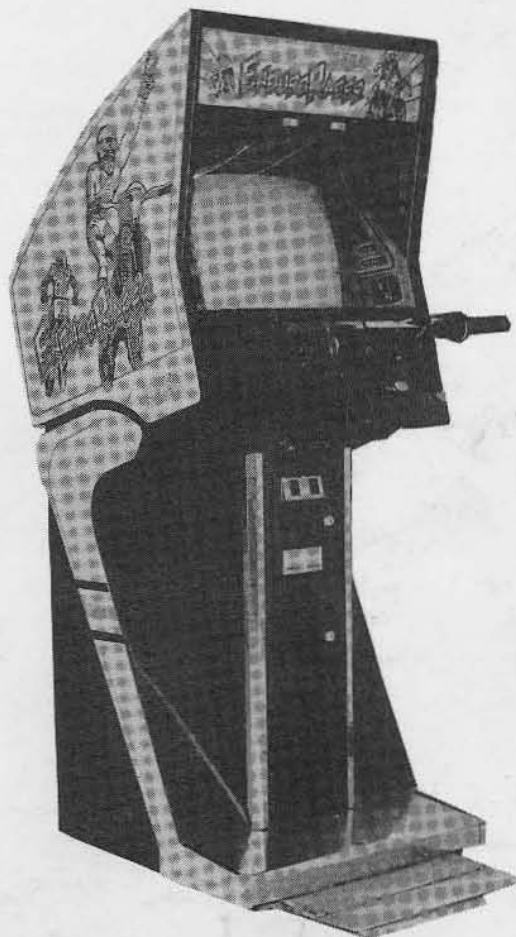


SEGA[®]

ENDURO RACER

UPRIGHT TYPE

OWNER'S MANUAL



SEGA ENTERPRISES, LTD.



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UPRIGHT TYPE

SPECIFICATIONS

INSTALLATION SPACE	: 660 mm (26 in.) W × 920 mm (36.2 in.) D
HEIGHT	: 1790 mm (70.5 in.)
POWER	: 230 W
C. R. T.	: 20"
WEIGHT	: 110 kg (242.5 lbs)

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 ENDURO RACER, 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.



LICENSE 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

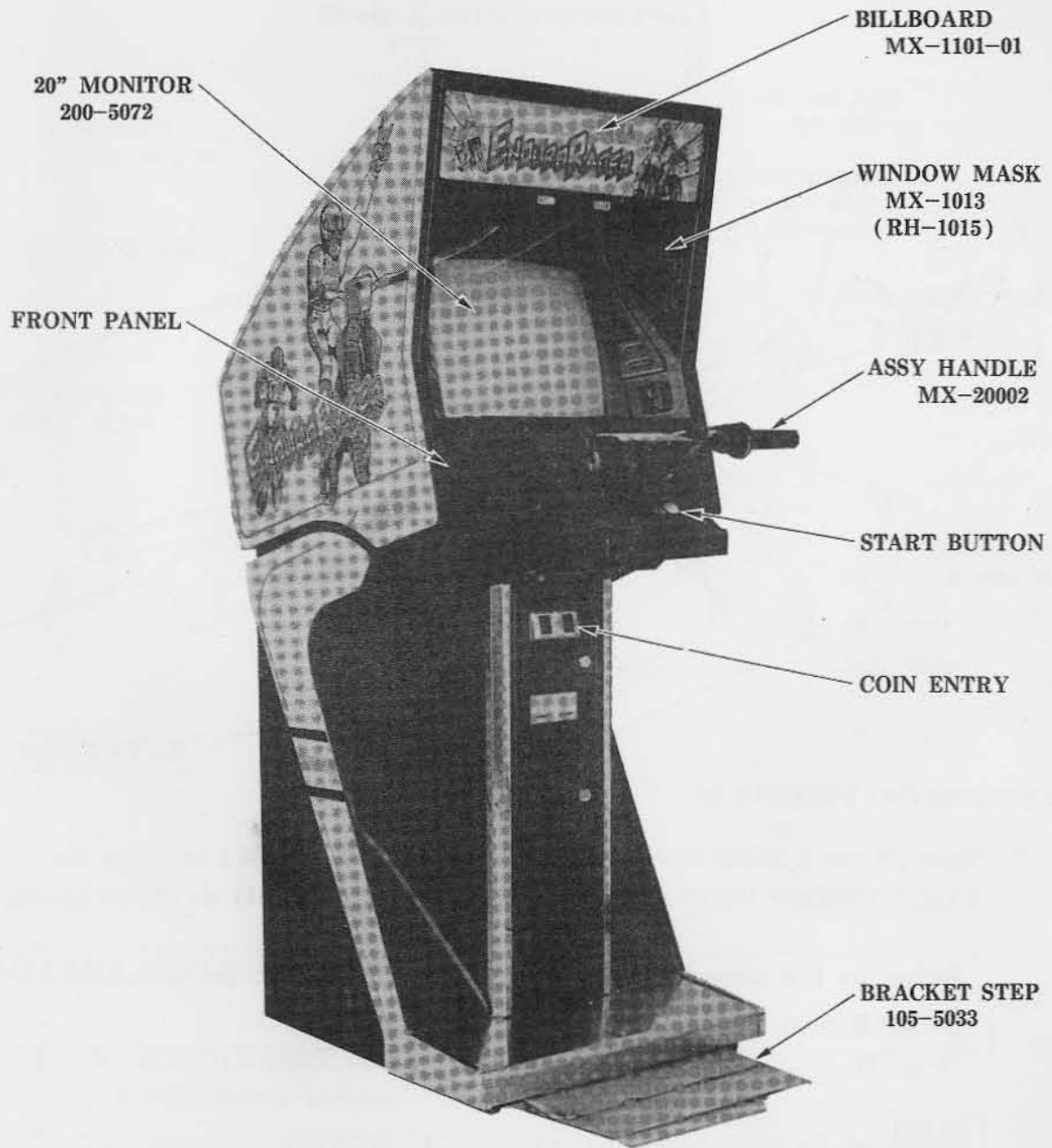
This signifies that this work was disclosed in 1986 and is the property of SEGA ENTERPRISES, LTD.

3. PRECAUTIONS CONCERNING THE PLACE OF INSTALLATION

The ENDURO RACER 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:

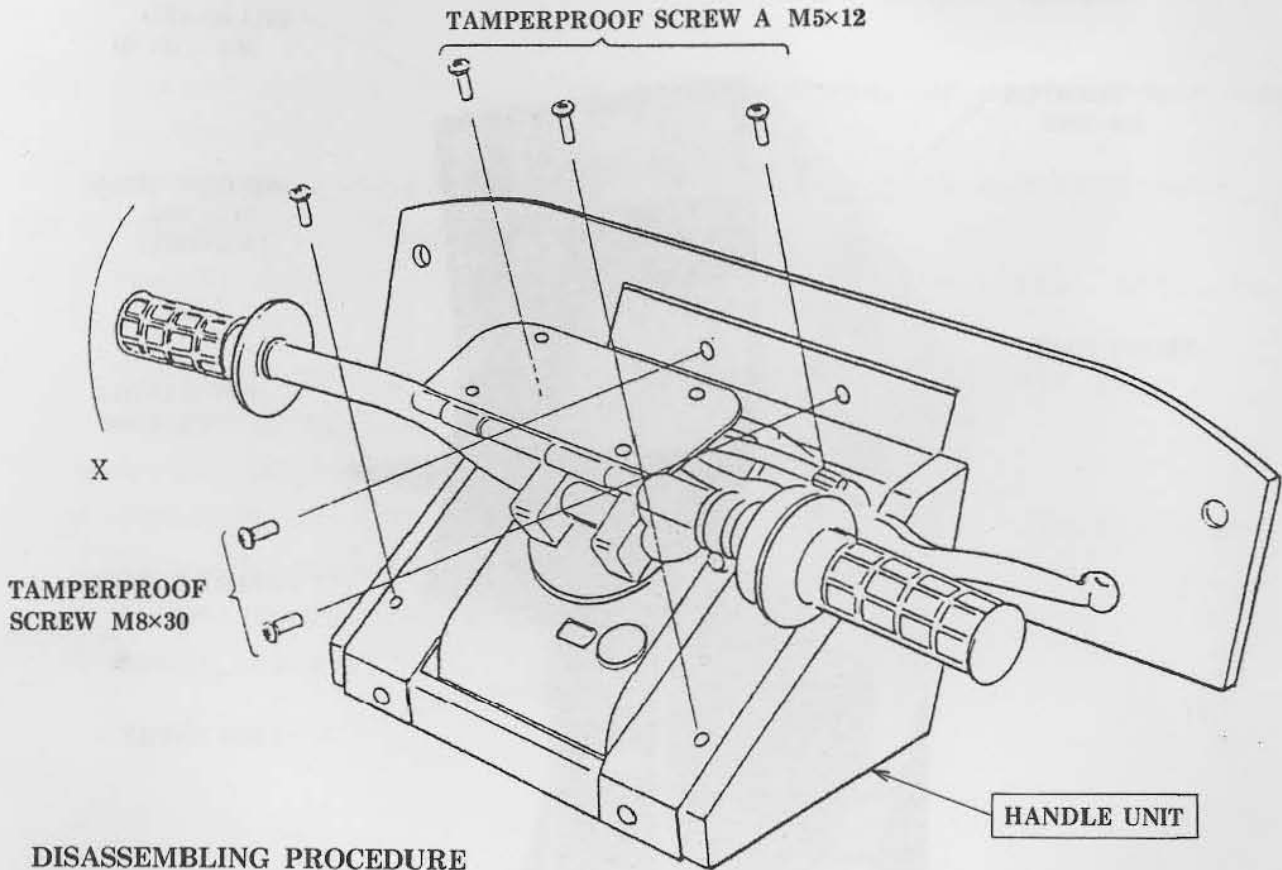
- o Places subject to rain or water leakage, or condensation due to humidity.
- o In the proximity of an indoor swimming pool and/or shower.
- o Places subject to direct sunlight.
- o Places subject to heat sources from heating units, etc., or hot air.
- o Vicinity of highly inflammable/volatile chemicals 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.

4. NAME OF PARTS



5. REMOVING THE HANDLE UNIT

- When adjusting the ACCELERATOR and BRAKE, CENTERING, remove the HANDLE UNIT by using the following procedure :



DISASSEMBLING PROCEDURE

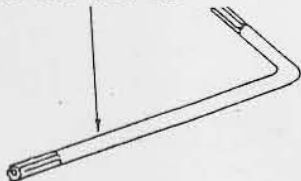
- ① Take off the 6 TAMPERPROOF SCREWS (M5×12, M8×30) by using the TAMPERPROOF WRENCH and remove the HANDLE UNIT as shown above.

Refer to the separate item, ADJUSTING THE ACCELERATOR, BRAKE and CENTERING.

TOOLS

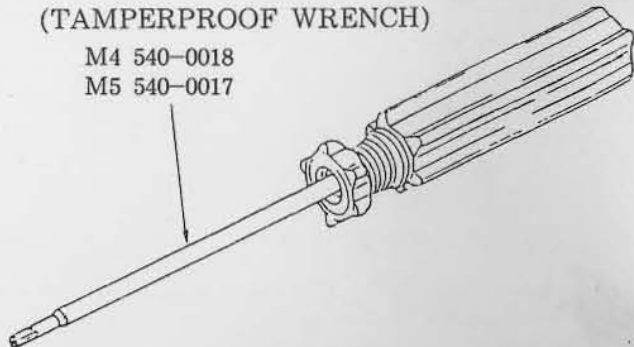
(TAMPERPROOF WRENCH)

M4 540-0006-01
M5 540-0007-01
M6 540-0015-01
M8 540-0009-01

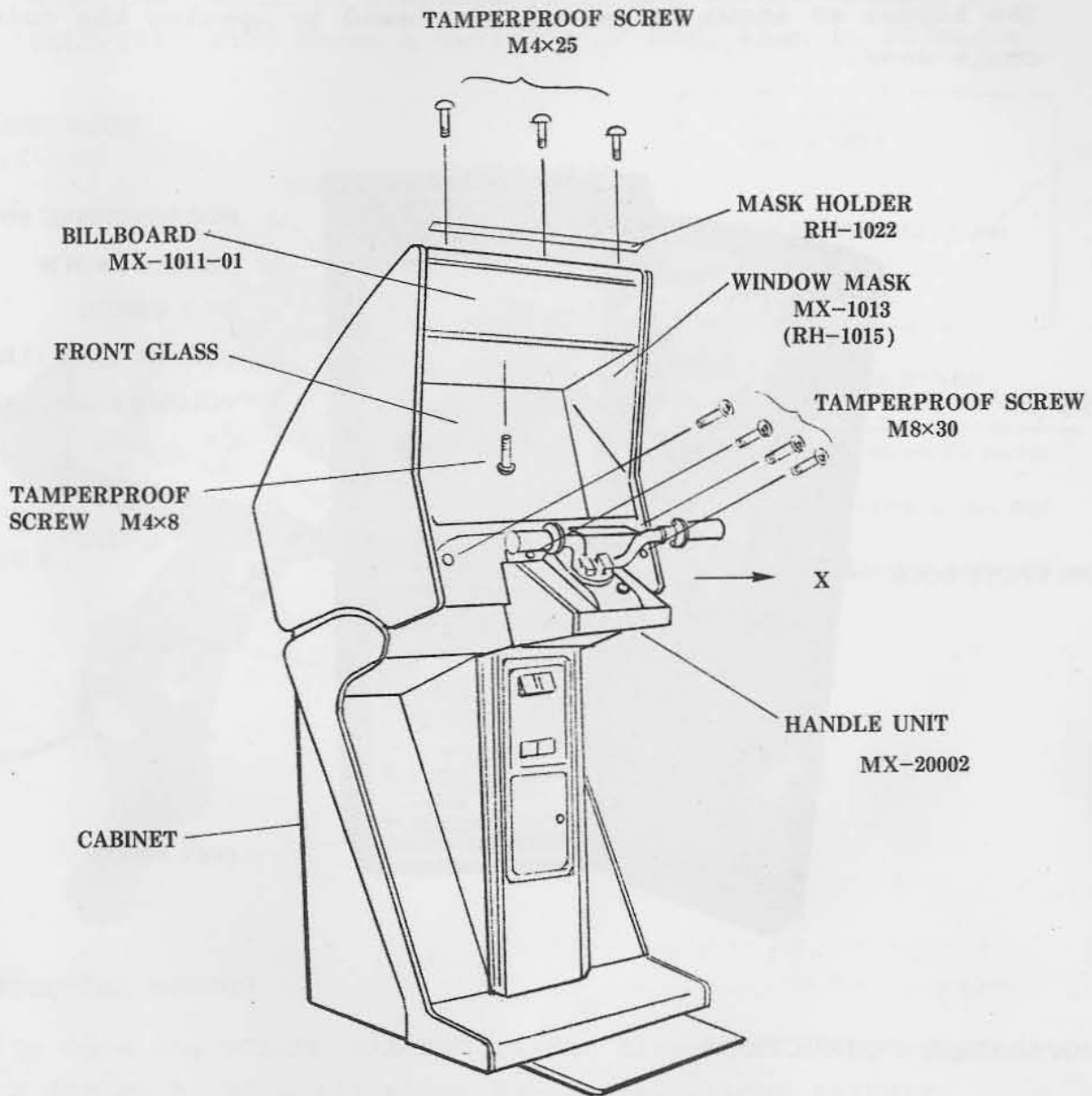


(TAMPERPROOF WRENCH)

