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# SEGA

# SEGA RALLY

## CHAMPIONSHIP

## OWNER'S MANUAL



# SEGA ENTERPRISES, LTD.

MANUAL NO. 420 - 6150 - 01

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## SPECIFICATIONS

Installation space	: 1,140 mm (W) × 2,800 mm (D) (44.9 in. × 110.2 in.)
Height	: 2,070 mm (81.5 in.)
Weight	: Approx. 375 kg. (825 lbs.)
Power, maximum current	: 640W 7.1A (AC 110V 50 Hz AREA) 651W 7.0A (AC 110V 60 Hz AREA) 646W 6.4A (AC 120V 60 Hz AREA) 636W 3.6A (AC 220V 50 Hz AREA) 642W 3.5A (AC 220V 60 Hz AREA) 631W 3.3A (AC 240V 50 Hz AREA) 643W 3.2A (AC 240V 60 Hz AREA)
For TAIWAN (HITACHI PROJECTION DISPLAY TYPE)	
Power, current	: 690W 7.6A (MAX.) 450W 5.3A (MIN.)
For TAIWAN (MITSUBISHI PROJECTION DISPLAY TYPE)	
Power, current	: 645W 7.2A (MAX.) 425W 5.0A (MIN.)
MONITOR	: 50 INCH PROJECTION DISPLAY

NOTE: Descriptions in this manual are subject to change without prior 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 descriptions together with all the necessary information covering the general operation of electronic assemblies, electromechanicals, servicing control, spare parts, etc. as regards SEGA RALLY CHAMPIONSHIP, a new SEGA product.

This manual is intended for those who have knowledge of electricity and technical expertise especially in ICs, CRTs, microprocessors, etc. Carefully read this manual 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. Should such a case arise, contact our Main Office or the closest branch office listed as follows:

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**SEGA SOUTHERN EUROPE LIAISON OFFICE**  
Calle Vallellano, 19-23, 1° A, 37008-Salamanca, Spain  
Phone : (923) 265893  
Fax : (923) 265913

## 1. HANDLING PRECAUTIONS

When installing or inspecting the machine, 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 surface (floor, ground, 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 specified rating.
- Make complete connections for the IC board and other connectors. Incomplete insertion is very dangerous.
- The operating (ambient) temperature range is from 5°C to 40°C.
- When cleaning the CRT surfaces, use a soft, dry cloth. Do not apply chemicals such as thinner, benzine, etc.

Also, for the IC board circuit inspections, only a logic tester 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.

### CONCERNING THE PROJECTION DISPLAY:

A PROJECTION DISPLAY is used for this machine. The PROJECTION DISPLAY's screen is susceptible to damage and therefore, when cleaning it, pay careful attention. For details, refer to Section 13.

### CONCERNING COMMUNICATION PLAY:

Sections in this manual mainly describe the use of the machine when used alone. This game, when linked with other units, allows multiple persons to enjoy "communication play" simultaneously. For communication play, refer to Section 19.

## 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.

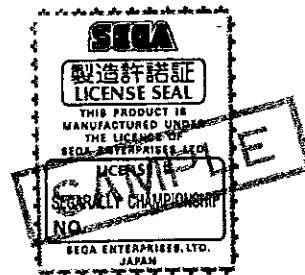
#### ORIGINAL SEAL

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



#### LICENSE SEAL

The following seal is put on all SEGA kits, such as the printed circuit board.



### ■ COPYRIGHT NOTICE

This SEGA product has the copyright notice as follows:

© SEGA 1994

This signifies that this work was disclosed in 1994 and is the property of SEGA ENTERPRISES, LTD.

### 3. PRECAUTIONS CONCERNING INSTALLATION LOCATION

The SEGA RALLY CHAMPIONSHIP is an indoor game machine. Under no circumstances install it outside. Even indoors, avoid installing 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.

#### INSTALLATION PRECAUTIONS

- 1) Do not insert more than one electrical plug into the power plug socket.
- 2) The per unit standard voltage/ampereage is 100~120V/10A and 200~240V/5A.
- 3) Use of extension cables should be avoided. If you must use, ensure the extension cables are rated at 15A or higher for 100~120 volt areas or 7A or higher for 200~240 volt areas.
- 4) Note that for transporting the machine into the location's building, the minimum necessary dimensions of the opening (of doors, etc.) are 1 m (W) and 1.2 m (H).
- 5) For the operation of this machine, secure a minimum area of 1.5 m (W) x 2.8 m (D).

#### Electric current consumption

MAX. 7.1A (AC 110V 50 Hz)
MAX. 7.0A (AC 110V 60 Hz)
MAX. 6.4A (AC 120V 60 Hz)
MAX. 3.6A (AC 220V 50 Hz)
MAX. 3.5A (AC 220V 60 Hz)
MAX. 3.3A (AC 240V 50 Hz)
MAX. 3.2A (AC 240V 60 Hz)
MAX. 7.6A (For TAIWAN, HITACHI projection display)
MAX. 7.2A (For TAIWAN, MITSUBISHI projection display)

#### 4. NAME OF PARTS

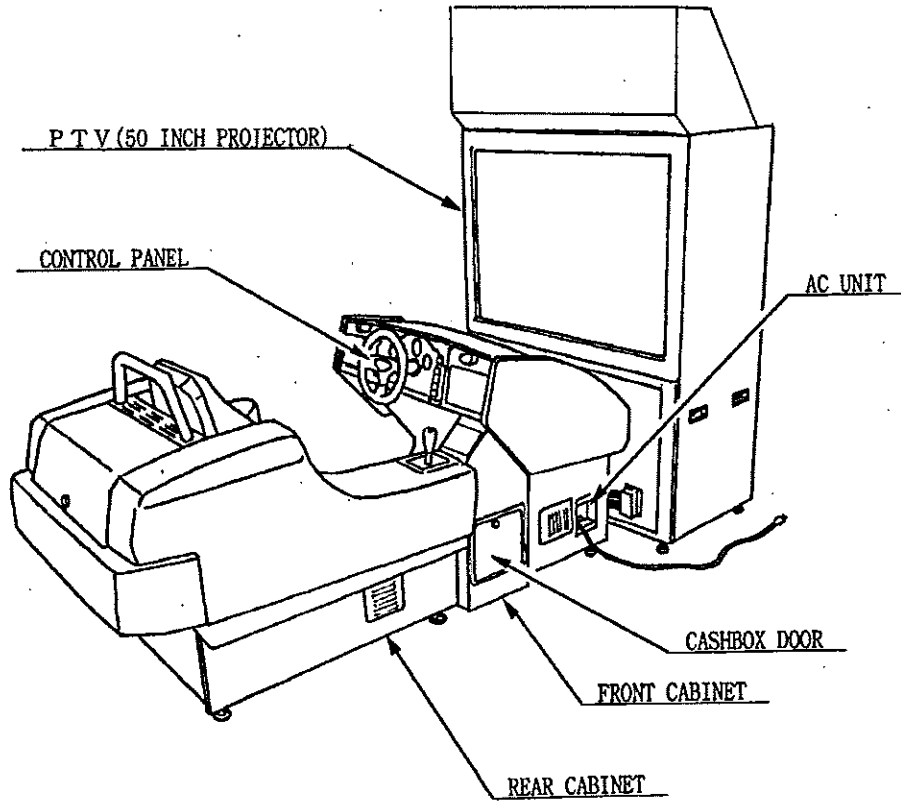


FIG. 4 OVERVIEW

Since the PTV and the Front Cabinet are connected with a tube, the cabinet is movable in the direction of depth for the purpose of maintenance. However, for the actual operation use, make sure that the PTV and the cabinet are tightly connected.

TABLE 4

	Width	Length	Height (mm.)	Weight (kg.)
P T V	1, 140	× 880	× 2, 070	135
REAR CABINET	1, 000	× 1, 405	× 1, 130	128
FRONT CABINET	900	× 860	× 1, 030	112
When assembled	1, 140	× 2, 800	× 2, 070	375

## 5. ACCESSORIES

When transporting the machine, make sure that the following parts are supplied.

TABLE 5 ACCESSORIES

Part No.	Qty.	Part name	Note
200-5297	1	REMOTE CONTROLLER H (HITACHI)	For adjustment, refer to Section 13.
200-5298		REMOTE CONTROLLER M (MITSUBISHI)	
220-5373	2	VOL. CONT B-5K OHM	For spare, refer to Section 9 or 10.
220-5484		VOL. CONT B-5K OHM	
220-5381	2	KEY MASTER FOR 220-5380	For opening/closing the doors
	2	KEY	For the CASHBOX DOOR
420-6150-01	1	OWNERS MANUAL SEGA RALLY C.S. ENG	SEGA RALLY C.S. OWNER'S MANUAL, ENG.
509-5636	3	SW MICRO TYPE SS-5GL2T	For spare, refer to Section 11.
514-5036-10000	1	FUSE 6.4 $\phi$ $\times$ 30 10000mA 125V	For spare, refer to Section 15.
540-0007-01	1	WRENCH FOR TAMP PRF SCR DUAL TYPE M5	Tool
540-0009-01	1	WRENCH FOR TAMP PRF SCR DUAL TYPE M8	Tool

TOOL

(TAMPERPROOF WRENCH)

M5 540-0007-01

M8 540-0009-01

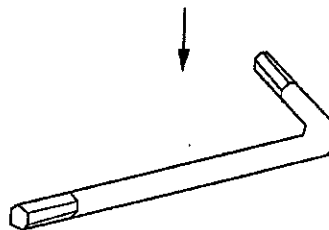


FIG. 5 TAMPERPROOF WRENCH



- ② Insert the TV MASK from the underside in the manner shown and secure it with a total of 6 screws.
- ③ By using 2 screws for each, secure PANEL MOUNT BRACKET L & R to the front of the Projection Display. At this time, pay careful attention to the correct direction shown in which it is to be installed.
- ④ Secure the FRONT PANEL to both PANEL MOUNT BRACKETs by using the 4 screws.
- ⑤ Insert the BILLBOARD's connector into the connector on the Projection Display ceiling.
- ⑥ Insert the BILLBOARD from the front as shown and secure it with 2 screws (FIG. 6.1).

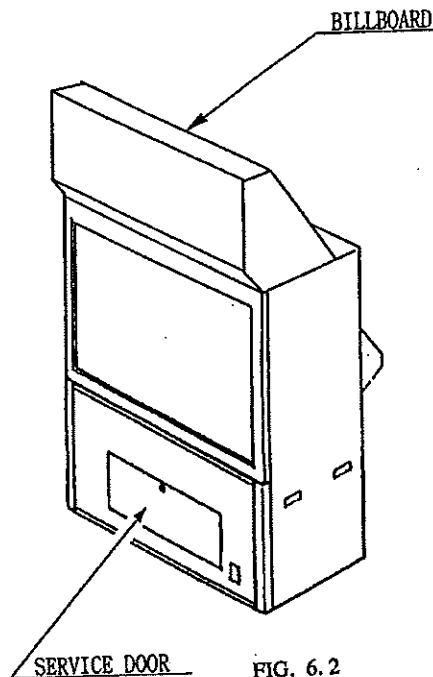


FIG. 6.2

## 2 ASSEMBLING THE CABINET

### PRECAUTIONS:

During assembly work, since the cabinets will be moved, perform the work by causing the casters to come into contact with the floor.

- ① Take out the six hexagon bolts (black) and remove the front cabi's STEP BOARD.
- ② Open the front cabi's COIN CHUTE DOOR.
- ③ Put the wiring connectors (8P white) into the circular hole beside the coin chute door.
- ④ Put the Optical Fiber cable through the front cabi's square pipe (FIG. 6.3).

### CAUTION:

The optical fiber cable which is used for the communication play is inside the SERVICE DOOR beside the rear cabinet. When handling the optical fiber cable, be very careful. Note that excessive bending can damage it.

