

Assembling instruction
for
1/40 Deluxe Tugboat

HERCULES



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Assembly Instructions for "HERCULES", Tug Boat

Let us express our sincere thanks for your favoring Saito Seisakusho, Ltd., particularly for your purchase of the "HERCULES", Tug Boat.

For your convenience, please prepare the following tools and adhesives before assembly.

Tools Fine Saw, Small Plane (Balsa Plane, etc.), Cutting Pliers, Nipper, Hair Dryer, Soldering Iron, Pincette, Small Electric Drill, Files (Flat Type 10 m/m approx., Round Type 3 m/m and 8 m/m approx.), Sandpapers (#240 & 80), Compass, Metal Rod for Fittings (6 m/m x 200m/m, with 5 m/m depth of the top cut by metal saw).

Adhesives

[1] Cyano-Instant Adhesive (About 15 grams)

2 types are available such as thickening and thin type. But, please use thin type only. The delicate point is a small quantity and flat a contact surface as much as possible. If you apply a large quantity, wipe it with a cloth. At this time, an instant cementation is obtained if you use an accelerant. This is good for temporary houses and plywood sections so that assembly time is largely saved.

[2] Epoxy Adhesive (5 minutes type) About 70 grams

Use a hair dryer and induce it with a wire, etc., for a beautiful glueing with a small quantity. Glueing time is faster. Please do not use a hair dryer for pile arrangements.

[3] Epoxy Adhesive (30 minutes type)

Use glueing with the hull and the decks. Please do not use a hair dryer. Surrounding temperature (20°C over) is preferable in winter.

Paint

(Spraying)			(Brushing)	
<u>Lacquers</u>			<u>Plastic Colors</u>	
	White	1/5 litre		Green
	Green	1/5 "		Mahogany
	Black	1/5 "		Grey
	Yellow	Small quantity		Black Iron
	Red	" "	Inside coating -	Cashew Clear
	Blue	" "	Cashew No.51 -	Decks, Doors
				and painting.

Retarder, Lacquer Primer, Lacquer Surfacer (500 grams), Putty (small quantity), Thinner (2 liters), Waterproof Abrasive Papers (#400 3 sheets and #800 1 sheet) and Sandpapers.

3T Linden Veneers and Die Parts are concerned, please do not use the back sides, which are clearly numbered, as the surfaces.

1. Fitting of Deck and Hull

Hull (Glassfiber) should be stripped 1 sheet by a sandpaper, etc., before glueing. Next, process rudder fitting section, stern tube fitting holes and hull side drain mouth, etc. Glue engine bed (4) with (2) completely. Front and back metals of the stern tube pass through shaft. Solder or glue with (1) at the point of easy revolution. After temporary fastening of the engine to engine bed, the stern tube is glued temporarily with (1) allowing easy revolution of joint shaft and glue completely with (2). Clear lacquer should be painted in 3 times on the back side of the deck (5) for waterproof treatment. Clamp 4 m/m material (3) to the hull and meet the lower curve of house (22). This is an important procedure because, at the time of assembly, deck surface should be met with the lower curve of the house. Set a position and glue with (1) temporarily. Glue deck (5) with (3). At this time, hold the deck with a supporter and press down with a gum tape. Then, (68) should be glued with (1). (Attach after glueing of (67)). Front and back curves of the hull (68) should be bent to meet the hull using a gentle heating. First, cut the curves of bow and stern only and glue them with (1). Then, glue the middle. Glue (2) to the hull with (1) and do the same way as (68). Rudder is concerned, (56) and (57) are glued with (2) while (59) is bent as per drawing and glue with (1). Cut setting pins with a nipper and drive them shifting right and left. Glue with (1). Rudder should be painted with clear lacquer in 2 times and also finish it with waterproof abrasive papers #400. Then, paint surfacer in 2 times and finish it with the paper #800. Next, attach the rudder to the hull and lubricate machine oil or sewing machine oil lightly to (55). (58) is glued with (1).

