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SEGA[®] **SUPER HANG-ON**

UPRIGHT TYPE
OWNER'S MANUAL



SEGA ENTERPRISES, LTD.

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SPECIFICATIONS

INSTALLATION SPACE :	30.7 in. (78 cm) W x 35.4 in. (90 cm) D
HEIGHT :	65 in. (165 cm)
POWER :	190 W
WEIGHT :	90 kg (198 lbs)

NOTE

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

INTRODUCTION TO THE OWNER'S MANUAL

SEGA ENTERPRISES, LTD., supported by its high electronic technology of LSI, micro-processors, 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 SUPER HANG-ON, 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 circumstances 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.

- Be sure to turn the power off before working on the machine.
- To insert or pull out the plug quickly is dangerous.
- 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.
- Do not use any fuse that does not meet the specified rating.
- 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 1987

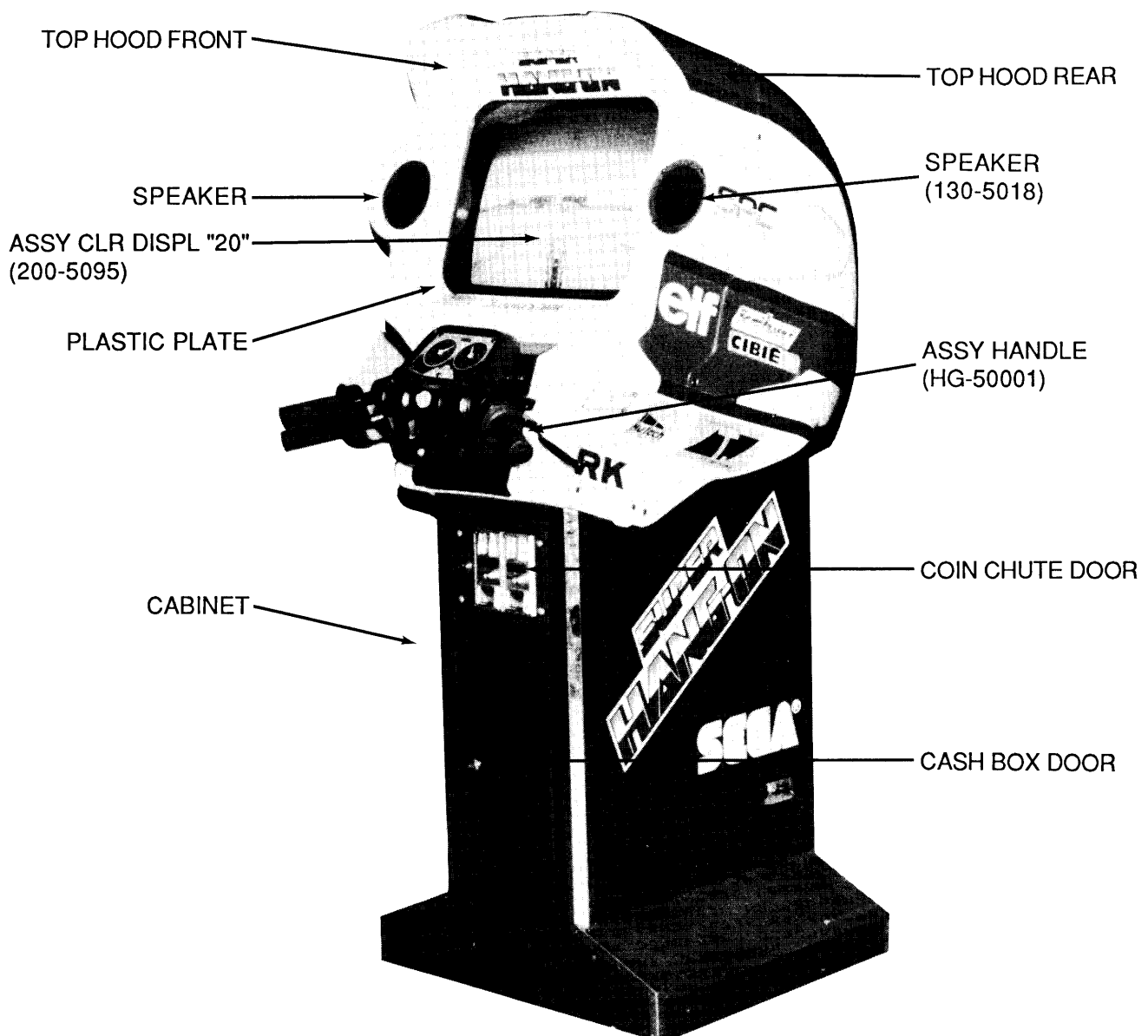
This signifies that this work was disclosed in 1987 and is the property of SEGA ENTERPRISES, LTD.

3. PRECAUTIONS CONCERNING THE PLACE OF INSTALLATION

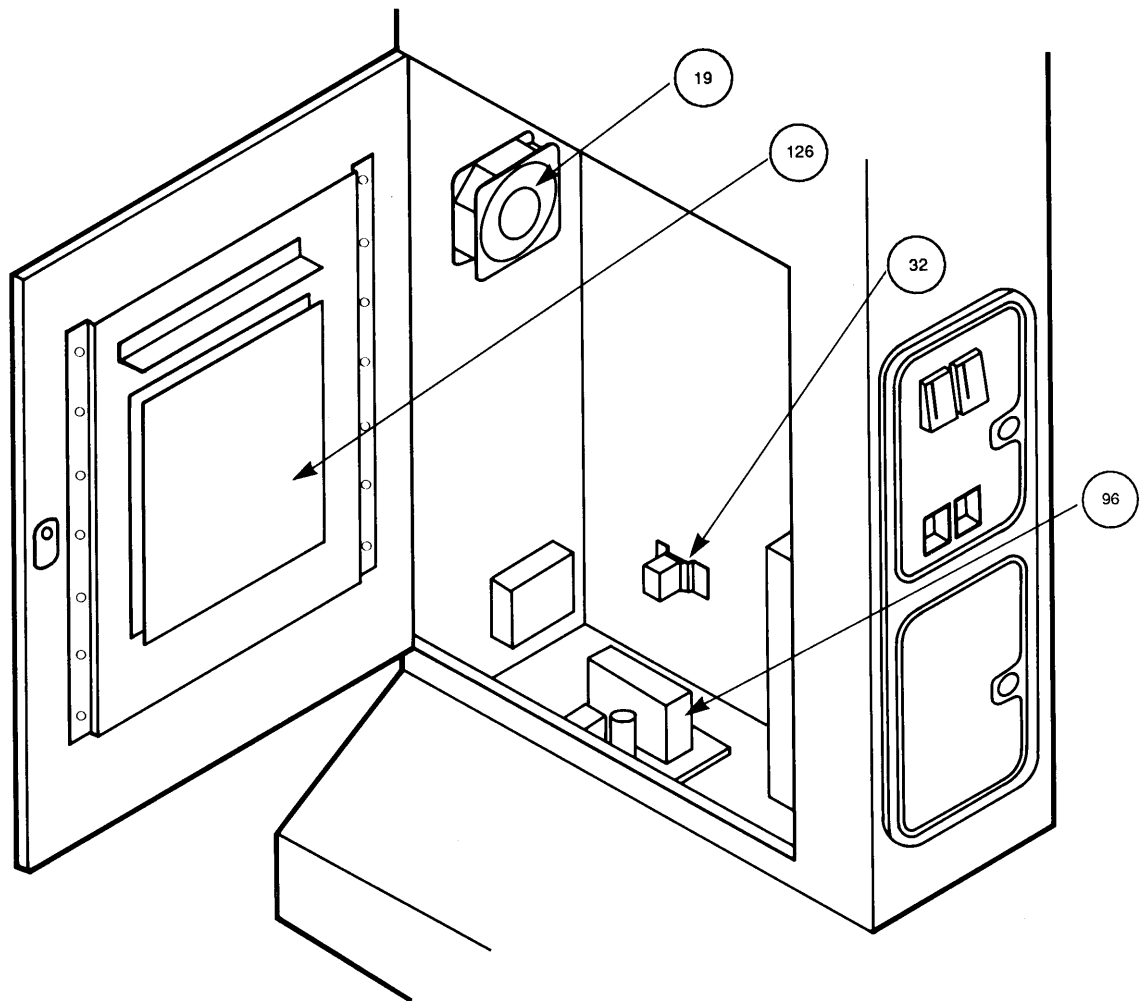
The SUPER HANG-ON is an indoor game machine. Absolutely do not install it outside. Even indoors, avoid installing it in places mentioned below so as to ensure proper usage:

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

4. EXTERIOR VIEW OF GAME 1

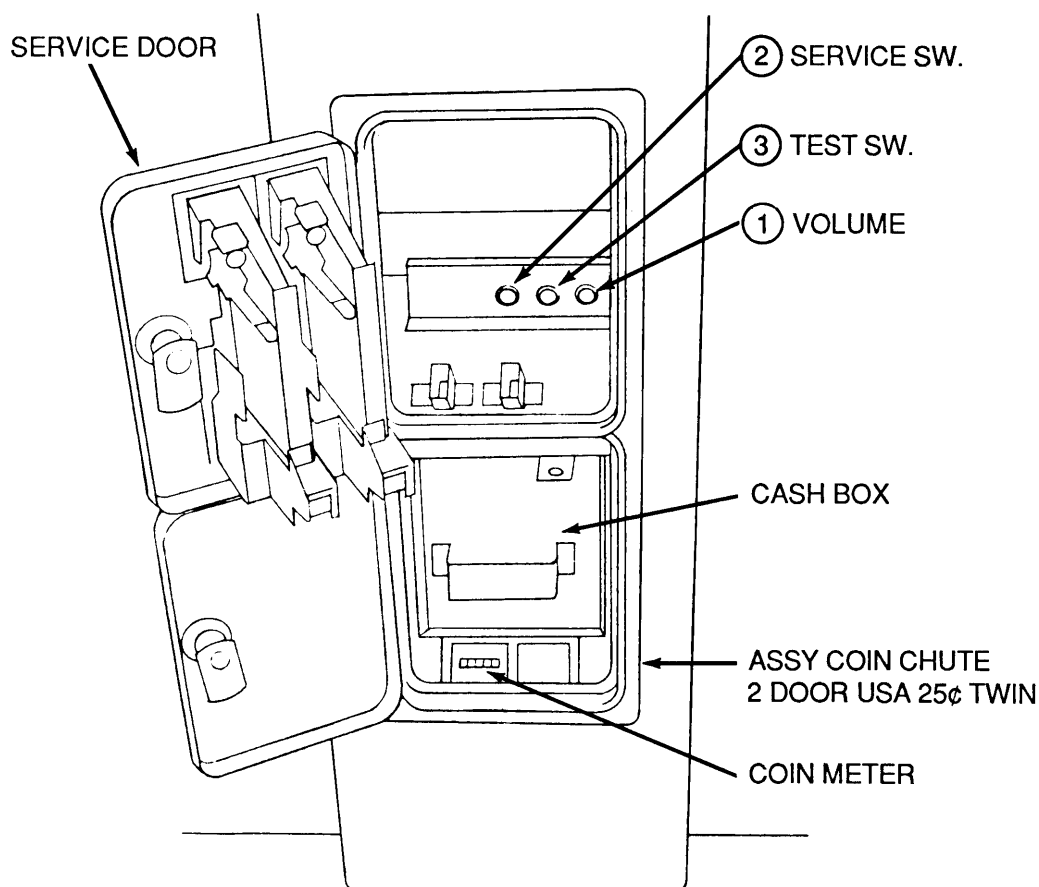


4. INTERIOR VIEW OF GAME 2



5. ADJUSTING THE "SERVICE" SWITCH

The layout as shown can be viewed by opening the service door.



INSTRUCTIONS

1. VOLUME ADJUSTMENT

The volume of the speaker inside the cowl can be adjusted.

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

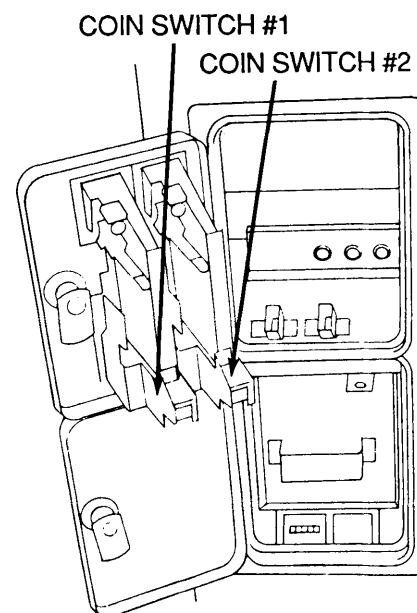
For operating this switch, see SELF-TESTING.

