

SEGA®

SPACE HARRIER

ROLLING TYPE

OWNER'S MANUAL



SEGA ENTERPRISES, LTD.

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SPECIFICATIONS

INSTALLATION SPACE	: 1050 mm (41.3 in.) (W) × 1770 mm (69.7 in.) (D)
HEIGHT	: 1760 mm (69.3 in.)
POWER	: AC 120~240V 800W
C. R. T.	: 21"
WEIGHT	: 617.3 lbs. 280 kg.

NOTE

- o Descriptions herein contained may be subject to improvement changes without notice.

INTRODUCTION OF THE OWNER'S MANUAL

SEGA ENTERPRISES, LTD., supported by its high electronic technology of LSIs, microprocessors, etc. and a wealth of experience, has for more than 30 years been supplying various innovative and popular game machines to the world market. This OWNER'S manual is intended to provide detailed comments together with all the necessary information covering the operation in general of electronic assemblies, electromechanicals, servicing control, spare parts, etc. as regards the SPACE HARRIER, a new SEGA product. The manual is intended for those who have knowledge of electricity and technical expertise especially in ICs, CRTs, microprocessors, etc. Carefully read so as to acquire sufficient knowledge before working on the machine. Should there be a malfunction, non-technical personnel should under no circumstance touch the interior system.

1. HANDLING PRECAUTIONS

When installing or inspecting, be very careful of the following points and pay attention to ensure that the player can enjoy the game safely.

- o Be sure to turn the power off before working on the machine.
- o To insert or pull out the plug quickly is dangerous.
- o It is necessary to make sure that the power cord or the grounding wire is not exposed on the road, etc. in a manner so as to be dangerous. Make sure that grounding connections are made safely at the position where so specified.
- o Do not use any fuse that does not meet the specified rating.
- o Make complete connections for the IC board and other connectors. Insufficient insertion is very dangerous.

Also, for the IC board circuit inspections, only the logic tone is allowed. The use of a tester is not permitted so be careful in this regard. After confirming that there are no irregularities, turn the power ON.

2. PREVENTION OF COUNTERFEITING AND CONVERSION

LABELLING

To prevent counterfeits and conversions, the following labels are put on all the SEGA products. When handling such goods, be sure to confirm the labels. They are used to prevent illegal acts such as the unauthorized copying of the products and the printed circuit boards thereof or carrying on business by manufacturing similar merchandise or by converting, selling or using such products or printed circuit boards.

ORIGINAL SEAL

The following seal is put on the machines manufactured by SEGA.



LICENCE SEAL

The following seal is put on the kits, such as the printed circuit boards, of SEGA products.



COPYRIGHT NOTICE

This SEGA product has the copyright notice as follows:

© SEGA 1986

This signifies that this work was disclosed in 1986 and is the property of SEGA ENTERPRISES, LTD.

3. PRECAUTIONS CONCERNING THE PLACE OF INSTALLATION

The SPACE HARRIER is an indoor game machine. Absolutely do not install it outside. Even indoors, avoid installing in places mentioned below so as to ensure proper usage:

- o Places subject to rain or water leakage, or condensation due to humidity.
- o In the proximity of an indoor swimming pool and/or shower.
- o Places subject to direct sunlight.
- o Places subject to heat sources from heating units, etc., or hot air.
- o Vicinity of highly inflammable/volatile chemicals or hazardous matter.
- o Sloped surfaces.
- o Vicinity of anti-disaster facilities such as fire exits and fire extinguishers.
- o Places subject to any type of violent impact.
- o Dusty places.

INSTALLATION OF THE "SPACE HARRIER"

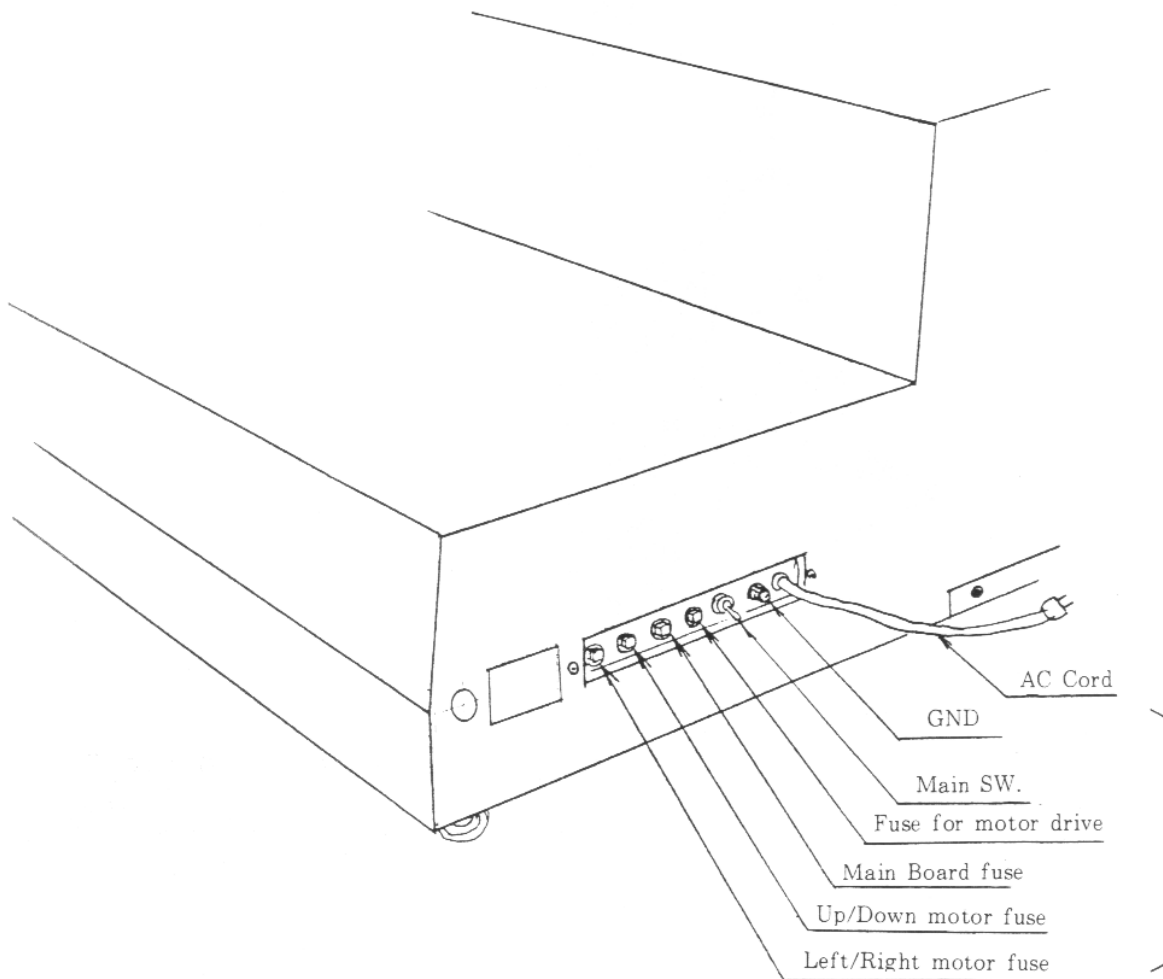
- © Use an independent outlet for the power supply.
(The breaker may break when the maximum current is consumed if the outlet is simultaneously used for the power source of other machines.)
- © When using an extension cord, use one with a specified rating or higher.

	AC 120V	AC 220V	AC 240V
RATED CURRENT	2.6 A	1.5 A	1.4 A
MAXIMUM	14 A	8 A	7 A
DURING GAME	5-12 A	3-7 A	3-6 A

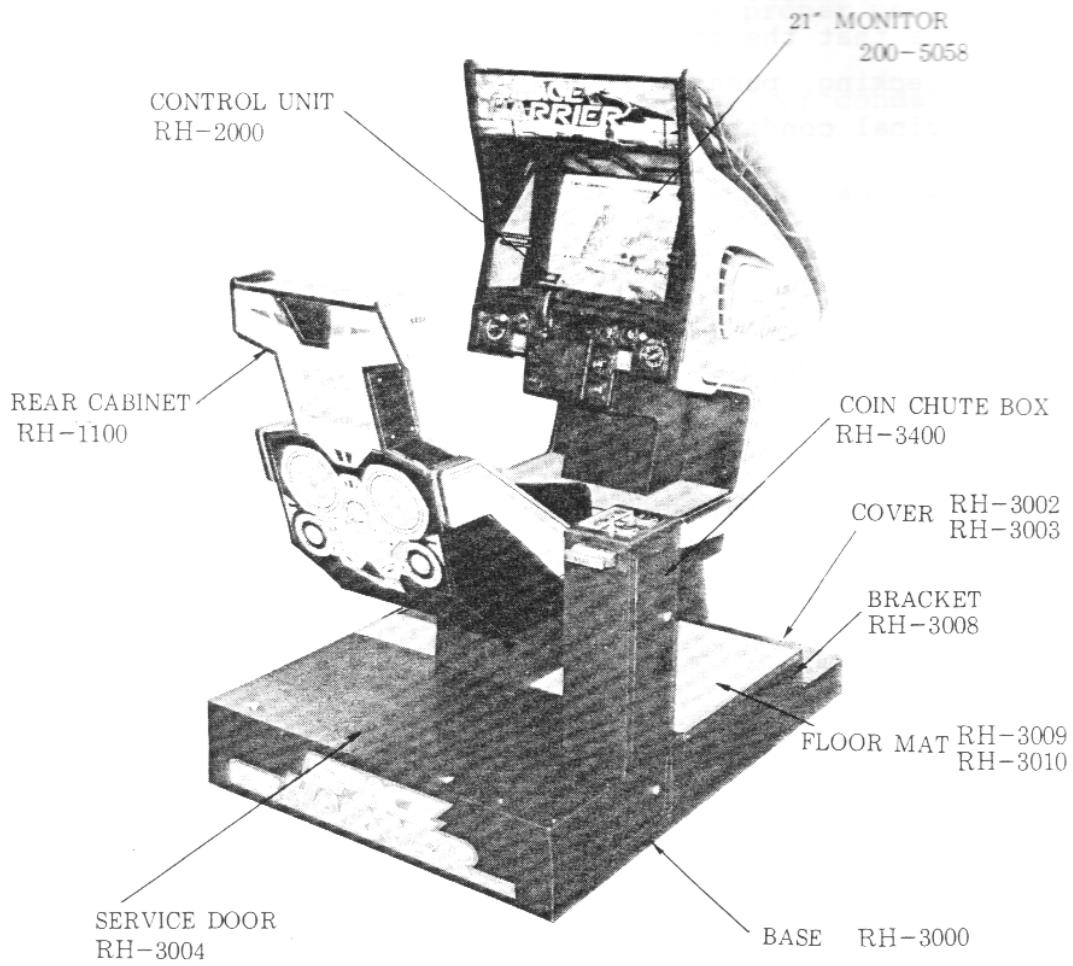
For installation, make doubly sure that attention be paid to the above points.

4. BREAKER

When the machine is overloaded, the breaker functions and the movement of the machine will stop. In such a case, check the breakers to see if it is protruding, which signifies that the breaker has performed its function. After checking, push it forward to restore the breaker to its original condition.

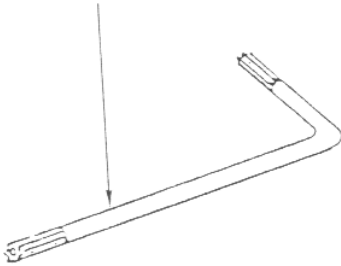


5. NAME OF PARTS

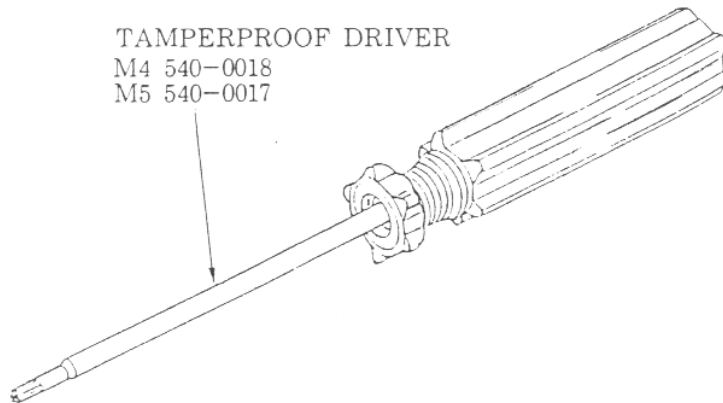


TOOLS

TAMPERPROOF WRENCH
M4 540-0006
M5 540-0007
M8 540-0009



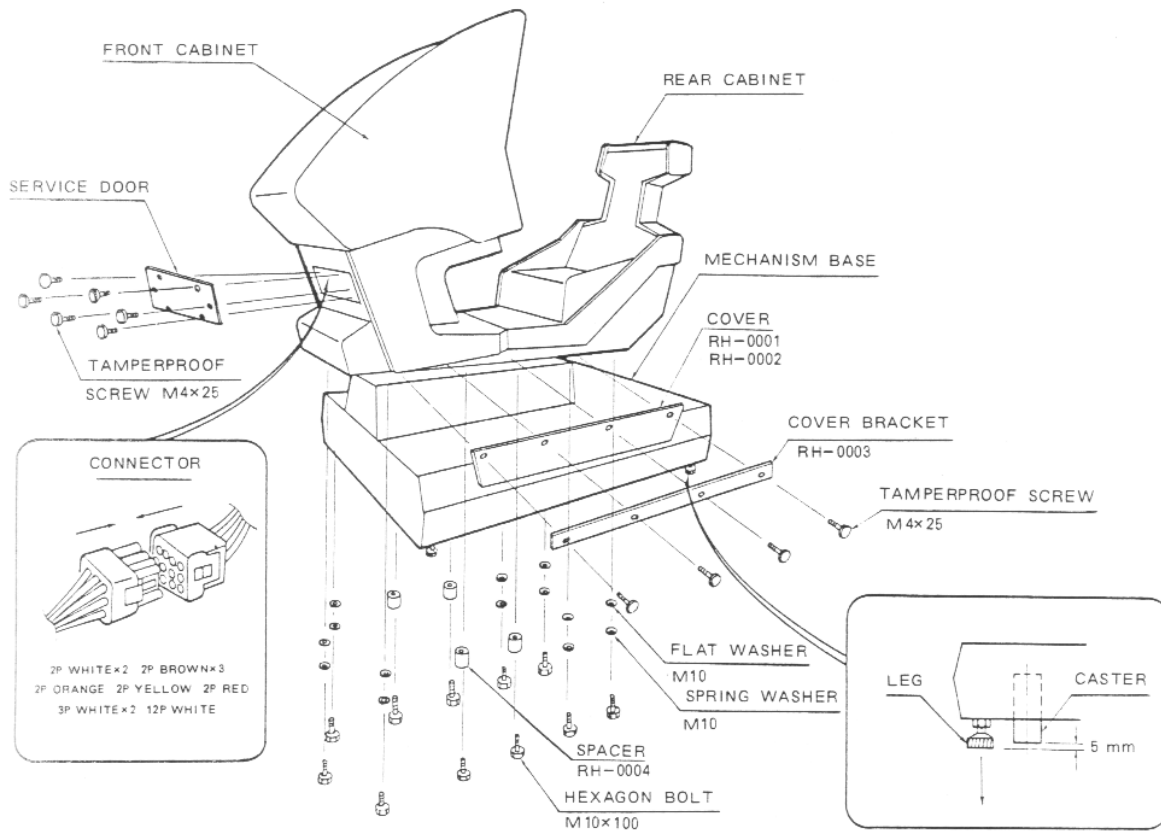
TAMPERPROOF DRIVER
M4 540-0018
M5 540-0017



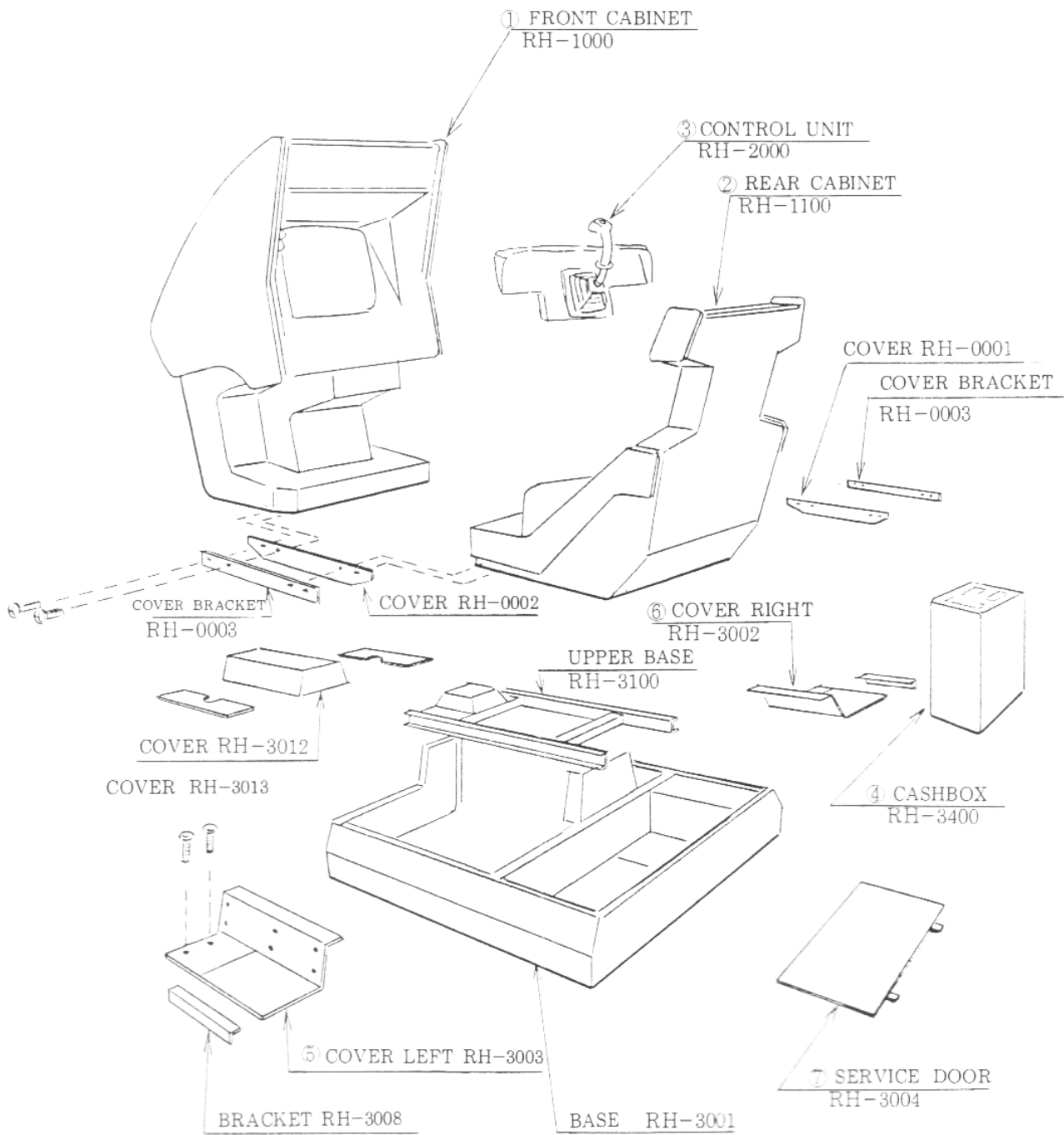
6. ASSEMBLING THE CABINET

When installing the sectioned CABINET, follow the procedure below:

- ① Install the front cabinet and the rear cabinet on the mechanism's base.
- ② Install a cover for the 2 lower sides of the cabinet.
- ③ Open the service door and insert a connector.
(Pay special attention to the specified cable colors.)
- ④ Lower the legs in a manner so as to cause the casters to be lifted up off the ground.



7. DISASSEMBLING AND ASSEMBLING OF PARTS



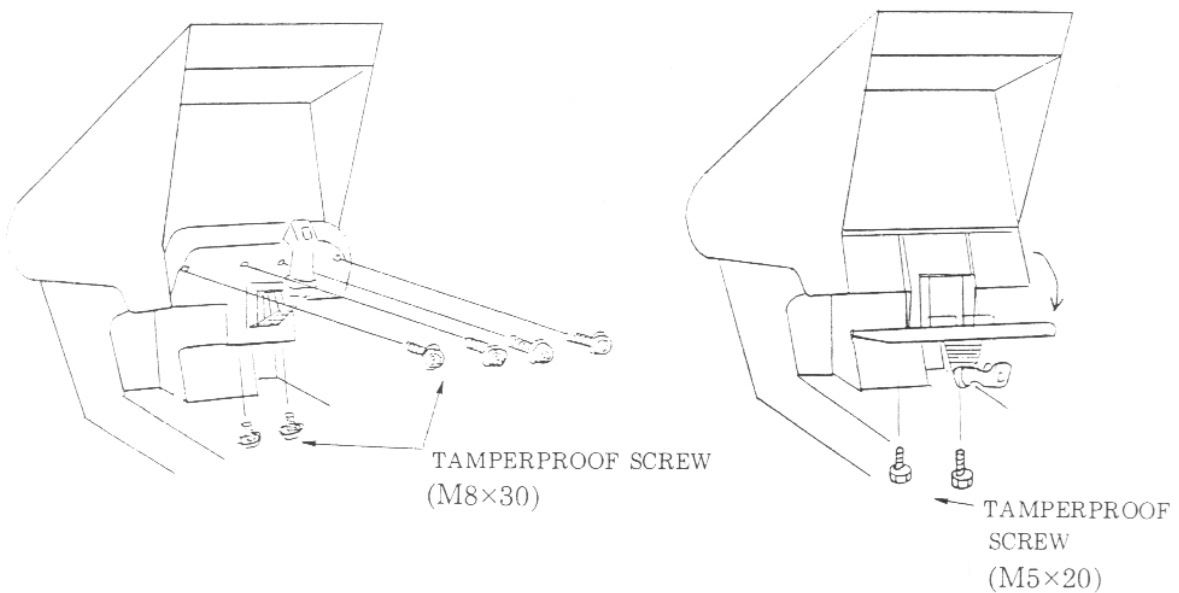
① FRONT CABINET

② REAR CABINET

- Take off the M10 x 100 bolts from the underside of the upper base (RH-3100) by using a regular wrench or a box wrench, etc.
- Remove covers (RH-0001, RH-0002) and bracket (RH-0003) from the two sides of the cabinet by using a tamperproof driver.
- Be sure to take off the connector set from the front and rear cabinet units.

③ CONTROL UNIT

- This unit can be opened towards you by removing 6 tamperproof screws M8 x 30.
- In addition, take off 3 tamperproof screws M5 x 20 to remove the unit from the cabinet.
- Next make whatever VR and lamp replacements that are necessary.
- When closing the control unit again, be careful not to catch the cables, etc..



④ CASHBOX

- o Take off the 4 tamperproof screws (M6 x 18) to remove the CASHBOX from the cabinet base. Be sure to separate the connector and cord clamp linkage.

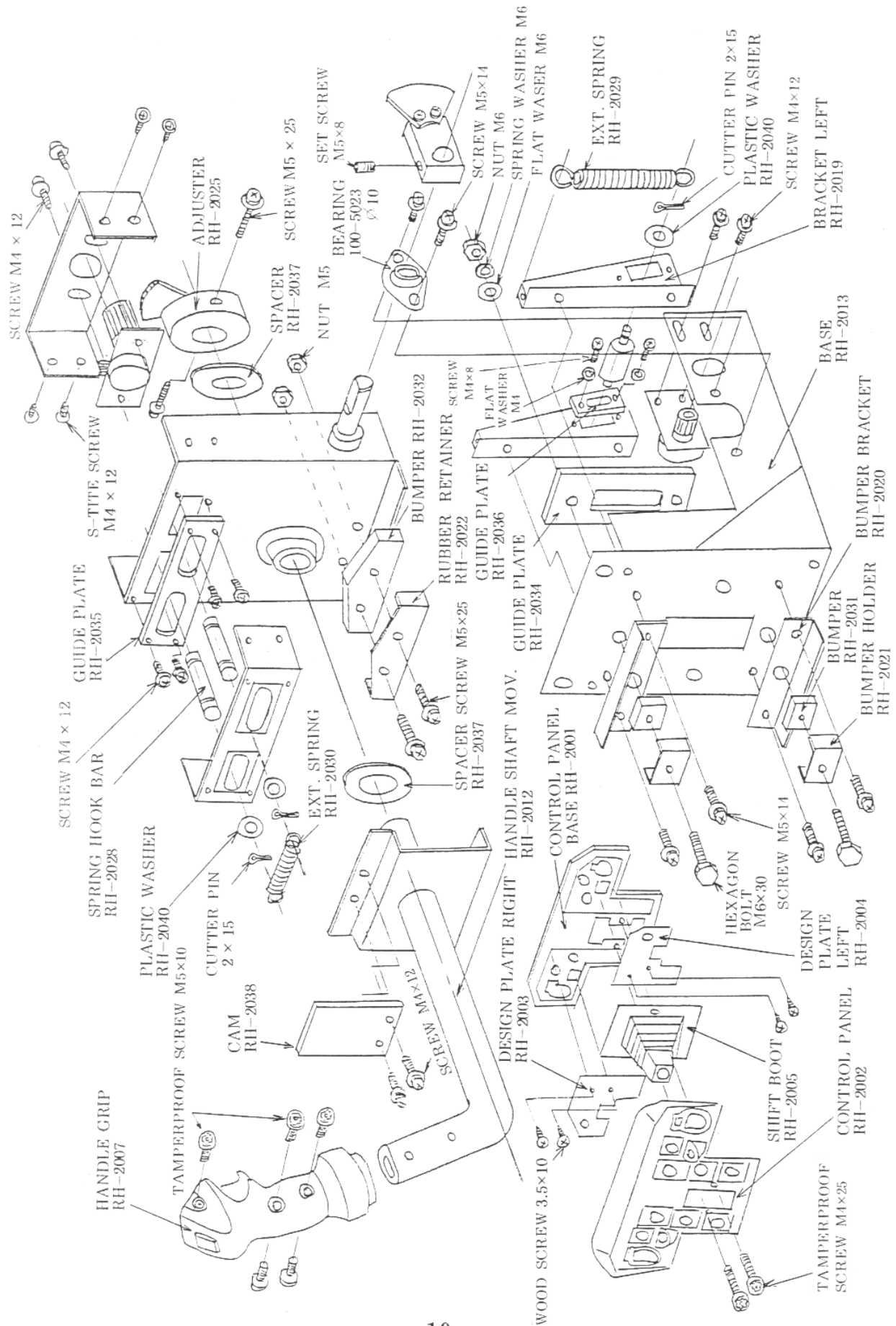
⑤⑥ COVER, left and right

- o Take off the left and right COVERS when servicing the power source or the motor.

