

1/40 SCALE DEEP SEA SALVAGE TUGBOAT

NEPTUNE



Assembling instruction

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Thank you very much for your buying our "NEPTUNE" Deep Sea Salvage Tugboat. It is recommended that you read through this assembling instruction before you start assembling in order to make yourself familiar with recommended assembling procedure. It is also recommended that you prepare following tools and adhesives for satisfactory work.

As our "NEPTUNE" is not a complete scale model of a real specific vessel, you can finish your model as your own original model with your unique rigging and painting.

- Tools Hand saw (with fine teeth), small plane (balsa plane), radio pliers, nippers, electric hair dryer, soldering iron, tweezers, router (small electric drill), files (approx. 10 mm flat file, and 3 mm and 8 mm round file), sand paper (#240, #80), compasses, scissors, cutter, pin vice.

- Abhesives Adhesives are identified in the text as [1], [2] and [3].

[1] Cyanibe instant adhesive A variety of types of cyanide instant adhesives are commercially available. Thin woodworking type and accelerator-combined strong type are recommended.

[2] 5-minute epoxy adhesive Use a sparing quantity. Heat with an electric hair dryer to make it liquid like and use a sharp, thin rod like a wire to convey the adhesive. Then quick and good adhesion is available. When applying, do not heat the adhesive, to prevent flowing.

[3] 30-minute epoxy adhesive Use this type adhesive for bonding FRP vessel body and frame, and deck. Use cold. Environmental temperature 20°C and abobe will provide good bonding. Be careful especially in winter season.

- Paint Lacquire and polyurethan paint are recommended for the vessel body, cashew and epoxy paint for interior, Pla-color (plastic model paint) for small parts.

(Air brushing)

- Lacquer White 1/5 ℓ
- Green As req.
- Yellow As req.
- Black 1/5 ℓ
- Red 1/5 ℓ
- Blue As req.
- Clear 1/5 ℓ

- Cashew Green As req.

(Brushing)

- Pla-color Gun metal Mahohany
- Gray Etc.
- Red
- Green

- Retarder

- Lacquer primer

- Lacquer surfacer

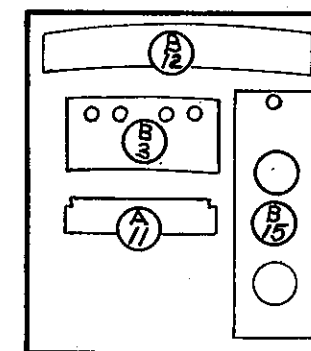
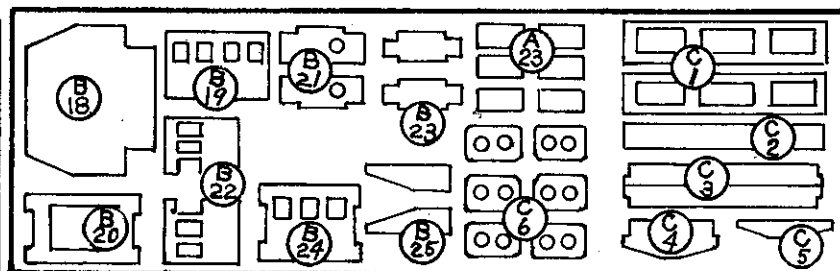
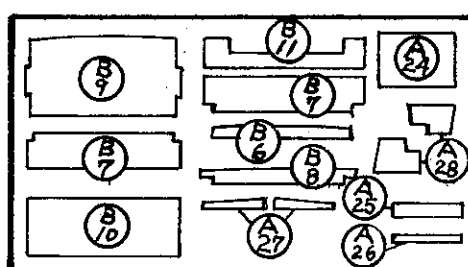
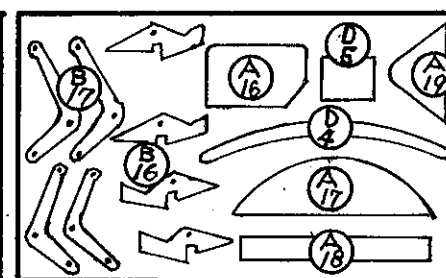
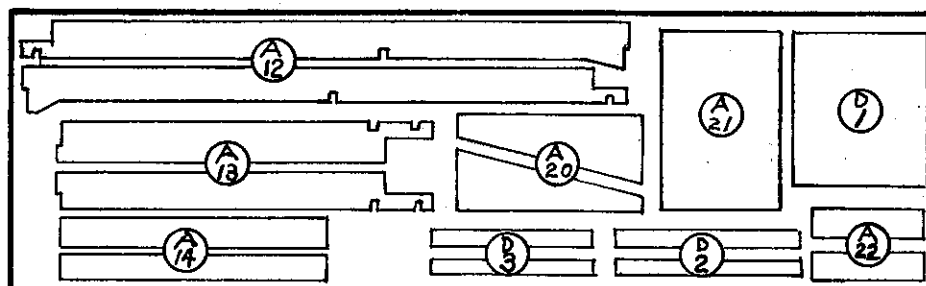
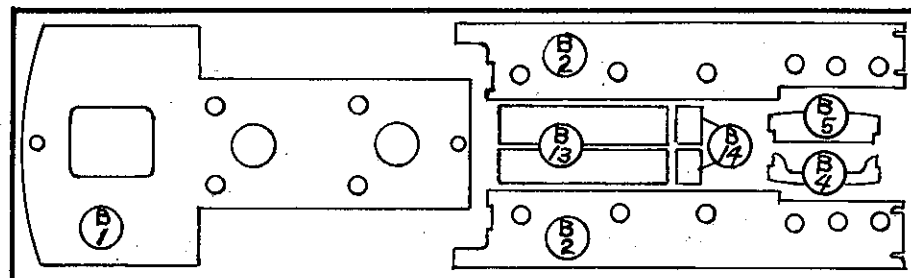
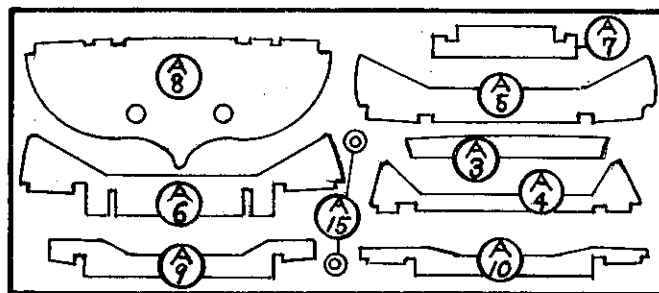
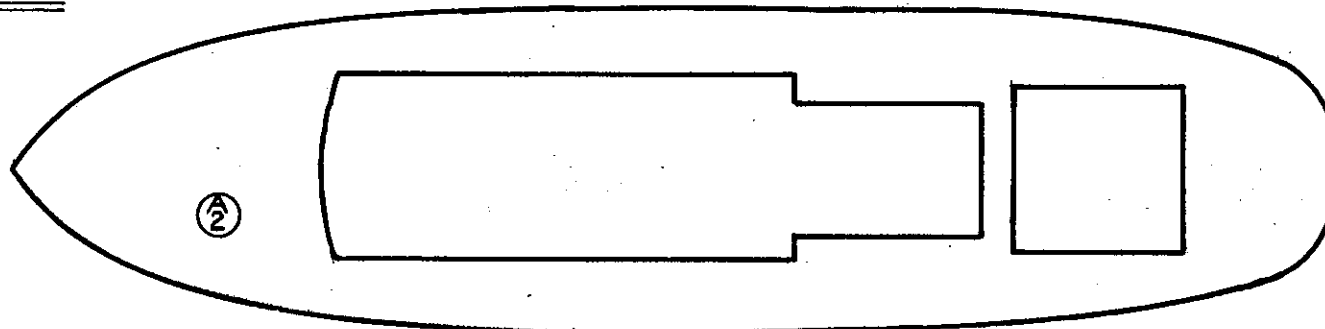
- Putty (Polyester putty)

- Thinner 2 ℓ

- Wet sandpaper #400, #800

- Sandpaper

Die-cut parts



Neptune

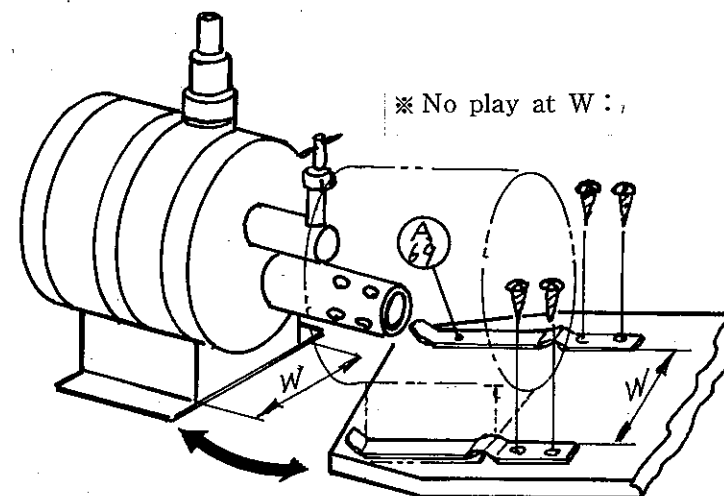
				A 28	Steam Winch Side Panel	2	3mm Veneer	A 61	Steam Valve Handle	3	BS
				A 29	Stern Tube	2	6.35 ϕ 175 BST	A 62	Steam Valve	3	BS
				A 30	Outer Bearing Metal	1Set	1set with BS Bracket	A 63			
				A 31	Oiling Pipe	2	3 ϕ \times 120BST	A 64	Rope	1Set	200mm
ItemNo.	Item	Q'ty	Remarks	A 32	Propeller shaft	2	4 ϕ \times 20	A 65	Chain	1	250mm
A Block- Vessel Body				A 33	Teflon Washer	4		A 66	Eyelet	6	
A 1	FRP Hull	1	F.R.P.	A 34	Propeller	1Set	with screws	A 67	Anchor	2	Annimony
A 2	Deck	1	3mm Veneer	A 35	Keel End	1	ABS	A 68	Decal	1	
A 3	Frame panel	1	3mm Veneer	A 36	Rudder shaft	1	BS	A 69			
A 4	Frame panel	1	3mm Veneer	A 37	Rudder shaft Guide	1	BS	A 70	Neoplene Tube	1Set	Thin:1m Thick:150mm
A 5	Frame panel	1	3mm Veneer	A 38	Rudder Reinforcing Plate	2	BS	A 71			
A 6	Frame panel	1	3mm Veneer	A 39	Rudder Horn	1	with Screws	A 72	Adjuster	2	
A 7	Frame panel	1	3mm Veneer	A 40	Engine Bed panel	1	5T \times 580 \times 80	A 73	Ball Link	4	
A 8	Frame panel	1	3mm Veneer	A 41	Engine Bed Mounting Block	4	15 \times 20 \times 80	A 74	Ball	4	
A 9	Frame panel	1	3mm Veneer	A 42	Engine Bed Mounting Wood Screw	8		A 75	Screw	4	
A 10	Frame panel	1	2mm Veneer	A 43	Engine Bed Mounting Washer	8		A 76	Locknut	4	
A 11	Frame panel	1	3mm Veneer	A 44	Dual Gear	1Set	finished Product	A 77	Pushrod	2	80mm
A 12	Frame panel	2	3mm Veneer	A 45	Engine-Dual Gear Universal Joint	1Set	with Screws	A 78	Pushrod	2	125mm
A 13	Frame panel	2	3mm Veneer	A 46	Dual Gear-propeller Shaft single Joint	4Set	with Screws	A 79	Pushrod	2	30mm
A 14	Frame panel	2	3mm Veneer	A 47	Dual Gear-propeller Shaft	2	4 ϕ \times 40	A 80	Pushrod Pipe	1	3 ϕ \times 300BST
A 15	Stern Tube Support plate	2	3mm Veneer	A 48	Inner Bearing Metal	2	BS	A 81	Pushrod Pipe	1	3 ϕ \times 140BST
A 16	Rudder	1	3mm Veneer	A 49	Dual Gear Mounting Wood Screw	4		A 82	Pushrod Pipe	1	3 ϕ \times 30BST
A 17	Stern Deck	1	3mm Veneer	A 50	Dual Gear Mounting Washer	4					
A 18	Stern Deck	1	3mm Veneer	A 51	Servo Bed Mounting Wood Screw	4					
A 19	Bow Deck	1	3mm Veneer	A 52	Servo Bed Mounting Washer	4		B-Block-Bridge House			
A 20	Servo Bed	2	3mm Veneer	A 53	Bollard Pole	12	AL	B 1	Bridge Panel	1	3mm Veneer
A 21	Servo Bed	1	3mm Veneer	A 54	Bollard Cross Bar	6	AL	B 2	House Side Panel	2	3mm Veneer
A 22	RC Receiver Bed	2	3mm Veneer	A 55	Bollard Bed Washer	12	AL	B 3	House Front Panel	1	2mm Veneer
A 23	Bollard Bed	6	3mm Veneer	A 56	Steam Winch Drum	2	AL	B 4	House Frame Panel	1	3mm Veneer
A 24	Steam Winch Bed	1	3mm Veneer	A 57	Steam Winch Gear(Large)	2		B 5	House Frame Panel	1	3mm Veneer
A 25	Steam Winch Bed	1	3mm Veneer	A 58	Steam Winch Drum Side Panel	2	AL	B 6	House Frame Panel	1	3mm Veneer
A 26	Steam Winch Bed	1	3mm Veneer	A 59	Steam Winch Gear (Small)	2		B 7	House Reinforcing Panel	2	3mm Veneer
A 27	Steam Winch Bed	2	3mm Veneer	A 60	Dual Gear Bed	1	3T \times 35 \times 80	B 8	House Reinforcing Panel	1	3mm Veneer