2. Bridge House

Finish every part (Surfaces) with a sandpaper and modify them allowing temporary fastening with (1) for prompt and convenient assembly. After assembly, glue completely every joint section with (2) from the back side.

3. Coating

Finish completely with a waterproof abrasive paper #400 to clear the damages, etc., of the hull outside. A paper tape, etc., is required to mask the deck surface. Paint lacquer primer to the whole outside in 2 times and surfacer in 3 times. After complete dry for each time, use a waterproof abrasive paper and modify the dents with putty. Next, waterline should be masked with a paper tape so as to paint black lacquer in 3 - 4 times based on the drawing. Mask the upper part and paint the lower part of the waterline with ship bottom color (Red and Black 0.5%). (2) is painted from the top and bottom with white color after masking by a paper tape. Use plastic colors to all plastic parts.

The bridge house is originally painted with clear lacquer in 1 time and, at this time, mast (wooden section) should be masked. Next, paint surfacer in 2 times and modify the dents and damages with putty. Paint surfacer in 1 time and finish with a waterproof abrasive paper #800. Paint the upper part of bridge and funnel, etc., with black-color while masking is required at 8 m/m from the bridge edge.

(105) (107) are glued later with [1]. Decorating decks are originally glued from surrounding and are glued at the center. Then, glue with [1] from the center to right and left accordingly. Use cashew #51 for the decks and doors. Accessories: (91) (85) (94) (108) (14) (80) -, (82) (60) (61) (104) , etc., are glued with [1] after painting. Attach (125) to each wire top and tie the knots with cotton threads and glue them with [1]. Insert (124) with plier, etc. (96) is glued with [1]. Paint (105) (104) (107) (91) (102) , etc., with plastic color (Black Iron Color), (80) - (82) with mahogany, compass with black except its surface, the upper part of the back mast with black color. (Please do not use thinner as lacquer brushing but add retarder about 1/5 for better painting because lacquer will not dry quickly. Allow dilution with thickness of lacquer). The hull inside is painted with your favorite color by a brush.

4. Steam Pipe Arrangement

Arrange every section in accordance with the drawing. Whistle will blow as the engine sets in a high position. Regulator handle should be opened at the maximum opening for blow.

5. Radio Control

Refer every section accordingly. Servo motor should be installed in accordance with the size of respective manufacturers. Pull is right revolution in case of reverse attachment. Rudder angle should be wider as much as possible. Servo motor, battery and receiver, etc., should be completely waterproofed. Attach a cushion (—) in the middle of rod for reverse engine controls. Balance the ship for front and back with a ballast and/or lead, etc., to meet waterline.

6. Navigation

Check everything carefully on the ground. For instance, the burner heats itself completely or not. Back fire will be caused, when you open a needle valve widely, so that adjust it with the needle valve for normal condition. The burner should be operated normally after cover the cabin. Also, confirm combustion time. The ship-inside is rather stronger against heat, however, polyvinyl chloride for inside coating is prohibited. Special heat-proof method is not required. Pay your attention to crash to the berth. Bon voyag !

N.B.) Primer ((B) bottle) enclosed is previously used to cement ABS to other materials. This is not a cement. Use a brush and paint it to ABS side for cement within 20 minutes by Epoxy adhesives. Beware of fire, etc., because inflammability and evaporation are strong. Primer is not required when you glue with [1].

Tug Boat " HERCULES "

Specification:

Reduced Scale : 1/40
 Length Overall : 900 m/m
 Breadth Extreme : 210 m/m
 Height : 510 m/m
 Steam Engine : V4PR or T2DR
 Boiler : B2E or B2F
 Radio Control : 2 - 3 Channels