M4 540-0018
M5 540-0017



6. SERVICING THE HANDLE UNIT AND WINDOW MASK

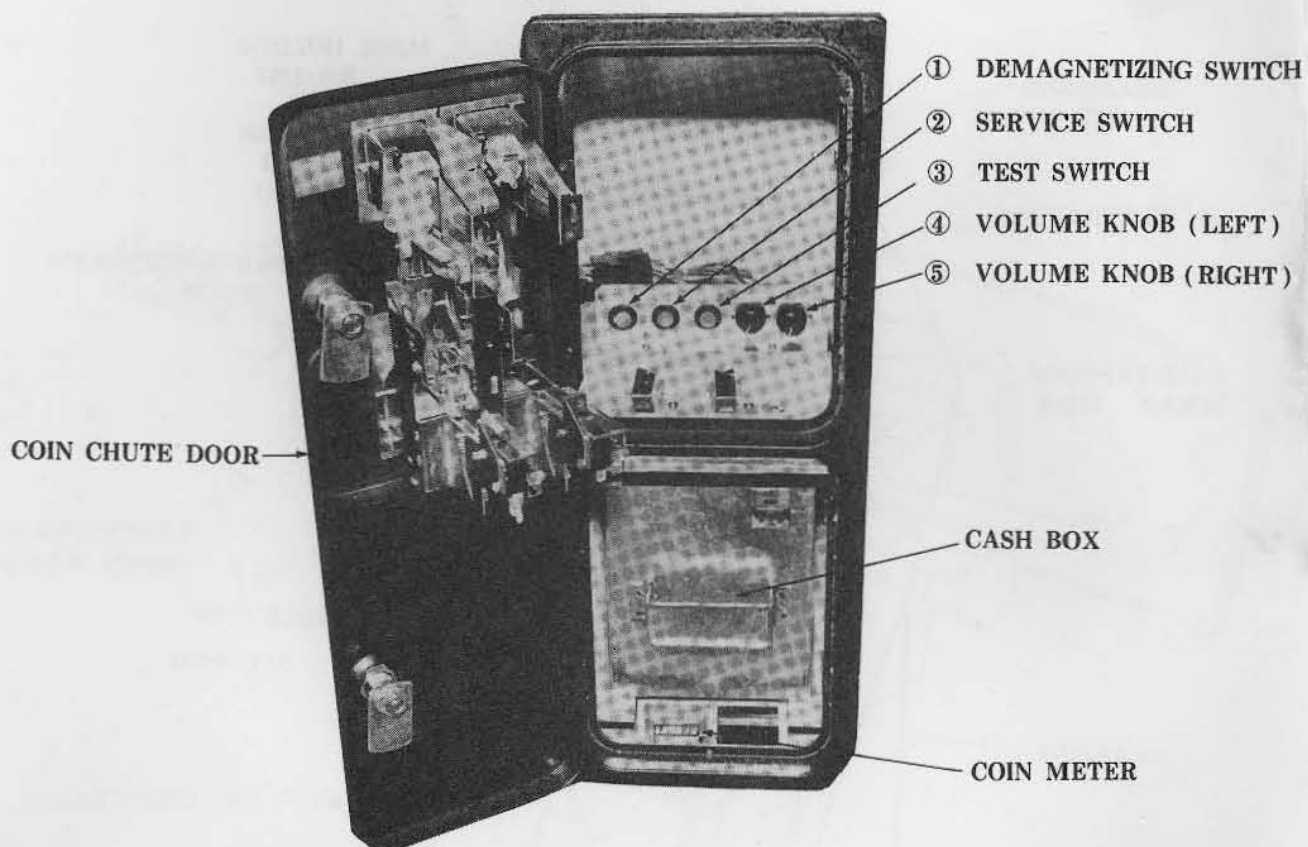


- ① The HANDLE UNIT can be opened towards you by taking off the 4 TAMPERPROOF screws.
- ② To remove the WINDOW MASK from the cabinet, take off the MASK HOLDER FRONT PANEL and then the TAMPERPROOF screws (M4x8) inside the WINDOW MASK.
- ③ Next open it 'towards you.

This allows for the clearing of the monitor screen (CRT surfaces) and the replacement of the BILLBOARD.

7. ADJUSTMENT OF THE SERVICE SWITCH

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

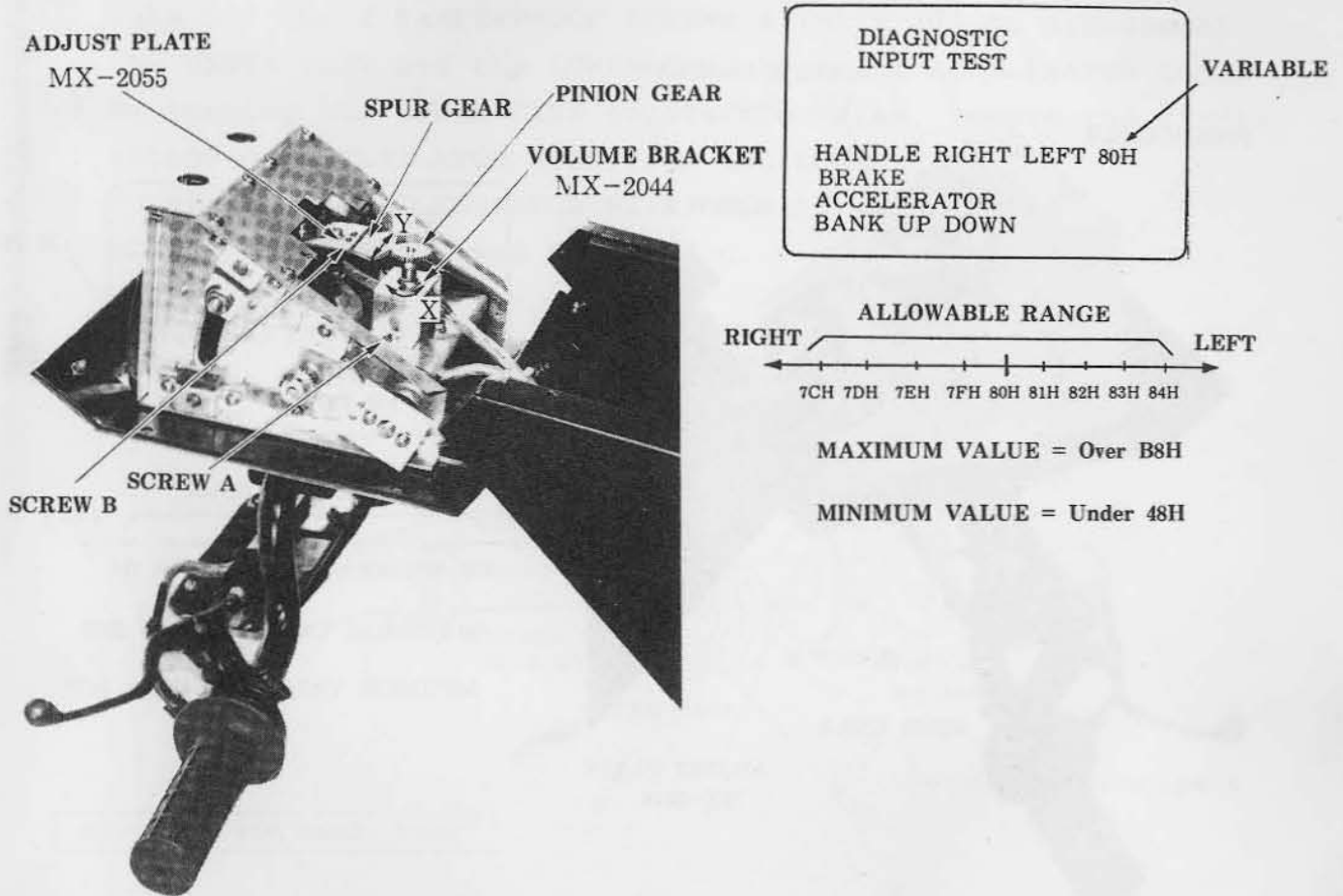


OPERATING INSTRUCTIONS

- 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 16. SELF-TESTING.
- ④⑤ VOLUME ADJUSTMENT.....The volume of the right/left speakers is separately adjusted (pay attention to the right/left volume balance).

8. HANDLE'S CENTERING ADJUSTMENT

When the HANDLE is stationary, if the screen display in the SELF-TEST MODE shows a variable of 80H, then it is normal.

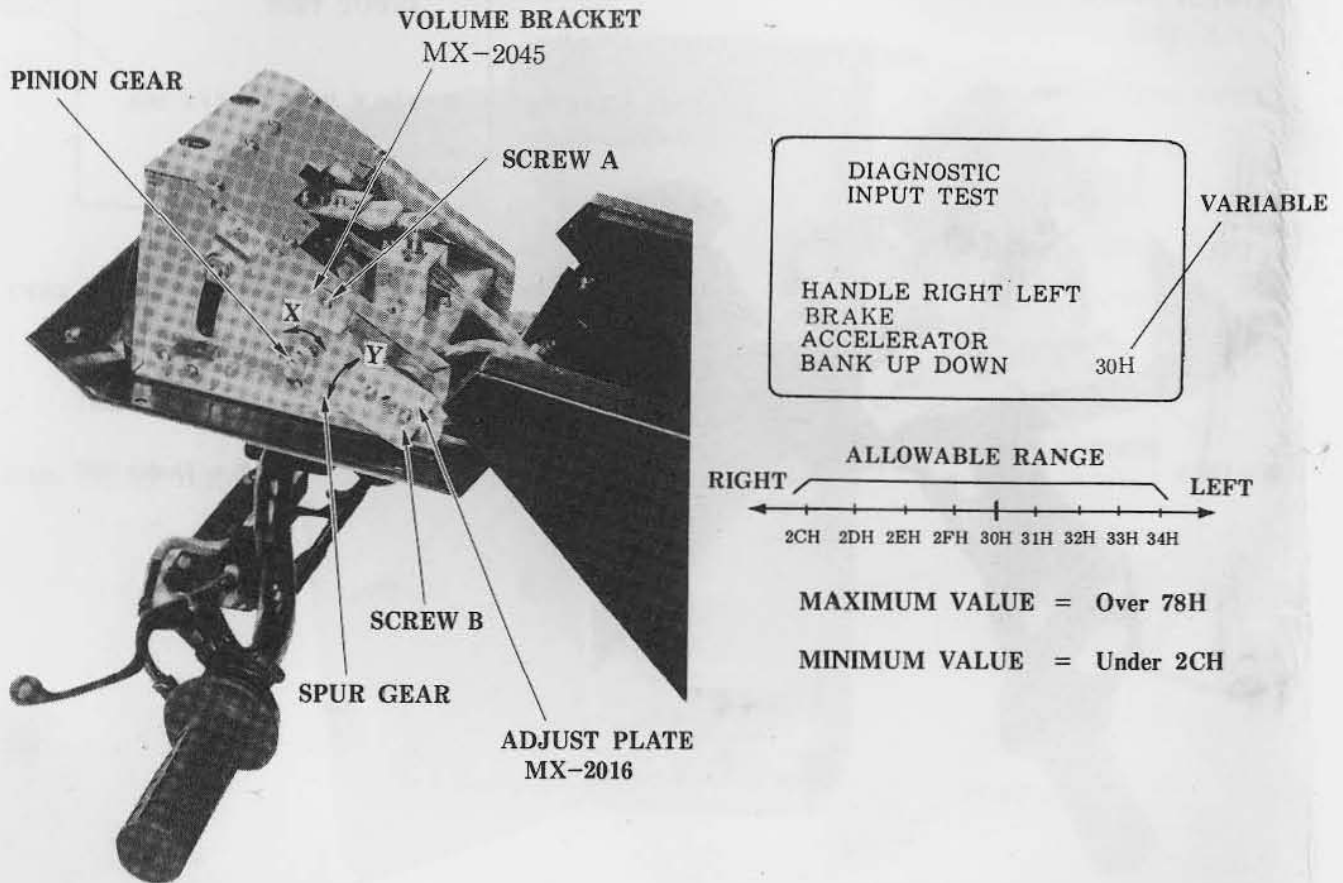


ADJUSTING METHOD

- ① To move the VOLUME BRACKET in the direction of X, release the 2 SCREWS A (M4 x 10) which fasten the VOLUME BRACKET.
- ② When the VOLUME BRACKET is moved in the direction of X, the PINION and SPUR GEARS will be disengaged. At this time, turn the volume shaft and make adjustments so that the variable is in the allowable range.
- ③ Where necessary, make fine adjustments by loosening SCREWS B (M4 x 10) and moving the ADJUST PLATE in the direction of Y.
- ④ Make the backlash adjustments by moving the VOLUME BRACKET in the X direction.

9. HANDLE'S BANK UP DOWN ADJUSTMENT

When the HANDLE is stationary, if the screen display in the SELF-TEST MODE shows a variable of 30H, then it is normal.