6. DIP SWITCH SETTING

• GAME PRICE SETTING

DIP SWITCH #A

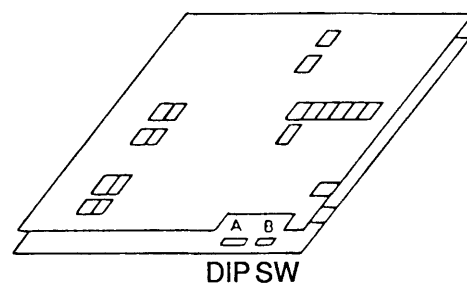
OPTION		1	2	3	4	5	6	7	8
1 COIN	1 CREDIT	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
1 COIN	2 CREDITS	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF
1 COIN	3 CREDITS	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
1 COIN	4 CREDITS	ON	ON	OFF	OFF	ON	ON	OFF	OFF
1 COIN	5 CREDITS	OFF	OFF	ON	OFF	OFF	OFF	ON	OFF
1 COIN	6 CREDITS	ON	ON	ON	OFF	ON	OFF	ON	OFF
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	OFF	ON	OFF	ON	OFF	ON	OFF	ON
4 COINS	2 CREDITS	OFF	ON	OFF	ON	OFF	ON	OFF	ON
5 COINS	3 CREDITS	OFF	ON	OFF	ON	OFF	ON	OFF	ON
6 COINS	4 CREDITS	OFF	ON	OFF	ON	OFF	ON	OFF	ON
1 COIN	1 CREDIT	OFF	OFF	ON	ON	OFF	OFF	ON	ON
2 COINS	2 CREDITS	OFF	OFF	ON	ON	OFF	OFF	ON	ON
3 COINS	3 CREDITS	OFF	OFF	ON	ON	OFF	OFF	ON	ON
4 COINS	4 CREDITS	OFF	OFF	ON	ON	OFF	OFF	ON	ON
5 COINS	6 CREDITS	OFF	OFF	ON	ON	OFF	OFF	ON	ON
1 COIN	1 CREDIT	ON	OFF	ON	ON	ON	OFF	ON	ON
2 COINS	2 CREDITS	ON	OFF	ON	ON	ON	OFF	ON	ON
3 COINS	3 CREDITS	ON	OFF	ON	ON	ON	OFF	ON	ON
4 COINS	5 CREDITS	ON	OFF	ON	ON	ON	OFF	ON	ON
1 COIN	1 CREDIT	OFF	ON	ON	ON	OFF	ON	ON	ON
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			



• OPTION SWITCH SETTING

DIP SWITCH #B

OPTION		1	2	3	4	5	6	7	8
ADVERTISE SOUND	OFF ON	OFF ON					OFF		
GAME DIFFICULTY	NORMAL EASY HARD HARDEST		OFF ON OFF ON	OFF OFF ON ON					
TIME ADJUST	NORMAL EASY HARD HARDEST				OFF ON OFF ON	OFF OFF ON ON			



7. GAME DIFFICULTY SETTING

In this game, by using the DIP SWITCH B on the CPU BOARD, the 4 difficulty levels can be set for each of the following: 1 Other bikes' appearance frequency 2 Play Time adjustments.

When shipping, the difficulty level of 1 is set at HARD, 2 is set at NORMAL. 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 BIKE'S APPEARANCE FREQUENCY (SWITCH 2,3)

SWITCH NO.		OTHER BIKE'S APPEARANCE FREQUENCY	DIFFICULTY LEVEL
2	3		
OFF	OFF		NORMAL *
ON	OFF	30% less than normal	EASY
OFF	ON	40% more than normal	HARD
ON	ON	80% more than normal	HARDEST

* When Shipping

2. PLAY TIME ADJUSTMENT SWITCH (SWITCH 4, 5)

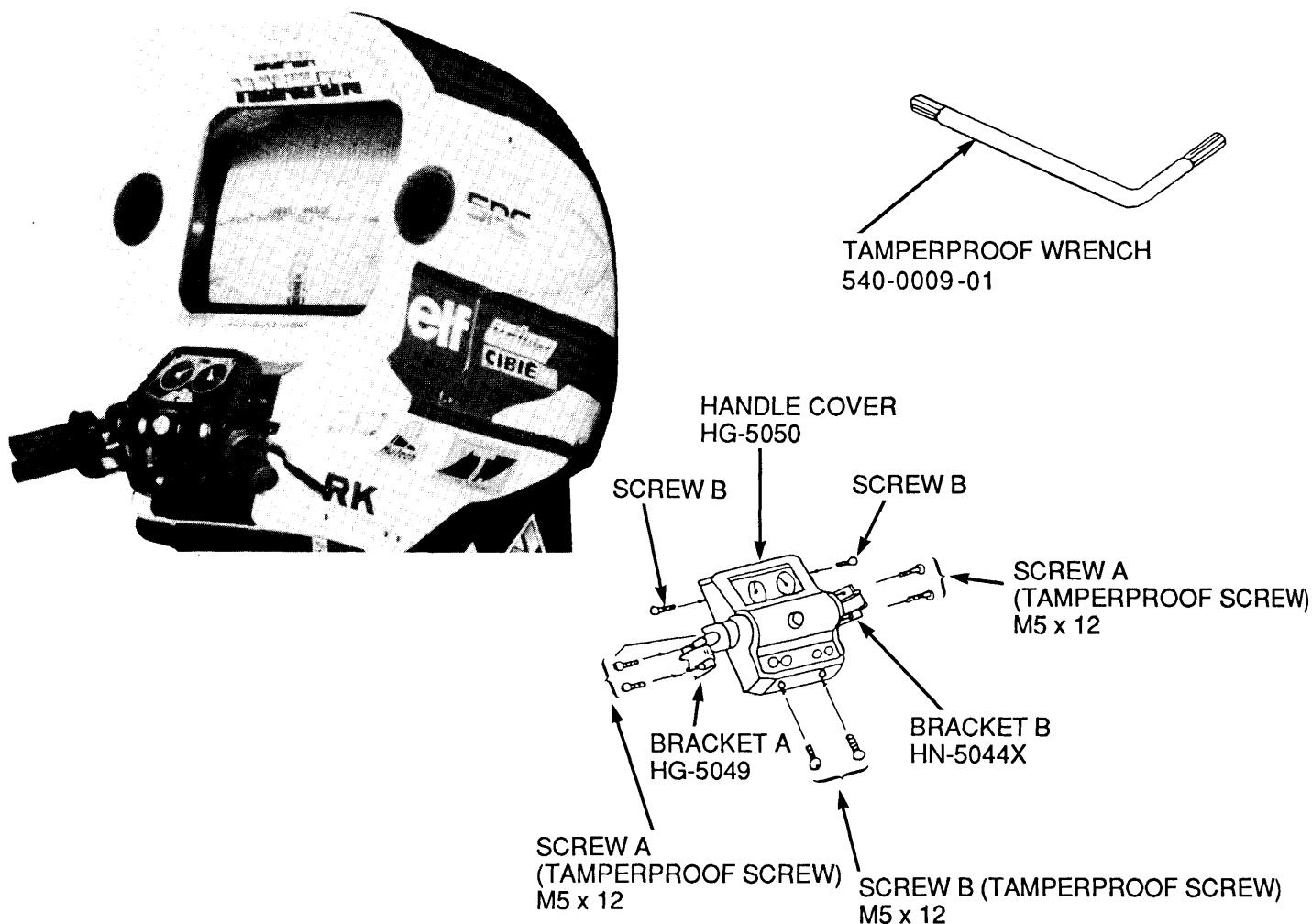
		CLASS	PLAY TIME PER STAGE (SEC)																		DIFFICULTY LEVEL
5	4		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
OFF	OFF	BEGINNER	50	25	32	32	30	32													NORMAL *
		JUNIOR	50	25	32	32	30	32	32	32	32	30									
		SENIOR	50	25	32	32	30	32	32	32	32	30	32	32	32	32					
		EXPERT	50	25	32	32	30	32	32	32	32	30	32	32	32	32	30	32	32	32	
OFF	ON	BEGINNER	55	25	33	33	30	33													EASY
		JUNIOR	55	25	33	33	30	33	33	33	33	30									
		SENIOR	55	25	33	33	30	33	33	33	33	30	33	33	33	33					
		EXPERT	55	25	33	33	30	33	33	33	33	30	33	33	33	33	30	33	33	33	
ON	OFF	BEGINNER	45	25	31	31	30	31													HARD
		JUNIOR	45	25	31	31	30	31	31	31	31	30									
		SENIOR	45	25	31	31	30	31	31	31	31	30	31	31	31	31					
		EXPERT	45	25	31	31	30	31	31	31	31	30	31	31	31	31	30	31	31	31	
ON	ON	BEGINNER	40	25	30	30	30	30													HARDEST
		JUNIOR	40	25	30	30	30	30	30	30	30	30									
		SENIOR	40	25	30	30	30	30	30	30	30	30	30	30	30	30					
		EXPERT	40	25	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	

* When Shipping

DIP SW. NO.				DIFFICULTY LEVEL	
5	4	3	2		
OFF	ON	OFF	ON	1	EASY ↑ * When Shipping HARDEST ↓
OFF	OFF	OFF	ON	2	
ON	OFF	OFF	ON	3	
ON	ON	OFF	ON	4	
OFF	ON	OFF	OFF	5	
OFF	OFF	OFF	OFF	6	
ON	OFF	OFF	OFF	7	
ON	ON	OFF	OFF	8	
OFF	ON	ON	OFF	9	
OFF	OFF	ON	OFF	10	
ON	OFF	ON	OFF	11	
ON	ON	ON	OFF	12	
OFF	ON	ON	ON	13	
OFF	OFF	ON	ON	14	
ON	OFF	ON	ON	15	
ON	ON	ON	ON	16	

8. REMOVING THE HANDLE COVER

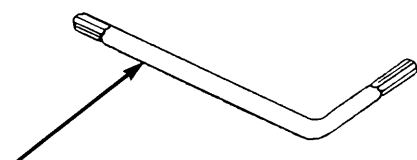
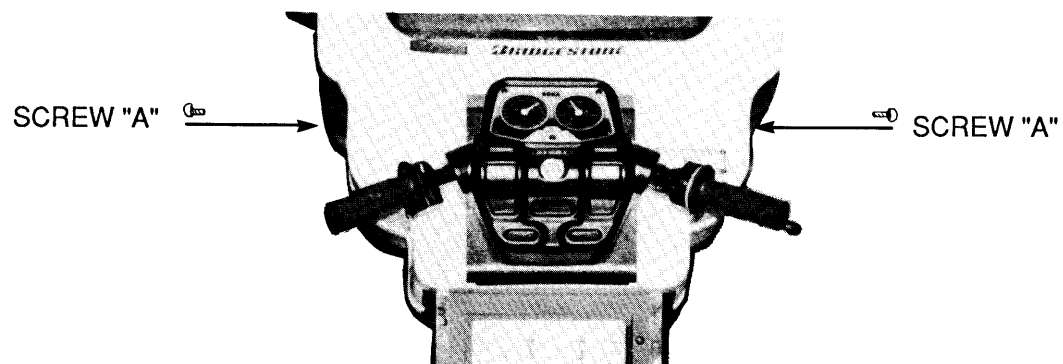
1. When adjusting the ACCELERATOR, BRAKE, etc., remove the HANDLE COVER by using the following procedure:



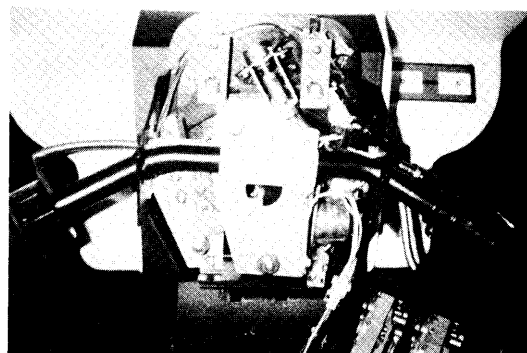
DISASSEMBLING PROCEDURE

1. Remove 4 SCREWS A which fasten BRACKET A and BRACKET B by using the TAMPERPROOF WRENCH (M5).
2. Remove 4 SCREWS B which fasten the HANDLE COVER by using the TAMPERPROOF WRENCH (M5).
3. The HANDLE COVER can be detached from the HANDLE UNIT in accordance with the above procedures 1 and 2 . It is completely removable from the MAIN CABINET by pulling out the CONNECTOR (WHITE 4P).

9. REMOVING THE HANDLE UNIT

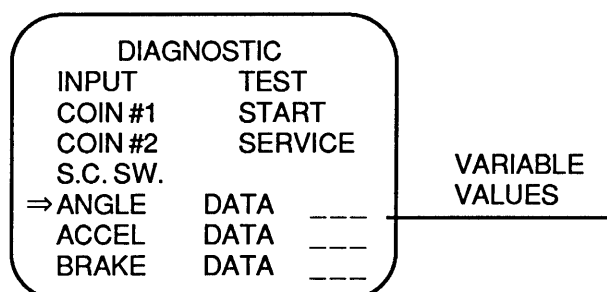


TAMPERPROOF WRENCH
540-0009-01



10. HANDLE'S CENTERING ADJUSTMENT

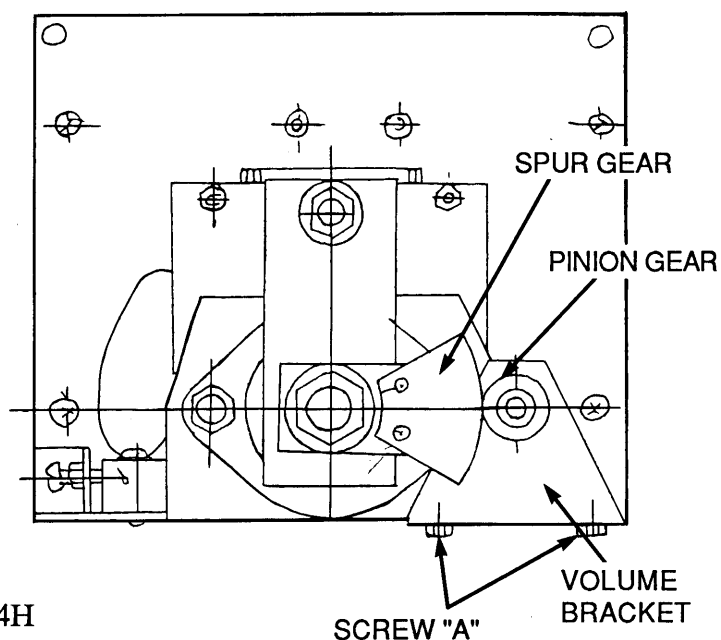
1. Display the following SELF-TEST MODE screen.