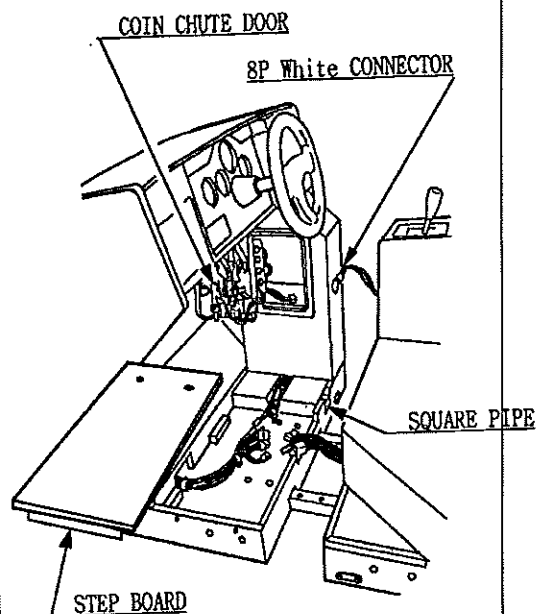


FIG. 6.3

- ⑤ Insert the REAR CABI's square pipe into the FRONT CABI's square hole and tightly put both cabinets together.
- ⑥ Connect the FRONT CABI and REAR CABI with 5 hexagon bolts. Use one of the bolts for the inside of the COIN CHUTE DOOR.
- ⑦ Connect the wiring connectors for the front cabi and rear cabi. Note that there's a 8P white connector inside the coin chute door. (FIG. 6. 4)

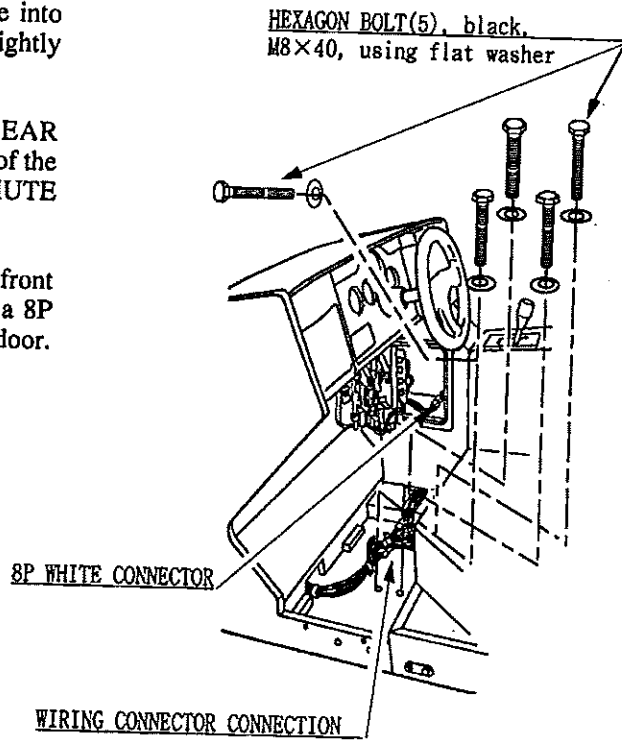


FIG. 6. 4

- ⑧ Secure the front cabi's step board with 4 hexagon bolts (black).
- ⑨ Secure the L type bracket with 4 hexagon bolts (chrome plated) (FIG. 6.5).

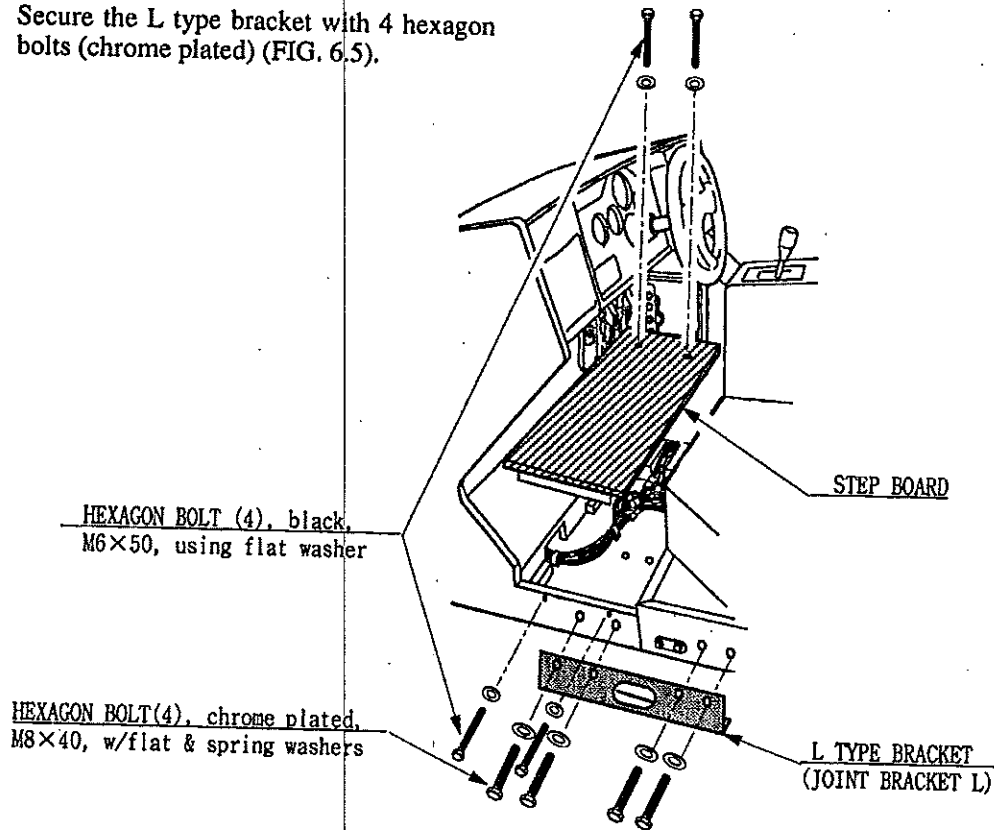


FIG. 6. 5

- ⑩ By using the 2 hexagon bolts (black), secure L type bracket (R) in the direction shown. Be sure to use the bolts (each of a different length) shown (FIG. 6.6)

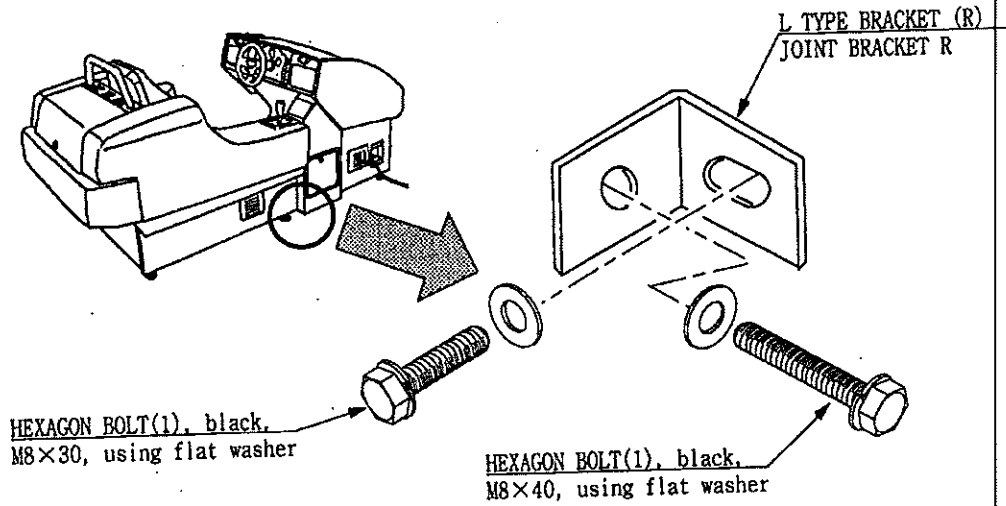


FIG. 6.6

- ⑪ Insert the optical fiber into the bracket's connector (red one into TX side, black one RX side). Secure the bracket together with the connector cover by using 2 screws (FIG. 6.7)

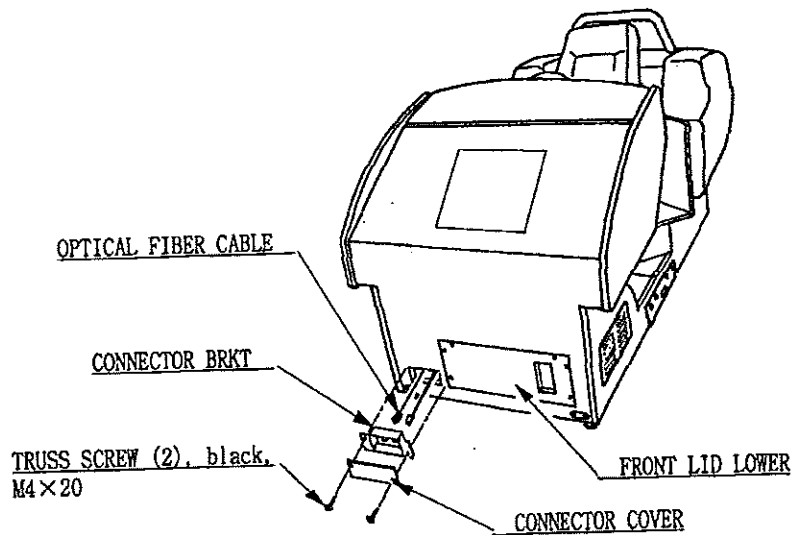


FIG. 6.7

### 3 CONNECTING THE CABINET AND PTV

Install the CONNECT TUBE in between PTV & Front Cabi and connect the wire. When performing the work, be sure to pay careful attention so that the CONNECT TUBE wiring will not be damaged by catching in between the door and the cabinet.

- ① Remove the PTV's SERVICE DOOR and front door's FRONT LID LOWER (FIG. 6.2 and FIG. 6.7).
- ② Put the CONNECT TUBE's wiring connectors in the square hole beside the front door and secure the JOINT BOX with 4 truss screws by paying careful attention that the connectors are not damaged.
- ③ Connect the CONNECT TUBE's wiring connectors to the connector panel inside the PTV. At this time, make sure that the wire color (red, green, blue and the remaining color) corresponds with the applicable symbol of the connector panel's display (R. G. B. and SYNC terminals), (FIG. 6.8)

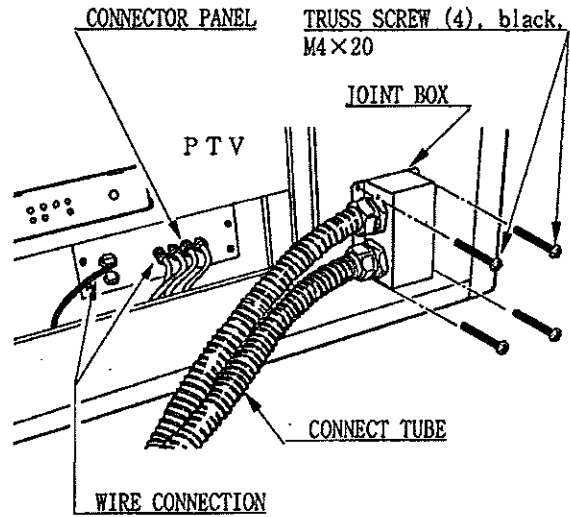


FIG. 6.8

Also, note that the connector's insertion angle is predetermined. When the connector is forcibly inserted in an incorrect direction, it can be damaged. Therefore, ascertain the correct direction before insertion. After insertion, turn the connector ring clockwise to lock the connection.

