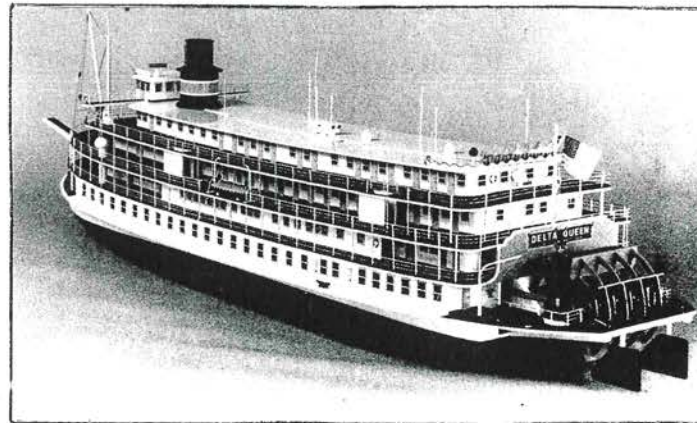


DELTA QUEEN

ASSEMBLY INSTRUCTION



SAITO

Before Assembly

° Thank you for your purchasing DELTA QUEEN.

This is a ship of 1/73 scale exactly representing the paddle-wheeler currently plying the Mississippi which is famous for its elegant outlook worthy of the name of "Queen."

Read the assembly instructions and you will find it easy to assemble the ship in a short time.

Things To Be Prepared For Assembly

Tools.

Hand saw (with fine teeth), cutters (large and small), small plane (balsa plane), radio pliers, nippers, file (flat and round), sand paper (#180), standard and philips screwdrivers, auger, router, pin vice, clip, hammer, rule, etc.

Adhesives.

The numbers [1], [2], [3], and [4] in the assembly instructions indicate the following adhesives (in the order of time required for gluing):

[1] Instant Adhesive

Various brands and types are commercially available, which may be grouped into general (for metal) and for woodworking purposes. The adhesive for woodworking can be further divided into the adhesive for balsa and for hardwoods. The latter is used for gluing die-cuts.

[2] 5-Minute Epoxy Adhesive

This features the required short-gluing, and combined use with the instant adhesive will reduce the work time significantly.

[3] 30-Minute Epoxy Adhesive

[4] 6-Hour Epoxy Adhesive

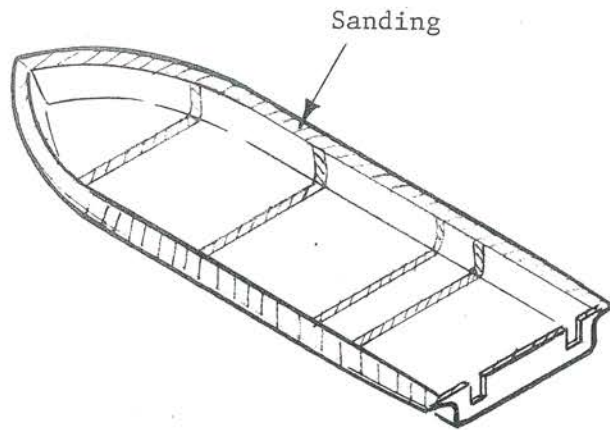
This is used for gluing the veneer frames with FRP. Place the mixture of the two liquids in a can and heat it with a dryer until it liquefies. In 2 to 3 hours, it will harden.

Paint.

A lacquer or urethane system that is familiar to you is recommended for the body. To brush on lacquer, do not use thinner, but use a retarder (about 1:5), to elongate the drying time and to ensure that the brush traces do not remain, and that a fine finish is obtained. For stacks and other small fittings, pla-colors of bountiful tints are recommended. Papers of #240 to 800 are also recommended to be ready at hand. Small fittings are better painted before gluing, so it is recommended to read (4) Painting and Finishing before assembling.

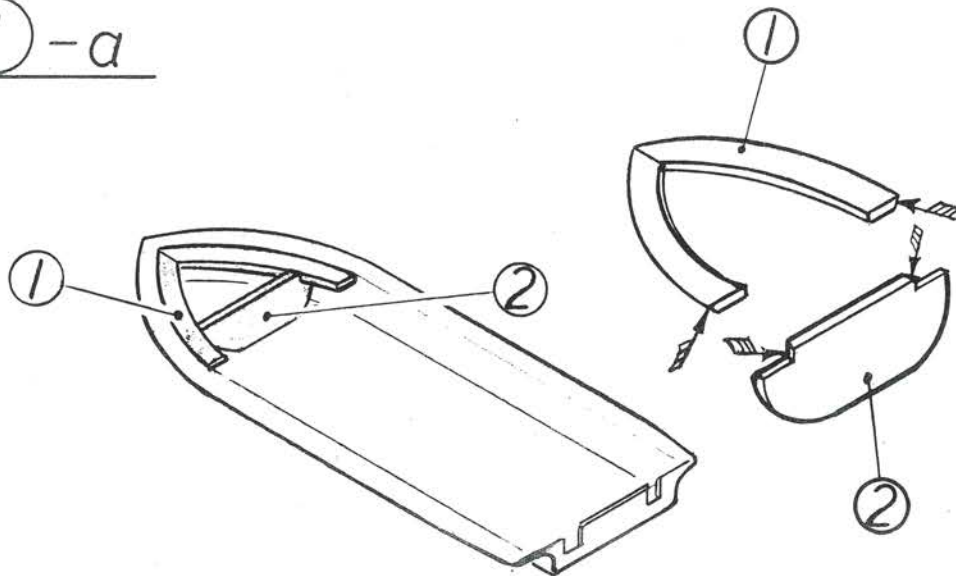
1

Gluing Of FRP Bottom Of The Ship



- The gluing surface of the FRP bottom of the ship and die-cut parts should be roughened by sanding, and then they are glued together using [4] or [3]. Simultaneous heating using a dryer, etc., is recommended when adhesive [4] is to be used to ensure positive joining.
- Adhesive [1] or [2] is recommended for gluing a die-cut part to others.
- When a die-cut part is not readily removed, use a suitable cutter to separate. Do not forcefully pull it.
- Sand the surface of the die-cut parts with sandpaper of size say, #320, to facilitate later painting work.

1-a

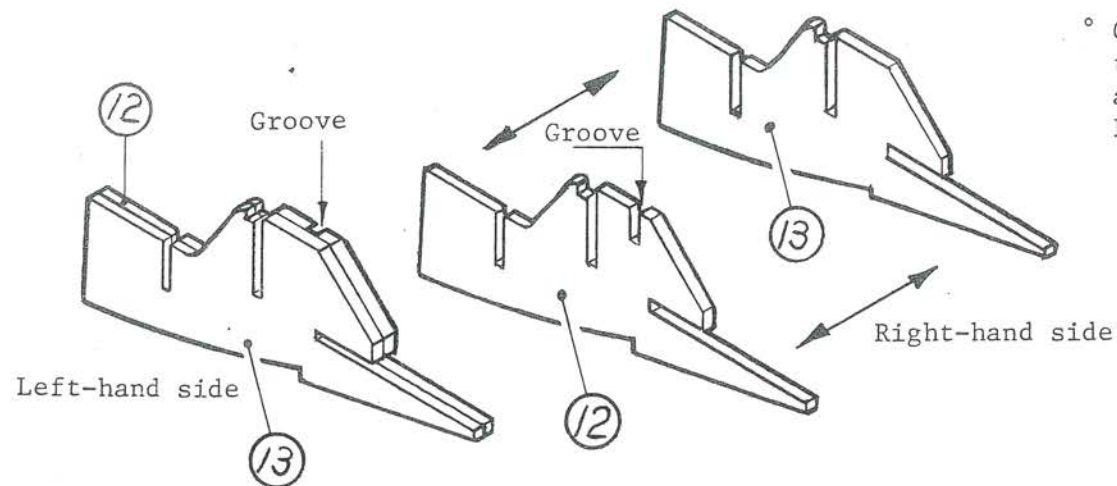


- Glue parts (1) and (2) to the bow. The right- and the left-hand-side parts of (1) must be glued together beforehand with [1], and the arrow-marked gluing surfaces to the FRP bottom of the ship must be shaped obliquely. The arrow-marked surfaces of the part (2) must also be shaped to fit the part (1). To simplify the work, join the parts (1) and (2) first and then glue the assembly to the bottom of the ship.

While waiting for hardening of [4] or [3], assemble the cabin house (2), with [1] or [2], to save time.

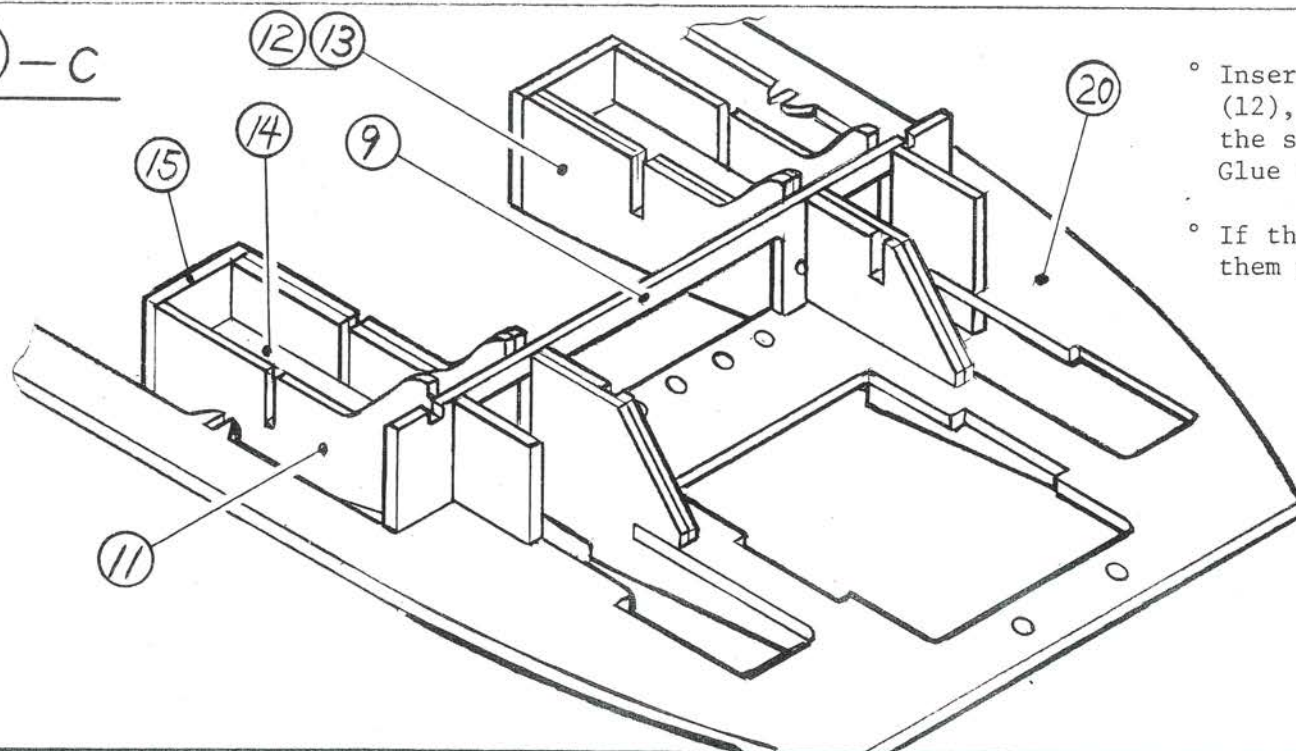
- [1] Instant Adhesive
- [2] 5-Minute Epoxy Adhesive
- [3] 30-Minute Epoxy Adhesive
- [4] 6-Hour Epoxy Adhesive

①-b



° Glue (12) and (13) with [2]. There are two parts, namely one each of the left- and the right-hand side, which form a pair. Be careful not to use two identical parts.

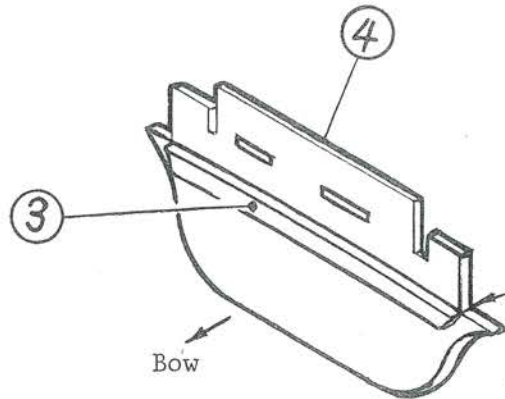
①-c



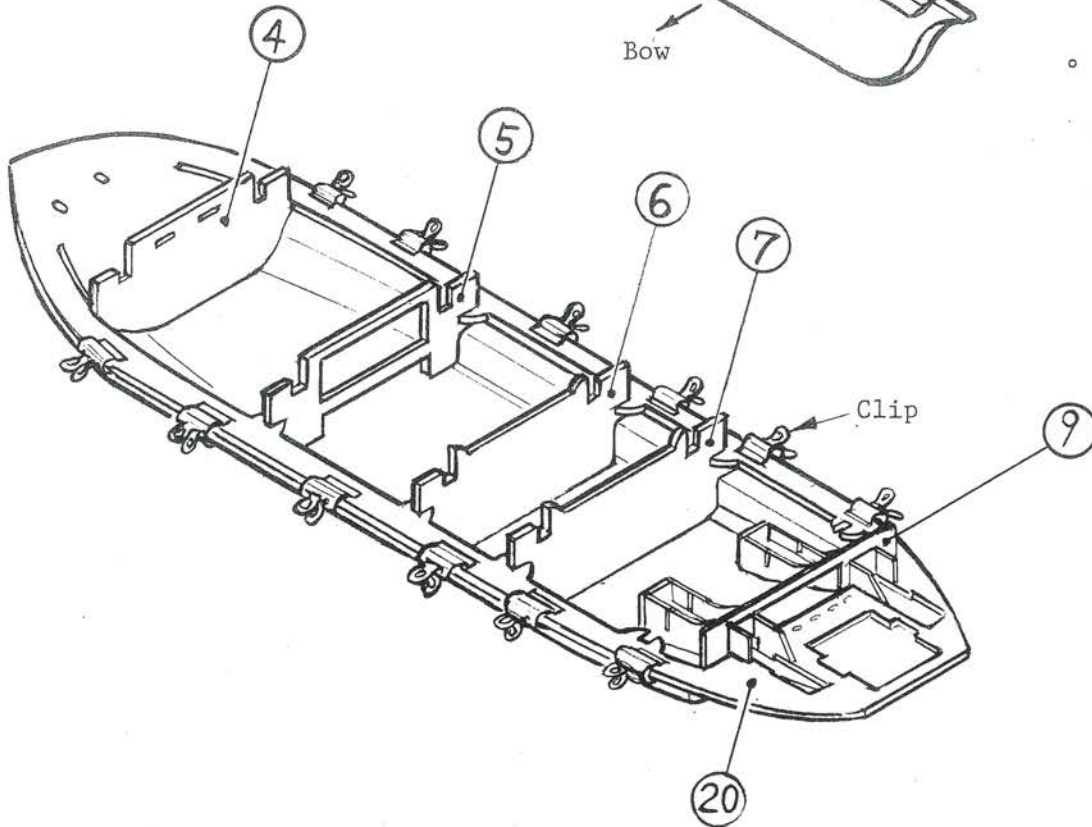
° Insert the frame (9) in the grooves of (12), (13) and (11) and glue them on the stern of the deck (20), using [3]. Glue (14) and (15) with [1] or [2].