Secure the set screws when the on-screen variable value becomes 80H (± 4 steps).



7CH 7DH 7EH 7FH 80H 81H 82H 83H 84H

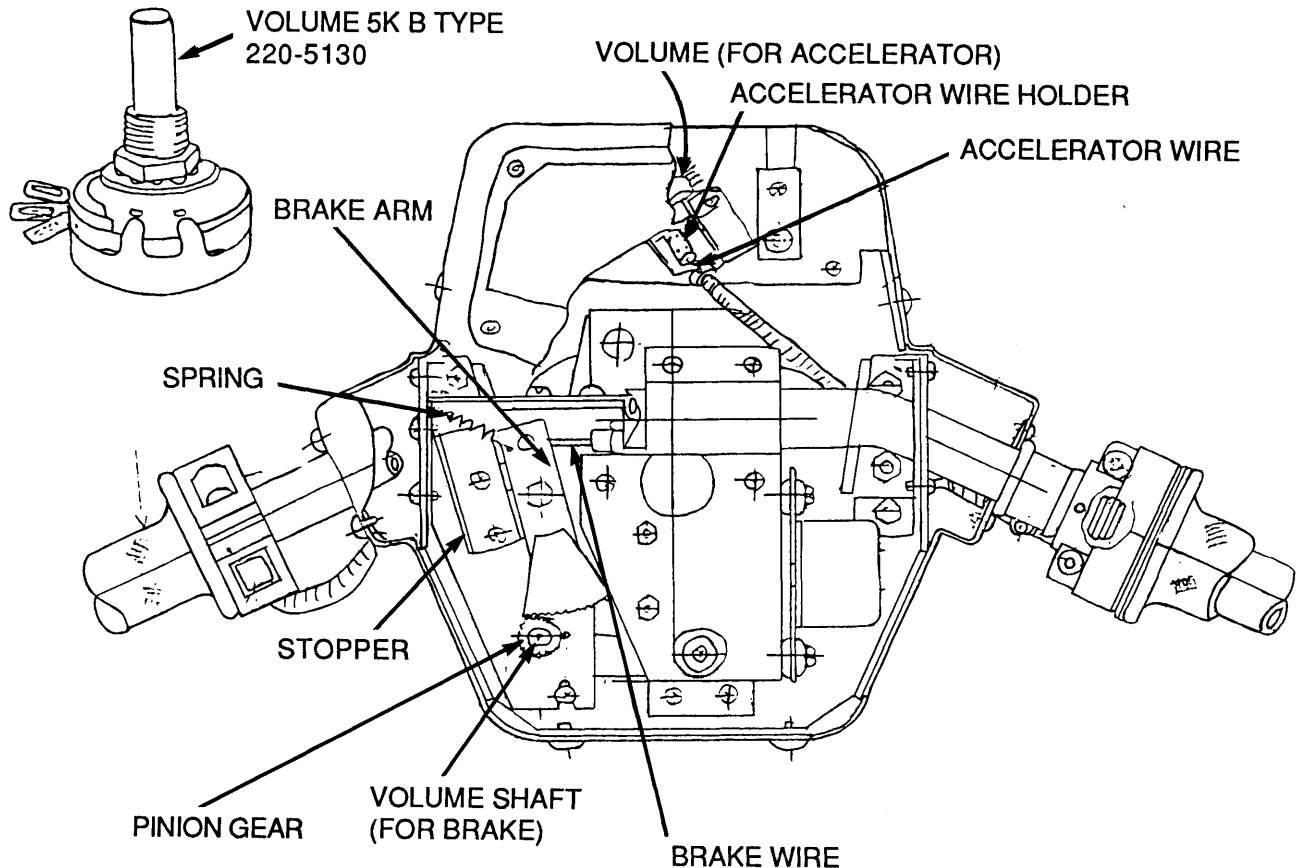


DISASSEMBLING AND ADJUSTMENT PROCEDURES

Loosen 2 SCREWS A and horizontally move the VR BRACKET to make the backlash adjustments between the pinion gear and the spur gear.

Manually turn the pinion gear to ensure that the variable value in the TEST MODE becomes approximately 30H, make the backlash adjustments and then fasten 2 screws A.

11. ADJUSTING THE ACCELERATOR AND BRAKE CONTROL ("VOLUME")



Make the VOLUME adjustments as follows:

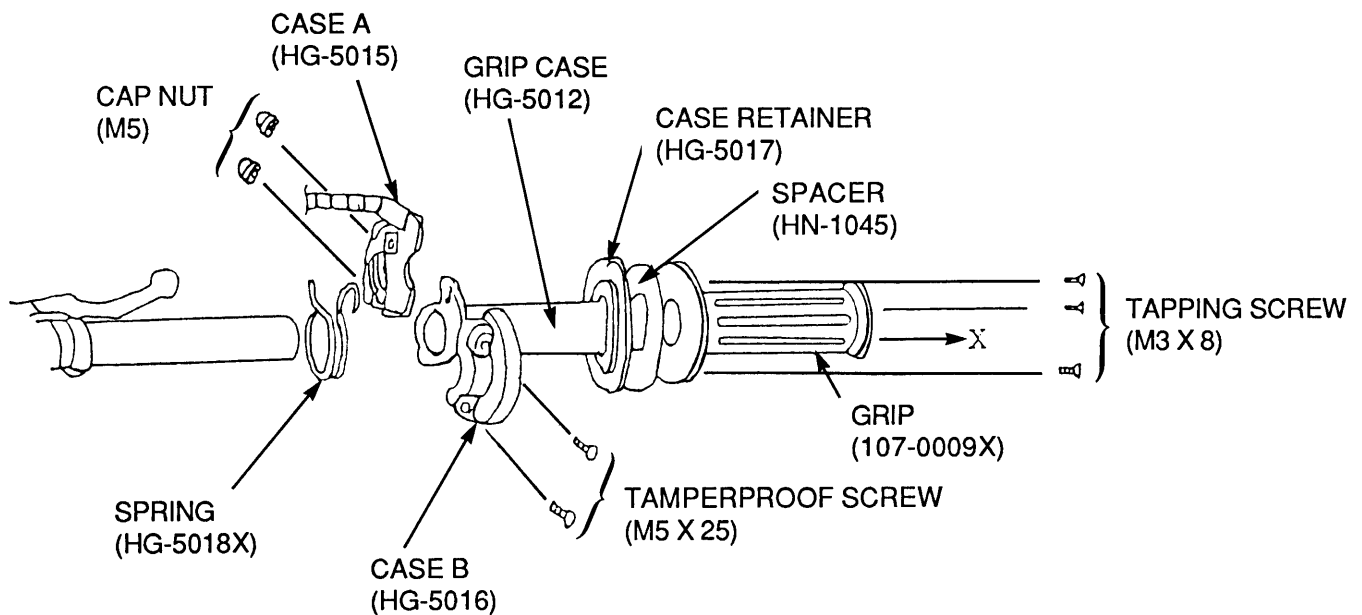
BRAKE

1. When the brake lever is operated, the brake wire is pulled and the pinion gear turns approximately 180 degrees.
2. Return the brake lever, fully turn the VOLUME shaft clockwise at the position where the brake wire comes into contact with the stopper and secure the pinion gear with the 2 M4 x 4 screws.
3. Adjust the length of the brake wire with the adjustment nut to ensure that the pinion gear turns 180 degrees.

ACCELERATOR

1. When the accelerator grip is operated, the accelerator wire turns to cause the VOLUME SHAFT to rotate approximately 180 degrees.
2. At the position where the accelerator grip is returned, fully turn the VOLUME SHAFT clockwise and secure the accelerator wire holder with 2 M4 x 4 set screws.

12. REPLACING THE ACCELERATOR RELATED PARTS

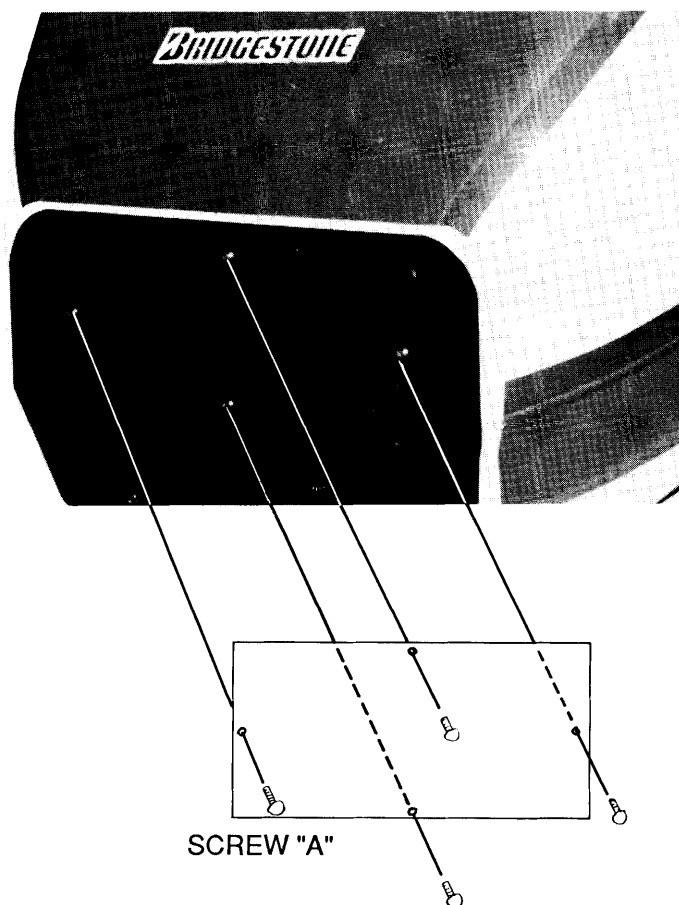


1. To replace the grip, remove it in the direction of X. (It can be easily taken out by partially cutting it with a cutter.)
2. To replace the spring inside the accelerator case, remove the case, the 3 M3 x 8 tapping screws that secure the case retainer and then the 2 M5 x 25 tamperproof screws, in a manner to ensure disassembly as shown above.
3. When the spring has been completed, display the following SELF-TEST MODE screen.

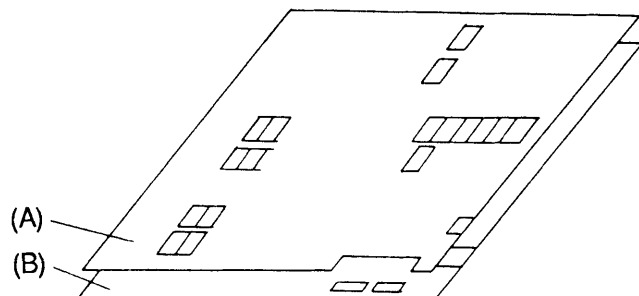
DIAGNOSTIC			
INPUT	TEST		
COIN #1	START		
COIN #2	SERVICE		
S.C. SW.			
⇒ ANGLE	DATA	---	VARIABLE VALUES
ACCEL	DATA	---	
BRAKE	DATA	---	

When the accelerator is returned, make sure that the variable value becomes 00H at the set position. The allowable range of the variable values is 00H - 04H.

13. REAR ASSEMBLY

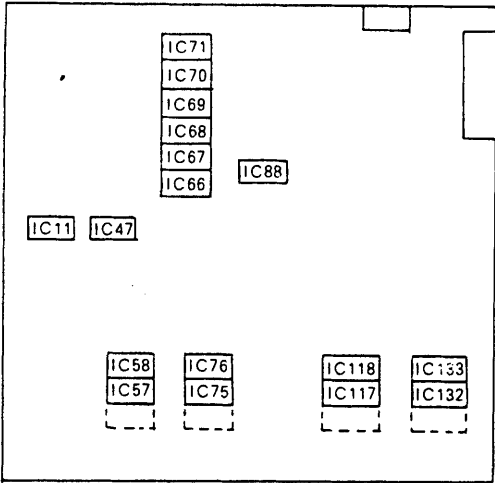


14. EPROM/ROM LOCATIONS

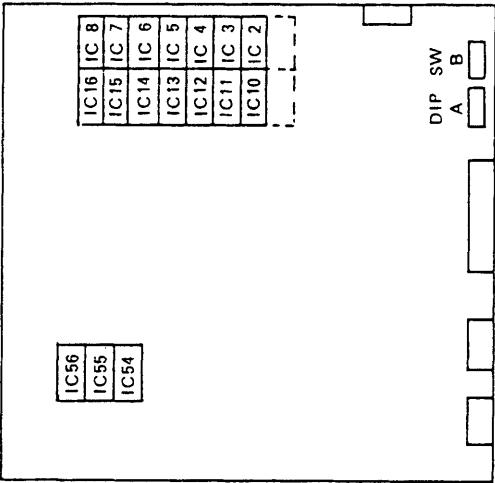


GAME BD SUPER HANG-ON (834-6277-01, 834-6277-03, 834-6277-05)