⑦ SERVICE DOOR

- o When servicing the main board, the SERVICE DOOR can be removed from the cabinet by opening the 2 service door locks.

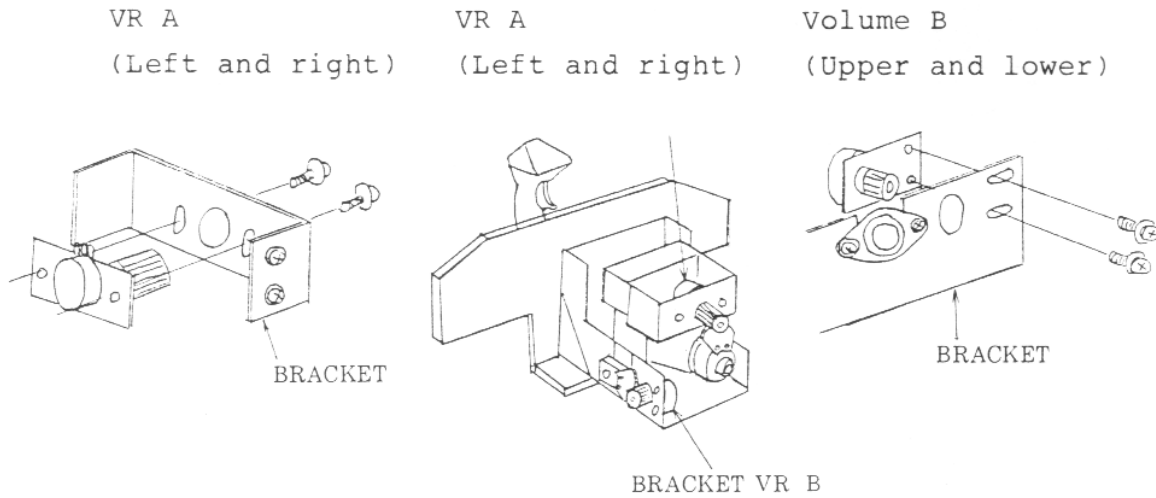
8. ASSEMBLING THE HANDLE UNIT



9. REPLACEMENT AND ADJUSTMENT OF THE CONTROL UNIT'S VR (VARIABLE RESISTOR)

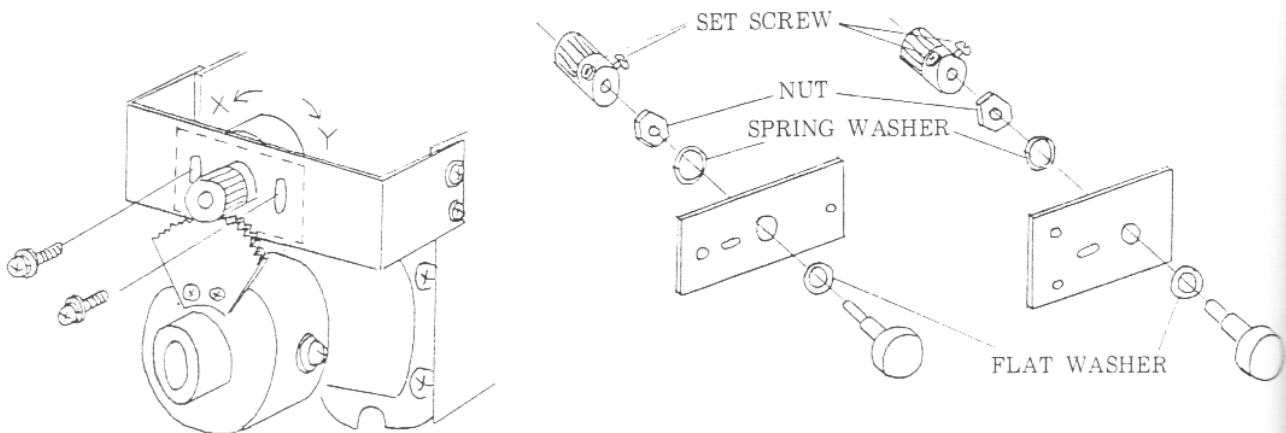
o REPLACEMENT OF VR

Take off the 2 screws that secure the bracket.

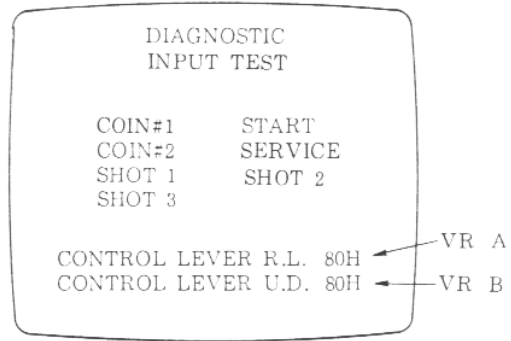
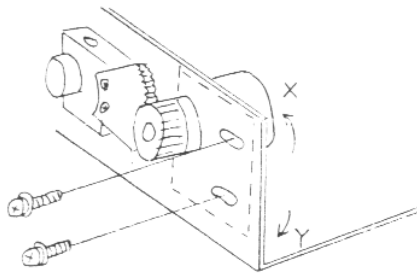


o VR ADJUSTMENTS

When replacing the VR, make adjustments as follows:



- o Release the 2 set screws that secure the gear, remove the nut and spring washer, and replace the VR.



1. Show the above display in the SELF-TEST MODE.
2. Bring the control lever to the center position, release the bracket fastening screws, and then turn the bracket to the X or Y direction.
3. Secure the BRACKET when the variables are within the range as shown in the test mode.
4. Fasten the bumper in a manner so that the maximum variable is less than 25H and over DBH when the control lever is moved to the right, left, forward and backward in the test mode.

VARIABLE'S ADJUSTMENT RANGE

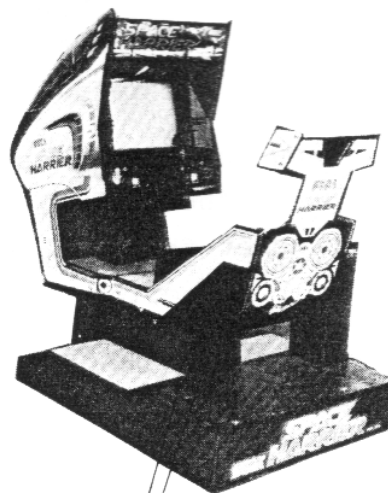
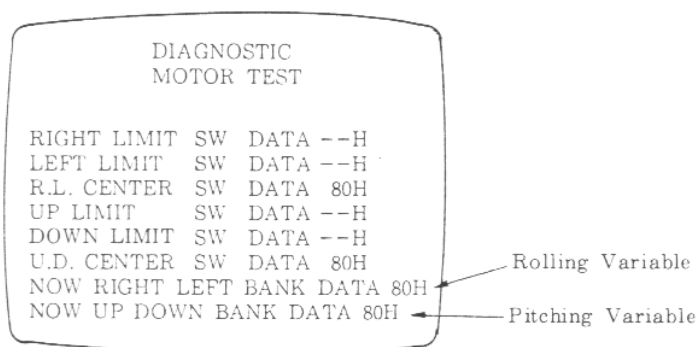
7C 7D 7E 7F 80H 81H 82H 83H 84H

----Make adjustment in this range----

10. ADJUSTMENT OF THE ROLLING AND PITCHING

The "VR" adjustment is made when the cabinet is in the stationary position (after the power has been turned on and the cabinet starts to move and then becomes stationary).

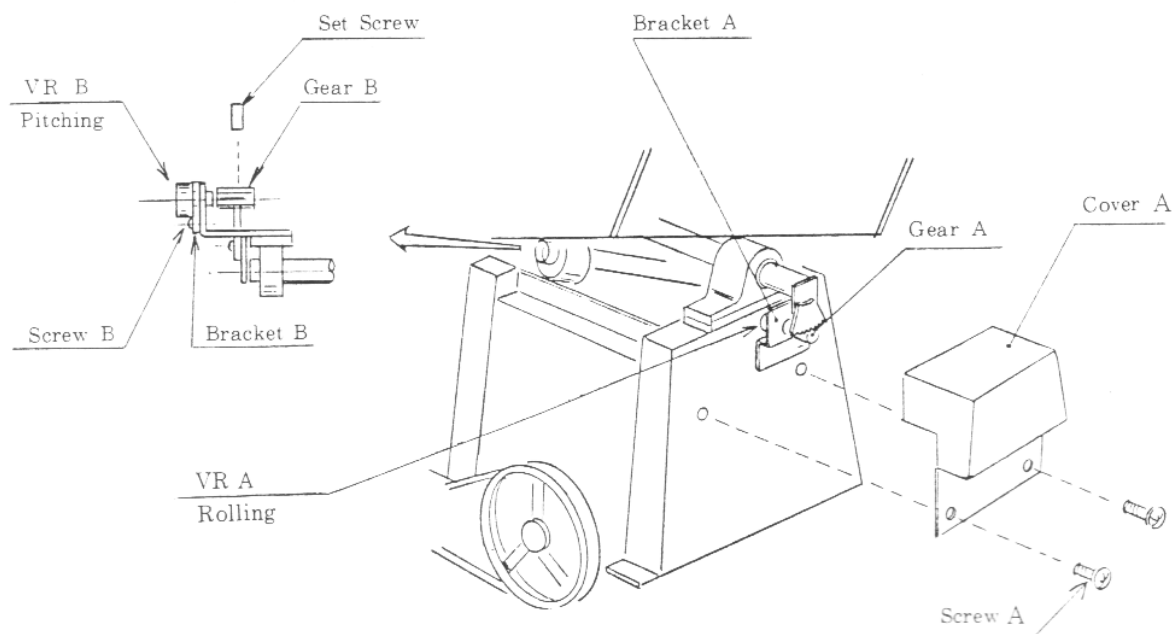
1. Display the following in the SELF-TEST mode.



Adjust the "VR" in a manner so that the variable becomes 80H

(7C 7D 7E 7F 80H 81H 82H 83H 84H)

← Adjustment range →



ROLLING

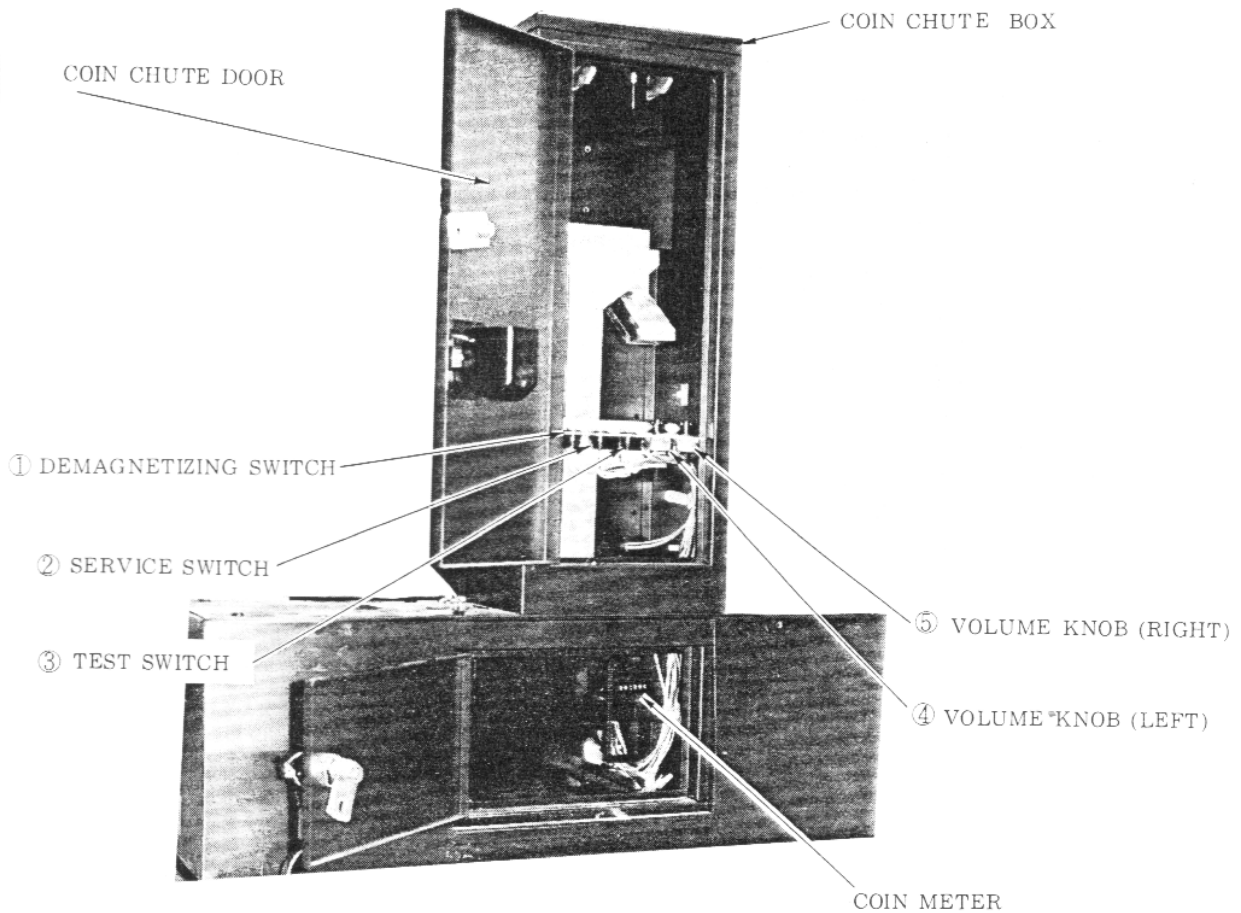
- o When adjusting VR A, remove COVER A, release SET SCREW (M3) at GEAR A which is connected to BRACKET A, make sure that the variable is adjusted to 80H, and then fasten the set screw.

PITCHING

- o When adjusting VR B, remove COVER (RH-0001) and COVER BRACKET (RH-0003) to get at the VR B.
- o Release SET SCREW (M3) which secures GEAR B and make adjustment in a manner so that the variable becomes 80H, and then fasten the SET SCREW again.

11. ADJUSTMENT OF THE SERVICE SWITCH

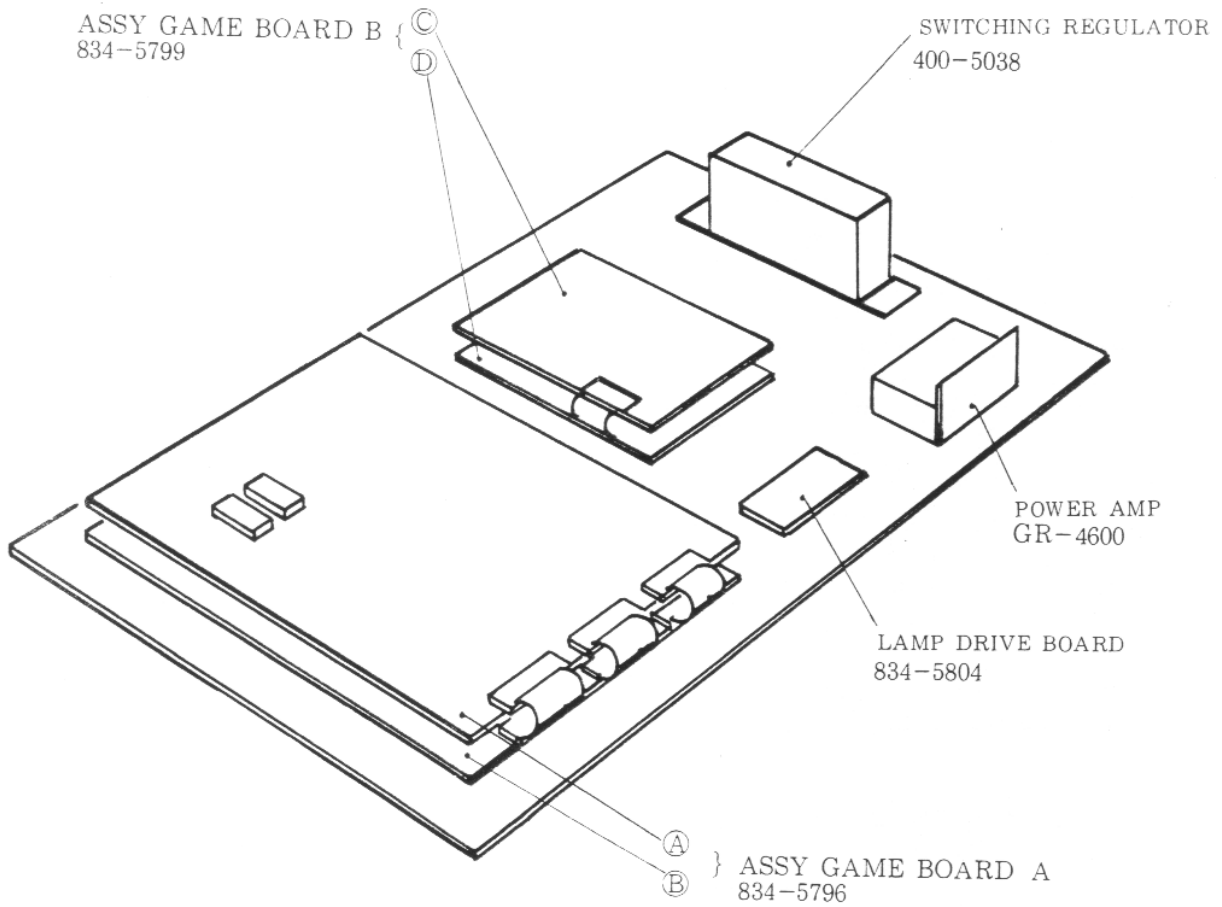
The layout as shown below can be viewed by opening the coin chute door.



OPERATING INSTRUCTIONS

- ① DEMAGNETIZING SWITCH.....Used for removing the on-screen color unevenness.
- ② SERVICE SWITCH.....Used for the purpose of servicing and increasing the credits without registering on the meter (this allows you to check the game).
- ③ TEST SWITCH.....For operating this switch, See page 29. SELF-TESTING.
- ④ ⑤ VOLUME ADJUSTMENT.....The volume of the right/left speakers is separately adjusted (pay attention to the right/left volume balance).

12. EPROM / ROM LOCATION

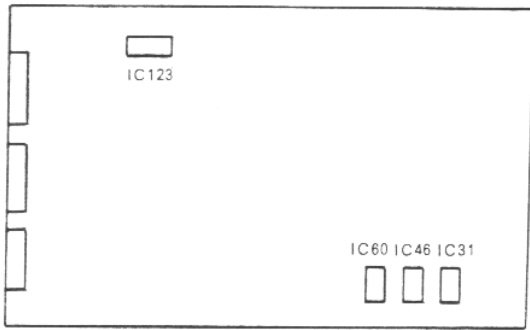


ASSY POWER SUPPLY & BOARD (RH-4100)

Ⓐ ASSY CPU BD 834-5797

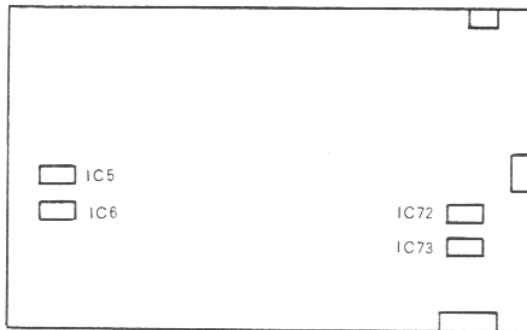
	IC LOCATIONS	NUMBERS	MAIN FUNCTIONS
1	IC 2	EPR - 7181	Road Character
2	IC 54	EPR - 7182	Subprogram
3	IC 67	EPR - 7183	Subprogram
4	IC 84	EPR - 7184	Main Program
5	IC 85	EPR - 7185	"
6	IC 86	EPR - 7186	"
7	IC 87	EPR - 7187	"
8	IC 97	EPR - 7188	"
9	IC 98	EPR - 7189	"
10	IC 99	EPR - 7190	"
11	IC100	EPR - 7191	"

B ASSY CONTROL BD 834-5798



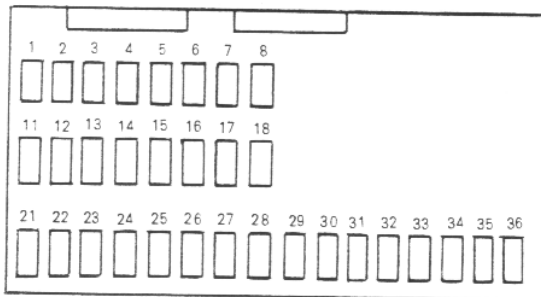
	IC LOCATIONS	NUMBERS	MAIN FUNCTIONS
1	IC 31	EPR-7196	Fixed Scroll Character
2	IC 46	EPR-7197	"
3	IC 60	EPR-7198	"
4	IC123	EPR-6844	Zoom Data

C ASSY SOUND BD 834-5903



	IC LOCATIONS	NUMBERS	MAIN FUNCTIONS
1	IC 5	EPR-7231	Sound Data
2	IC 6	EPR-7232	"
3	IC 72	EPR-7233	Sound Program
4	IC 73	EPR-7234	"

D ASSY ROM BD 834-5800

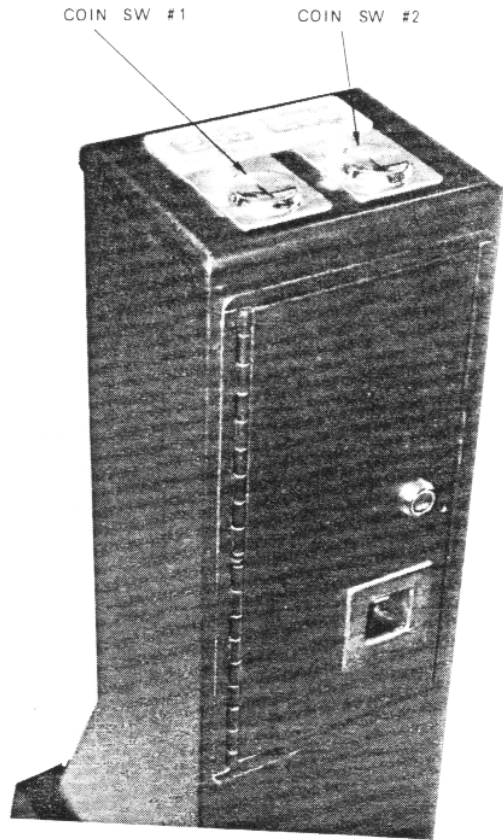


	IC LOCATIONS	NUMBERS	MAIN FUNCTIONS
1	IC 1	EPR-7199	Scenery Figures
2	IC 2	EPR-7200	
3	IC 3	EPR-7201	
4	IC 4	EPR-7202	
5	IC 5	EPR-7203	
6	IC 6	EPR-7204	
7	IC 7	EPR-7205	
8	IC 8	EPR-7206	
9	IC 11	EPR-7207	
10	IC 12	EPR-7208	
11	IC 13	EPR-7209	
12	IC 14	EPR-7210	
13	IC 15	EPR-7211	
14	IC 16	EPR-7212	
15	IC 17	EPR-7213	
16	IC 18	EPR-7214	
17	IC 21	EPR-7215	
18	IC 22	EPR-7216	
19	IC 23	EPR-7217	
20	IC 24	EPR-7218	
21	IC 25	EPR-7219	
22	IC 26	EPR-7220	
23	IC 27	EPR-7221	
24	IC 28	EPR-7222	
25	IC 29	EPR-7223	
26	IC 30	EPR-7224	
27	IC 31	EPR-7225	
28	IC 32	EPR-7226	
29	IC 33	EPR-7227	
30	IC 34	EPR-7228	
31	IC 35	EPR-7229	
32	IC 36	EPR-7230	