Part List

<u>Part No.</u>	<u>Description</u>	<u>Quantity</u>	<u>Remarks</u>
1	Hull	1	FRP
2	Fender Beam	2	ABS
3	Deck Fixing Materials	2	Hinoki Pole, 4 m/m
4	Engine Bed	1	7 m/m Board
5	Deck	1	3 m/m Veneer
6	Aft Deck A	1	" "
7	" " B	1	" "
8	" " Spacer	3	10 m/m Balsa
9	Bulkhead Board	1	3 m/m Veneer
10	Steering Room (Outboard)	1	" "
11	" " "	1	" "
12	" " "	2	" "
13	" " "	2	" "
14	" " "	4	1.5 m/m Balsa (Cut)
15	////////////////////		Missing No.
16	////////////////////		" "
17	Steering Room (Outboard)	1	3 m/m Veneer
18	Bridge	1	2 " "
19	////////////////////		Missing No.
20	Accommodation (Outboard)	1	2 m/m Veneer
21	" "	1	" "
22	" "	2	3 " "
23	" "	1	" "
24	" "	1	" "
25	Name Plate	2	Brass
26	Engine Room	1	3 m/m Veneer
27	" "	1	" "
28	" "	2	" "
29	" "	4	" "
30	" "	2	" "
31	" "	1	" "
32	Hatch Frame	1	2 m/m "
33	" "	2	3 " "
34	Reinforcement	2	" "
35	Hatch Frame	2	" "
36	" "	1	" "
37	Reinforcement A	1	" "
38	Decal	4	

39	////////////////////		
40	Fore Hatch	1	Missing No.
41	" "	2	3 m/m Veneer
42	" "	2	" Hinoki Pole
43	" "	2	
44	" "	2	
45	Aft "	1	3 m/m Veneer
46	" "	2	4 " Hinoki Pole
47	" "	2	" " "
48	" "	2	3 m/m Veneer
49	" "	2	" "
50	Stern Tube	1	Brass Pipe
51	Shaft Receiver	1	" "
52	Propeller Shaft	1	Stainless Steel
53	" "	1	Brass
54	Rudder Arm	1	"
55	" Shaft Receiver	1	"
56	" " "	1	"
57	Rudder	1	3 m/m Veneer
58	" Bracket	1	ABS
59	" Reinforce Band	2	Brass Plate
60	Whistle	1	"
61	////////////////////		
62	Dressing Funnel	1	Missing No.
63	Funnel Flange	1	Aluminum Pipe
64	////////////////////		
65	////////////////////		
66	Aft Mast Bracket	1	Missing No.
67	Deck Plank	27	" "
68	Bulwark Top	4	3 m/m Veneer
69	" Stay	20	1.5t x 8
70	Mast Top	2	ABS
71	" Sideway Materials	1	From Deck Materials
72	Light	3	Aluminum
73	Fore Mast	1	5 m/m Round Pole
74	Mast Bracket	1	Brass
75	Mast Sideway Materials	1	10 m/m Round Pole
76	Pulley	6	3 m/m Veneer
77	Boom	1	5 " Round Pole
78	Searchlight	1	Plastic
79	Aft Mast	1	5 m/m Round Pole
80	Compass	1	Aluminum
81	" Stand	1	10 m/m Round Pole
82	Steering Wheel	1	Aluminum
83	Square Window	13	"
84	Round " (Medium)	4	w/Spacer & Screws
85	" " (Large)	20	Brass
86	Ventilator A	2	"
87A	" B	2	Antimony Cast
88	Boat Davit	4	Aluminum Pipe
89	" Flange	4	"
90	Lifeboat	2	"
91	Towing Hook	1	Plastic
92	Side Light	2	w/Fitting Metals
93	Door Hinge	8	Brass
94	Life Buoy	4	Brass
95	Handrail Bracket	22 30	Plastic
			Brass