A. CUP BD SUPER HANG-ON (837-6278-01, 837-6278-03)



B. VIDEO BD SUPER HANG-ON (837-6279, 837-6279-01, 837-6279-02)



GAME BD			834-6277-01	834-6277-03	834-6277-05
SECURITY			W/SECU	W/SECU	W/SECU
CPU BD			837-6278-01 (U/R)	837-6278-01 (U/R)	837-6278-01 (U/R)
MAIN PROGRAM		IC 118 IC 117 IC 133 IC 132	EPR-10788 EPR-10635 A EPR-10789 EPR-10637 A	EPR-10788 EPR-10635 A EPR-10789 EPR-10637 A	EPR-10788 EPR-10635 A EPR-10789 EPR-10637 A
SUB PROGRAM		IC 58 IC 57 IC 76 IC 75	EPR-10790 EPR-10791 EPR-10792 EPR-10793	EPR-10790 EPR-10791 EPR-10792 EPR-10793	EPR-10790 EPR-10791 EPR-10792 EPR-10793
ROAD		IC 47 IC 11	EPR-10642 _____	EPR-10642 _____	OPR-10642 _____
S O U N D	DATA	IC 66 IC 67 IC 68 IC 69 IC 70 IC 71	EPR-10643 EPR-10644 EPR-10645 EPR-10646 _____ _____	EPR-10643 EPR-10644 EPR-10645 EPR-10646 _____ _____	OPR-10643 OPR-10644 OPR-10645 OPR-10646 _____ _____
PROGRAM		IC 88	EPR-10649 A	EPR-10649 A	EPR-10649 A
VIDEO BD			837-6279 (EP-ROM TYPE)	837-6279-01 (MASK ROM TYPE)	837-6279-02 (ONE TIME ROM TYPE)
SCROLL		IC 56 IC 55 IC 54	EPR-10650 EPR-10651 EPR-10652	EPR-10650 EPR-10651 EPR-10652	OPR-10650 OPR-10651 OPR-10652
OBJECT		IC 8 IC 7 IC 6 IC 5 IC 4 IC 3 IC 2 IC 1 IC 16 IC 15 IC 14 IC 13 IC 12 IC 11 IC 10 IC 9	EPR-10675 EPR-10676 EPR-10677 EPR-10678 EPR-10679 EPR-10680 EPR-10681 _____ EPR-10682 EPR-10683 EPR-10684 EPR-10685 EPR-10686 EPR-10687 EPR-10688 _____	MPR-10794 MPR-10795 MOR-10796 MPR-10797 MPR-10798 MPR-10799 MPR-10800 MPR-10801	OPR-10675 OPR-10676 OPR-10677 OPR-10678 OPR-10679 OPR-10680 OPR-10681 _____ OPR-10682 OPR-10683 OPR-10684 OPR-10685 OPR-10686 OPR-10687 OPR-10688 _____

(EP-ROM
TYPE)

(MASK-ROM
TYPE)

(ONE TIME
ROM TYPE)

15. SELF TESTING

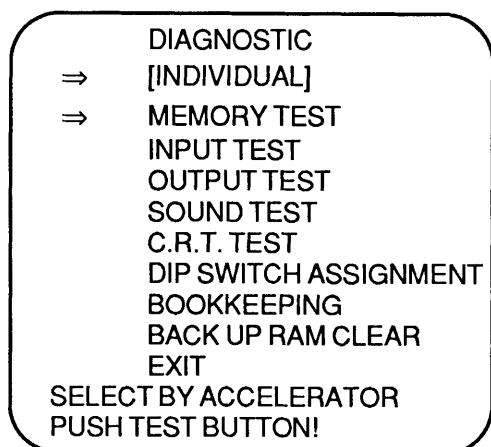
The main purposes of these tests are to check the operations of the game boards, to find the defects if any, to adjust the monitor colors properly, and to make sure the sounds are produced satisfactorily. It is also performed to indicate the assignments of the dip switches, check bookkeeping functions,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

KIND OF TESTS

1. Memory Test: To check the EPROM programs and the map area of the RAM's.
2. Input Test: To check the machine's inclining angle and to test the operation of the accelerator, brake, supercharger switch, coin switches, etc.
3. Output Test: To test the operation of the lamps.
4. Sound Test: To check the quality of the sounds produced by the PCB and the video disc, and to adjust the balance of the speakers.
5. CRT Test: To check if the colors on the monitor are displayed correctly.
6. Dip Switch Assignment: To indicate each dip switch assignment.
7. Bookkeeping: To indicate information data on average score, average play time, etc.
8. Backup RAM
Clear: When the power is turned off, a backup battery system automatically takes over, thus allowing the continuous storage of all bookkeeping data. Using this item will enable you to clear said data.
9. EXIT See page

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.



- (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.)

FIG. 1

[CONTINUE]:

- 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.
- 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]:

- 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.

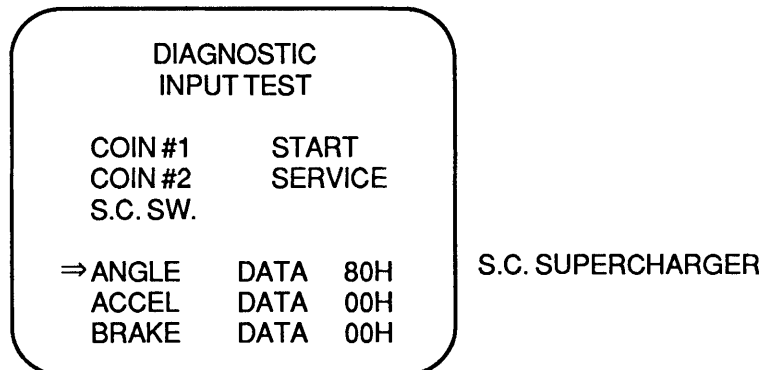
2. TEST ITEMS

(1) Memory Test:

DIAGNOSTIC MEMORY TEST					
ROMS TEST		**RAMS TEST **			
IC. 133	GOOD	IC. 29	GOOD	IC.114	GOOD
IC. 132	GOOD	IC. 30	GOOD	IC.129	GOOD
IC. 118	GOOD	IC. 63	GOOD	IC. 55	GOOD
IC. 117	GOOD	IC. 50	GOOD	IC. 73	GOOD
IC. 76	GOOD	IC. 64	GOOD	IC. 54	GOOD
IC. 75	GOOD	IC. 51	GOOD	IC. 72	GOOD
IC. 58	GOOD	IC. 75	GOOD	IC. 20	GOOD
IC. 57	GOOD	IC. 74	GOOD	IC. 21	GOOD
		IC. 115	GOOD	IC. 38	GOOD
		IC. 130	GOOD	IC. 39	GOOD

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

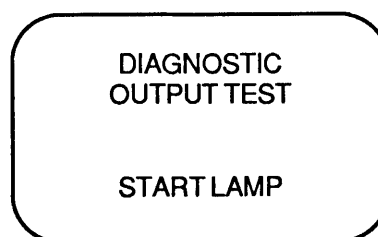
(2) Input Test:



- Operate the dip switches. When "ON" is indicated at the right side of a certain tested item, the item is "OK".
- If the data value decreases when the bike is inclined to the right, or increases when it is inclined to the left, the testing is OK (the data is indicated in the form of hexadecimal values). Make the adjustment in a manner so that in the static condition the value shows 80H (within 7CH - 84H). (Minimum value: To clear 3C. Maximum: To be in excess of BE).
- If the data value increases when the accelerator/brake is applied and the value ranges between 00H and 04H when it is returned to its original position, then the item test is OK. (In the case of the accelerator, make sure that the maximum value is in excess of 91H.) (In the case of the brake, make sure that the maximum value is in excess of A7H.)

When the test is ended, push the TEST button.

(3) Output Test:



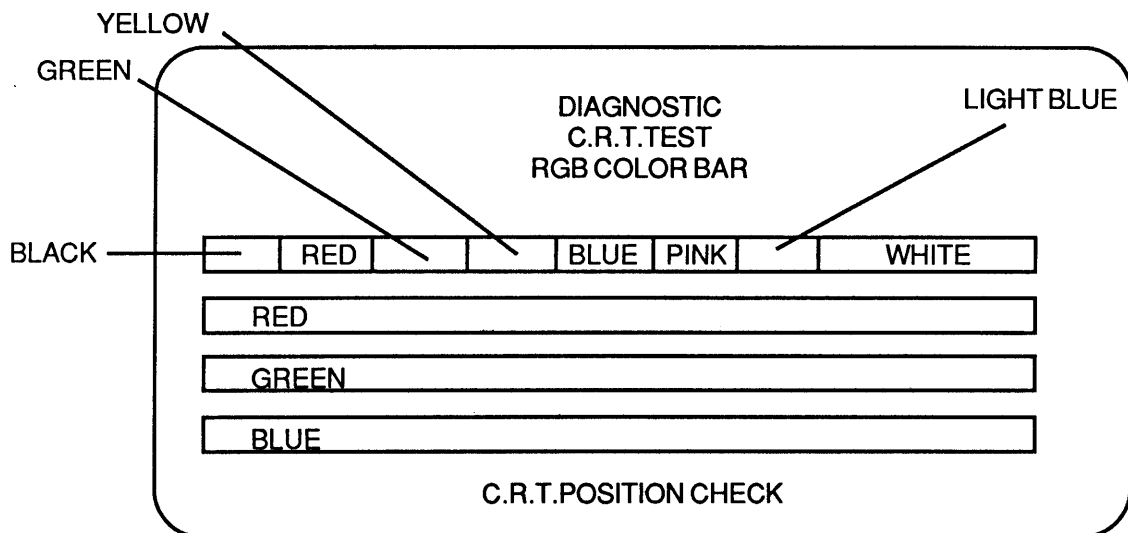
If the start LAMP lights up, it is functioning properly. Push the TEST button when the testing has been completed.

(4) Sound Test:

DIAGNOSTIC SOUND TEST		
1.	MUSIC 1	10. SAFETY ZONE
2.	MUSIC 2	11. CRASH
3.	MUSIC 3	12. ALARM 1
4.	MUSIC 4	13. ALARM 2
5.	MUSIC 5	14. ALARM 3
6.	MUSIC 6	15. ALARM 4
7.	MUSIC 7	16. MY BIKE
8.	COIN IN	17. OTHER BIKE R
9.	REBOUND	18. OTHER BIKE L
SELECT BY ACCELERATOR PUSH START BUTTON!		

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	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
A 1234 COIN SW #1			1 COIN		1 CREDIT			
A 5678 COIN SW #2			1 COIN		1 CREDIT			
B1	ADVERTISE SOUND				OFF			
B 23	GAME DIFFICULTY				NORMAL			
B 45	TIME ADJ.				NORMAL			

(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 CREDITS	0	Number of coin credits
SERVICE CREDITS	0	Usage frequency of service switch
TOTAL CREDITS	0	Number of credits
TOTAL TIME ☐ H ☐ M ☐ 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:

DIAGNOSTIC
BOOKKEEPING

NUMBER OF GAME203
AVE. SCORE7230
TOP SCORE9320
LOW SCORE4230
** GAME TIME **
TOTAL

H
M
S

AVERAGE

H
M
S

LONGEST

H
M
S

PUSH START BUTTON!

DIAGNOSTIC
BOOKKEEPING
TIME REPORT

0	TO	1	MIN.	0
1	TO	2	MIN.	3
2	TO	3	MIN.	6
3	TO	4	MIN.	1
4	TO	5	MIN.	0
5	TO	6	MIN.	0
6	TO	7	MIN.	0
7	TO	8	MIN.	0
OVER		8	MIN.	0

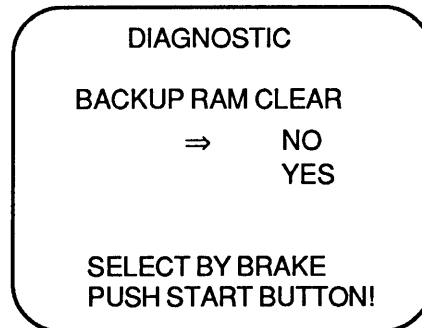
PUSH START BUTTON!

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:
- Once the power source is turned OFF, all the bookkeeping data will be completely cleared.
 - 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) Backup RAM Clear:

To clear the data, bring the arrow to "YES" and push the TEST button.