13. DIP SWITCH SETTING

○ GAME PRICE SETTING

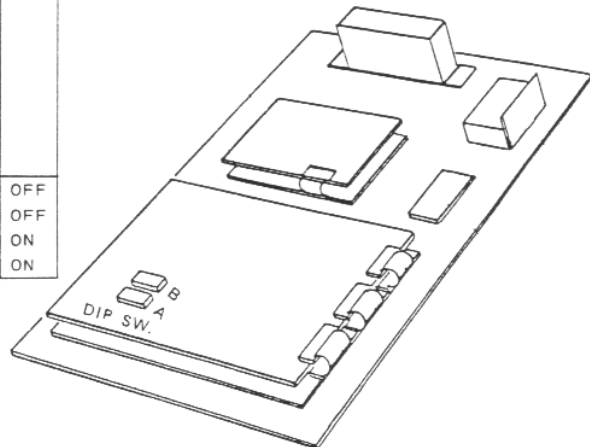
		DIP SW # A							
OPTION		1	2	3	4	5	6	7	8
1 COIN	1 CREDIT	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
1 COIN	2 CREDITS	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF
1 COIN	3 CREDITS	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
1 COIN	4 CREDITS	ON	ON	OFF	OFF	ON	ON	OFF	OFF
1 COIN	5 CREDITS	OFF	OFF	ON	OFF	OFF	OFF	ON	OFF
1 COIN	6 CREDITS	ON	OFF	ON	OFF	ON	OFF	ON	OFF
2 COINS	1 CREDIT	OFF	ON	ON	OFF	OFF	ON	ON	OFF
3 COINS	1 CREDIT	ON	ON	ON	OFF	ON	ON	ON	OFF
4 COINS	1 CREDIT	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON
2 COINS	3 CREDITS	ON	OFF	OFF	ON	ON	OFF	OFF	ON
2 COINS	1 CREDIT								
4 COINS	2 CREDITS	OFF	ON	OFF	ON	OFF	ON	OFF	ON
5 COINS	3 CREDITS								
6 COINS	4 CREDITS								
2 COINS	1 CREDIT	ON	ON	OFF	ON	ON	ON	OFF	ON
4 COINS	3 CREDITS								
1 COIN	1 CREDIT								
2 COINS	2 CREDITS	OFF	OFF	ON	ON	OFF	OFF	ON	ON
3 COINS	3 CREDITS								
4 COINS	4 CREDITS								
5 COINS	6 CREDITS								
1 COIN	1 CREDIT	ON	OFF	ON	ON	ON	OFF	ON	ON
2 COINS	2 CREDITS								
3 COINS	3 CREDITS								
4 COINS	5 CREDITS								
1 COIN	1 CREDIT	OFF	ON	ON	ON	OFF	ON	ON	ON
2 COINS	3 CREDITS								
1 COIN	1 CREDIT	ON	ON	ON	ON	ON	ON	ON	ON
		COIN SW #1				COIN SW #2			



□ OPTION SWITCH SETTING

DIP SW # B

OPTION		1	2	3	4	5	6	7	8
TYPE	MOVING	OFF							
SELECT	SIT-DOWN	ON							
ADVERTISE	OFF		OFF						
SOUND	ON		ON						
NUMBER	3			OFF	OFF				
OF	2			ON	OFF				
PLAYERS	4			OFF	ON				
	5			ON	ON				
SCORE OF	5 MILLION					OFF			
ADD PLAYERS	7 MILLION					ON			
TRIAL TIME	OFF						OFF		
	ON						ON		
GAME	MEDIUM						OFF	OFF	
DIFFICULTY	EASY						ON	OFF	
	HARD						OFF	ON	
	HARDEST						ON	ON	

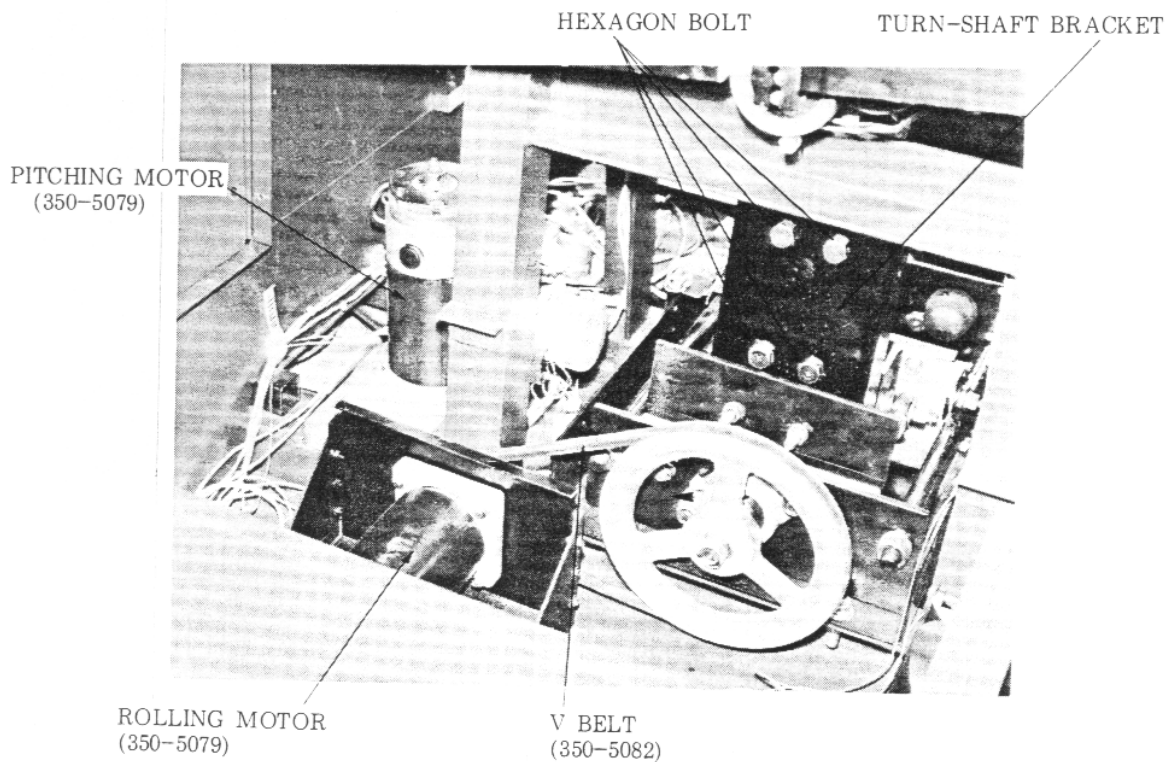


14. REMOVING THE MECHANISM UNITS

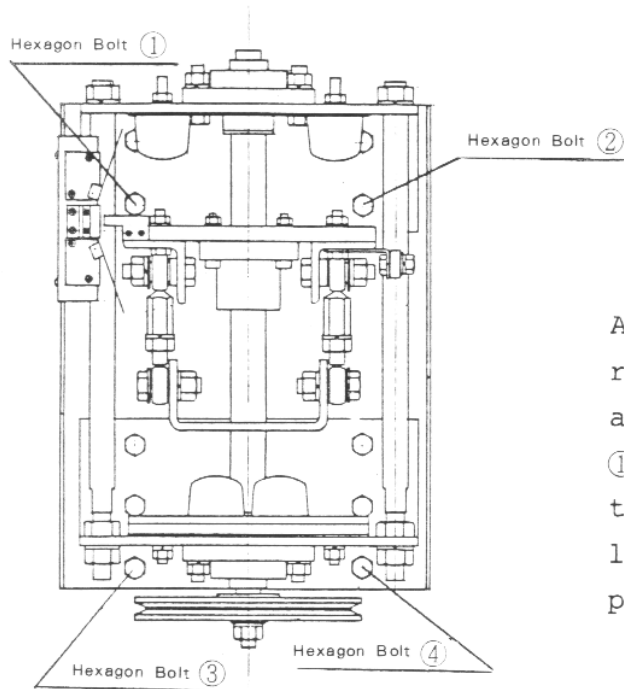
The pitching mechanism and the rolling mechanism can be removed as follows:

CAUTION: To avoid any danger when removing the mechanism units, do not enter the cabinet or rest against it.

REMOVING THE ROLLING MECHANISM

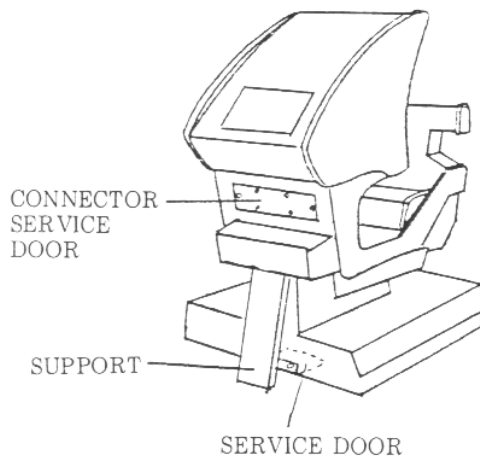


- o Take off the 4 hexagonal nuts shown above and remove the TURN-SHAFT BRACKET.
Next, remove the V belt (see ADJUSTMENT and REPLACEMENT OF THE V BELT).



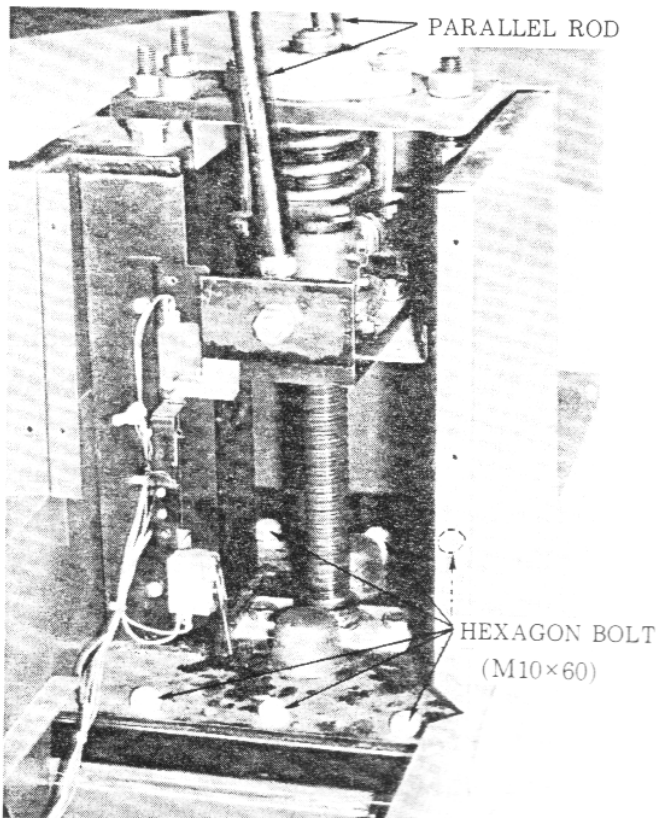
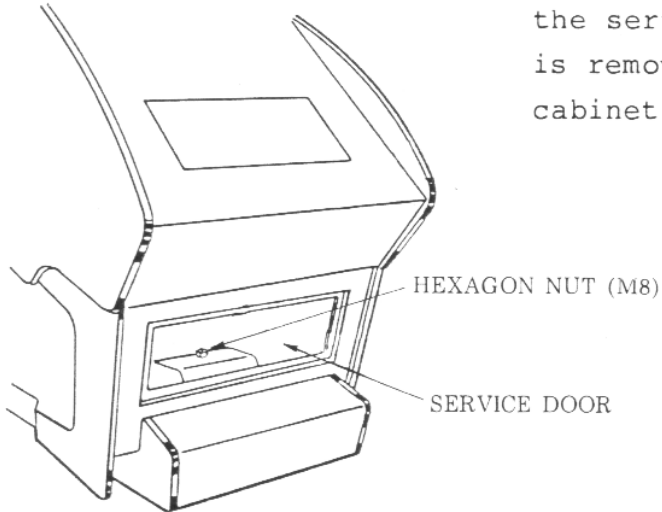
After taking off the V belt, remove the limit switch connector and then remove HEXAGONAL BOLTS ①~④ as per the illustration, so that the entire unit can be lifted up and pulled toward the pulley side.

REMOVING THE PITCHING UNIT



- o First make sure that the cabinet is in a horizontal position, and then turn the power OFF.
 - o Take off the 2 tamperproof screws from the front side of the base and remove the SERVICE DOOR.
 - o As per the illustration, put up the support which is housed in the base (this stay serves as a support when removing the belt).
- o Take off the 6 tamperproof screws from the front side of the cabinet, and remove the connector service door.

- o Release the hexagonal nut as per the illustration inside the service door (when this nut is removed, the mechanism and the cabinet will separate).



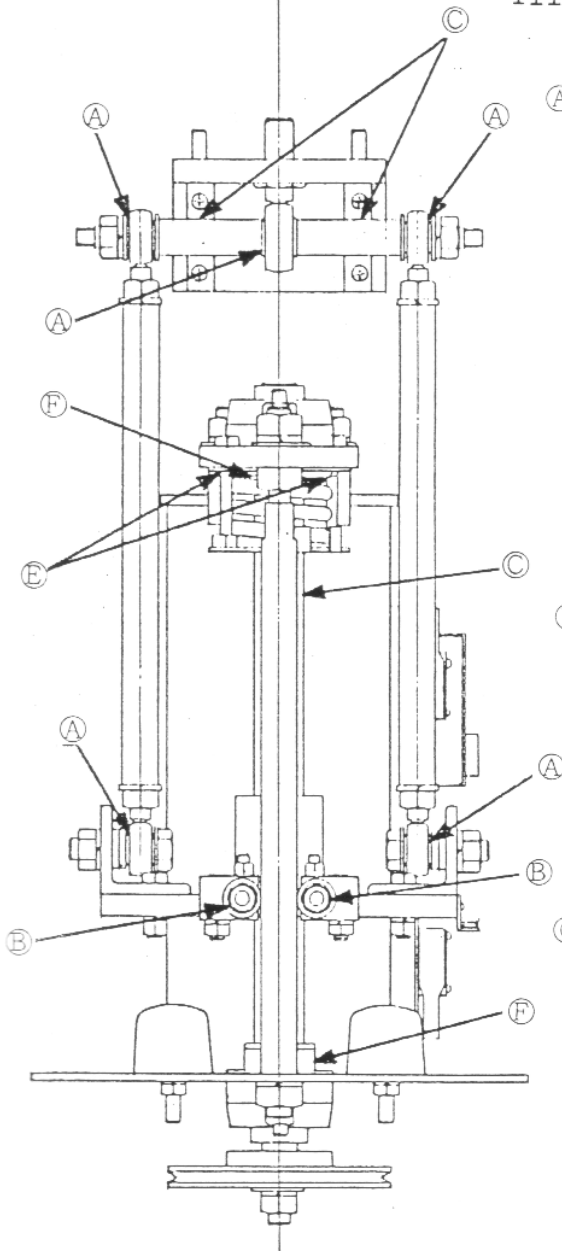
- o Remove COVER (RH-3012, 3013) of the upper part of the pitching mechanism (see REMOVING AND INSTALLING THE COVER).
- o Remove the V belt (see BELT REPLACEMENT).
- o Disconnect the limit switch wiring connector.
- o Remove the 6 hexagonal bolts as per the illustration.
- o Take off the released nut, pull out the parallel rod, and pull the pitching mechanism sideways while lifting up the entire pitching mechanism (pay attention to the pulley on the lower part of the mechanism).

15. LUBRICATION

Once a month periodical greasing of the mobile parts is required. Apply grease in accordance with the following instructions:

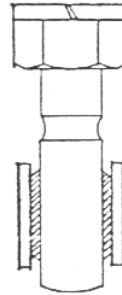
LUBRICATION OF THE PITCHING MECHANISM

Lubricate the 14 points as per the illustration.



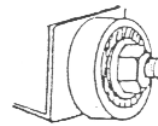
(A) ROD END

Apply grease to the surfaces of the inner ring (diagonally lined portion as per the illustration).



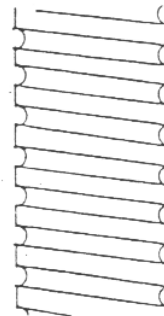
(B) GUIDE ROLLER

Apply grease in between the inner and outer rings.

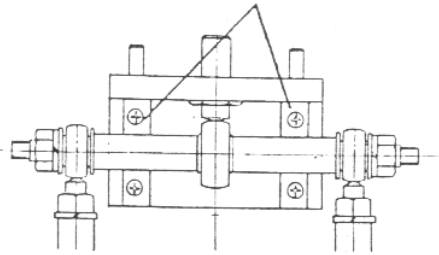


(C) BALL SCREW

Apply grease to the screw surfaces by hand or by using a spatula.

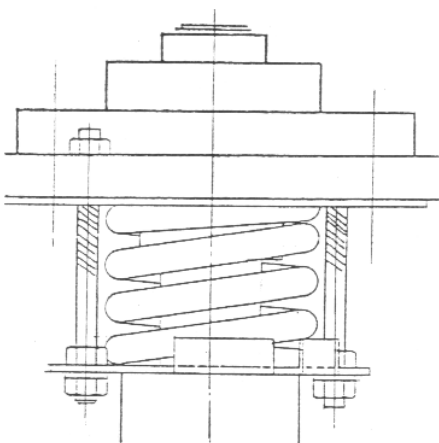


④ H SHAFT STOPPER



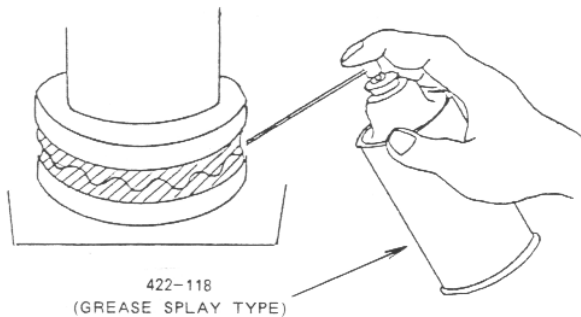
Apply grease to the white guide (diagonally lined portion) as illustrated.

⑤ SPRING GUIDE



Apply grease to the STOPPER SPRING GUIDE (the diagonally lined portion as illustrated).

⑥ THRUST BEARING

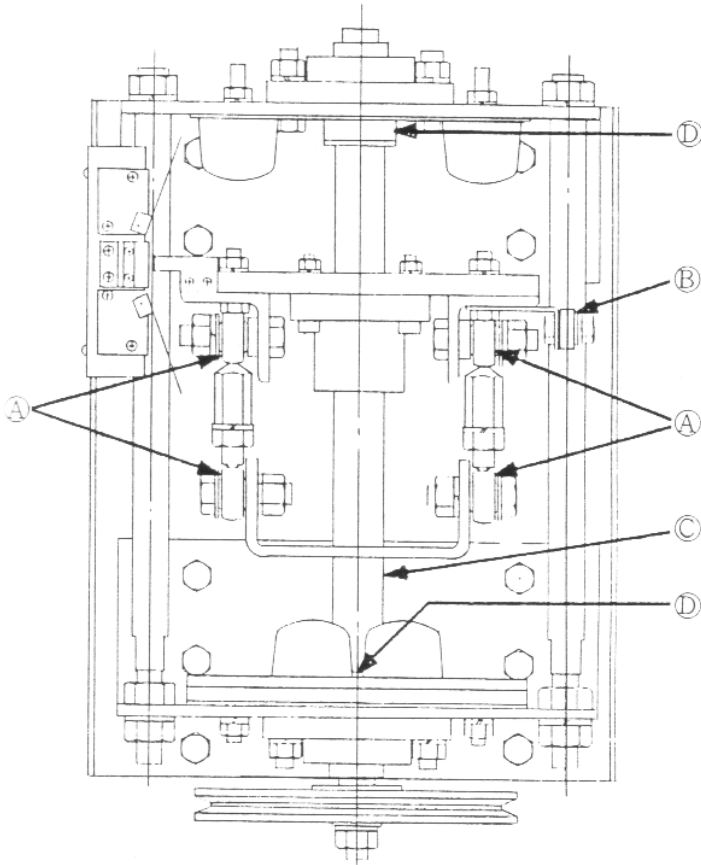


Apply a spray type grease in between the upper and lower bearings.

When lubricating, so as not to cause any malfunction, make sure that no foreign matter such as dust, etc. gets into the grease.

LUBRICATION

Apply grease to the 8 points as illustrated (for the procedure, see GREASING OF THE PITCHING MECHANISM).



- Ⓐ ROD END
- Ⓑ GUIDE ROLLER
- Ⓒ BALL SCREW
- Ⓓ THRUST BEARING

16. ADJUSTMENT AND REPLACEMENT OF THE V BELT

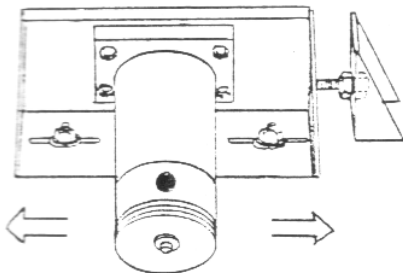
Power for this machine is transmitted by the V belt. The belt, if it slips or is torn, will not work properly and also is very dangerous. Regularly check as to the tension, wear, and deterioration of the belt and make the necessary adjustments and replacements ahead of time.

ADJUSTMENT OF BELT TENSION

- * Before making adjustments of the belt tension, be sure that the power is OFF.

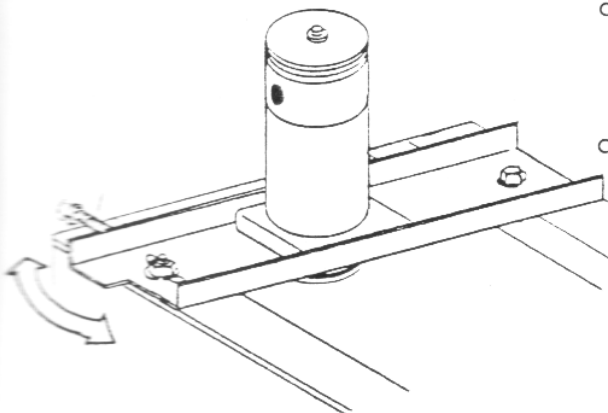
Incorrect belt tension may cause damage to the shaft and bearing, or result in the earlier than usual wearing out of the belt, so make correct adjustments. For belt tension adjustments, make sure that the belt has an approximate slack of 10 mm when applying a forefinger against the middle part in between the 2 pulleys.

* Adjusting the rolling side V belt



- o Release the hexagonal nuts which secure the motor bracket and the motor.
- o Turn the adjustment screw (double nut) to cause the motor bracket to slide back and forth, make adjustments to the belt's tension, and secure the motor by using the hexagonal nuts.

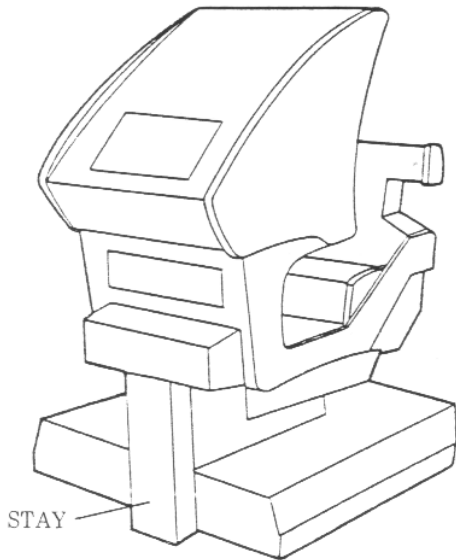
* Adjusting the pitching side V belt



- o Release the hexagonal bolts and hexagonal nuts that secure the motor bracket.
- o Turn the adjustment screw (double nut) to cause the motor bracket to turn around the hexagonal bolts, make adjustments to the belt's tension and then secure the motor with the hexagonal bolts and nuts.