° If the grooves are too small, enlarge them with a file, etc.

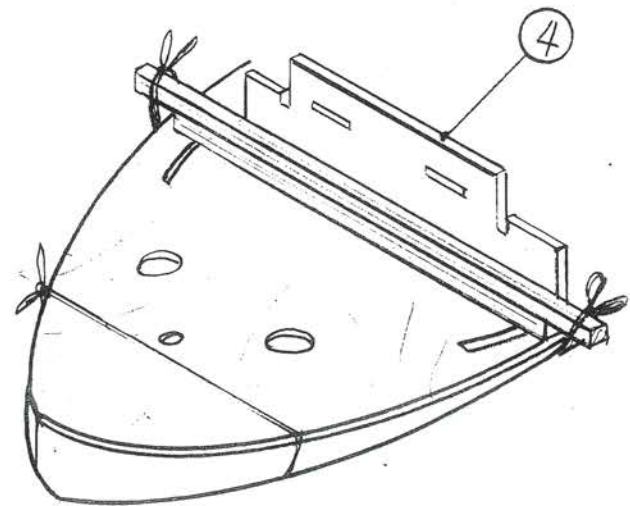
①-d



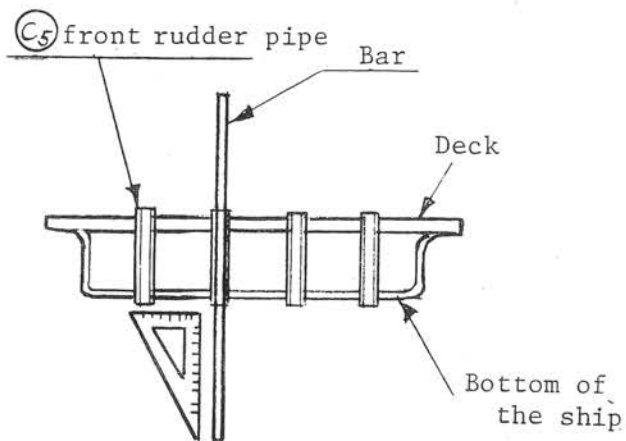
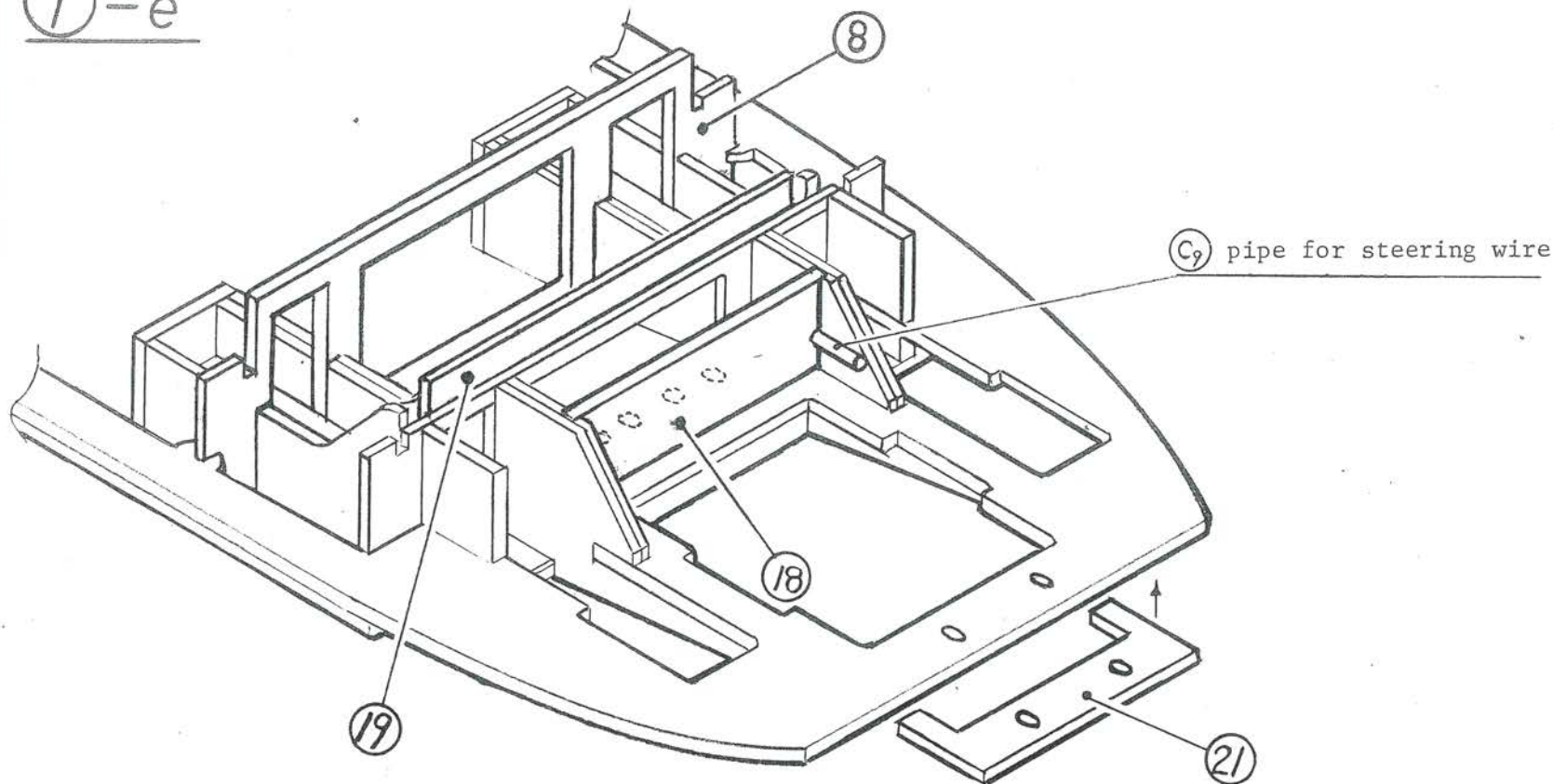
Bring the corner into line.



- ° Glue (3) to the frame (4) with [1]. The part (3) is used to make the deck corners round.
- Glue the frames (4), (5), (6) and (7) to the bottom of the ship in this order, and together with the deck (2), using [4]. The periphery of the deck is recommended to be fastened with clips as shown. The frame (4) and the deck (20) must be held with 2 pieces of bars.



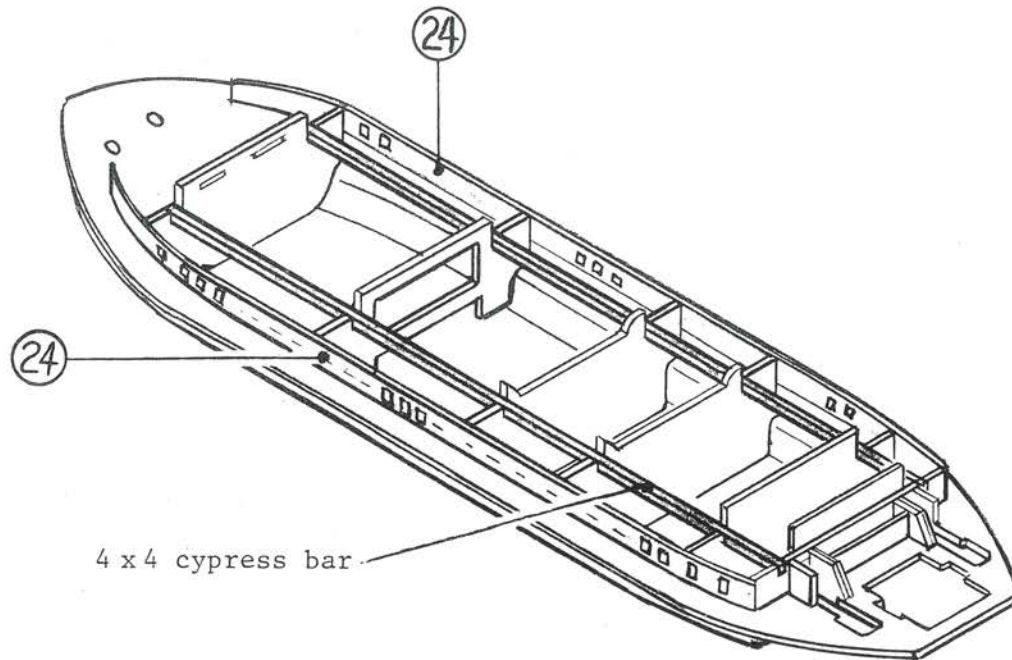
①-e



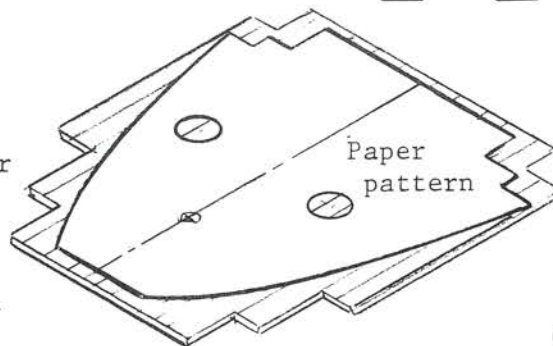
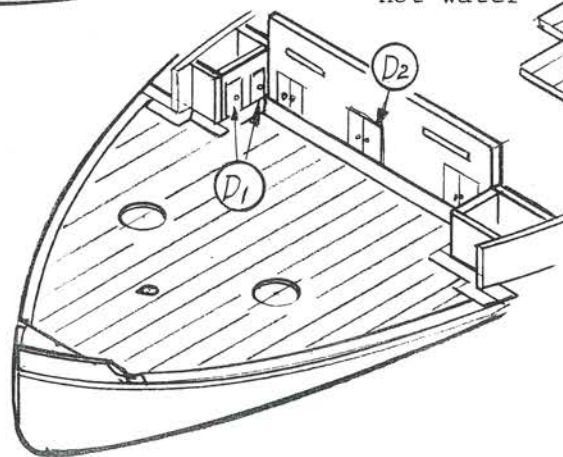
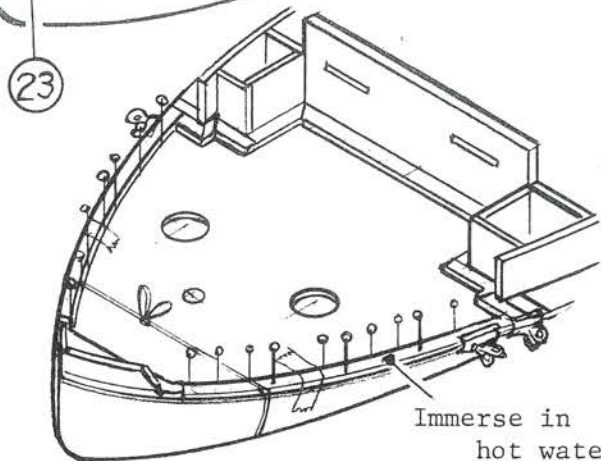
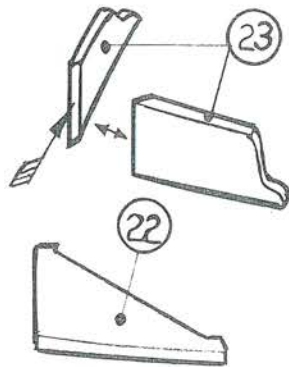
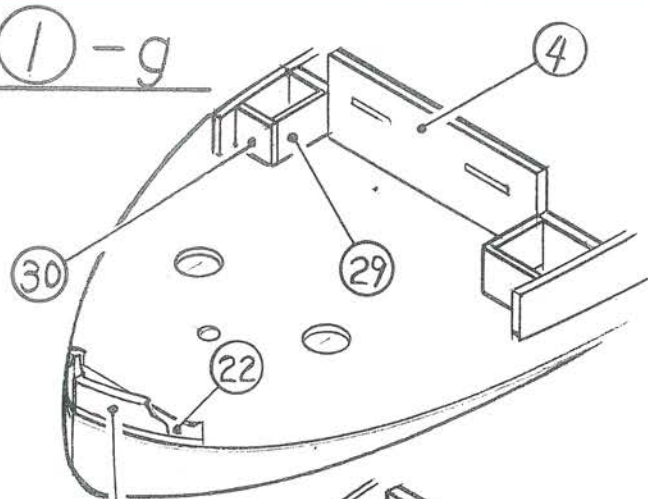
- ° Drill holes on the FRP bottom of the ship which are vertical in relation to the 4 front rudder holes on the deck (20). Glue 4 front rudder pipes (C5) inside the rudder holes using [3]. Insert a bar of a suitable size in the pipe to check if the pipe is vertical to the bottom of the ship. Use of a rule, etc. is necessary for this checking.
- ° Glue the frame (8). Glue (19) to (9). Mount (18) on the rudder pipe and then glue. Glue (21) while mating the holes of (21) with the rudder holes on the stern. Use [1] or [2].
- ° Mount the pipe for the steering wire (C9) and glue it with [1].