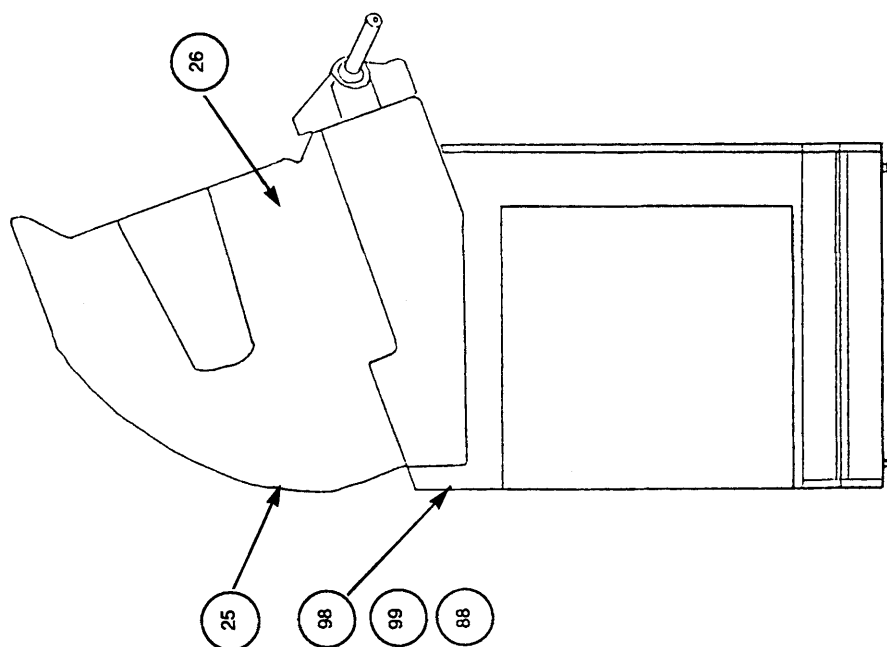
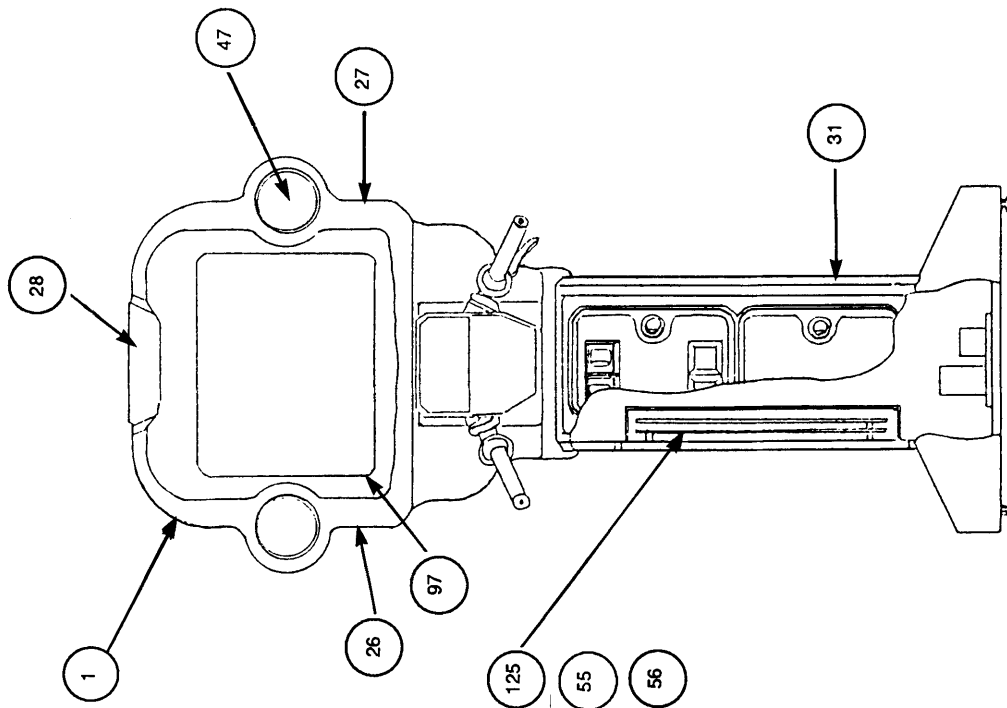
When the test is finished, push the TEST button to end the test (in the case of "INDIVIDUAL", however, the test mode returns to Fig. 1 first).

(9) EXIT:

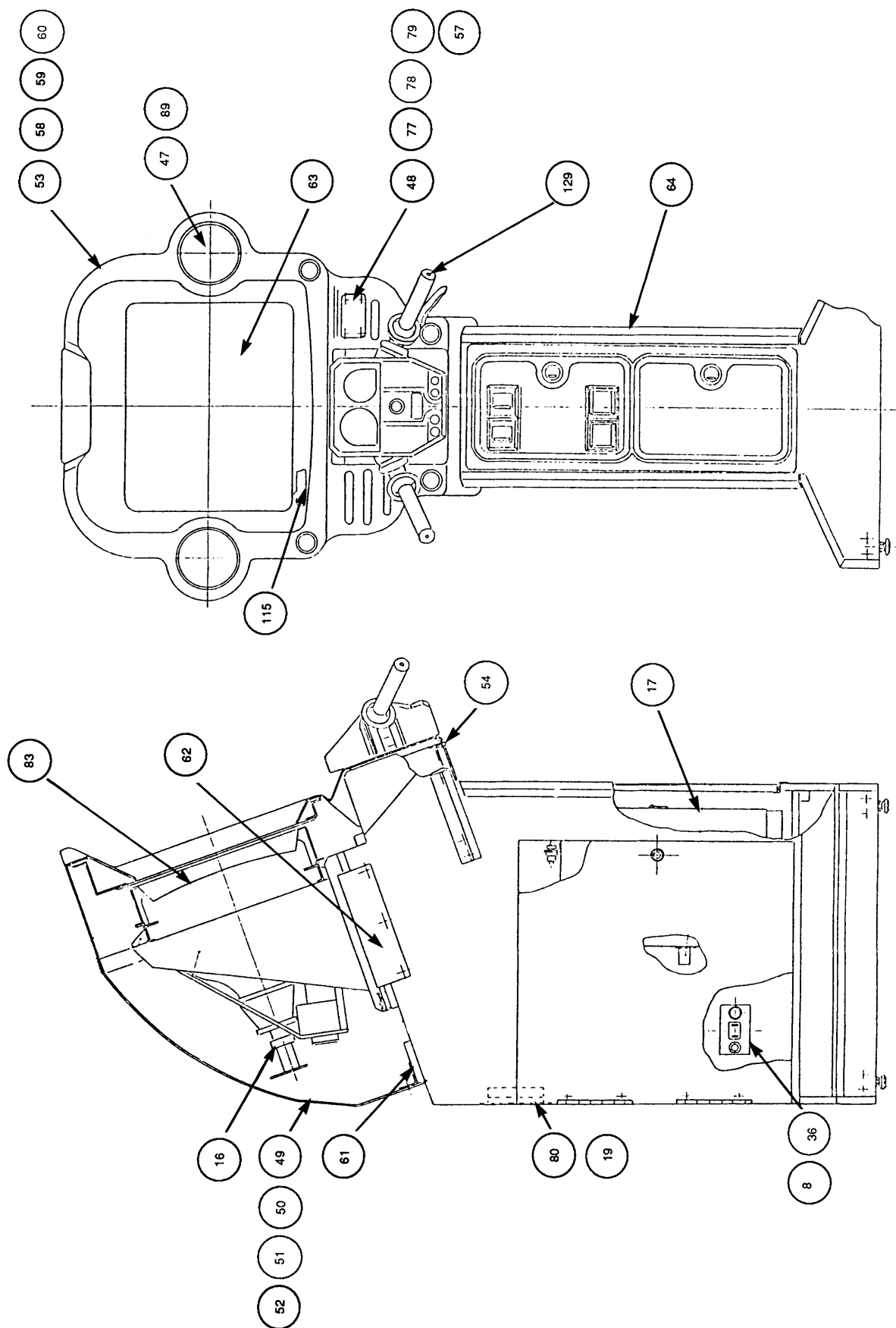
In the state as shown in Fig. 1, operate the steering to bring the arrow to EXIT and push the TEST button. The self-testing will then end and return to the ADVERTISEMENT mode.

16. PARTS CATALOG

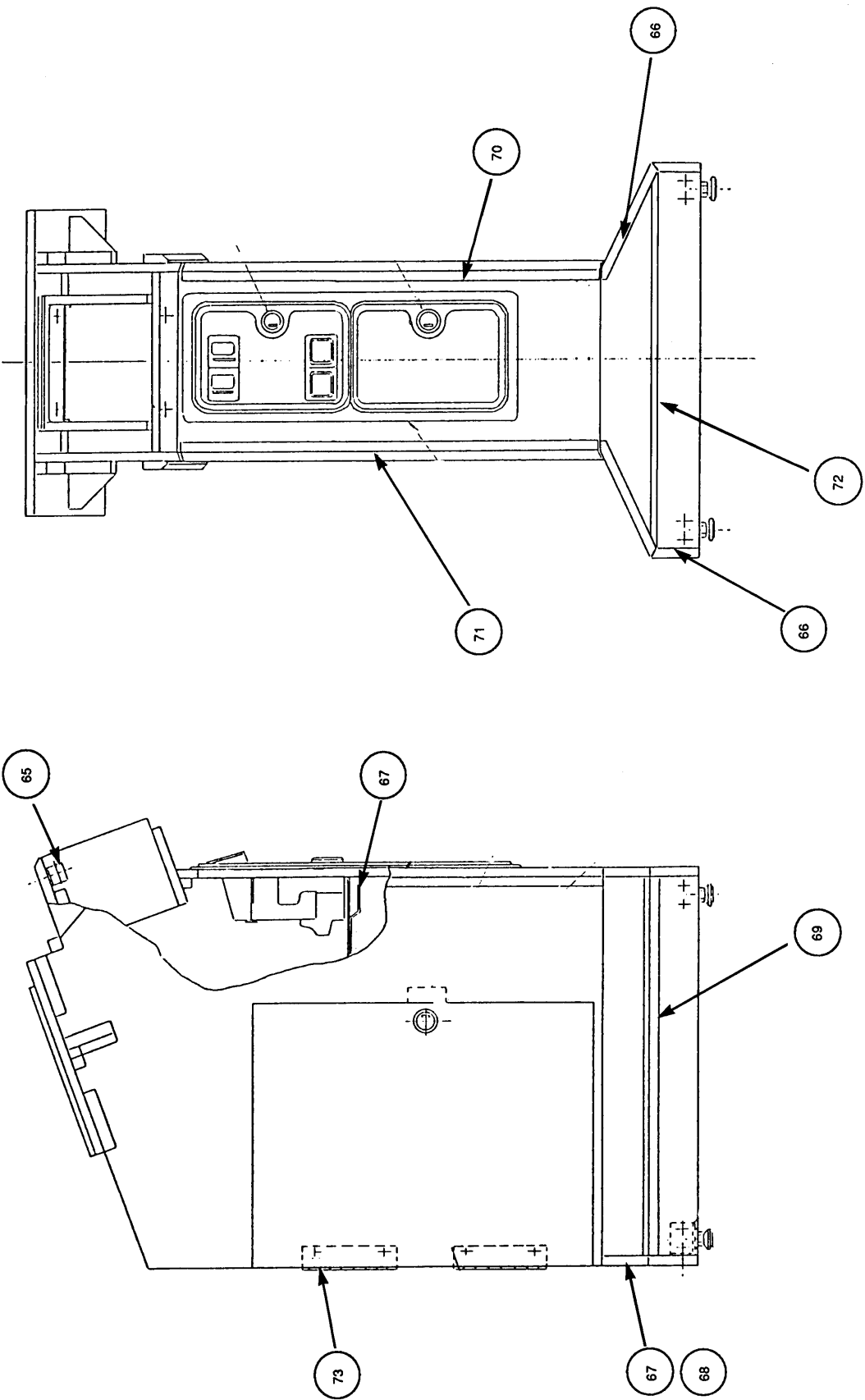
1 TOP ASSY SUPER HANG-ON U/R USA (HG-00001)

