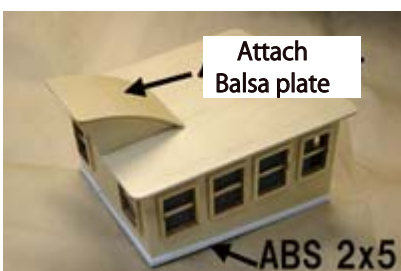
First, check the materials below that will be used for the rear cabin.



Cut the 2mm thick balsa plate (part no. 61) to a size of 605mm x855mm for the roof-opening portion only. Prepare the plate by rounding the edges. Assemble C1, C2, C3, and C5 by aligning the cut grooves and apply "L" to each attachment point. Cut deck material A (part no. 47) and attach to door C4.

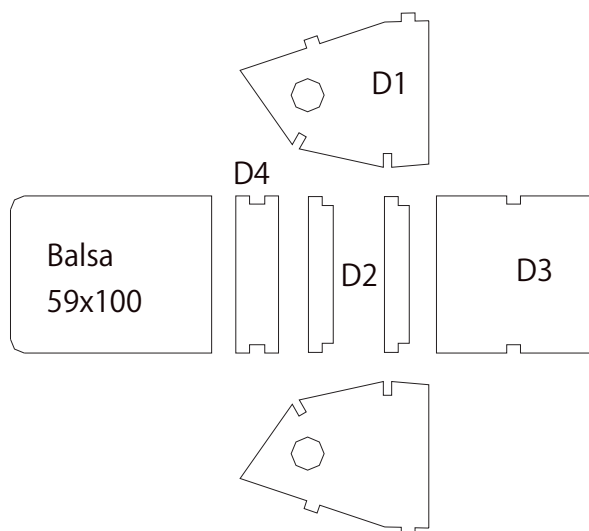


Attach the door to the center of C2 in the assembled cabin with "L". Place roof C6 on top, use a tie and fix with a laundry clip and attach with "E". Once attached, attached C7 with "L". Once C6 and C7 are attached, align the cut balsa plate with the curve of C7, and attach with "L" while fixed with laundry clips. Attach ABS plate A (part no. 49, 2x5) to the bottom of cabin using "L".

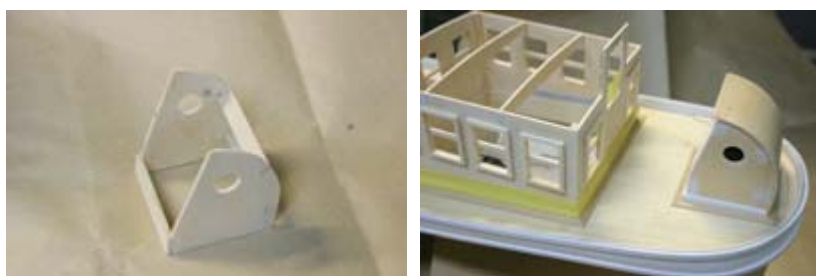


Assembling the rear box

First, check the materials below that will be used for the rear cabin.

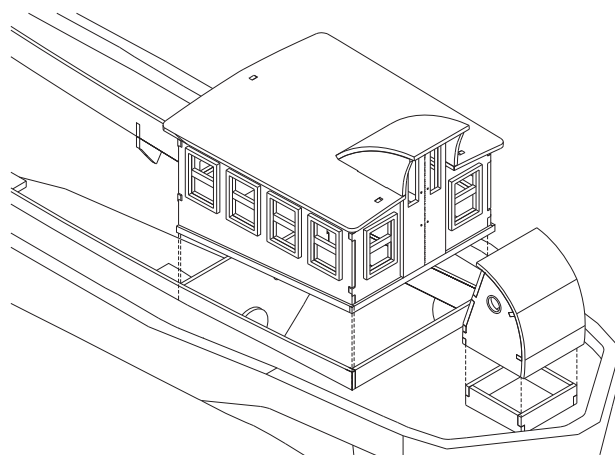
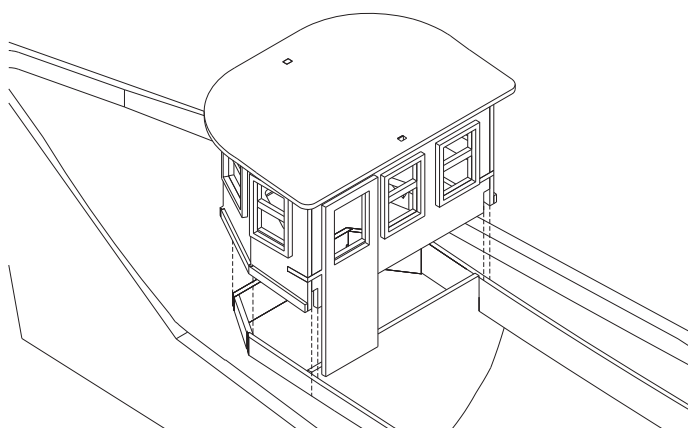


Cut the 2mm thick balsa plate (part no. 61) to a size of 595mm x1005mm for the roof and prepare the plate by rounding the edges. Cut the ABS plate A (part no. 49, 2x5) for the bottom edge so that it can be inserted in the base at the bottom of the deck and attach with "L". Fix the balsa plate with the curve of D1 in the same manner as the balsa roof for the rear cabin, and attach with "L".



Checking attachment on the deck:

Once the cabin noted above and the rear boxes have been assembled, check to see that they are securely attached to the deck. Check that that the frames built in A2, A4, A5, and A6 fit precisely with the front cabin, the frames built in A2, A3, and A8 fit precisely with the rear cabin, and the frame built in A11 fits precisely with the rear box. If they do not fit smoothly, file down any portions that may interfere with the fit.



8. Painting

Painting determines how well the finished product looks. Once you paint the product, it is difficult to make any changes. Be sure to slowly and carefully apply the paint. *The ship shown below as an example was painted using a urethane spray gun paint.

Deck

As noted above, paint this first before all other parts. Use a brush to paint the deck in a mahogany or walnut color. Make sure not to miss any spots. A double coat will ensure an even better color tone.



Hull

Apply masking tape to the deck before painting the hull. Apply a base coat to the entire hull and then paint white.

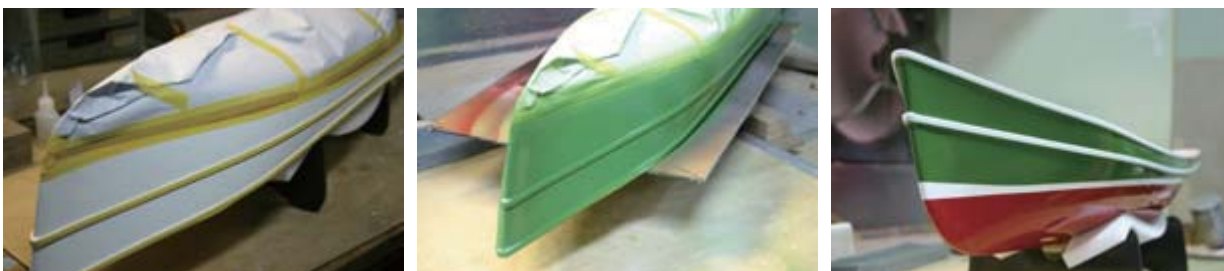


Apply paper tape to the belly of the ship to bring out a white line to separate the green and red on the belly. After painting on the red and green, removing the tape will leave a distinct white line.