1-f

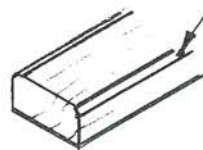
° Glue the side plates (24) to the frames and deck, and insert the 4 x 4 cypress through-bars in the grooves of the frames. Confirm the depth of the grooves to ensure that the upper surfaces of both the frames and the through-bars are at an identical height, and then glue. Adhesive 1 or 2 is used.



1-g



Chamfer corners

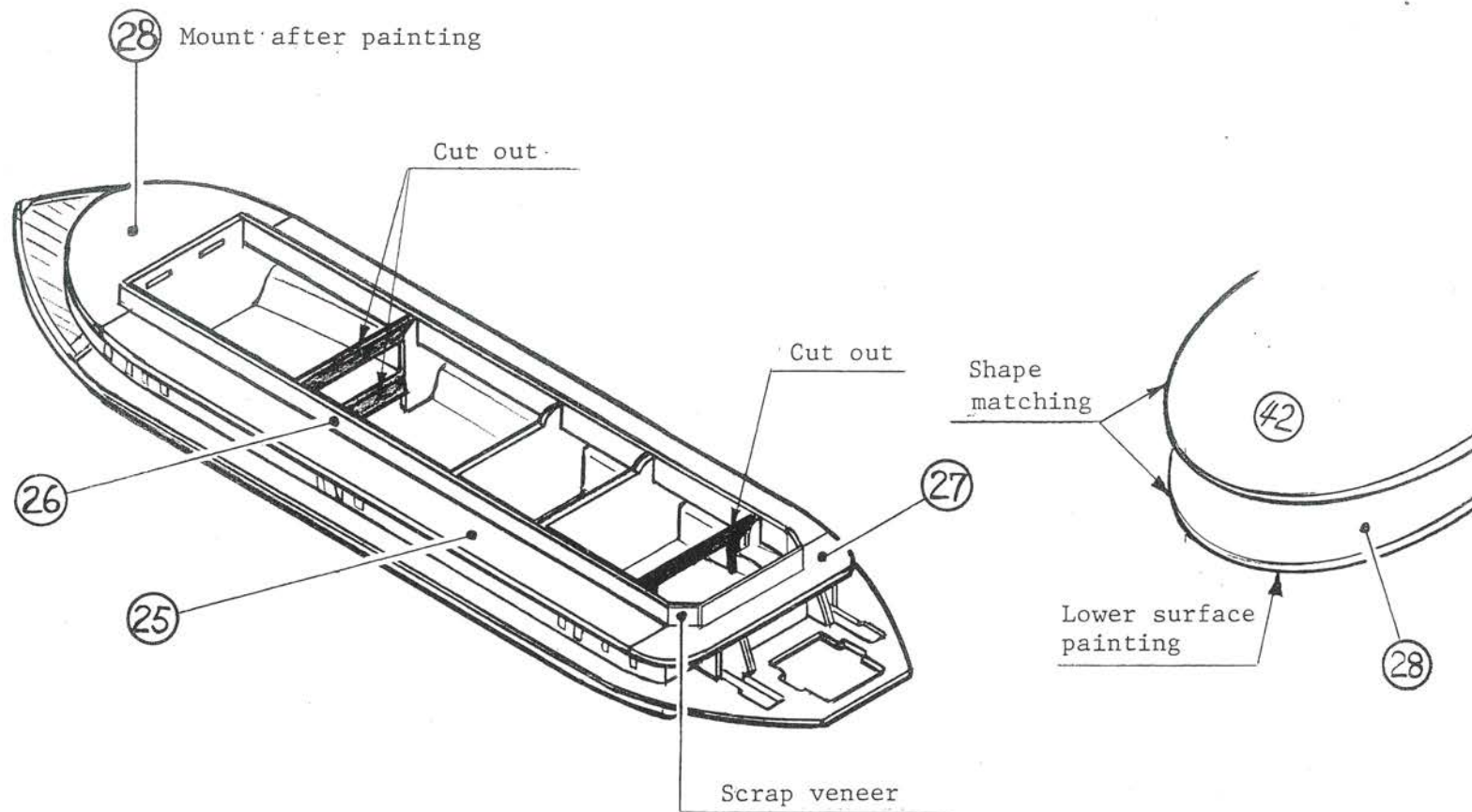


- ° Make the arrow-marked surfaces of (23) oblique, and glue the parts together. The joined part is then glued on the bow. Glue also (29) and (30).
- ° Cut out the deck material 1.5 x 6 x 600 and paste it on the bow. To do this, first paste the peripheral part along the frames (4), (29), (30), and (22). The sharp corners are recommended to be immersed in hot water, to make it easy to bend, before pasting. Pins may be used to keep the material in position.
- ° After pasting the periphery, paste the deck material starting from the center. Cut out the ventilator and mast holes. Alternatively, a paper pattern, as shown below, may be prepared and placed on the bars which are cut to suitable lengths and joined together beforehand. Then the paper pattern is used to transfer the shape on to the bar assembly. Corners of each deck material may be chamfered to have a sharp appearance.
- ° First paint the deck, install the doors and apply masking to them before starting the full painting. Use [1] or [2].

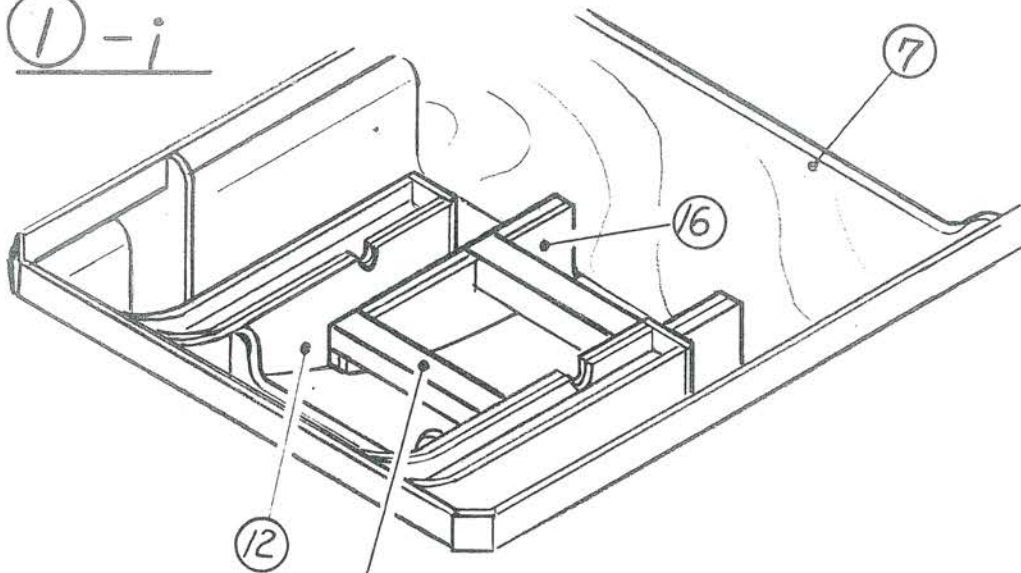
①-h

° Glue the right- and the left-hand side (25) and (26). Mount the front rudder, rudder arm and rod, and then glue (27). The rear corners of (26) are joined by scrap veneer. The part (28) must be matched in shape with the upper deck (42) and is mounted after its lower surface is painted.

Use [1] or [2].

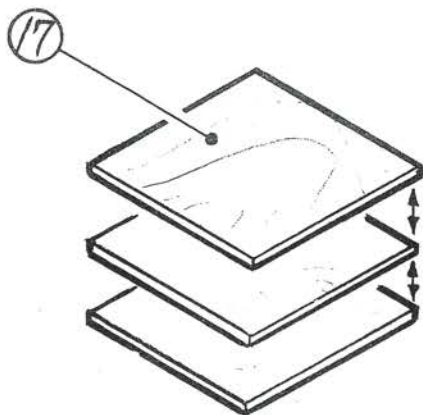


1-i



15 x 15 square bar cut to about 122 mm in length

- ° Two sheets of (16) are prepared by gluing, and are glued to the inside of (12). Two cypress square bars 15 x 15 cut to about 122 mm lengths are placed into the grooves of (16).
- ° Three sheets of (17) are pasted together, to make an engine bed. Do not glue the bed. Use 2 or 3.
- ° The bottom of the ship has now been tentatively completed. Fill each clearance between frames and FRP with epoxy adhesive. Die-cut parts should be touched with woodworking or epoxy putty.

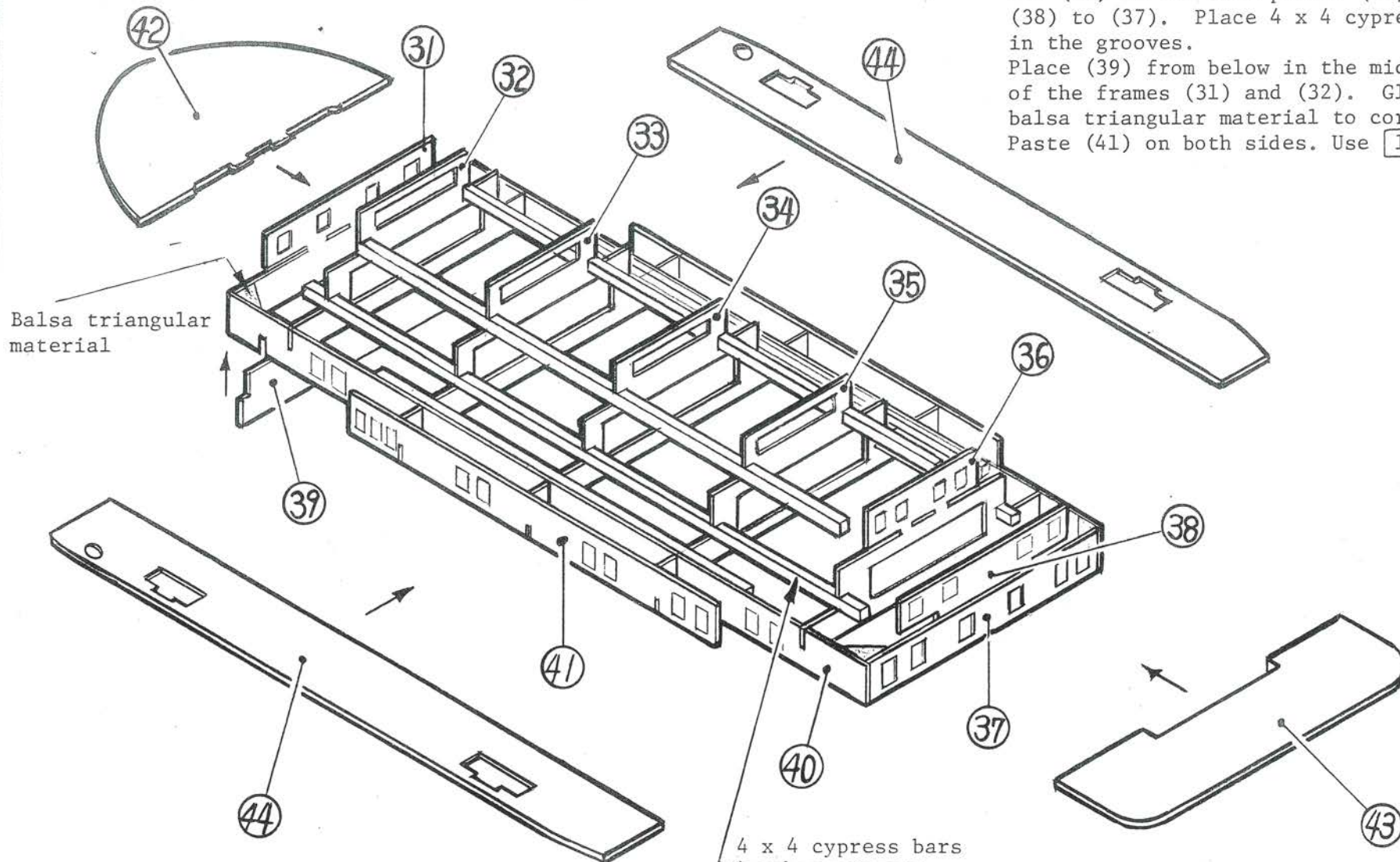


2

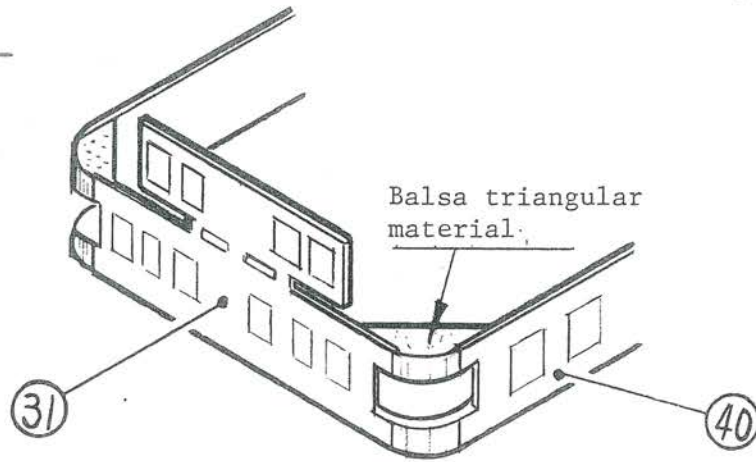
Assembly of Cabin House

2-a

Glue (31), (32), (33), (34), (35), (36) and (37) to the side plates (40). Glue (38) to (37). Place 4 x 4 cypress bars in the grooves. Place (39) from below in the middle part of the frames (31) and (32). Glue the balsa triangular material to corners. Paste (41) on both sides. Use 1 or 2.