96	Metal Net	1	
97	Towing Beam	1	Aluminum
98	" " Stay	2	"
99	" " A	1	3 m/m Veneer
100	" " B	2	1.5 m/m Veneer
101	" " Reinforce	2	3 m/m "
102	Anchor Davit	1	Aluminum
103	" Chain	1	"
104	"	1	Antimony Cast
105	Bollard W	1	Aluminum
106	" S	1	"
107	Capstan	1	
108	Stairway	4	Right & Left (2 each)
109	" Footstep		1.5t x 5 Deck Materials
110	////////////////////////////////		Missing No.
111	////////////////////////////////		" "
112	////////////////////////////////		" "
113	////////////////////////////////		" "
114	////////////////////////////////		" "
115	2 m/m Brass Wire		
116	////////////////////////////////		
117	1 m/m Brass Wire		
118	Guardrail Supporter	29	Brass
119	Exhaust Pipe	1	"
120	Joint	1 set	
121	Reinforcement Veneer	2	3 m/m Veneer
122	Teflon Washer	2	
123	Control Rod Set	1 set	
124	" U " Nail	20	Brass
4A	Engine Bed Fitting Board	3	7 m/m Wood
4B	Wood Screw	6	3 x 15
9B	Propeller Shaft Holder	1	3 m/m Veneer
9A	Servo Motor Fitting Board	1	" "
18A	Bridge Reinforce	1	" ABS
50A	Oil Pipe	1	Brass Aluminum
51A	Shaft Receiver	1	"
68A	Bulwark Dressing Board	2	1 m/m ABS
81B	Compass (Soft Iron Ball)	2	Aluminum
113A	////////////////////////////////		Missing No.
125	Tension Wire Spring	6	
126	" "	2.5 meter	Wire
127	Rubber Tube	1	3.4 % (Inside dia.)
128	" "	1	2.3 % (")
81A	Compass Stand	1	Aluminum
90A	Boat "	4	3 m/m Veneer
24A	Cabin (Outside Board)	2	" "
87B	Ventilator Stand	2	Aluminum
59A	Setting Pin	8	
92A	Side Light Box	2	From ABS 1x25x80
129	Ring	3	Brass

Tug Boat " Hercules "

Reduced Scale : 1/40

[2] Glue

21, 22 & 37 Reinforcement Fitting Plan

96 Wire net should be glued to the back with [2] before assemble of Steering room.

115 Brass wire, 2 m/m

115 " " 2 m/m, use the head of marking pin for bulb.

117 " " 1 m/m

117 Bend brass wire (1 m/m) and glue it to outside.

126 Wind a thread and glue it with [1] .

A' Glue a thread, cloth, Boat.

(B) Use a cloth as canvas.

(C) Hull sectional drawing.

(D) Height of engine bed (4), which is positioned on the reinforcement, should be placed at 105 m/m from the upper part of the broadside and plane the lower part of engine bed fitting board (4A) to suit ship's bottom.

(E) Paint black for all round under the lower side of cabin with 7 m/m width.

(F) Paint black for all round under the lower side of engine room with 7 m/m width.

(G) Fender is made from cloth etc.

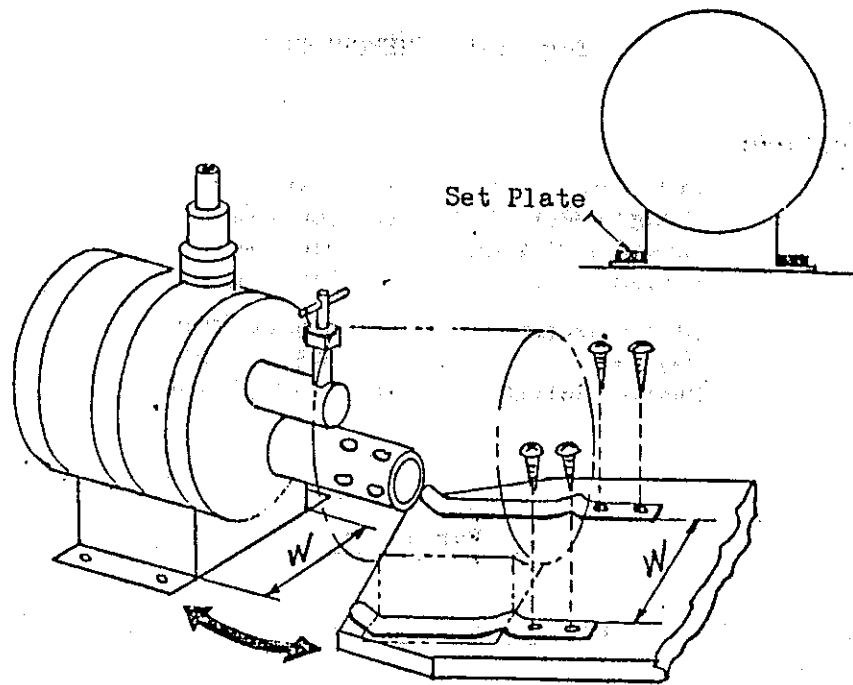
(H) After setting (4) and (9) to the hull, decide the center correctly with temporary fitting of engine and propeller shaft. Then, (9B) should be glued with [2] while temporary screw threads are plugged with [1] for hardening.