BELT REPLACEMENT

When the surface of the belt become worn or damaged, replace it using the following procedure:



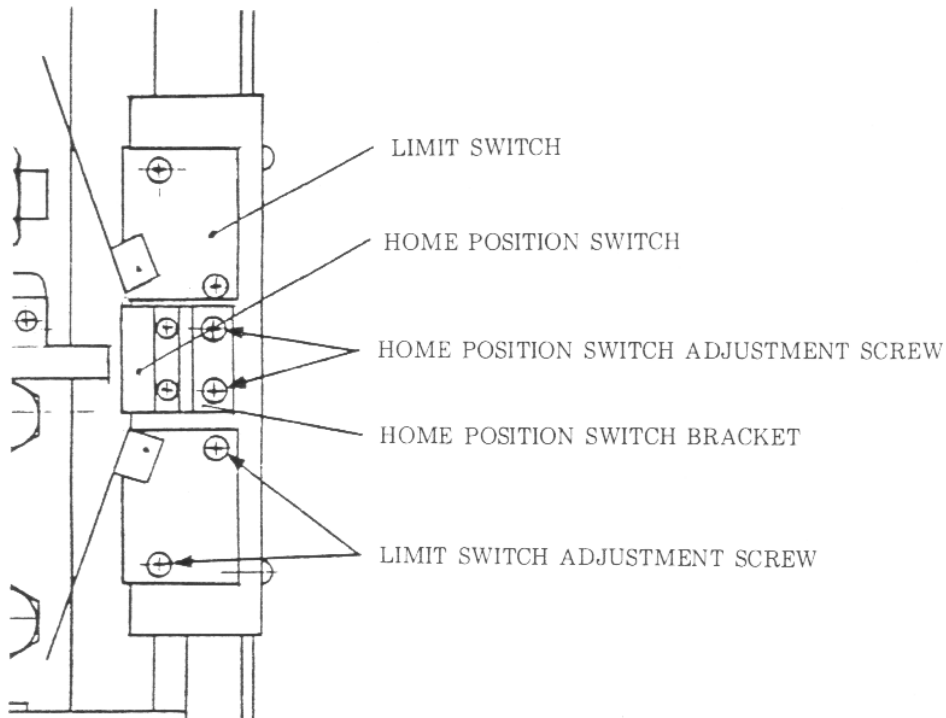
- o With the cabinet kept in a horizontal position, turn the power off and put up the stay which is housed in the base. Take off the belt to cause the cabinet to descend. At this time, make sure that the stay is in such a position that it makes contact with the underside of the upper base.

CAUTION: To prevent any accidents, be sure to put up the stay when slackening the belt an excessive amount or when taking it off.

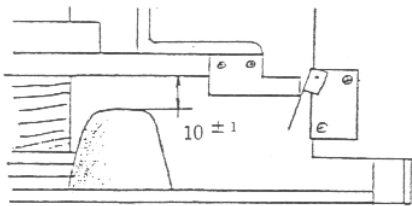
- o By releasing the adjustment screw ahead of time in the same procedure as when adjusting the belt tension, the belt can be removed. At this time, however, do not touch the belt or pulley before confirming that the cabinet is secured by the stay.

17. ADJUSTING THE LIMIT SWITCH & THE HOME POSITION SWITCH

Make adjustments of the limit switch and the home position switch in the following procedure:

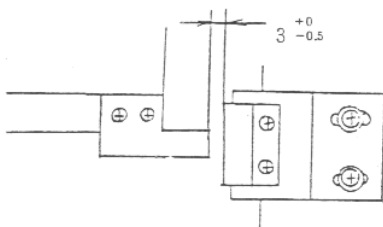


ADJUSTING THE LIMIT SWITCH (applies to both pitching and rolling)



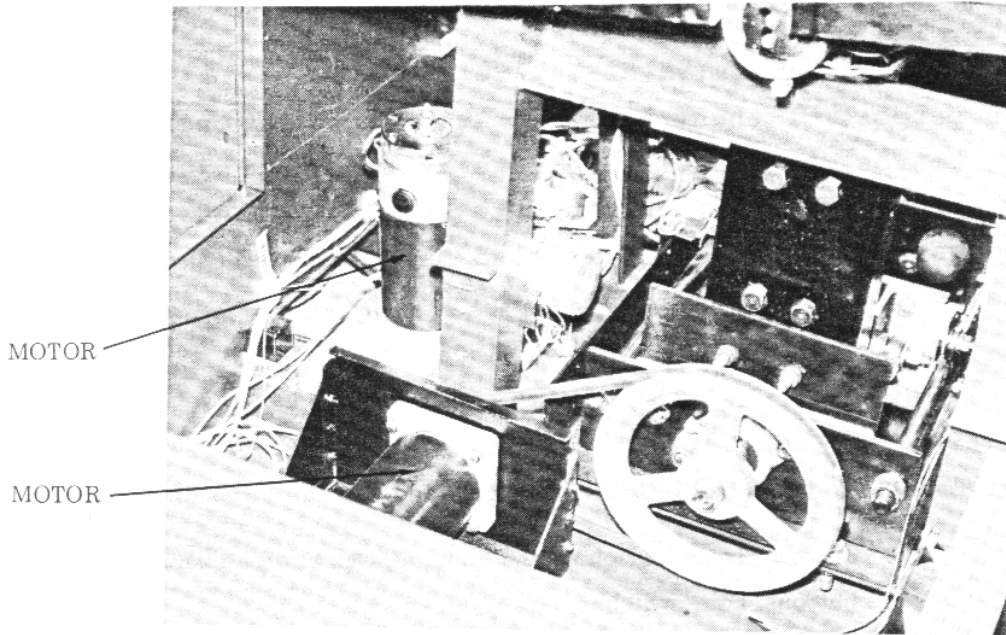
Release the adjustment screw to cause the LIMIT SWITCH to slide and match the specified position. Turn the pulley by hand and make adjustments in a manner so that the switch works at the 10 ± 1 mm position before the rubber stopper or the stopper spring as illustrated.

ADJUSTING THE HOME POSITION SWITCH (applies to both pitching and rolling)



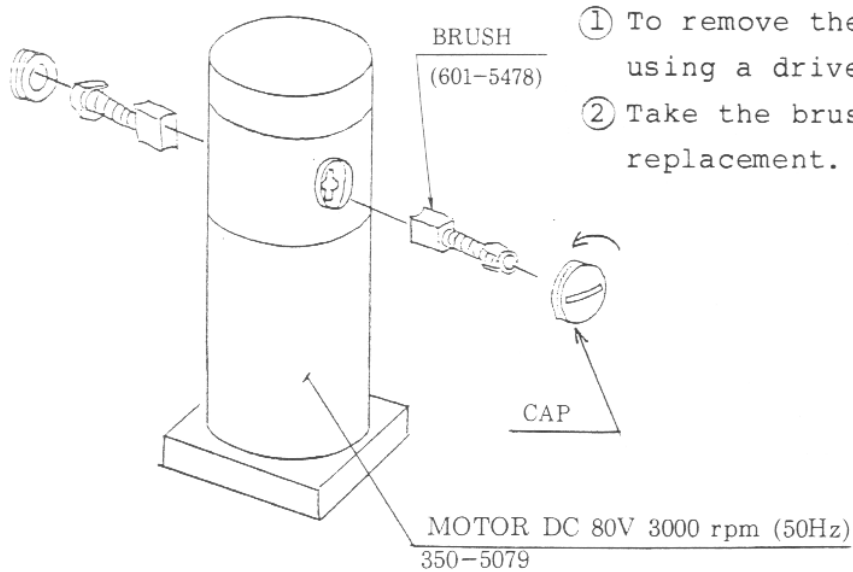
Turn the adjustment screw so as to cause the switch together with the bracket to slide, and make adjustment so that the clearance between the magnet and the home position switch becomes $3^{+0}_{-0.5}$ mm.

18. REPLACING THE MOTOR BRUSH



Replace the motor brush as shown below.

(Normally, replacement once in six months is recommended.)



① To remove the cap, turn it by using a driver, etc.

② Take the brush (601-5478) out for replacement.

BRUSH (601-5478)



○ Replace the brush when it wears out up to this line.

○ Make sure that both the 2 brushes are replaced.

19. SELF-TESTING

The main purpose of these tests is to check the operations of the game boards, to find the defects if any, to adjust the monitor colors properly, and to make sure the sounds are produced satisfactorily. It is also performed to indicate the assignments of the dip switches, check bookkeeping functions, etc.

KIND OF TESTS

- 1) Memory Test : To check the EPROM programs and the map area of the RAMs.
- 2) Input Test : To test the operation of the control lever and to check the shot buttons, coin switches, etc.
- 3) Output Test : To test the operation of the start lamp and back lamps.
- 4) Motor Test : To check the limit switches, right left bank data and up down bank data.
- 5) Sound Test : To check the quality of the sounds produced by the PCB and the video disc, and adjust the balance of the speakers.
- 6) CRT Test : To check if the colors on the monitor are displayed correctly, and to adjust the linearity.
- 7) Dip Switch
Assignment : To indicate each dip switch assignment.
- 8) Bookkeeping : To indicate information data on average score and average play time, etc.

1. TEST OPERATION

- (1) Push the test switch and Fig. 1 will be shown on the screen.
- (2) Select CONTINUE or INDIVIDUAL by using the START button.

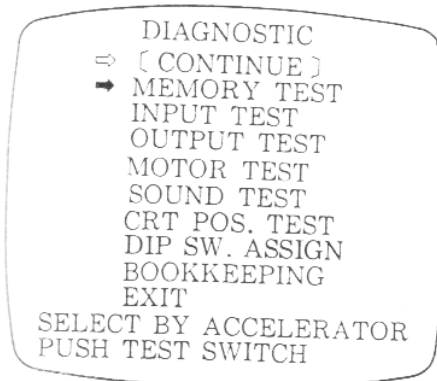


FIG. 1

- (3) Move the accelerator to bring the arrow to the desired position.

SELECT BY ACCELERATOR PUSH TEST SWITCH
(Select the desired test item by using the accelerator and push the test switch button.)

[CONTINUE]:

- o Bring the arrow sign (by operating the control lever) to CONTINUE first, and move it to one of the tests to start. Push the TEST button, and the tests will be performed in order, one by one, starting from the test where the arrow was originally set to the EXIT.
- o If the START button is pushed when the arrow is at CONTINUE, it will change to INDIVIDUAL. Pushing it again returns it to CONTINUE.

[INDIVIDUAL]:

- o If the arrow is at INDIVIDUAL first and brought to a certain test which you want to conduct, only that test is performed by pushing the TEST button.

(4) When each test is finished in the case of CONTINUE, push the TEST button, and it will automatically go into the following test. If the TEST button is pushed in the case of INDIVIDUAL, FIG. 1 is shown. If you want to end the test mode at this time, bring the arrow to EXIT and push the TEST button, and it will return to the ADVERTISEMENT mode.

2. TEST ITEMS

(1) Memory Test:

```

DIAGNOSTIC
MEMORY TEST
**ROMS TEST**
IC 84      IC 85      IC 86
IC 97      IC 98      IC 99
IC 87      IC 67
IC 100     IC 54
**RAMS TEST**
IC 83      IC 113     IC 127
IC 96      IC 112     IC 126
IC 110     IC 136     IC 79
IC 103     IC 135     IC 78
IC 63

```

Indication of "GOOD" following the IC No. means the IC is all right. Push the TEST button to proceed to the following test item.

(2) Input Test

```

DIAGNOSTIC
INPUT TEST

COIN#1      START
COIN#2      SERVICE
SHOT 1      SHOT 2
SHOT 3

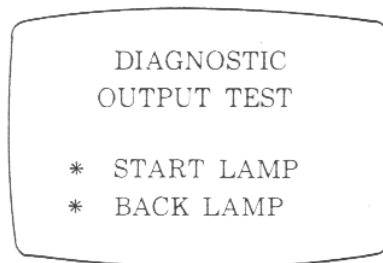
CONTROL LEVER R.L. 80H
CONTROL LEVER U.D. 80H

```

} See page 11, 12

- o Operate the dip switches. When "ON" is indicated at the right side of the corresponding item on the screen, it is OK.
- o If the data value increases when the control lever is inclined to the right, or decreases when it is inclined to the left, it tests out satisfactorily.
- o If the data value increases when the control lever is pulled downward and decreases when it is pushed upward, the testing is OK.
- o When the tests are ended, push the TEST button.

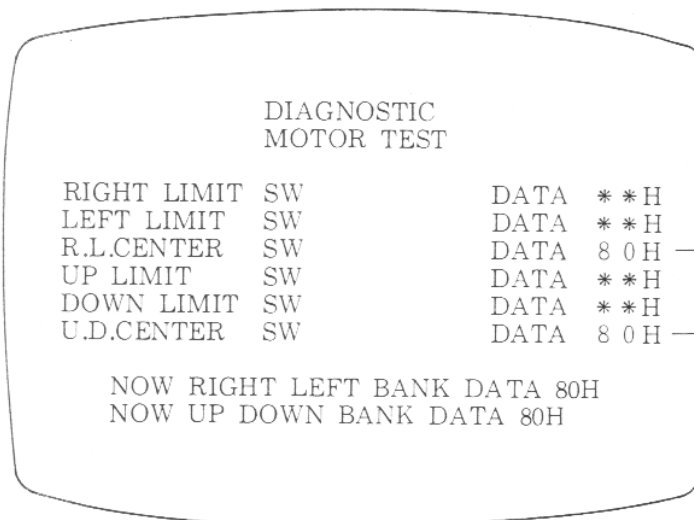
(3) Output Test



If the start LAMP lights up, it is functioning properly. Push the TEST button when the testing has been completed.

(4) MOTOR TEST

Adjustment of each limit switch, and adjustment of pitching and rolling vibration.

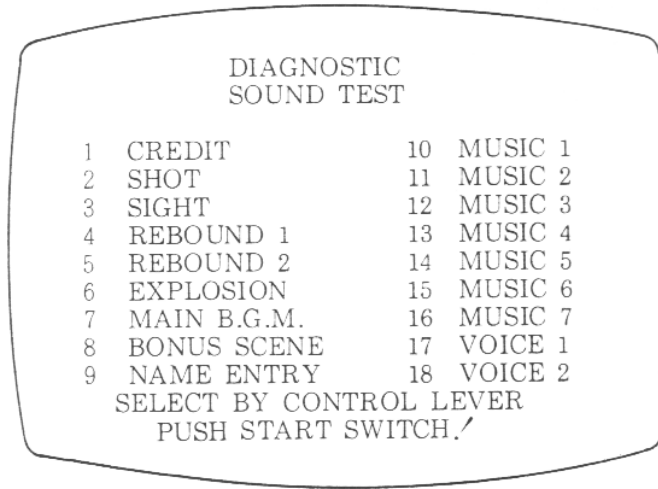


The value with an asterisk (*) represents the one automatically checked during warm-up time.

(±10H) } See page 27

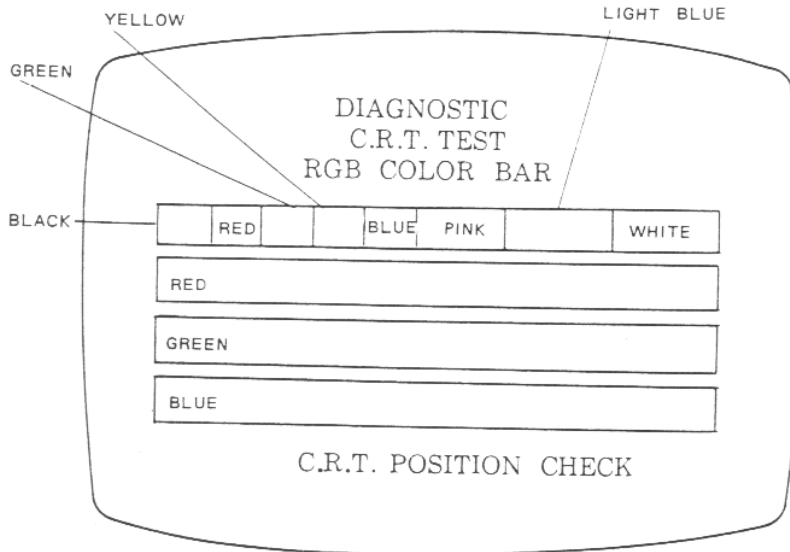
(±10H) } See page 13

(5) Sound Test



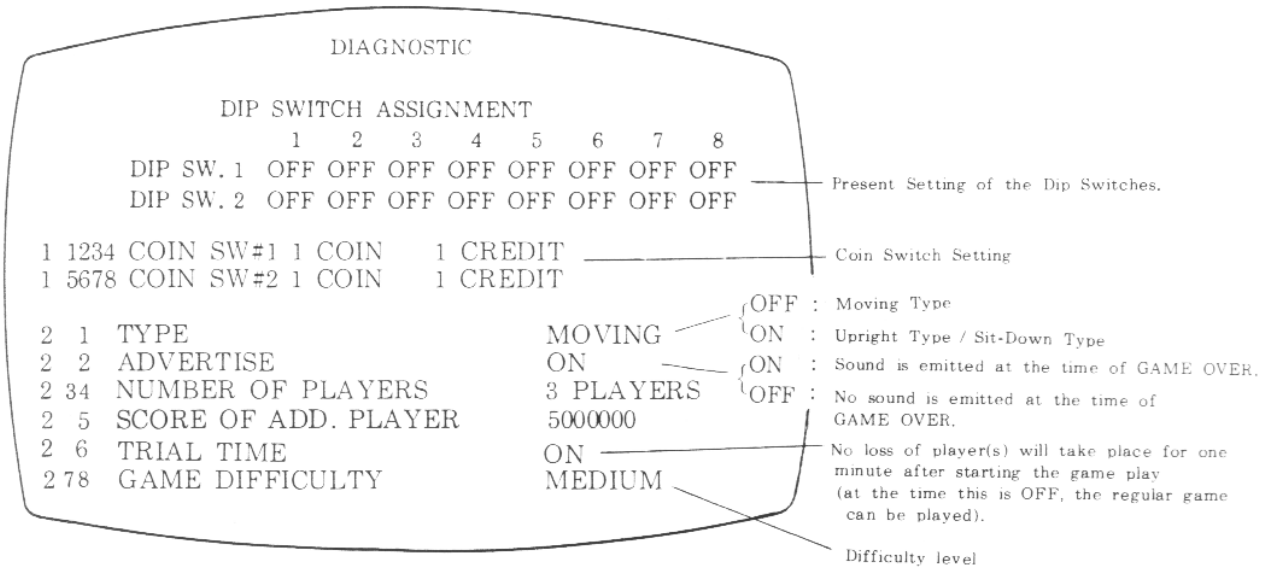
When the test has been completed, push the TEST button.

(6) C.R.T. TEST

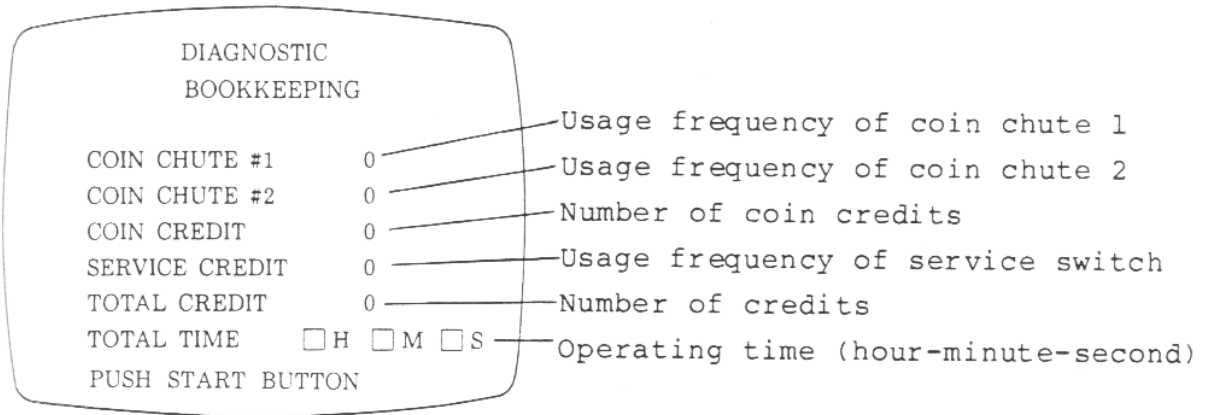


When the test has been completed, push the TEST button.

(7) DIP SWITCH ASSIGNMENTS



(8) Bookkeeping



* Only the data that falls within the range of up to 999H 59M 59S can be memorized. The above screen indication is for testing. When the tests are finished, push the START button and the following will be shown:

DIAGNOSTIC BOOKKEEPING	
NUMBER OF GAMES	203
AVE. SCORE	7230
TOP SCORE	9320
LOW SCORE	4230
** GAME TIME **	
TOTAL	<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S
AVERAGE	<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S
LONGEST	<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S
PUSH START BUTTON!	

Every time the TEST button is pressed, the bookkeeping test display is repeated. When the test is finished, push the TEST button to end the test (in the case of "INDIVIDUAL", however, the test mode returns to Fig. 1 first).

NOTE: o Once the power source is turned OFF, all the bookkeeping data will be completely cleared.

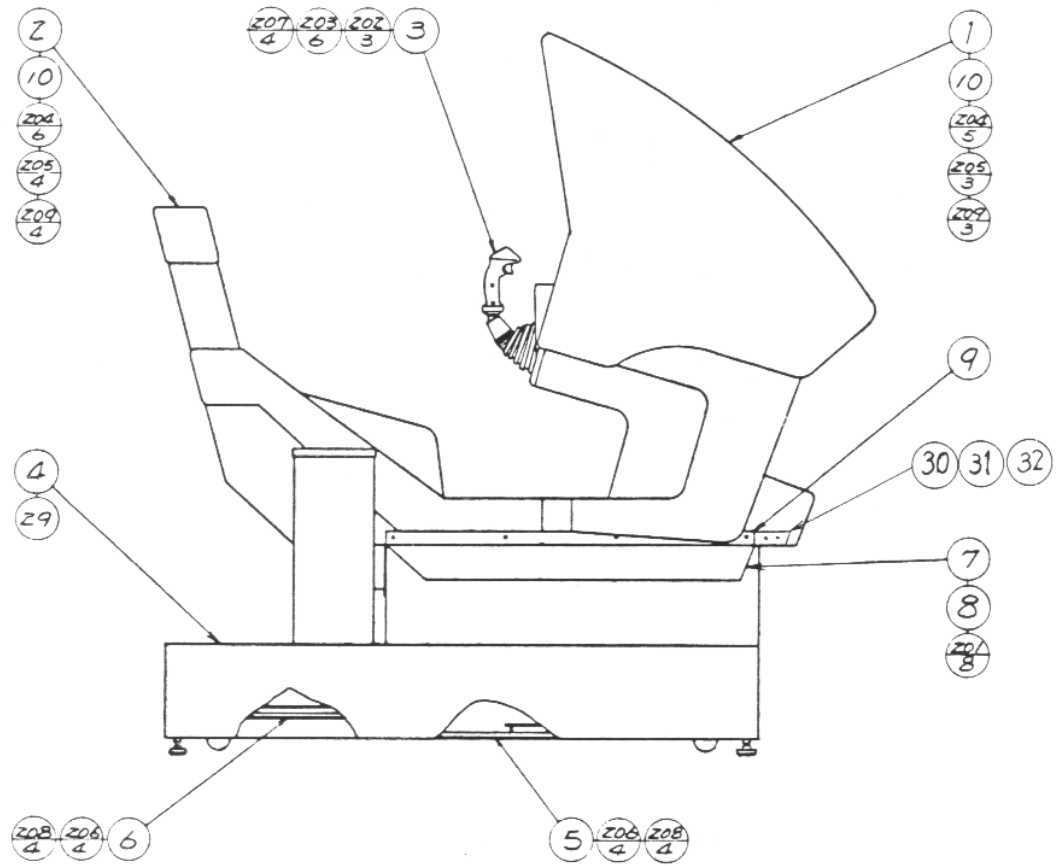
o If any data exceeds the bookkeeping function's capacity, "OVERFLOW" will be indicated on the screen and result in the stoppage of said function. At this time, turn the power OFF and turn it back ON again for reuse.

(8) EXIT

In the state as shown in Fig. 1, operate the handle to bring the arrow to EXIT and push the TEST button. The self-testing will then end and return to the ADVERTISING mode.