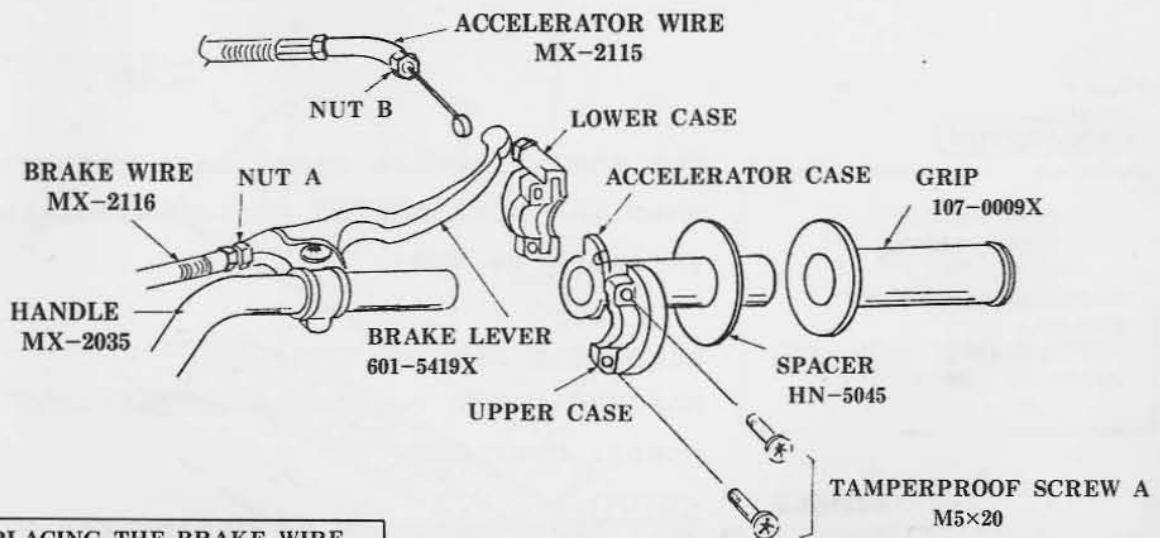
ADJUSTING METHOD

- ① To move the VOLUME BRACKET in the direction of X, release the 2 SCREWS A (M4 x 10) which fasten the VOLUME BRACKET.
- ② When the VOLUME BRACKET is moved in the direction of X, the PINION and SPUR GEARS will be disengaged. At this time, turn the volume shaft and make adjustments so that the variable is in the allowable range.
- ③ Where necessary, make fine adjustments by loosening SCREWS B (M4 x 10) and moving the ADJUST PLATE in the direction of Y.
- ④ Make the backlash adjustments by moving the VOLUME BRACKET in the X direction.

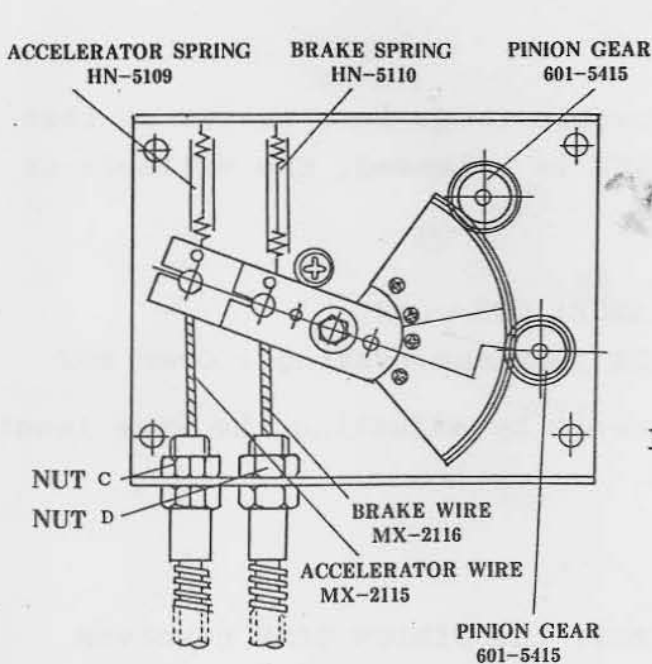
10. REPLACING THE PARTS RELATED TO THE ACCELERATOR AND THE BRAKE

REPLACING THE ACCELERATOR WIRE

- ① Take off the 2 TAMPERPROOF SCREWS A (M5 x 20) to disassemble the UPPER CASE and the LOWER CASE from the ACCELERATOR CASE.
- ② By turning the LOWER CASE counterclockwise, remove the firmly attached ACCELERATOR WIRE from the LOWER CASE.
- ③ To remove the ACCELERATOR WIRE, first take off the ACCELERATOR SPRING and then NUT C.



REPLACING THE BRAKE WIRE



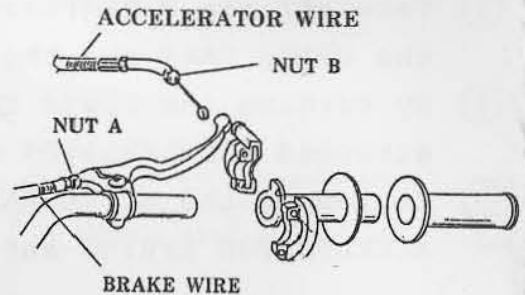
- ① Loosen the BRAKE LEVER NUT first and then remove the BRAKE WIRE.
- ② To completely remove the BRAKE WIRE, take off the BRAKE SPRING first and then NUT D.

— CAUTION —

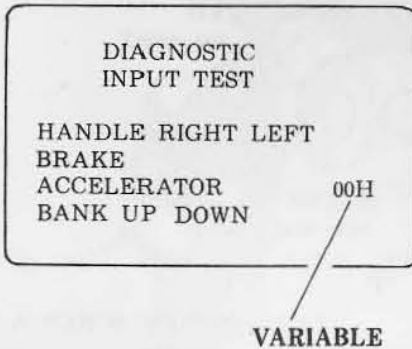
1. When replacing the ACCELERATOR WIRE and the BRAKE WIRE, be sure to take off the PLAY INSTRUCTIONS PLATE first (see page 12). After the WIRE replacement, make sure that the necessary adjustments are made.

11. ADJUSTING THE ACCELERATOR/BRAKE

- o After replacing the wires for the ACCELERATOR and the BRAKE, carry out the following test.
- o Display the screen in the SELF-TEST MODE (see page 20).



ACCELERATOR



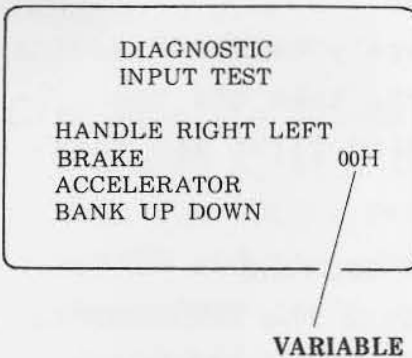
Set the allowable range in a manner so that when the ACCELERATOR is released, the variable is 00H.

ALLOWABLE RANGE: 00H-04H

MAXIMUM VALUE (with the ACCELERATOR fully open): Over 80H

Make adjustments by adjusting the wire length using NUT B.

BRAKE



Set the allowable range in a manner so that when the BRAKE is released, the variable is 00H.

ALLOWABLE RANGE: 00H ~ 04H

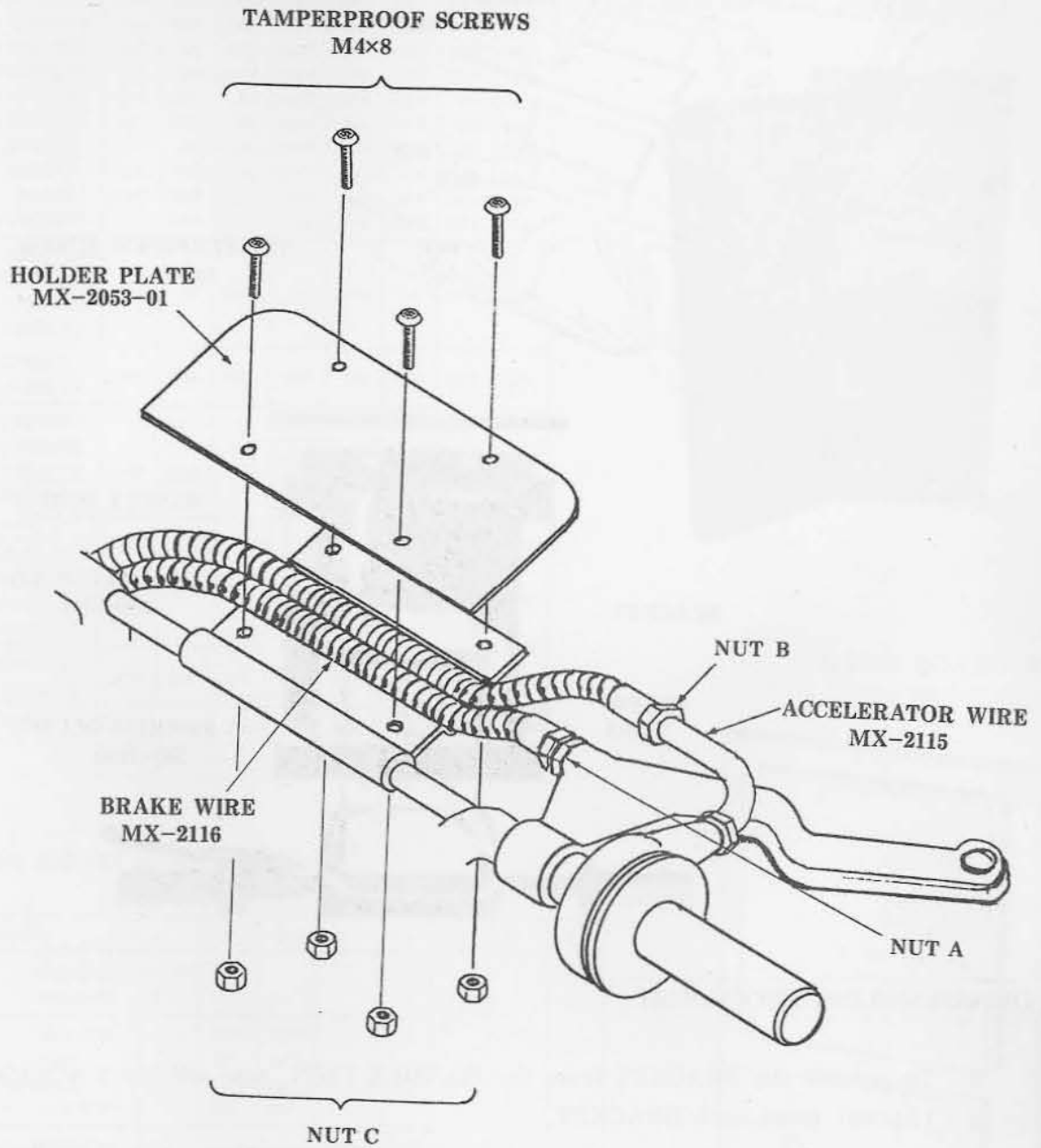
MAXIMUM VALUE (maximum braking): Over 80H

Make adjustments by adjusting the wire length using NUT A.

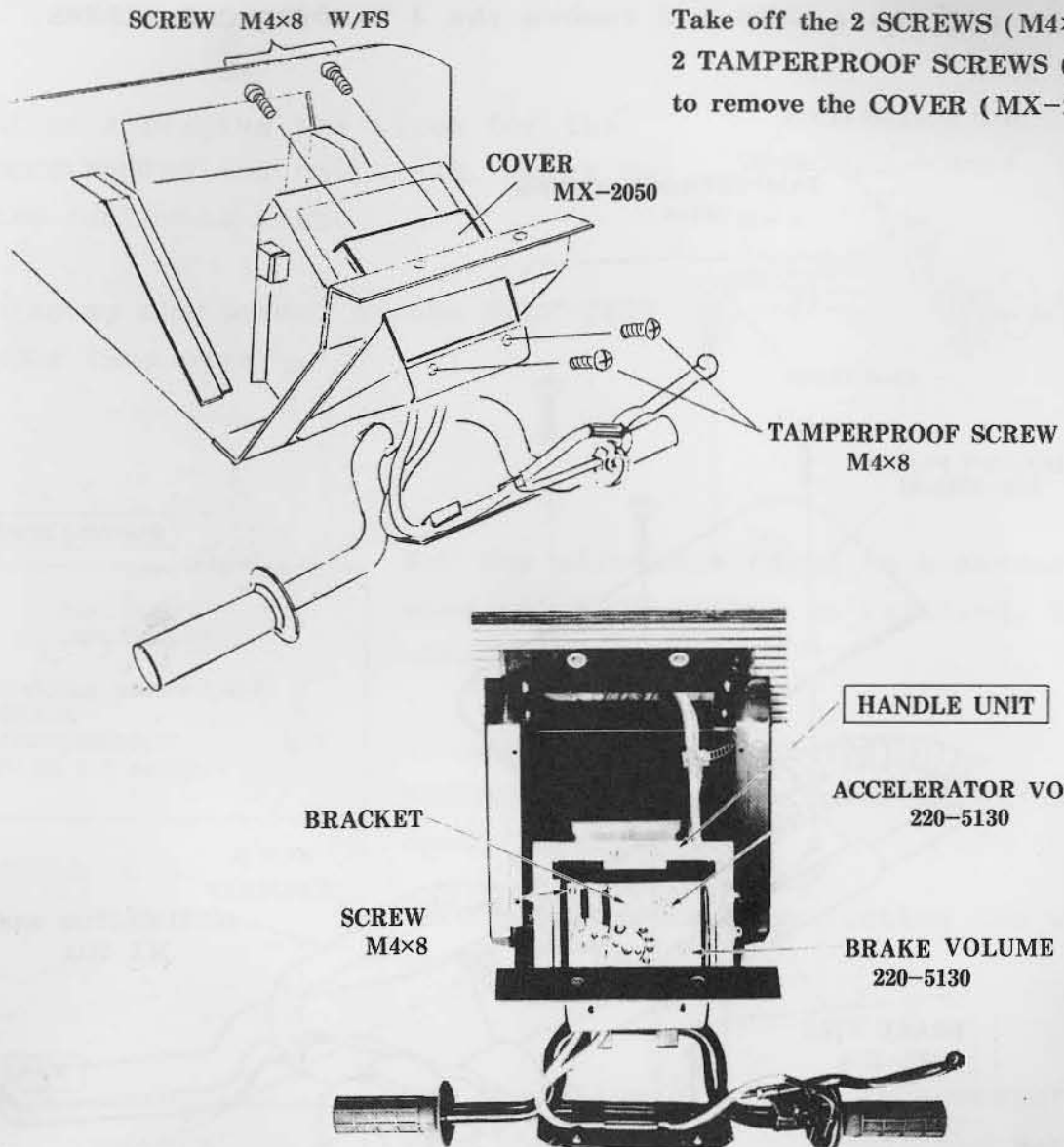
When activating the ACCELERATOR/BRAKE, the PINION GEAR revolves approximately 216°.