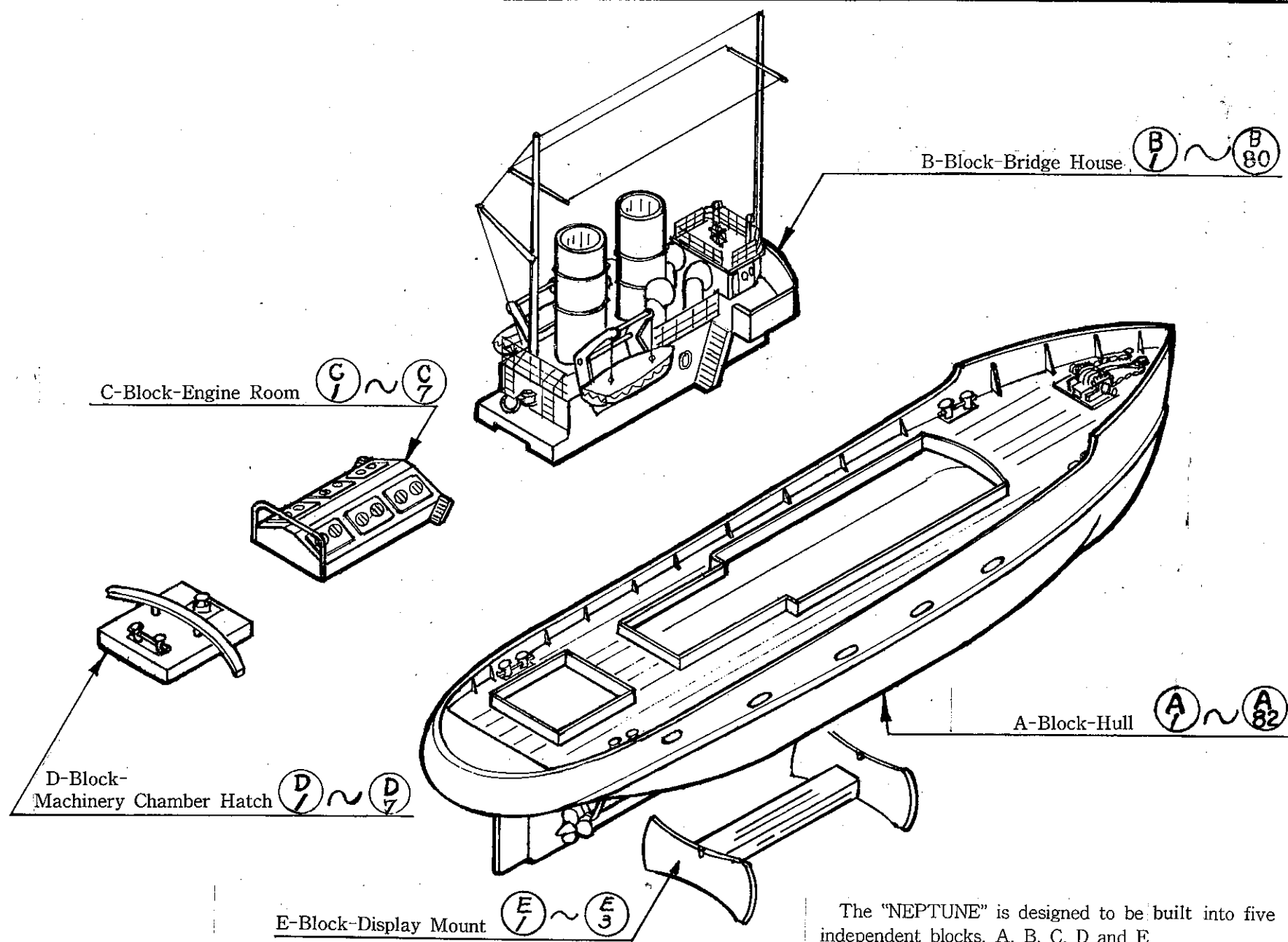
ItemNo	Nomenclature	Q'ty	Remarks	B 41	Hook Mounting Screws	1		B 74	Wire Spring	23	
B 9	House Frame Panel	1	3mm Veneer	B 42	Hook Nut	1		B 75	Rulley	13	Prastics
B 10	House Frame Panel	1	3mm Veneer	B 43	Boat Chock Roller	8		B 76	Wire 3.5m	1roll	
B 11	House Back Panel	1	3mm Veneer	B 44	Boat Chock Shaft	4	3φ×57BST	B 77	Antenna Wire	1roll	
B 12	Bridge Front Panel	1	2mm Veneer	B 45	Life Boat(Vinyl chloride)	1		B 78	Antenna Connector	1set	Phosphor
B 13	Bridge Side Panel	2	3mm Veneer	B 46	Life Boat Frame	1	1.5mm Veneer	B 79	Life Bolt	4	Prastics
B 14	Bridge Back Panel	2	3mm Veneer	B 47	Life Boat(Vinyl chloride)	1		B 80		1	Bronge
B 15	House Top Panel	1	2mm Veneer	B 48	Life Boat Frame	1	1.5mm Veneer	C-Block-Engine Room			
B 16	Boat Bed	4	3mm Veneer	B 49	Side Light Tray	2		C 1	Top Panel	2	3mm Veneer
B 17	Boat Chock	4	3mm Veneer	B 50	Light	6		C 2	Top Panel	1	3mm Veneer
B 18	Steering House	1	3mm Veneer	B 51	Fitlin	38		C 3	Side Panel	2	3mm Veneer
B 19	Steering House	1	3mm Veneer	B 52	Falls	1	Kite String	C 4	Back Panel	1	3mm Veneer
B 20	Steering House	1	3mm Veneer	B 53	Handrail Support(Large)	38	BS	C 5	Front Panel	1	3mm Veneer
B 21	Steering House	2	3mm Veneer	B 54	Handrail Support(small)	31	BS	C 6	Hatch Panel	6	3mm Veneer
B 22	Steering House	2	3mm Veneer	B 55	Square Window Frame	13		C 7	Towing Beam(Front)	1	AL
B 23	Steering House	2	3mm Veneer	B 56	Compass	1	AL	D-Block-Machinery Chamber Hatch			
B 24	Steering House	1	3mm Veneer	B 57	Compass	1	AL	D-Block-Machinery Chamber Hatch			
B 25	Steering House Reinforcing Plate	2	3mm Veneer	B 58	Compass	2	AL	D 1	Top Panel	1	3mm Veneer
B 26	Life Boat Winch Pully	4	AL	B 59	Steering Wheel	1	3φ×2	D 2	Side Panel	2	3mm Veneer
B 27	Crane Winch Pully	1	AL	B 60	Steering Screw	1		D 3	Side Panel	2	3mm Veneer
B 28	Door Hinge Bracket	12	BS	B 61	Steering Bed	1		D 4	Towing Beam Support Beam	1	3mm Veneer
B 29	Door Balsa Parts	1		B 62	Funnel Pipe	2		D 5	Capstan	1	3mm Veneer
B 30	Search Light	4	AL	B 63	Funnel Ring	6		D 6	Towing Beam Screw	2	AL
B 31	Search Light Bracket	4	BS	B 64	Funnel Base	2		D 7	Capstan	1	AL
B 32	Search Light Pole	4	BS	B 65	Front Mast	1					
B 33	Search Light Bed	4	AL	B 66	Mast Cross Bar	2					
B 34	Ventilator Entry	4	AL	B 67	Mast Top	2	AL	E-Block-Display Mount			
B 35	Ventilator Pipe	4	ALT	B 68	Rear Mast	1		E 1	Display Mount	2	
B 36	Ventilator Bed	4		B 69	Crane Arm	1		E 2	Connecting Membor	1	
B 37	Hook Bracket	1		B 70	Crane Bracket	1		E 3	Wood Screw	2	
B 38	Hook Mounting Screw	1		B 71	Bracket Screuw	1					
B 39	Hook Nut	1		B 72	Bracket Nut	1					
B 40	Hook	1		B 73	Lamp Shade	1					

ItemNo.	Nomenclature	Q'ty	Remarks
Common Materials			
1	Japanese Cypress Rod 4×4×0.9m	6	
2	ABS Sheet 1'×25×1m	4	
3	ABS Rod 3×3×1m	3	
4	Deck Plate 1.5'×6×0.7m	60	
5	ABS Sheet 1.5'×3×1m	1	
6	Brass Wire 1.5φ×1m	1	
7	Brass Wire 2φ×1m	1	
8	ABS Sheet 2'×5×1m	1	
9	ABS Sheet 1'×10×1m	1	
10	Brass Wire 1φ×1m	5	
11	Brass Wire 0.5φ×0.5m	1	
12	Setting Pin	16	
13	Round Window Frame	30	
14	B Solution	1	Preparatory Treatment Solution
15	ABS Sheet 1.5'×5×1m	1	

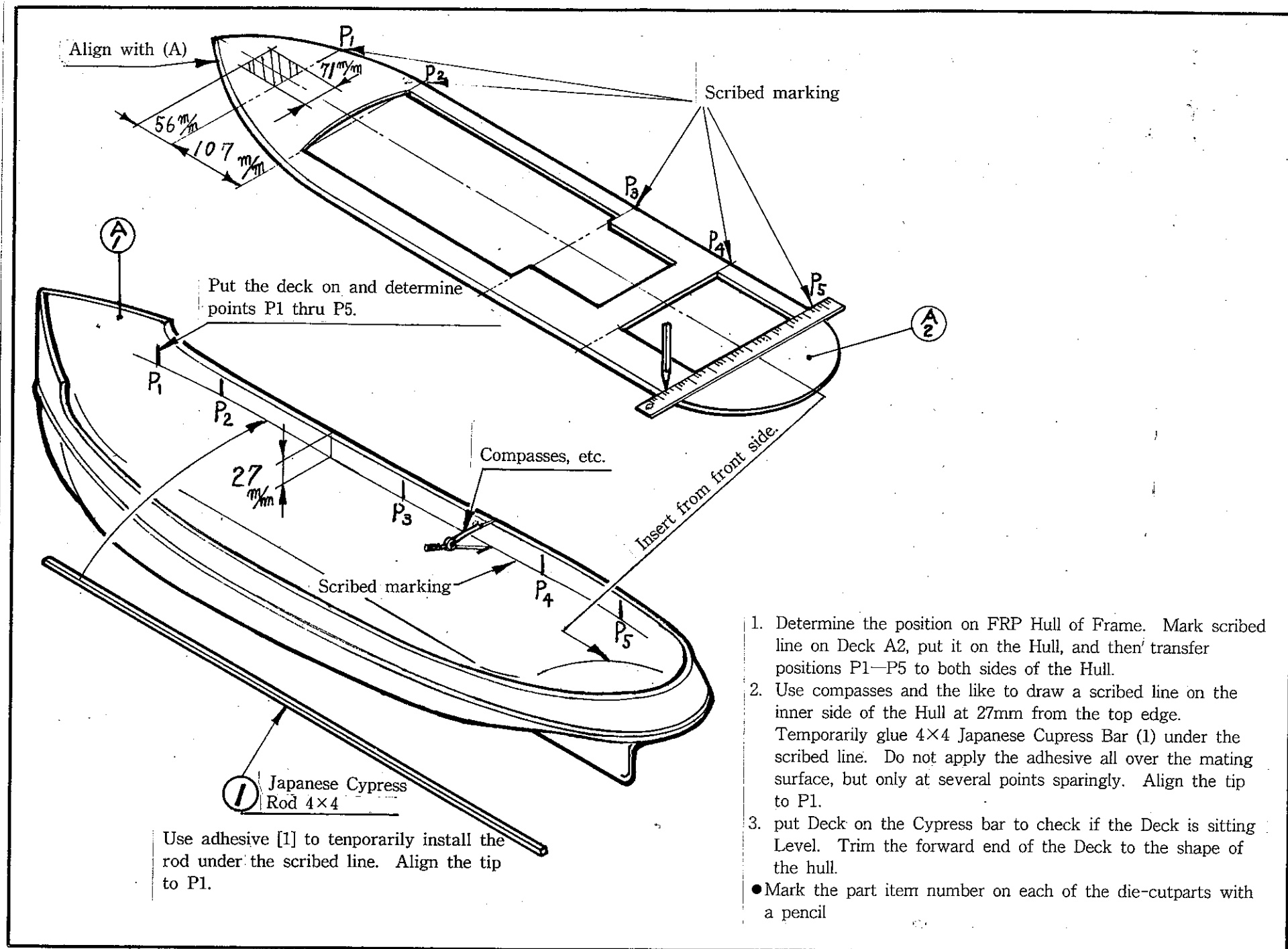
Be careful for the following precautions.

1. Woodworking Bond cannot be used for assembling this kit.
2. Thermoproof treatment is not required for the hull interior, but do not use vinyl chloride paint for interior painting.
3. B-solution, item No. (14) is preparatory solution for bonding ABS to other type materials. Apply a coat of B-solution with a brush on the bonding surface of the ABS parts to be bonded, and within 20 minutes, use epoxy adhesive to glue. Be careful B-solution is highly volatile and inflammable.
4. The Burner should be installed without lateral play. Therefore Burner Holding Plates A (16) should be screwed to the bed so that inner width W and width W of Burner are equal and the inside edges of the holding plates firmly catch the Burner mount. Loose installation of the Burner might, at a shock encountered during cruising, permit the Burner disengaged and an unexpected fire might result.





The "NEPTUNE" is designed to be built into five independent blocks, A, B, C, D and E.