②-b



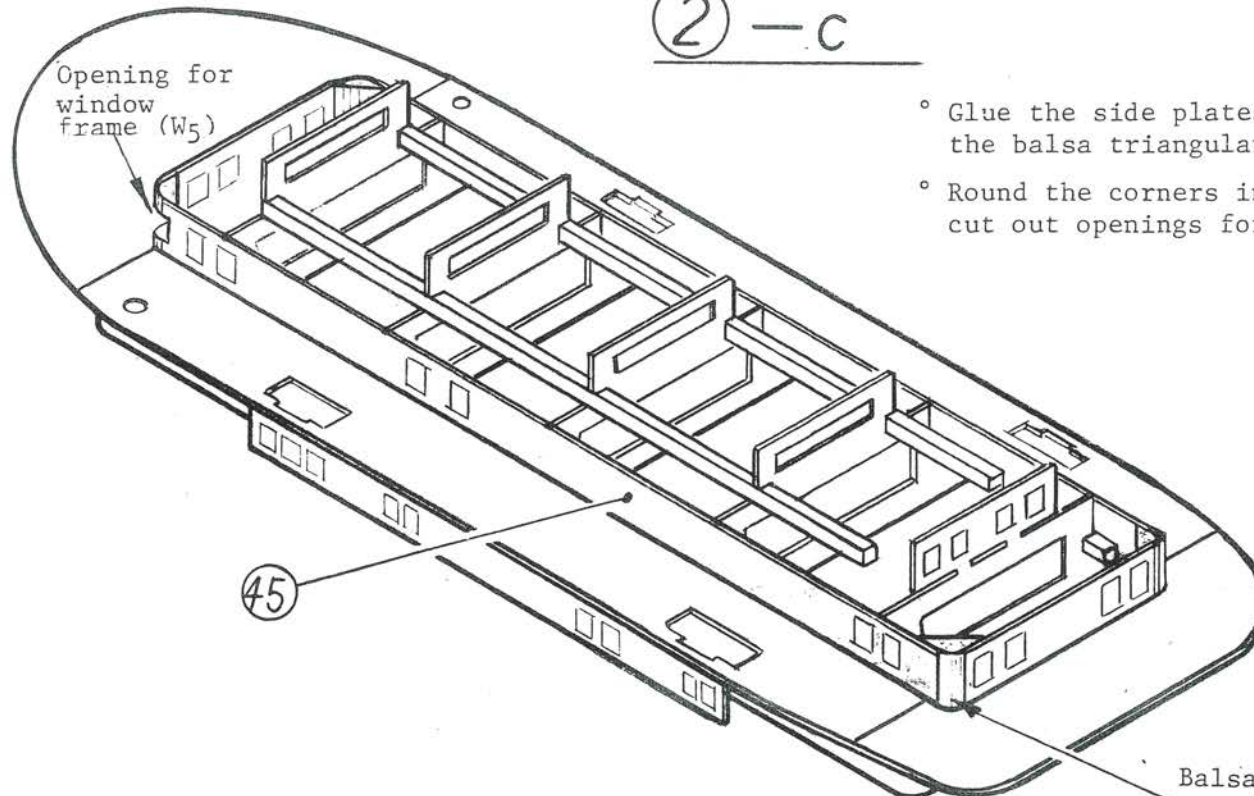
° Before pasting the deck plates (42), (43) and (44), round the corners of the balsa triangular material. Cut openings for the window frames (W₅) at the corners of (31) and (40).

Glue deck plates. Part (44) is bent backward; it may be necessary to hold it in position tentatively with small nails.

Use 1 or 2.



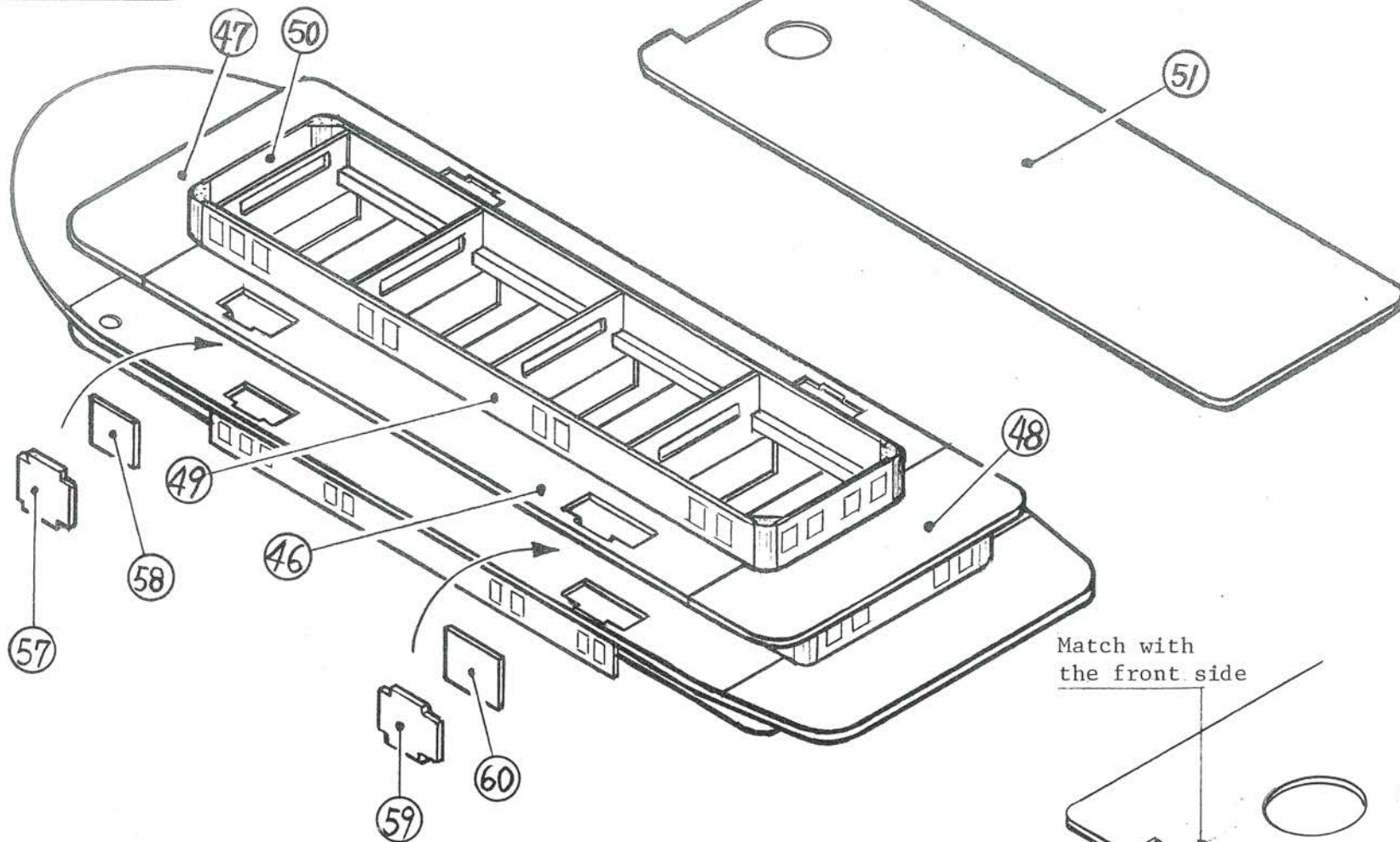
②-c



° Glue the side plates (45) on both sides, and glue the balsa triangular material on corners with 1 or 2.

° Round the corners in the same way as (2)-b above, and cut out openings for window frames (W₅).

② - d



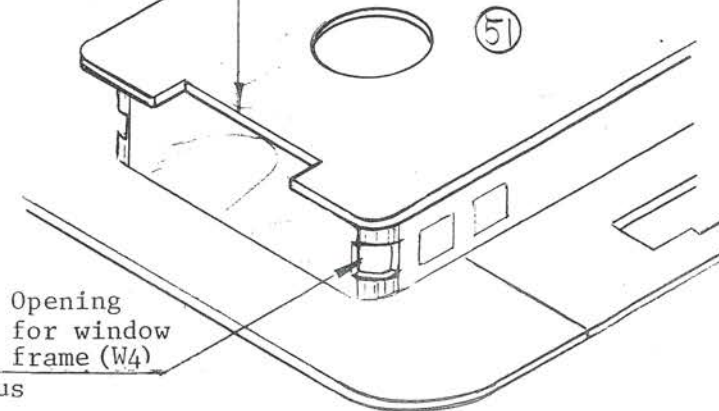
° Glue the deck plates (46), (47) and (48). Glue the side plates (49) and (50), and use the triangular material on corners to make them round and neat. Cut out openings for window frames (W₄). Match the recess of (51) with the front of (50), and then glue. Glue step side plates (57), (58), (59) and (60). Use 1 or 2.

Match with the front side

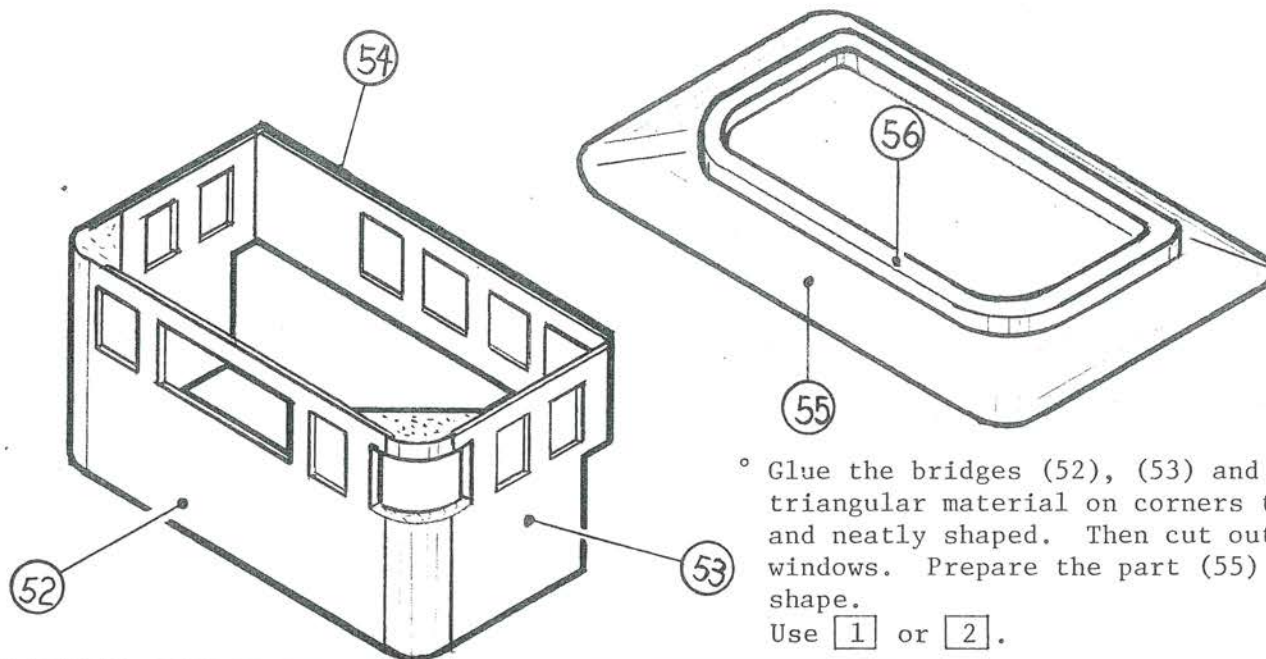
Window frame (W₄)



Opening for window frame (W₄) with radius



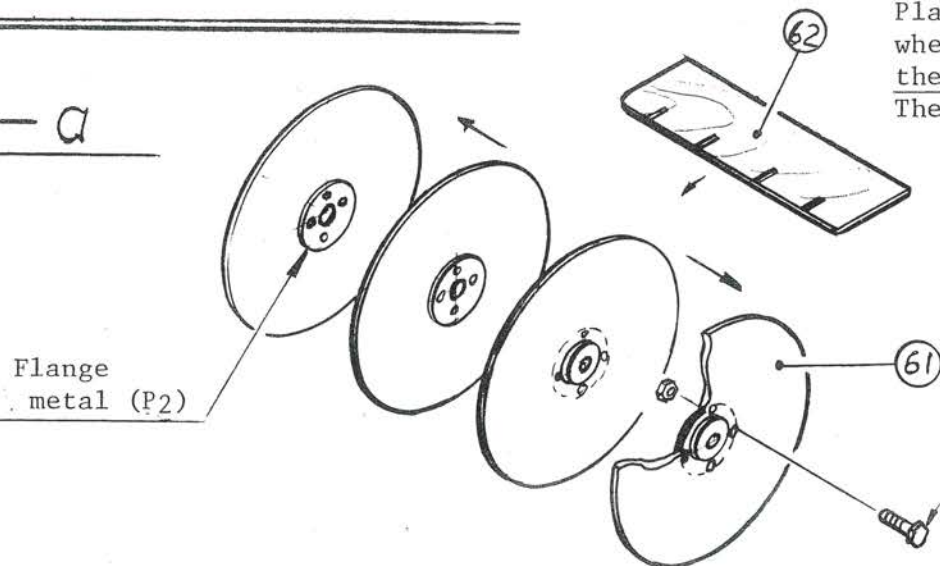
② - e



° Glue the bridges (52), (53) and (54). Glue balsa triangular material on corners to make them round and neatly shaped. Then cut out openings for windows. Prepare the part (55) to an oblique shape. Use [1] or [2].

③ Mounting of Fittings and Mechanical Parts

③ - a



° Mount the flange metals (P₂) on (61) with hexagon bolts. Place the flange metals of two each out of the four wheels in the same direction, and place the shaft of the external wheel (P₁) through the flange metals. Then glue (62).