- ④ Put the connect tube wires into the square hole of the front cabi's front lid lower and secure the joint box with 4 truss screws. When fastening the screws, be careful that the wires are not damaged. (FIG. 6.9)

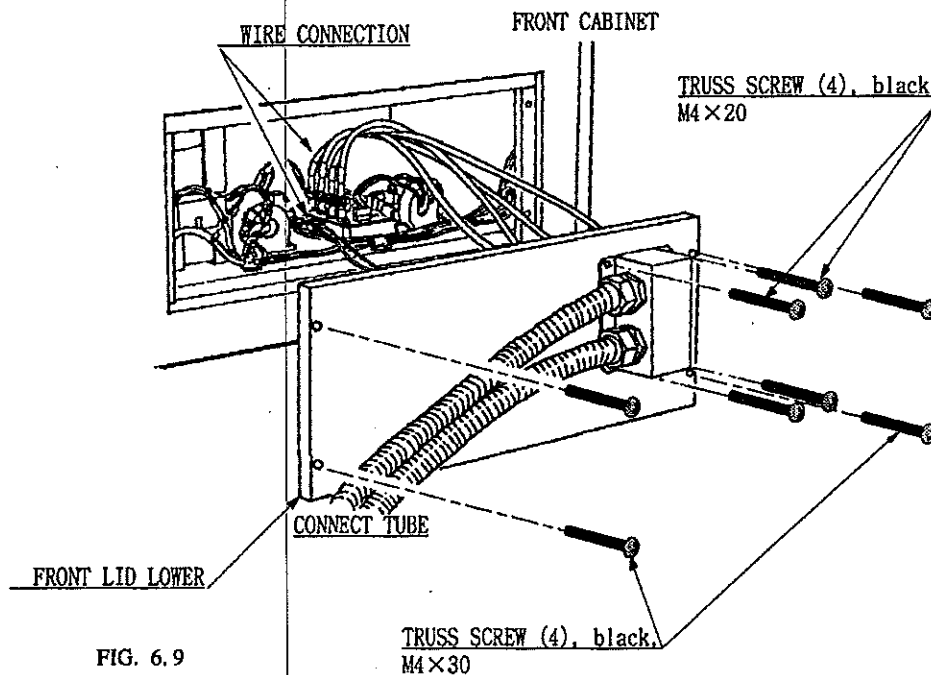


FIG. 6.9

- ⑤ Connect the CONNECT TUBE's wire with VPM buffer BD & 3P white connector inside the front cabinet. Make sure that the connector color corresponds to the applicable one of on-Board R. G. B. Insert the remaining color wire into SYNC. As for the 4 connectors inserted on the board, turn the connector ring clockwise to lock the connection **CIRCUIT PROTECTOR**.
- ⑥ Install the PTV's **SERVICE DOOR**.
- ⑦ Install **FRONT LID LOWER** to the **FRONT CABI** with 4 screws.

#### 4 POWER SUPPLY, AND EARTH CONNECTION

**CAUTION!** Ground the **EARTH TERMINAL** (this, however, is not required in the case where a power cord plug with earth is used). Check to make sure that the power cord or the ground wire is not exposed on passage surface, ect. where it may be dangerous.

The **AC UNIT** is located on the right-hand side of the **FRONT CABINET** (as seen from a position facing the projector). By using an earth wire, connect the **AC UNIT EARTH TERMINAL** and the securely grounded indoor **EARTH TERMINAL**.

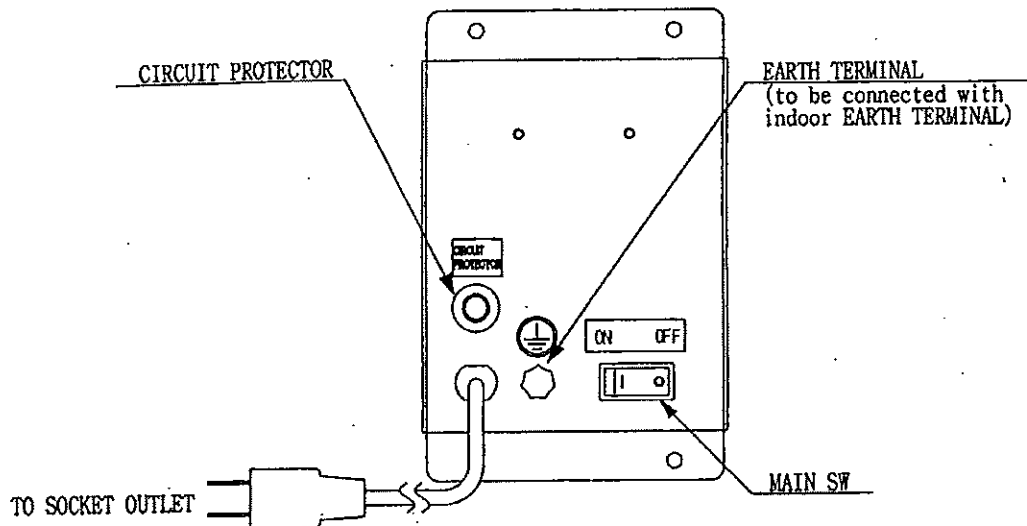


FIG. 6.10 AC UNIT

## 5 TURNING THE POWER ON

Turning the AC unit's MAIN SW on will cause the machine to start the POWER ON check automatically. The steering wheel turns left and right, then returns to the centering position and stops. In this check, the values of V. R. inside the control panel are corrected. Until the check is finished (the steering wheel stops automatically), do not touch the steering wheel or play the game.

If you do, the steering wheel reaction during the game (reaction at the time of a course-out or crashing) can not be obtained correctly.

In a case of a strange reaction during the game, turn the power on again from the beginning and complete the power-on check.

For communication play, the network check is performed after the power is turned on and the screen display will show the check mode. For details, refer to Section 19.

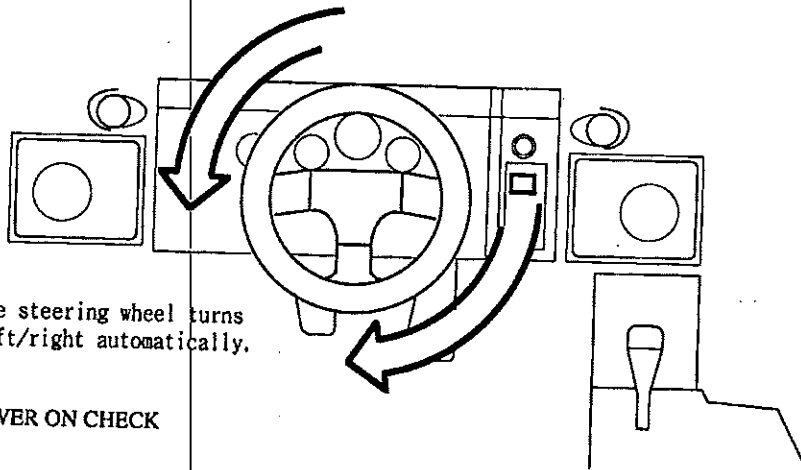


FIG. 6.11 POWER ON CHECK

## 6 ASSEMBLY CHECK

In the TEST MODE, ascertain that the assembly has been made correctly and IC BD. is satisfactory (refer to Section 8).

In the test mode, perform the following test:

### (1) MEMORY TEST

MEMORY TEST		
IC06 GOOD	IC07 GOOD	IC08 GOOD
IC09 GOOD	IC10 GOOD	IC11 GOOD
IC12 GOOD	IC13 GOOD	
IC45 GOOD	IC46 GOOD	IC47 GOOD
IC48 GOOD	IC49 GOOD	IC50 GOOD
IC54 GOOD	IC55 GOOD	

PUSH TEST BUTTON TO EXIT

Selecting the MEMORY TEST on the test mode menu screen causes the on-board memory to be tested automatically. The game board is satisfactory if the display beside each IC No. shows GOOD.

## (2) INPUT TEST

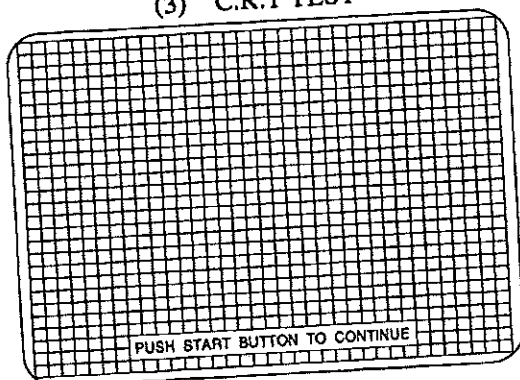
INPUT TEST	
CHUTE1	: OFF
CHUTE2	: OFF
SHIFT1	: OFF
SHIFT2	: OFF
SHIFT3	: OFF
SHIFT4	: OFF
VR	: OFF
START	: OFF
TEST SW	: OFF
SERVICE	: OFF
HANDLE	: XXH
ACCEL	: XXH
BRAKE	: XXH

PUSH TEST BUTTON TO EXIT

Selecting the INPUT TEST on the test mode menu screen causes the screen (on which each switch and V. R. are tested) to be displayed. Press each switch. For the coin switch test, insert a coin from the coin inlet with the coin chute door being open. If the display beside each switch indicates "ON," the switch and wiring connections are satisfactory.

Ascertain the display of V. R. value for the steering wheel and accelerator & brake. If the V. R. values are not satisfactory, refer to Sections 9 & 10.

## (3) C.R.T TEST



In the TEST mode menu, selecting OUTPUT TEST allows the screen (on which the projector is tested) to be displayed. Although the projector adjustments have been made at the time of shipment from the factory, color deviation, etc., may occur due to the affection caused by geomagnetism, the location building's steel frames and other game machines in the periphery. By watching the test mode screen, make judgment as to whether an adjustment is needed. If it is necessary, adjust the projector by referring to Section 13.

## (3) OUTPUT TEST

OUTPUT TEST

START  
VR

PUSH TEST BUTTON TO EXIT

In the output test mode, carry out lamp test to ascertain that each lamp lights up satisfactorily.

## (4) SOUND TEST

SOUND TEST

Voice :  
Effect :  
B.G.M :  
>EXIT :

SELECT BY SERVICE BUTTON  
AND PUSH TEST BUTTON

In the TEST mode, selecting SOUND TEST causes the screen (on which sound related BD and wiring connections are tested) to be displayed. Voice and BGM (background music) are emitted from the tweeter speakers (a round type), one each on both sides (right/left) of the control panel and also from the front speakers (a square type), one each on both sides (right/left). Sound effects are emitted from all of the speakers. Be sure to check if the sound is satisfactorily emitted from each speaker and the sound volume is appropriate.

Perform the above inspections also at the time of monthly inspection.

**7 SECURING TO THE INSTALLATION POSITION (LEG ADJUSTER ADJUSTMENT)**

**WARNING!**  
 Make sure that all of the leg adjusters are in contact with the floor. If they are not, the cabinet may move causing an accident.

This machine has twelve casters (four each for the front cabinet, the rear cabinet and the PTV) and ten leg adjusters (two for the front cabinet, four for the rear cabinet and four for the PTV) (Fig. 6.12). When the installation position is determined, cause the leg adjusters to come into contact with the floor directly, make adjustments in a manner so that the casters will be raised approximately 5 mm. from the floor and make sure that the machine position is level.

- ① Move the machine to the installation position. When installing the machine against or close to a wall, be sure to secure a passage space to enable the player to take a ride in the machine.
- ② Cause all of the leg adjusters to make contact with the floor. By using a wrench, make adjustments in the height of the leg adjusters to ensure that the machine's position is level.
- ③ After making adjustments, fasten the leg adjuster nut upward and secure the height of the leg adjuster (Fig. 6.13).