20. PARTS CATALOG

① TOP ASSY SPACE HARRIER (RH-0000) (D-1/2)

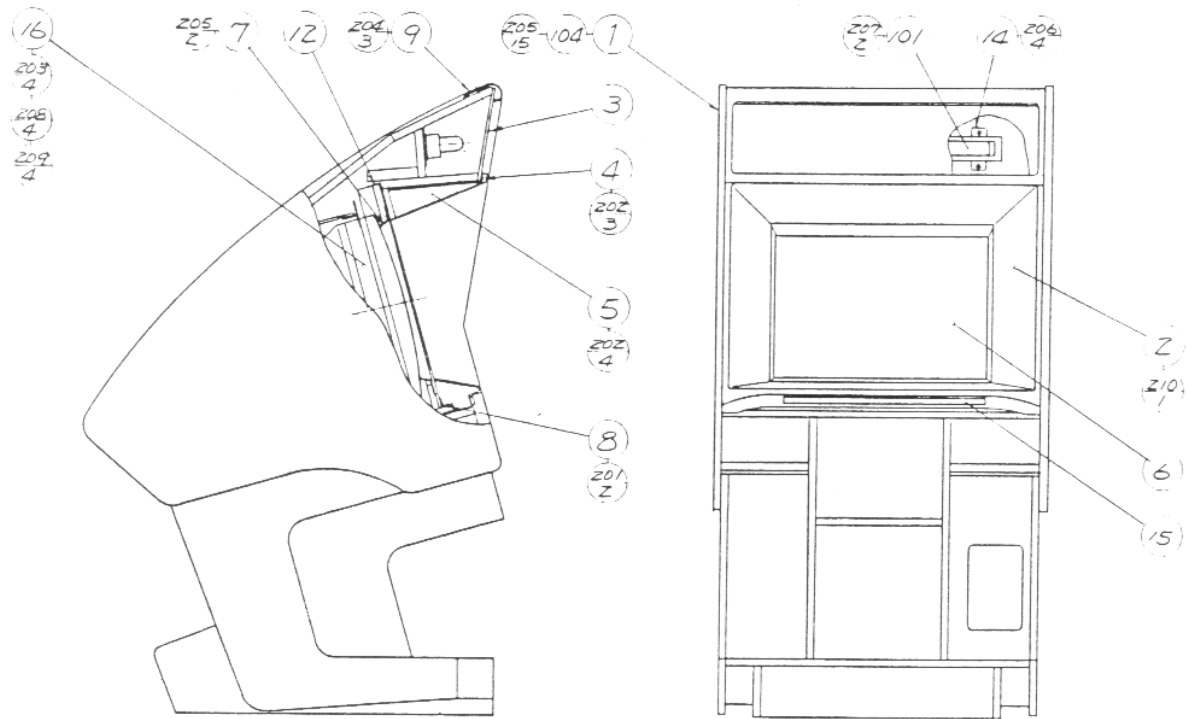


① TOP ASSY SPACE HARRIER (RH-0000) (D-2/2)

ITEM NO.	PART NO.	DESCRIPTION
1	RH-1000	ASSY CABINET FRONT
2	RH-1100	ASSY CABINET REAR
3	RH-2000	ASSY CONTROL UNIT
4	RH-3000	ASSY BASE
5	RH-4000	ASSY PWR SPLY
6	RH-4100	GAME BD UNIT & PWR AMP
7	RH-0001	COVER L
8	RH-0002	COVER R
9	RH-0003 X	COVER BRKT
10	RH-0004	SPACER
11	RH-0005	STAY
12	SGM-2675	POLYETHYLENE BAG 240×370
13	SGB-1035X	KEY BAG
14	83602	STICKER SERIAL NO. INFO
15	888	SCHEMATIC DIAGRAM SEGA SPACE HARRIER
16	421-6195	ADJ. INSTR SH SPACE HARRIER
17	SGM-3675	POLYETHYLENE COVER RH MOV
18	421-6239	INSTALLATION INSTR FOR RH MOV
19	421-6241	STICKER DANGER
20	420-5281	OWNERS MANUAL SPACE HARRIER MOV
21	421-6240	SERVICE INSTR SH FOR MOTOR
22	421-6242	SERVICE INSTR SH FOR BELT
23	421-5800-24	ORIGINAL SEAL SEGA SPACE HARRIER
24	422-0084	PLAY INSTR SH
27	421-6243	STICKER STAY INSTR
29	421-6244	SETTING INFO SH
30	RH-0011	COVER FRONT
31	RH-0012	COVER BRACKET FRONT A
32	RH-0013	COVER BRACKET FRONT B
	601-5478	BRUSH FOR MOTOR
	350-5082	V BELT
	834-5806	ASSY SW. BOARD
	509-5129	SW. MICRO TYPE
	540-0018	DRIVER FOR TAMP SCR M4
	540-0006	WRENCH FOR TAMP SCR M4
	540-0017	DRIVER FOR TAMP SCR M5
	540-0007	WRENCH FOR TAMP SCR M5
	540-0009	WRENCH FOR TAMP SCR M8
	220-5130	VOL CONT B-5K OH M
	390-0130	BULB 12V 0.25A #44
	244-115	GREASE
	244-118	GREASE SPLAY TYPE
201	008-0425	TMP PRF SCR TH M4×2
202	008-0520	TMP PRF SCR TH M5×20
203	029-0050	TMP PRF SCR BH M8×30
204	039-0016	HEX BLT M10×100
205	060-0010	FLT WSHR M10
206	000-0525-FS	M SCR PH M5×25 W/FS
207	069-0035	FLT WSHR BLK M8
208	069-0001	FLT WSHR 5.5-20×1.6
209	061-0010	SPR WSHR M10
	244-106	LOC TITE #271
	244-117	GREASE

SPARE PARTS

② ASSY CABINET FRONT (RH-1000) (D-1/2)

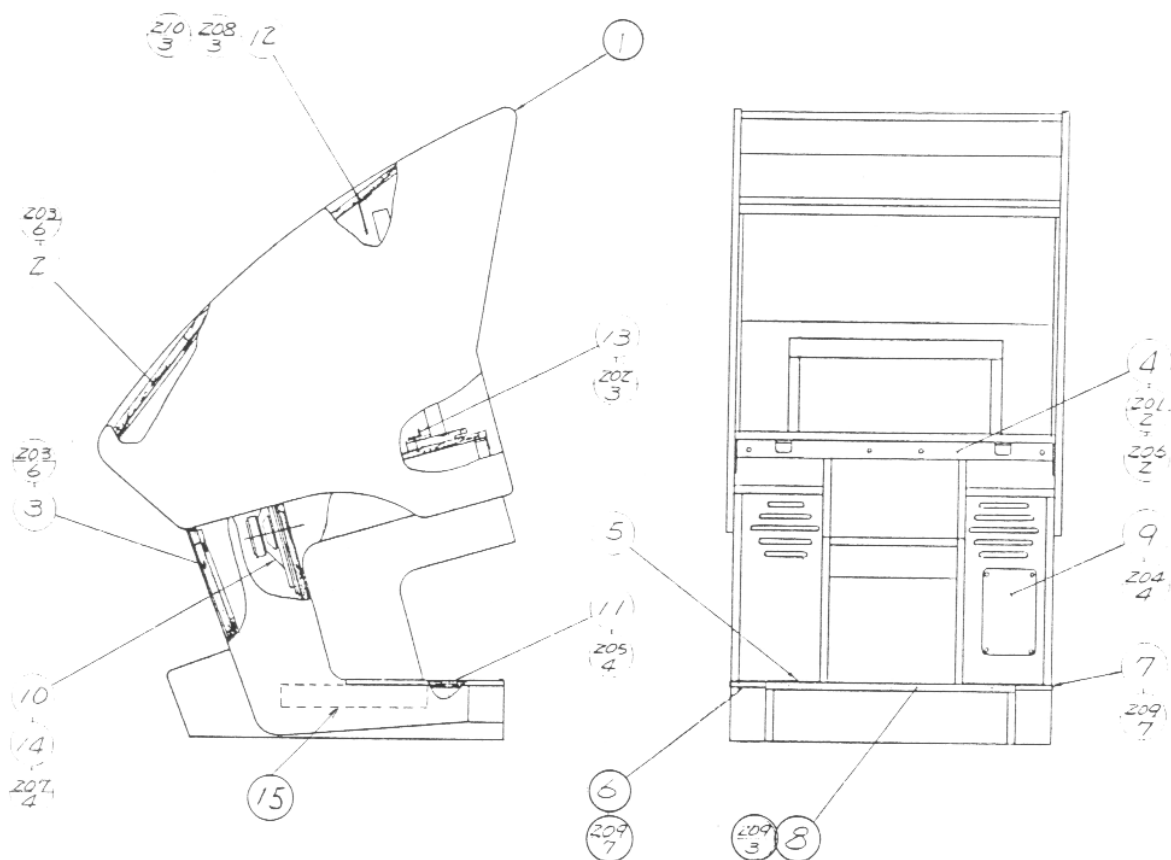


ITEM NO.	PART NO.	DESCRIPTION
1	RH-1001	ASSY SUB CABI FRONT
2	RH-1015	WINDOW MASK
3	RH-1016	BILLBOARD PLATE
4	RH-1017	BILLBOARD BRKT
5	RH-1018	MASK BRACKET
6	RH-1019	WINDOW GLASS
7	RH-1020	TV MASK
8	RH-1021	GLASS HOLDER
9	RH-1022	MASK HOLDER
12	RH-1023	MASK BOARD
14	VE-1036	FL BRKT
15	HN-1069	RUBBER CUSHION
16	200-5058	COLOR DISPLAY ASSY 21"
17	SGB-3670-10	WIRE HARN RGB
	211-0043	CONN PLUG AMP 2P WHITE
	211-0044	CONN CAP AMP 2P WHITE
	211-0059	CONN PLUG AMP 3P WHITE
	211-0060	CONN CAP AMP 3P WHITE
18	SGB-3670-14	WIRE HARN TV AC
	211-0085	CONN PLUG AMP 2P BROWN
	211-0080	CONN CAP AMP 2P BROWN
	211-0117	CONN CAP AMP 2P YELLOW
	211-0096	CONN PLUG AMP 2P YELLOW
	600-5133	CONN BODY 300L

② ASSY CABINET FRONT (RH-1000) (D-2/2)

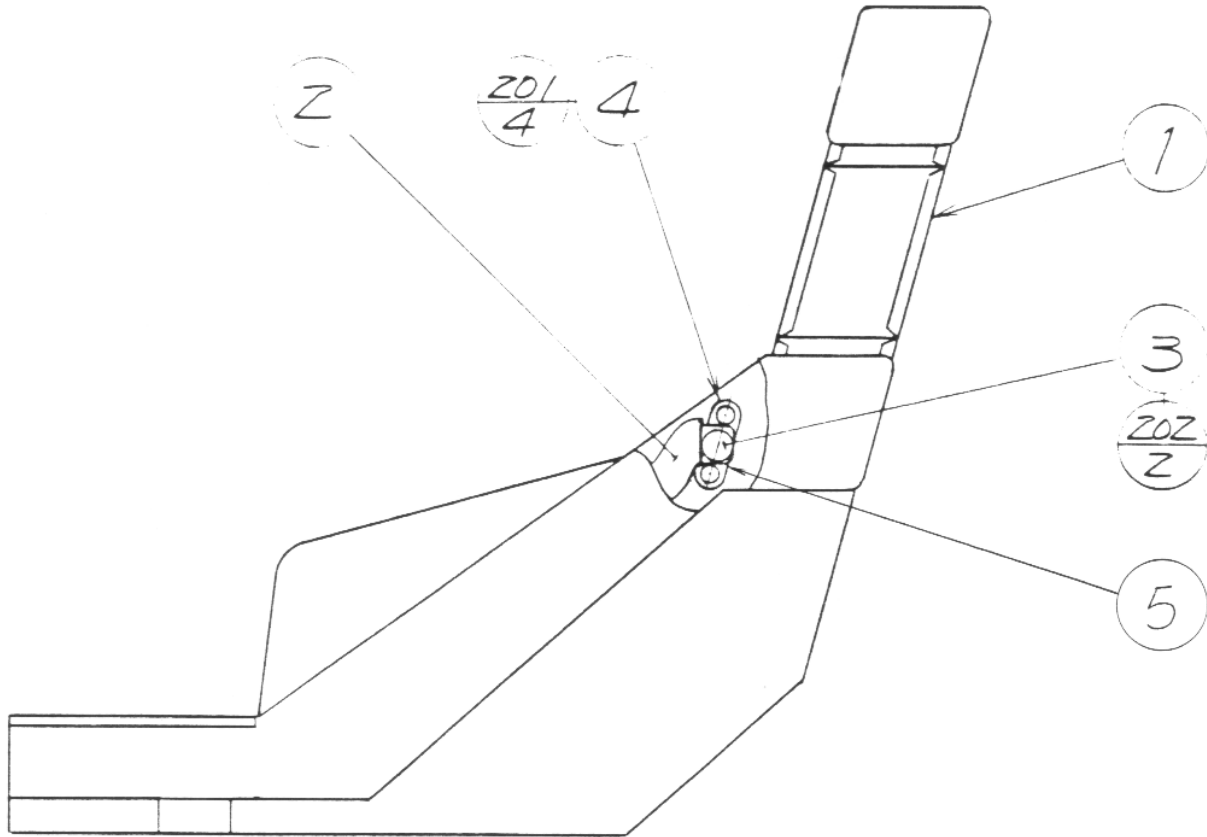
ITEM NO.	PART NO.	DESCRIPTION
19	SGB-3670-15	WIRE HARN SP LEFT
	211-0095	CONN PLUG AMP 2P ORANGE
20	211-0116	CONN CAP AMP 2P ORANGE
	SGB-3670-16	WIRE HARN SP RIGHT
	211-0094	CONN PLUG AMP 2P RED
21	211-0115	CONN CAP AMP 2P RED
	SGB-3670-19	WIRE HARN FL
22	211-0085	CONN PLUG AMP 2P BROWN
	SGB-3670-24	WIRE HARN LAMP EXT
23	211-0043	CONN PLUG AMP 2P WHITE
	211-0044	CONN CAP AMP 2P WHITE
	211-0041	CONN PIN AMP
	211-0042	CONN SOCKET AMP
	SGB-3670-4	WIRE HARN ACCEL
101	211-0059	CONN PLUG AMP 3P WHITE
	211-0060	CONN CAP AMP 3P WHITE
	390-5108-01	ASSY FL LIGHT 15W PALUCK
102	209-0023	CLOSED END CONN
103	280-0472	FASTON RCPT 110
104	280-0419	HARNESS LUG
105	601-0460	PLASTIC TIE BELT 100 mm
201	000-0412-FS	M SCR PH W/FS M4×12
202	000-0416-FS	M SCR PH W/FS M4×16
203	029-0031	M SCR PH M6×18
204	008-0425	TMP PRF SCR M4×25
205	005-3113	W SCR RH 3.1×13
206	005-3513-F	W SCR RH W/F 3.5×13
207	010-0406-F	S-TITE SCR PH W/F M4×6
208	061-0006	SPR WSHR M6
209	069-0002	FLT WSHR 6.5-19×1.2
210	008-0408	TMP PRF SCR TH M4×8

③ ASSY SUB CABINET FRONT (RH-1001)



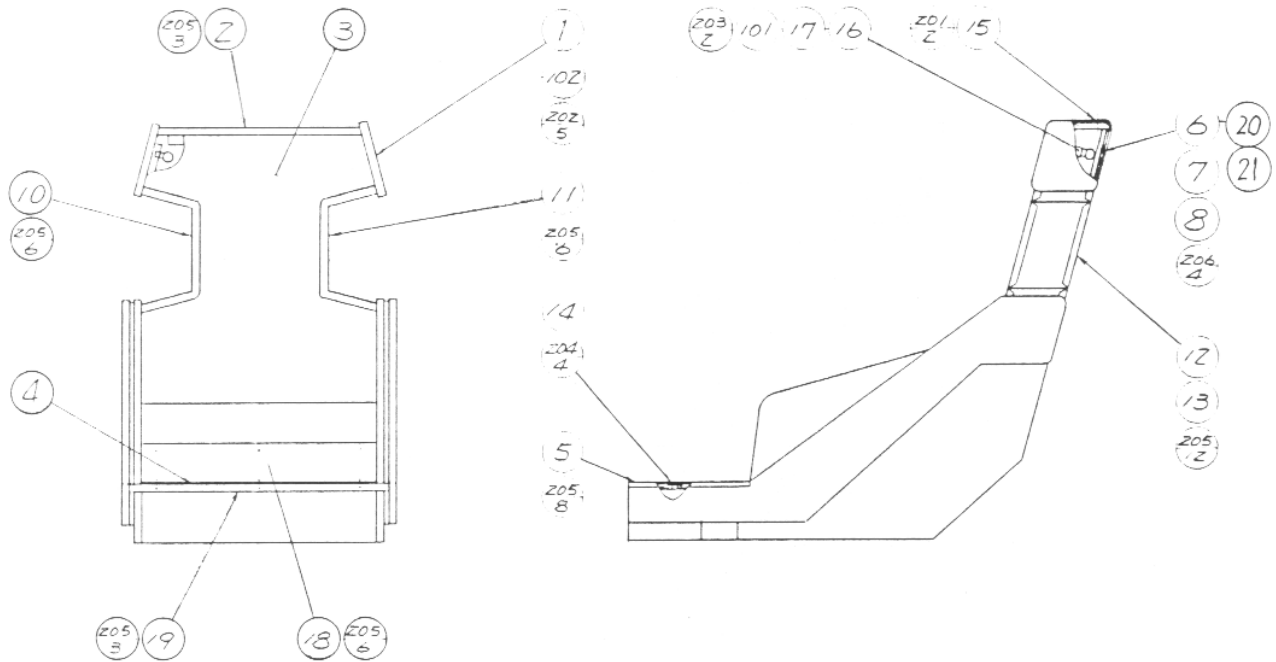
ITEM NO.	PART NO.	DESCRIPTION
1	RH-1002	WOODEN CABINET FRONT
2	RH-1003	SERVICE DOOR ROOF
3	RH-1004	SERVICE DOOR BACK
4	RH-1005	PNL BRKT
5	RH-1006	FLOOR MAT FRONT
6	RH-1007	CORNER PROTECTOR A
7	RH-1008	CORNER PROTECTOR B
8	RH-1009	CORNER PROTECTOR C
9	RH-1010	COVER PLATE
10	RH-1011	GUARD PLATE SP
11	RH-1012	FLANGE
12	RH-1013	MOUNTING BRKT UPPER
13	RH-1014	MOUNTING BRKT LOWER
14	130-0018	SPEAKER 80HM 16 cm
15	RH-1024	SUPPORT BRACKET
201	000-0520-FS	M SCR PH W/FS M5×20
202	000-0525-FS	M SCR PH W/FS M5×25
203	008-0425	TMP PRF SCR TH M4×25
204	008-0520	TMP PRF SCR TH M5×20
205	006-3113	W SCR FH 3.1×13
206	005-3513-F	W SCR RH W/F 3.5×13
207	005-3520	W SCR RH 3.5×20
208	031-0525-B	CRG BLT-BLK M5×25
209	046-0001	SCR NAIL TH STNLS 1.5×16
210	051-0005	FLG NUT M5

④ ASSY CABINET REAR (RH-1100)



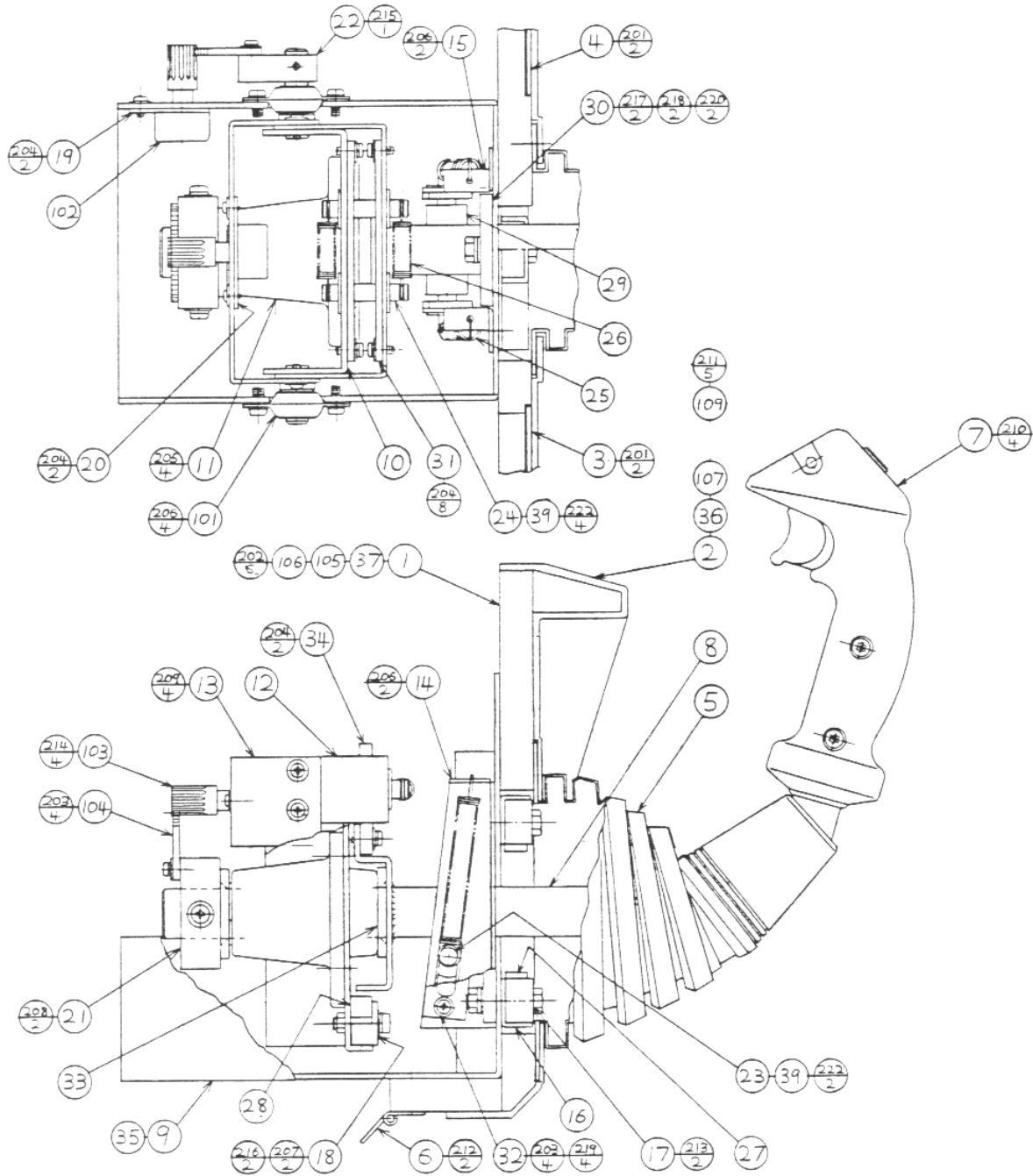
ITEM NO.	PART NO.	DESCRIPTION
1	RH-1101	ASSY SUB CABI REAR
2	RH-1104	SEAT BELT
3	RH-1118	SHOULDER SCREW
4	RH-1119	PLATE
5	RH-1122	SUPPORT BRACKET
201	029-0050	TMP PRF SCR BH M8×30
202	050-0010	HEX NUT M10

⑤ ASSY SUB CABINET REAR (RH-1101)



ITEM NO.	PART NO.	DESCRIPTION
1	RH-1102	WOODEN CABINET REAR
2	RH-1103	SEAT HOLDER
3	RH-1105	SEAT
4	RH-1106X	FLOOR MAT REAR
5	RH-1107	CORNER PROTECTOR
6	RH-1108	MASK PLATE
7	RH-1109	ORNAMENT A
8	RH-1110	ORNAMENT B
10	RH-1112	PROTECTOR B
11	RH-1113	PROTECTOR C
12	RH-1114	PROTECTOR D
13	RH-1115	PROTECTOR E
14	RH-1012	FLANGE
15	RH-1116	CORNER
16	SGB-3670-26	WIRE HARN LAMP
	211-0043	CONN PLUG AMP 2P WHITE
	211-0041	CONN PIN AMP
17	214-0040	LAMP SOCKET
18	RH-1117	SEAT HOLDER B
19	RH-1009	CORNER PROTECTOR C
20	RH-1120	DESIGN SHEET LEFT
21	RH-1121	DESIGN SHEET RIGHT
101	390-0080	BULB 12V 10W
102	280-0419	HARNNESS LUG
201	008-0425	TMP PRF SCR TH M4x25
202	005-3113	W SCR RH 3.1x13
203	005-3513-F	W SCR RH W/F 3.5x13
204	006-3113	W SCR FH 3.1x13
205	046-0001	SCR NAIL TH STNLS 1.5x16
206	051-0004	FLG NUT M4

⑥ ASSY CONTROL UNIT (RH-2000) (D-1/3)