(I) Fenders are made with cloths or ropes etc., and hang them on 3 - 4 places at the half gunwale.

(J) Round off the corners.

Sectional drawing.

(K) Fender is made from cloth etc.

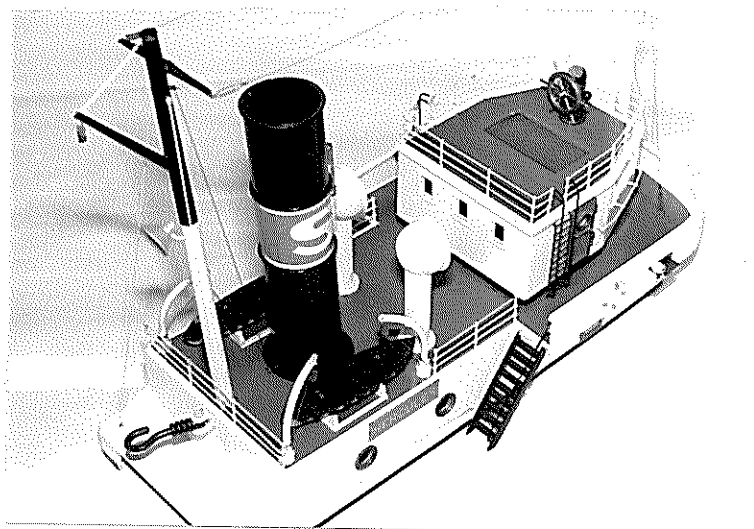
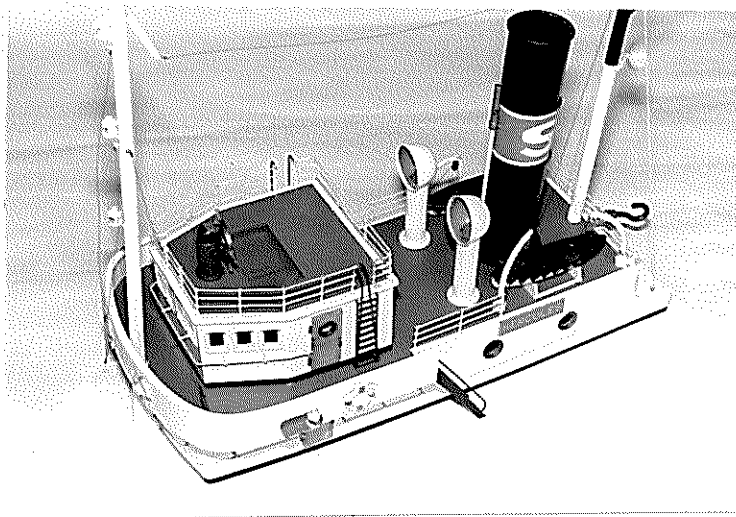
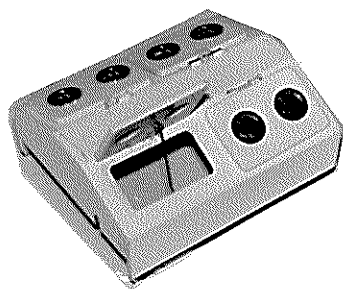


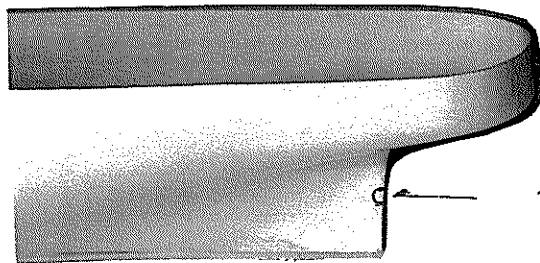
Set Plates should be fixed tightly so as to insert the burner with their sides preventing looseness of transverse direction. (See drawing)

Attention !