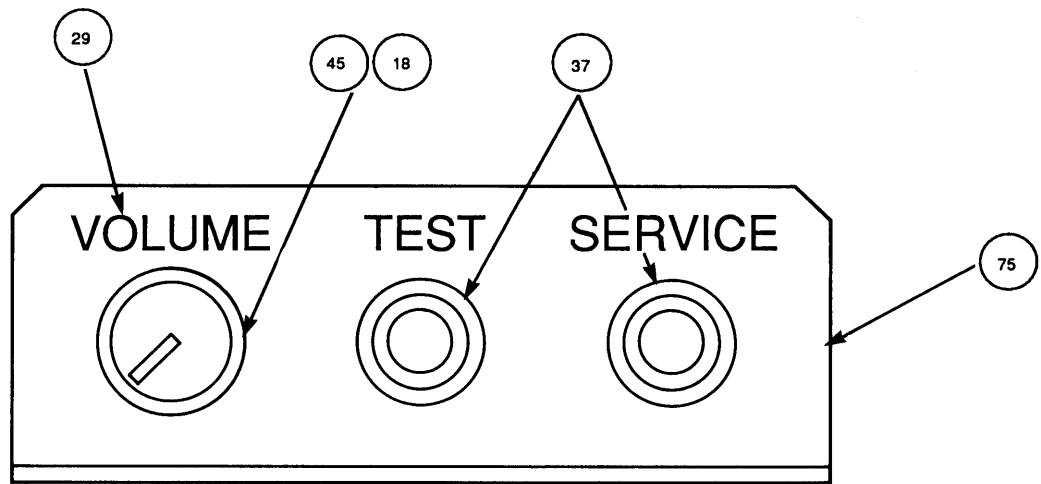


2 ASSY CABINET U/R USA (HG-10001)

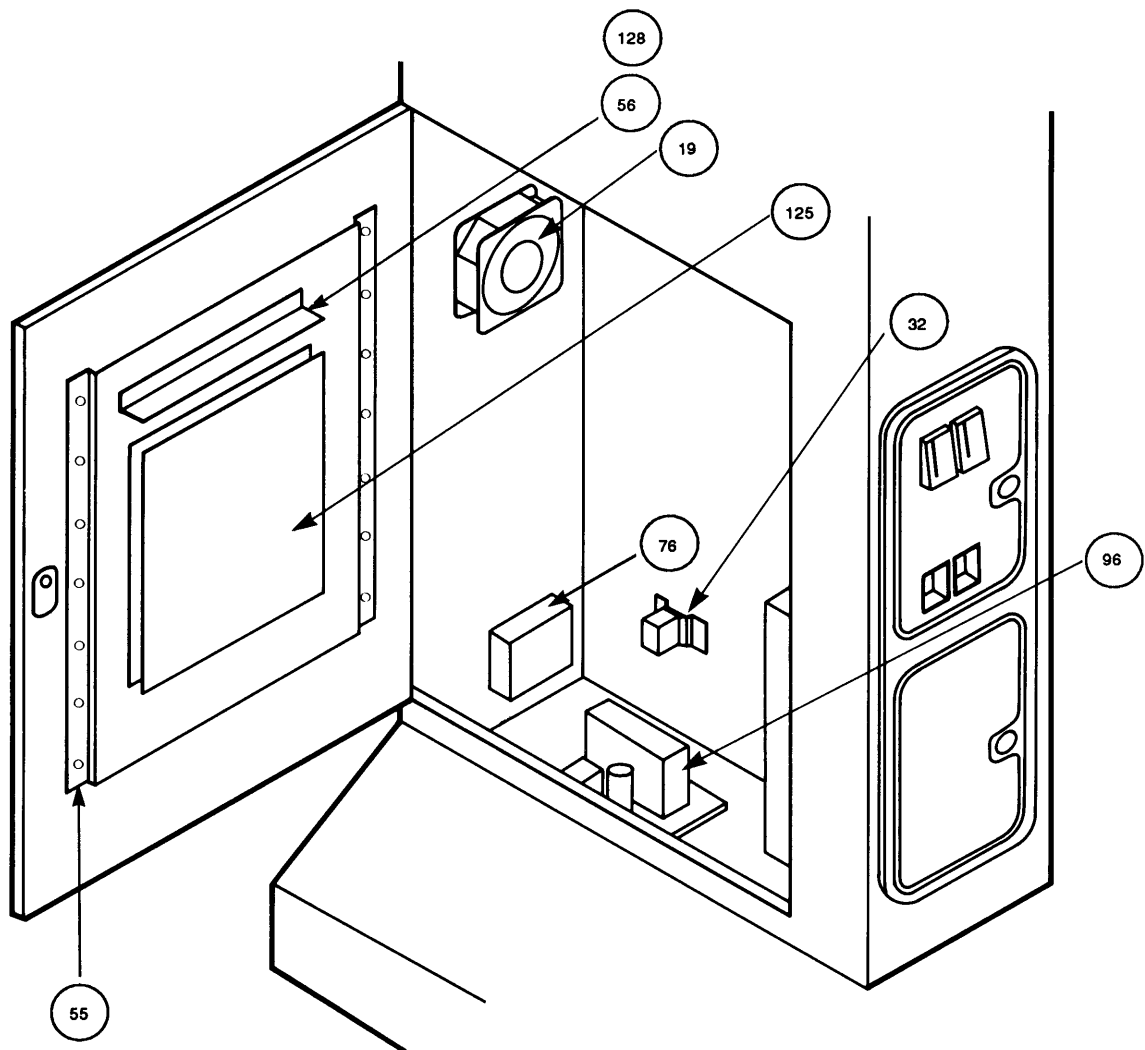


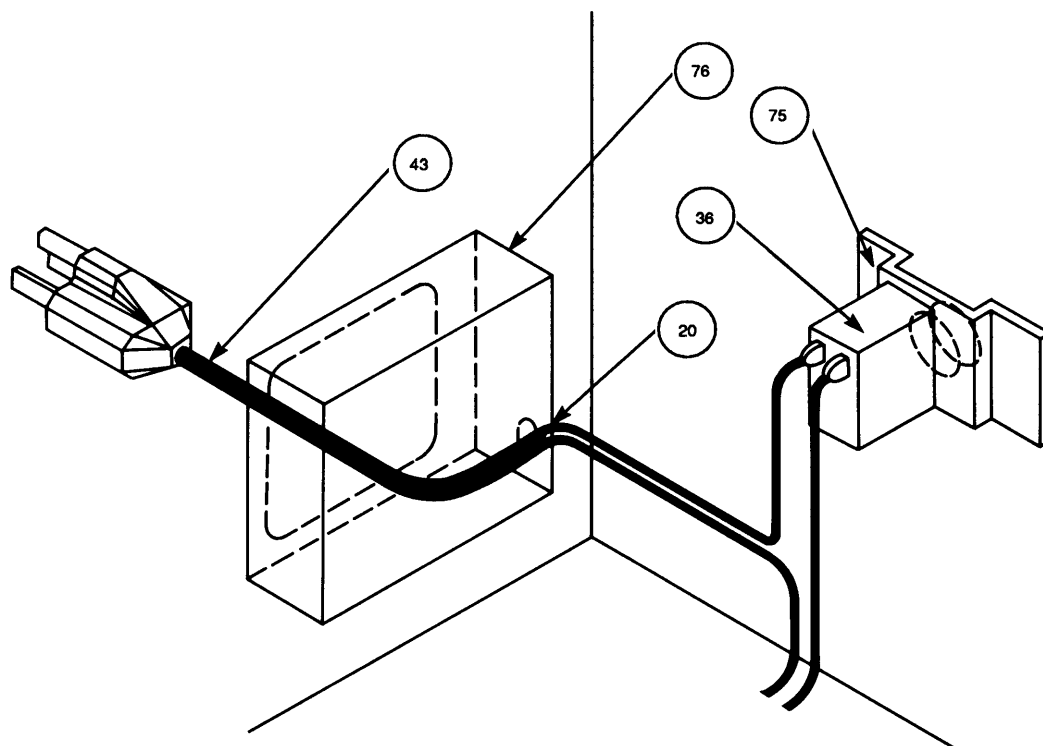
4 ASSY SUB CABINET (HG-1600)