Once you have applied masking tape, paint the bottom of the ship red. Next, apply masking tape to the center line mall and the broadside mall on the belly of the ship as shown in the picture in preparation for applying the green paint. The masking tape on the mall must be applied exactly, without any slack, as shown in the figure or you will not get a clear border between the red and green portions. Once you have finished applying the red paint, apply masking tape to the red portion.



After applying the green paint, removing the masking tape will reveal a distinct white line. This completes the outside of the hull.

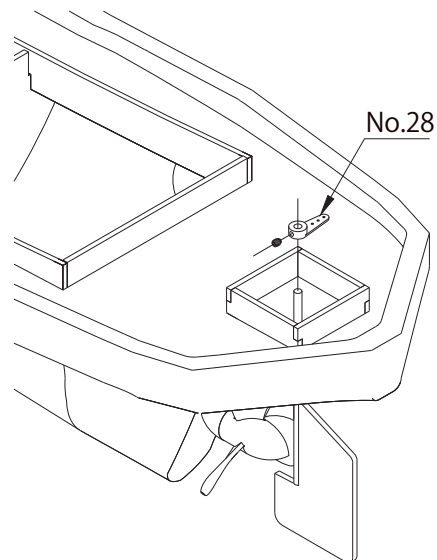
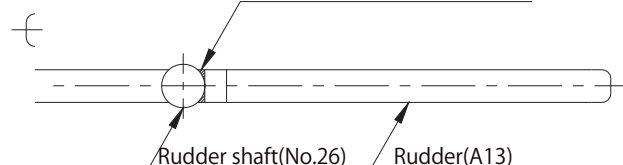


Painting and attaching the rudder

After attaching the rudder A13 to the rudder shaft (part no. 26) with "H", fix with "E" while filling in the gap between the shaft and the rudder. Once you have painted the rudder and the shaft red, pass the shaft through the fixed A14 in the ship and the shaft receptacle pipe. Attach the rudder horn (part no. 28) from the inside of the ship and fix.



After attaching the rudder A13 to the rudder shaft (part no. 26) with "H", fix with "E" while filling in the gap between the shaft and the rudder



Inside the ship

Although you should apply masking tape as shown on left when using spray painting, when painting by hand, paint carefully to avoid smearing and smudging. The interior of the ship will get dirty so apply two relatively thick coats of paint.

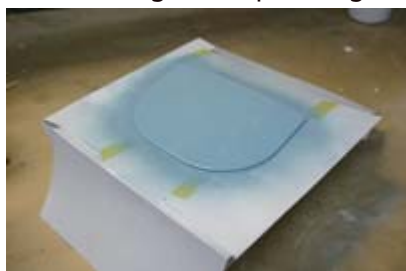


Cabin rear box

Mask with paper tape on the inside so that the paint does not drip onto the inside of the window. Apply a base coat and paint white. Paint the sides of the cabin and rear box white.



Paint the ABS plate B (part no. 49, 2x5) attached towards the bottom of the cabin and rear box black. Paint the inside of the house as well to make it waterproof. For masking when painting the roof, apply paper from the underside of the roof.



Paint the door the same mahogany or walnut color as the deck. Attach the handle after painting. The handle is made by bending the brass wire (part no.. 54) as shown in the figure below. Open a 2mm hole in the door, insert the handle, and attach with "L".



9. Assembling and attaching the rigging

Once the entire ship has been painted, attach the rigging. In general, attach all parts that connect face to face, with "L".

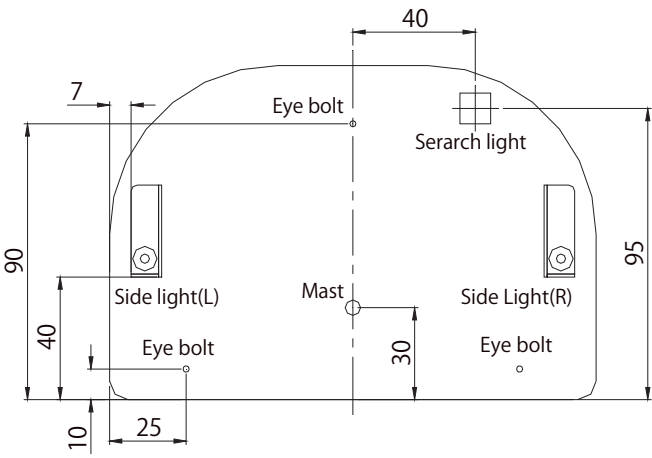
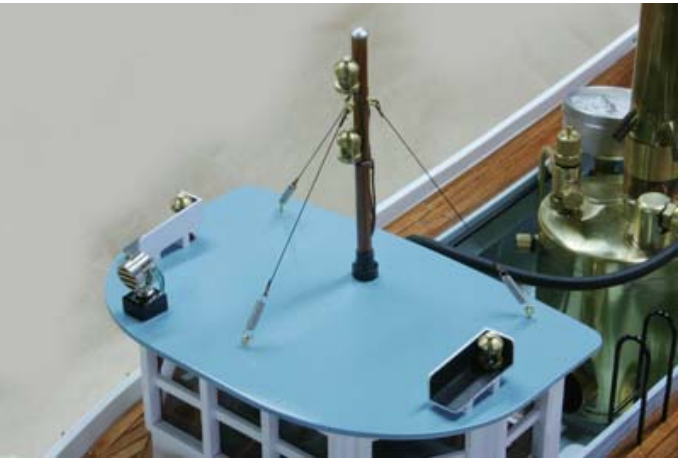
First, check the materials below.



9. Bollard A	18.Light
10.Capstan	19.Eye bolt
11.Bollard B	20.Mast top
12.Circular window L	21.Handrail post for rear deck
13.Door hinge	22.Spring
14.F Cabin door knob	23.Search light
15.R Cabin upper handrail post	24.Mast base
16.Overflow port	25.Wire
17.Flag base	