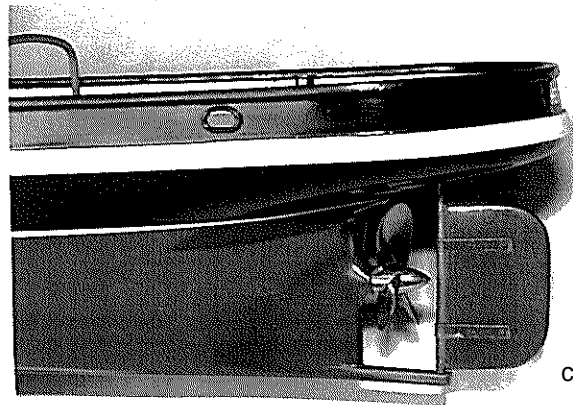
If you do not fit properly, the burner will be slipped due to shocks, etc., of running and will unexpectedly cause a fire on your ship.

各キャビンの完成。
Cabins assemblies





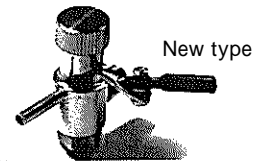
12 hole



The Link for the regulator is changed to the ball link as follows.

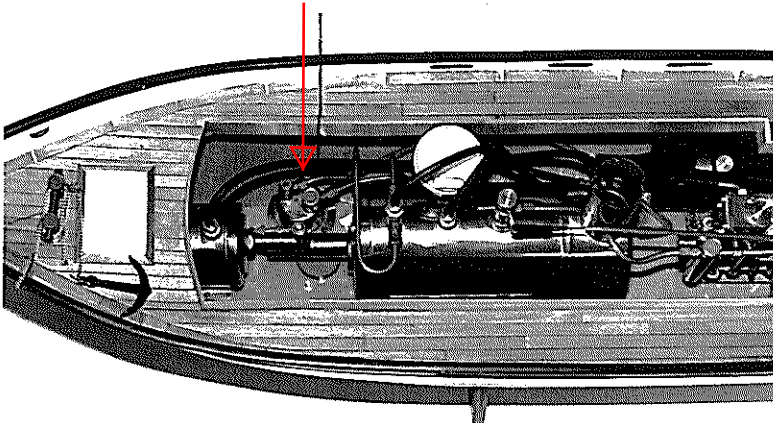


old type



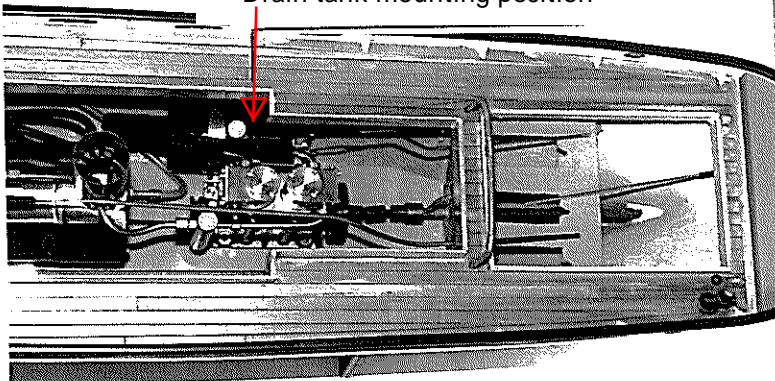
New type

Smoking tank mounting position



Smoking tank should be fixed by screws to the position as the picture shows.

Drain tank mounting position



Drain tank should be fixed by screws to the position as the picture shows.