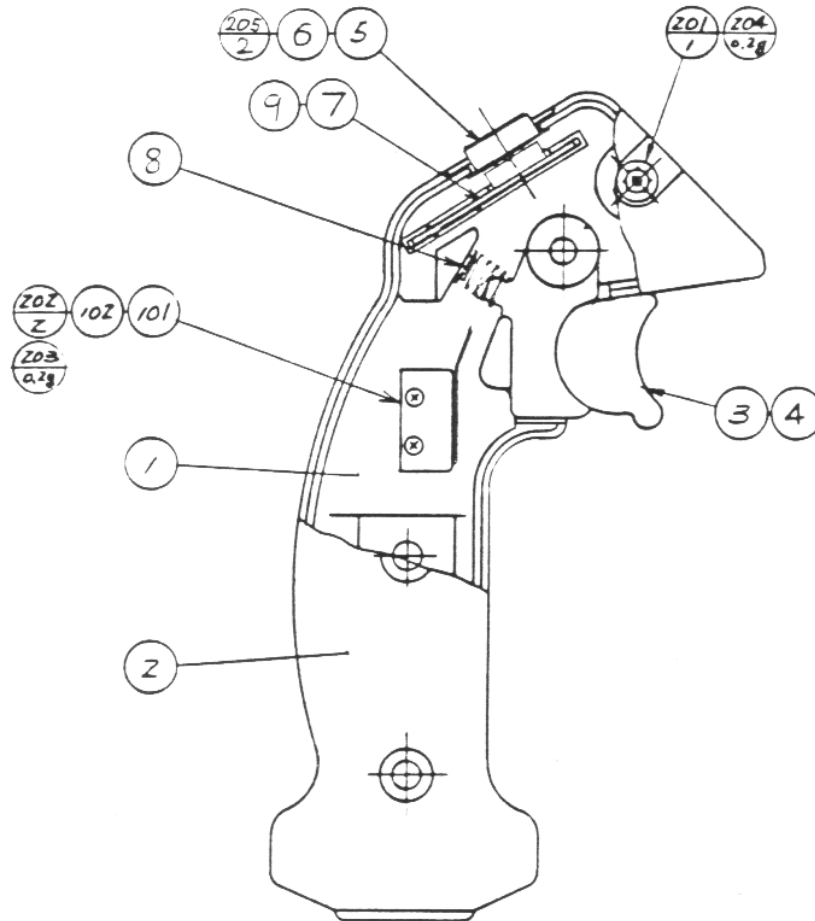
⑥ ASSY CONTROL UNIT (RH-2000) (D-2/3)

ITEM NO.	PART NO.	DESCRIPTION
1	RH-2001	CONT PNL BASE
2	RH-2002	CONTROL PANEL
3	RH-2003	DESIGN PL RIGHT
4	RH-2004	DESIGN PL LEFT
5	RH-2005	SHIFT BOOT
6	RH-2006	HINGE 248
7	RH-2007	ASSY HANDLE GRIP
8	RH-2012	HANDLE SHAFT MOV.
9	RH-2013	BASE
10	RH-2014X	HANDLE BRACKET
11	RH-2015	HOUSING
12	RH-2016	GUIDE BRACKET
13	RH-2017	V.R BRACKET
14	RH-2018	BRACKET RIGHT
15	RH-2019	BRACKET LEFT
16	RH-2020	BUMPER BRACKET
17	RH-2021	BUMPER HOLDER
18	RH-2022	RUBBER RETAINER
19	RH-2023	V.R BRACKET
20	RH-2024	V.R BRACKET
21	RH-2025	ADJUSTER
22	RH-2026	ADJUSTER
23	RH-2027	SPRING HOOK BAR
24	RH-2028	SPRING HOOK BAR
25	RH-2029	EXT. SPRING
26	RH-2030	EXT. SPRING
27	RH-2031X	BUMPER
28	RH-2032X	BUMPER
29	RH-2033	BUMPER
30	RH-2034	GUIDE PLATE
31	RH-2035	GUIDE PLATE
32	RH-2036	GUIDE PLATE
33	RH-2037	SPACER
34	RH-2038	CAM
35	SGB-3670-5	WIRE HARN JOYSTICK
	211-0047	CONN CAP AMP 12P WHITE
	211-0025	CONN PLUG AMP 12P WHITE
37	SGB-3670-7	WIRE HARN LAMP
	211-0044	CONN CAP AMP 2P WHITE
	211-0043	CONN PLUG AMP 2P WHITE
39	RH-2040	PLASTIC WASHER
101	100-5023	BEARING ϕ 10 NTN B-BAF 1012
102	220-5130	VOL CONT B-5K OHM
103	601-5410	GEAR 15 ϕ 6
104	601-5423	GEAR 1/6
105	214-0034	SKT LAMP MINIATURE
106	390-0130	BULB 12V 0.25A #44
107	509-5053	PUSH BTN SW 1T GREEN W/LAMP
109	509-0147	PUSH BTN SW 1T YELLOW
110	601-0460	PLASTIC TIE BELT
111	209-0023	CLOSED END CONN

⑥ ASSY CONTROL UNIT (RH-2000) (D-3/3)

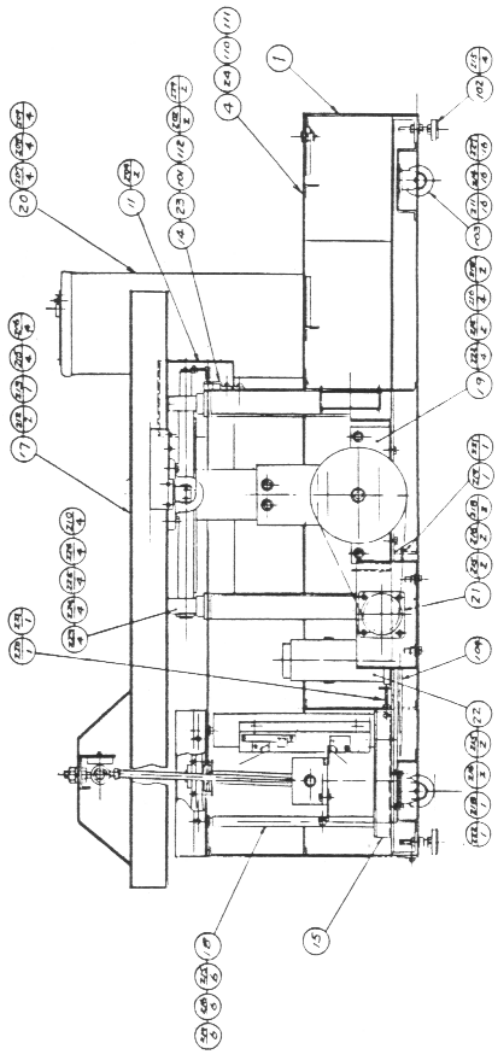
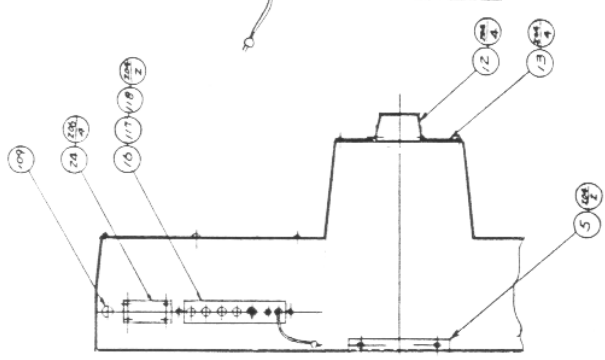
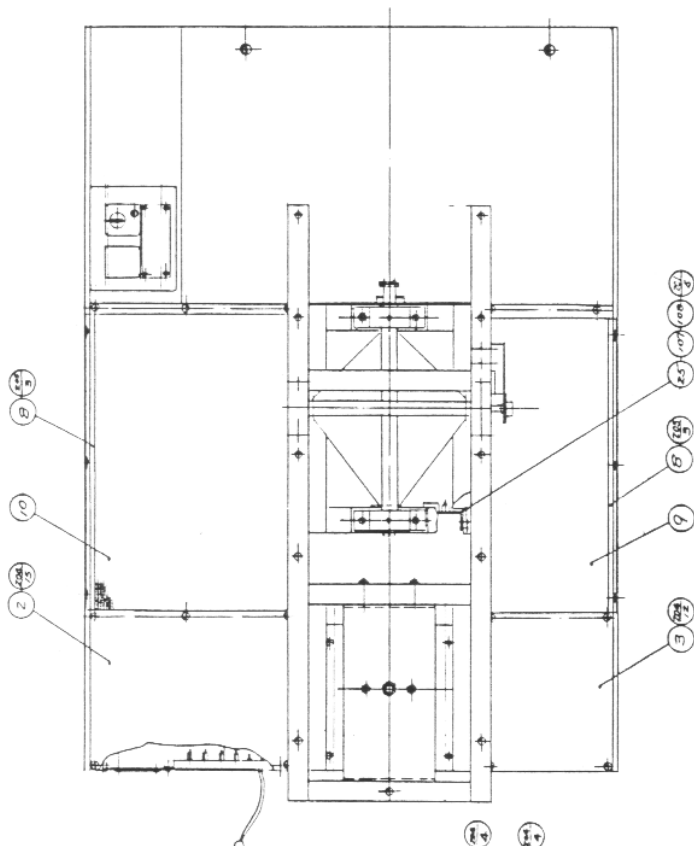
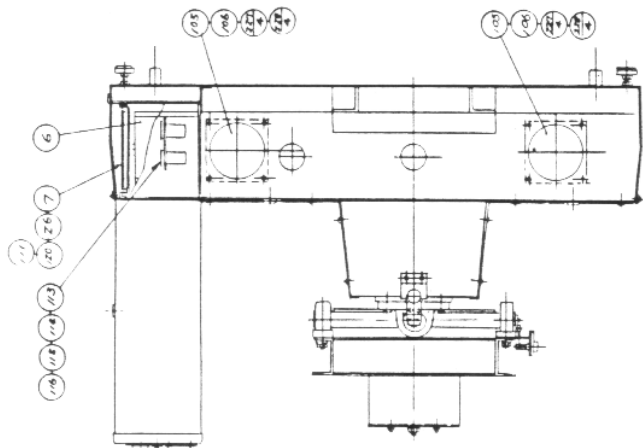
ITEM NO.	PART NO.	DESCRIPTION
112	280-5008	CORD CLAMP ϕ 15
113	310-5009	INSL SPIRAL TUBE ID ϕ 9
114	280-0472	FASTON RCPT 110
115	211-0041	CONN PIN AMP
116	211-0042	CONN SOCKET AMP
201	005-3510	W SCR RH 3.5×10
202	005-3513-F	W SCR RH 3.5×13 W/F
203	000-0408-S	M SCR PH M4×8 W/S
204	000-0412-FS	M SCR PH M4×12 W/FS
205	000-0510-S	M SCR PH M5×10 W/F
206	000-0514-FS	M SCR PH M5×14 W/FS
207	000-0520-FS	M SCR PH M5×20 W/FS
208	000-0525-FS	M SCR PH M5×25 W/FS
209	010-0412-F	S-TITE SCR PH M4×12 W/F
210	029-0052	TMP PRF SCR PH M5×10 SPECIAL
211	008-0425	TMP PRF SCR TH M4×25
212	008-0520	TMP PRF SCR TH M5×20
213	030-0630	HEX BOLT M6×30
214	028-0002	SET SCR PH M3×8 SPECIAL
215	028-0010	SET SCR HEX SKT CP M5×8
216	050-0005	HEX NUT M5
217	050-0006	HEX NUT M6
218	061-0006	SPR WSHR M6
219	060-0004	FLT WSHR M4
220	060-0006	FLT WSHR M6
222	045-0005	COTTER PIN 2×15

⑦ ASSY HANDLE GRIP (RH-2007)



ITEM NO.	PART NO.	DESCRIPTION
1	RH-2008	HANDLE GRIP RIGHT
2	RH-2009	HANDLE GRIP LEFT
3	CD-2041	TRIGGER
4	CD-2042	SHAFT TRIGGER
5	RH-2010	SWITCH BUTTON
6	RH-2011	PLATE
7	834-5806	ASSY SWITCH BOARD
8	125-0011	COMPRESSION SPRING
9	SGB-3670-29 211-0041	WIRE HARN SW CONN PIN AMP
101	509-0058	SWITCH MICRO TYPE (MVLON SL-220)(S-94013)
102	530-0028	THERMO-SHRINK TUBE HISHILITE TRANSPARENT 4mm
201	029-0052	TMP PRF SCR PH M5×10
202	111-955	M SCR PH M2×10
203	244-044	GLUE SCREW LOCK
204	244-106	GLUE SCREW LOCK
205	012-0204	LOCTITE #271

⑧ ASSY BASE (RH-3000) (D-1/3)



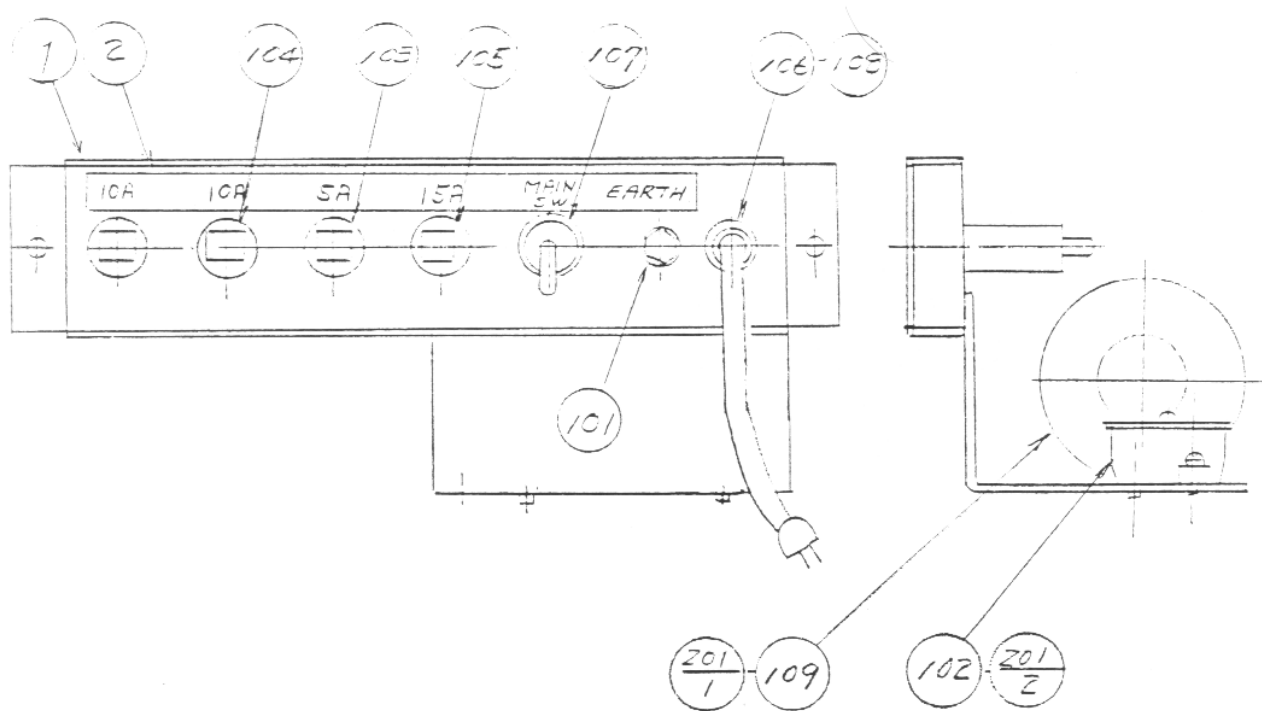
⑧ ASSY BASE (RH-3000) (D-2/3)

ITEM NO.	PART NO.	DESCRIPTION
1	RH-3001	BASE
2	RH-3002	COVER RIGHT
3	RH-3003	COVER LEFT
4	RH-3004	SERVICE DOOR
5	RH-3005	FRONT COVER
6	RH-3006	CASHBOX
7	RH-3007X	CASHBOX DOOR
8	RH-3008	CORNER BRACKET
9	RH-3009	FLOOR MAT, LEFT
10	RH-3010	FLOOR MAT, RIGHT
11	RH-3011	VR COVER
12	RH-3012	ROD COVER
13	RH-3013	COVER
14	RH-3014	VOLUME BRACKET
15	RH-3015	SPACER
16	RH-3016	AC UNIT
17	RH-3100	ASSY UPPER BASE
18	RH-3200	ASSY PITCHING MECHANISM
19	RH-3300	ASSY ROLLING MECHANISM
20	RH-3400	ASSY COIN CHUTE BOX
21	RH-3500	ASSY MOTOR L.R.
22	RH-3600	ASSY MOTOR P
23	601-5410	GEAR 15, ϕ 6
24	HN-1017	TNG LKG
25	RH-3017	MOTOR BRACKET
26	DP-1167	TNG LKG
27	117-5111	PLATE ELEC SPEC.
101	220-5130	VOL CONT 5K Ω B TYPE
102	280-5062	REG ADJ
103	601-5471	CASTER
104	350-5082	V BELT
105	260-0015	DC FAN MOTOR
106	SGB-3670-25	WIRE HARN DC FANA.
	211-0097	CONN PLUG AMP 3P RED
	211-0118	CONN CAP AMP 3P RED
107	260-0016	AC FAN MOTOR
108	SGB-3670-20	WIRE HARN AC FAN
	211-0085	CONN PLUG AMP 2P BROWN
	211-0080	CONN CAP AMP 2P BROWN
	211-0042	CONN SOCKET AMP
	310-5009	INSL SPIRAL TUBE ID ϕ 9
	310-5010	INSL SPIRAL TUBE ID ϕ 12
	601-5003	FREE BUSH WHITE (KG-016)
109	253-5092	CAP SW
110	220-5044-01	MAGNETIC LOCK MASTER W/O KEY
111	280-0453	SPACER RING
	280-5008	CORD CLAMP ϕ 15
	280-5009	CORD CLAMP ϕ 21
	601-0460	PLASTIC TIBELT
112	SGB-3670-18	WIRE HARN BANK VR
	211-0101	CONN PLUG AMP 4P ORANGE
	211-0122	CONN CAP AMP 4P ORANGE
	211-0041	CONN PIN AMP

⑧ ASSY BASE (RH-3000) (D-3/3)

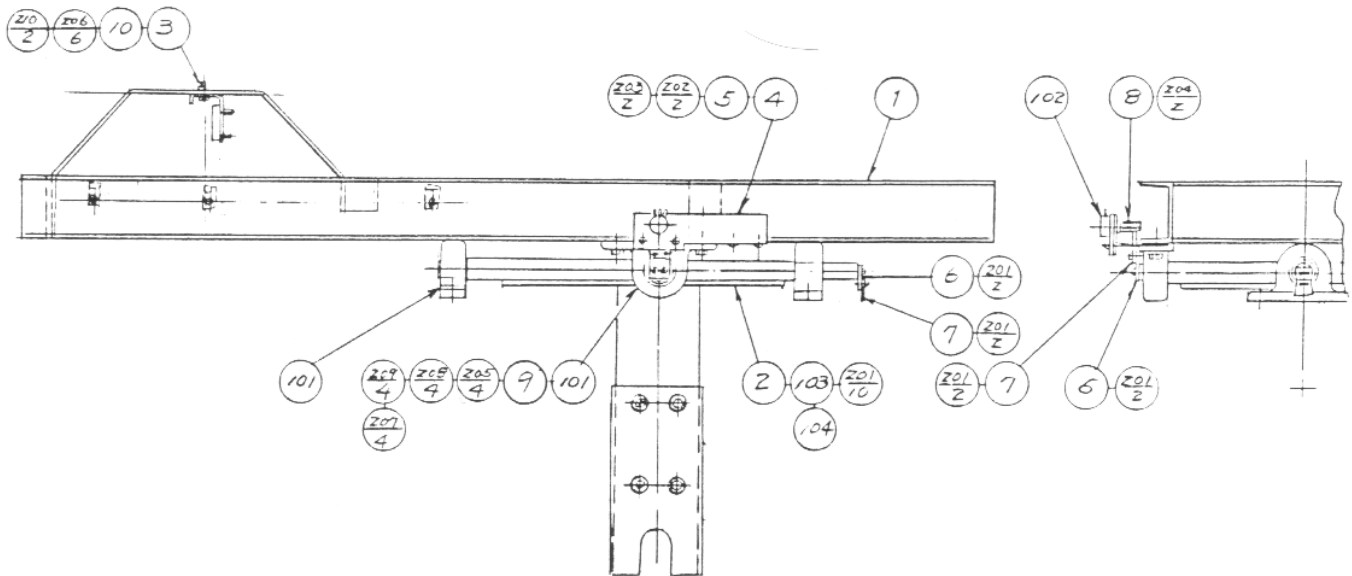
ITEM NO.	PART NO.	DESCRIPTION
113	220-5064	MAG CNTR 6DIG DC5V W/L & D10
114	SGB-3670-8	WIRE HARN COIN METER
	211-0087	CONN PLUG AMP 4P BROWN
115	209-0023	CLOSED END CONN
117	SGB-3670-27	WIRE HARN EARTH
118	211-0167	TERMINAL LUG RND ID5
119	SGB-3670-28	WIRE HARN DC FAN B.
	211-0097	CONN PLUG AMP 3P RED
	211-0118	CONN CAP AMP 3P RED
120	220-5046	MAGNETIC LOCK W/KEY
201	010-0412-F	S-TITE SCR PH W/F M4×12
202	000-0514-FS	M SCR PH W/FS M5×14
203	000-0450	M SCR PH M4×50
204	008-0512	TMP PRF SCR M5×12
205	029-0014	M SCR TH CRM M4×12
206	166-267	RIVET OPEN TYPE 3.2×4.4
207	029-0031	M SCR PH M6×18
208	060 0006	FLT WSHR M6
209	061-0006	SPR WSHR M6
210	059-0017	HEX NUT M12
211	050-0008	HEX NUT M8
212	059-0020	HEX NUT M18
213	069-0034	SPR WSHR M18
214	061-0008	SPR WSHR M8
215	050-0010	HEX NUT M10
216	061-0010	SPR WSHR M10
217	039-0012	HEX BOLT M10×60 S=30
218	069-0009	FLT WSHR 10.5-28×2
219	030-0640	HEX BOLT M6×40
220	039-0009	HEX BOLT M6×70
221	050-0006	HEX NUT M6
222	039-0008	HEX BOLT M10×30
223	069-0030	SPR WSHR M12
224	069-0020	FLT WSHR M12
225	039-0014	HEX BOLT M12×50 (P=1.75)
226	059-0017	HEX NUT M12 P=1.75
227	039-0015	HEX BOLT M8×12
228	061-0004	SPR WSHR M4
229	028-0001	SET SCR HEX SKT CP UNBR M3×4

⑨ AC UNIT (RH-3016)



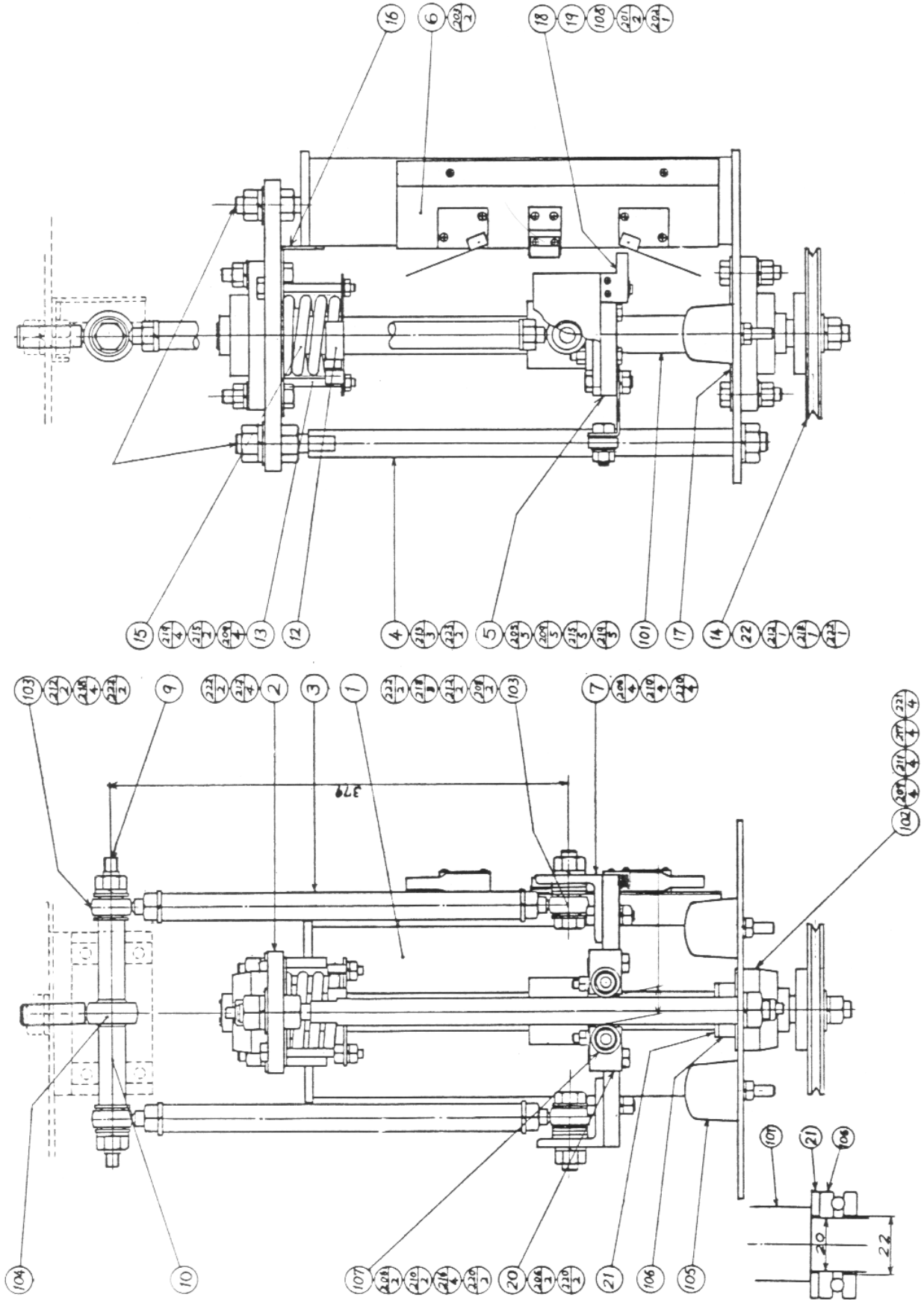
ITEM NO.	PART NO.	DESCRIPTION
1	RH-3016-A	AC UNIT BLANK
2	421-6200	STICKER FUSE INST.
101	280-0417	TERM BINDING POST BLACK
102	117-5122	TERMINAL 4 P (BERRER TYPE) T-20 (20A)
103	512-5002	CIRCUIT PROTECTOR 5A (NRF 110-5A)
104	512-5003	CIRCUIT PROTECTOR 10A (NRF 110-10A)
105	512-5004	CIRCUIT PROTECTOR 15A (NRF 110-15A)
106	600-5288	CABLE 3 WIRE 15A $\ell=4m$
107	509-5131	TOGGLE SW (ET-125A)
108	280-5058	BSHG STRAIN RLF 9.1
109	270-5009	LINE FILTER (TOKIN ESD-R-47B)
201	010-0412-F	S-TITE SCR PH W/F M4×12
	SGB-3670-1	WIRE HARN MAIN SW
	211-0124	CONN CAP AMP 6P RED
	SGB-3670-21	WIRE HARN L/R C. PROTECTOR
	211-0094	CONN PLUG AMP 2P RED
	SGB-3670-22	WIRE HARN U/D C. PROTECTOR
	211-0043	CONN PLUG AMP 2P WHITE
	211-0041	CONN PIN AMP 350687-1
	211-0042	CONN SOCKET AMP 350536-1
	209-0032	CLOSED END CONN
	601-0459	PLASTIC TIE BELT