9-1. Rear cabin and front cabin rigging

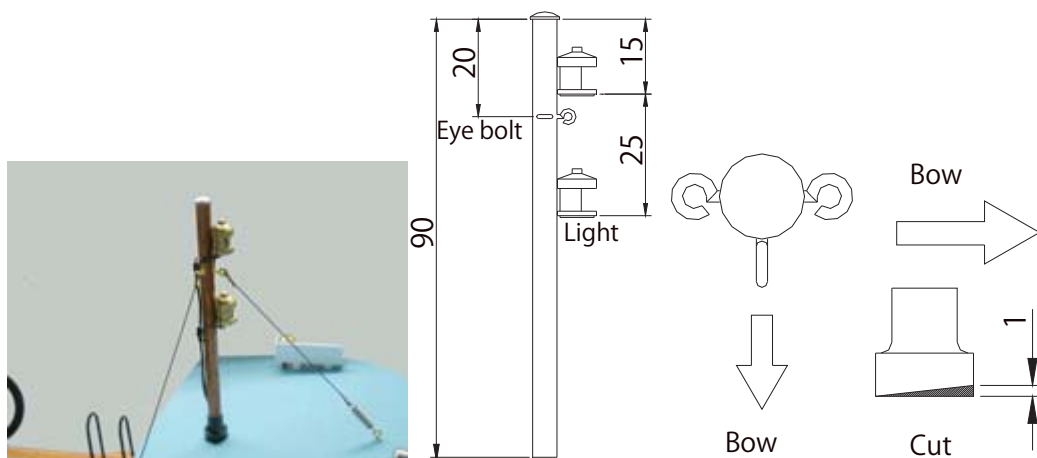
Rigging above the front cabin



Mast

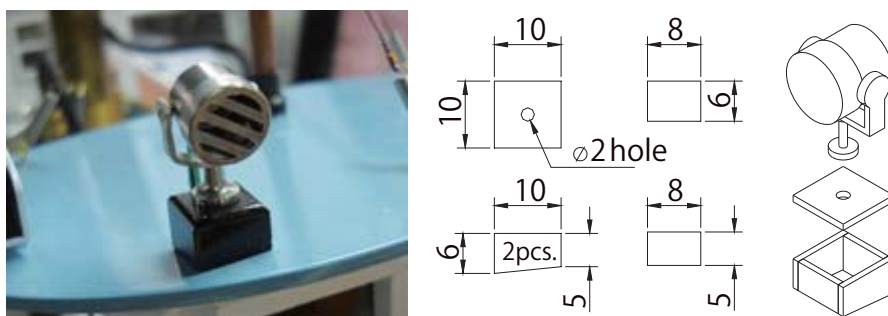
Attach the mast (part no. 60) to the mast base (part no. 24), attach two lights (part no. 18), and fix with an eye bolt (part no. 19), wire (part no. 25) and spring (part no. 22).

Match the angle of the mast with the angle of the cabin roof so that the mast is vertical and then cut. Finally, attach the mast top (part no. 20) to the tip of the mast



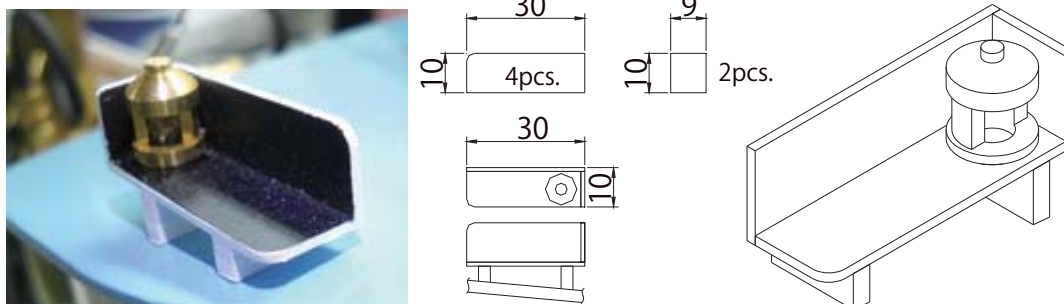
Search light

Cut ABS plate B (part no. 50, 1x10) as shown in the figure below. Make a hole and attach together to create a mount. Paint the mount black, and then insert the search light (part no. 23) and attach. Attach the entire unit to the roof of the front cabin so that the light faces forward.

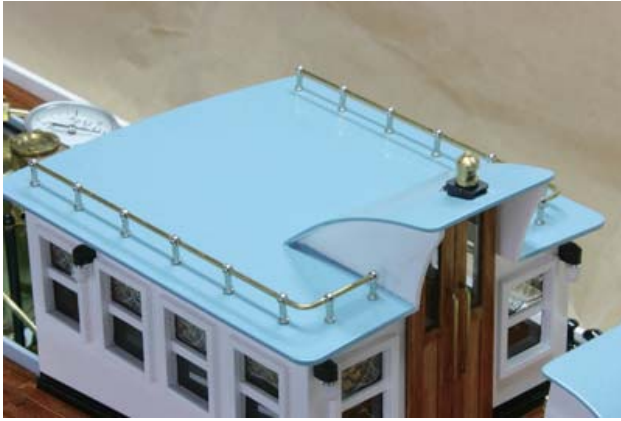


Left and right side light trays

Cut ABS plate B (part no. 50, 1x10) as show in the figure below. Attach together to create a tray. Paint the outside of the tray white, and the inside black. For the stand, cut ABS plate E (part no. 53, 3x3) appropriately to match the angle of the roof and attach. Attach the light (part no. 18) onto the tray and attach the left and right trays to the roof of the front cabin.

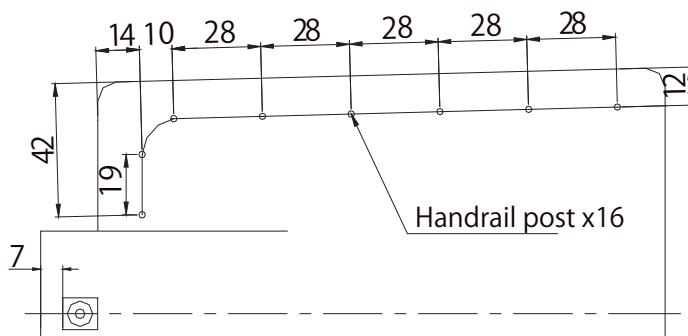


Riggings on the rear cabin



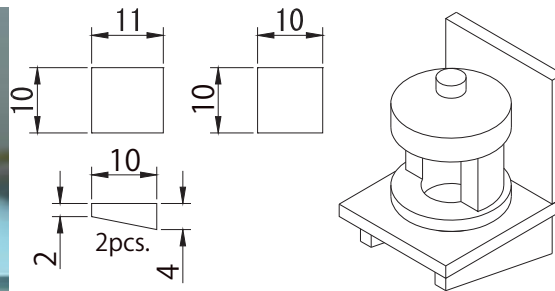
Handrails

Open 2mm holes on the roof of the rear cabin for handrail post. Pass the brass wire (part no. 54) through the handrail column and finally attach with "L".



Rear light

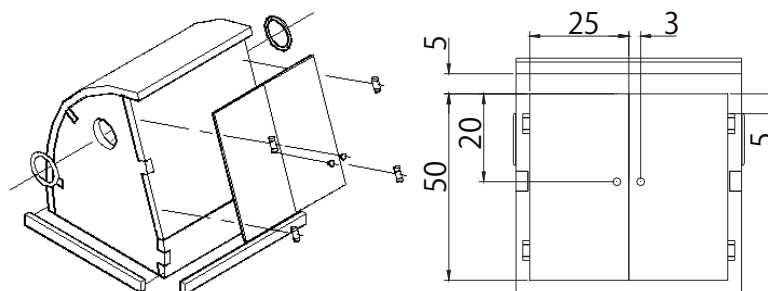
Cut ABS plate B (part no. 50, 1x10) as show in the figure below. Attach together to create a mount. Paint the mount black, attach the light and then attach the entire unit to the roof.