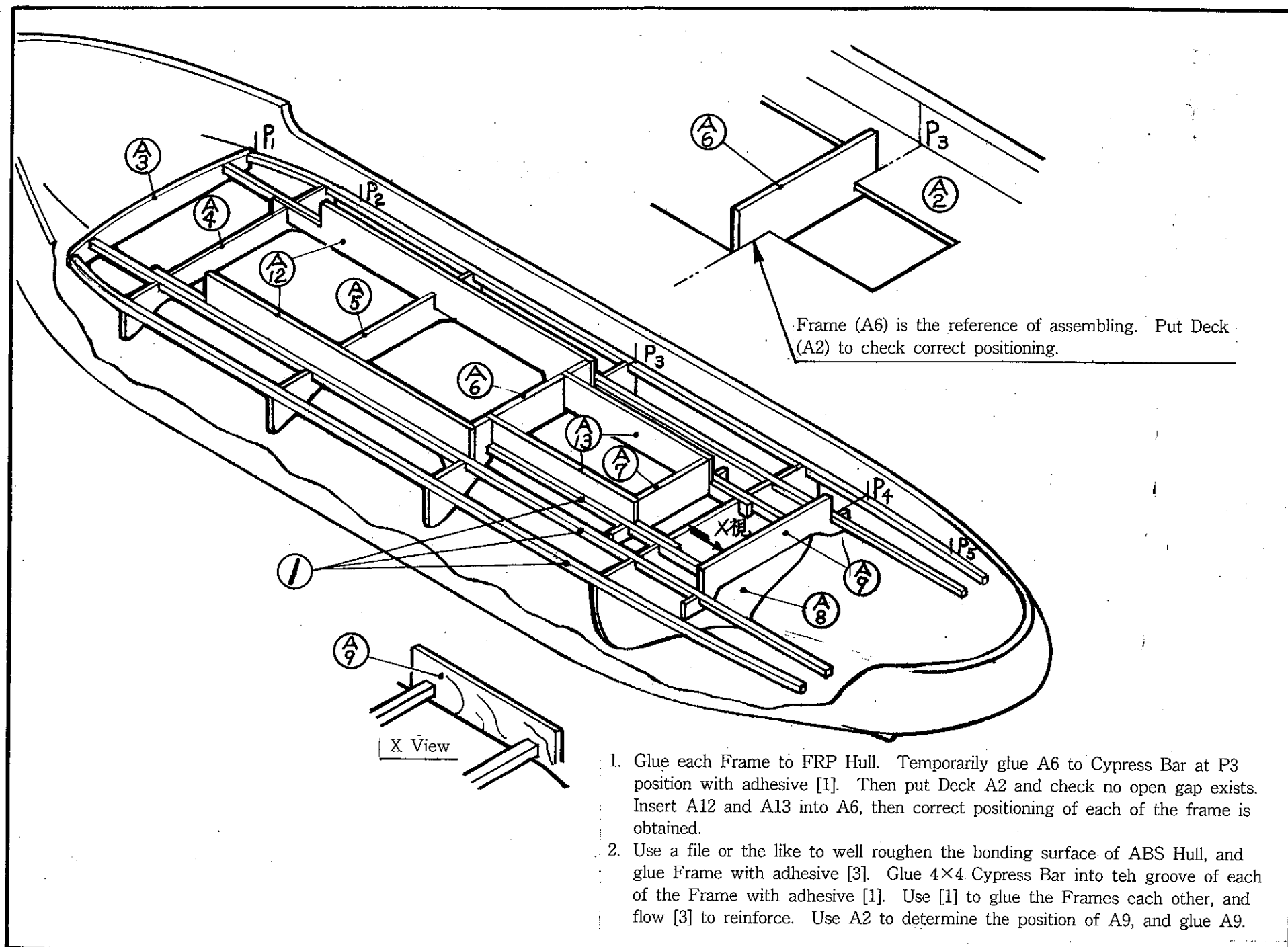


[1] Cyanide Instant Adhesive

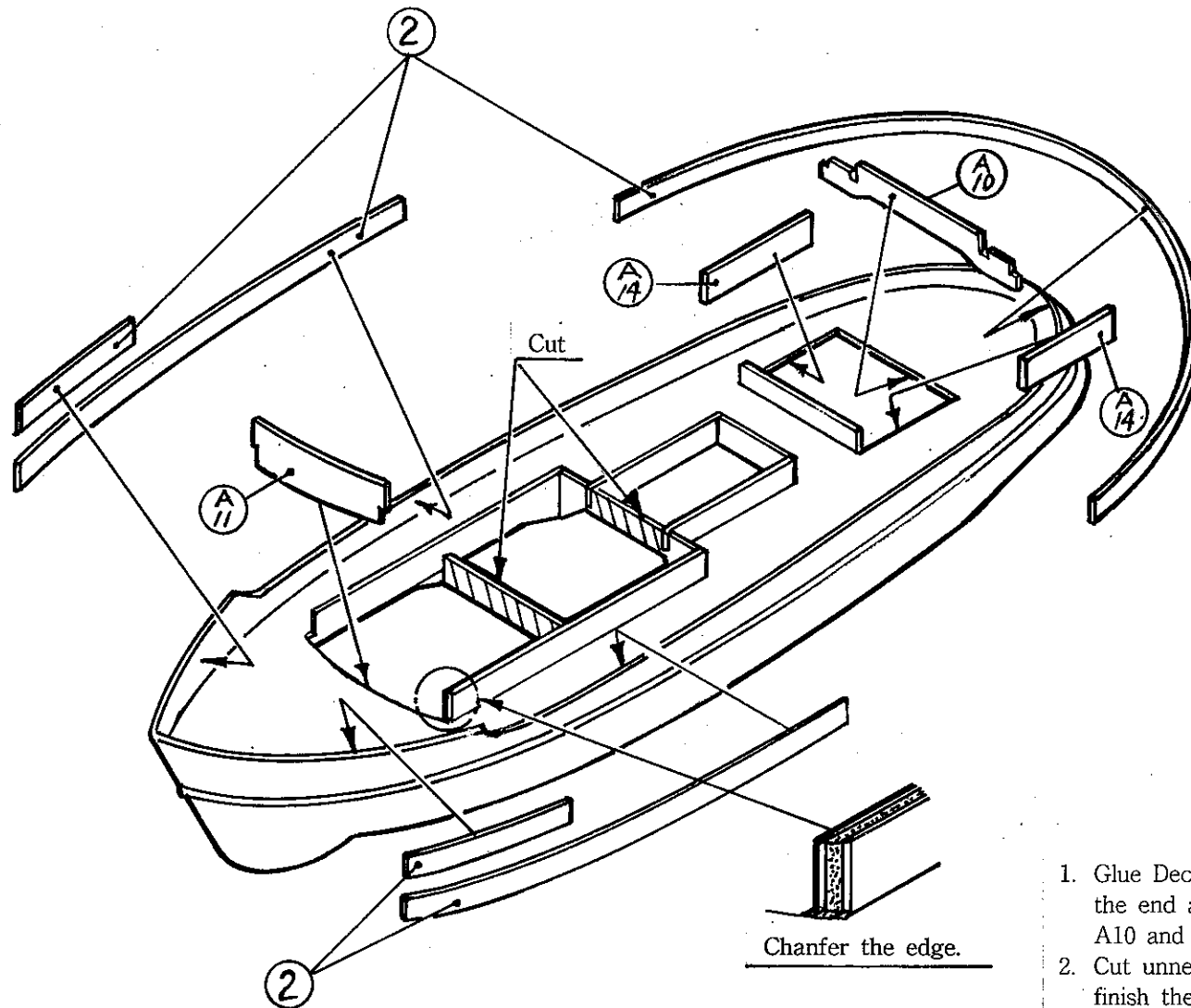
[2] 5-minute Epoxy Adhesive

[3] 30-minute Epoxy Adhesive

NO. 7



[1] Cyanide Instant Adhesive [2] 5-minute Epoxy Adhesive [3] 30-minute Epoxy Adhesive



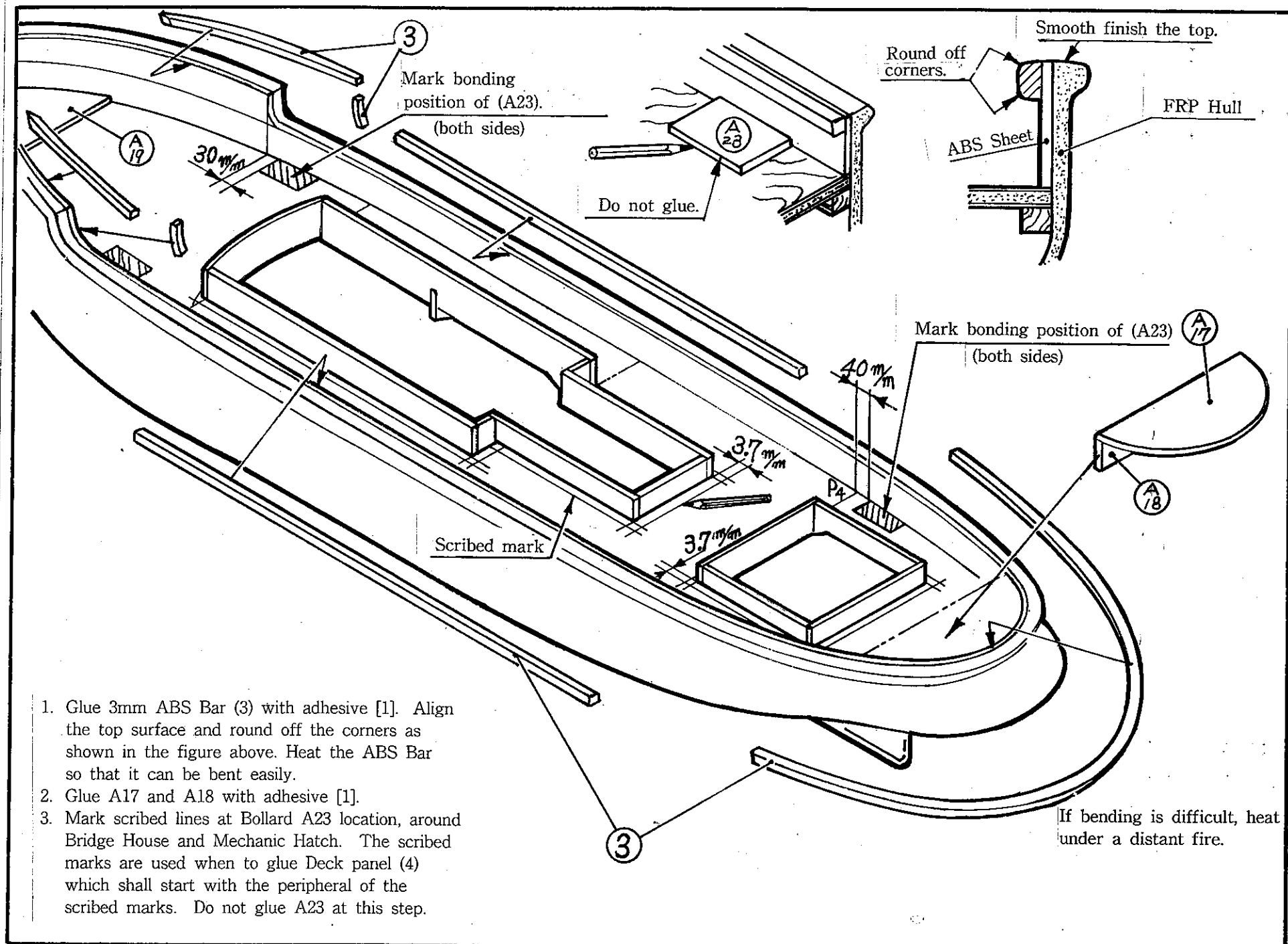
1. Glue Deck A2 with [3], then glue A11. Chanfer the end and slightly bend throughout. Glue A10 and A14 in this order.
2. Cut unnecessary section of the Frame, and finish the corners round with sandpaper.
3. Glue 1"×25×1m ABS Sheet (2) onto the inside of the Hull bulwark with adhesive [3]. Use one complete sheet for the stern section and in two steps for the bow section. Be careful that B Solution shall be applied to the ABS sheet beforehand for good adhesion. Trim off excessive portion of the ABS Sheet extruding out of the bulwark.