REMOVING THE PLAY INSTRUCTIONS PLATE

Take off the 4 NUTS and remove the 4 TAMPERPROOF SCREWS.



12. REPLACING THE VOLUME CONTROL FOR THE ACCELERATOR/ BRAKE



DISASSEMBLING PROCEDURE

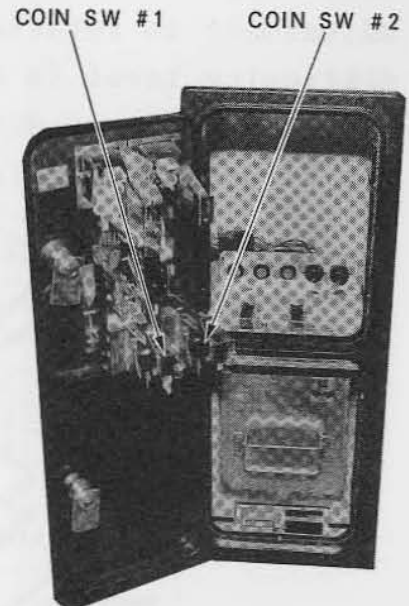
- ① To remove the BRACKET from the HANDLE UNIT, take off the 4 SCREWS (M4x8) from each BRACKET.
- ② To remove the PINION GEAR, release the 2 SET SCREWS of the PINION GEAR attached to the VOLUME CONTROL SHAFT.
- ③ To remove the VOLUME CONTROL from the VOLUME BRACKET, take off the VOLUME CONTROL SHAFT NUT.
- ④ After replacement, assemble in a manner opposite to the above procedure.
- ⑤ Make adjustments by moving the VOLUME BRACKET in the X direction around the SCREW which is used for the backlash adjustments.

13. DIP SWITCH SETTING

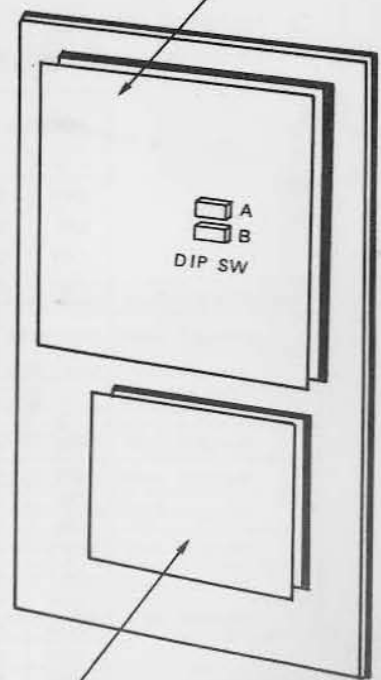
GAME PRICE SETTING

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 5 COINS 3 CREDITS 6 COINS 4 CREDITS	OFF	ON	OFF	ON	OFF	ON	OFF	ON
2 COINS 1 CREDIT 4 COINS 3 CREDITS	ON	ON	OFF	ON	ON	ON	OFF	ON
1 COIN 1 CREDIT 2 COINS 2 CREDITS 3 COINS 3 CREDITS 4 COINS 4 CREDITS 5 COINS 6 CREDITS	OFF	OFF	ON	ON	OFF	OFF	ON	ON
1 COIN 1 CREDIT 2 COINS 2 CREDITS 3 COINS 3 CREDITS 4 COINS 5 CREDITS	ON	OFF	ON	ON	ON	OFF	ON	ON
1 COIN 1 CREDIT 2 COINS 3 CREDITS	OFF	ON	ON	ON	OFF	ON	ON	ON
FREE PLAY	ON	ON	ON	ON	ON	ON	ON	ON
	COIN SW #1				COIN SW #2			



GAME BOARD A
(834-6000-01)



GAME BOARD B
(834-6003-01)

OPTION SWITCH SETTING

DIP SW B

OPTION	1	2	3	4	5	6	7	8
TYPE SELECT WHEELIE UPRIGHT	OFF ON							
GAME DIFFICULTY MEDIUM EASY HARD HARDEST		OFF ON OFF ON	OFF OFF ON ON					
TIME ADJUST MEDIUM EASY HARD HARDEST				OFF ON OFF ON	OFF OFF ON ON			
TIME CONTROL MEDIUM EASY HARD HARDEST						OFF ON OFF ON	OFF OFF ON ON	
ADVERTISE SOUND OFF ON								OFF ON

14. GAME DIFFICULTY SETTING

In this game, by using the DIP SWITCH B on the GAME BOARD B, the 4 difficulty levels can be set for each of the following: ① Other bikes appearance frequency ② Play time adjustments ③ Time adjustment in relation to real time. When shipping, the difficulty level is set at MEDIUM. In actual play, however, a setting to a more difficult or easier level depending on the player's skill levels can be made.

1. OTHER CARS' APPEARANCE FREQUENCY (SWITCH 2, 3)

SWITCH NO.		OTHER CARS' APPEARANCE FREQUENCY	DIFFICULTY LEVEL
2	3		
OFF	OFF	—	MEDIUM
ON	OFF	30% less than MEDIUM	EASY
OFF	ON	40% more than MEDIUM	HARD
ON	ON	80% more than MEDIUM	HARDEST

* When shipping

2. PLAY ADJUSTMENT (SWITCH 4, 5)

SWITCH NO.		PLAY TIME PER STAGE (SEC.)					DIFFICULTY LEVEL
4	5	1	2	3	4	5	
OFF	OFF	60	50	50	50	50	MEDIUM
ON	OFF	65	50	50	50	50	EASY
OFF	ON	55	50	50	50	50	HARD
ON	ON	50	50	50	50	50	HARDEST

* When shipping

3. TIME ADJUSTMENT IN RELATION TO REAL TIME (SW 6, 7)

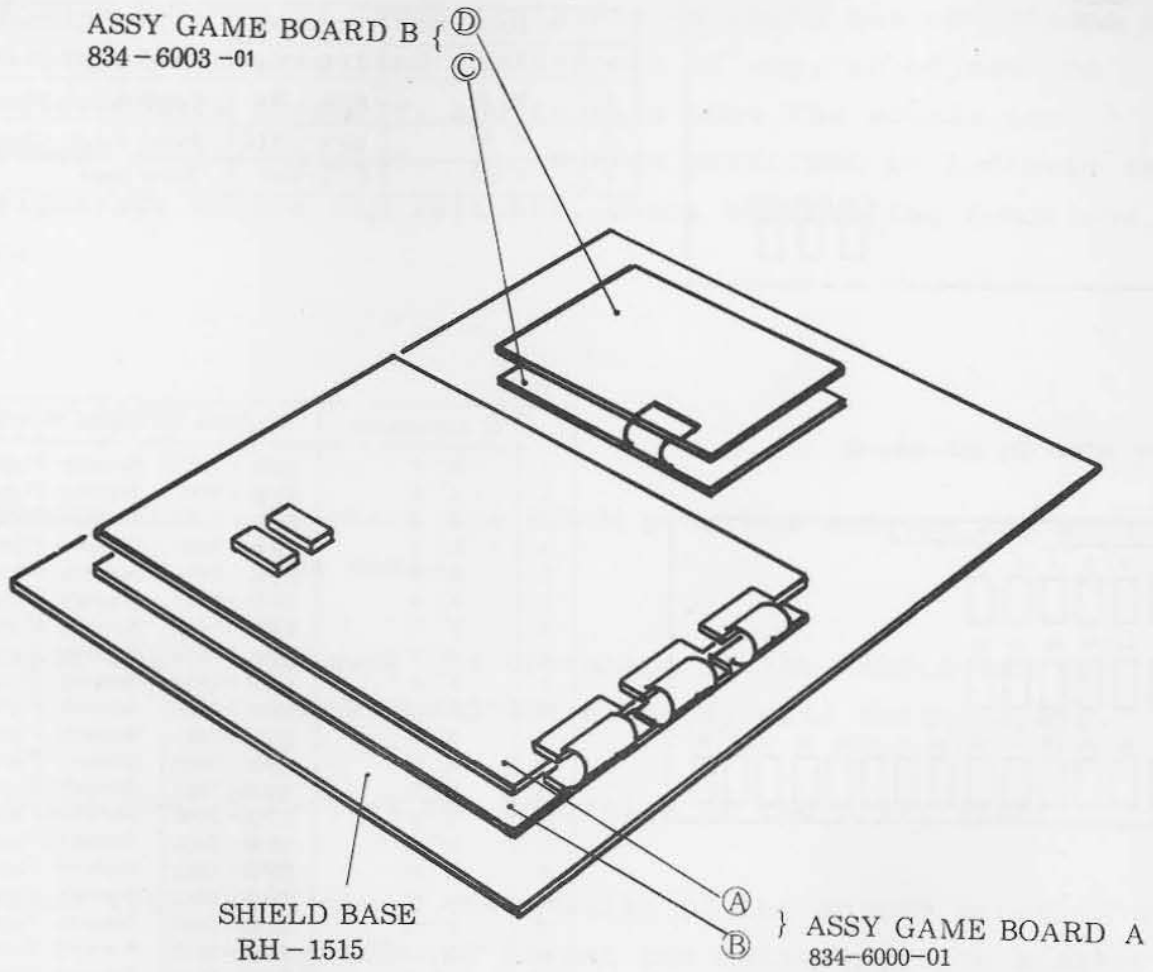
SWITCH NO.		DISPLAY TIME IN SECONDS ADJUSTED IN RELATION TO REAL TIME	DIFFICULTY LEVEL
6	7		
OFF	OFF	95%	MEDIUM
ON	OFF	100%	EASY
OFF	ON	85%	HARD
ON	ON	80%	HARDEST

* ← When shipping

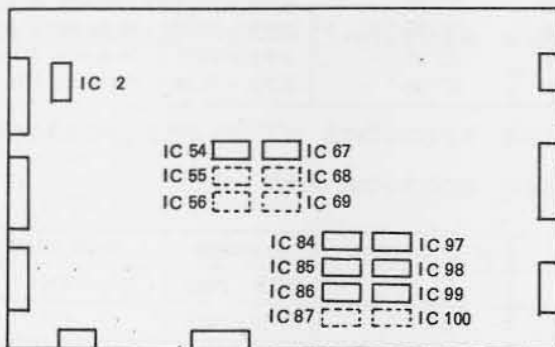
SPECIFIC SETTING ILLUSTRATION

DIP SW NO.						DIFFICULTY
2	3	4	5	6	7	
ON	OFF	ON	OFF	ON	OFF	← When shipping
ON	OFF	ON	OFF	OFF	ON	
ON	OFF	OFF	OFF	OFF	ON	
ON	OFF	ON	ON	OFF	ON	
OFF	OFF	OFF	OFF	OFF	OFF	
OFF	OFF	OFF	OFF	OFF	ON	
OFF	OFF	OFF	ON	OFF	OFF	
OFF	ON	OFF	OFF	OFF	ON	
OFF	ON	OFF	ON	OFF	ON	
ON	ON	ON	OFF	OFF	OFF	
ON	ON	OFF	ON	ON	OFF	↓ HARDEST
ON	ON	ON	ON	OFF	OFF	

15. EPROM/ROM LOCATION

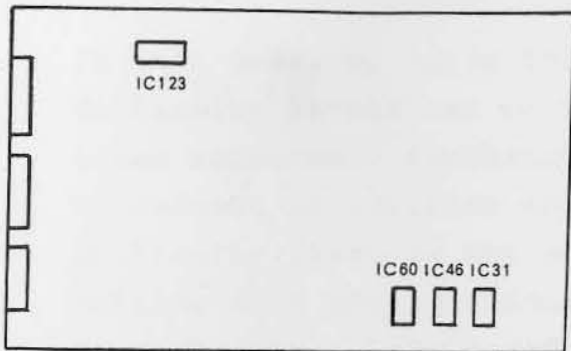


(A) ASSY CPU BD 837-6001-01



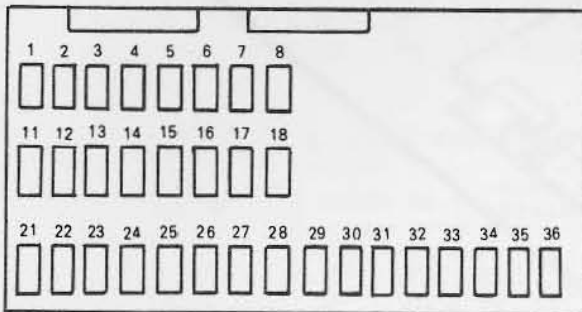
	IC LOCATIONS	NUMBERS	MAIN FUNCTIONS
1	IC 2	EPR-7633	Road Character
2	IC 54	EPR-7634	SUB Program
3	IC 67	EPR-7635	SUB Program
4	IC 84	EPR-7629	Main Program
5	IC 85	EPR-7637	Main Program
6	IC 86	EPR-7638	Main Program
7	IC 97	EPR-7630	Main Program
8	IC 98	EPR-7641	Main Program
9	IC 99	EPR-7642	Main Program