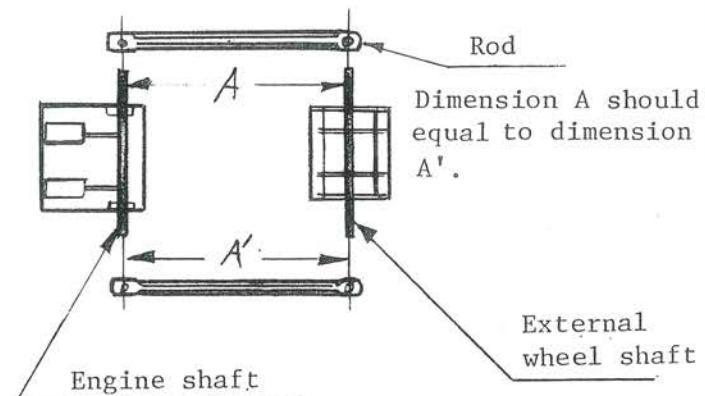
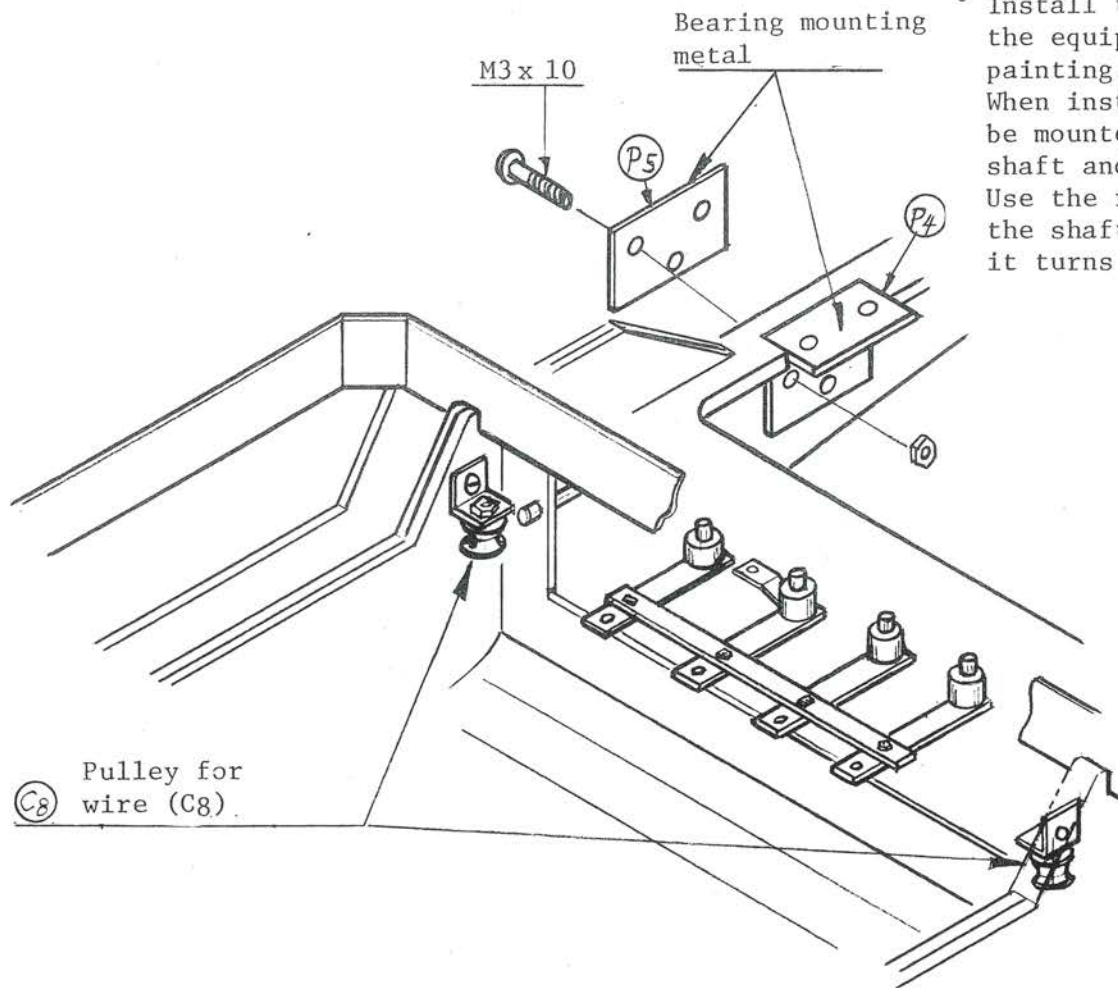
Confirm that the assembly is not bent. Adhesive [3] is recommended.

③-b

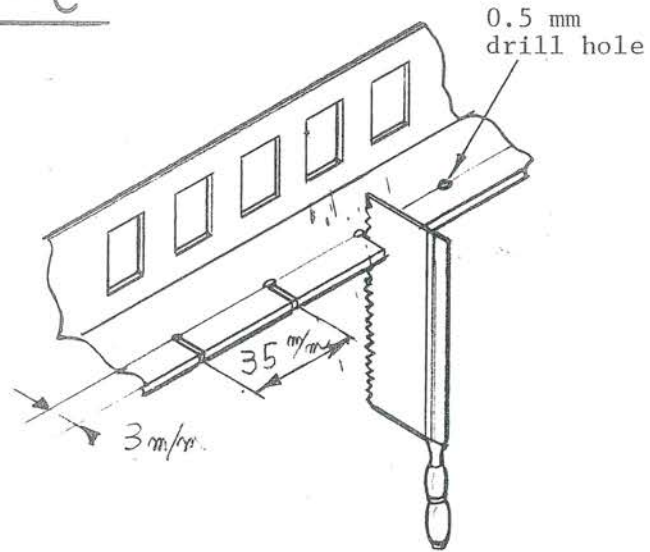
° Two pulleys for steering wheel should be mounted on both sides. Install the bearing mounting metal on the frame using cross-recessed head machine screws M3 x 10.

° Install the engine, etc., tentatively referring to the equipment mounting instruction drawing, before painting.

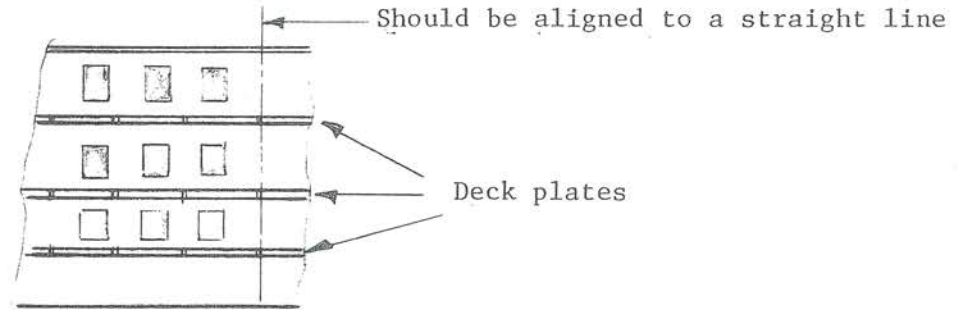
When installing the engine, the external wheel should be mounted on the bearing precisely. The external wheel shaft and the engine shaft must be parallel to each other. Use the rod to adjust the position. Mount the crank on the shaft, and connect it with the rod. Confirm that it turns smoothly.



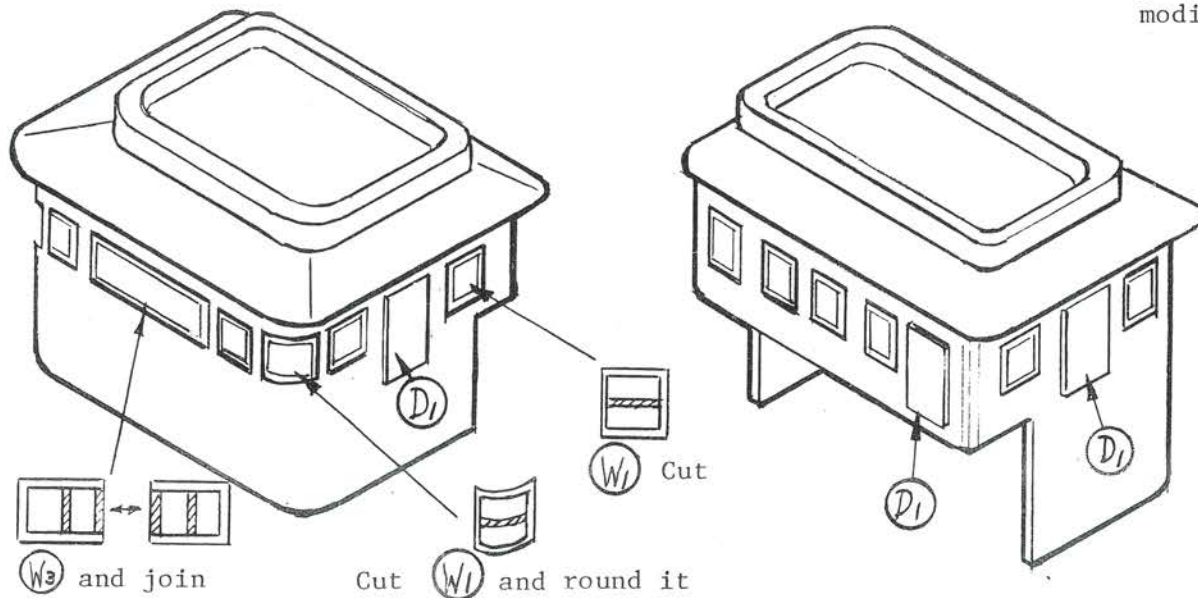
③ - c



° Provide the grooves for the handrail on each deck. To do this, first provide 0.5 mm drill holes, at an interval of about 35 mm, on the deck plate about 3 mm inside the periphery of the plate. Use a saw to provide grooves reaching these holes. The clearance between the handrails will be changed at curved portion; refer to the assembly drawing for detail. The grooves on each of the three decks should be aligned vertically when viewed from the front.

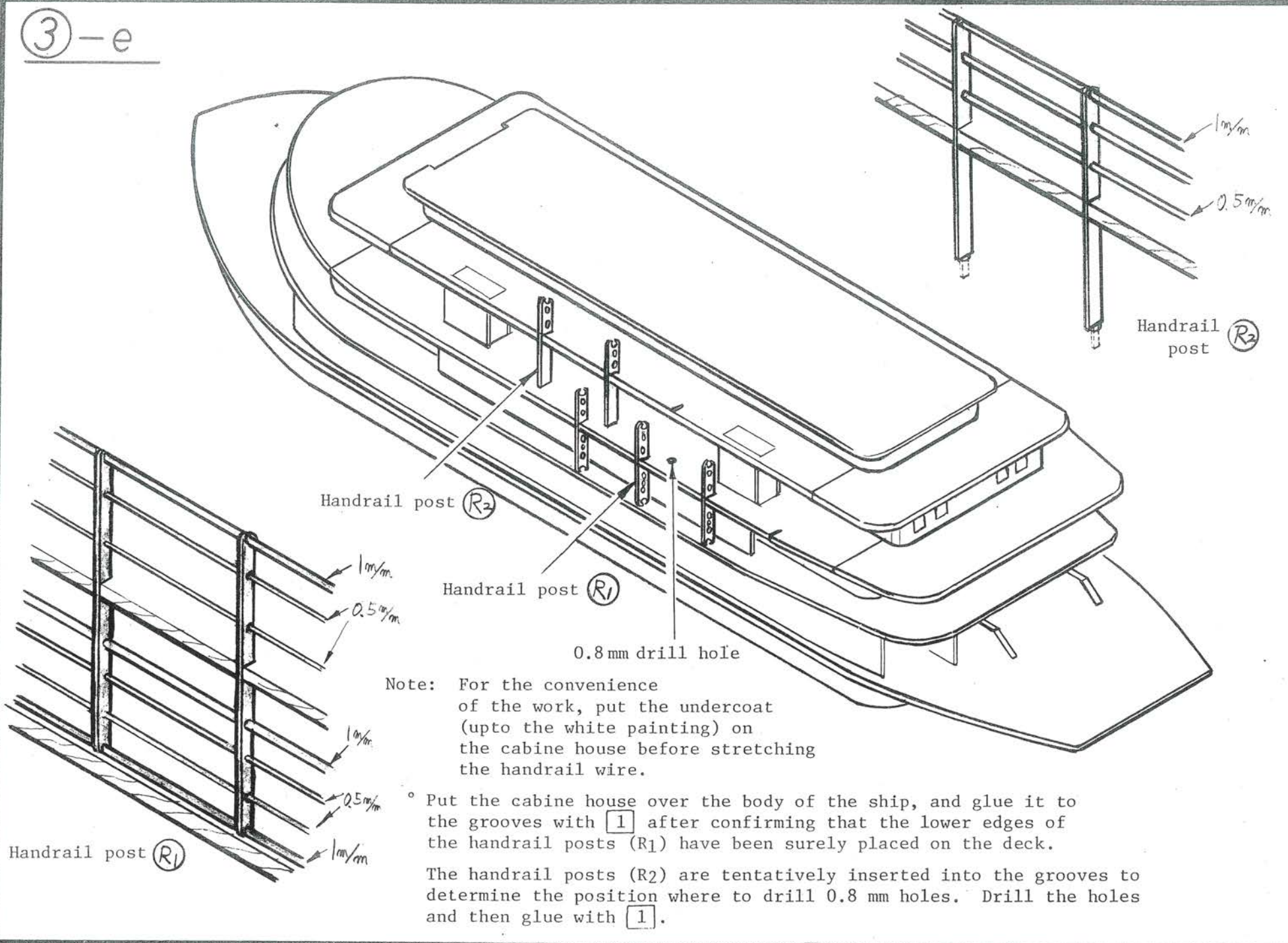


③ - d



° The window frames of the bridge are prepared from W_1 and W_3 after partially modified.

③-e



Note: For the convenience of the work, put the undercoat (upto the white painting) on the cabine house before stretching the handrail wire.

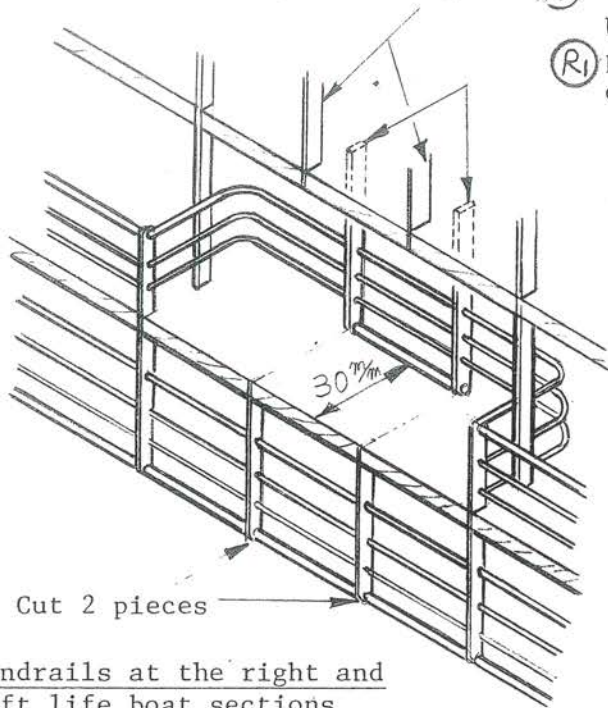
- Put the cabine house over the body of the ship, and glue it to the grooves with [1] after confirming that the lower edges of the handrail posts (R₁) have been surely placed on the deck.