[1] Cyanide Instant Adhesive

[2] 5-minute Epoxy Adhesive

[3] 30-minute Epoxy Adhesive

NO. 9

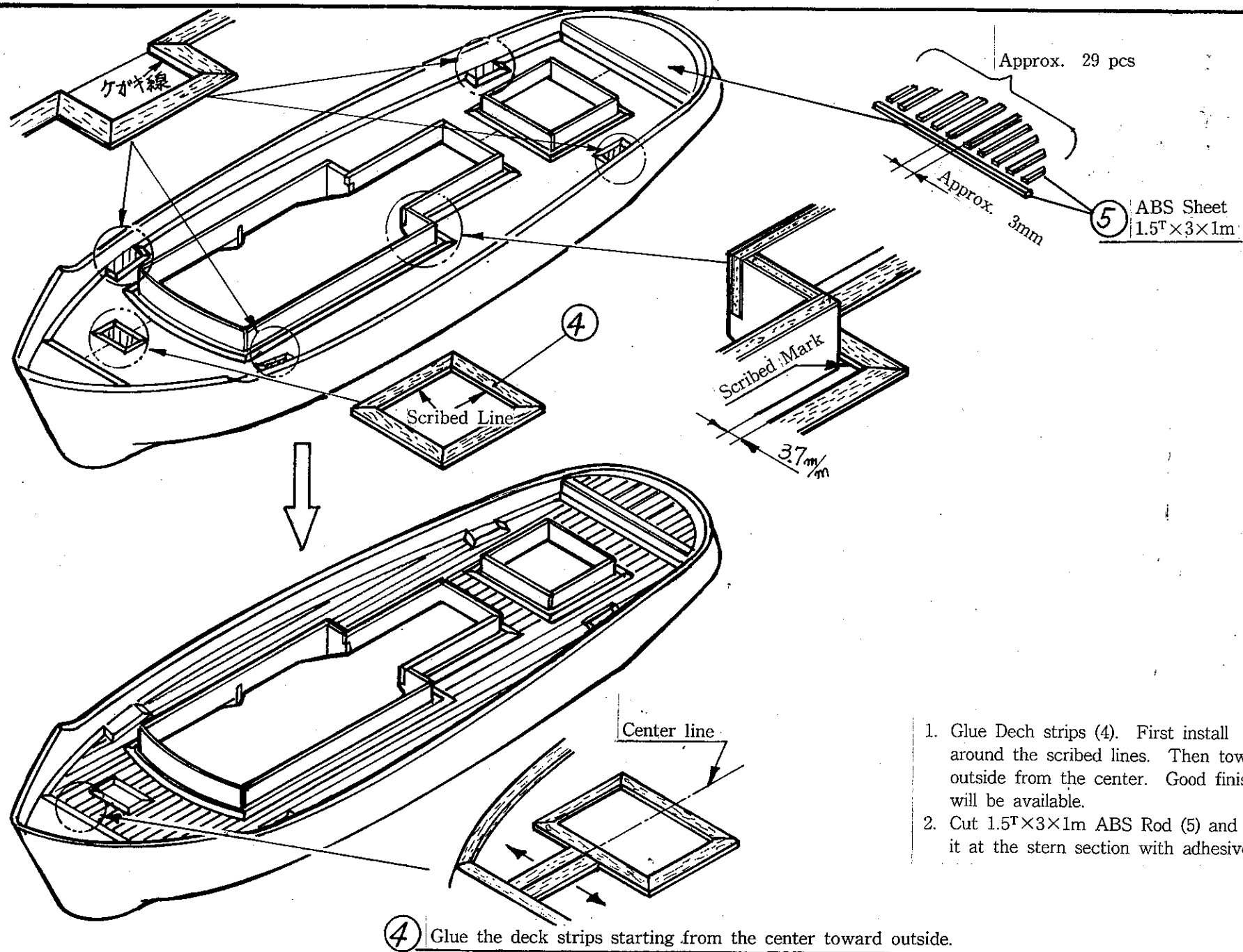


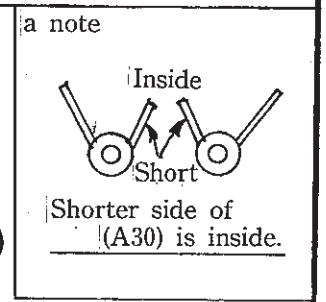
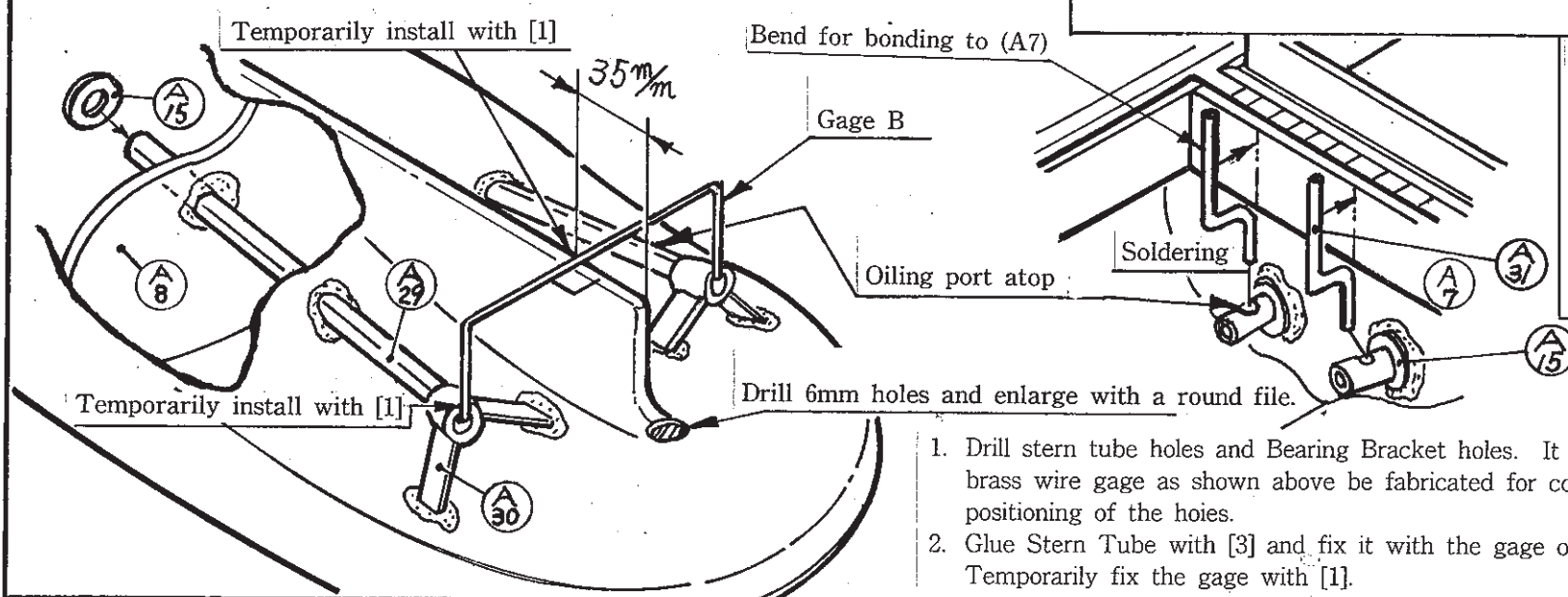
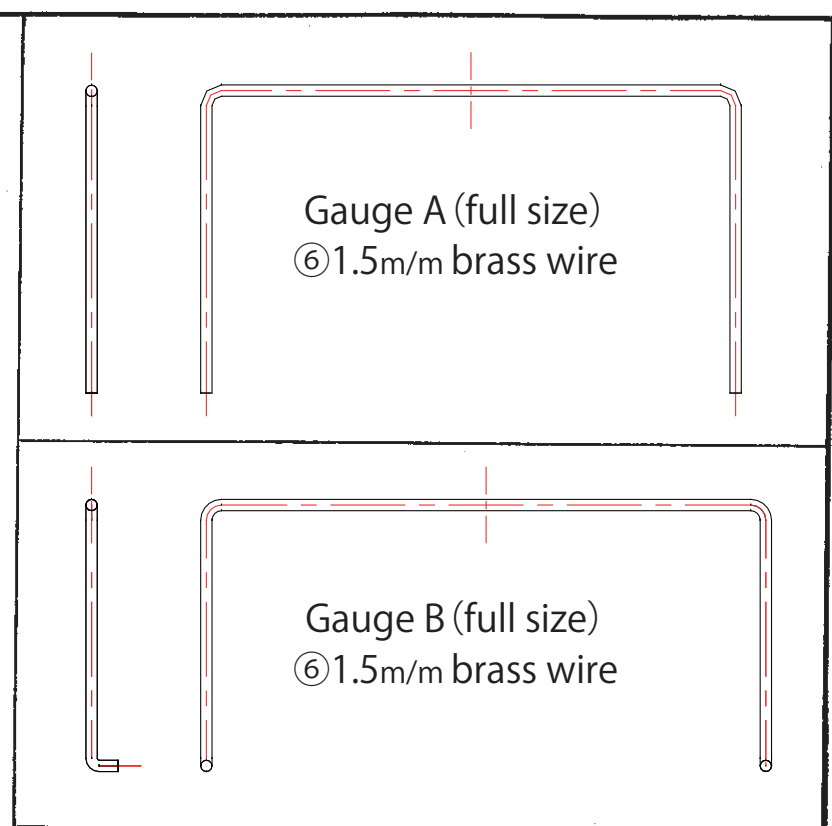
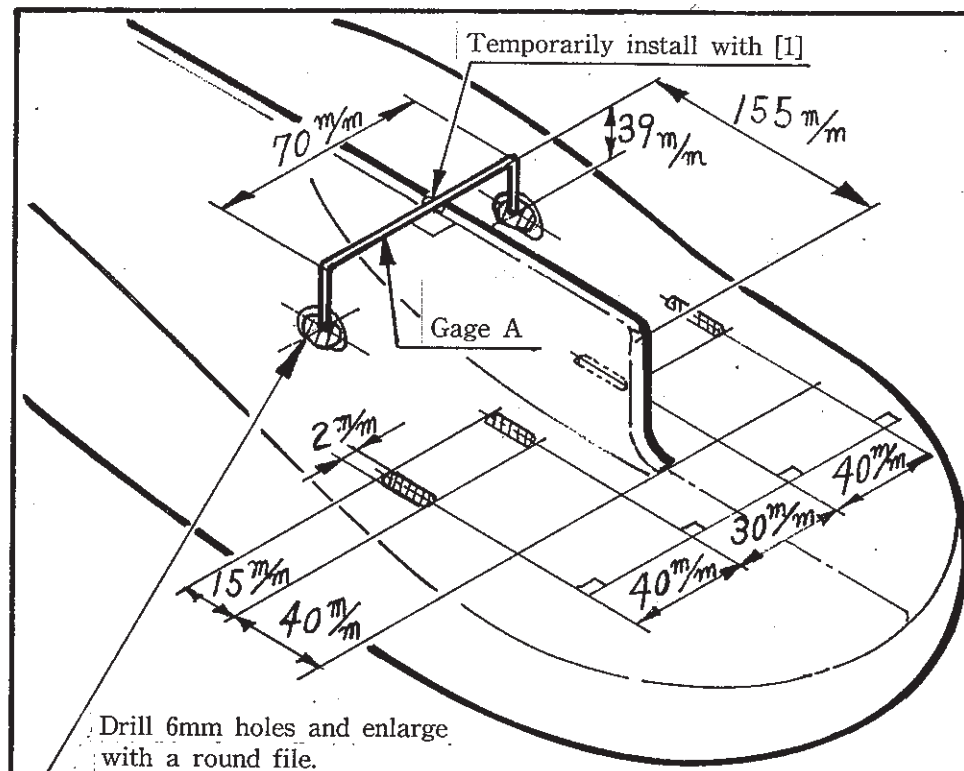
[1] Cyanide Instant Adhesive

[2] 5-minute Epoxy Adhesive

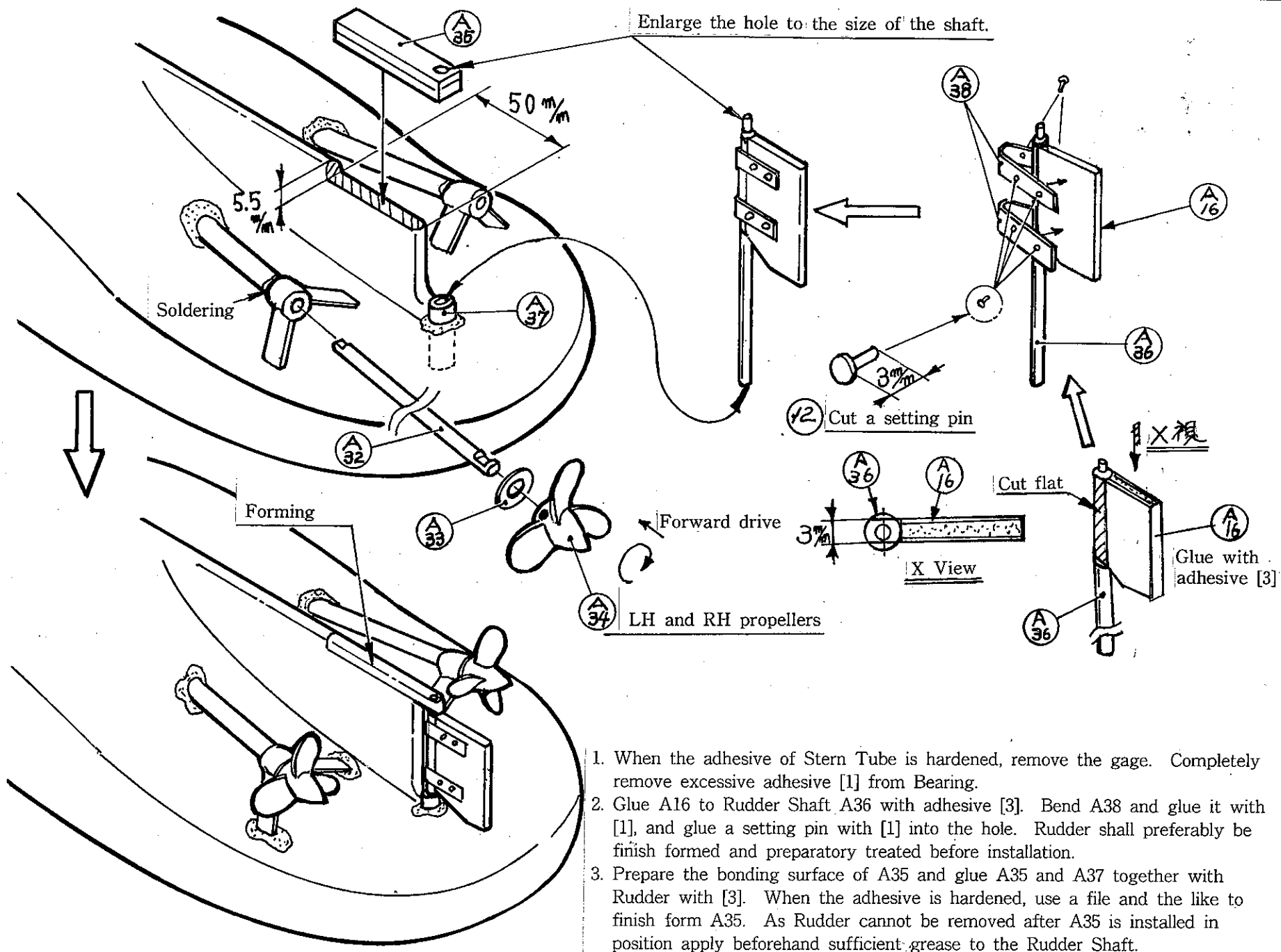
[3] 30-minute Epoxy Adhesive

NO. 10





1. Drill stern tube holes and Bearing Bracket holes. It is recommended that brass wire gage as shown above be fabricated for correct and easy positioning of the holes.
2. Glue Stern Tube with [3] and fix it with the gage or tape until hardened. Temporarily fix the gage with [1].