9-2. Deck rigging

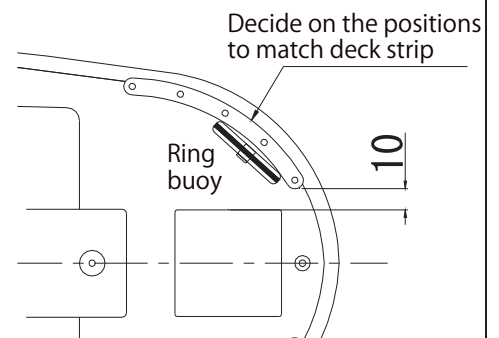
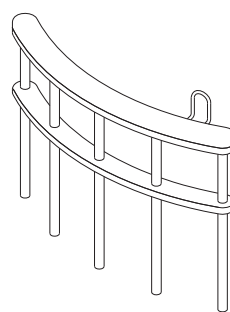
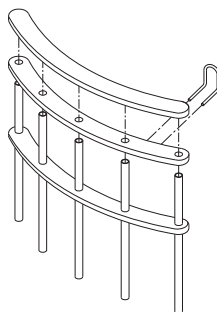
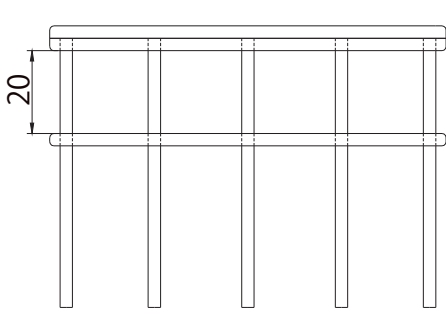
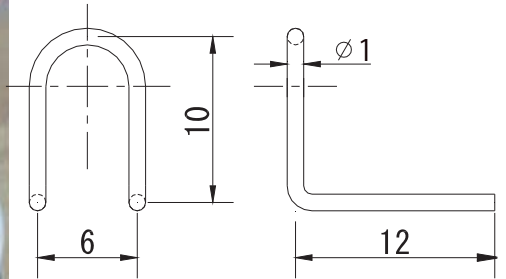
Rear box

Cut and past 2 sheets of ABS plate D (part no. 52, 1x25) and attach the circular window (part no. 12), door hinge (part no. 13) and door knob (part no. 14) while referring to the figure below. Past ABS plate A (part no. 49, 2x5) to the bottom 3 sides. Open a $\varnothing 1$ hole for the door knob and attach with "L" after inserting.



Rear handrail

Using the 5 holes in the veneer part E1, stand the handrail post for rear deck (part no. 21) and the rear handrail column $\varnothing 3 \times 65$. Draw a guide line on the deck for the hole positions. Open 3mm holes and stand 5 posts on both the left and right sides. Decide on the positions to match deck strip R using the figure below as reference. For the top of the handrail, attach by combining E2 and E1. Round the edges of E1 and E2 with a file. Create a hanger for the ring buoy with the $\varnothing 1$ brass wire using the figure below as reference. Open a narrow $\varnothing 1$ hole and attach after inserting the tip.



Ring buoy

Create two ring buoys after attaching three E4s using "E" and rounding the edges with sandpaper. Paint the outside diameter of the ring buoy white and fix sting to the buoy as show in the picture below using tape. Once the ring buoy is complete, hang on the rear handrail column ring buoy hanger created in the previous section.



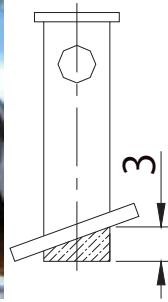
Bollard A

Attach the two bollard A (part no. 9) on to E2. Paint the entire section, including the mount, black. Attach to 4 locations on the front, rear, left and right of the deck with "L".



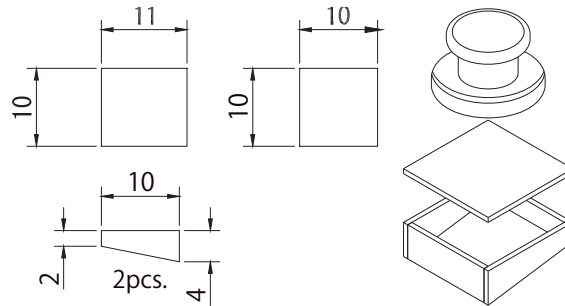
Bollard B

Insert a horizontal pole in bollard B (part no. 11) and attach. Paint black and attach directly to the deck stern. File the bottom surface as shown in the figure below to consider the angle of the deck. Open holes in the deck so that the tip of bollard B can be inserted. The picture shows the bollard wrapped with rope as a reference for the rigging.



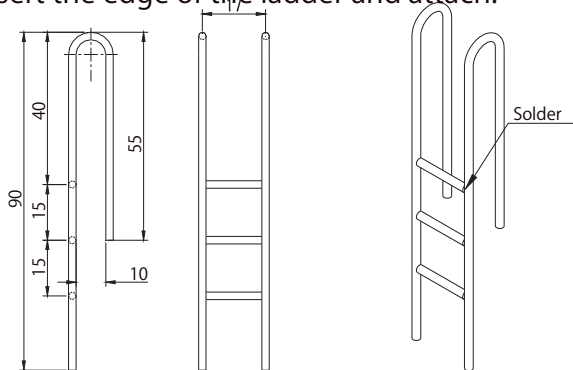
Capstan

Cut ABS plate C (part no. 51, 1x20) as shown in the figure below. Create a mount by attaching them together. Attach the capstan (part no. 10) to the mount, paint the entire section, including the mount, black. Attach directly to the deck.



Ladder

Cut and bend the brass wire (part no. 54) using the figure below as reference to create a ladder. Solder the brass wires together. Paint the ladder. Open $\varnothing 2$ holes on the deck and step A10 of the ship's interior where the ladder will be connected. Insert the edge of the ladder and attach.