The handrail posts (R₂) are tentatively inserted into the grooves to determine the position where to drill 0.8 mm holes. Drill the holes and then glue with [1].

③ - f

Cut the lower parts of the handrail post (R₂)

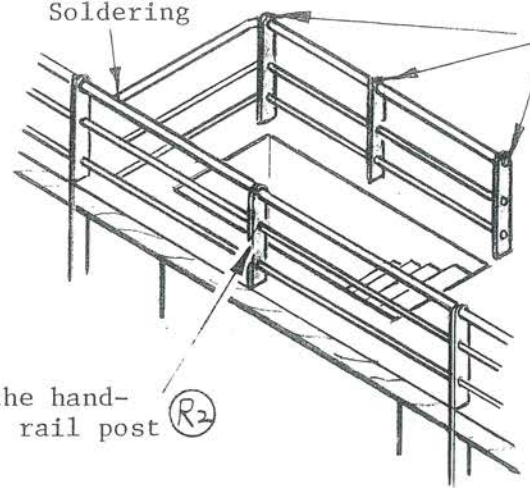
Use the handrail post (R₁) after cutting



Handrails at the right and left life boat sections

Soldering

Use the handrail post (R₃)

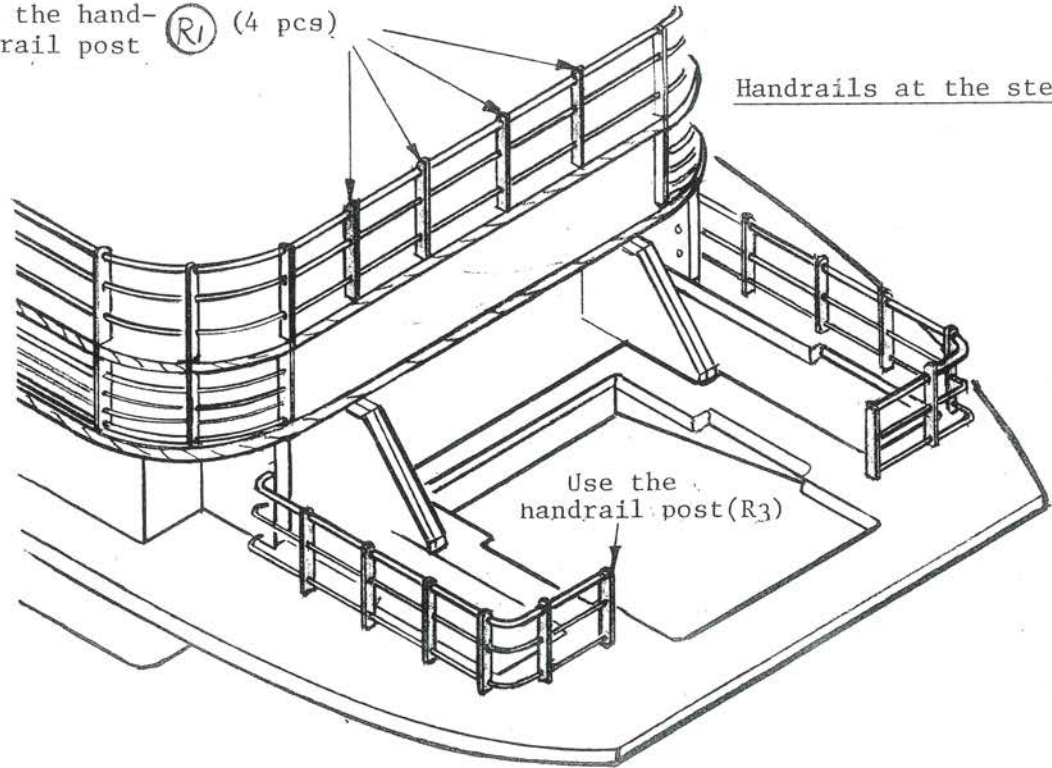


Handrails at the stair

Cut the hand-rail post (R₂)

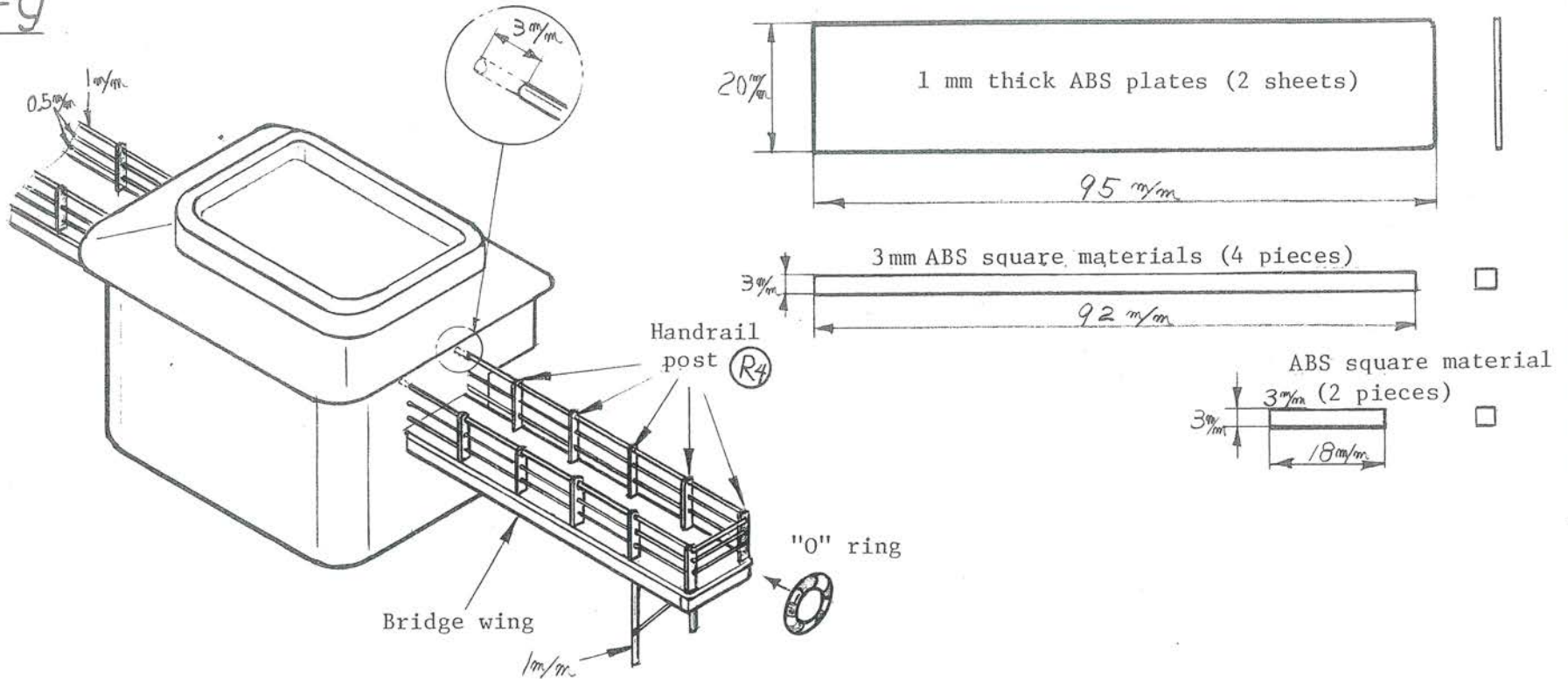
Cut the hand-rail post (R₁) (4 pcs)

Handrails at the stern



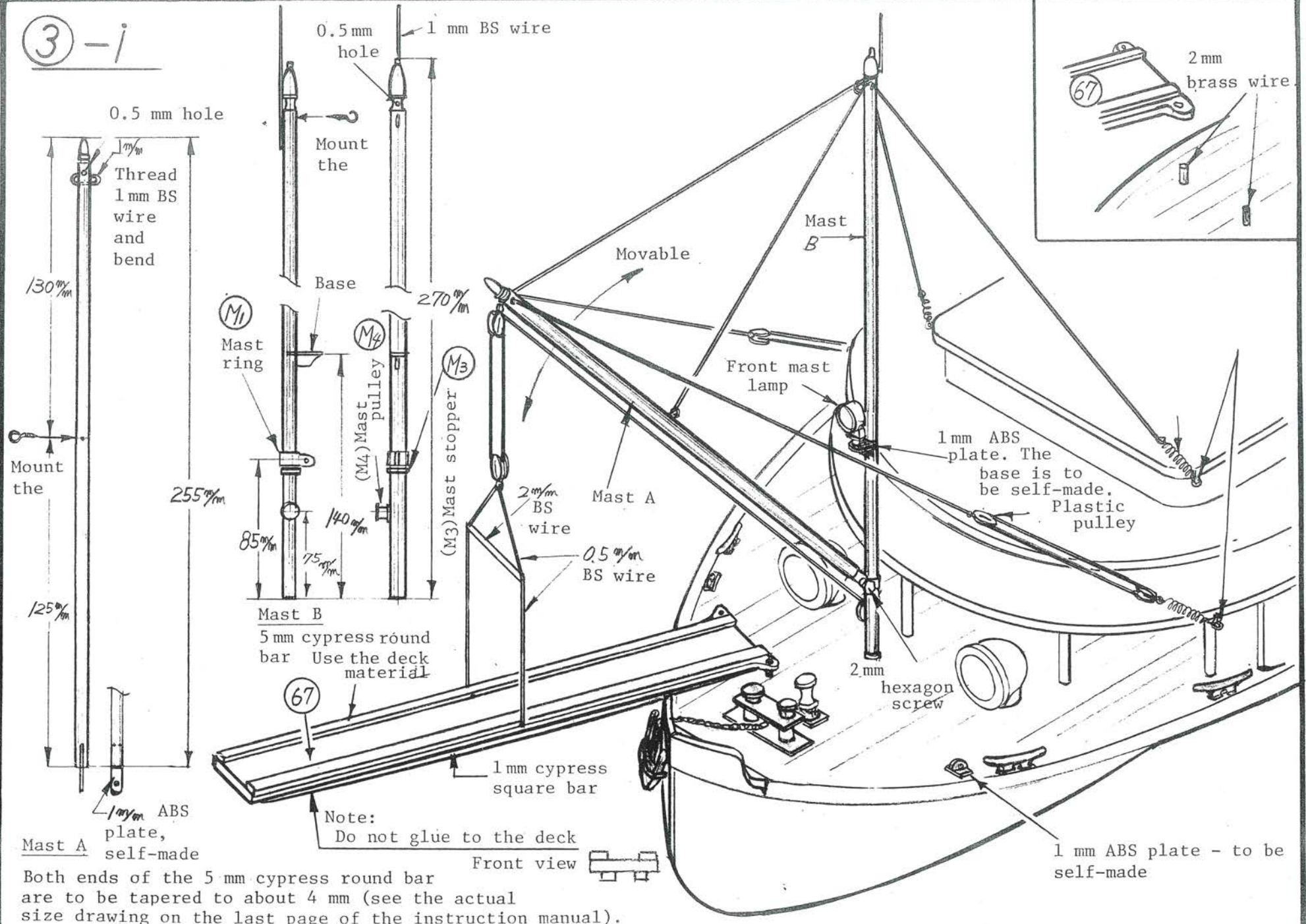
° Mount the handrails referring to the assembly drawing. The place to connect the brass wire should be matched to the handrail posts. Connect by soldering.

③ - g



- ° The bridge wings extending on both sides of the bridge are made from 1 mm ABS plates and 3 mm ABS square materials. The handrails (R₄) are mounted after drilling 0.8 mm holes through the ABS plate. The one end of the 1 mm wire on the handrails should be inserted into the bridge by about 3 mm (after drilling a hole on the bridge).

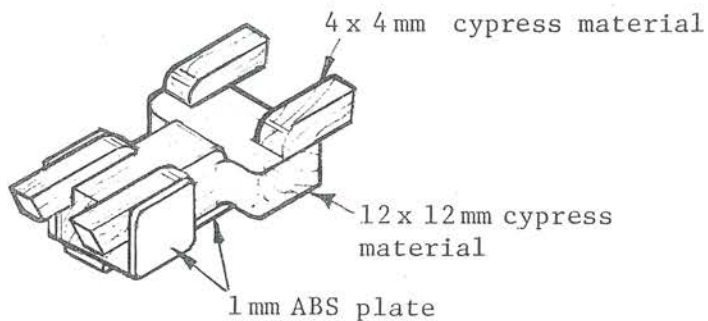
③ - i



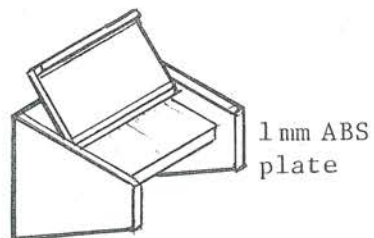
Both ends of the 5 mm cypress round bar are to be tapered to about 4 mm (see the actual size drawing on the last page of the instruction manual).

③ - J

Other small articles and fittings are to be made using balsa, veneer, cypress and ABS plates, referring to the assembly drawing.