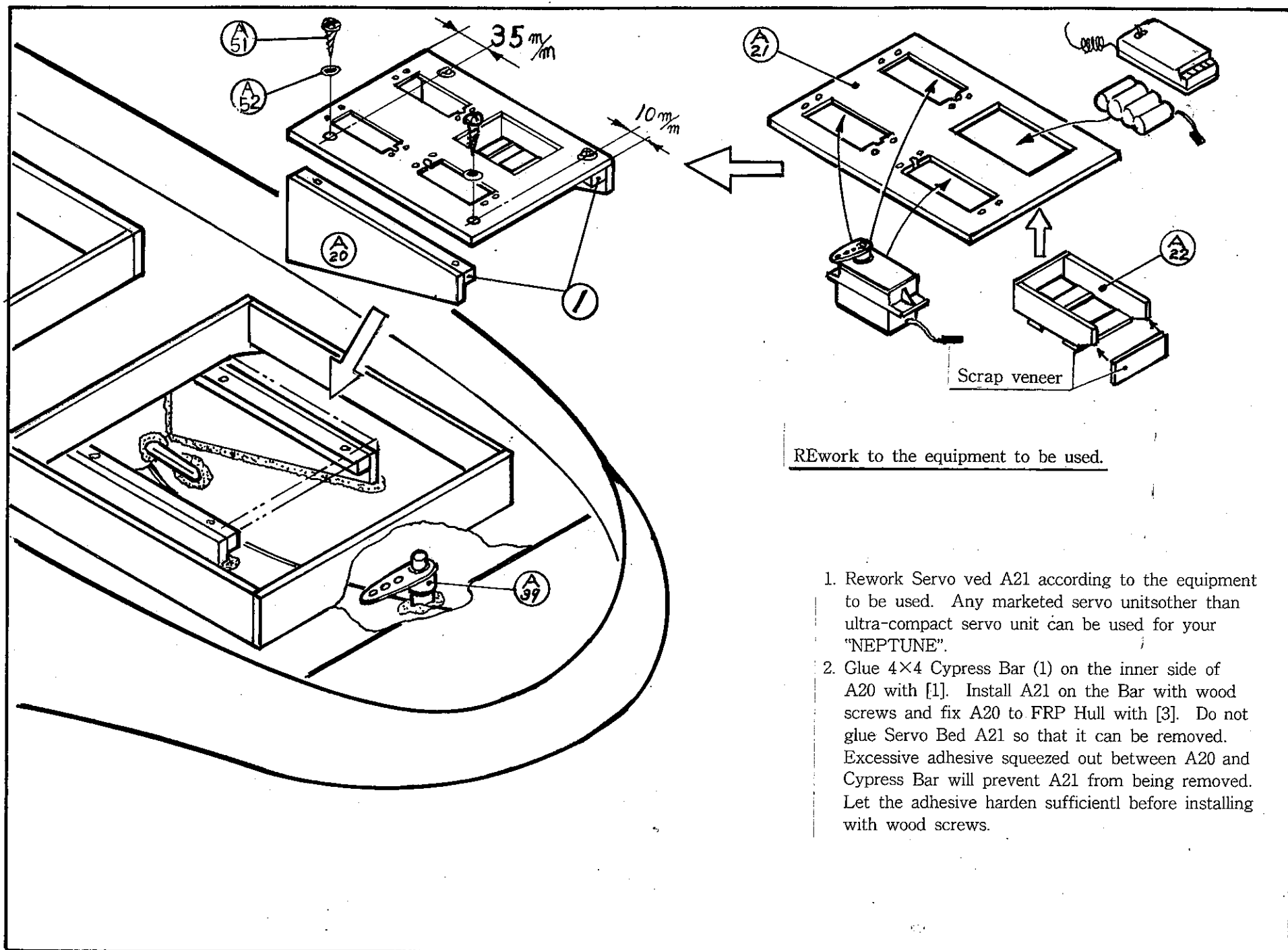


[1] Cyanide Instant Adhesive

[2] 5-minute Epoxy Adhesive

[3] 30-minute Epoxy Adhesive

NO. 13

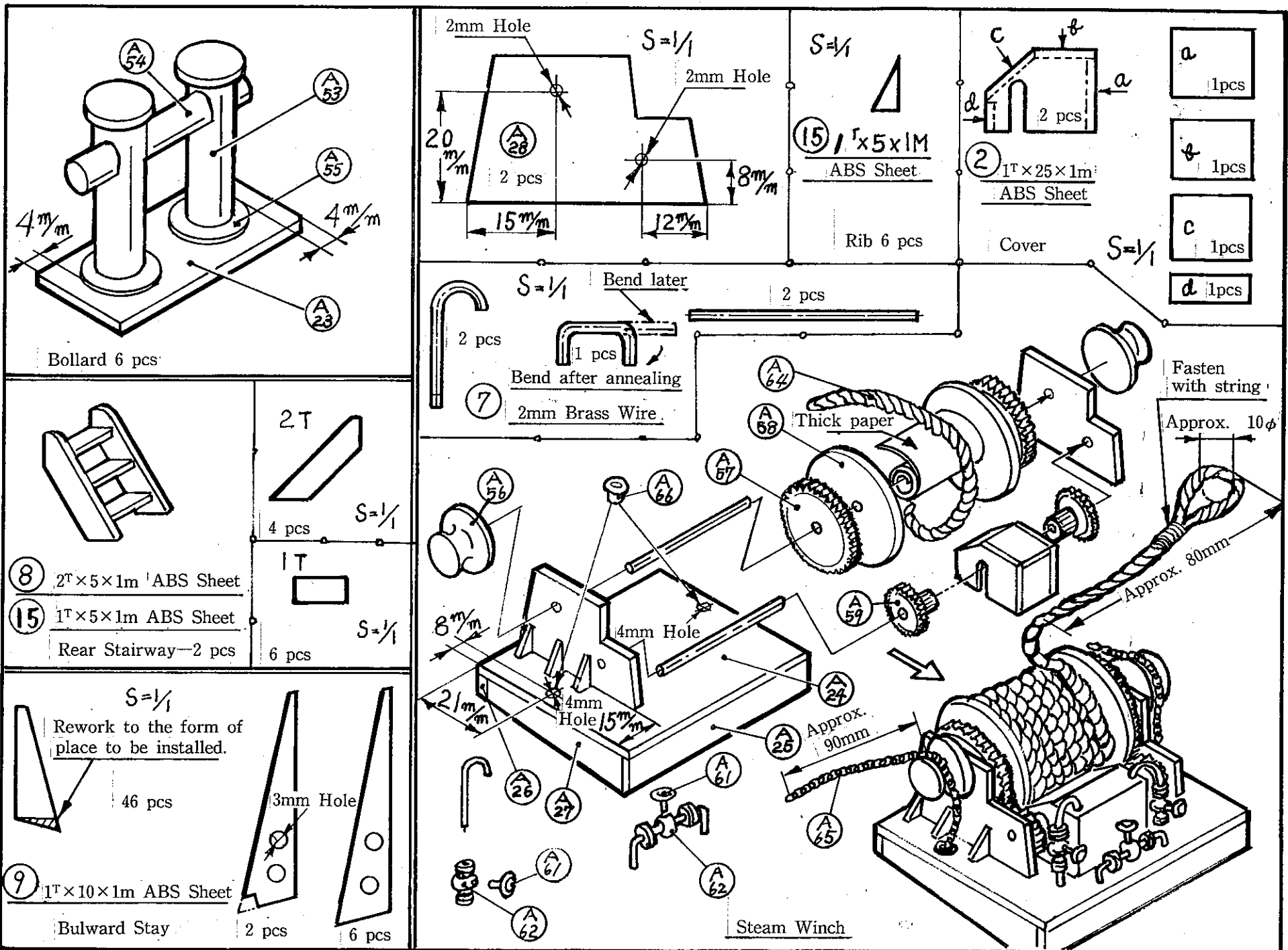


[1] Cyanide Instant Adhesive

[2] 5-minute Epoxy Adhesive

[3] 30-minute Epoxy Adhesive

NO. 14

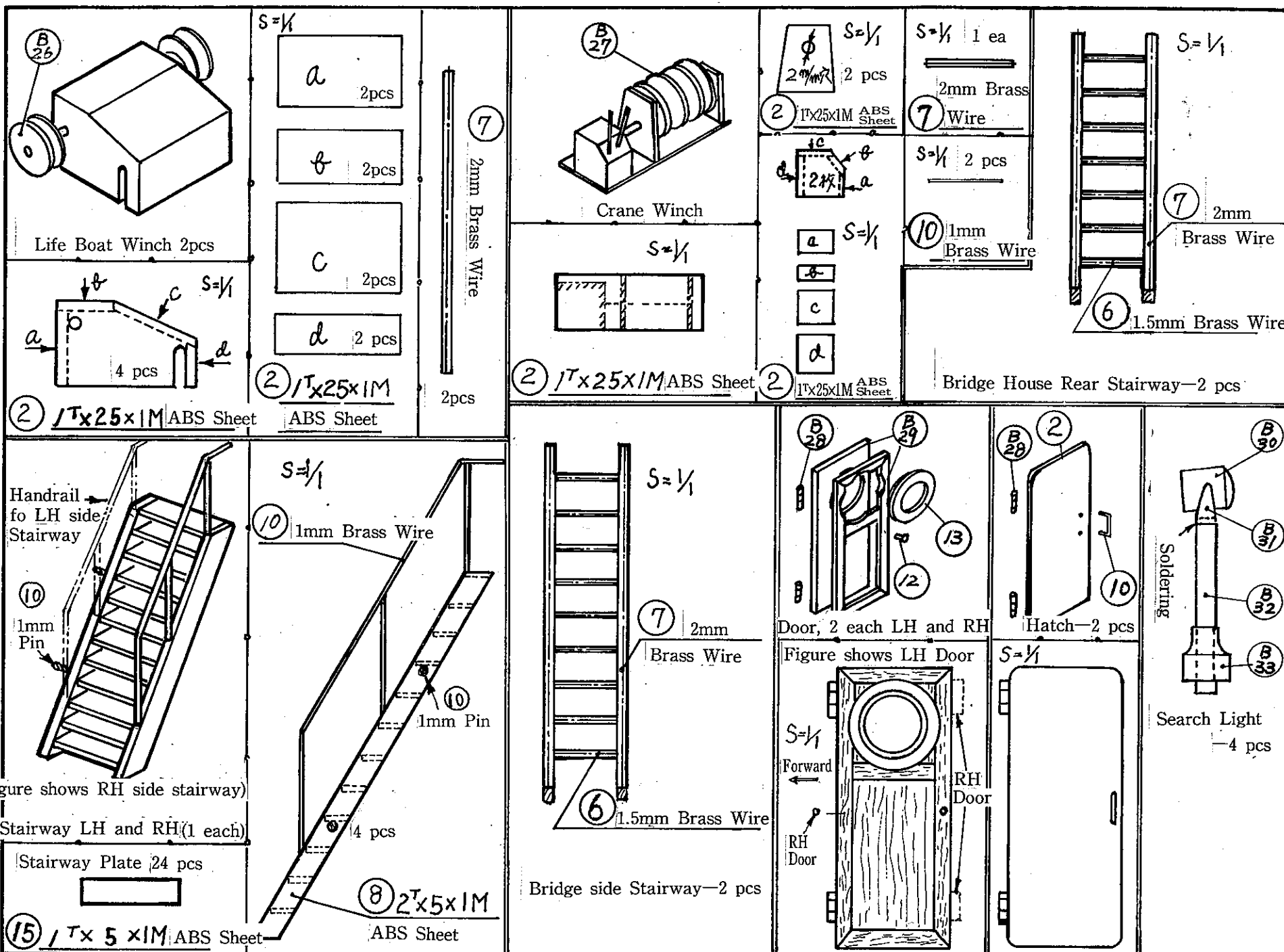


[1] Cyanide Instant Adhesive

[2] 5-minute Epoxy Adhesive

[3] 30-minute Epoxy Adhesive

[NO. 15



Small Parts, and Riggings

Paint all the small rigging parts before installation. Except for special items, small rigging parts shall be fabricated from common ABS sheets. Refer to the picture on the box coloring. Look into other vessels for rigging, and rig your vessel as you like. The rigging shown in this instruction is a typical example.

- Bollard : Glue parts on A23 with [1]. Fabricate 6 pieces.
- Rear Stairway : Fabricate from 2^T×5×1m ABS sheet (8). Two sets required.
- Bulward Stay : Fabricate necessary number of sets from 2^T×10×1m ABS sheet (9). A variety of sizes, but within a small differences are required according to the place. Therefore, fabricate all the sets slightly greater, and trim to proper size when to install.
- Stearn Winch : Glue material shown in the figure with [1], and install ropes and chains after painted.
- Life Boat Winch : Glue material shown in the figure with [1]. Two pieces required.
- Side Stairway : Handrail position differs between LH and RH Stairways. Be careful not to make a mistake.
- Crane Winch : Glue material shown in the figure with [1].
- Bridge House Rear Stairway : Use 2mm and 1mm brass wires. It is recommended that the top and the bottom step members be bonded first for easy assembling. Two set required.
- Door : Use balsa wood. Door hinge location is opposite between LH and RH doors. (such as passenger car doors).
- Hatch : Same as doors. Use 1^T ×25×1m ABS sheet (2).
- Search Light : Solder Pole and Bracket. Use [1] to install other parts.
- Life Boat : Use thick paper to fabricate cover sheet.

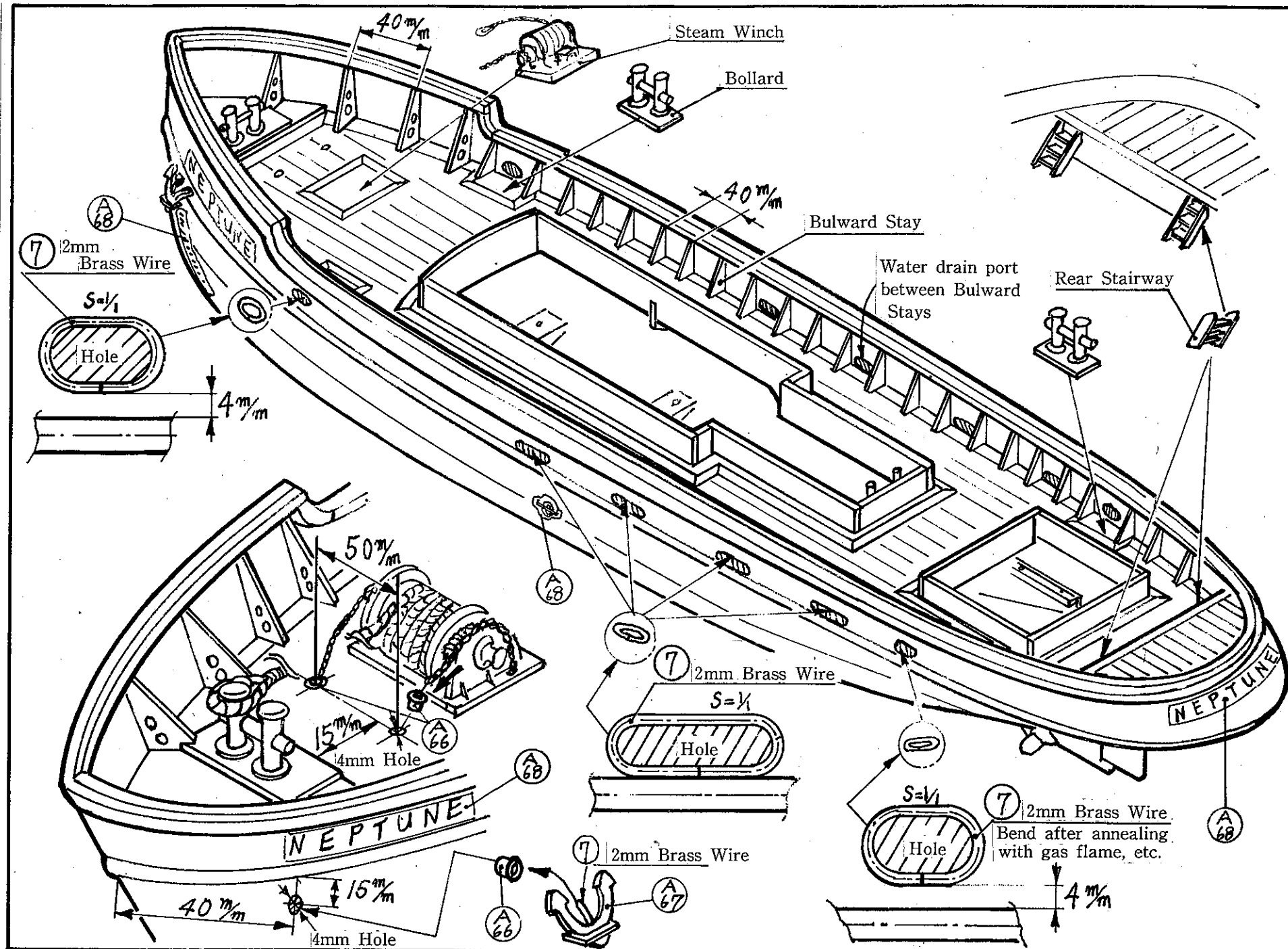
Bridge Panel installation

Similar to the Deck plate installation, start with around the scribed marks. As Steering House may become slightly greater than the scribed lines due to painting, start the deck strip from slightly outside the scribed lines.

Painting of Hull

Modellers may have their own painting technic. Following is therefore an example of painting procedure.

1. Polish outer surface of the hull with #400 wet sandpaper to remove surface irregularities. Then mask the deck with paper tape and the like.
2. Apply two coats of lacquer primer all over the outer surface, then three coats of surfacer. After each coating, polish with wet sandpaper when dry.
3. Fill dents and other surface defects with putty to provide complete surface finish for painting. Prepare for painting the wooden parts such as Houses in the same procedure.
4. Put a tape at the waterline, and apply three to four coatings of black lacquer. Then mask the upper portion, and paint under waterline section with (red + 0.5% black) lacquer. Mask top and bottom section of the waterline with paper tape, and paint the waterline with white paint. Surface finish with #800 wet sandpaper.
5. Paint the deck with clear paint. Bulward in blue. Paint the houses and other parts as shown on the box.



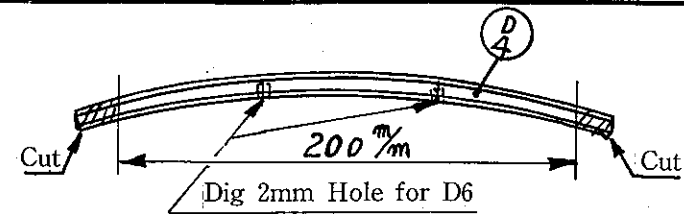
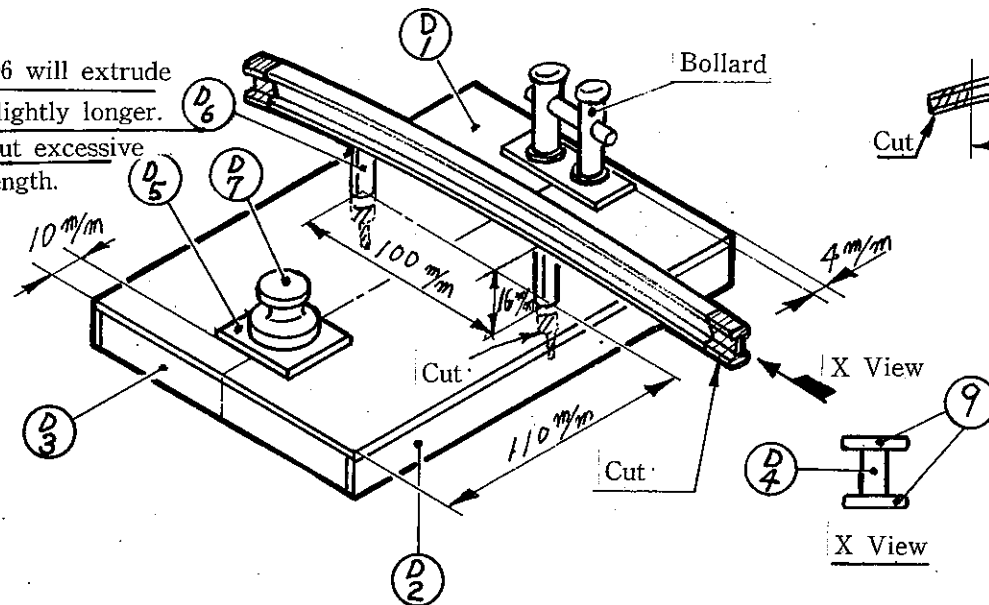
[1] Cyanide Instant Adhesive

[2] 5-minute Epoxy Adhesive

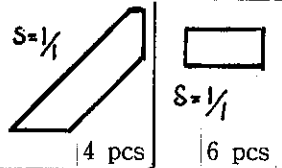
[3] 30-minute Epoxy Adhesive

NO. 18

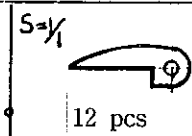
D6 will extrude slightly longer. Cut excessive length.