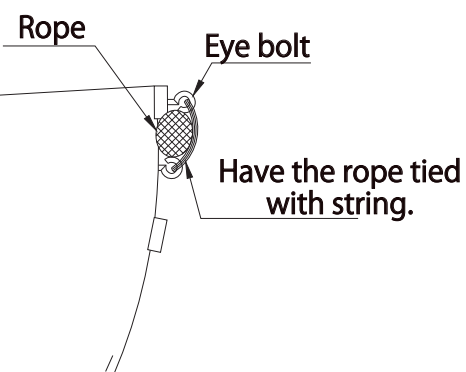
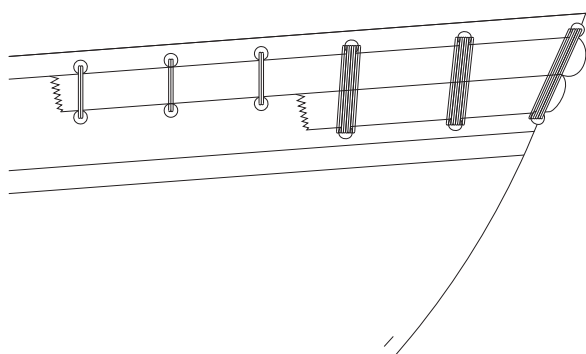
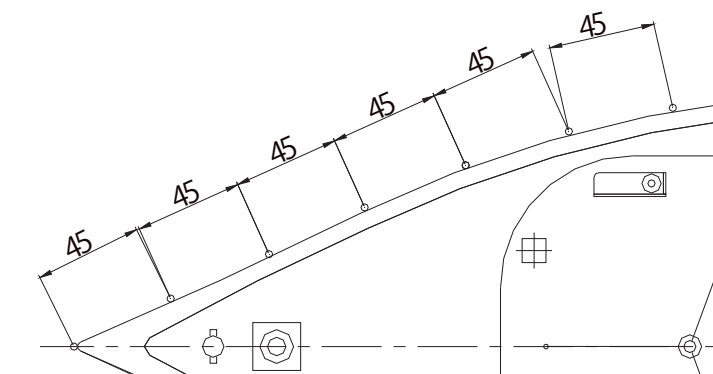
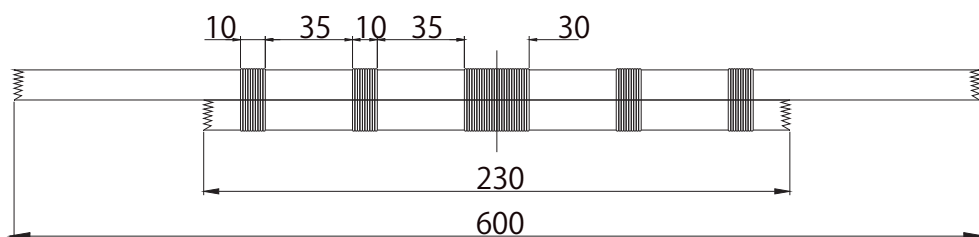


Attach the door knob (part no. 14) to the front cabin door. Attach the flag base (part no. 17) to rear edge and raise a flag if you wish (the picture shows an optional Japanese flag).



Rope fender

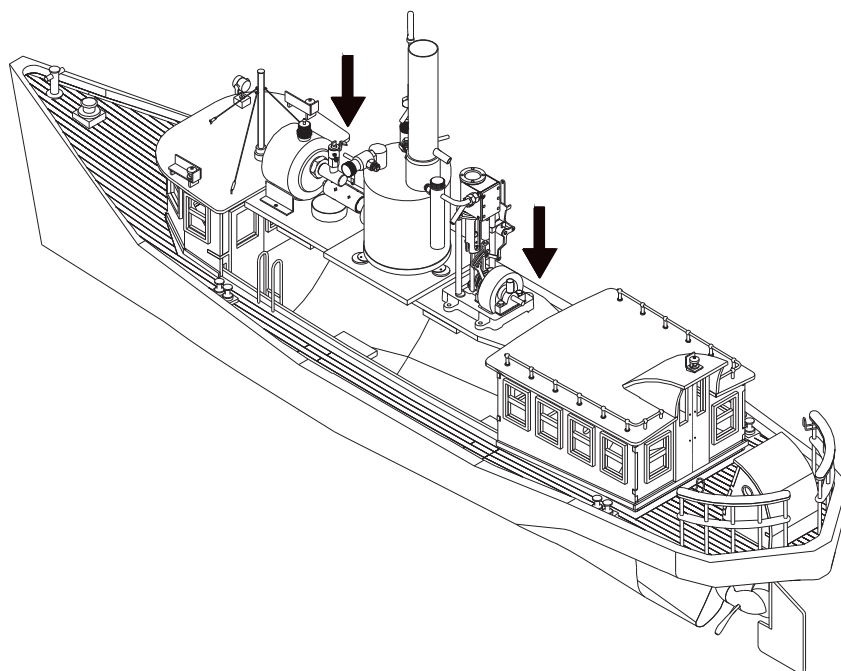
Tie on the rope fender (part no. 29) to the side of the boat's stern. Use the dimensions in the figure below as reference. Have the rope tied with string (part no. 31) beforehand. Fix the rope with the eye bolt for rope fender pushed into the top of the boat and the string.



10. Attaching the servo/linkage

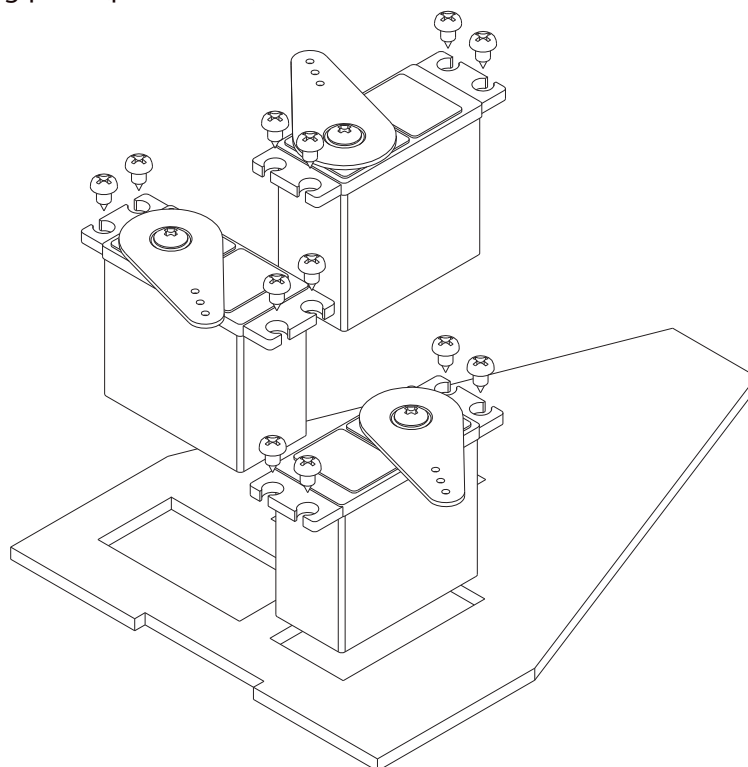
Re-fixing the engine mounting plate

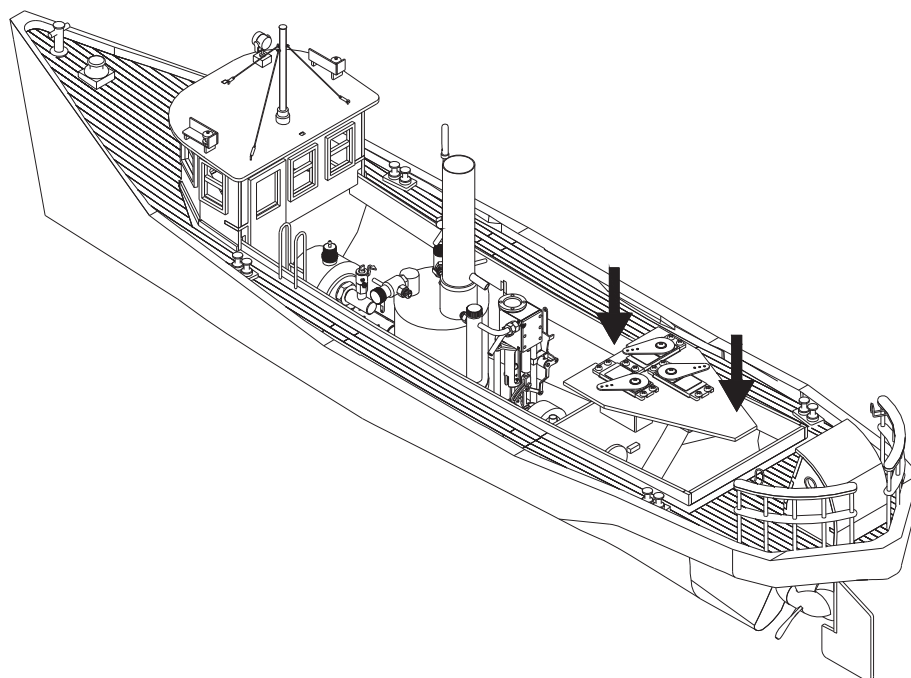
Before attaching the servo and linkage, reattach the engine mounting plate with the boiler, burner, and engine back into the interior of the ship.