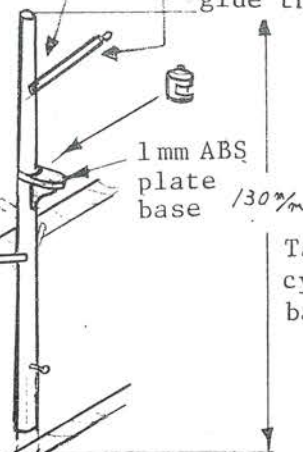


Ventilator

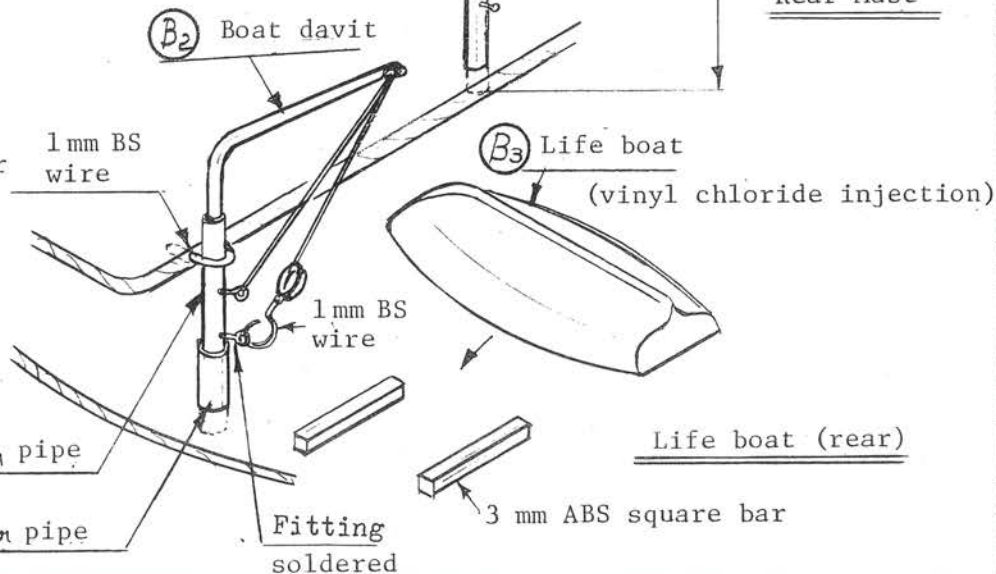
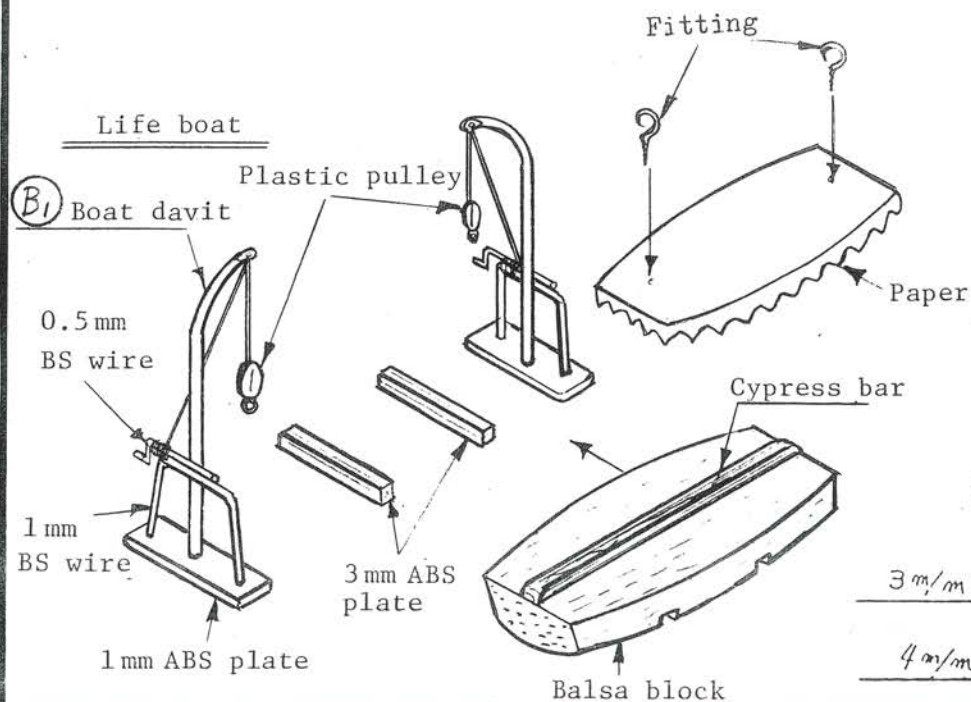


Steam organ console

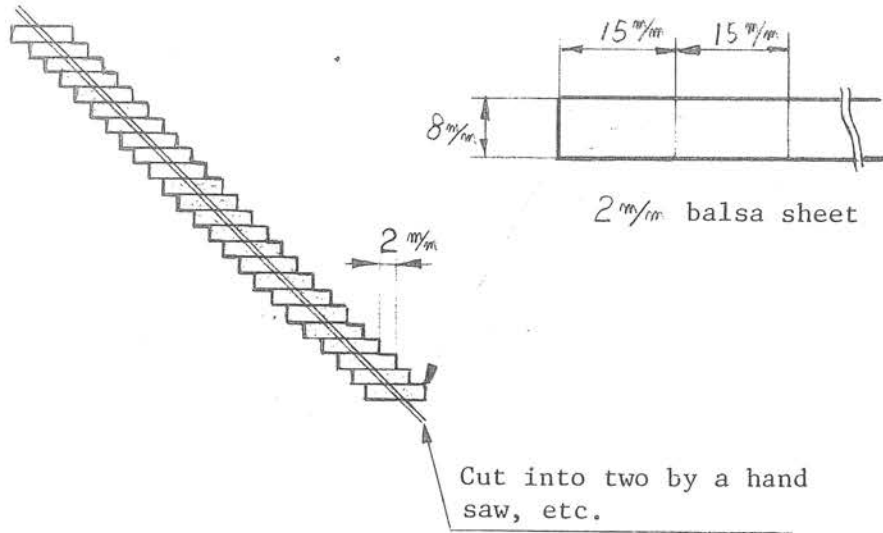
Drill a hole,
Insert the flagpole (made from a 3 mm square material), and glue the pole.



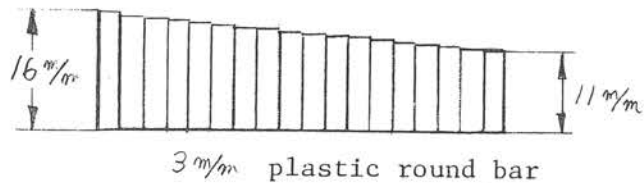
Rear Mast



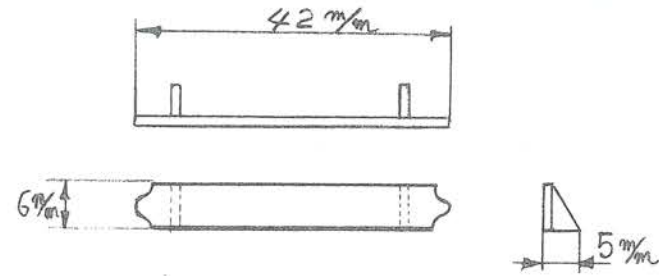
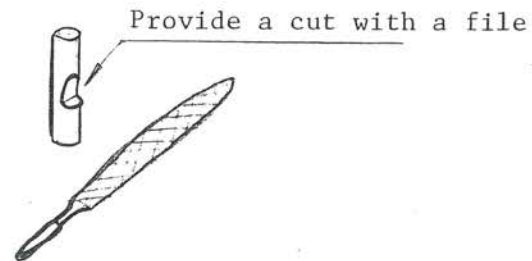
③ - k



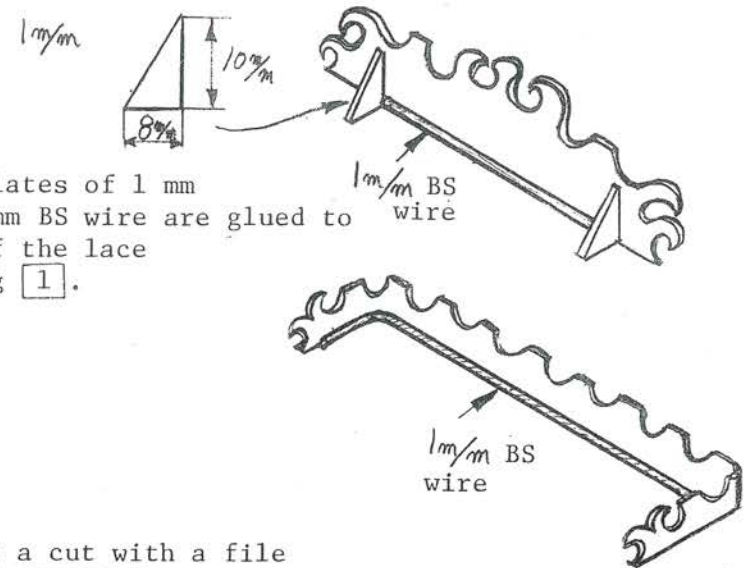
To make stairs, use 2 mm balsa sheet. Cut the sheet to 15 x 8 mm pieces and glue them together with [1] as shown below. Cut along the center to get two stairs.



The pipes of the steam organ are made from 3 mm plastic round bar. Prepare the cutting edge with a file.



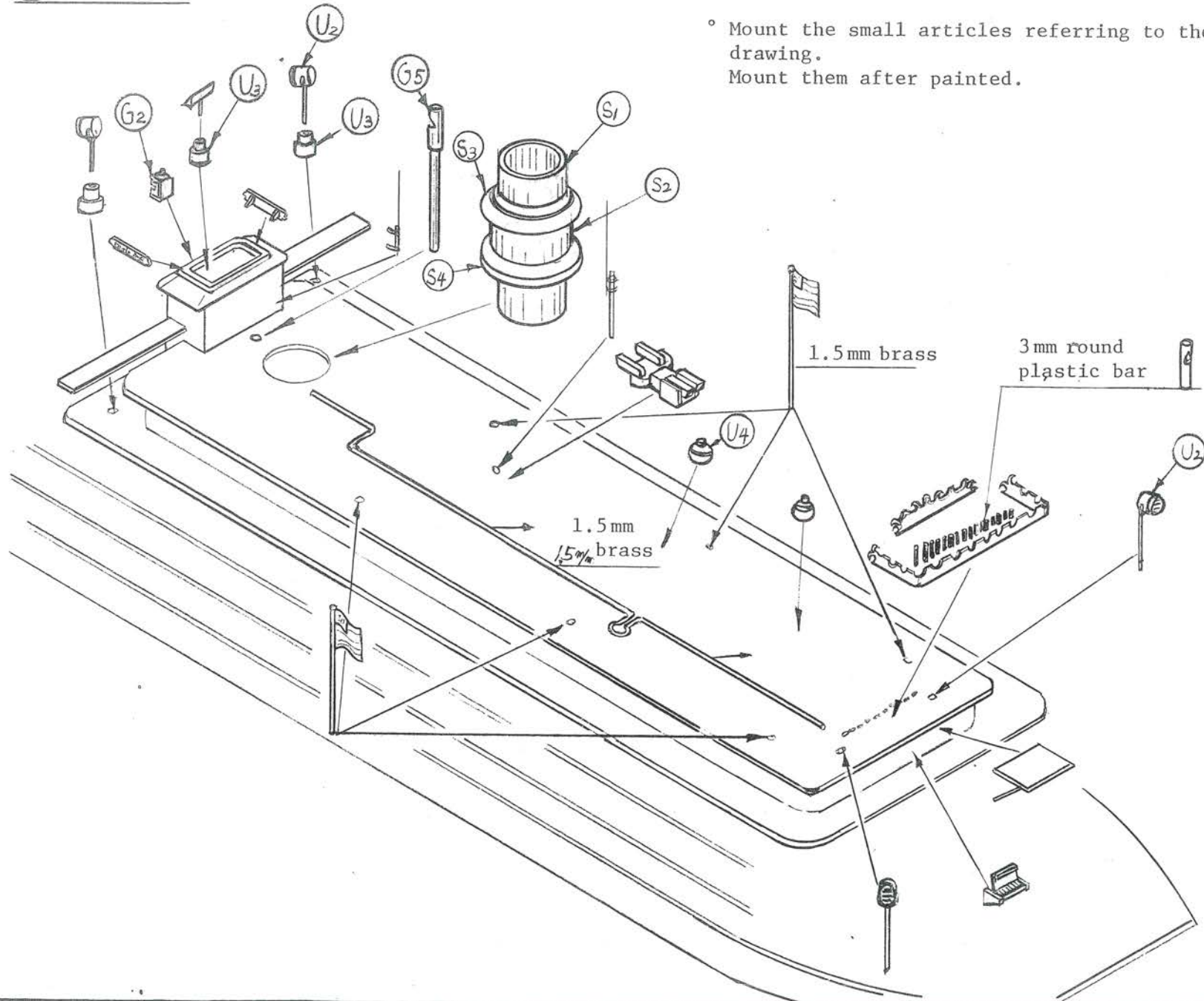
Two name plates (one each right and left) for the bridge roof are made from 1 mm ABS plate.



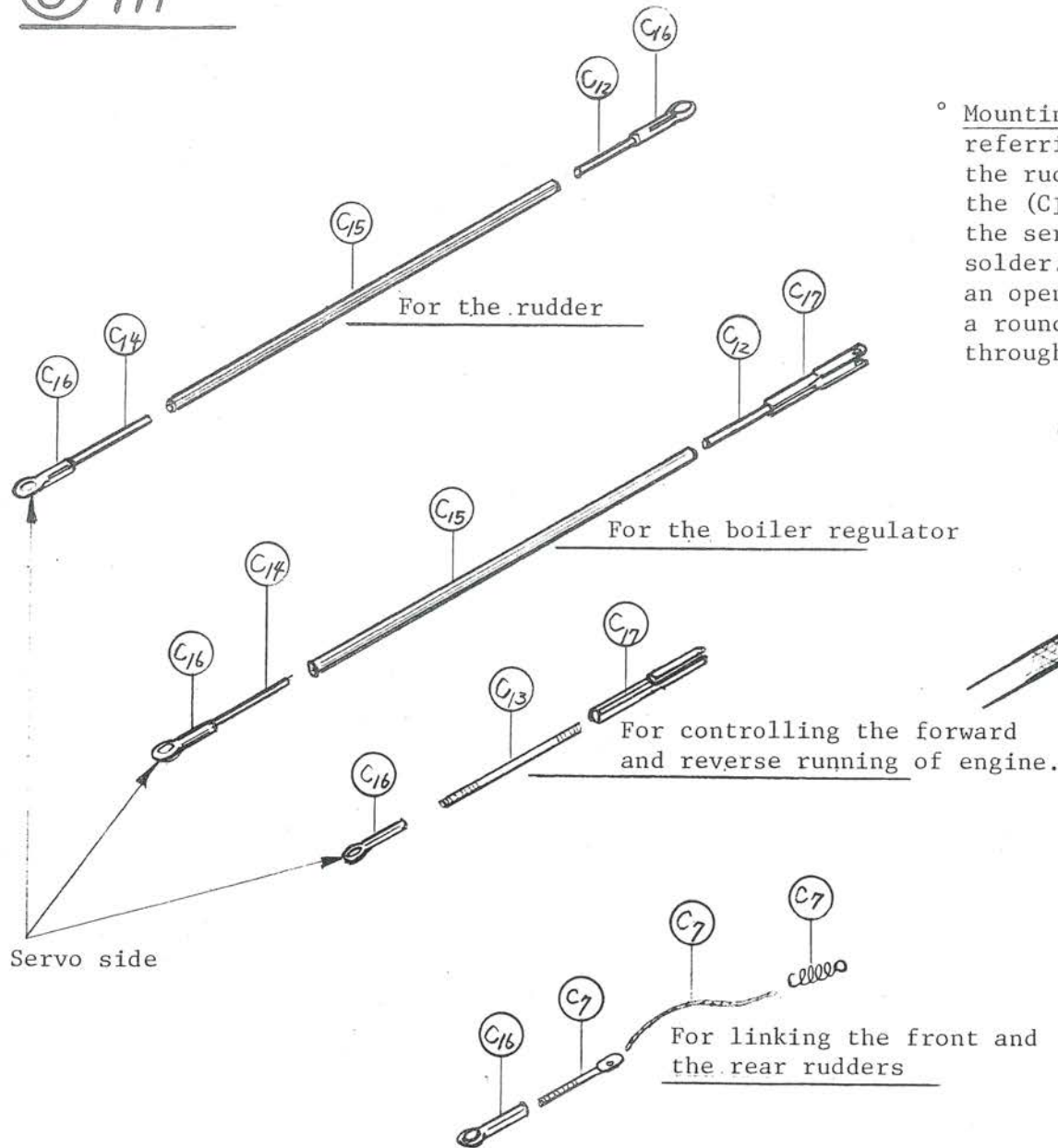
Triangle plates of 1 mm ABS and 1 mm BS wire are glued to the back of the lace plate using [1].