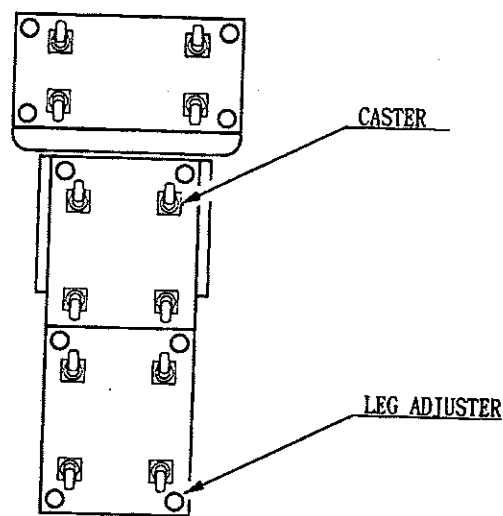


FIG. 6.12 BOTTOM VIEW

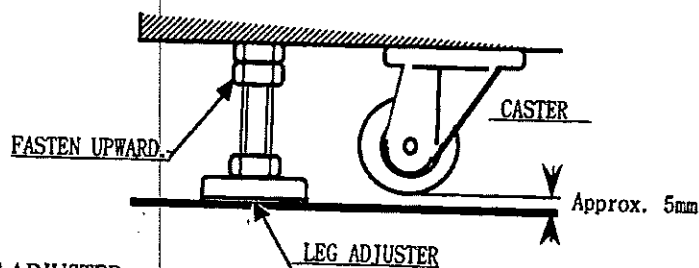


FIG. 6.13 LEG ADJUSTER

**Machine movement**

Since this machine is a heavy structure of approximately 375kg., its leg adjusters should be retracted when moving the machine over the floor.  
 Where the floor changes in level, be sure to separate the front cabinet and rear cabinet from each other. If the mechanism base is lifted with the front and rear portions still connected, the cabinet may be damaged.



## 7. HOW TO PLAY

Herein, explanations are given to the case of an independent play. Note that for communication play, some of the following points including the starting method, will not apply:

- ① Take a ride in the machine. The seat position can be adjusted forward and backward. For adjustments, pull the lever which is positioned on the lower left-hand side (facing the projector screen) of the seat.
- ② Insert a coin(s). Inserting a coin(s) for one play causes the Game Select mode to appear on the screen. Up to 9 credits can be registered at any one time, and the credits are displayed only in this mode and not thereafter.
- ③ The left-hand side of the Game Select mode refers to the Championship mode and the right-hand side, the Practice mode. Turn the steering wheel to select the Championship mode or Practice mode and make the selection by stepping on the Accelerator.

### ■ WHEN PLAYING IN THE CHAMPIONSHIP MODE:

- ① The Car Select mode appears on the screen. There are 4 different combinations to choose from (2 different cars, Celica and Delta and 2 different Shifts, AUTO and MANUAL). Turn the steering wheel to select the desired combination and make the selection by stepping on the Accelerator.
- ② After the above selection procedure, the game starts.
- ③ The on-screen upper left-hand side, the upper middle downwards, the upper right-hand side and the lower left-hand side respectively indicates Total Time & Lap Time, the achievement meter / rear mirror / remaining time / Navigation Icon, the player's present position, and Tachometer / Shift / Speed.
- ④ After the game is started, the allotted time decreases. Passing a checkpoint within the time limit allows the game to continue with the previous remaining time added to the time limit up to the next checkpoint. If you fail to pass a checkpoint within the time limit with remaining time (if any) added, the game will be over.
- ⑤ Finishing 2 laps, one lap, and also one lap respectively for "DESERT" (Easy), "FOREST" (Middle) and "MOUNTAIN" (Expert) enables you to proceed to the next course. The player whose results are superior is allowed to proceed to a hyper course. The lap setting can be changed (refer to Section 8).
- ⑥ The player with the best results can register his name. Turn the steering wheel to choose the alphabetical letters and step on the Accelerator to make the selection. The name will be displayed on the DEMO screen.

## ■ WHEN PLAYING IN THE PRACTICE MODE:

- ① The Course Select mode showing "DESERT," "FOREST," and "MOUNTAIN" sequentially in order starting from the left appears on the screen. Turn the steering wheel to select the course and make the selection by stepping on the Accelerator.
- ② The Car Select screen appears. Turn the steering wheel to choose one from 4 combinations (2 different cars and 2 kinds of shifts) and make the selection by stepping on the Accelerator.
- ③ After the above car selection, the game starts.
- ④ The screen display during game is the same as in the Championship mode.
- ⑤ The relationship between the remaining time and clearing a checkpoint after the game start is also the same as in the Championship mode. The game will be over if you fail to pass the checkpoint before the remaining time becomes zero.
- ⑥ When you finish 3 laps, 2 laps and 2 laps respectively for "DESERT," "FOREST" and "MOUNTAIN," the game will be over. The lap setting can be changed.

During play, "DRIVER'S EYE" and "VIEW FROM BEHIND" perspective can be alternated by using the View Change SW.

The steering wheel reacts to surface status and car movements. The seat vibrates depending on surface status, etc. When one game is finished, if any credit(s) sufficient for playing another game remains, the Game Select mode appears.

### PLAYING TECHNIQUE

It is recommended that you choose AUTOMATIC if you are not so familiar with the game. Find out the best way to pass the corners by referring to navigation icons.

When MANUAL SHIFT is chosen, refer to the Tachometer for shifting. SHIFTING UP when the indicator indicates a point before the red zone allows the acceleration to be made in the most efficient manner.

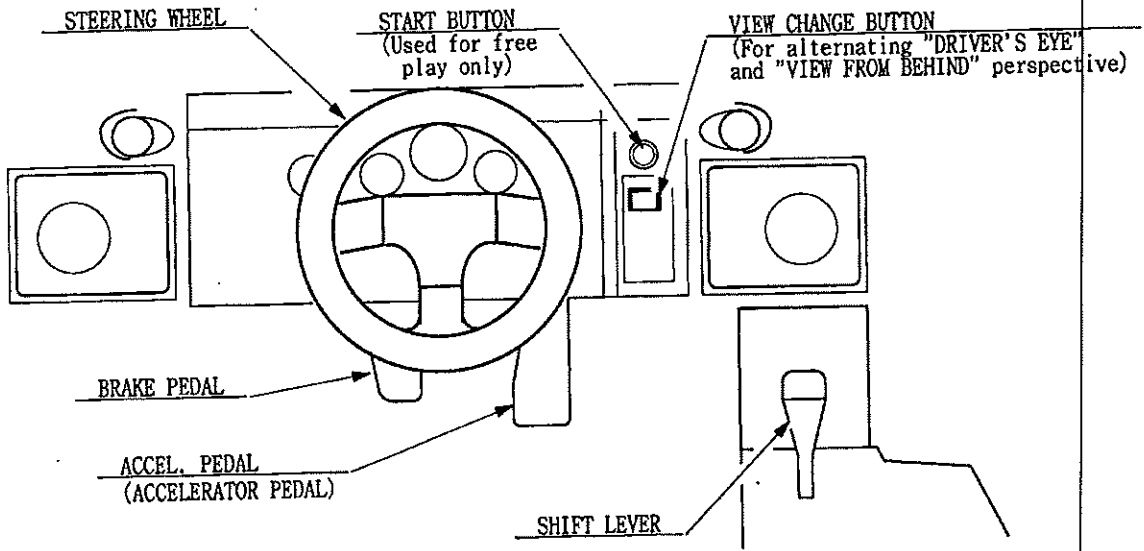
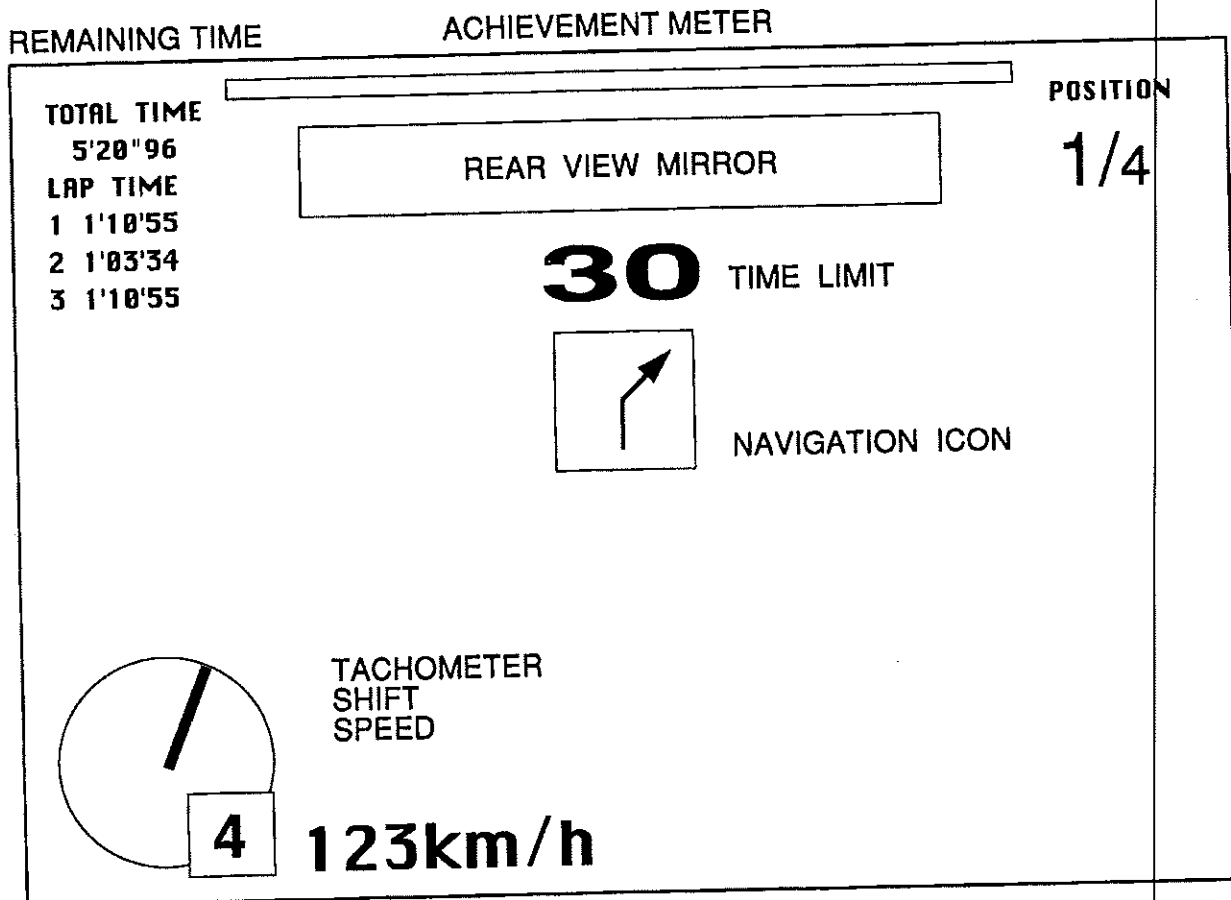


FIG. 7

## 8. EXPLANATION OF TEST AND DATA DISPLAY

By operating the switch unit, periodically perform the tests and data check. When installing the machine initially or collecting cash, or when the machine does not function correctly, perform checking in accordance with the explanations given in this section.

The following shows tests and modes that should be utilized as applicable.

TABLE 8.1 EXPLANATION OF TEST MODE

ITEMS	DESCRIPTION	REFERENCE SECTIONS
INSTALLATION OF MACHINE	When the machine is installed, perform the following: <ol style="list-style-type: none"> <li>1. Check to see that each setting is as per standard setting made at the time of shipment.</li> <li>2. In the INPUT TEST mode, check each SW and VR.</li> <li>3. In the OUTPUT TEST mode, check each of lamps.</li> <li>4. In the SELF-TEST mode, check ICs on the IC Board.</li> </ol>	8-7, 8-8 8-4 8-9 8-3
MEMORY	Choose MEMORY TEST in the MENU mode to allow the MEMORY test to be performed. In this test, PROGRAM RAMs, ROMs, and ICs on the IC Board are checked.	8-3
PERIODIC SERVICING	Periodically perform the following: <ol style="list-style-type: none"> <li>1. MEMORY TEST</li> <li>2. Ascertain each setting.</li> <li>3. In the INPUT TEST mode, test the CONTROL device</li> <li>4. In the OUTPUT TEST mode, check each of lamps.</li> </ol>	8-3 8-7, 8-8 8-4 8-9
CONTROL SYSTEM	<ol style="list-style-type: none"> <li>1. In the INPUT TEST mode, check each SW and VR.</li> <li>2. Adjust or replace each SW and VR.</li> <li>3. If the problem can not be solved yet, check the CONTROL's moves.</li> </ol>	8-4 9, 10, 11
MONITOR	In the MONITOR ADJUSTMENT mode, check to see if the PROJECTOR adjustment is appropriately made.	8-6 13
IC BOARD	<ol style="list-style-type: none"> <li>1. MEMORY TEST</li> <li>2. In the SOUND TEST mode, check the sound related ROMs.</li> </ol>	8-3 8-5
DATA CHECK	Check such data as game play time and histogram to adjust the difficulty level, etc..	8-11

**CAUTIONS TO BE HEEDED WHEN USING THE TEST MODE:**

In the case where multiple units are linked for communication play, exiting from the test mode causes the unit to perform the network check automatically. During this time, all of the linked units will not allow the game to be played in normal status. Therefore, be sure not to enter the test mode if any one of the units is in play. On the other hand, if even one unit is in the test mode, make sure that other machines are not in play.