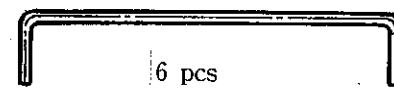
1. Glue D1, D2 and D3 with [1]. Install other parts after painted.
2. To fabricate Engine Room, glue die-cut parts C1, C2, C3 and C4 with [1], paint finish, and then install Hatch C6 and Stairways. Hatch should be opened/closed.



8 2x5x1M ABS Sheet



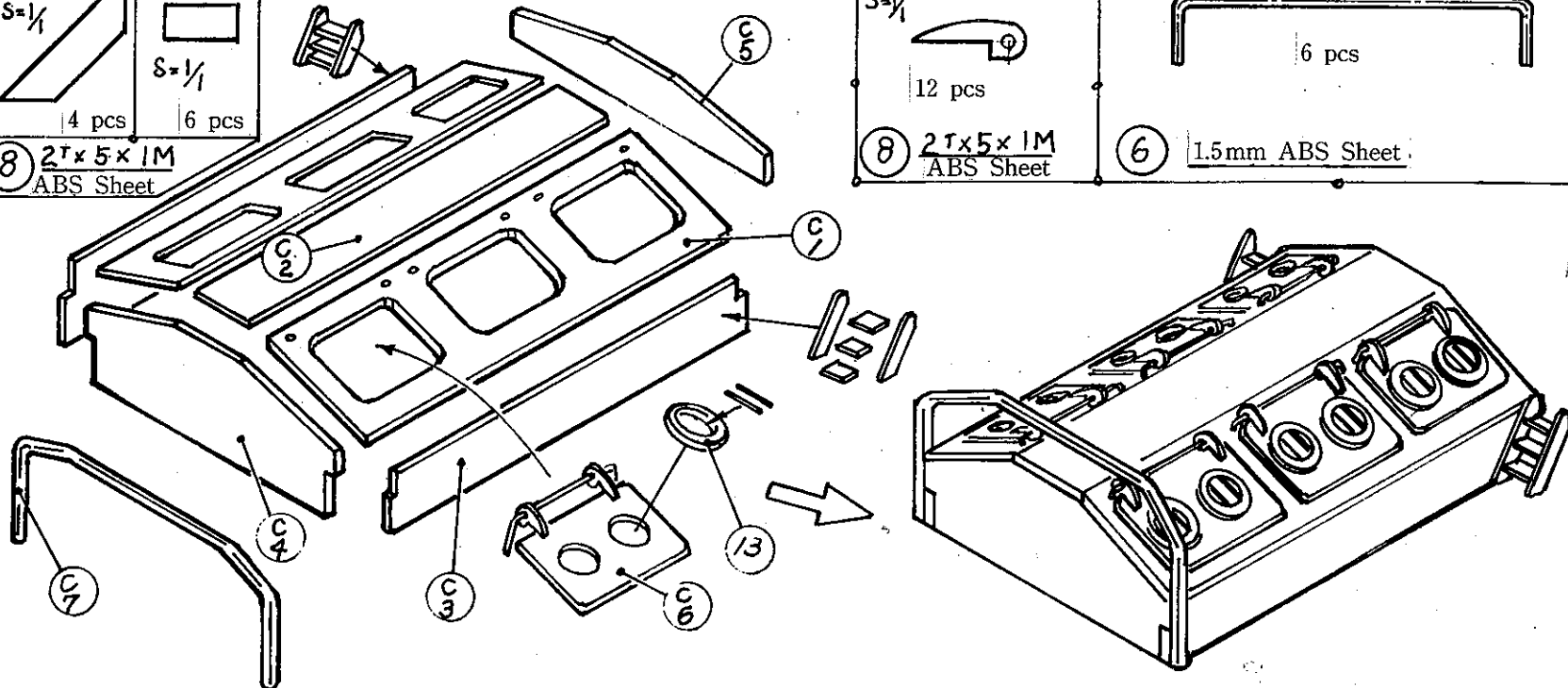
8 2x5x1M ABS Sheet

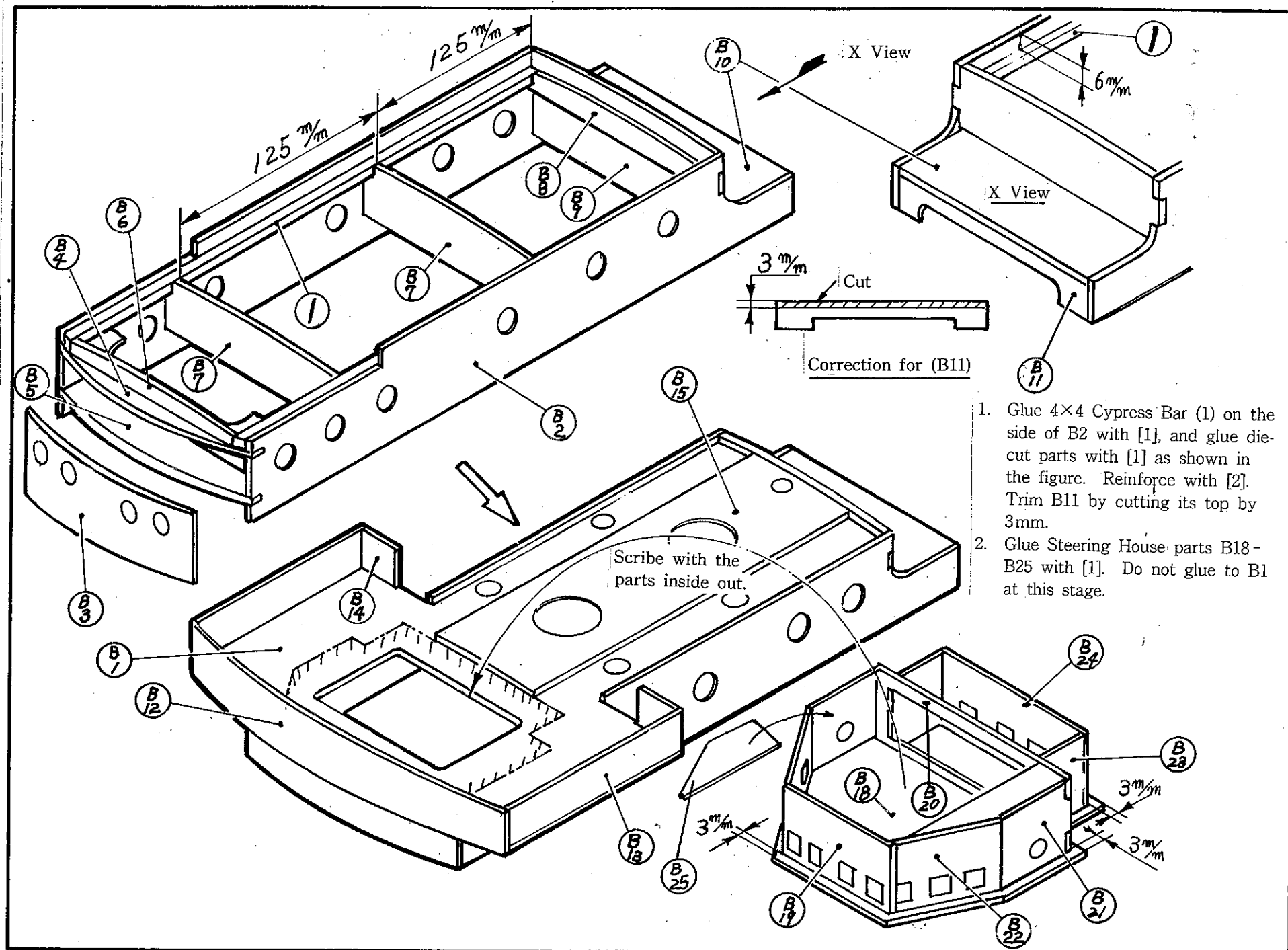


6 1.5mm ABS Sheet

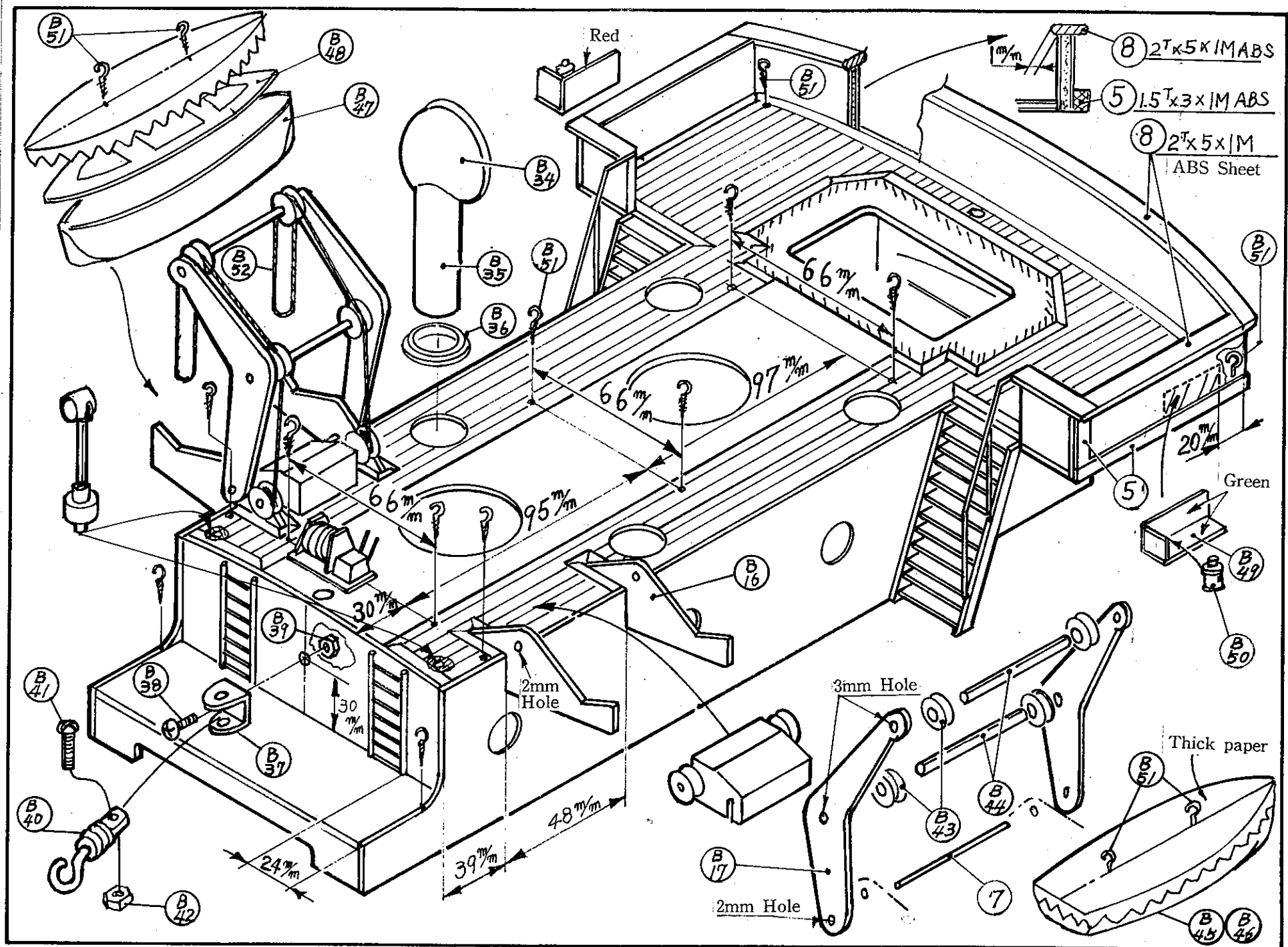


11 0.5mm Brass Wire





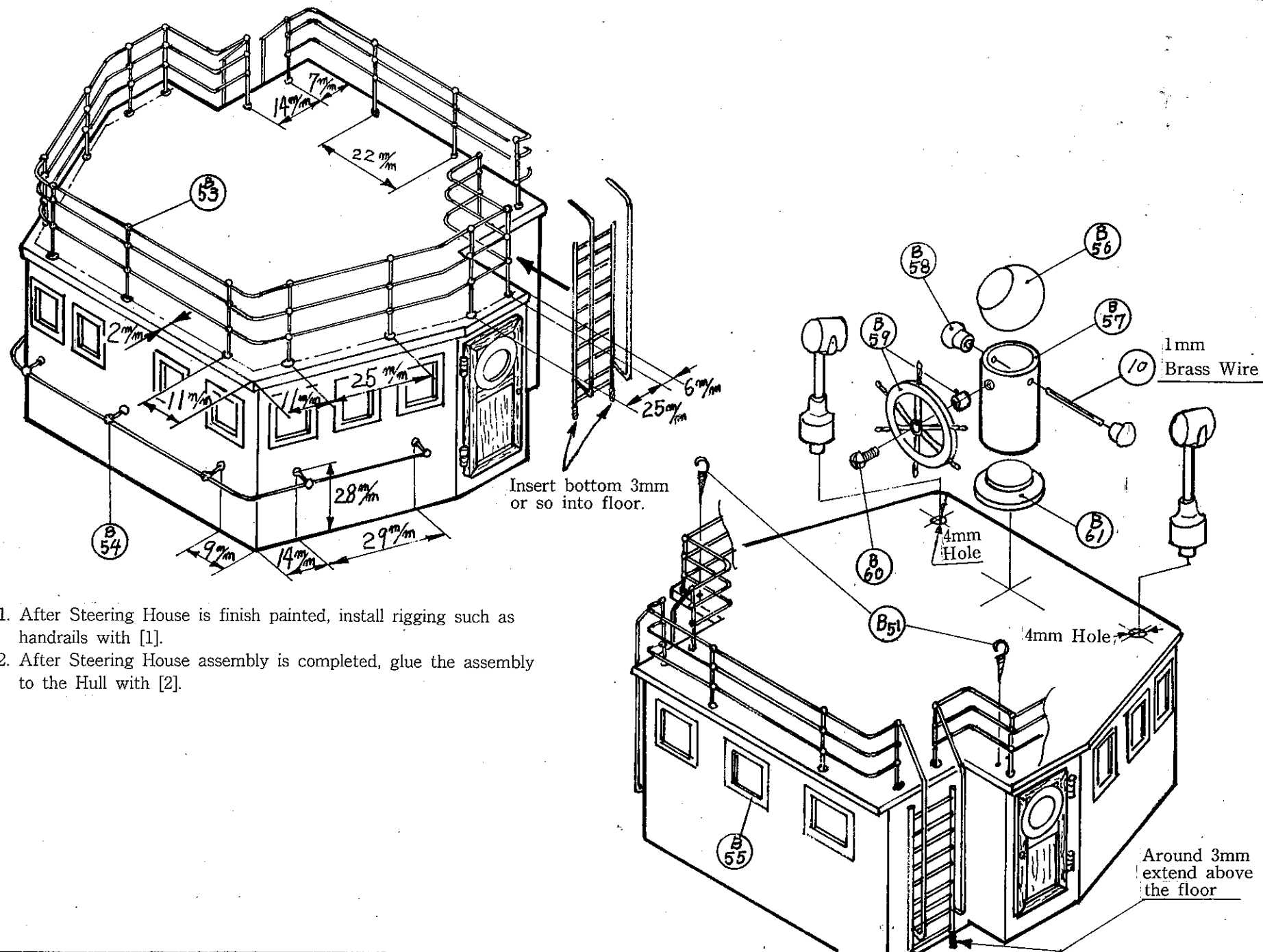
[1] Cyanide Instant Adhesive [2] 5-minute Epoxy Adhesive [3] 30-minute Epoxy Adhesive