③ - L

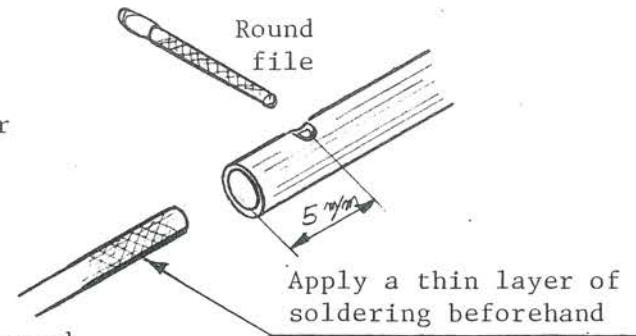
° Mount the small articles referring to the assembly drawing.
Mount them after painted.



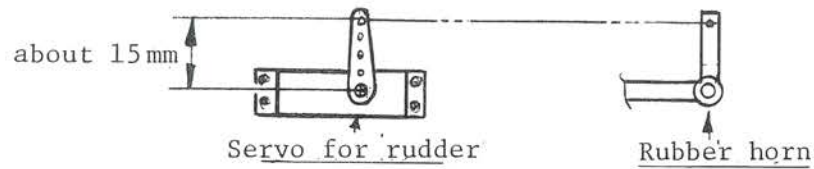
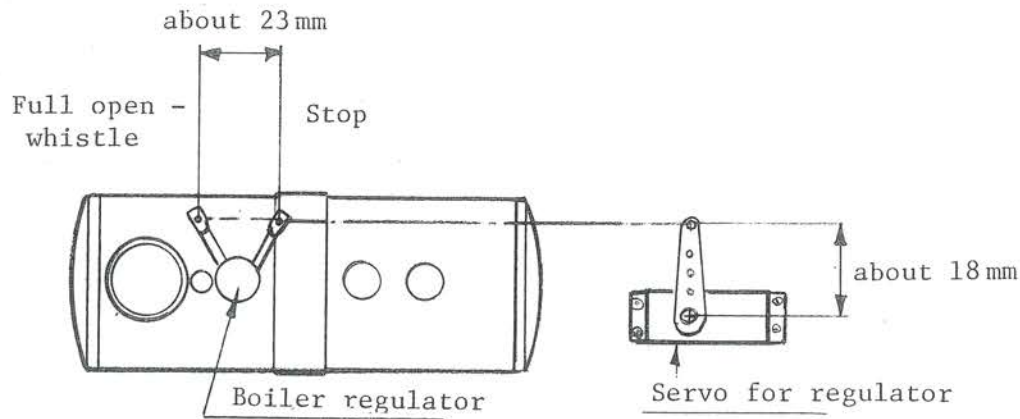
③ m



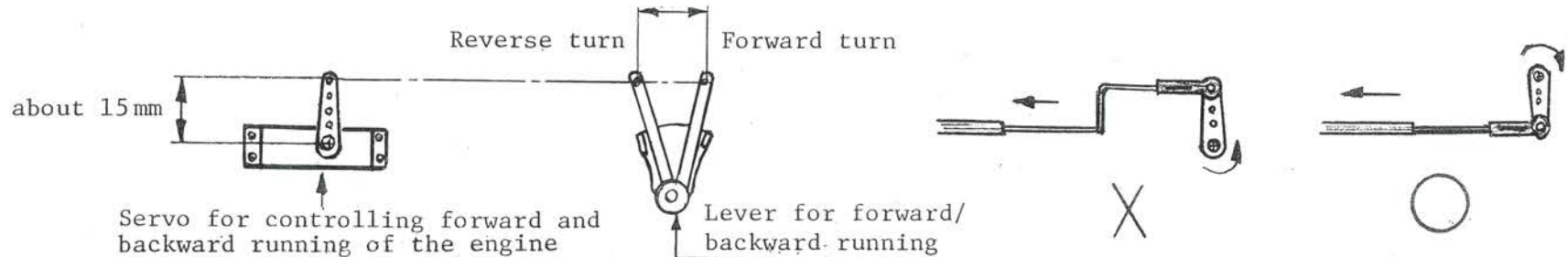
° Mounting of Mechanical Parts Perform linkage referring to the drawing. For the push rods for the rudder and regulator, first insert (C12) in the (C15) about 20 mm and then solder. Mount the servo, adjust the length of (C14) and then solder. When about to solder the pipe, first cut an opening at about 5 mm from the cut end using a round file as shown below and supply solder through the opening. This ensure positive soldering.



③ n



° As the actuation angle of the servo may vary from one manufacturer to another, it is necessary to adjust the position of the hole of the servo horn to obtain the required working stroke. The push rod must be as straight as possible. When the working direction of the transmitter stick and the servo do not match, use the reverse switch of the transmitter, or, where the switch is not provided, use the reverse servo.

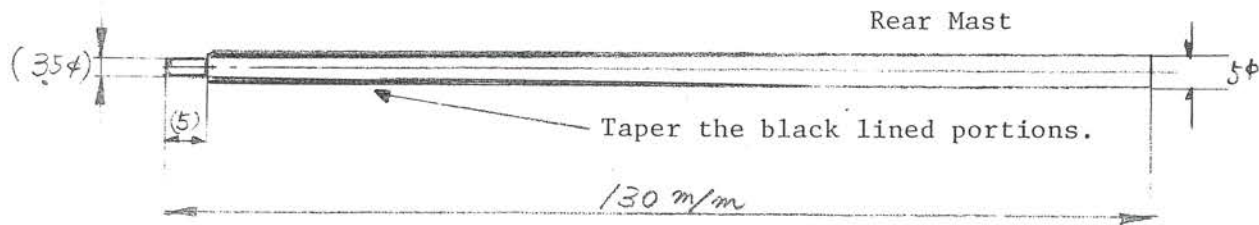
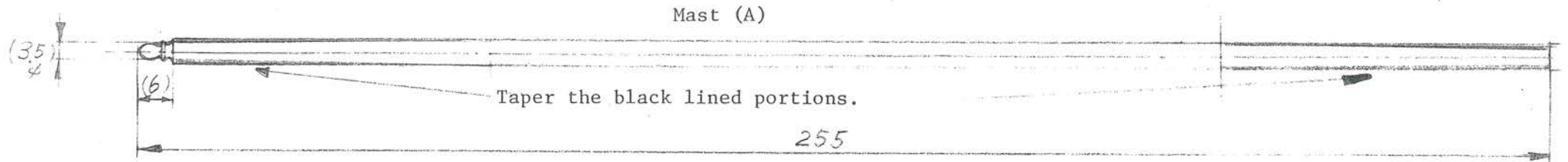
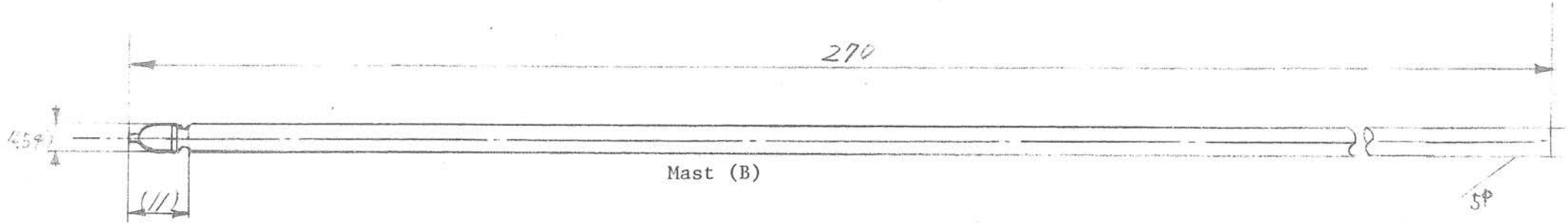


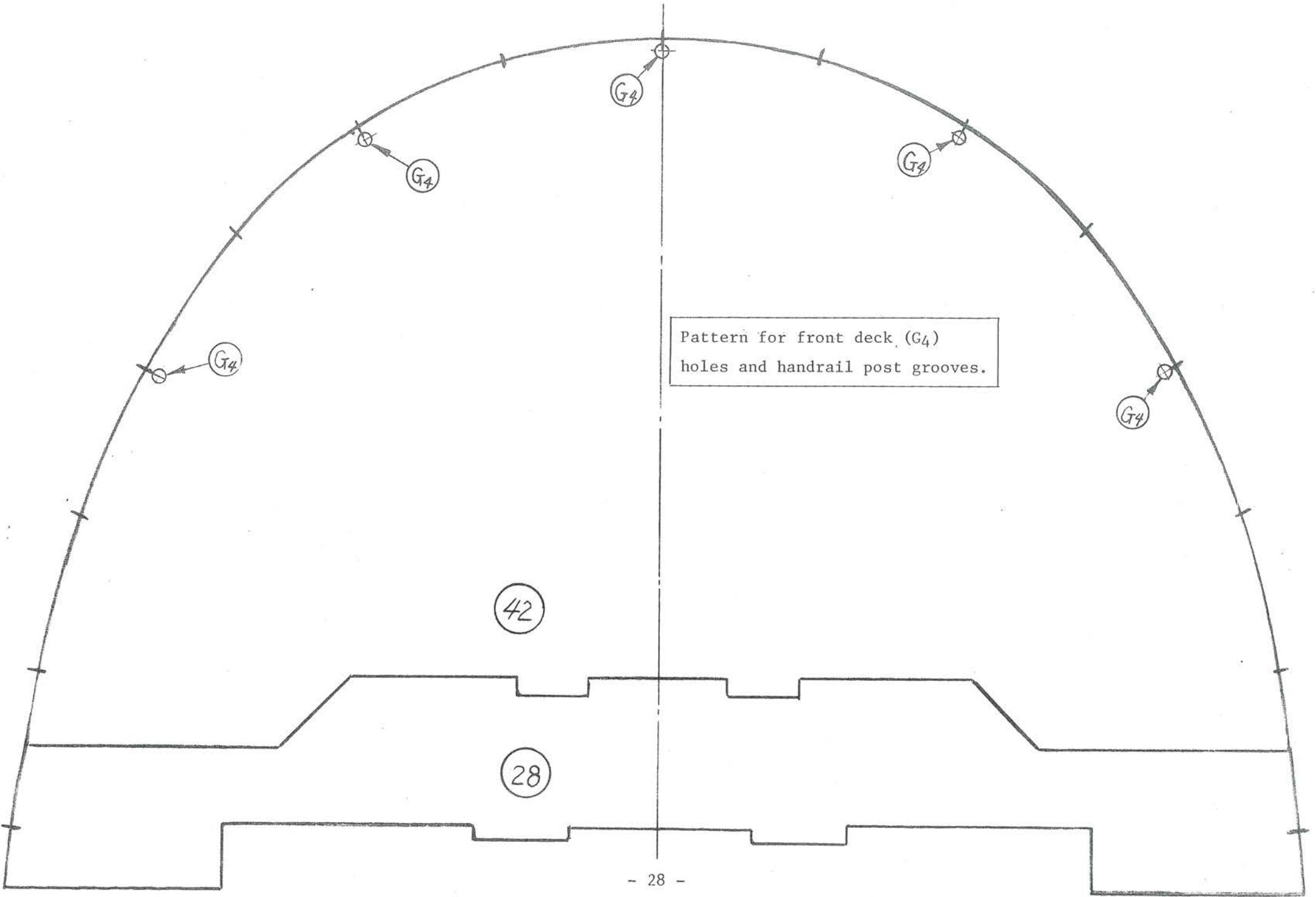
(4) Painting and Finish

Note: Painting of some parts or portions is recommended to be done before assembly or mounting of handrails.

- ° Large holes, such as those of small nails, etc., should be filled with toothpicks, etc., being glued in them.
- ° Apply #180 paper on the body of the ship and the cabin house, and apply lacquer surfacer. After the surfacer is dry, use putty to fill holes or scratches. Repeat the work several times until the grain is no longer noticeable. Use #240 paper and finally, #400, to prepare the surface.
- ° Small articles must also be painted before mounting (window frames, doors, ventilators, boats, mast and other fittings).
- ° Apply white paint as the final coat, and use #600 to 800 paper on the surface. Repeat the work 2 to 3 times, to finish the surface. Glue (28) after mounting the mast guide pipe, ventilator and door on the front deck, and the connecting area should be shaped neatly.
- ° Paint black below the waterline. Paint the deck in half-frosted dark green (placolor).
- ° For other parts, refer to the color photograph on the box. Attach and paste transparent vinyl chloride plates to the window hole (from inside) to prevent water entry.
- ° For small and fine parts, placolor is recommended.

Masts





Pattern for front deck, (G₄)
holes and handrail post grooves.

42

28