**8-1 SWITCH UNIT**

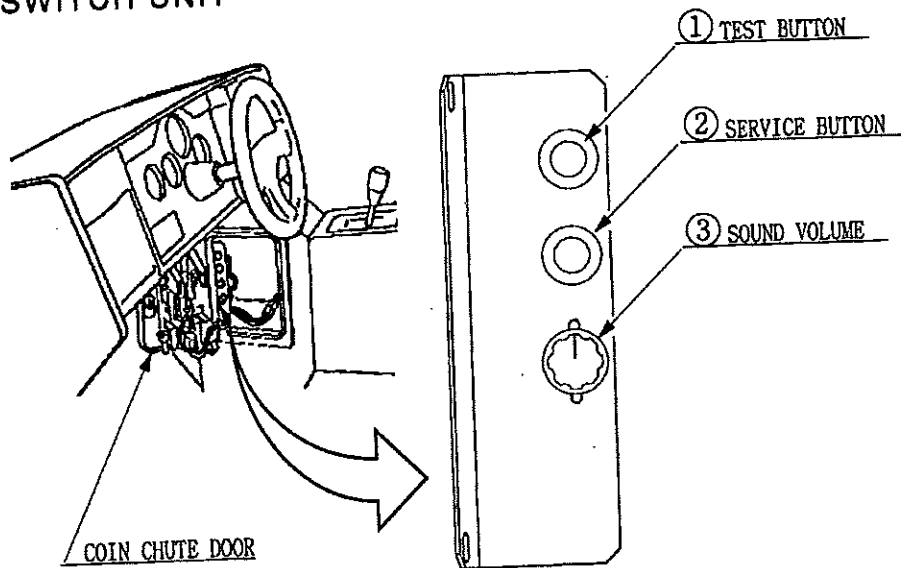


FIG. 8. 1a SWITCH UNIT

Open the coin chute door, and the switch unit shown will appear. The functioning of each SW is as follows:

- ① **TEST BUTTON** : For the handling of the test button, refer to the following pages.  
TEST
- ② **SERVICE BUTTON** : Gives credits without registering on the coin meter.  
SERVICE
- ③ **SPEAKER VOL.** : Adjusts the volume of the control panel's speakers.  
SPEAKER

The control panel switches are also used in the test mode. For each functioning, refer to the following page and onward.

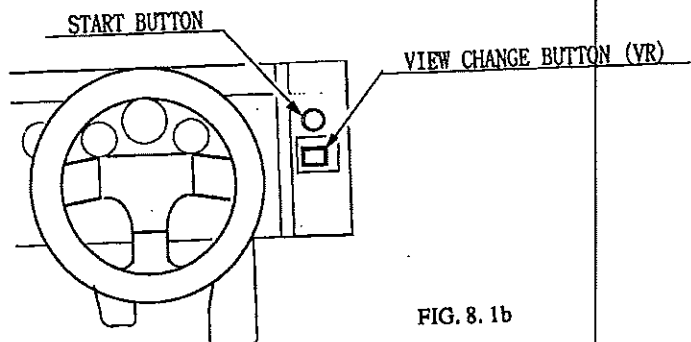


FIG. 8. 1b

## 8-2 TEST MODE

The Test Menu allows the functioning of each part of the Cabinet to be checked, the monitor to be adjusted, and the coins and game related various settings to be performed.

- Press the **TEST BUTTON** to cause the following Test Menu to be displayed on the monitor. (FIG. 8.2)
- Press the **SERVICE BUTTON** or **VIEW CHANGE BUTTON (VR)** until the pointer ">" is moved to the desired item to make a selection.
- Bring the pointer ">" to the desired item and press either the **TEST BUTTON** or **START BUTTON** to cause the selected item's test to start.

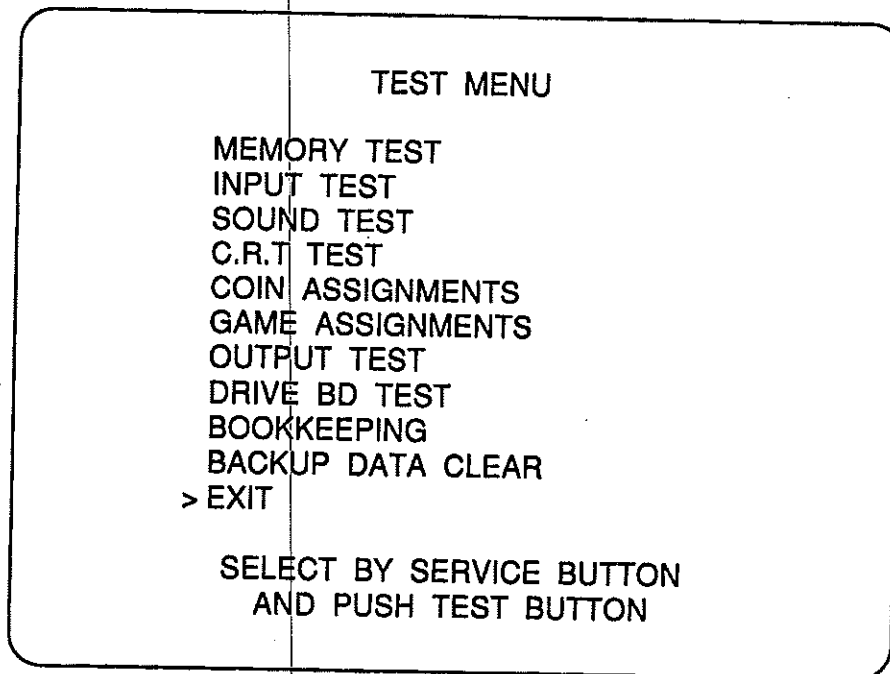


FIG. 8.2 TEST MENU

- After the test is complete, move ">" to "EXIT" and press the **TEST BUTTON** or **START BUTTON** to return to the Game Mode.

### 8-3 MEMORY TEST

The MEMORY TEST mode is for checking the on-BD memory IC functioning. "GOOD" is displayed for normal ICs and "BAD" is displayed for abnormal ICs.

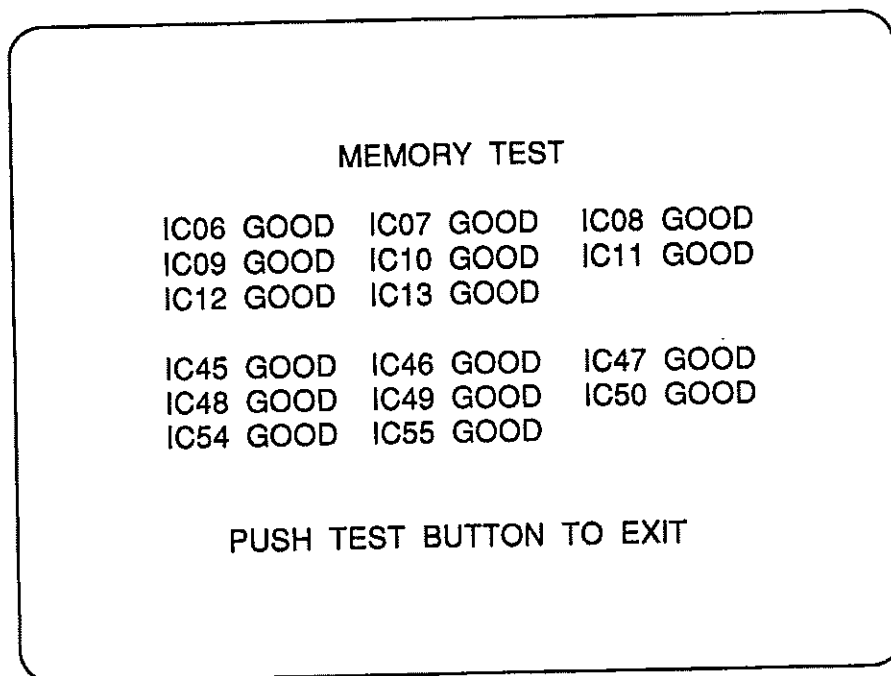


FIG. 8.3 MEMORY TEST

- When the test is completed, if the results are shown as above, it is satisfactory.
- It takes approximately thirty seconds to complete the test. If the TEST exceeds thirty seconds, the board may have malfunctioned.
- After finishing the test, pressing the TEST BUTTON or START BUTTON to return to MENU mode.

## 8-4 INPUT TEST

When INPUT TEST is selected, the monitor will show the following, allowing you to watch the status of each switch and the value of each V. R. of the CONTROL PANEL.

On this screen, periodically check the status of each switch & V. R.

- By pressing each switch, if the display on the right-hand side of the name of each switch changes to ON from OFF, the SW and the wiring connections are satisfactory.
- To check CHUTE 1 & CHUTE 2 coin switches, open the COIN CHUTE DOOR and insert a coin(s) in the slot.
- To return to the MENU mode, press the TEST BUTTON or simultaneously press the START BUTTON & VIEW CHANGE BUTTON (VR).

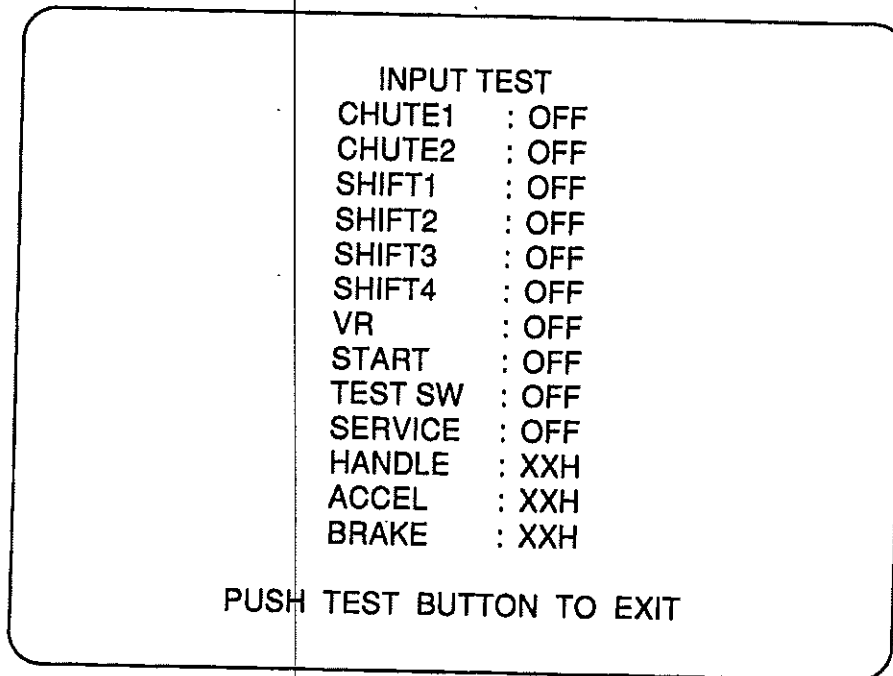


FIG. 8. 4 INPUT TEST

The appropriate values of each V. R. are as follows:

HANDLE:	Under 2DH left	← 7D~83H → (Centering position)	Over D3H right
ACCEL:	Under 30H	→	Over C0H
BRAKE:	Under 30H (the pedal released)	→	Over C0H (the pedal stepped)



## 8-5 SOUND TEST

Choosing SOUND TEST causes the following mode to appear on the screen. This allows the desired sound (BGM, announcement and sound effects) to be chosen and heard. Enables the SOUND BD, AMP BD and each speaker to be checked.