Ⓑ ASSY CONTROL BD 837-6002-01



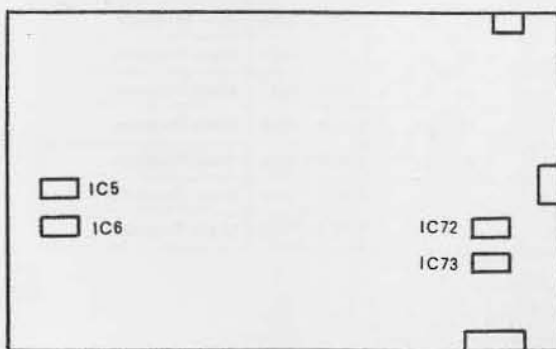
	IC LOCATIONS	NUMBERS	MAIN FUNCTIONS
1	IC 31	EPR-7644	Fixed Scroll Character
2	IC 46	EPR-7645	Fixed Scroll Character
3	IC 60	EPR-7646	Fixed Scroll Character
4	IC123	EPR-6844	Zoom Data

Ⓒ ASSY ROM BD 837-6004-01



	IC LOCATIONS	NUMBERS	MAIN FUNCTIONS
1	IC 1	EPR-7647	Scenery Figures
2	IC 2	EPR-7648	Scenery Figures
3	IC 3	EPR-7649	Scenery Figures
4	IC 4	EPR-7650	Scenery Figures
5	IC 5	EPR-7651	Scenery Figures
6	IC 6	EPR-7652	Scenery Figures
7	IC 7	EPR-7653	Scenery Figures
8	IC 8	EPR-7654	Scenery Figures
9	IC 11	EPR-7655	Scenery Figures
10	IC 12	EPR-7656	Scenery Figures
11	IC 13	EPR-7657	Scenery Figures
12	IC 14	EPR-7658	Scenery Figures
13	IC 15	EPR-7659	Scenery Figures
14	IC 16	EPR-7660	Scenery Figures
15	IC 17	EPR-7661	Scenery Figures
16	IC 18	EPR-7662	Scenery Figures
17	IC 21	EPR-7663	Scenery Figures
18	IC 22	EPR-7664	Scenery Figures
19	IC 23	EPR-7665	Scenery Figures
20	IC 24	EPR-7666	Scenery Figures
21	IC 25	EPR-7667	Scenery Figures
22	IC 26	EPR-7668	Scenery Figures
23	IC 27	EPR-7669	Scenery Figures
24	IC 28	EPR-7670	Scenery Figures
25	IC 29	EPR-7671	Scenery Figures
26	IC 30	EPR-7672	Scenery Figures
27	IC 31	EPR-7673	Scenery Figures
28	IC 32	EPR-7674	Scenery Figures
29	IC 33	EPR-7675	Scenery Figures
30	IC 34	EPR-7676	Scenery Figures
31	IC 35	EPR-7677	Scenery Figures
32	IC 36	EPR-7678	Scenery Figures

Ⓓ ASSY SOUND BD 837-6005-01



	IC LOCATIONS	NUMBERS	MAIN FUNCTIONS
1	IC 5	EPR-7762	Sound Data
2	IC 6	EPR-7763	"
3	IC 72	EPR-7764	Sound Program
4	IC 73	EPR-7765	"

16. SELF-TESTING

The main purpose of these tests are 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 HANDLE and to check the START buttons, coin switches, etc.
- 3) Output Test : To test the operation of the start lamp.
- 4) Sound Test : To check the quality of the sounds produced by the PCB and adjust the balance of the speakers.
- 5) CRT Test : To check if the colors on the monitor are displayed correctly, and to adjust the linearity.
- 6) Dip Switch Assignment : To indicate each dip switch assignment.
- 7) 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.

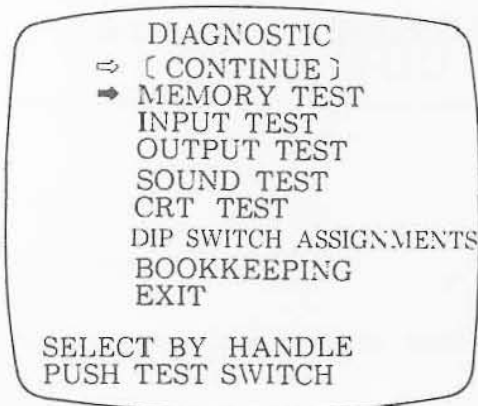


FIG. 1

- (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 ACCELERATOR) 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 67
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