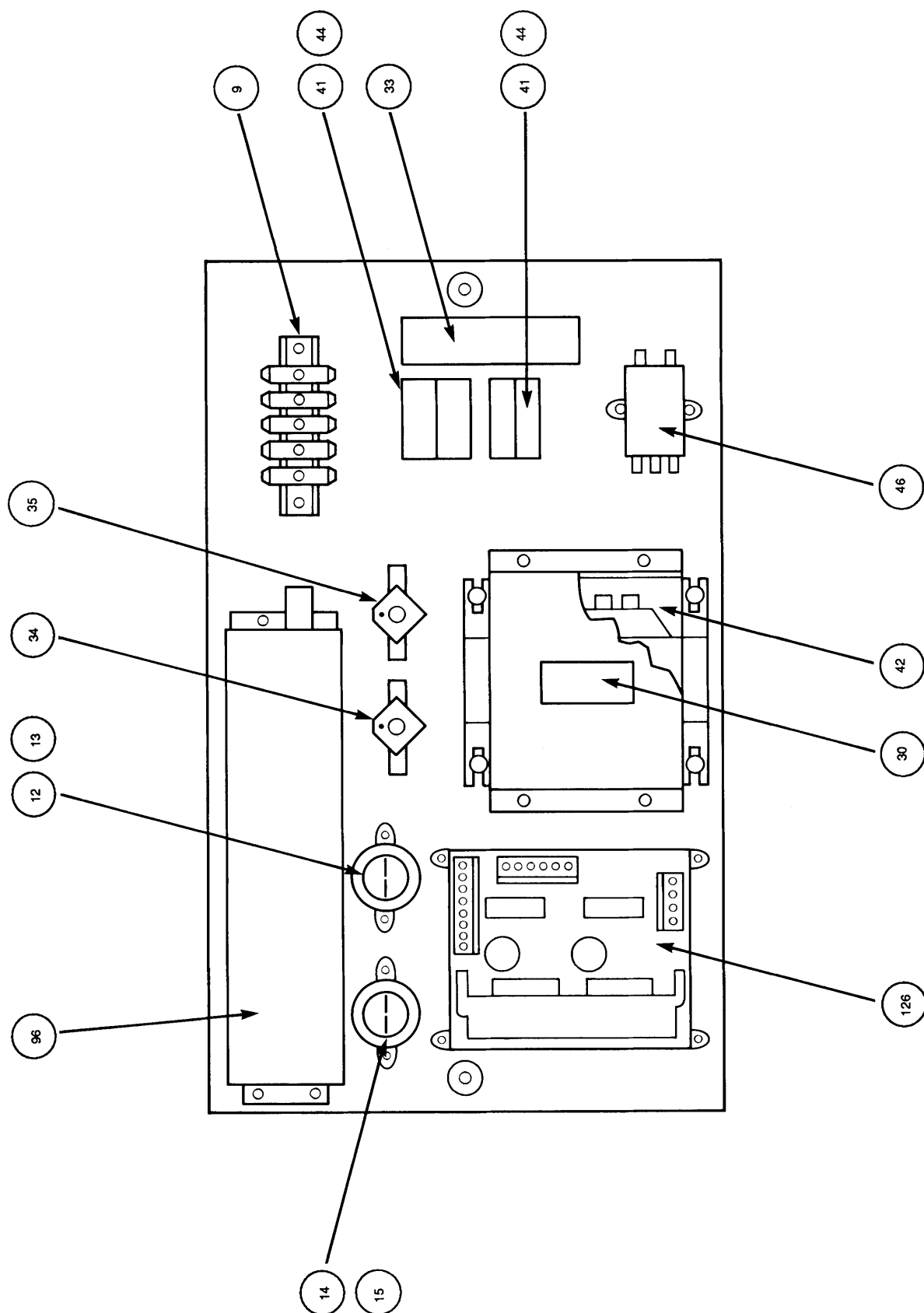
SW UNIT





POWER ASSEMBLY

6 ASSY PWR SPLY EXPORT (HG-40001)

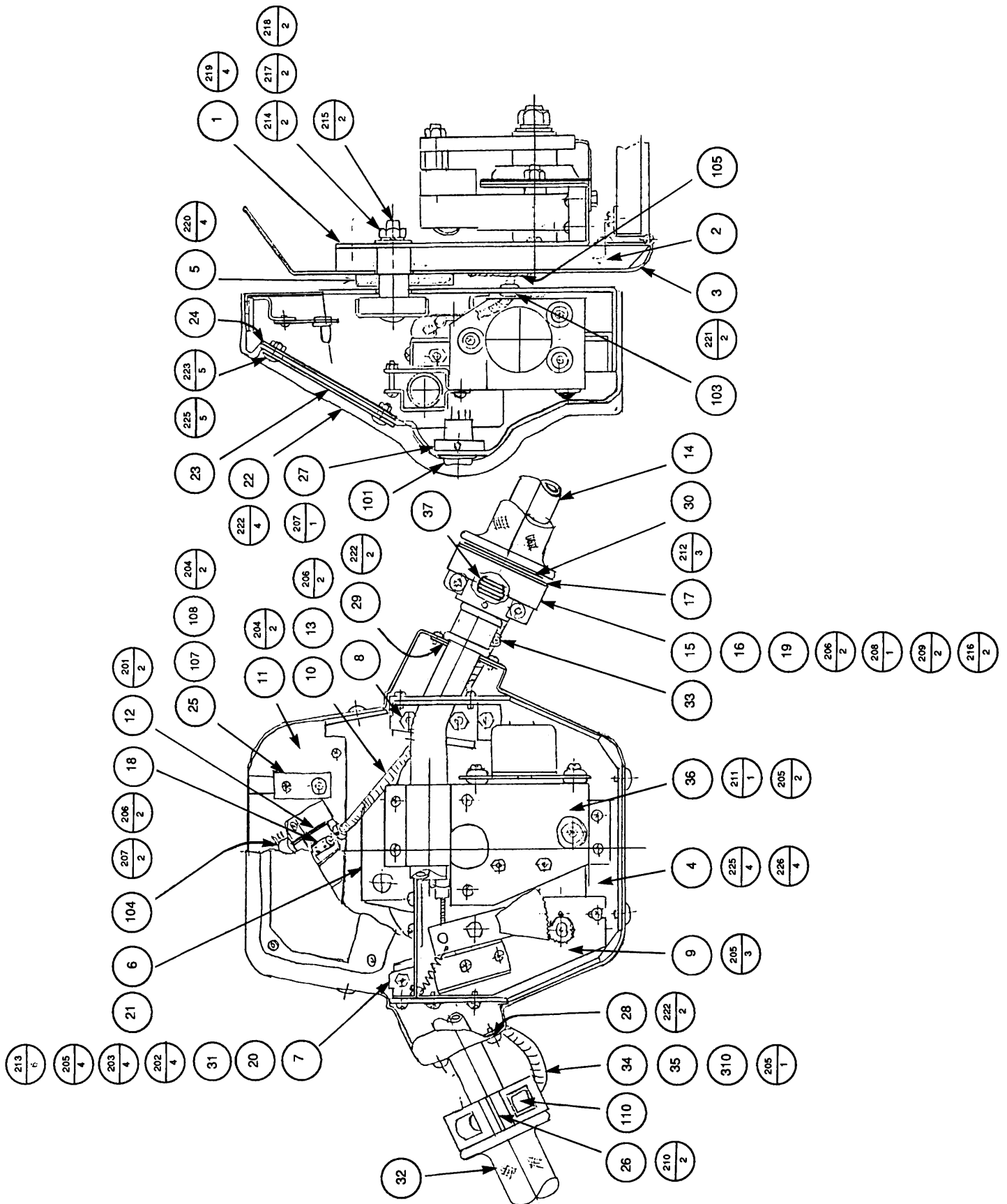


REC#	PARTS. NO.	QTY	DESCRIPTION
1	HGI-10001	1	ASSY, SUPER HANG ON
2	001-0410B	2	4MM x 10MM BHSC
3	0001-0410P	4	4MM x 10MM PPH
4	0001-0612S	28	#6 x 3/4 PH SQ SMS TYPE A BLK
5	0601-0004	8	4MM SL WASHER
6	0601-0612	28	WASHER, #6 TYPE B 5/16 OD BLK
7	0611-0004	2	4MM LOCK WASHER
8	1050-0064	1	MAIN SWITCH BKT
9	1170-0184	1	TERM PLATE, 8P
10	1170-5131	1	TERM PLATE, 5P
11	1170-5131A	8	TERMINAL
12	1500-0173	1	CAP, 4700UF 50VOLT
13	1500-0173A	1	CLAMP, 4700UF SIZE
14	1500-0265	1	CAP, 13000UF 25 VOLT
15	1500-0265A	1	CLAMP, 13000UF SIZE
16	2000-5090	1	MONITOR, 19" RGB
17	2200-0000	1	ASSY, COIN DOOR W/HARN.
18	2200-5179	1	VOLUME CNTRL B-5K OHM
19	2600-0011-1	1	AXIAL FLOW FAN
20	2800-0418	1	BUSHING, STRAIN RELIEF
21	4200-5372-01	1	OWNERS MANUAL SUPER HANG ON
22	4211-1036-01	2	STICKER, US #1 RACING TEAM
23	4211-1036-02	2	STICKER, US #2 SEGA EQUIPMENT
24	4211-1036-03	2	STICKER, US #3 PYI MANAGEMENT
25	4211-1036-04	1	STICKER, REAR BLK
26	4211-1037-01	1	STICKER, BLUE FRONT LEFT
27	4211-1037-02	1	STICKER, BLUE FRONT RIGHT
28	4211-1037-03	1	STICKER, BLUE FRONT TOP
29	4211-6481	1	STICKER, SWITCH UNIT
30	4211-6671	1	DANGER STICKER
31	4211-6672	1	STICKER, MAIN SW.
32	4211-6690-01	1	STICKER, 120V
33	4211-6835	1	STICKER, FUSE
34	4810-0157	1	DIODE BRIDGE, 2 AMP
35	4810-0157A	1	DIODE BRIDGE, 8 AMP
36	5090-0039	1	PUSH BUTTON ON/OFF
37	5090-5028	2	PUSH BUTTON, MOM
38	5140-0034	1	FUSE, 5AMP SB
39	5140-0040	2	FUSE, 4AMP
40	5140-0043	1	FUSE, 8AMP
41	5140-0064	2	FUSE HOLDER, 2P
42	5601-5106	1	TRANSFORMER, 115V, 10V, 11V
43	6000-0078	1	POWER CORD, 8FT
44	6010-0001	4	FUSE COVER, PLASTIC
45	6010-0042	1	KNOB, 1/4"
46	6010-0429	1	LINE FILTER, 4AMP RFI
47	HGO-1018	2	GUARD PLATE, SPEAKER COVER
48	HGO-1027	1	DENOMINATION PLATE, PLASTIC
49	HGO-1036A	1	TOP HOOD REAR
50	HGO-1036B	12	NUT PLATE
51	HGO-1036C	1	BACK PLATE
52	HGO-1036D	2	NUT PLATE R
53	HGO-1037A	1	TOP HOOD FRONT
54	HGO-1042	1	HINGE 186, CONTROL PANEL
55	HG1-0001	1	SHIELD BASE

REC#	PARTS. NO.	QTY	DESCRIPTION
56	HG1-0005	1	BKT, RF INTERFACE HOLDER
57	HG1-1016D	1	NUT PLATE, DENOMINATION
58	HG1-1037B	1	GLASS HOLDER BKT A
59	HG1-1037C	1	GLASS HOLDER BKT B
60	HG1-1037D	4	GLASS HOLDER BKT C
61	HG1-1038	1	MOUNTING BKT HOOD REAR
62	HG1-1039	2	MOUNTING BKT, HOOD SIDE
63	HG1-1040	1	GLASS, 14 9/16 x 18 1/8 x 9/16
64	HG1-1601	1	ASSY, CABINET
65	HG1-1608	1	HOLDER BKT, CONTROL PANEL
66	HG1-1609	2	CORNER PROTECTOR A, TRIM
67	HG1-1611	1	CORNER PROTECTOR REAR LEFT
68	HG1-1612	1	CORNER PROTECTOR REAR RIGHT
69	HG1-1613	2	CORNER PROTECTOR E, TRIM
70	HG1-1614	1	ORNAMENT SASH RIGHT
71	HG1-1615	1	ORNAMENT SASH LEFT
72	HG1-1616	1	CORNER PROTECTOR FRONT, TRIM
73	HG1-1622	2	HINGE 148, DOOR
74	HGP-0001	1	ASSY. PACKAGE
75	KRO-1721	1	SW BKT
76	M00-1215Y	1	A.C. CORD COVER
77	MX-1103-01	1	1 x 25 PRINTED
78	MX-1103-02	1	2 x 25 PRINTED
79	MX-1103-03	1	3 x 25 PRINTED
80	NR1-1078	1	AIR VENT
81	SGMO-2675	1	POLYETHYLENE BAG
82	SGMO-3640	1	POLYETHYLENE COVER
83	TBO-3003	1	T.V. MASK 20
84	008-0416	8	TMP PRF SCR TH BLK M4 x 16
85	008-0516	6	TMP PRF SCR TH BLK M5 x 16
86	009-0825	2	TMP PRF SCR BH BLK M8 x 25
87	107-0009X-1	1	GRIP ACCELATOR (SPARE)
88	117-5123	1	NAME PLATE
89	130-5018	2	SPEAKER 8 OHM 10 W, SHIELDED
90	211-5212	1	CONN FEM 20P
91	211-5216	1	CONN FEM 12P
92	211-5220	1	CONN FEM 25P
93	220-5130	1	VOL CONT B-5K OHM (SPARE)
94	350-5104	1	MOTOR DC12V 4500 RPM (SPARE)
95	390-0116	1	LAMP WEDGE BASE 14V (SPARE)
96	400-5058	1	SW RGLTR 90-130V 5V 10A
97	421-5800-59	1	ORIGINAL SEAL
98	421-6119-91	1	STICKER FCC
99	421-6120	1	STICKER SEGA USA
100	421-6709	1	STICKER SERVICE INFO
101	421-6799	2	STICKER HGL
102	421-6801-S	1	STICKER HGS
103	421-6806-S	1	STICKER HGM
104	421-6826-01	2	STICKER BS
105	421-6826-07	2	STICKER RK
106	421-6826-08	2	STICKER SPC
107	421-6826-09	2	STICKER KEIHIN
108	421-6826-10	2	STICKER HU TEK
109	421-6827	1	ADJ INSTR SH SUPER HANG ON
110	421-6836-S	6	SIDE STRIPE STICKER L
111	421-6837-S	6	SIDE STRIPE STICKER S

REC#	PARTS. NO.	QTY	DESCRIPTION
112	421-6838	2	STICKER HG SEGA 80
113	421-6839-S	1	STICKER HG SEGA 26
114	421-6954	1	STICKER SER NO. INFO
115	422-0191-01	1	PLAY INSTR SH HG ENG
116	509-5003-03	1	SW PB 1T (SPARE)
117	540-0006-01	1	WRENCH FOR TAMP SCR M4 (SPARE)
118	540-0007-01	1	WRENCH FOR TMP SCR M5 (SPARE)
119	54-0009-01	1	WRENCH FOR TMP SCR M8 (SPARE)
120	540-0015-01	1	WRENCH FOR TMP SCR M6 (SPARE)
121	600-5463	1	CONN FEM 20P FEM 10Px2
122	600-5464	1	CONN FEM 50P FEM 25P, 21P
123	600-5465	1	CONN FEM 12P FEM 4P, 6Px2
124	600-5472	1	ASSY, EXT 21P
125	834-6277-06	1	GAME BD SUPER HANG ON U/R
126	839-0035-01	1	POWER AMP
127	839-0048	1	SSR BD MOTOR
128	839-0079	1	FILTER BD SUPER HANG ON
129	HG-50001	1	ASSY HANDLE
130	HG-5018X	1	TORSION SPRING (SPARE)
131	HG-5042	1	BRAKE WIRE S (SPARE)
132	HG-5051	1	EXT SPRING (SPARE)
133	SGB-1035X	1	KEY BAG

7 ASSY HANDLE (HG-50001) (D-1/3)



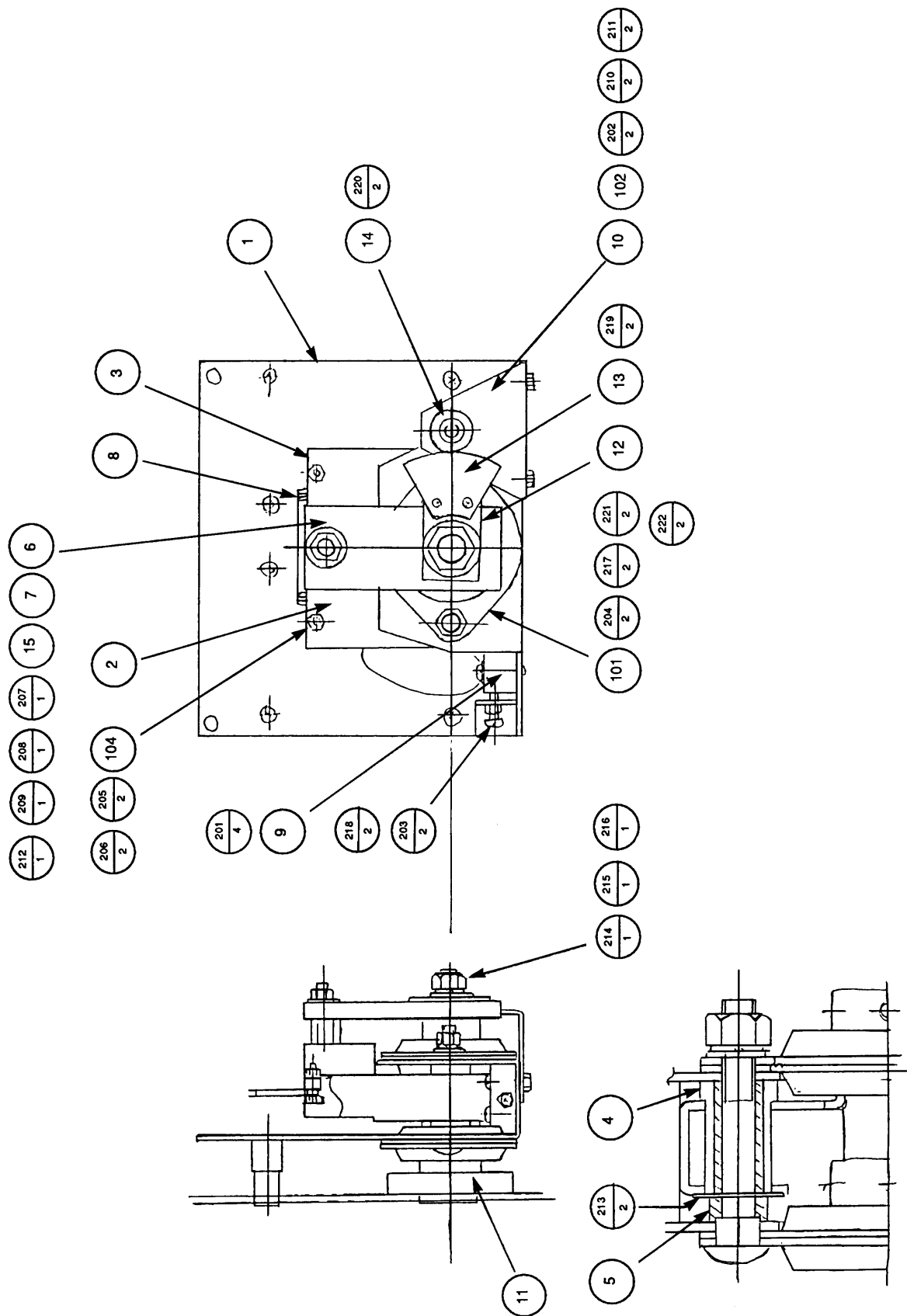
7 ASSY HANDLE (HG-50001) (D-2/3)

ITEM NO.	PART NO.	DESCRIPTION
1	HG-5020	ASSY CENTERING
2	HG-5031	WOODEN BASE
3	HG-5032	FRONT PANEL
4	HG-5033	HANDLE BASE
5	HG-5034	SLIDE PLATE OUTER
6	HG-5035	SLIDE PLATE INNER
7	HG-5036	BUMPER HOLDER A
8	HG-5037	BUMPER HOLDER B
9	HG-5038	ASSY BRAKE CONT
10	HG-5043	ACCLERATOR WIRE S
11	HG-5044X	REAR LID
12	HG-5045X	PROTECT TUBE HLDR
13	HG-5046	PROTECTOR TUBE
14	HG-5012	ASSY GRIP CASE
15	HG-5015	ACCELERATOR CASE A
16	HG-5016	ACCELERATOR CASE B
17	HG-5017	CASE RETAINER
18	HG-5009	VR JOINT
19	601-5780	GEAR 16
20	HN-5024X	BUMPER
21	HN-5065	SLIDE HOLDER
22	HG-5050	MECHANISM COVER
23	HG-5047	METER PLATE A
24	HG-5048	METER PLATE B
25	TB-2007	LAMP HOLDER BOARD
26	MX-2019	SWITCH CASE
27	HN-5042	STOPPER RING
28	HG-5049	COVER A
29	HN-5044X	COVER B
30	HN-5045	SPACER
31	HN-5046	SPACER TUBE
32	107-0009X	GRIP LEFT & ACCELERATOR
33	601-5419	ASSY LEVER
34	MX-2020	TUBE HOLDER
35	MX-2021	PROTECTOR W/TUBE
36	HG-5100	ASSY VIBRATION
37	HG-5018X	TORSION SPRING
38	421-6103	STICKER START
101	509-5050	PUSH BTN SWITCH IT YELLOW W/LAMP
102	310-5009	INSL SPIRAL TUBE ID $\phi 9$
103	280-5092	RUBBER GROMMET $\phi 13 \times 21 \times 7$ TAKIGEN NG-79-K
104	220-5130	VOL CONT B-5K OHM
105	601-5003	FREE BUSH
106	280-5008	CORD CLAMP $\phi 15$
107	214-0081	WEDGE BASE SOCKET ASSY
108	390-0116	LAMP WEDGE BASE TYPE 14V 0.24A
109	280-0400	CLAMP CORD PLASTIC ID 15
110	509-5003-03	PUSH BTN SWITCH IT 14.2 ϕ RED
201	000-0308-FS	M SCR PH W/FS M3 $\times$ 8
202	029-0130	M SCR FH M6 $\times$ 12
203	029-0044	M SCR FH M6 $\times$ 25
204	010-0306-F	S-TITE SCR PH W/F M3 $\times$ 6
205	010-0408-F	S-TITE SCR PH W/F M4 $\times$ 8