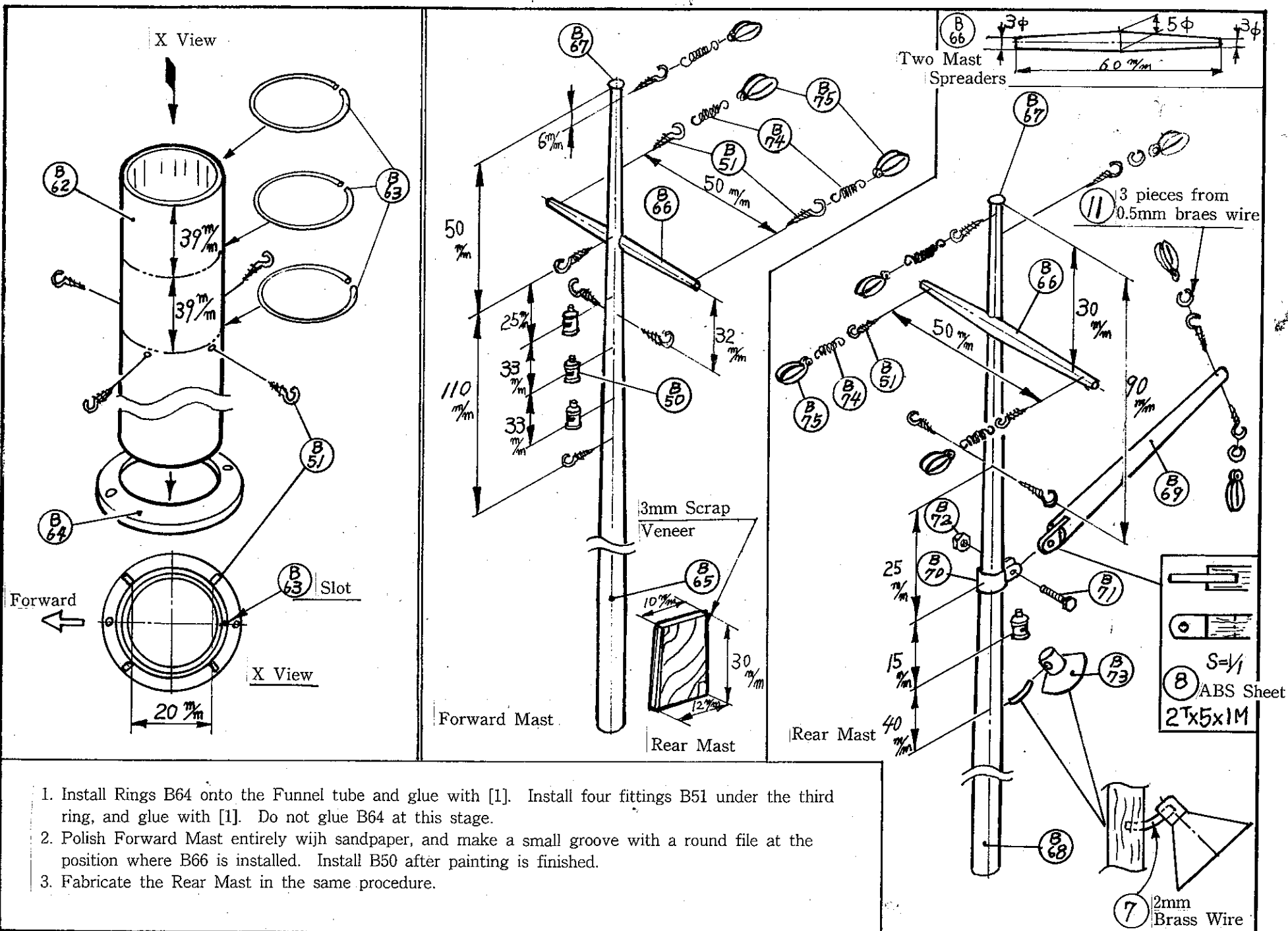
[1] Cyanide Instant Adhesive [2] 5-minute Epoxy Adhesive [3] 30-minute Epoxy Adhesive

NO. 21

[illegible]



1. After Steering House is finish painted, install rigging such as handrails with [1].
2. After Steering House assembly is completed, glue the assembly to the Hull with [2].



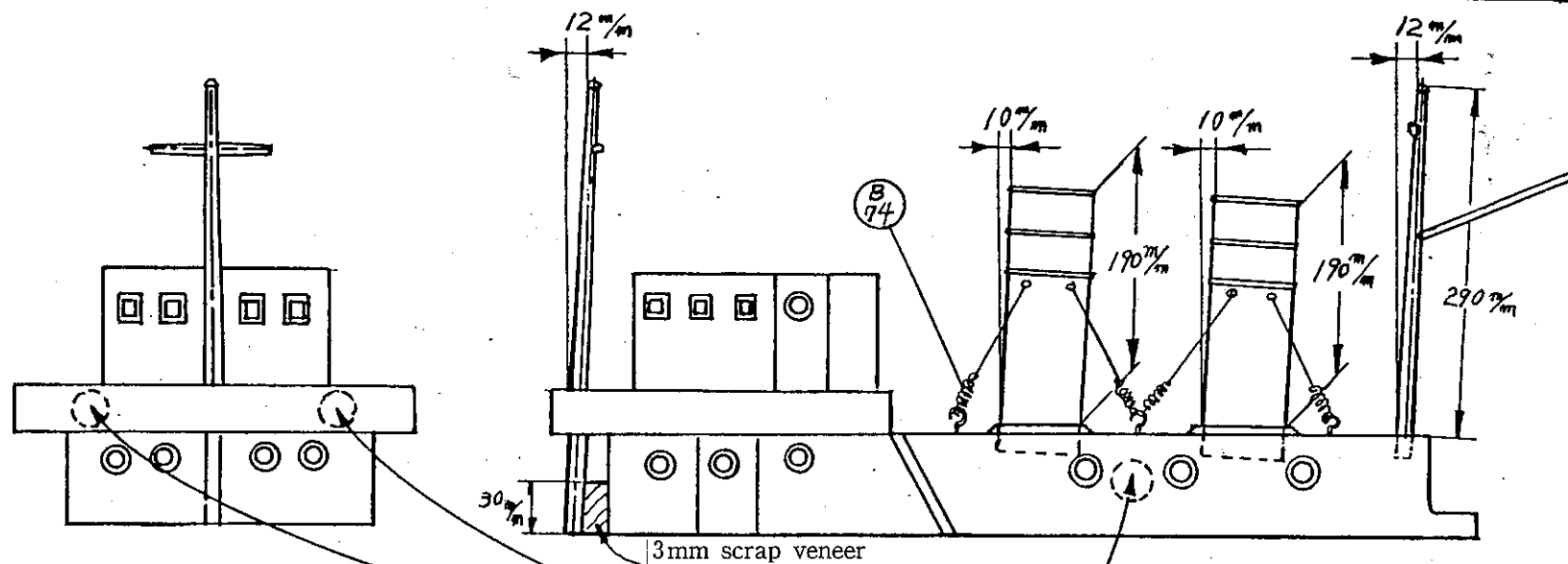
1. Install Rings B64 onto the Funnel tube and glue with [1]. Install four fittings B51 under the third ring, and glue with [1]. Do not glue B64 at this stage.
2. Polish Forward Mast entirely with sandpaper, and make a small groove with a round file at the position where B66 is installed. Install B50 after painting is finished.
3. Fabricate the Rear Mast in the same procedure.

[1] Cyanide Instant Adhesive

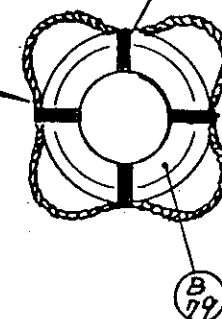
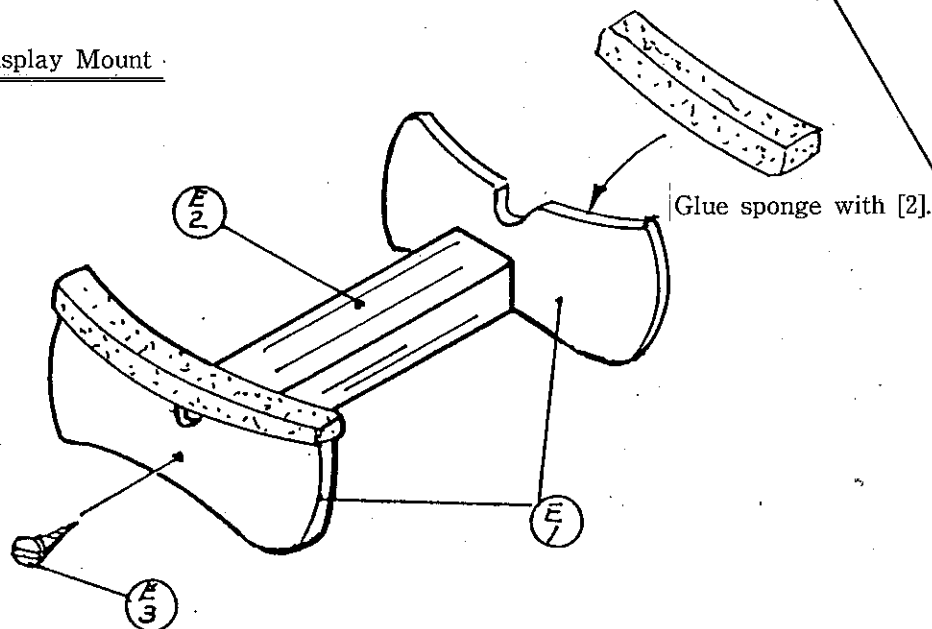
[2] 5-minute Epoxy Adhesive

[3] 30-minute Epoxy Adhesive

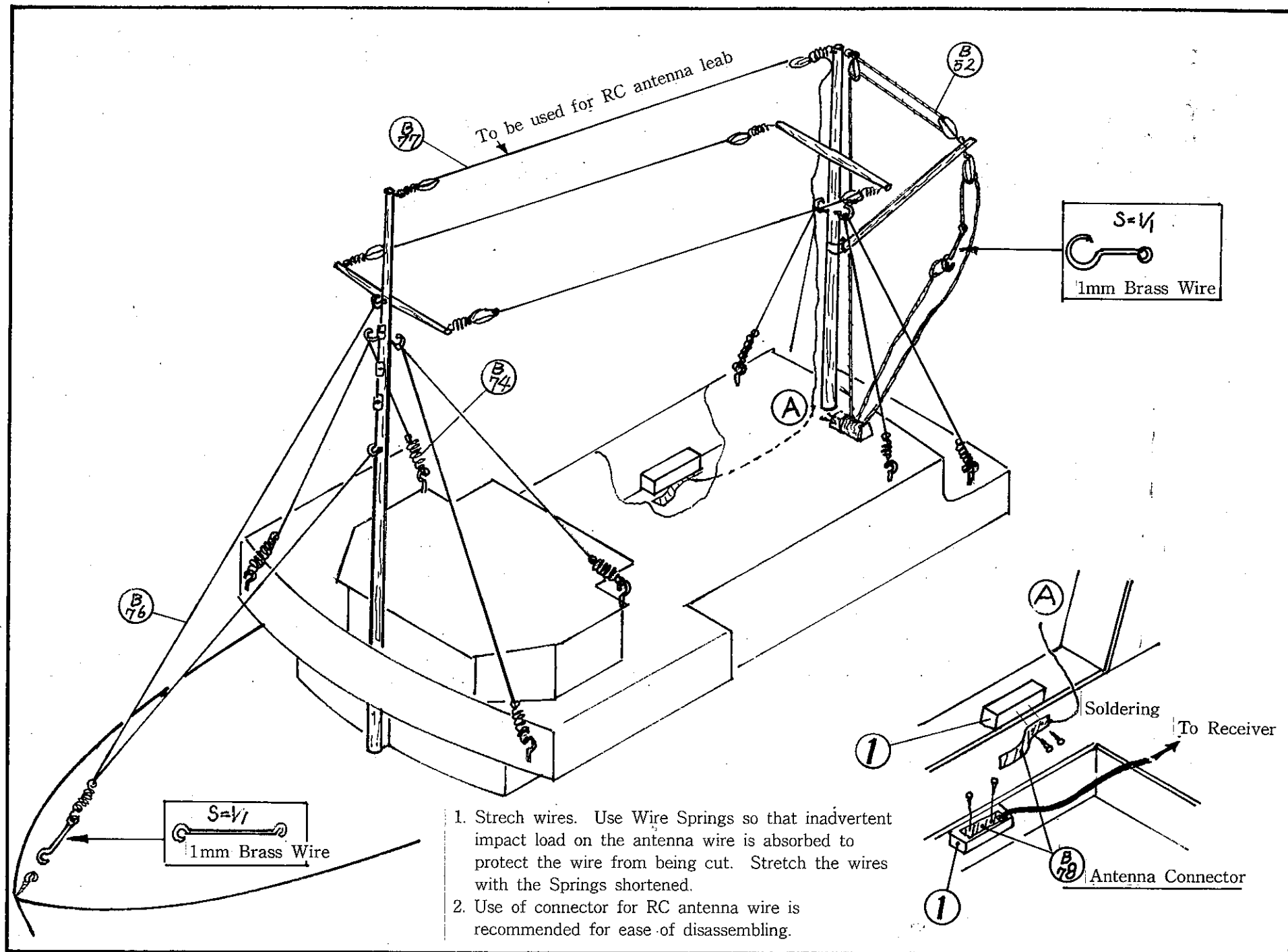
NO. 24



Display Mount



1. Forward and rear masts and two funnels are installed with slight rearward inclination. Check four parts are in parallel when looked from side, and then glue with [2].
2. Glue Life Belts B79 on the sides and the front with [2].