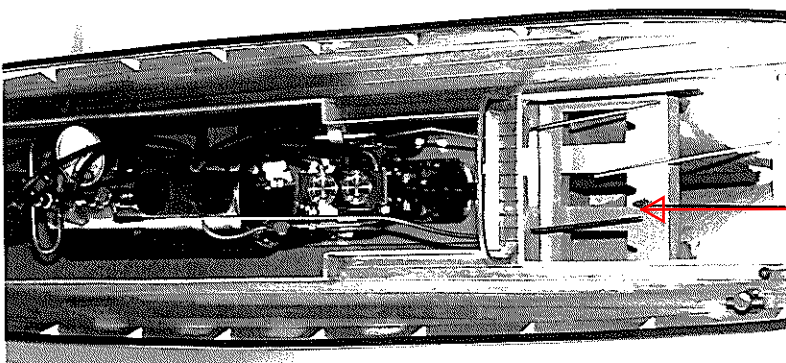
The Link for the reverse lever is changed to the ball link as follows.



Old type



New type



Make holes to fix servos.

スチームエンジン付ヘラクレスの取扱には

下記事項を充分守って下さい。

- ☆ アルコール入りの容器はバーナーにアルコールを注入後は必ず蓋をしてバーナーの近くに置かないで、離れた場所に置いて下さい。
- ☆ 運転中は、エンジン、ボイラー、バーナー、煙突を上から見ないで下さい。ボイラーの安全弁と、エンジンの排気関係からスチームが、又煙突からは熱気が出ますので注意して下さい。
- ☆ 運転終了後でもボイラー、バーナー、エンジンは熱いので、さめる迄触れないで下さい。
- ☆ スクリューが回転している時には絶対に手を触れないで下さい。
- ☆ エンジンが始動しないときに、スクリューを手で回して始動することは大変危険ですからやめて下さい。
- ☆ ボイラー及びバーナーを他の目的の為に使用した時、または変則的に取り付けて発生した事故は責任を負いません。
- ☆ 走航中に衝突等もありますから充分に気を付けて下さい。

RC DELUXE TUGBOAT
HERCULES

SAITO



MADE IN JAPAN



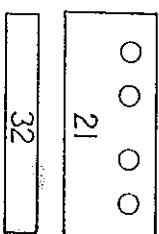
日本エンジン模型工業会

NO. 2

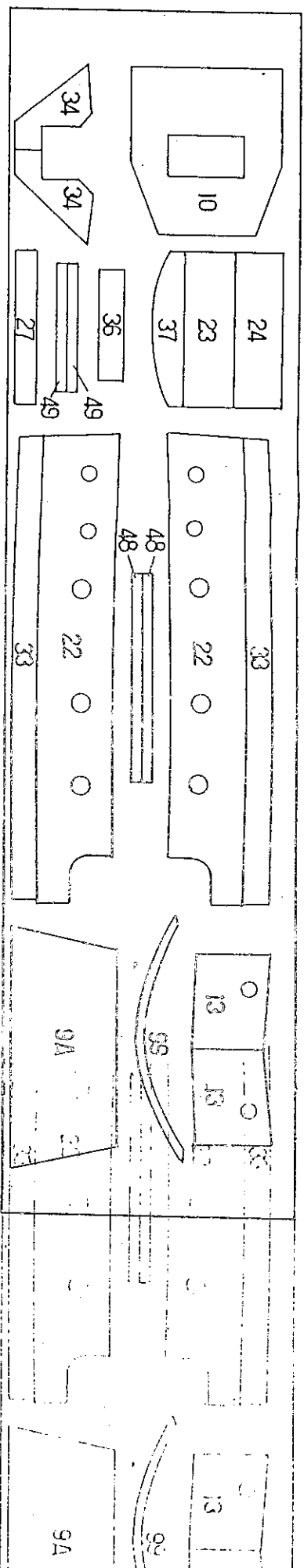
Die-cut plywood parts number list Wishing : Please number each part by this list prior to detaching it from the plywood. When assembling, use the back where it is unnumbered.

部品を打ち抜く前に、この部品番号表により、各部品に番号を記入して下さい。組立の時は、部品番号を記入した面をうら側にして下さい。

No. 1



NO. 3



NO. 4