Press the SERVICE BUTTON or VIEW CHANGE BUTTON to bring the pointer ">" to the desired test item. Pressing the TEST BUTTON or START BUTTON allows the selected sound test to be performed.

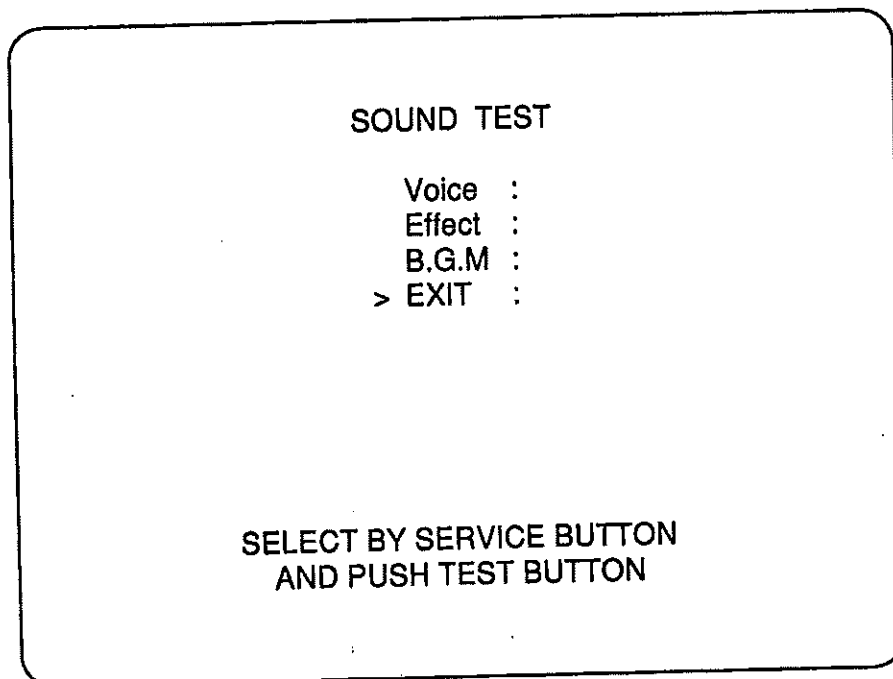


FIG. 8. 5 SOUND TEST

- Voice      Voice of announcement & navigation.
- Effect     Sound effects during game.
- B. G. M    Background music during game.
- EXIT       Causes the menu mode to return on to the screen.

## 8-6 C. R. T. TEST

Choose C. R. T. TEST to cause the following screen (upper) for monitor adjustment to appear.

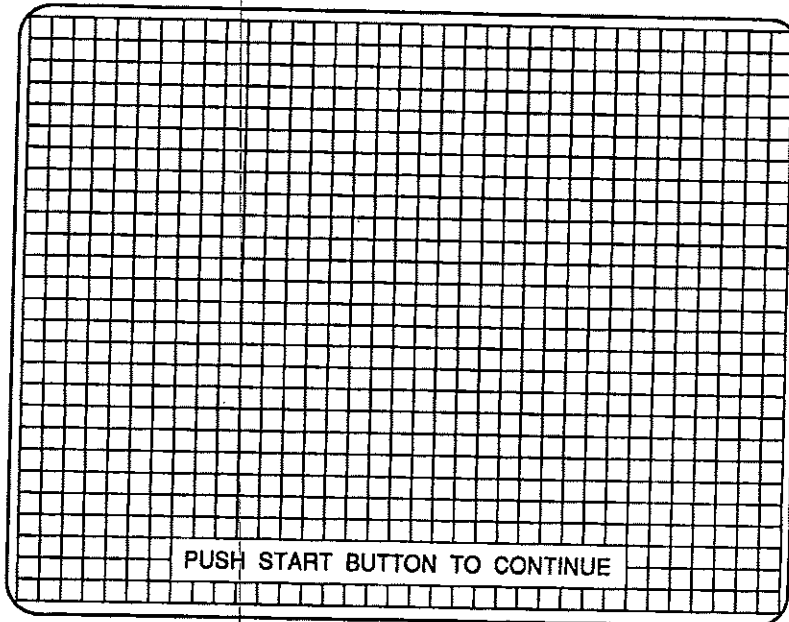


FIG. 8. 6a C. R. T. TEST

In the above screen as per FIG. 8.6 a, adjust the monitor to make sure that the crosshatch lines do not go beyond the screen size and crosshatch distortion does not occur.

Press the TEST button or START button to have the following color bar screen appear. The C. R. T. TEST as shown in FIG. 8.6 b allows for monitor color checking. Each of the R (red), G (green) and B (blue) and white is darkest at the left-hand end and becomes brighter towards the right-hand end.

Press the TEST button or START button to have the MENU return to the screen.

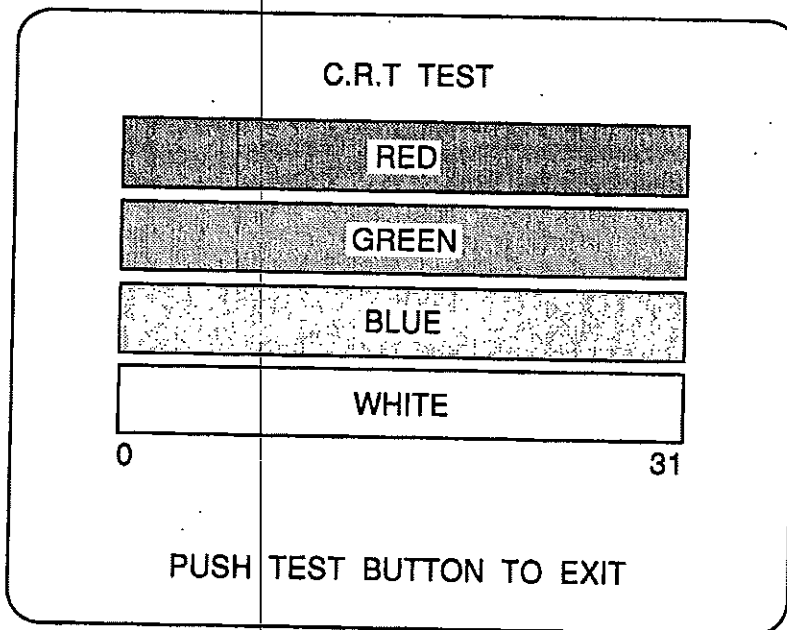


FIG. 8. 6b C. R. T. TEST

## 8-7 COIN ASSIGNMENT

The "COIN ASSIGNMENTS" mode permits you to set the start number of credits, as well as the basic numbers of coins and credits. This mode expresses "how many coins correspond to how many credits."

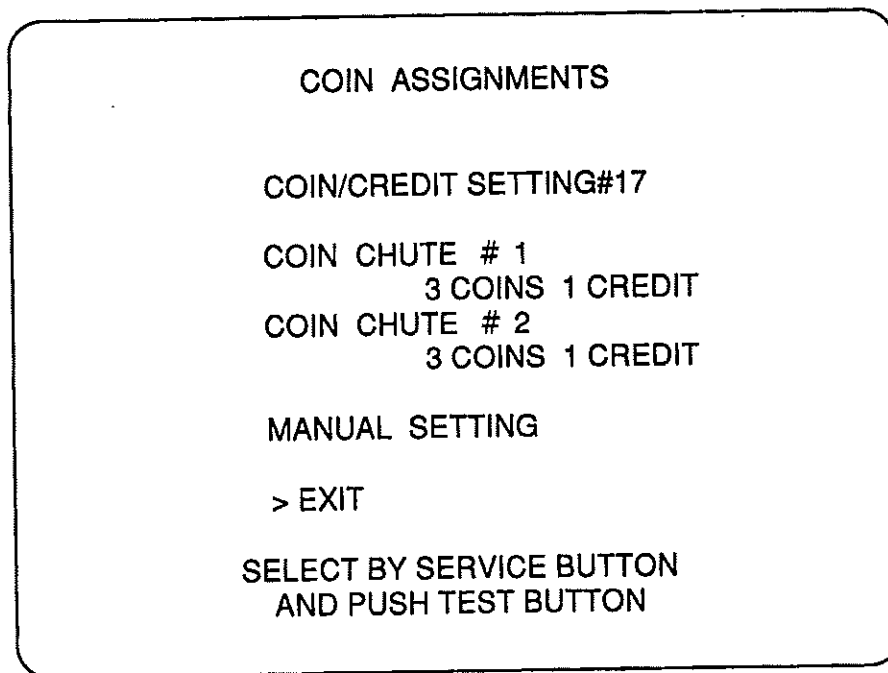


FIG. 8. 7a COIN ASSIGNMENTS

- COIN/CREDIT SETTING "How many coins correspond to how many credits." In this machine, selection as per Table 8.2 is possible.
- MANUAL SETTING Allows for finer settings.

### SETTING CHANGE PROCEDURE

- ① Press the SERVICE button or VIEW CHANGE button to move the arrow (>) to the desired setting change item.
- ② Press the TEST button or START button to make a setting change selection.
- ③ Move the arrow to EXIT and press TEST button or START button to return to the MENU mode.

TABLE 8.2 COIN/CREDIT SETTING (COIN CHUTE COMMON TYPE)

NAME OF SETTING	FUNCTIONING OF COIN CHUTE #1		FUNCTIONING OF COIN CHUTE #2	
SETTING #1	1 COIN	1 CREDIT	1 COIN	1 CREDIT
SETTING #2	1 COIN	1 CREDIT	1 COIN	2 CREDITS
SETTING #3	1 COIN	1 CREDIT	1 COIN	3 CREDITS
SETTING #4	1 COIN	1 CREDIT	1 COIN	4 CREDITS
SETTING #5	1 COIN	1 CREDIT	1 COIN	5 CREDITS
SETTING #6	1 COIN	2 CREDITS	1 COIN	2 CREDITS
SETTING #7	1 COIN	2 CREDITS	1 COIN	5 CREDITS
SETTING #8	1 COIN	3 CREDITS	1 COIN	3 CREDITS
SETTING #9	1 COIN	4 CREDITS	1 COIN	4 CREDITS
SETTING #10	1 COIN	5 CREDITS	1 COIN	5 CREDITS
SETTING #11	1 COIN	6 CREDITS	1 COIN	6 CREDITS
SETTING #12	2 COINS	1 CREDIT	2 COINS	1 CREDIT
SETTING #13	2 COINS	1 CREDIT	1 COIN	1 CREDIT
SETTING #14	2 COINS	1 CREDIT	1 COIN	2 CREDITS
SETTING #15	1 COIN	1 CREDIT	1 COIN	1 CREDIT
	2 COINS	3 CREDITS		
SETTING #16	1 COIN	1 CREDIT	1 COIN	3 CREDITS
	2 COINS	3 CREDITS		
SETTING #17	3 COINS	1 CREDIT	3 COINS	1 CREDIT
SETTING #18	4 COINS	1 CREDIT	4 COINS	1 CREDIT
SETTING #19	1 COIN	1 CREDIT	1 COIN	1 CREDIT
	2 COINS	2 CREDITS	2 COINS	2 CREDITS
	3 COINS	3 CREDITS	3 COINS	3 CREDITS
	4 COINS	5 CREDITS	4 COINS	5 CREDITS
SETTING #20	1 COIN	1 CREDIT	1 COIN	5 CREDITS
	2 COINS	2 CREDITS		
	3 COINS	3 CREDITS		
	4 COINS	5 CREDITS		
SETTING #21	3 COINS	1 CREDIT	1 COIN	2 CREDITS
	5 COINS	2 CREDITS		
SETTING #22	2 COINS	1 CREDIT	2 COINS	1 CREDIT
	4 COINS	2 CREDITS	4 COINS	2 CREDITS
	5 COINS	3 CREDITS	5 COINS	3 CREDITS
SETTING #23	2 COINS	1 CREDIT	1 COINS	3 CREDITS
	4 COINS	2 CREDITS		
	5 COINS	3 CREDITS		
SETTING #24	1 COIN	1 CREDIT	1 COIN	1 CREDIT
	2 COINS	2 CREDITS	2 COINS	2 CREDITS
	3 COINS	3 CREDITS	3 COINS	3 CREDITS
	4 COINS	4 CREDITS	4 COINS	4 CREDITS
	5 COINS	6 CREDITS	5 COINS	6 CREDITS
SETTING #25	1 COIN	1 CREDIT	1 COIN	6 CREDITS
	2 COINS	2 CREDITS		
	3 COINS	3 CREDITS		
	4 COINS	4 CREDITS		
	5 COINS	6 CREDITS		
SETTING #26	FREE PLAY		FREE PLAY	