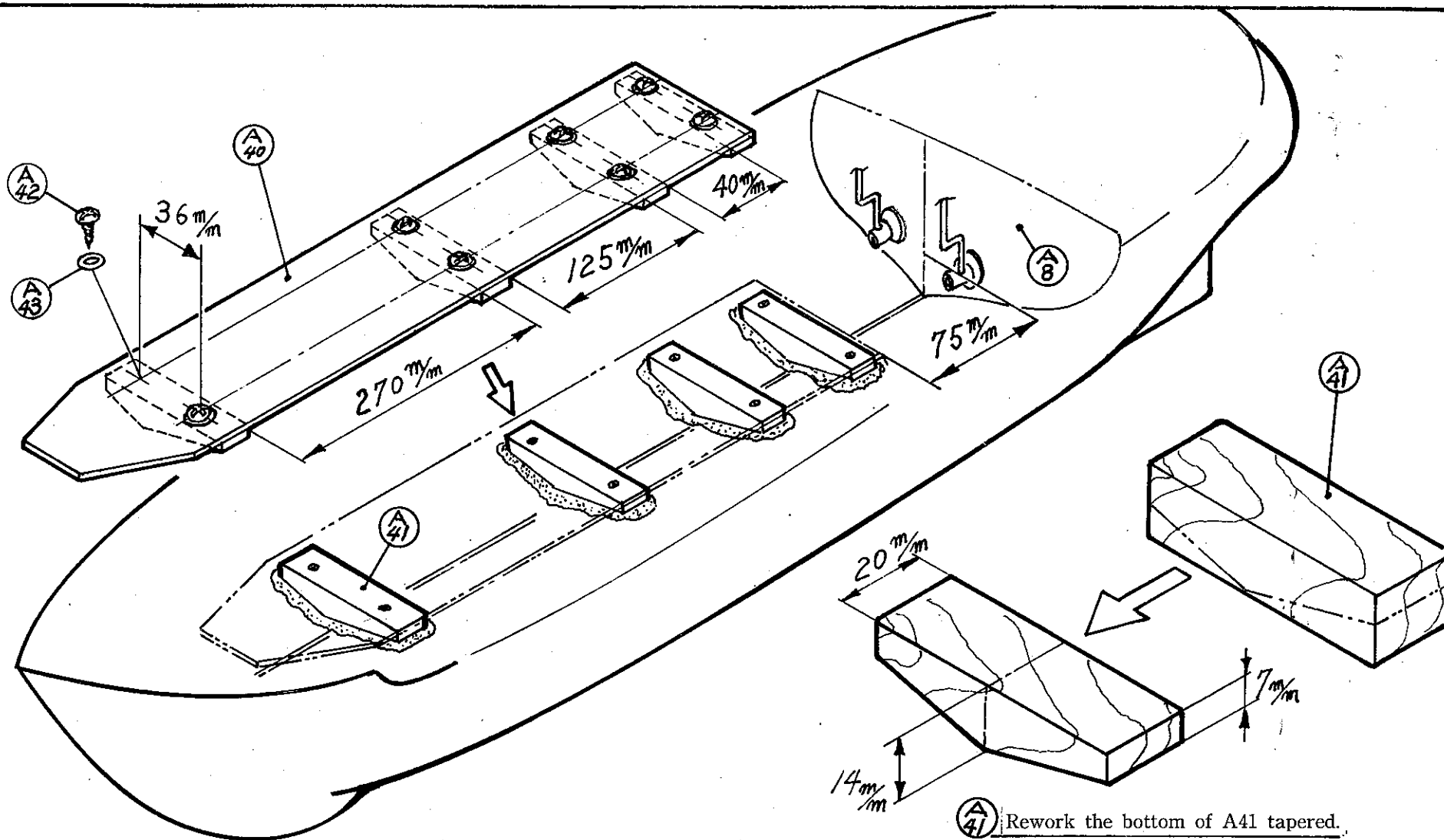


[1] Cyanide Instant Adhesive

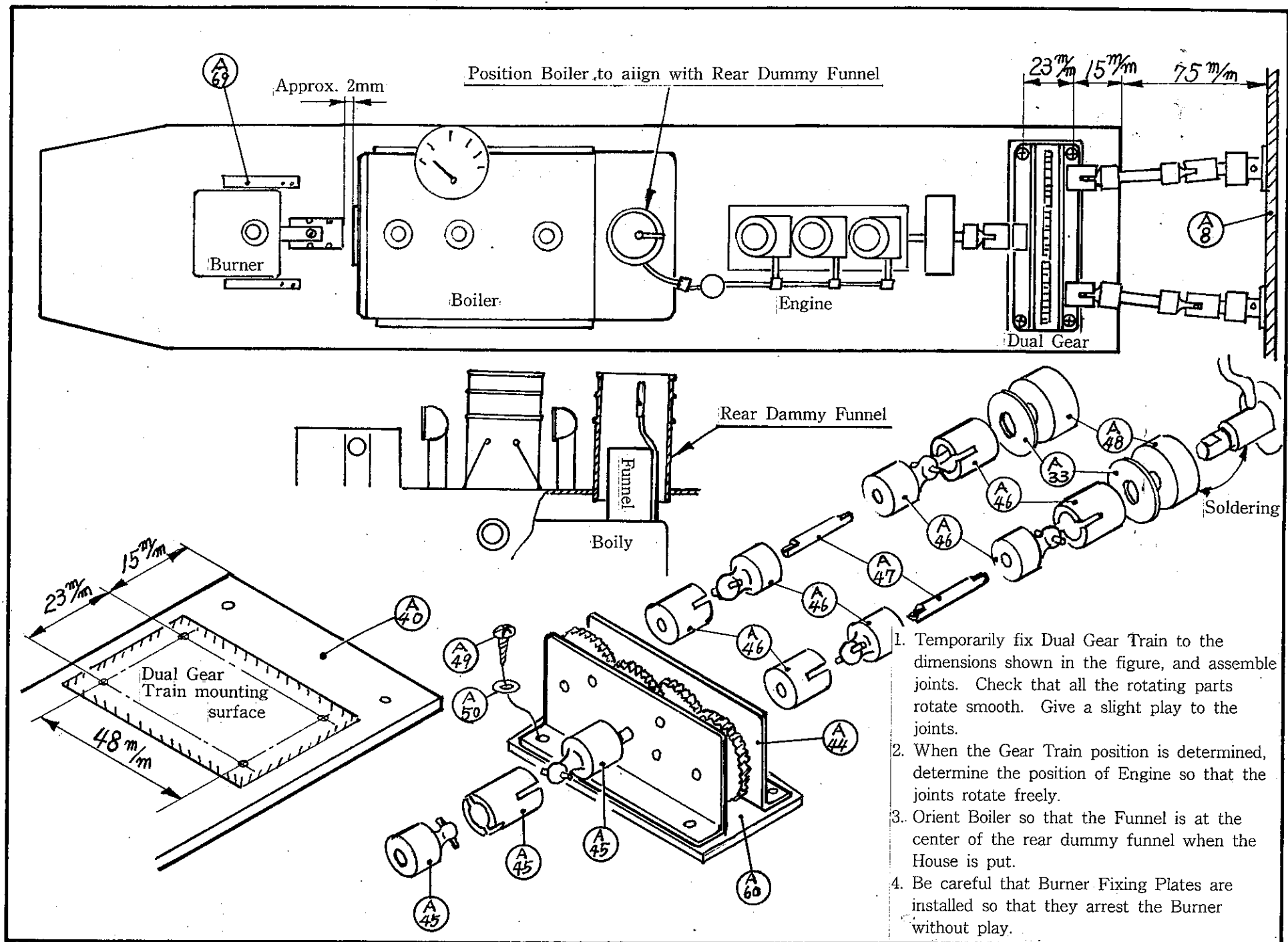
[2] 5-minute Epoxy Adhesive

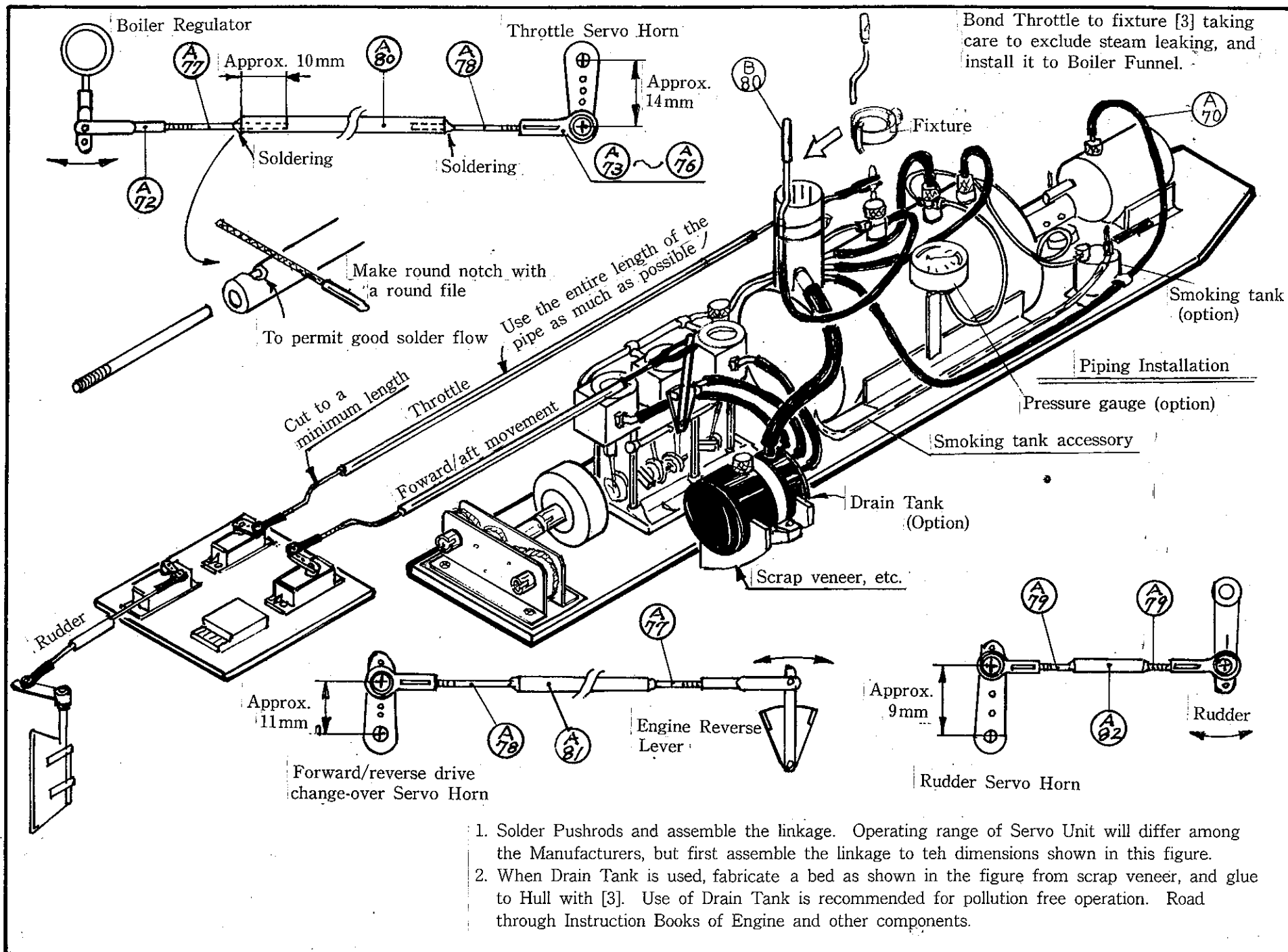
[3] 30-minute Epoxy Adhesive

NO. 26

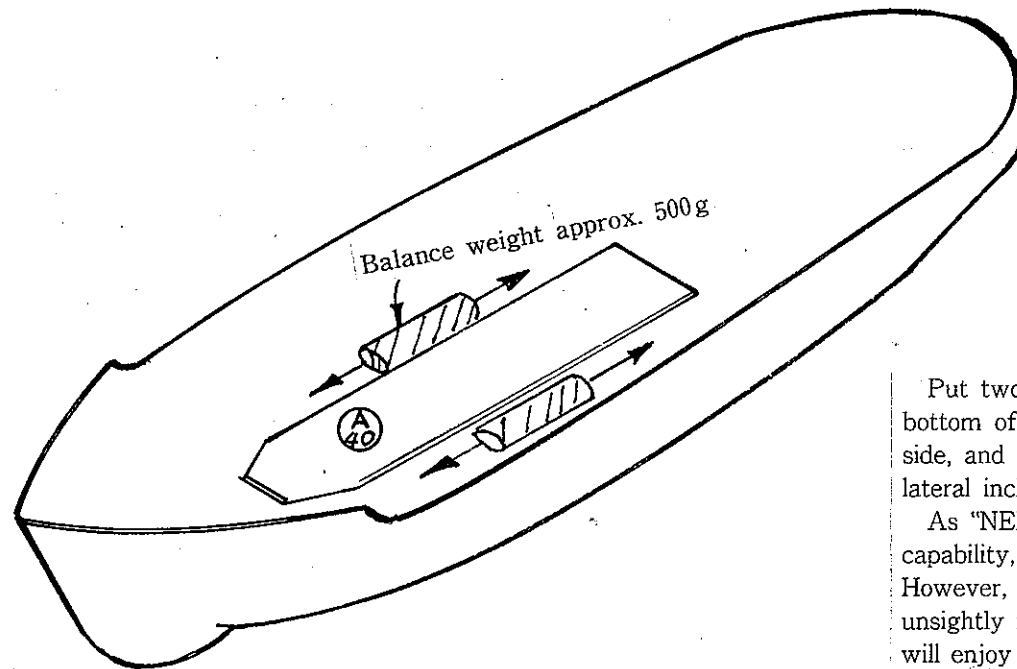
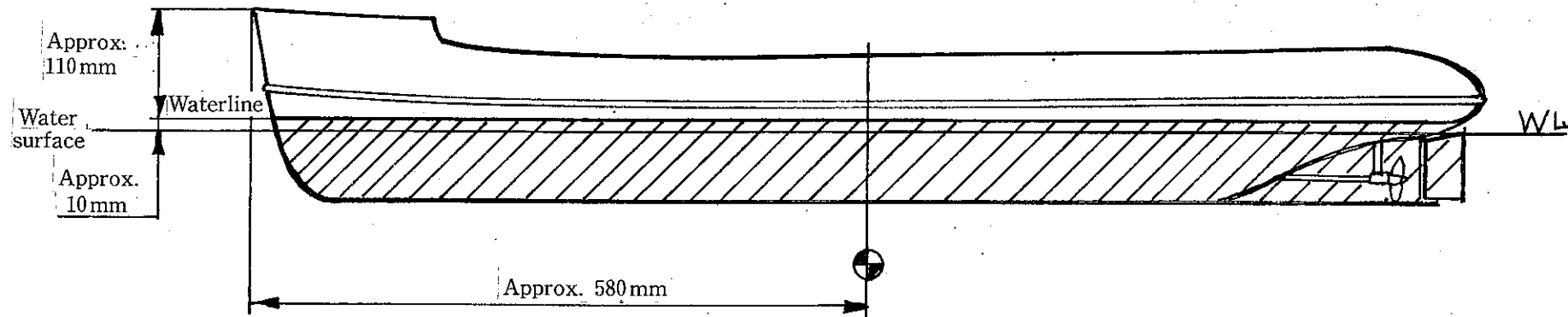


1. Taper the bottom section of Block A41. Install tapered A41 to A40 with screws.
2. Glue A41 at 75mm from A8 with [3].
3. When [3] is hardened, loosen the screw and remove and retain A40.





Balancing before Cruising



Put two 500g (approx.) balance weight on the bottom of the hull, one each on LH and RH side, and adjust center of weight position and lateral inclination.

As "NEPTUNE" has inherent self-stabilization capability, too severe adjustment is not required. However, balancing is required to preclude unsightly inclined masts. We sincerely hope you will enjoy real thing cruising of your NEPTUNE.