Attaching the servo/linkage

As shown in the figure below, attach the 3 servos to the servo mounting plate A12 and attach with the provided screws. Attach the receiver and battery as well. Attach A12, with the servo, to the ship using the screws for servo mounting plate (part no. 33).





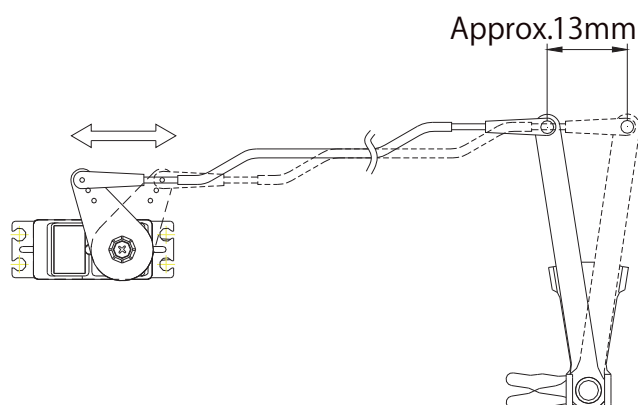
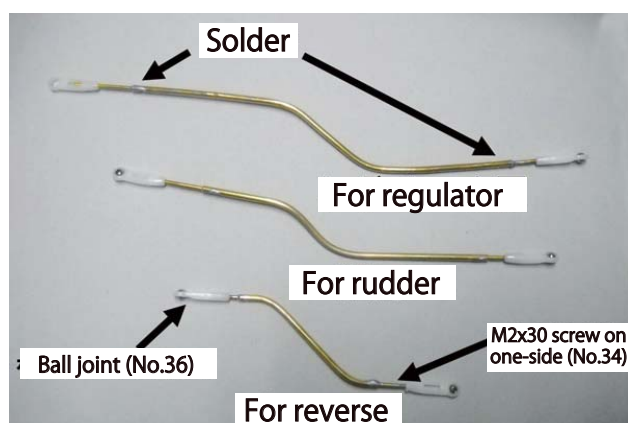
Push in rod S (single end thread) (part no. 38) into the ball joint (part no. 40). Attach the ball joint tip to the servo horn with the screw for ball joint (part no. 41). As shown in the picture, the portion where one screw was inserted in the rod pipe is to be soldered on after the length is determined.

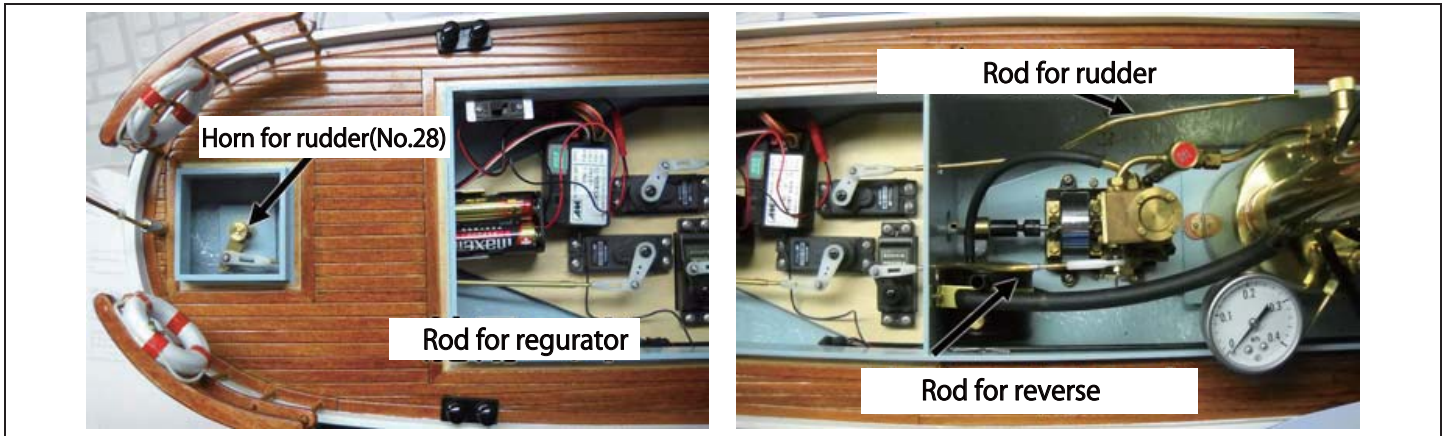
- Regular rods: Connects the boiler regulator and the servo. Check that regulator can be fully opened and closed within the rudder angle.
- Rudder rod: Connects the rudder horn (part no. 28) and the servo. Check that the left and right rudders can be fully turned within the rudder angle.
- Reverse rod: Connects the engine reverse lever and the servo. Check that the lever can be switched between regular and reverse rotation within the rudder angle. This is normally registered in the reverse channel of the transmitter and changes between regular and reverse rotation made with a switch. As shown in the figure below, ensure that there is sufficient stroke so that the lever does not stop in the middle.

*Precautions when adjusting reverse and regulator rods:

Because of the structure of the one cylinder engine (T1DR-L), the engine may stop when switched to reverse, depending on the position of the piston. Once stopped, it will not start again on its own. Please operate while taking into consideration the recovering of the ship should the engine stop.

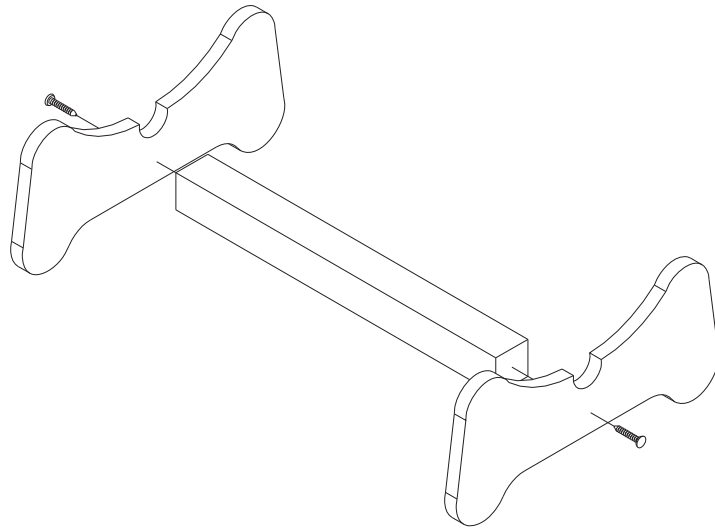
In addition, adjust the trim so the engine does not stop even when the throttle lever is pulled all the way down on the transmitter while operating the ship.