## MANUAL SETTING

COIN ASSIGNMENTS  
MANUAL SETTING

COIN TO CREDIT 3 COINS 1 CREDIT

BONUS ADDER NO BONUS ADDER

COIN CHUTE #1 MULTIPLIER 1 COIN COUNTS AS 1 COIN

COIN	1	2	3	4	5	6	7	8	9
CREDIT	0 1/3	0 2/3	1	1 1/3	1 2/3	2	2 1/3	2 2/3	3

COIN CHUTE #2 MULTIPLIER 1 COIN COUNTS AS 1 COIN

COIN	1	2	3	4	5	6	7	8	9
CREDIT	0 1/3	0 2/3	1	1 1/3	1 2/3	2	2 1/3	2 2/3	3

> EXIT

SELECT BY SERVICE BUTTON  
AND PUSH TEST BUTTON

FIG. 8. 7b COIN ASSIGNMENTS

- COIN TO CREDIT Determines COIN/CREDIT setting.
- BONUS ADDER This sets how many COINS should be inserted to obtain one SERVICE COIN.
- COIN CHUTE #X MULTIPLIER This sets how many tokens one COIN represents.

TABLE 8.3 MANUAL SETTING

COIN TO CREDIT	1 COIN	1 CREDIT
	2 COINS	1 CREDIT
	3 COINS	1 CREDIT
	4 COINS	1 CREDIT
	5 COINS	1 CREDIT
	6 COINS	1 CREDIT
	7 COINS	1 CREDIT
	8 COINS	1 CREDIT
	9 COINS	1 CREDIT

BONUS ADDER	NO BONUS ADDER
	2 COINS GIVE 1 EXTRA COIN
	3 COINS GIVE 1 EXTRA COIN
	4 COINS GIVE 1 EXTRA COIN
	5 COINS GIVE 1 EXTRA COIN
	6 COINS GIVE 1 EXTRA COIN
	7 COINS GIVE 1 EXTRA COIN
	8 COINS GIVE 1 EXTRA COIN
	9 COINS GIVE 1 EXTRA COIN

COIN CHUTE MULTIPLIER	1 COIN COUNTS AS 1 COIN
	1 COIN COUNTS AS 2 COINS
	1 COIN COUNTS AS 3 COINS
	1 COIN COUNTS AS 4 COINS
	1 COIN COUNTS AS 5 COINS
	1 COIN COUNTS AS 6 COINS
	1 COIN COUNTS AS 7 COINS
	1 COIN COUNTS AS 8 COINS
	1 COIN COUNTS AS 9 COINS

## 8 - 10 DRIVE BD TEST

Choosing DRIVE BD TEST allows the strength of steering wheel reaction to be adjusted.

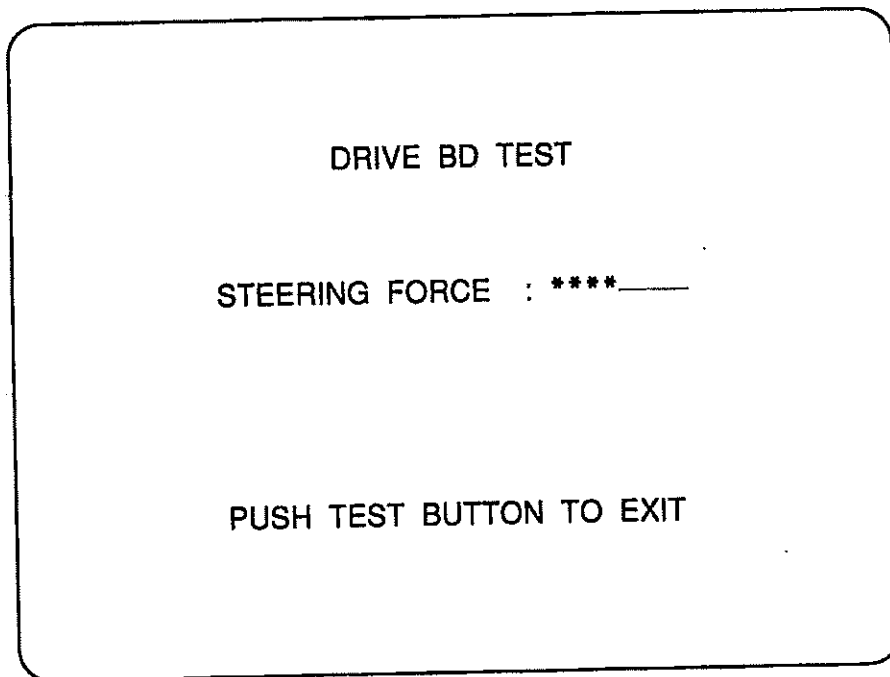


FIG. 8. 10a DRIVE BD TEST

The strength of steering wheel reaction can be adjusted in 8 steps by using the SERVICE button or VIEW CHANGE button.

The steering wheel operates as per the designated setting. Press the TEST button or START button to return to the MENU mode.

## DIP SW SETTING TABLE

### CAUTION!

- Make sure that DIP SW Nos. 4 ~ 8 are set to OFF.
- When changing DIP SW setting, ensure that the power is OFF.

The strength of steering wheel reaction can also be adjusted via on-DRIVE BD DIP SW setting. The DRIVE BD is mounted on the ASSY ELEC. Refer to 17-1 when changing the settings.

### DIP SW SETTING

NOTE: The shaded portion refers to the setting at the time of shipment.

1	2	3	FUNCTION
OFF	OFF	OFF	Light
ON	OFF	OFF	
OFF	ON	OFF	
ON	ON	OFF	
OFF	OFF	ON	
ON	OFF	ON	
ON	ON	ON	

DIP SW 1  
Adjusts steering wheel  
reaction strength in the  
clockwise direction.

DIP SW 2  
Adjusts steering wheel  
reaction strength in the  
counterclockwise direction.

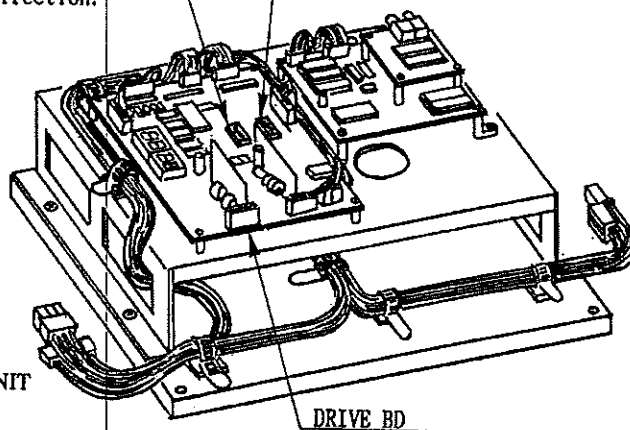


FIG. 8. 10b SUB-ELEC UNIT

## DRIVE BD ERROR DISPLAY

When malfunctioning occurs in the DRIVE BD, testing will not be performed even if DRIVE BD TEST is selected. In this case, the error No. will be displayed by the 7-SEG display on the DRIVE BD.

Also, when a POWER-ON CHECK ERROR occurs, the 7-SEG. display data repeatedly flashes. First check the handle mecha's V. R., the motor, clutch, etc.



## 8-11 BOOKKEEPING

Selecting the BOOKKEEPING in the menu mode displays the bookkeeping data up to the present on the following 2 pages.

Press the TEST button again to proceed to the next page.