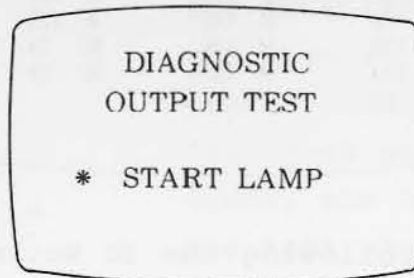
COIN#1      START
COIN#2      SERVICE

HANDLE RIGHT LEFT 80H
BRAKE           00H
ACCELERATOR     00H
BANK UP DOWN    30H
  
```

} See page 8~11

- 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 HANDLE is inclined to the left or decreases when it is inclined to the right, it tests out satisfactorily.
- o If the data value increases when the HANDLE is pulled downward and decreases when it is released, the testing is OK.
- o When the tests are ended, push the TEST button.

(3) Output Test



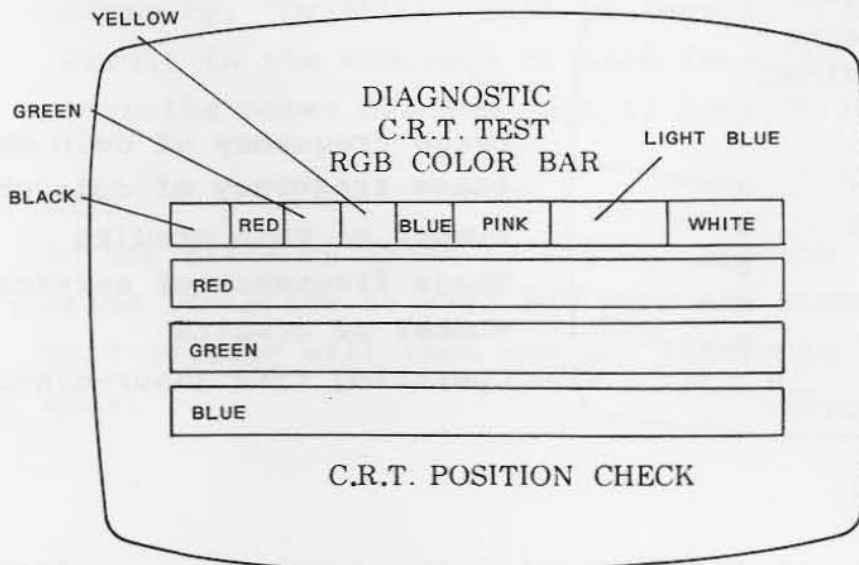
If the start LAMP lights up, it is functioning properly.
Push the TEST button when the testing has been completed.

(4) Sound Test



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

(5) C.R.T. TEST



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

(6) DIP SWITCH ASSIGNMENTS

DIAGNOSTIC

DIP SWITCH ASSIGNMENTS

	1	2	3	4	5	6	7	8
DIP SW. A	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
DIP SW. B	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF

A 1234	COIN SW#1	1 COIN	1 CREDIT
A 5678	COIN SW#2	1 COIN	1 CREDIT

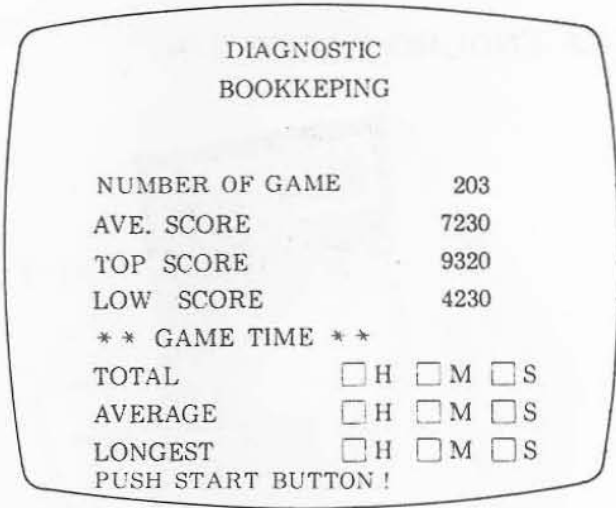
B. 1	TYPE	UPRIGHT
B. 23	GAME DIFFICULTY	MEDIUM
B. 45	TIME ADJUST	HARD
B. 67	TIME CONTROL	MEDIUM
B. 8	ADVERTISE SOUND	OFF

(7) Bookkeeping

DIAGNOSTIC
BOOKKEEPING

COIN CHUTE #1	0	Usage frequency of coin chute 1
COIN CHUTE #2	0	Usage frequency of coin chute 2
COIN CREDIT	0	Number of coin credits
SERVICE CREDIT	0	Usage frequency of service switch
TOTAL CREDIT	0	Number of credits
TOTAL TIME	<input type="checkbox"/> H <input type="checkbox"/> M <input type="checkbox"/> S	Operating time (hour-minute-second)
PUSH START BUTTON!		

* 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:



Every time the start 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).

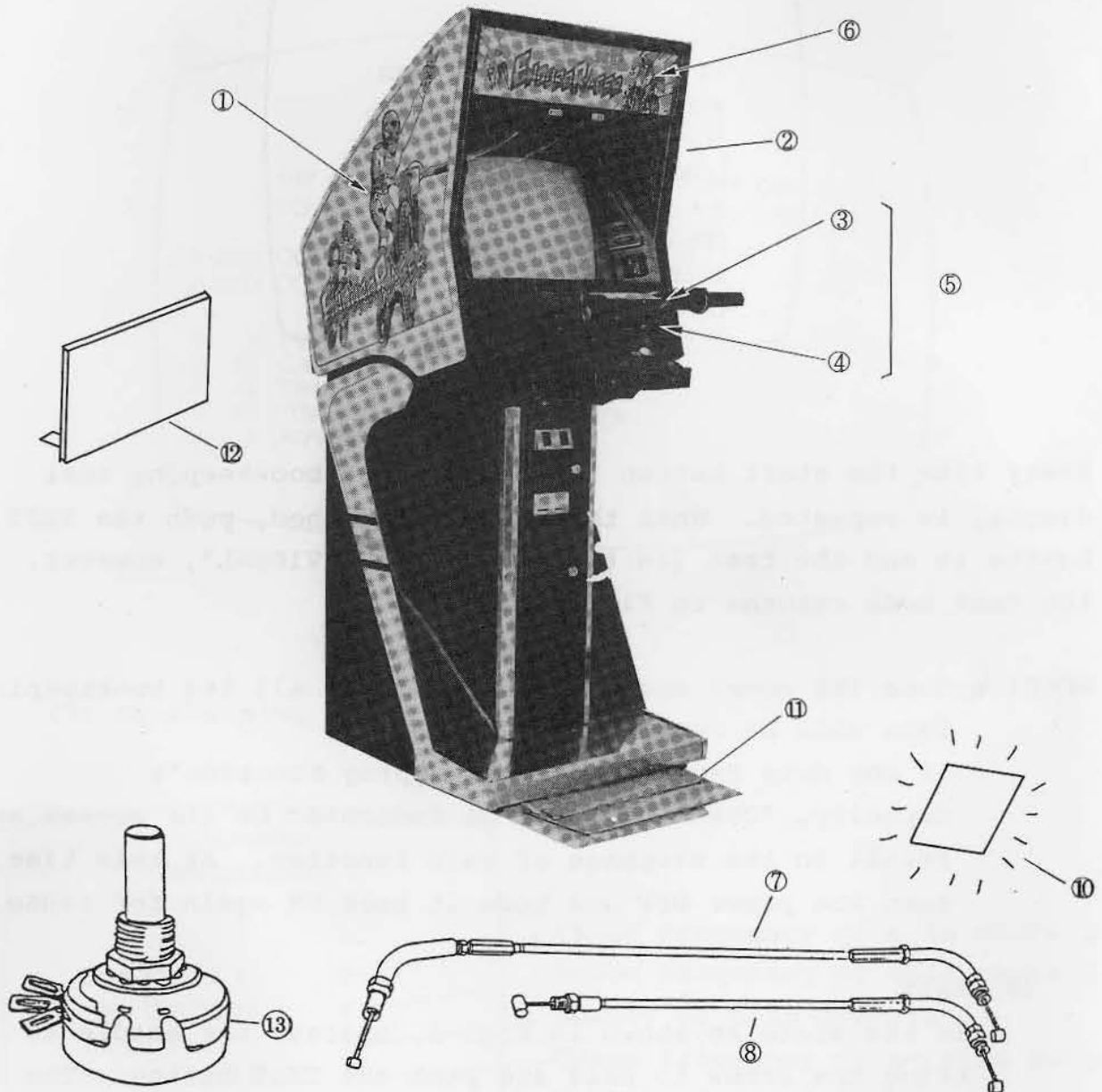
- NOTE:
- o Once the power source is turned OFF, all the bookkeeping data will be completely cleared.
 - o If any data exceeds the bookkeeping function's capacity, "OVERFLOW" will be indicated on the screen and result in the stoppage of said function. At this time, turn the power OFF and turn it back ON again for reuse.

(8) EXIT

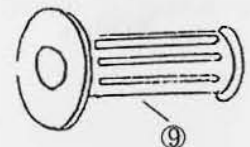
In the state as shown in Fig. 1, operate the handle to bring the arrow to EXIT and push the TEST button. The self-testing will then end and return to the ADVERTISING mode.

17. PARTS LIST

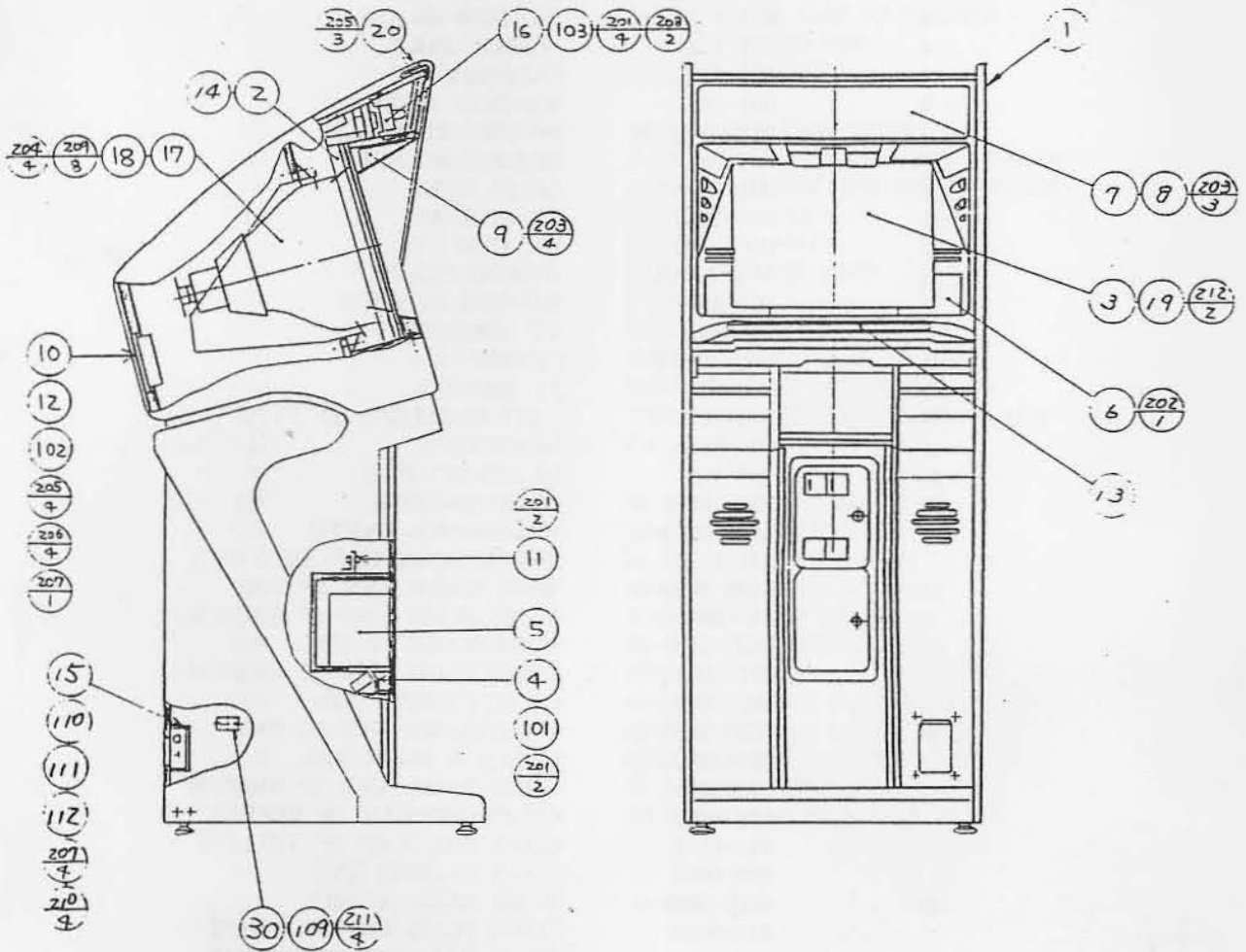
① TOP ASSY SEGA ENDURO RACER U/R



ITEM NO.	PART NO.	DESCRIPTION
1	421-6376	STICKER CABINET SIDE R
2	421-6377	STICKER CABINET SIDE L
3	MX-2053-01	HOLDER PLATE ENG
4	MX-2500	ASSY SUB HANDLE
5	MX-20002	ASSY HANDLE ENG
6	MX-1011-01	BILLBOARD PLATE
7	MX-2115	ACCELERATOR WIRE S
8	MX-2116	BRAKE WIRE S
9	107-0009X	GRIP LEFT & ACCELERATOR
10	421-5800-43	ORIGINAL SEAL ENDURO RACER
	421-5801-41	LICENSE SEAL ENDURO RACER
11	105-5033	BRACKET STEP
12	422-0163-01	DISPLAY BOARD ENDURO RACER ENG
13	220-5130	VOLUME CONTROL B 5KΩ



② ASSY CABINET U/R (D-1/3)



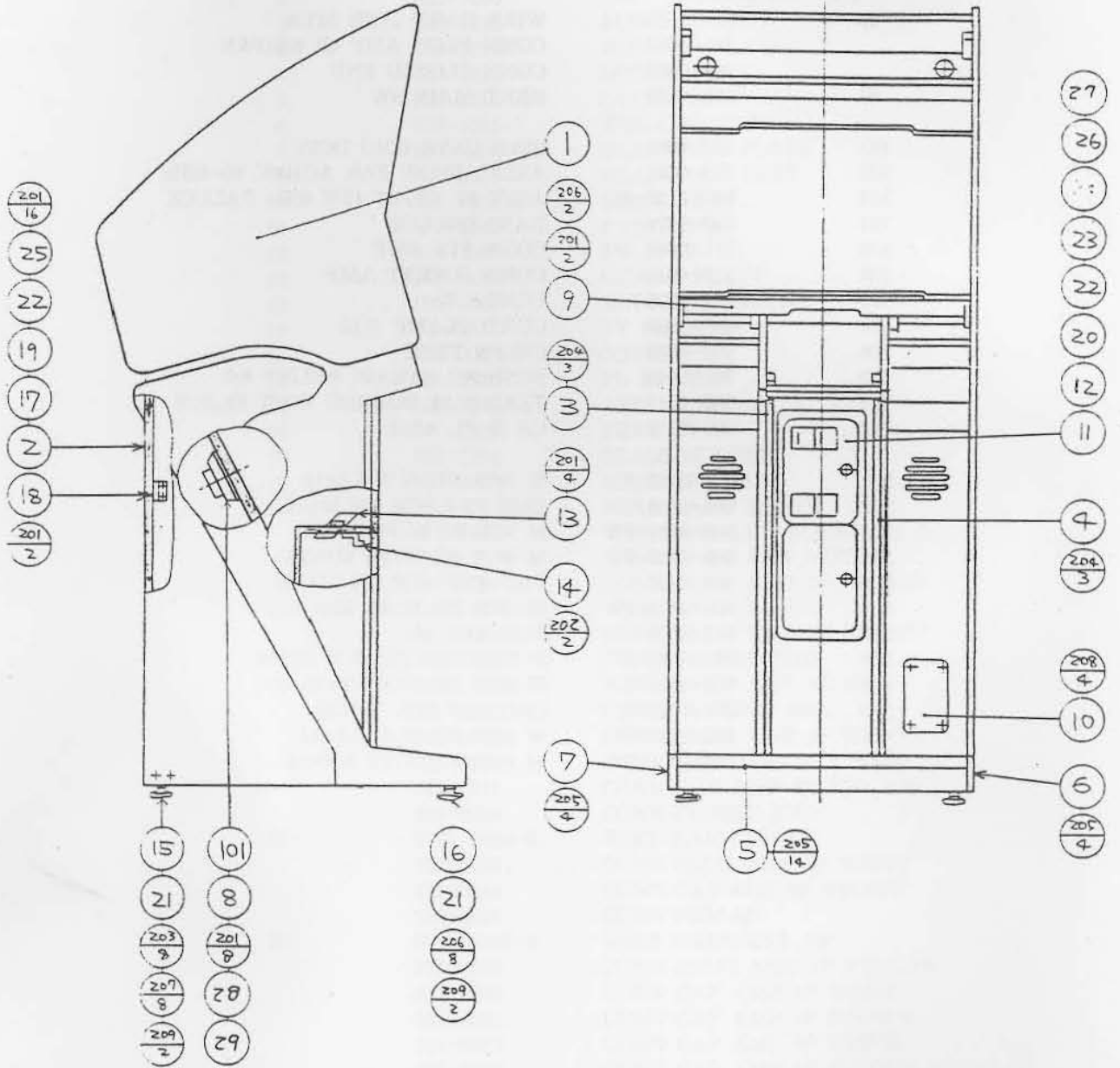
② ASSY CABINET U/R (RH-10002) (D-2/3)

ITEM NO.	PART NO.	DESCRIPTION
1	RH-1600	ASSY SUBCABINET U/R
2	RH-1512	MASK BOARD
3	RH-1019X	WINDOW GLASS
4	RH-1513	METER BRKT
5	RH-1514	CASHBOX
6	RH-1015	WINDOW MASK
7	MX-1011-01	BILLBOARD PLATE
8	RH-1017	BILLBOARD BRKT
9	RH-1018X	MASK BRKT
10	HN-1042	FAN BRKT
11	HN-1045	SW UNIT
12	MO-1051X	GUARD PLATE
13	HN-1069	RUBBER CUSHION
14	TB-3003	TV MASK 20
15	MO-1215Y	COVER
16	VE-1036	FL BRKT
17	200-5072	ASSY CLR DSPL 20" TYPE
18	TY-1019	BRKT TV
19	RH-1021	GLASS HOLDER
20	RH-1022	MASK HOLDER
21	SGB-3680-2	WIRE HARN EARTH
	211-0167	TERMINAL LUG ROUND ID 5
22	SGB-3680-3	WIRE HARN FAN MOTOR
	211-0085	CONN PLUG AMP 2P BROWN
23	SGB-3680-4	WIRE HARN FL 15W
	211-0085	CONN PLUG AMP 2P BROWN
	209-0023	CONN CLOSED END
24	SGB-3680-5	WIRE HARN EXT AC 100V
	600-5133	CABLE & CONN 300L
	211-0085	CONN PLUG AMP 2P BROWN
	211-0080	CONN CAP AMP 2P BROWN
	211-0117	CONN CAP AMP 2P YELLOW
	209-0032	CONN CLOSED END
25	SGB-3680-8	WIRE HARN AUDIO
	211-0073	CONN PLUG AMP 4P WHITE
	211-0084	CONN CAP AMP 9P BROWN
	212-5034	CONN FEM 6P
26	SGB-3680-9	WIRE HARN EXT 50P
	211-0102	CONN PLUG AMP 4P YELLOW
	211-0060	CONN CAP AMP 3P WHITE
	211-0081	CONN CAP AMP 3P BROWN
	211-0072	CONN CAP AMP 4P WHITE
	211-0082	CONN CAP AMP 4P BROWN
	211-0047	CONN CAP AMP 12P WHITE
	211-5105	CONN FEM 50P
27	SGB-3680-11	WIRE HARN EXT AC 10V
	211-0043	CONN PLUG AMP 2P WHITE
	211-0044	CONN CAP AMP 2P WHITE
28	SGB-3680-12	WIRE HARN RGB
	211-0044	CONN CAP AMP 2P WHITE
	211-0060	CONN CAP AMP 3P WHITE
	212-5034	CONN FEM 6P

② ASSY CABINET U/R (RH-10002) (D-3/3)

ITEM NO.	PART NO.	DESCRIPTION
29	SGB-3680-13	WIRE HARN COIN MTR
	211-0087	CONN PLUG AMP 4P BROWN
	209-0023	CONN CLOSED END
30	105-0064	BRKT MAIN SW
101	220-5064	MAG CNTR 6DIG DC5V
102	260-0011	AXIAL FLOW FAN AC100V 50-60Hz