⑩ ASSY UPPER BASE (RH-3100)



ITEM NO.	PART NO.	DESCRIPTION
1	RH-3101	UPPER BASE
2	RH-3102	TURN SHAFT
3	RH-3103	H. SHAFT BRACKET
4	RH-3104X	VOLUME BRACKET
5	RH-3105	VOLUME BRACKET, A
6	RH-3106	GEAR BRACKET
7	601-5423	GEAR 1/6
8	601-5410	GEAR 15, 6
9	RH-3107	ANGLE SPACER
10	RH-3108	H. SHAFT STOPPER
101	100-5024	BEARING UNIT
102	220-5130	VOL CONT B-5K OHM
103	280-0457	CLAMP CORD PLASTIC ID 12.7 mm
104	280-0248	CLAMP CORD PLASTIC ID 8 mm
201	000-0408-S	M SCR PH W/S M4×8
202	000-0408-FS	M SCR PH W/FS M4×8
203	000-0514-FS	M SCR PH W/FS M5×14
204	028-0001	SET SCR HEX SKT CP UNBR M3×4
205	039-0011	HEX BOLT M12×40
206	000-0520-FS	M SCR PH W/FS M5×20
207	059-0017	HEX NUT M12 P=1.75
208	069-0020	FLT WSHR M12
209	069-0030	SPR WSHR M12
210	050-0005	HEX NUT M5

11 ASSY PITCHING MECHANISM (RH-3200) (D-1/2)



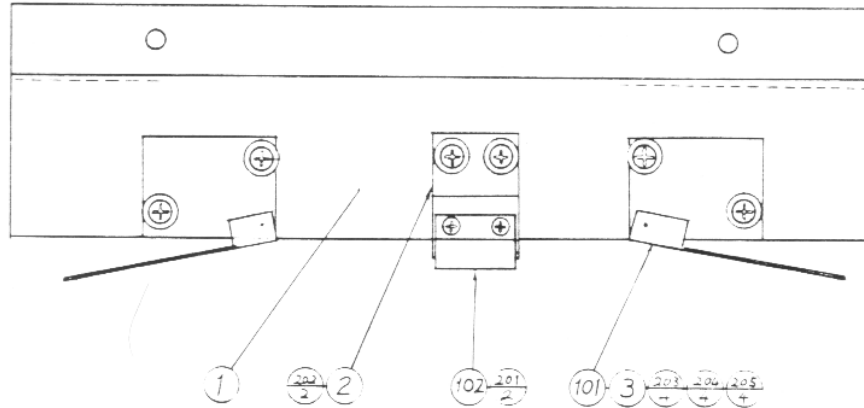
⑪

ASSY PITCHING MECHANISM (RH-3200)

(D-2/2)

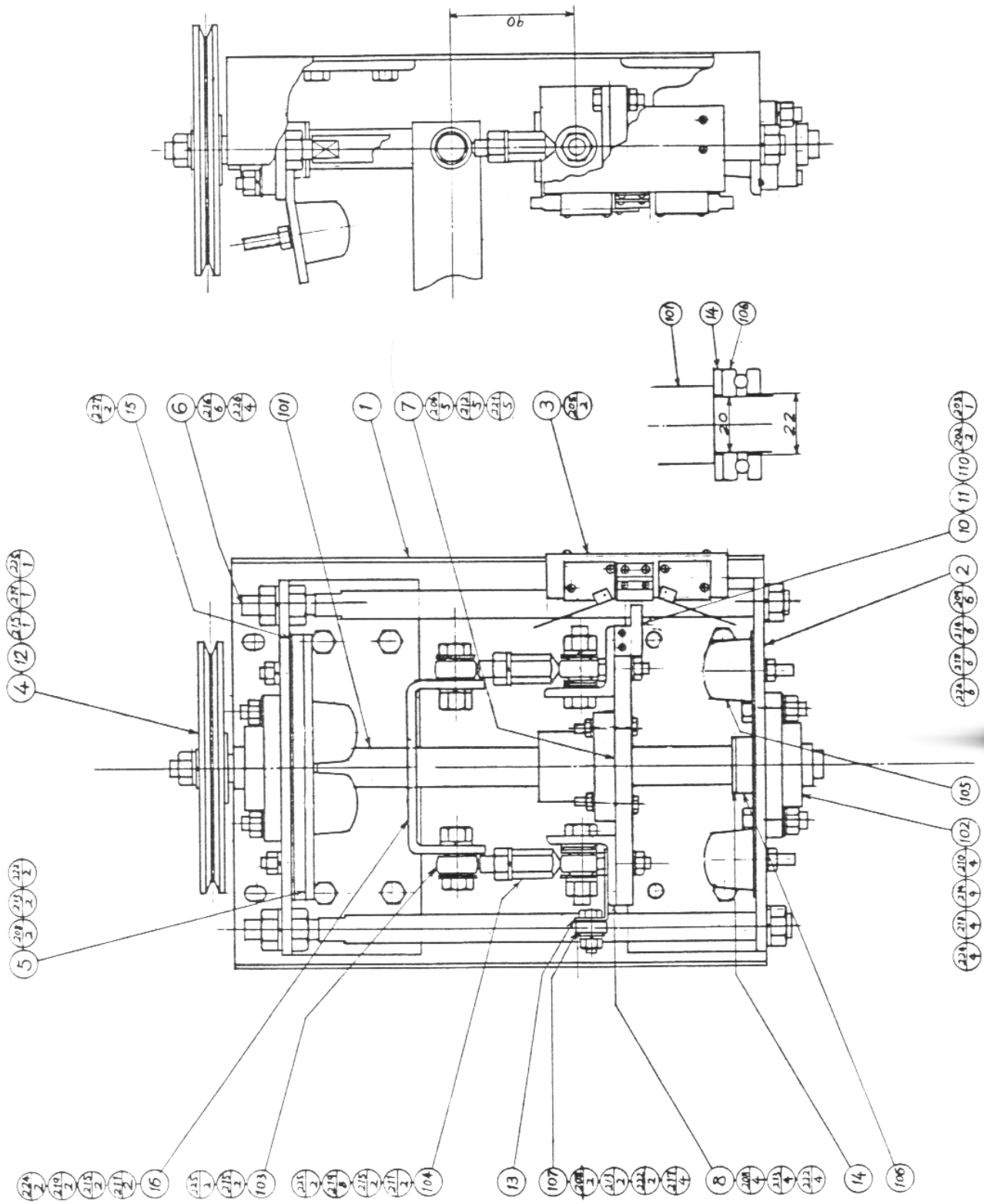
ITEM NO.	PART NO.	DESCRIPTION
1	RH-3201	MECHA BASE P
2	RH-3202	UPPER PLATE
3	RH-3203	PARALLEL ROD
4	RH-3306	ADJUST SHAFT
5	RH-3307	MOVING PLATE
6	RH-3204	ASSY LIMIT SW. P
7	RH-3308	PILLOW BRACKET
9	RH-3206	HORIZONTAL SHAFT
10	RH-3207	H · SHAFT COLLAR
12	RH-3209	SPRING STOPPER
13	RH-3210X	SPRING GUIDE
14	RH-3304	DRIVEN PULLEY
15	RH-3211	SPRING
16	RH-3212	ADJUST PLATE-PU
17	RH-3213	ADJUST PLATE-PL
18	RH-3309	MAGNET BRACKET A
19	RH-3310	MAGNET BRACKET B
20	RH-3312	GUIDE ROLLER BRACKET
21	RH-3313	BEARING SPACER
22	RH-3311	KEY
101	350-5080	BALL SCREW P
102	100-5025	BEARING UNIT
103	111-0006	ROD END
104	111-0008	ROD END
105	601-5472	RUBBER STOPPER
106	100-5026	BEARING
107	100-5018	BALL BEARING $\phi 8$
108	113-0009	MAGNET
201	000-0310-FS	M SCR P · H W/SF M3×10
202	001-0310	M SCR F · H M3×10
203	000-0510-S	M SCR P · H W/S M5×10
205	030-0640	HEX BLT M6×40
206	030-0830	HEX BLT M8×30
207	039-0013	HEX BLT M10×40
208	039-0014	HEX BLT M12×50
209	050-0006	HEX NUT M6
210	050-0008	HEX NUT M8
211	050-0010	HEX NUT M10
212	059-0017	HEX NUT M12
213	059-0016	HEX NUT M14
215	060-0006	FLT WSHR M6
216	060-0008	FLT WSHR M8
217	060-0010	FLT WSHR M10
218	069-0020	FLT WSHR M12
219	061-0006	SPR WSHR M6
220	061-0008	SPR WSHR M8
221	061-0010	SPR WSHR M10
222	069-0030	SPR WSHR M12
223	069-0019	SPR WSHR M14

⑫ ASSY LIMIT SWITCH P (RH-3204)



ITEM NO.	PART NO.	DESCRIPTION
1	RH-3214	LIMIT SW BRACKET
2	RH-3316X	HOME POSITION SW BRACKET
3	RH-3317	LIMIT SW STOPPER
4	SGB-3670-17	WIRE HARN U/D
	211-0123	CONN PLUG AMP 4P YELLOW
	211-0041	CONN PIN AMP
	209-0023	CLOSED END CONN
	280-5015	FASTON RC PT 110
101	509-5129	SW MICRO TYPE
102	509-5130	SW MAGNET TYPE
103	601-0460	PLASTIC TIE BELT
201	000-0308-S	M. SCR P.H. PHILL W/S M3×8
202	010-0412-F	S-TITE SCR M4×12
203	000-0425	M. SCR P.H PHILL M4×25
204	060-0004	FLAT WSHR M4
205	061-0004	SPR WSHR M4

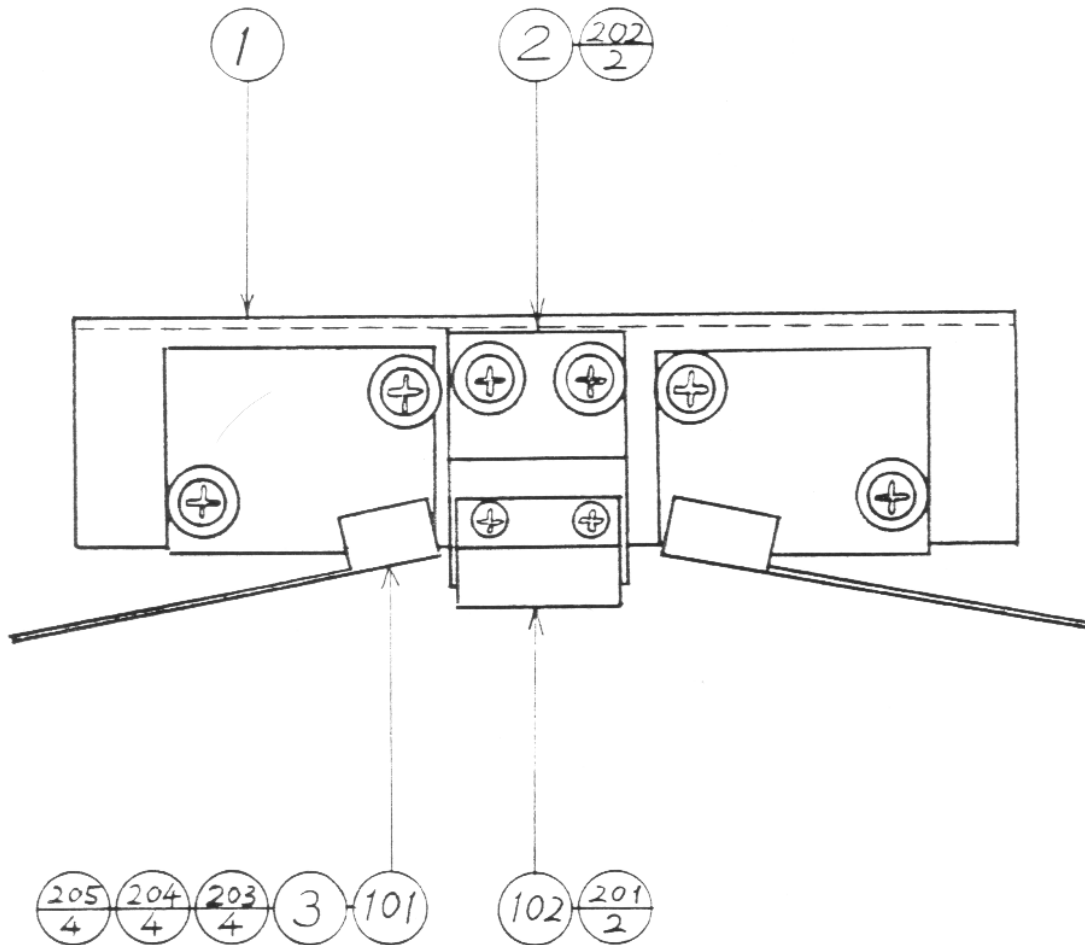
13 ASSY ROLLING MECHANISM (RH-3300) (D-1/2)



⑬ ASSY ROLLING MECHANISM (RH-3300) (D-2/2)

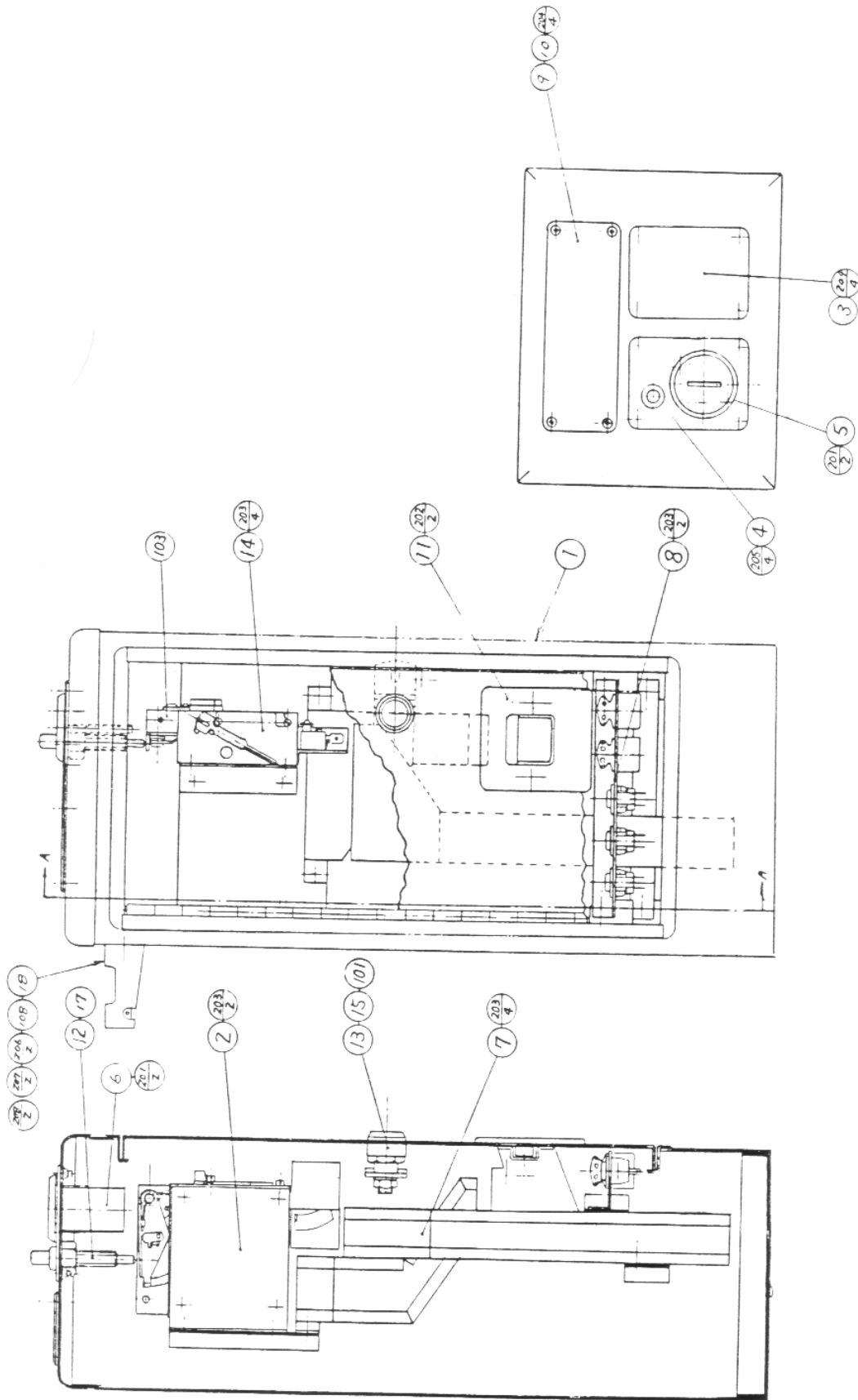
ITEM NO.	PART NO.	DESCRIPTION
1	RH-3301	MECHA BASE R
2	RH-3302	SIDE PLATE
3	RH-3303	ASSY LIMIT SW R
4	RH-3304	DRIVEN PULLEY
5	RH-3305	STOPPER BRACKET
6	RH-3306	ADJUST SHAFT
7	RH-3319	MOVING PLATE
8	RH-3308	PILLOW BRACKET
10	RH-3309	MAGNET BRACKET A
11	RH-3310	MAGNET BRACKET B
12	RH-3311	KEY
13	RH-3312	GUIDE ROLLER BRACKET
14	RH-3313	BEARING SPACER
15	RH-3314	ADJUST PLATER
16	RH-3318	TURNSHAFT BRACKET
101	350-5081	BALL SCREW R
102	100-5025	BEARING UNIT
103	111-0006	ROD END
104	111-0007	ROD END
105	601-5472	RUBBER STOPPER
106	100-5026	BEARING
107	100-5018	BALL BEARING $\phi 8$
110	113-0009	MAGNET
202	000-0310-FS	M SCR P · H W/SF M3×10
203	001-0310	M SCR F · H M3×10
205	000-0510-S	M SCR P · H W/S M5×10
206	030-0640	HEX BLT M6×40
208	030-0830	HEX BLT M8×30
209	039-0008	HEX BLT M10×30
210	039-0013	HEX BLT M10×40
211	039-0014	HEX BLT M12×50
212	050-0006	HEX NUT M6
213	050-0008	HEX NUT M8
214	050-0010	HEX NUT M10
215	059-0017	HEX NUT M12
216	059-0016	HEX NUT M14
217	060-0008	FLT WSHR M8
218	060-0010	FLT WSHR M10
219	069-0020	FLT WSHR M12
221	061-0006	SPR WSHR M6
223	061-0010	SPR WSHR M10
224	061-0030	SPR WSHR M12
226	069-0019	SPR WSHR M14
227	000-0416-FS	M SCR P · H W/FS M4×16

⑭ ASSY LIMIT SWITCH R (RH-3303)



ITEM NO.	PART NO.	DESCRIPTION
1	RH-3315	LIMIT SW BRACKET R
2	RH-3316X	HOME POSITION SW BRACKET
3	RH-3317	LIMIT SW STOPPER
4	SGB-3670-13	WIRE HARN LIMIT L/R
	211-0082	CONN PLUG AMP 4P BROWN
	211-0041	CONN PIN AMP
	209-0023	CLOSED END CONN
	280-5015	FASTON RCPT 110
101	509-5129	SW. MICRO TYPE
102	509-5130	SW. MAGNET TYPE
103	601-0460	PLASTIC TIE BELT
201	000-0308-S	M SCR PH PHILL W/S M3×8
202	010-0412-F	S-TITE SCR M4×12
203	000-0425	M SCR PH PHILL M4×25
204	060-0004	FLAT WSHR M4
205	061-0004	SPR WSHR M4

15 ASSY COIN CHUTE BOX (RH-3400) (D-1/3)



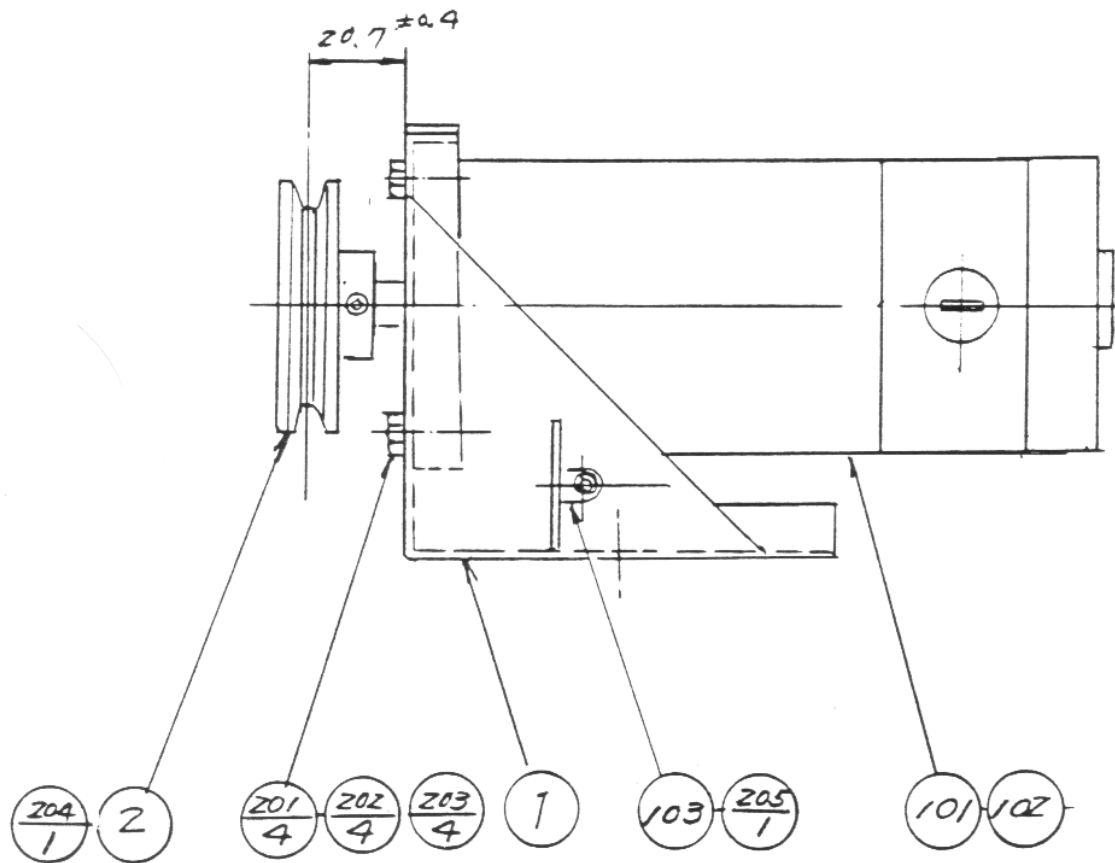
⑮ ASSY COIN CHUTE BOX (RH-3400) (D-2/3)