11. Assembling the ship base

Fix the two ship bases (part no. 55) and the bar for ship base (part no. 56) with wood screws. Attach with "L" to assemble the ship base. Before attachment, accurately determine the attachment location of the bar for ship base so that it does not rattle and is not loose. Once joined, paint black.



When setting sail, slowly float the boat on the water and check to make sure that the boat is not tilted abnormally. If needed, adjust the balance of the ship using ballasts. When actually operating the ship, please also refer to the instruction manuals for the engine, boiler, burner and transmitter/receiver used.

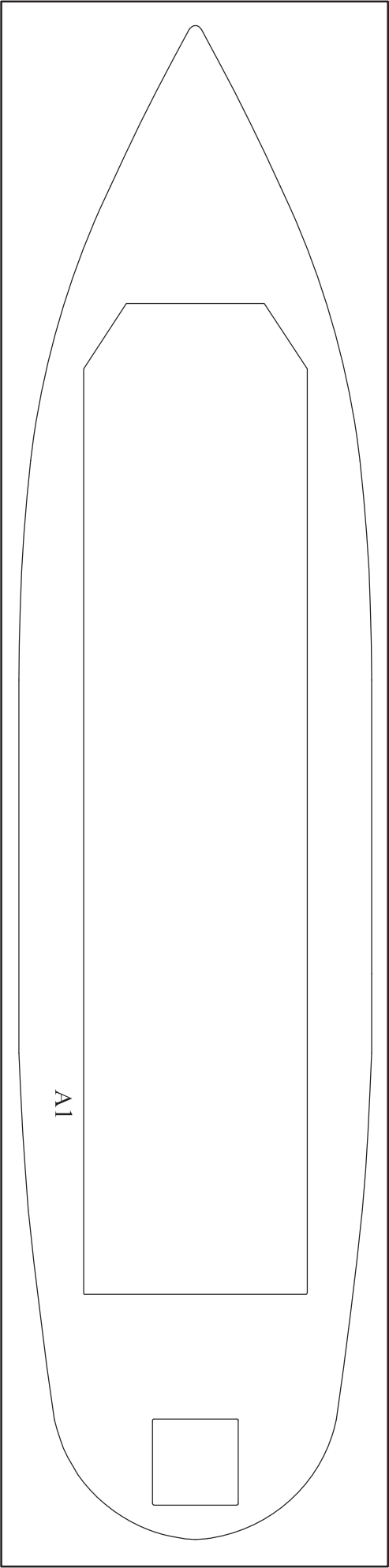
Precautions on use

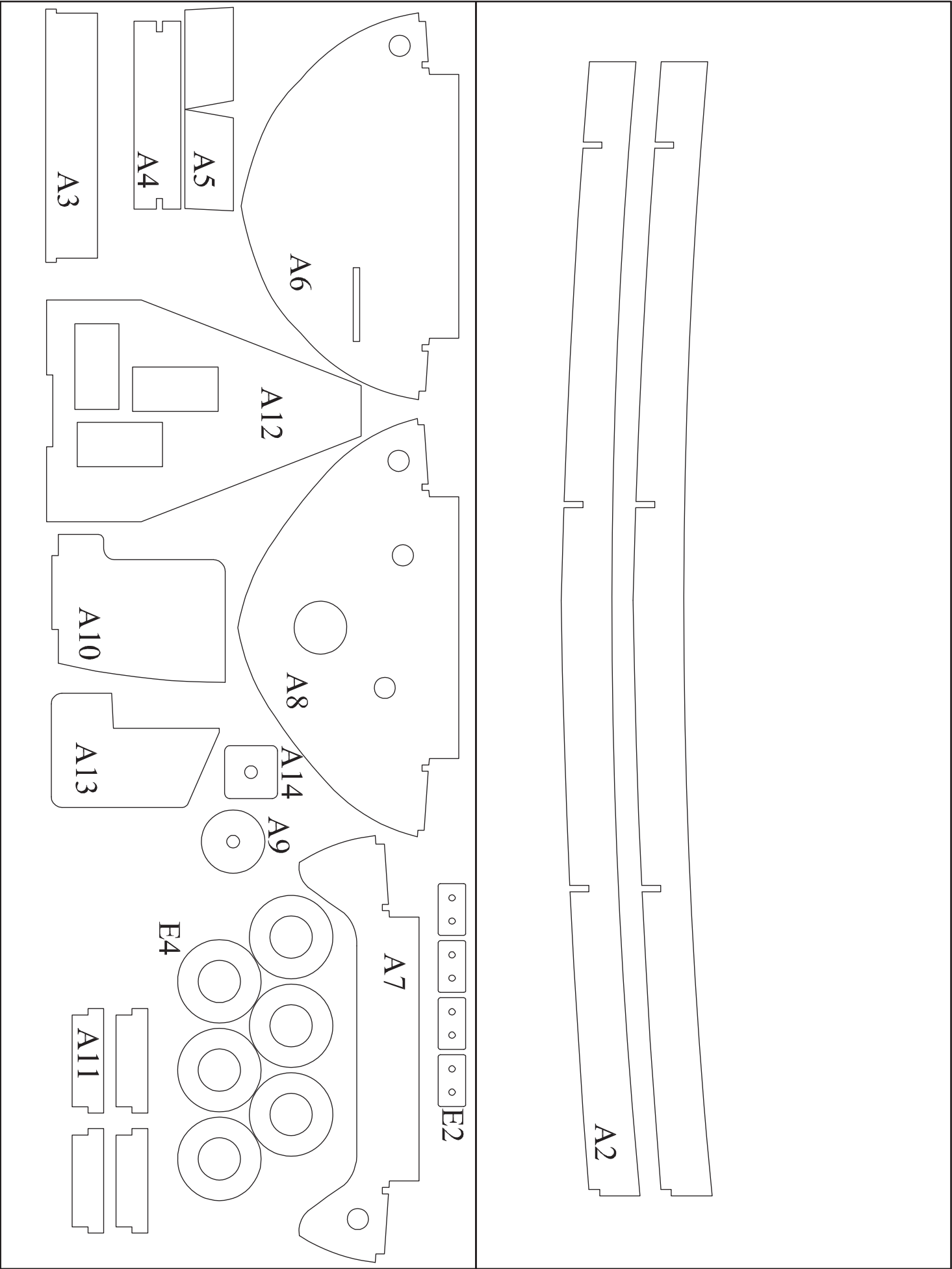
- When operating the ship, make sure to have preparations ready to recover the ship should the engine stop unexpectedly.
- Be cautious of fires and burns when handling the steam engine, boiler, and burner.
- Store fuel grade alcohol away from areas with high heat and humidity, away from direct sunlight in a cool location. Store in a location inaccessible to young children.