103	390-5120-01	ASSY FL LIGHT 15W 60Hz PALUCK
104	280-0419	HARNESS LUG
105	211-0041	CONN PIN AMP
106	211-0042	CONN SOCKET AMP
107	211-0005	CONTACT
108	280-5008	CORD CLAMP \varnothing 15
109	509-0039	SW PB TYPE
110	280-0418	BUSHING STRAIN RELIEF 8.3
111	280-0417	TERMINAL BINDING POST BLACK
112	600-0110	CA & PL ASSY
201	005-3513-F	W SCR RH W/F 3.5x13
202	008-0408	TMP PRF SCR TH M4x8
203	000-0416-FS	M SCR PH W/FS M4x16
204	000-0520-FS	M SCR PH W/FS M5x20
205	008-0425	TMP PRF SCR TH M4x25
206	000-0310-FS	M SCR PH W/FS M3x10
207	051-0004	FLG NUT M4
208	010-0406-F	S-TITE SCR PH W/F M4x6
209	000-0510-S	M SCR PH W/S M5x10
210	031-0425-B	CRG BLT BLK M4x25
211	005-3113-F	W SCR RH W/F 3.1x13
212	000-0412-FS	M SCR PH W/FS M4x12

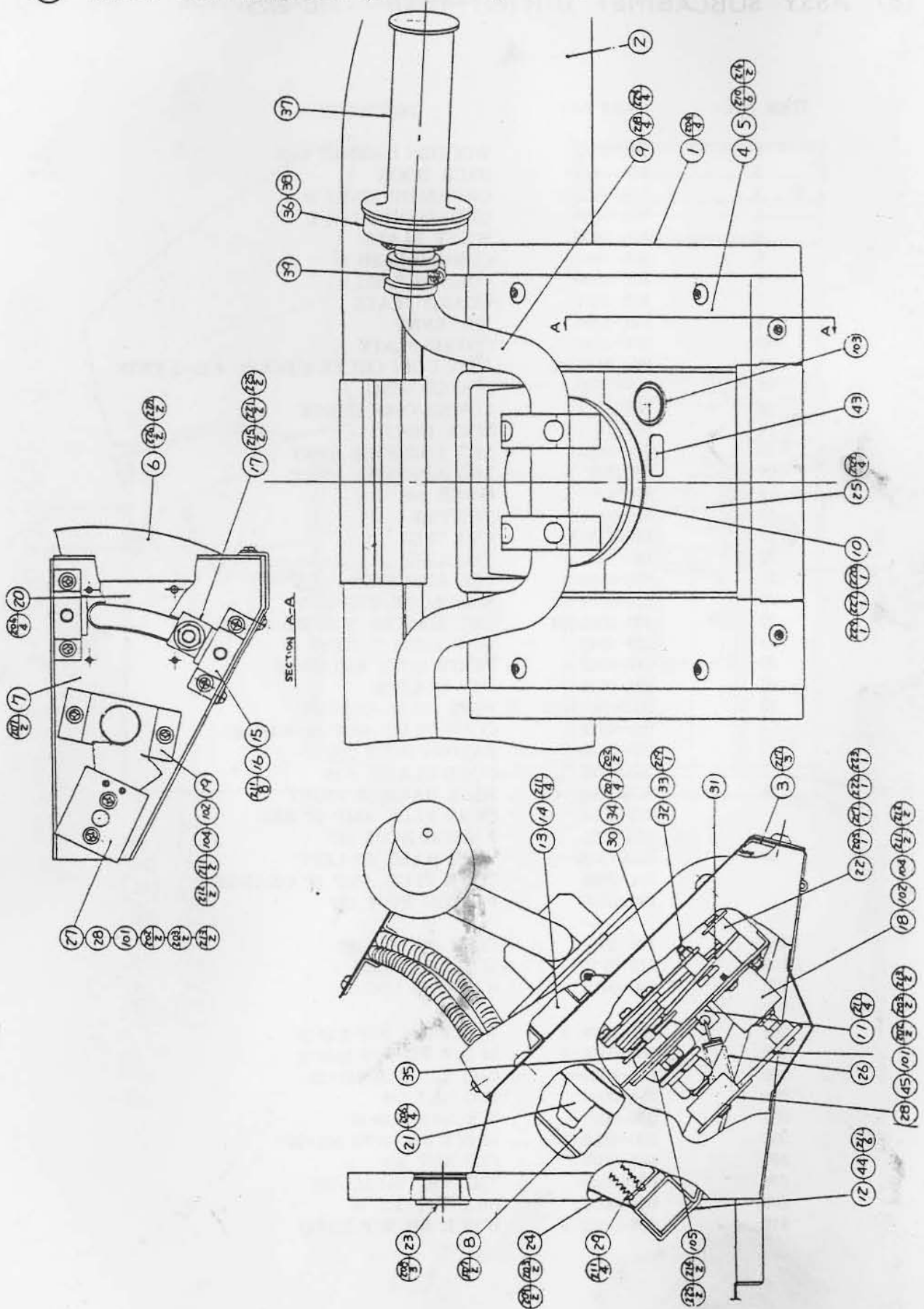
③ ASSY SUBCABINET U/R (RH-1600) (D-1/2)



③ ASSY SUBCABINET U/R (RH-1600) (D-2/2)

ITEN NO.	PART NO.	DESCRIPTION
1	RH-1601	WOODEN CABINET U/R
2	RH-1607	BACK DOOR
3	RH-1602	ORNAMENT SASH R
4	RH-1603	ORNAMENT SASH L
5	RH-1604	SCUFF PLATE
6	RH-1605	CORNER SASH L
7	RH-1606	CORNER SASH R
8	RH-1511	GUARD PLATE
9	RH-1005	PNL BRKT
10	RH-1010	COVER PLATE
11	220-5128-03	ASSY COIN CHUTE 2 DOOR ϕ 25x2 TWIN
12	HN-1050	SPACER RING
13	HN-1051	LOWER COIN CHUTE
14	HN-1052	LOCK BRKT
15	TA-1079X	LEG ADJUSTER BRKT
16	TI-1079	LEG ADJUSTER BRKT
17	TA-1010	HINGE 148
18	SH-2061X	STOPPER
19	DP-1148X	LKG TNG
20	DP-1167	TNG LKG
21	601-0455	LEG ADJUSTER
22	220-5044-01	MAG LOCK W/O KEY
23	220-5045-01	KEY MASTER FOR 220-5044-01
24	220-5046	MAG LOCK W/KEYS
25	117-0062	PLATE LOCK RETAINER
26	109-0045	KEY HOLDER
27	SGB-3679-10	WIRE HARN COIN SW
	211-0073	CONN PLVG AMP 4P WHITE
	280-5016	FASTON RCPT 205
	280-0425	CORD CLAMP ϕ 10
28	SGB-3680-6	WIRE HARN SP RIGHT
	211-0094	CONN PLUG AMP 2P RED
	280-5015	FASTON RCPT 187
29	SGB-3680-7	WIRE HARN SP LEFT
	211-0095	CONN PLUG AMP 2P ORANGE
	280-5015	FASTON RCPT 187
101	130-5001	SPKR 80HM ϕ 120
102	211-0041	CONN PIN AMP
103	280-0419	HARNESS LUG
201	005-3516-F	W SCR RH W/F 3.5x16
202	000-0416-S	M SCR PH W/S M4x16
203	031-0525-B	CRG BLT BLK M5x25
204	051-0004	FLG NUT M4
205	046-0001	SCR NAIL 1.5x16
206	000-0520-FS	M SCR PH W/FS M5x20
207	051-0005	FLG NUT M5
208	008-0520	TMP PRF TH M5x20
209	059-0007	HEX NUT 3/8-16
210	005-3113-F	W SCR RH W/F 3.1x13

④ ASSY SUB HANDLE (MX-2500) (D-1/3)



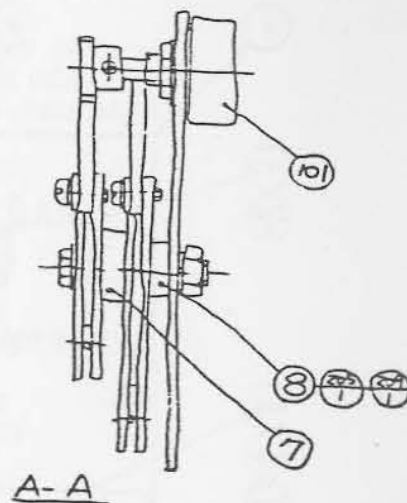
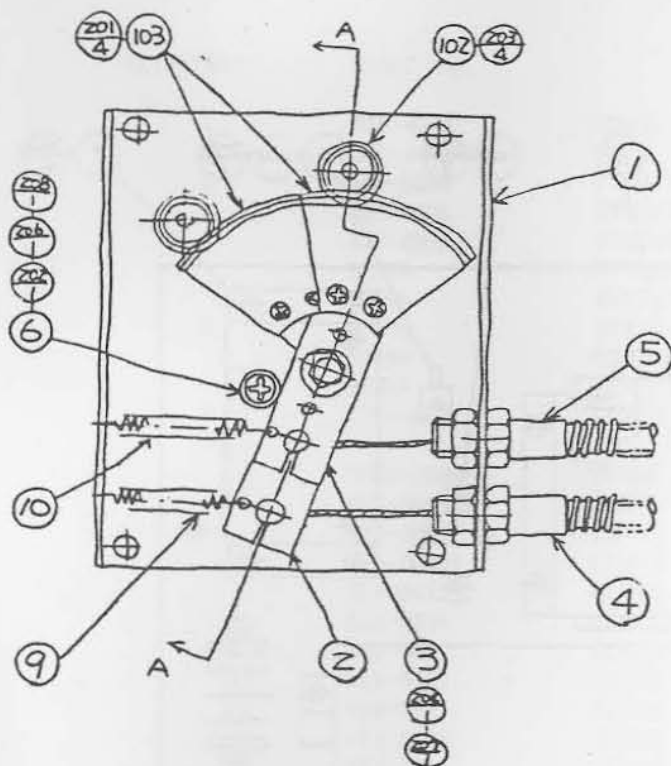
④ ASSY SUB HANDLE (MX-2500) (D-2/3)

ITEM NO.	PART NO.	DESCRIPTION
1	MX-2027	CONTROL BOX
2	MX-2028	WOODEN BASE
3	MX-2029	HANDLE PANEL BASE
4	MX-2030	HANDLE PANEL
5	MX-2031	HANDLE PANEL CENTER
6	MX-2032	BASE
7	MX-2033	HOLDER BASE RIGHT
8	MX-2034	HOLDER BASE LEFT
9	MX-2035	HANDLE
10	MX-2036	HANDLE SHAFT
11	MX-2037	REAR BASE
12	MX-2038	PLATE UNDER
13	MX-2039	BUMPER
14	MX-2040	BUMPER BRACKET
15	MX-2041	BUMPER
16	MX-2042	BUMPER BRACKET
17	MX-2043	STOPPER BLOCK
18	MX-2044	VR BRACKET
19	MX-2045	VR BRACKET
20	MX-2046	SPACER GUIDE LEFT
21	MX-2047	SPACER GUIDE RIGHT
22	MX-2048	STOPPER
23	MX-2049	PLATE SPACER
24	MX-2050	COVER
25	MX-2051	COVER CONTROL
26	MX-2052	EXTENSION SPRING
27	MX-2016	ADJUST PLATE
28	MX-2017	ADJUSTER
29	MX-2111	ASSY CONTROL
30	MX-2056	SP HOUSING
31	CY-2107	SPRING
32	CY-2110	STUD
33	CY-2111	SPACER
34	CY-2117	CAM PLATE
35	GR-2006	PLSTC WASHER
36	HN-5045	SPACER
37	107-0009X	GRIP LEFT & ACCEL
38	601-5418X	ASSY ACCEL CASE
39	601-5419X	ASSY LEVER
40	SGB-3738-13	WIRE HARN START SW
	211-0072	CONN CAP AMP 4P WHITE
	211-0025	CONN PLUG AMP 12P WHITE
41	SGB-3738-15	WIRE HARN WHEELIE VR
	211-0059	CONN PLUG AMP 3P WHITE
43	421-6403	STICKER START
44	MX-2054	CUSHION
45	MX-2055	ADJUST PLATE
101	601-5423	GEAR 1/6
102	601-5424	GEAR 30
103	509-5050	PUSH BUTTON SWITCHIT YELLOW W/LAMP
104	220-5130	VOL CONT B-5K OHM
105	100-5033	BEARING ϕ 20 (NTN B-BAF 2022)
106	211-0041	CONN PIN AMP
107	280-0472	FASTON RCPT 110

④ ASSY SUB HANDLE (MX-2500) (D-3/3)

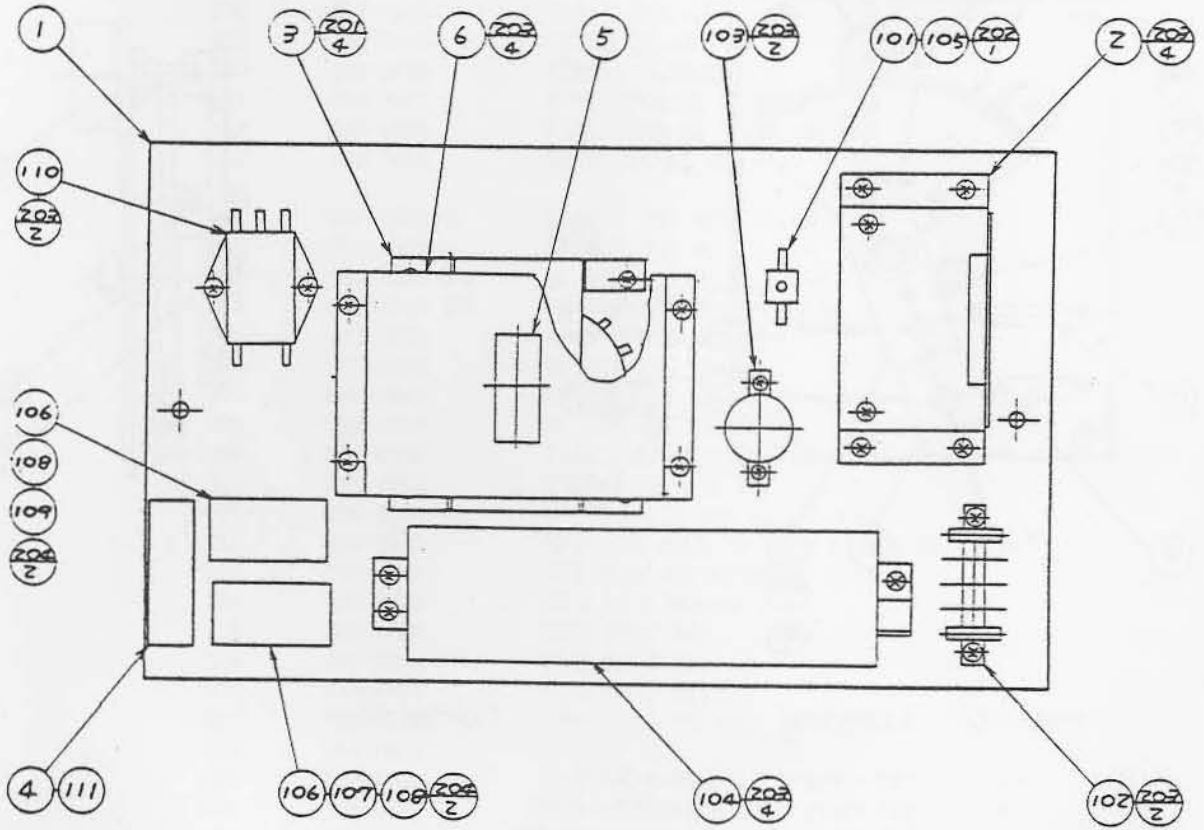
ITEM NO.	PART NO.	DESCRIPTION
108	211-0042	CONN SOCKET AMP
109	280-0425	CORD CLAMP ϕ 10
110	280-5008	CORD CLAMP ϕ 15
111	310-5008	INSL SPIRAL TUBE ID ϕ 6
112	310-5009	INSL SPIRAL TUBE ID ϕ 9
113	310-5002	HISHI TUBE 2.5m/m
201	000-0406-S	M SCR PH W/S M4x6
202	000-0408-S	M SCR PH W/S M4x8
203	000-0408-FS	M SCR PH W/FS M4x8
204	000-0516-FS	M SCR PH W/FS M5x16
205	000-0540	M SCR PH M5x40
206	001-0416	M SCR FH M4x16
207	001-0512	M SCR FH M5x12
208	006-3513	W SCR FH 3.5x13
209	008-0408	TMP PRF SCR TH M4x8
210	008-0512	TMP PRF SCR TH M5x12
211	010-0408-F	S-TITE SCR PH W/F M4x8
212	028-0014	SET SCR HEX SKT CP UNBR M4x4
213	028-0021	SET SCR PH SPECIAL M4x16
214	030-0820	HEX BLT M8x20
215	050-0008	HEX NUT M8
216	051-0004	FLG NUT M4
217	051-0005	FLG NUT M5
218	029-0038	TMP SCR TH BLK M6x20
219	054-0005	U-NUT M5
220	059-0016	HEX NUT M14
221	060-0008	FLT WSHR M8
222	069-0001	FLT WSHR 5.5-20x1.6
223	061-0005	SPR WSHR M5
224	061-0006	SPR WSHR M6
225	061-0008	SPR WSHR M8
226	065-0010	E RING 10mm
227	069-0019	SPR WSHR M14