7 ASSY HANDLE (HG-50001) (D-3/3)

ITEM NO.	PART NO.	DESCRIPTION
206	028-0001	SET SCR HEX SKT CP UNBR M3×4
207	028-0014	SET SCR HEX SKT CP UNBR M4×4
208	028-0036	SET SCR CONE POINT M4×8
209	008-0525	TMP PRF SCR TH M5×25
210	008-0516	TMP PRF SCR TH M5×16
211	010-0420-F	S-TITE SCR PH W/I M4×20
212	029-0121	TAP SCR FH M3×8
213	054-0006	U-NUT M6
214	050-0008	HEX NUT M8
215	031-0860	CRG BLT M8×60
216	059-0029	CAP NUT TYPE 3 BLK M5
217	061-0008	SPR WSHR M8
218	060-0008	FLT WSHR M8
219	000-0516-S	M SCR PH W/S M5×16
220	006-3520	W SCR FH 3.5×20
221	005-3516	W SCR RH 3.5×16
222	008-0512	TMP PRF SCR TH M5×12
223	008×0412	TMP PRF SCR TH M4×12
224	054-0004	U-NUT M4
225	030-0612	HEX BLT M6×12
226	061-0006	SPR WSHR M6
		WIRE HARN EXT VR & START
		CONN PLUG AMP 9P WHITE
		CONN CAP AMP 4P RED
		CONN CAP AMP 4P WHITE
		TIE BELT 85mm
		WIRE HARN START SW
		CONN PLUG AMP 4P WHITE
		FASTON RCPT 110
		TIE BELT 85mm
		WIRE HARN EXT TURBO
		CONN PLUG AMP 2P RED
		CONN CAP AMP 2P RED
		TIE BELT 85mm
		WIRE HARN TURBO
		CONN PLUG AMP 2P RED
		FASTON RCPT 110
		TIE BELT 85mm
		CONN PIN AMP
		CONN SOCKET AMP
		WIRE HARN LAMP
		CONN PLUG AMP 2P YELLOW
		WIRE HARN EXT HANDLE LAMP
		CONN CAP AMP 2P YELLOW
		CONN PLUG AMP 2P YELLOW
		WIRE HARN EXT HANDLE MOTOR
		CONN CAP AMP 2P WHITE
		CONN PLUG AMP 2P YELLOW
		CLAMP CORD PLASTIC ID 10mm
		CORD CLAMP Ø10

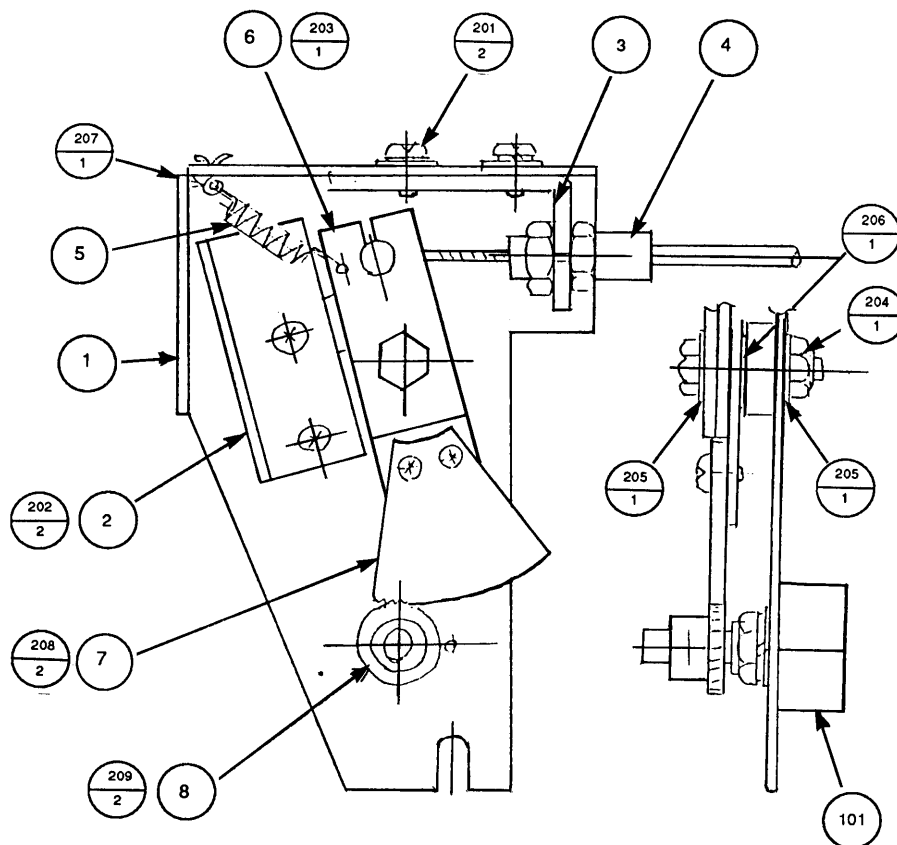
8 ASSY CENTERING (HG-5020)



8 ASSY CENTERING (HG-5020) (D-2/2)

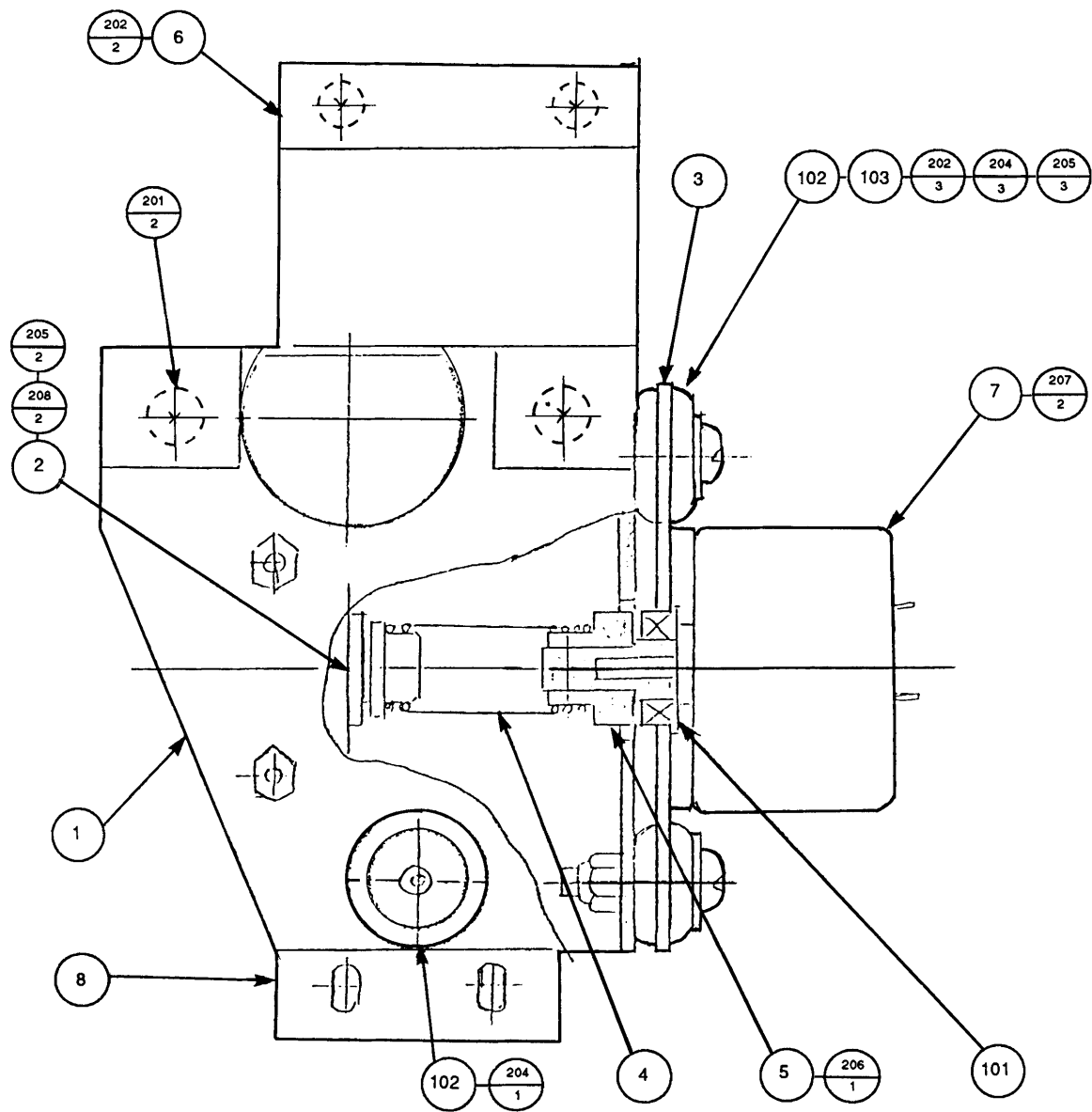
ITEM NO.	PART NO.	DESCRIPTION
1	HG-5021	PILLOW BRACKET
2	HG-5022	CLICK ARM A
3	HG-5023	CLICK ARM B
4	HG-5024	SLEEVE
5	HG-5025	SPACER
6	HG-5026	CENTER ARM
7	HG-5027	SHOULDER STUD
8	HG-5028	EXT SPRING
9	HG-5029	STOPPER
10	HG-5030	VR BRACKET
11	HN-5017	HANDLE SHAFT
12	HN-5031	GEAR BRACKET
13	601-5423	GEAR 1/6
14	601-5424	GEAR 30
15	CY-2307	ROLLER
101	100-5035	BEARING $\varnothing 20$
102	220-5130	VOL CONT B-5K OHM
104	601-0485	ONE TOUCH COLLAR $\ell=10$
201	000-0420-FS	M SCR PH W/FS M4×20
202	030-0410	HEX BLT M4×10
203	000-0514	M SCR PH M5×14
204	031-0860	CRG BLT M8×60
205	029-0129	HEX SKT H CAP SCR BLK M6×25
206	054-0006	U-NUT M6
207	050-0010	HEX NUT M10
208	060-0010	FLT WSHR M10
209	061-0010	SPR WSHR M10
210	060-0004	FLT WSHR M4
211	061-0004	SPR WSHR M4
212	065-0008	E RING 8mm
213	069-0038	FLT WSHR 12.2-22×0.5
214	059-0016	HEX NUT M14
215	069-0019	SPR WSHR M14
216	069-0045	FLT WSHR M14
217	061-0008	SPR WSHR M8
218	054-0005	U-NUT M5
219	000-0406-S	M SCR PH W/S M4×6
220	028-0014	SET SCR HEX SKT CP UNBR M4×4
221	050-0008	HEX NUT M8
222	060-0008	FLT WSHR M8
		WIREHARN ANGLE
		CONN PLUG AMP 3P WHITE
		TIE BELT 85mm

9 ASSY BRAKE CONT (HG-5038)



ITEM NO.	PART NO.	DESCRIPTION
1	HG-5039	BRAKE CONT BRACKET
2	HG-5040	STOPPER
3	HG-5041	BRAKE WIRE STOPPER
4	HG-5042	BRAKE WIRE S
5	HG-5051	EXTENSION SPRING
6	HN-5103	LEVER SHORT
7	601-5251	GEAR 1/8
8	601-5415	GEAR 20
101	220-5130	VOL CONT B-5K OHM
201	000-0408-FS	M SCR PH W/FS M4×8
202	010-0408-F	S-TITE SCR W/F M4×8
203	030-0525	HEX BLT M5×25
204	054-0005	U-NUT M5
205	060-0005	FLT WSHR M5
206	069-0005	FLT WSHR 8.3-14.3×0.5
207	045-0005	COT PIN 2×15
208	000-0408-S	M SCR PH W/S M4×8
209	028-0014	SET SCR HEX SKT CP UNBR M4×4
		WIRE HARN ACCEL & BRAKE
		CONN PLUG AMP 4P RED
		TIE BELT 85mm
		CONN PIN AMP

10 ASSY VIBRATION (HG-5100) (D-1/2)



10 ASSY VIBRATION (HG-5100) (D-2/2)

ITEM NO.	PART NO.	DESCRIPTION
1	HG-5101	BRACKET
2	HG-5102	ASSY VIBRATION CAM
3	HG-5106	MOT HOLDER
4	HG-5107	JOINT SPRING
5	HG-5108	BOSS
6	HG-5109	CLAMP
7	350-5104	MOTOR DC 12V 4500rpm
8	HG-5110	HOLDER BRACKET
101	100-5041	BEARING NSK F688ZZ
102	280-5078	RUBBER GROMMET $\phi 8 \times \phi 14 \times 8$
103	280-5056	ONE TOUCH COLLAR $\ell = 7.5$
201	000-0408-S	M SCR PH W/S M4×8
202	000-0420	M SCR PH M4×20
204	069-0007	F WSHR 4.4-16×1.6
205	054-0004	U-NUT M4
206	028-0001	SET SCR HEX SKT CP UNBR M3×4
207	029-0131	M SCR PH W/S M2.6×10
208	001-0410	M SCR FH M4×10
		WIRE HARN MOTOR
		CONN PLUG AMP 2P WHITE
		TIE BELT 85mm

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