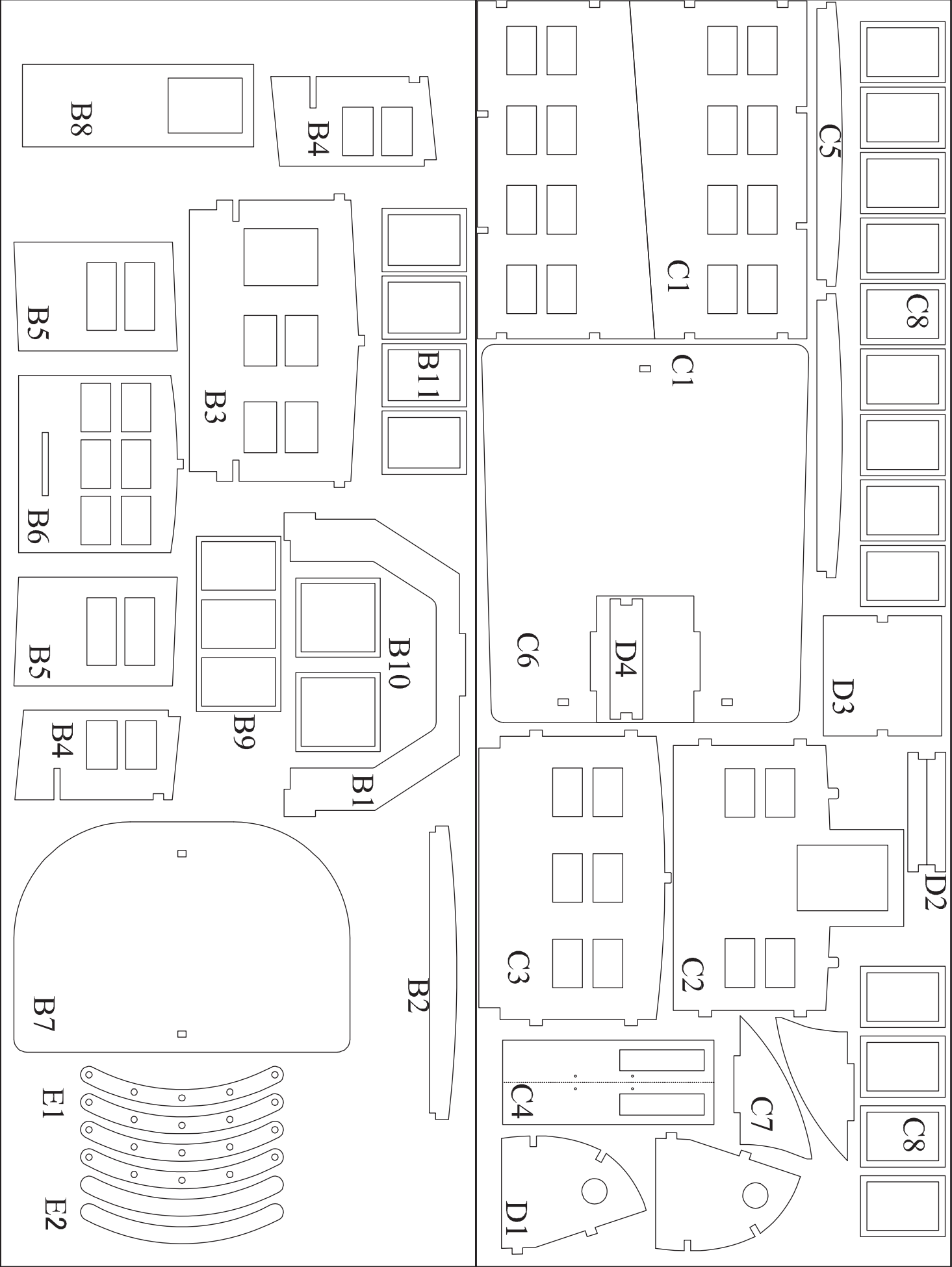
Steam launch SABRINA Parts List

	No.	Item	Qty	Remarks
1	1	Stern tube	1	
	2	Screw shaft	1	
	3	Front bearing	1	
	4	Rear bearing	1	
	5	Joint	1	
	6	Oilier pipe	1	ϕ 4x30
	7	Teflon washer for shaft	2	
2	8	Screw	1	ϕ 70
3	9	Bollard A	8	
	10	Capstan	1	
	11	Bollard B	1	
	12	Circular window	2	
	13	Door hinge	4	
	14	Door knob	3	
	15	Handrail post	16	
4	16	Drain port for deck	2	
	17	Flag base	1	
	18	Light	5	For mast, sidelight
	19	Eye bolt	6	For mast
	20	Mast top	1	
	21	Handrail post for rear deck	10	ϕ 3x65
	22	Spring	3	
	23	Search Light	1	
	24	Mast base	1	
	25	Wire	50cm	
5	26	Rudder shaft	1	ϕ 4x77
	27	Rudder bearing	1	ϕ 4x ϕ 6x20
	28	Rudder horn	1	
6	29	Rope fender	900mm	
	30	Eye bolt for rope fender	26	26
	31	String	1m	For rope fender, ring buoy
	32	Brass wire ϕ 1	100mm	For ring buoy hanger

	No.	Item	Qty	Remarks
7	33	Screw for servo mounting plate	2	M2. 6x6
	34	Screw for engine mounting plate	4	M3x10
	35	Linkage rod for rudder	1	
	36	Linkage rod for regulator	1	
	37	Linkage rod for reverse	1	
	38	Rod S(Single end thread)	5	M2x25mm:2pcs 35mm:3pcs
	39	Rod L(Single end thread)	1	M2x60mm
	40	Ball joint	6	
	41	Screw for ball joint	6	M2x8
	42	Nut for ball joint	6	M2
	43	φ3.2 rubber pipe	200mm	For engine exhaust
	44	φ2.2 rubber pipe	700mm	For relief valve
	45	Exhaust pipe	1	φ 4x50
8	46-1	Cypress bar A	900mm	4x4
	46-2	Cypress bar B	100mm	10x10
	47	Deck material A	600mm	1.5x6
	48	Deck material B	600mm	1.5x8
	49	ABS plate A	1000mm	2x5
	50	ABS plate B	1000mm	1x10
	51	ABS plate C	500mm	1x20
	52	ABS plate D	200mm	1x25
	53	ABS plate E	500mm	3x3
	54	Brass wire φ2	1000mm	For ladder, handrail
9	55	Ship base	2	
	56	Bar for ship base	250mm	25x25
	57	Engine mounting plate	1	80x320x5t
	58	Engine bed mounting plate	2	40x80x5t
	59	Boiler mounting plate	1	80x90x5t
	60	Mast	1	φ 5x100mm
	61	Balsa plate	1	80x150x2t
10	62	Burner nozzle stabilizer	1	
	63	Screw for stabilizer	2	M2x6
	64	Pin for burner stand	2	
		Laser cut veneer plate	5	
		Hull	1	







All specifications and models are subject to change without notice.



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