228	069-0020	FLT WSHR M12
229	069-0045	FLT WSHR M14

⑤ ASSY CONTROL (MX-2111)



ITEM NO.	PART NO.	DESCRIPTION
1	MX-2112	BRACKET
2	MX-2113	LEVER LONG
3	MX-2114	LEVER SHORT
4	MX-2115	ACCELERATOR WIRE S
5	MX-2116	BRAKE WIRE S
6	MX-2117	STOP RING
7	HN-5106	SPACER
8	HN-5107	STOD
9	HN-5109	EXT SPRING ACCEL
10	HN-5110	EXT SPRING BRAKE
11	SGB-3738-14 211-0073	WIRE HARN ACCEL & BRAKE VR CONN PLUG AMP 4P WHITE
101	220-5130	VOL CONT B-5K OHM
102	601-5415	GEAR 20
103	601-5423	GEAR 1/6
104	601-0460	PLASTIC TIE BELT
105	211-0041	CONN PIN AMP
201	000-0408-S	M SCR PH W/S M4×8
202	000-0535	M SCR PH M5×35
203	028-0014	SET SCR HEX SKT CP UNBR M4×4
204	030-0508	HEX BLT M5×8
205	050-0006	HEX NUT M6
206	051-0005	FLG NUT M5
207	060-0005	FLT WSHR M5
208	061-0005	SPR WSHR M5
209	061-0006	SPR WSHR M6

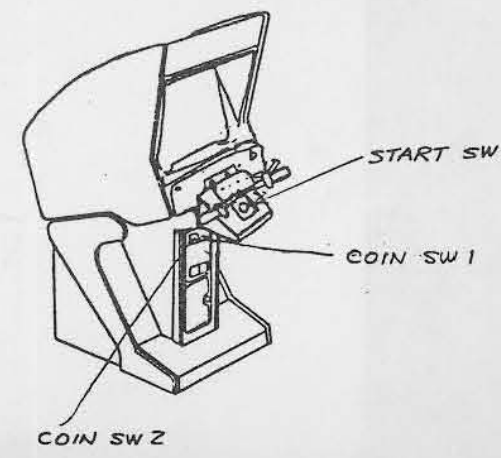
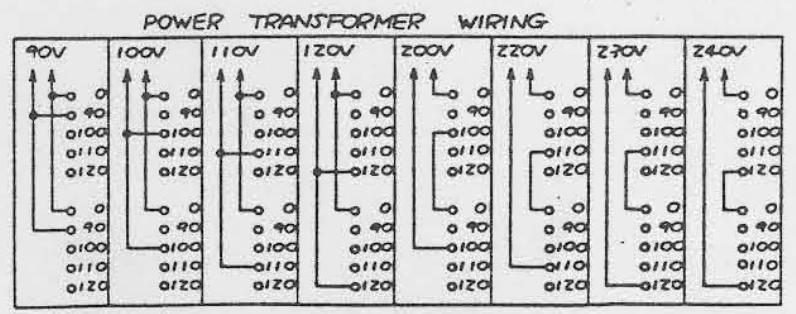
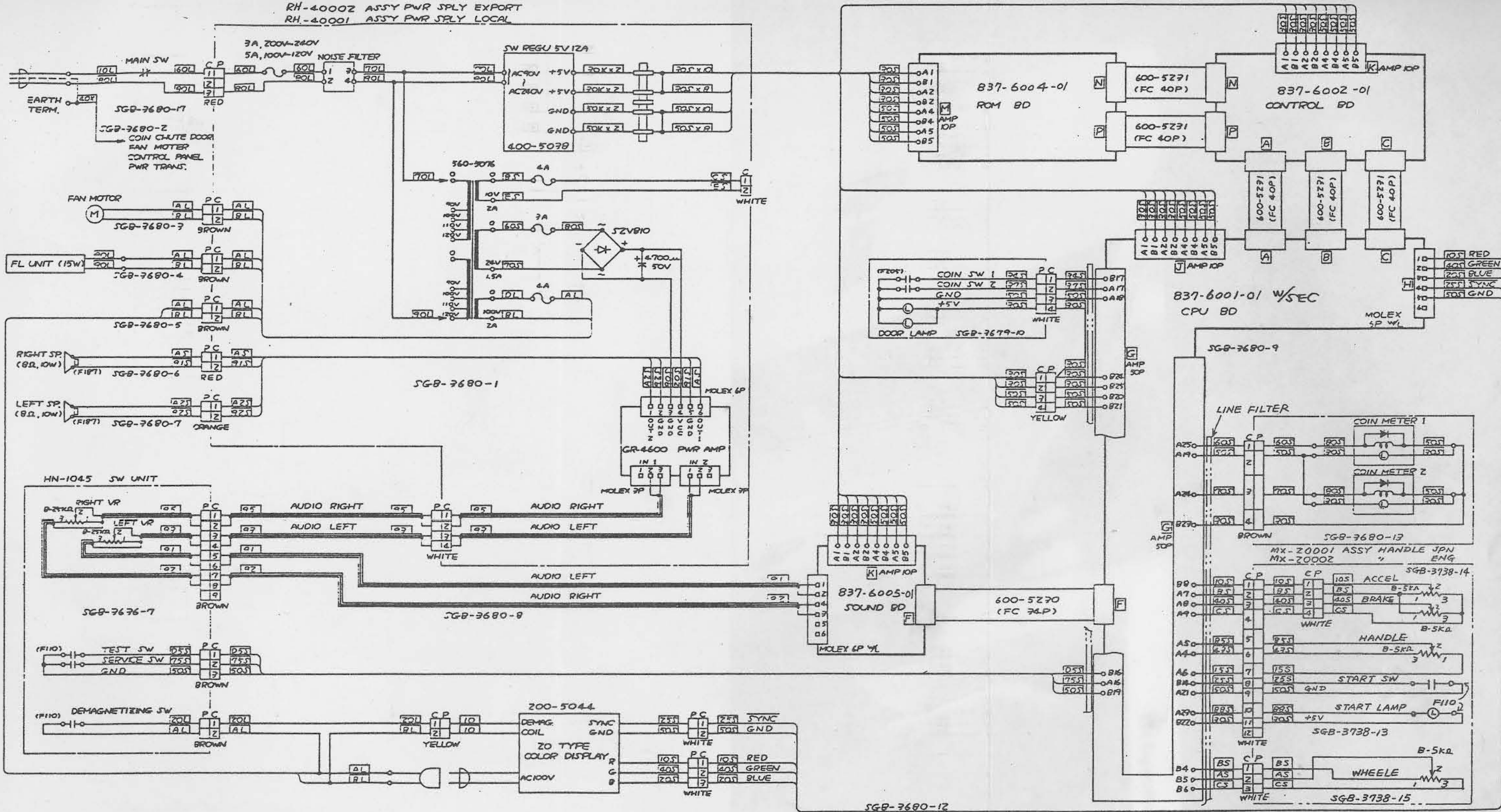
⑥ ASSY POWER SUPPLY U/R (RH-40002) (D-1/2)



⑥ ASSY POWER SUPPLY U/R (RH-40002) (D-2/2)

ITEM NO.	PART NO.	DESCRIPTION
1	RH-4003	BASE
2	GR-4600	PWR AMP DC 39V 15W
3	560-5076	PWR XFMR 90-240V 10V 24V 100V
4	421-6202	STICKER FUSE INSTR (FOR USA)
	421-6203	STICKER FUSE INSTR (200~240V AREA)
	81319	STICKER 120V (FOR USA)
	80666	STICKER 200V (200V AREA)
5	80556	STICKER 220V (220V AREA)
	80595	STICKER 230V (230V AREA)
	80309	STICKER 240V (240V AREA)
6	HN-4003	COVER
7	SGB-3680-1	WIRE HARN PWR SPLY (MFG) (UPRIGHT)
	211-0097	CONN PLUG AMP 3P RED
	211-0044	CONN CAP AMP 2P WHITE
	211-0080	CONN CAP AMP 2P BROWN
	211-0115	CONN CAP AMP 2P RED
	211-0116	CONN CAP AMP 2P ORANGE
	211-0072	CONN CAP AMP 4P WHITE
	211-0123	CONN CAP AMP 4P YELLOW
	211-0157	CONN FEM 3P
	211-0158	CONN FEM 6P
	211-5101	CONN FEM 10P
101	117-0068	TERMINAL PLATE IL 3P
102	211-0174	TERMINAL PLATE 5P
103	150-0173	CAP E 4700MF 50V C-TYPE
104	400-5038	SW REGU 90-240V 5V 12A (CSK-51300)
105	481-0065	DIODE BRIDGE S2VB10
106	514-0064	FU HLDR 2P W/COVER
107	514-0036	FU 3A 6.4×30 mm (FOR USA)
	514-0036	FU 3A 6.4×30 mm (200~240V AREA)
108	514-0040	FU 4A 6.4×30 mm
109	514-0034	FU 5A 6.4×30 mm (FOR USA)
110	601-0429	NOISE FLTR AC 250V 4A
111	601-0769	STAPLE MAX #3
112	280-0419	HARNESS LUG
113	211-0167	TERMINAL LUG ROUND ID 5
114	211-0041	CONN PIN AMP
115	211-0042	CONN SOCKET AMP
116	211-0005	CONN CRIMP LOCK
117	211-5047	CONTACT
201	000-0414-FS	M SCR PH W/FS M4×14
202	005-3110	W SCR RH 3.1×10
203	005-3113-F	W SCR RH W/F 3.1×13
204	005-3120	W SCR RH 3.1×20

RH-4000Z ASSY PWR SPLY EXPORT
RH-4000L ASSY PWR SPLY LOCAL



18. SCHEMATIC DIAGRAM



Item No.	Description	Quantity	Unit
1
2
3
4
5
6
7
8
9
10



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○ **TLX : J22357 SEGASTAR**

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ENDURO RACER

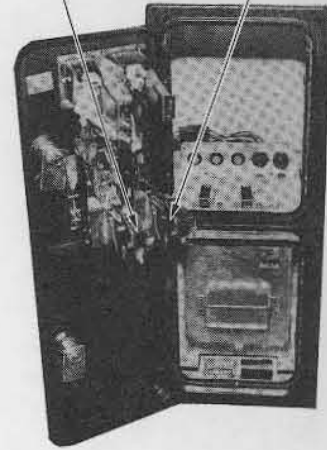
○ コイン・クレジットの設定

COIN/CREDIT OPTION SETTING

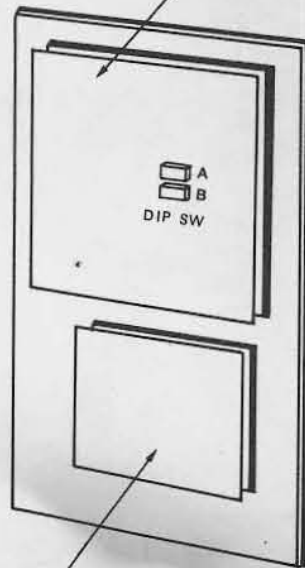
DIP SW A

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
6 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								
FREE PLAY	ON	ON	ON	ON	ON	ON	ON	ON

COIN SW #1 COIN SW #2



GAME BOARD A
(834-6000)



GAME BOARD B
(834-6003)

○ ゲーム条件の設定

GAME OPTION SETTING

DIP SW B

OPTION	1	2	3	4	5	6	7	8
TYPE WHEELIE	OFF							
SELECT UP RIGHT	ON							
GAME MEDIUM		OFF	OFF					
EASY		ON	OFF					
DIFFICULTY HARD		OFF	ON					
HARDEST		ON	ON					
TIME MEDIUM				OFF	OFF			
ADJUST EASY				ON	ON			
HARD				OFF	ON			
HARDEST				ON	ON			
TIME MEDIUM						OFF	OFF	
CONTROL EASY						ON	ON	
HARD						OFF	ON	
HARDEST						ON	ON	
ADVERTISE OFF								OFF
SOUND ON								ON

① 他車の出現頻度 (SWITCH 2, 3で設定)

Other cars' appearance frequency (set by DIP SWITCHES 2 & 3)

SWITCH NO.	The other cars' appearance frequency		Difficulty level
2	3	他車の出現頻度	難易度
OFF	OFF		MEDIUM
ON	OFF	MEDIUM 設定に対し 30% 減	EASY
OFF	ON	" 40% 増	HARD
ON	ON	" 80% 増	HARDEST

※ ← 出荷時 When shipping

② ゲーム時間調整 (SWITCH 4, 5で設定)

Game time adjustment (set by DIP SWITCH 4 & 5)

SWITCH NO.	Game time (seconds) per stage					Difficulty level	
4	5	ステージ毎のゲーム時間 (秒)					難易度
OFF	OFF	60	50	50	50	50	MEDIUM
ON	OFF	65	50	50	50	50	EASY
OFF	ON	55	50	50	50	50	HARD
ON	ON	50	50	50	50	50	HARDEST

※ ← 出荷時 When shipping
(WHEELIE TYPE)

※ ← 出荷時 When shipping
(UPRIGHT TYPE and
SIT-DOWN TYPE)

③ 内部時間調整 (SWITCH 6, 7で設定)

Inner time adjustment (set by DIP SWITCH 6 & 7)

SWITCH NO.	DISOLAY TIME 1 SEC speed		Difficulty level
6	7	DISPLAY TIME 1 SECの速さ	難易度
OFF	OFF	95%	MEDIUM
ON	OFF	100%	EASY
OFF	ON	85%	HARD
ON	ON	80%	HARDEST

※ ← 出荷時 When shipping

具体的な設定例

DETAILED EXAMPLES

DIP SW NO.						Difficulty level
2	3	4	5	6	7	難易度
ON	OFF	ON	OFF	ON	OFF	易しい EASY
ON	OFF	ON	OFF	OFF	ON	
ON	OFF	OFF	OFF	ON	ON	↑
ON	OFF	ON	ON	OFF	ON	
OFF	OFF	OFF	OFF	OFF	OFF	← WHEELIE TYPE
OFF	OFF	OFF	OFF	OFF	ON	
OFF	OFF	OFF	ON	OFF	OFF	← UPRIGHT TYPE & SIT-DOWN TYPE
OFF	ON	OFF	OFF	ON	OFF	
OFF	ON	OFF	OFF	OFF	ON	↓
ON	ON	ON	OFF	OFF	OFF	
ON	ON	OFF	ON	ON	OFF	HARDEST 難しい
ON	ON	ON	ON	OFF	OFF	
ON	ON	ON	ON	ON	ON	