ITEM NO.	PART NO.	DESCRIPTION
1	RH-3401	COIN CHUTE BOX
2	HN-3002	COIN CHUTE BRACKET BASE
3	HN-3003	HOLE COVER
4	HN-3004	COIN ENTRY BASE
5	COIN ENTRY	
	HN-3006	USA 25¢ / BELGIUM 5
	HN-3014	GERMAN 1 DM
	HN-3015	GERMAN 5 DM / FRANCE 5 Fr
	HN-3016	ENGLAND 10 P
	HN-3017	ENGLAND 50 P
	HN-3018	BELGIUM 20 FR./FRANCE 20 Fr/ITALY 500 L
	HN-3019	SWISS 1 Fr
6	HN-3007X	COIN ENTRY CHUTE
7	RH-3402	LOWER COIN CHUTE
8	HN-3009	SW UNIT
9	HN-3011	DENOMINATION PLATE
10	DENOMINATION SHEET	
	HN-3045	1 GAME 3×25¢ 1 GAME 3×25¢
	HN-3013	1 GAME 25¢ 1 GAME 25¢
	HN-3021	1 GAME 2×25¢ 1 GAME 2×25¢
	HN-3022X	1 GAME 2×1DM 3 GAMES 5DM
	HN-3023X	1 GAME 1DM 6 GAMES 5DM
	HN-3024X	1 GAME 10P 5 GAMES 50P
	HN-3025X	1 GAME 2×10P 3 GAMES 50P
	HN-3026X	1 GAME 3×10P 2 GAMES 50P
	HN-3031X	1 GAME 5Fr 4 GAMES 20Fr
	HN-3032X	1 GAME 2×5Fr 2 GAMES 20Fr
	HN-3033X	1 GAME 3×5Fr 2 GAMES 20Fr
	HN-3043	1 GAME 20Fr 1 GAME 20 Fr
	HN-3036X	1 GAME 5Fr 2 GAMES 10Fr
	HN-3035	1 GAME 2×1Fr 1 GAME 2×1Fr
	HN-3027	1 GAME 500L 1 GAME 500L
	HN-3028	2 GAMES 500L 2 GAMES 500L
	HN-3029	3 GAMES 500L 3 GAMES 500L
	HN-3030	5 GAMES 500L 5 GAMES 500L
11	HN-1062	REJECT CUP & FLAP DOOR ASSY
12	HN-3046	REJECT BUTTON ASSY
13	DP-1148X	LKG TNG
14	220-5086	COIN CHUTE BRACKET
15	280-0453	SPACER RING TUBE
16	SGB-3670-9	WIRE HARN COIN SW
17	SD-4005	SPACER
18	601-5148	ASHTRAY
101	220-5044-01	MAGNETIC LOCK MASTER W/O KEY
102	220-5045-01	KEY MASTER FOR 220-5044-01
103	COIN CHUTE	
	220-0084	USA 25¢
	220-0227	GERMAN 1DM
	220-0228	GERMAN 5DM
	220-0226	ENGLAND 10P
	220-0233	BELGIUM 5Fr
	220-5052	BELGIUM 20Fr
	220-0231	FRANCE 5Fr
	220-0256	FRANCE 10Fr
	220-0249	SWISS 1Fr
	220-5131	ITALY 500L

⑮ ASSY COIN CHUTE BOX (RH-3400) (D-3/3)

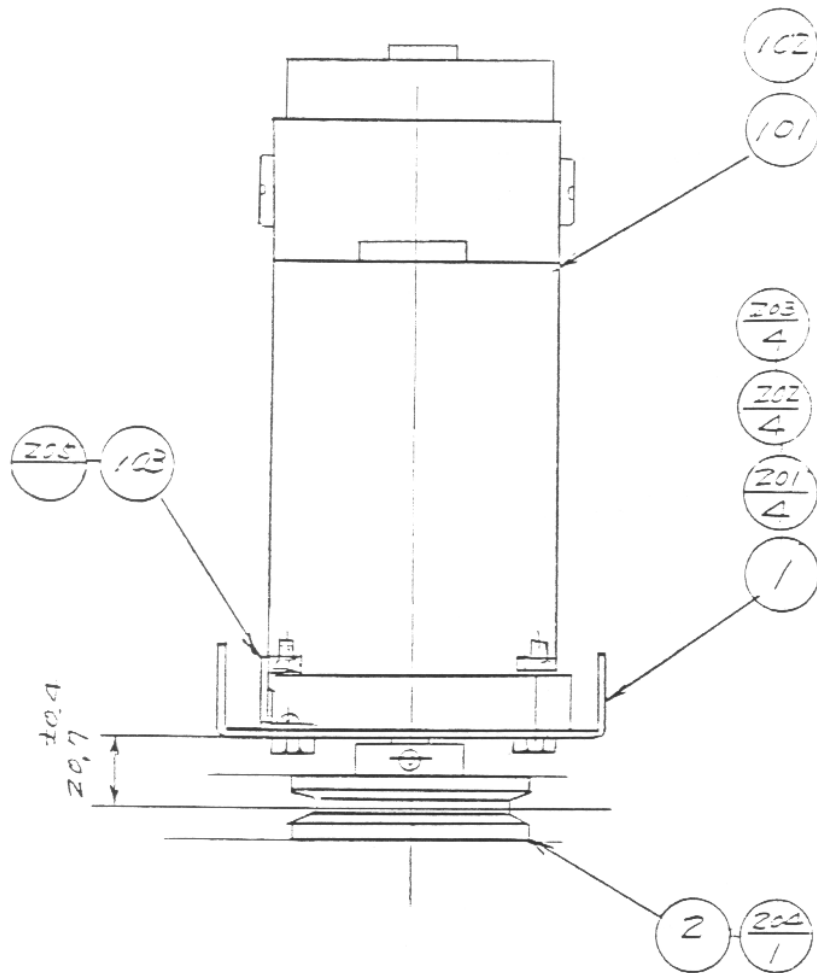
ITEM NO.	PART NO.	DESCRIPTION
104	211-0041	CONN PIN AMP (AMP 350687-1)
105	211-0073	CONN PLUG AMP 4P WHITE (AMP 1-480702-0)
106	211-0072	CONN CAP AMP 4P WHITE
107	211-0042	CONN SOCKET AMP
108	117-5063	PLATE SEGA TRADEMARK
201	000-0304	M SCR PH M3×4
202	000-0308-FS	M SCR PH W/FS M3×8
203	010-0406-F	S-TITE SCR PH W/F M4×6
204	008-0408	TMP PRF SCR TH M4×8
205	051-0004	FLG NUT M4
206	032-0620	WNG BLT M6×20
207	050-0006	HEX NUT M6
208	061-0006	SPR WSHR M6

①⑥ ASSY MOTOR LEFT / RIGHT (RH-3500)



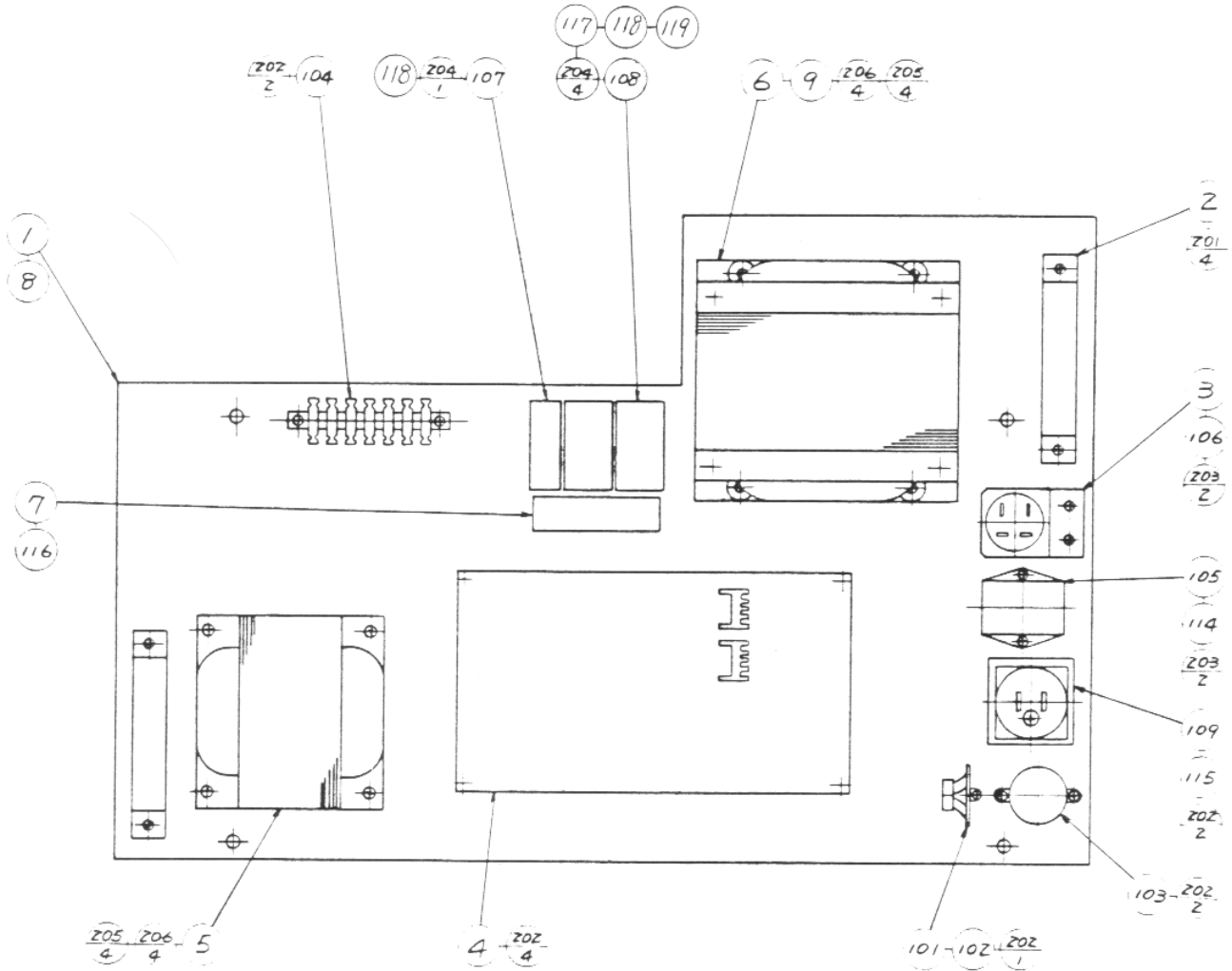
ITEM NO.	PART NO.	DESCRIPTION
1	RH-3501	MOTOR BRACKET R
2	RH-3502	DRIVE PULLEY
101	350-5079	MOTOR DC 80V 3000 rpm
102	SGB-3670-12	WIRE HARN MOTOR L. R.
	601-0460	PLASTIC TIE BELT
	211-0088	CONN PLUG AMP 6P BROWN
	211-0080	CONN CAP AMP 2P BROWN
	211-0085	CONN PLUG AMP 2P BROWN
103	117-0184	TERMINAL PLATE 1L 4P
	211-0041	CONN PIN AMP
	211-0042	CONN SOCKET AMP
	475-0018	CERAMIC VARISTOR 220V 0.8W
201	030-0630	HEX BLT M6×30
202	050-0006	HEX NUT M6
203	061-0006	SPR WSHR M6
204	028-0007	SET SCR HEX SKT CP UNBR
205	010-0308-F	S-TITE SCR PH W/F M3×8
	211-0083	CONN CAP AMP 6P BROWN

①7 ASSY MOTOR PITCHING (RH-3600)



ITEM NO.	PART NO.	DESCRIPTION
1	RH-3601	MOTOR BRACKET-P
2	RH-3502	DRIVE PULLEY
101	350-5079	MOTOR DC 80V 3000 rpm
102	SGB-3670-11	WIRE HARN MOTOR, P
	601-0460	PLASTIC TIE BELT
	211-0105	CONN PLUG AMP 6P YELLOW
	211-0117	CONN CAP AMP 2P YELLOW
	211-0097	CONN PLUG AMP 2P YELLOW
103	117-0184	TERMINAL PLATE 1L 4P
	211-0041	CONN PIN AMP
	211-0042	CONN SOCKET AMP
	475-0018	CERAMIC VARISTOR 220V 0.8W
201	030-0630	HEX BOLT M6×30
202	050-0006	HEX NUT M6
203	061-0006	SPR WSHR M6
204	028-0007	SET SCR HEX SKT CP UNBR M4×10
205	010-0308-F	S-TITE SCR PH W/F M3×8

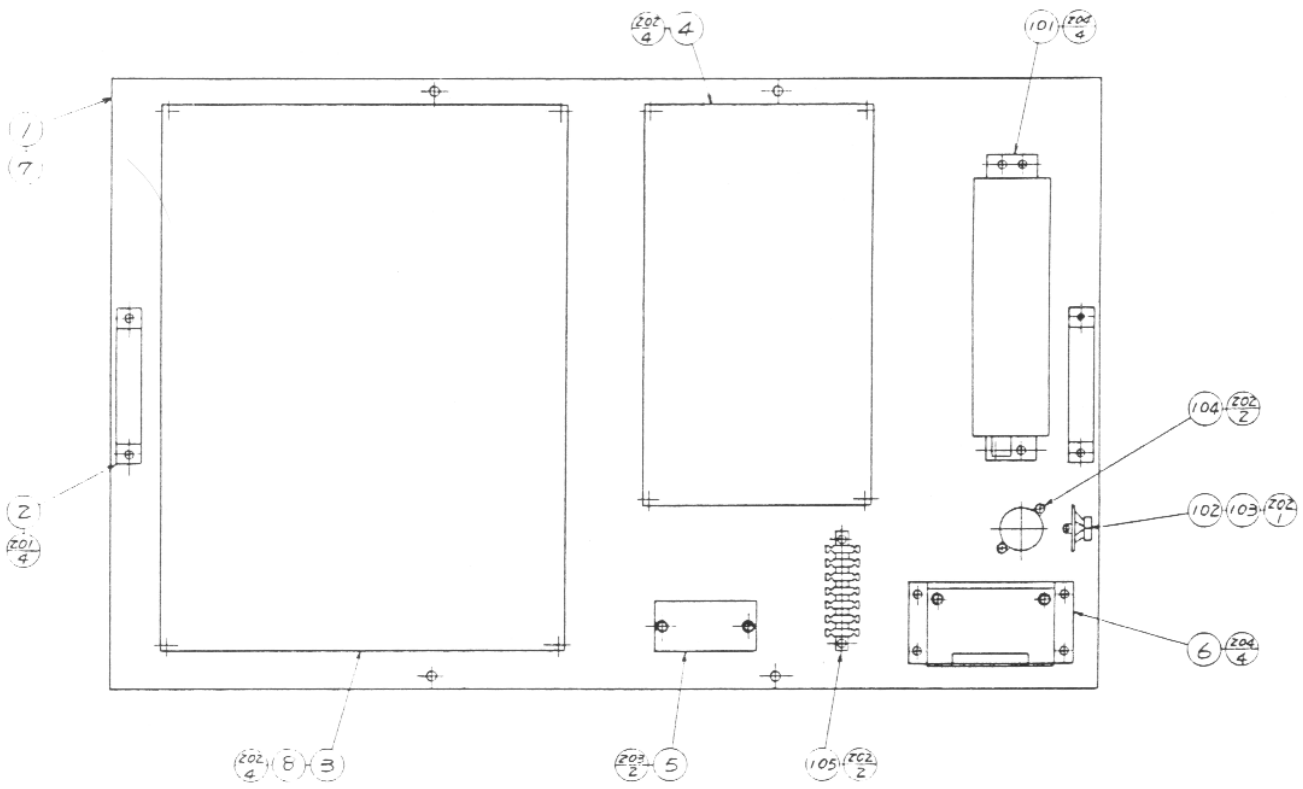
18 ASSY POWER SUPPLY (RH-4000) (D-1/2)



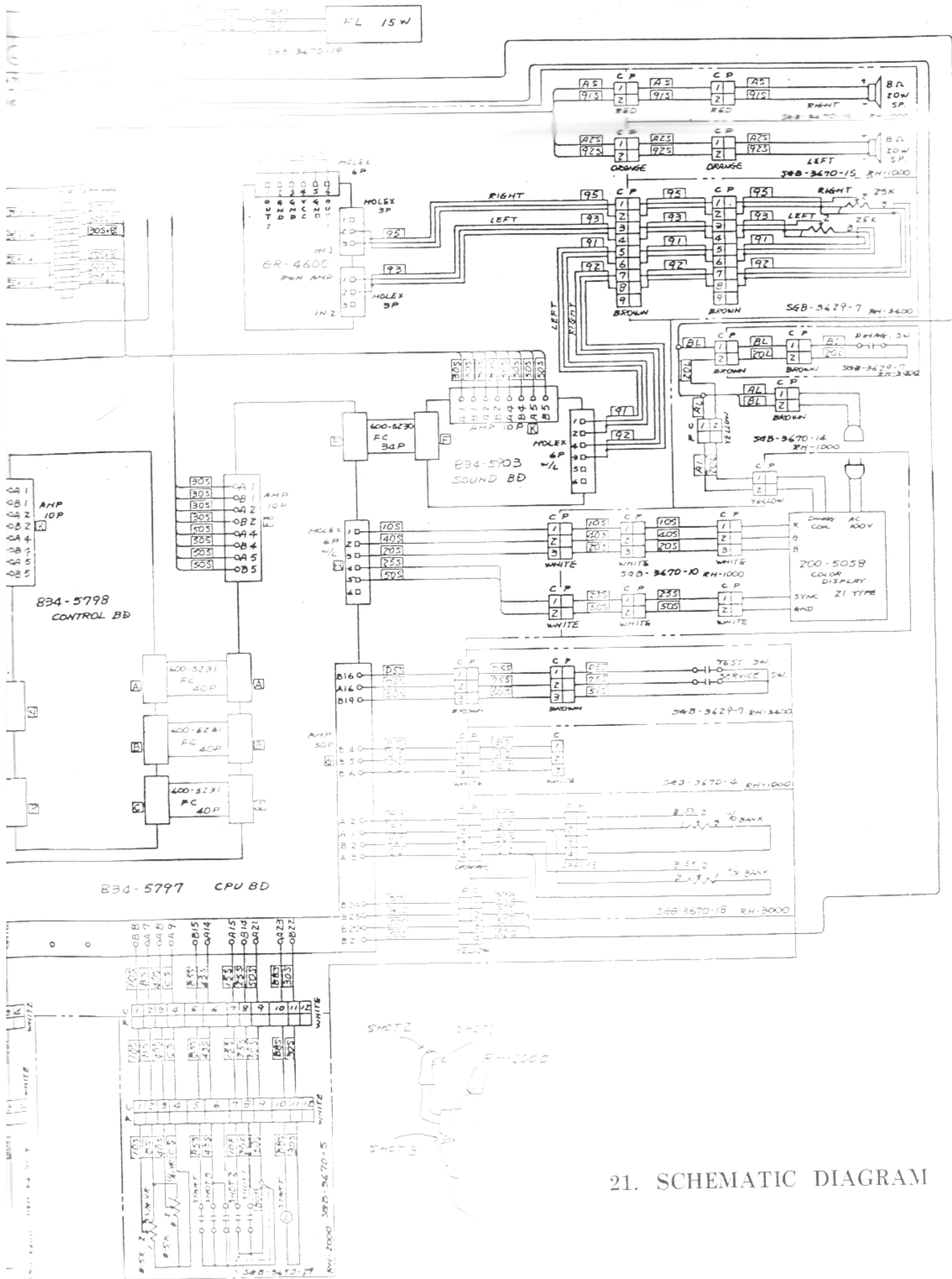
⑱ ASSY POWER SUPPLY (RH-4000) (D-2/2)

ITEM NO.	PART NO.	DESCRIPTION
1	RH-4001	BASE
2	RH-4002	GRIP
3	DY-4204	BRACKET
4	834-5801	ASSY DRIVE BD RH
5	560-5076	PWR XFMR 90V~240V 10V 24V 100V
6	560-5077	PWR XFMR 90V~240V 9.5V 18V 50V~80V
7	421-6189	STICKER FUSE INSTR
8	SGB-3670-2	WIRE HARN PWR SUPPLY
	211-0044	CONN CAP AMP 2P WHITE
	211-0080	CONN CAP AMP 2P BROWN
	211-0115	CONN CAP AMP 2P RED
	211-0117	CONN CAP AMP 2P YELLOW
	211-0082	CONN CAP AMP 4P BROWN
	211-0123	CONN CAP AMP 4P YELLOW
	211-0083	CONN CAP AMP 6P BROWN
	211-0126	CONN CAP AMP 6P YELLOW
	211-0103	CONN PLUG AMP 6P RED
	211-5101	CONN FEM 10P (AMP 172145-1)
	211-5046	CONN FEM 34P (AMP 172145-5)
	211-0041	CONN PIN AMP (AMP 350687-1)
	211-0042	CONN SOCKET AMP (AMP 350536-1)
	211-0107	CONN PLUG AMP 9P ORANGE
	211-5047	CONTACT (AMP 170435-4)
	211-0118	CONN CAP AMP 3P RED
9	600-5271	ASSY WIRE HARN 5P
101	117-0184	TERMINAL PLATE 1L 4P
102	481-0065	DIODE BRIDGE S 2VB10
103	150-0173	CAP E 4700 μ F 50V C-TYPE
104	211-0175	TERMINAL PLATE 7P
105	601-0429	NOISE FILTER 4A
106	270-5008	NOISE FILTER 15A
107	514-0045	FUSE HOLDER 1P W/COVER
108	514-0064	FUSE HOLDER 2P W/COVER
109	601-0484	OUTLET TABLE TYPE SINGLE
110	280-0400	CLAMP, CORD PLASTIC ID 5 mm
111	280-0132	CLAMP, CORD PLASTIC ID 10 mm
112	280-0419	HARN LUG
113	601-0460	PLASTIC TIE BELT
114	280-0472	FASTON RCPT 110
115	211-0167	TERMINAL LUG RND ID 5
116	601-0769	STAPLE MAX #3
117	514-0036	FUSE 3A
118	514-0040	FUSE 4A
119	514-0034	FUSE 5A
201	000-0514-FS	M SCR PH W/FS M5 \times 14
202	005-3113	W SCR RH 3.1 \times 13
203	005-3513-F	W SCR RH W/F 3.5 \times 13
204	005-3520	W SCR RH 3.5 \times 20
205	069-0001	F WSHR SPECIAL 5.5-20 \times 1.6
206	000-0520-FS	M SCR PH W/FS M5 \times 20

19 GAME BOARD UNIT & POWER AMP (RH-4100) (D-1/2)



ITEM NO.	PART NO.	DESCRIPTION
1	RH-4101X	BASE
2	RH-4002	GRIP
3	834-5796	ASSY GAME BD A RH
4	834-5799	ASSY GAME BD B RH
5	834-5809	ASSY LAMP DRIVE BD RH
6	GR-4600	PWR AMP DC 39V 15W
7	SGB-3670-3	WIRE HARN GAME BD & PWR AMP
	211-0044	CONN CAP AMP 2P WHITE
	211-0080	CONN CAP AMP 2P BROWN
	211-0060	CONN CAP AMP 3P WHITE
	211-0081	CONN CAP AMP 3P BROWN
	211-0116	CONN CAP AMP 2P ORANGE
	211-0115	CONN CAP AMP 2P RED
	211-0082	CONN CAP AMP 4P BROWN
	211-0117	CONN CAP AMP 2P YELLOW
	211-0123	CONN CAP AMP 4P YELLOW
	211-0128	CONN CAP AMP 9P ORANGE
	211-0084	CONN CAP AMP 9P BROWN
	211-0047	CONN CAP AMP 12P WHITE
	211-0043	CONN PLUG AMP 2P WHITE
	211-0096	CONN PLUG AMP 2P YELLOW
	211-0102	CONN PLUG AMP 4P YELLOW
	211-5105	CONN FEM 50P (AMP 172145-7)
	212-5034	CONN FEM 6P MOLEX W/LOCK
	211-0157	CONN FEM 3P MOLEX
	211-0158	CONN FEM 6P MOLEX
	211-5101	CONN FEM 10P (AMP 172145-1)
	211-0041	CONN PIN AMP (AMP 350687-1)
	211-0042	CONN SOCKET AMP (AMP 350536-1)
	211-0005	CONN CRIMP LOCK (MOLEX 08-05-0105)
	211-5047	CONTACT (AMP 170435-4)
	211-0122	CONN CAP AMP 4P ORANGE
8	600-5215	ASSY FEM & F C 26P
101	400-5038	SW REGU 90V~240V 5V 12A
102	117-0184	TERMINAL PLATE 1L 4P
103	481-0065	DIODE BRIDGE S2VB10
104	150-0173	CAP E 4700 μ F 50V C-TYPE
105	211-0175	TERMINAL PLATE 7P
106	280-0419	HARN LUG
107	601-0460	PLASTIC TIE BELT
201	000-0520-FS	M SCR PH W/FS M5 \times 20
202	005-3113	W SCR RH 3.1 \times 13
203	005-3120	W SCR RH 3.1 \times 20
204	005-3513-F	W SCR RH W/F 3.5 \times 13



21. SCHEMATIC DIAGRAM