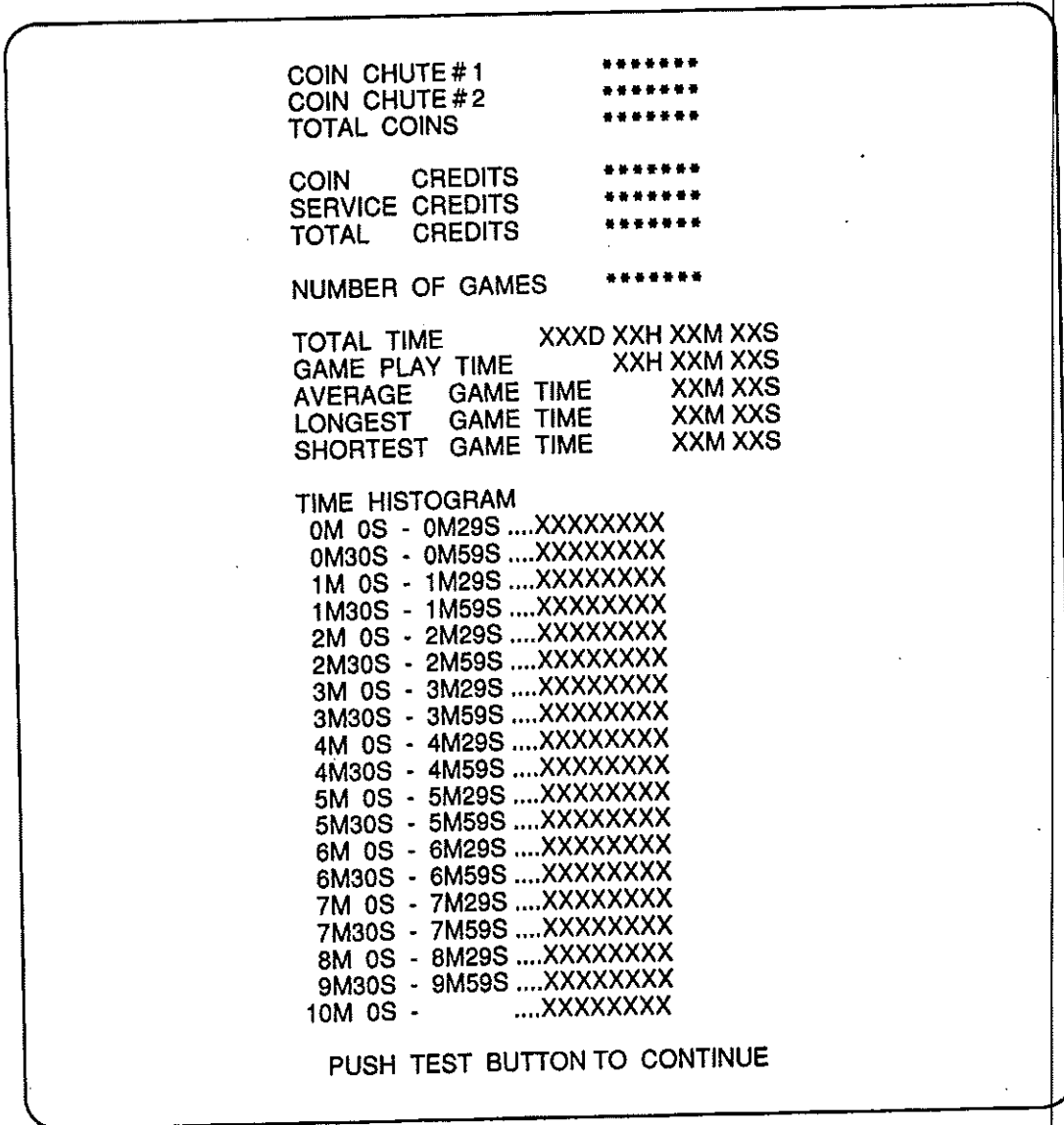


FIG. 8. 11a BOOKKEEPING

- COIN CHUTE#\* : Number of coins put in. As seen from the front of the cabinet, the right-hand side is #1 and the left-hand side is #2.
- TOTAL COINS: Total number of activations of coin chutes
- COIN CREDITS: Number of credits registered by inserting coins
- SERVICE CREDITS: Credits registered by the SERVICE button
- TOTAL CREDITS: Total number of credits (COIN CREDITS + SERVICE CREDITS)
- TOTAL TIME: The total energized time.
- TIME HISTOGRAM: By - playtime play frequency.

```

DESERT COURSE
TOTAL PLAY GAMES ...   XXXXX GAME
      GOALS ...   XXXXXX GOAL
      TIME ...   XX H XX M XX S
FASTEST GOAL TIME ...   XX M XX S
AVERAGE PLAY TIME ...   XX M XX S

FOREST COURSE
TOTAL PLAY GAMES ...   XXXXX GAME
      GOALS ...   XXXXXX GOAL
      TIME ...   XX H XX M XX S
FASTEST GOAL TIME ...   XX M XX S
AVERAGE PLAY TIME ...   XX M XX S

MOUNTAIN COURSE
TOTAL PLAY GAMES ...   XXXXX GAME
      GOALS ...   XXXXXX GOAL
      TIME ...   XX H XX M XX S
FASTEST GOAL TIME ...   XX M XX S
AVERAGE PLAY TIME ...   XX M XX S

CHAMPIONSHIP
TOTAL PLAY GAMES ...   XXXXX GAME
      GOALS ...   XXXXXX GOAL
      TIME ...   XX H XX M XX S
FASTEST GOAL TIME ...   XX M XX S
AVERAGE PLAY TIME ...   XX M XX S

      PUSH TEST BUTTON TO EXIT

```

FIG. 8. 11b BOOKKEEPING

The steering wheel operates as per the designated setting. Press the TEST button or START button to return to the MENU mode.

## 8-12 BACKUP DATA CLEAR

Clears the contents of BOOKKEEPING. When clearing, bring ">" to "YES (CLEAR)" and press the TEST button. When the data has been cleared, "COMPLETED" will be displayed. Bring ">" to "NO (CANCEL)" and press the TEST button or START button to return to the menu mode.

Also, note that the game setting contents are not affected by BACKUP DATA CLEAR operation.

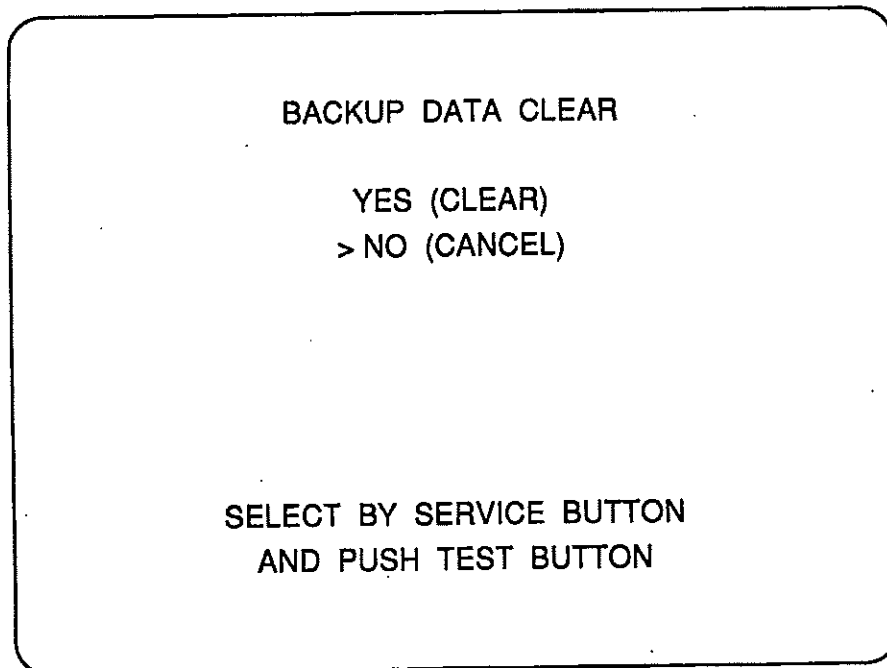


FIG. 8. 12 BACKUP DATA CLEAR

## 9. CONTROL PANEL (HANDLE MECHA)

In the TEST mode, if the steering wheel V. R. value variations are not within the allowable range, an adjustment of the V. R. installation position or replacement of the V. R. is needed. Also, apply grease to the steering wheel mechanism's shaft and sliding portions once every 3 months.

When carrying out the above work, unscrew the 4 truss screws and remove the front cab's Front Lid Upper. At this time, ensure that the cooling fan's wiring connectors, which are connected to the Lid, are not damaged.

### 9-1 REPLACING AND ADJUSTING THE HANDLE'S (STEERING WHEEL'S) V. R.

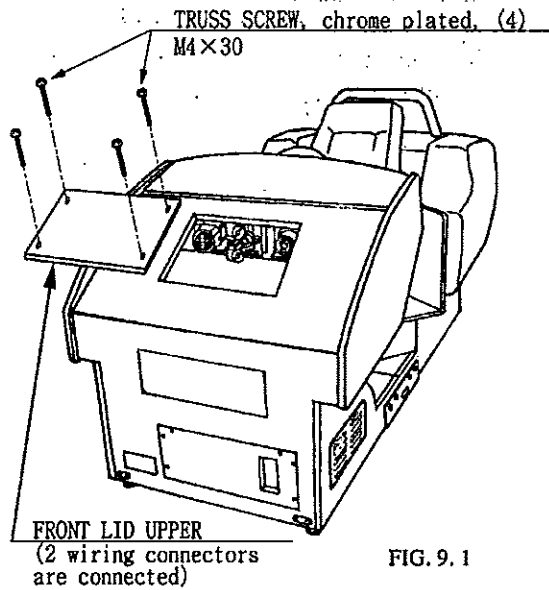


FIG. 9.1

The right-hand V. R. of the HANDLE MECHA is for the GAME BD, and the left-hand one, for the DRIVE BD. Check the V. R. value in the TEST mode. The appropriate V. R. value for each V. R. is as follows:

When the steering wheel is turned to or positioned at:	Left	Centering position	right
V. R. for the GAME BD.:	Under 2 DH ←	7DH~83H →	Over D3H
V. R. for the DRIVE BD.:	Under 2 DH ←	7DH~83H →	Over D3H

#### Method of V. R. replacement

To replace the V. R., after taking off the connector from the V. R. to be replaced, take out the 2 screws which secure the VR BRACKET, and remove the V. R. together with the bracket and gear. After the replacement, check the V. R. value variations in the test mode.

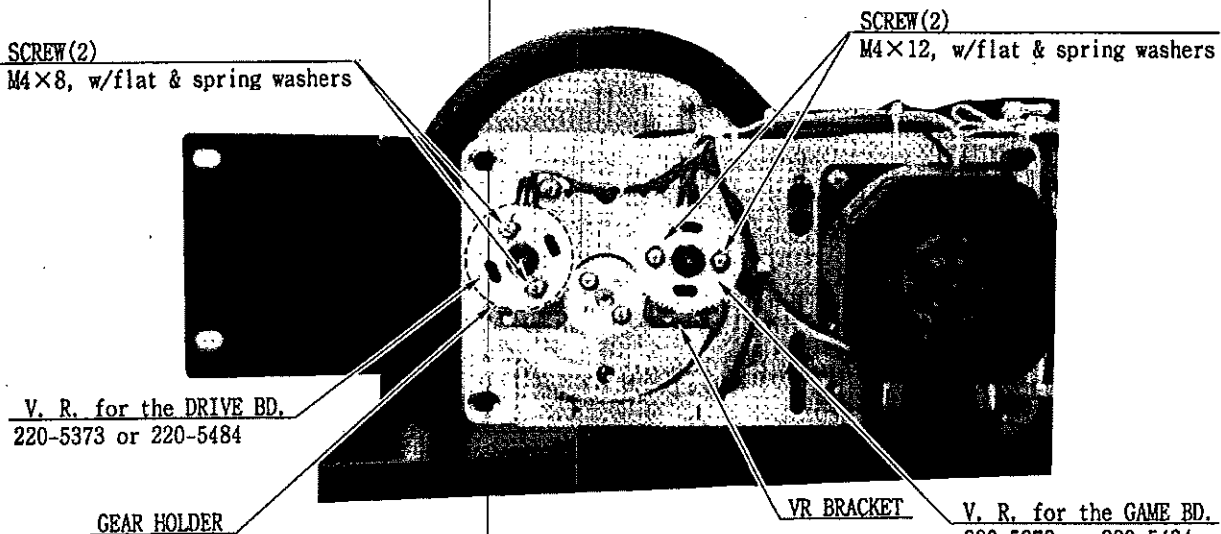


FIG. 9.2

### Method of V. R. adjustment

- ① Loosen the 2 screws which secure the V. R. BRACKET, move the V. R. BRACKET and detach the gears.
- ② Adjust the V. R. so that it is consistent with the value near the centering position.
- ③ Cause the gears to be engaged and secure the V. R. BRACKET. At this time, make sure that an appropriate backlash is obtained.
- ④ If the V. R. value is not appropriate when the steering wheel is at the centering position, loosen the 2 screws which secure the V. R. gear, turn the gear holder to make a fine adjustment so that the V. R. value is within the allowable range.
- ⑤ Check the V. R. value variations by turning the handle.

### 9-2 GREASING

Grease the gears and bearings once every 3 months as a standard.

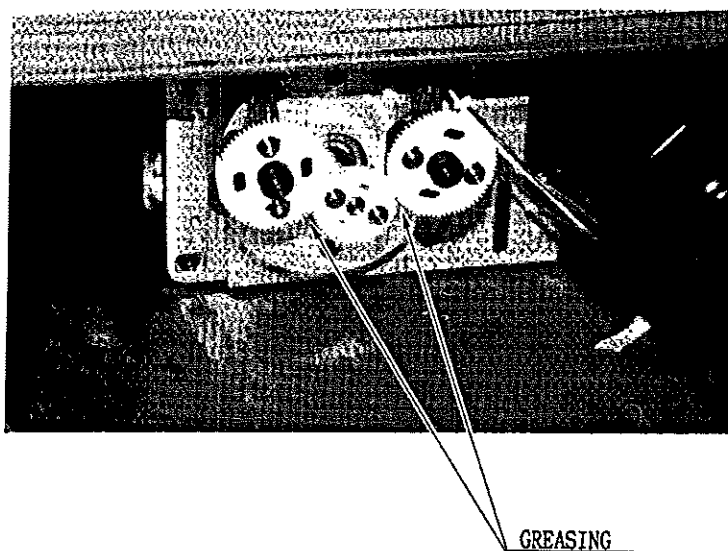


FIG. 9.3

SE1627  
SE3864

## 10. ACCELERATOR & BRAKE

In the test mode, if the ACCEL. & BRAKE V. R. value is not within the allowable range, an adjustment of V. R. installation position, or a replacement of V. R. is needed. Also, grease the MECHA's shafts and sliding portions once every 3 months.

When performing the above work, take off the 4 truss screws and remove the front cab's front lid.

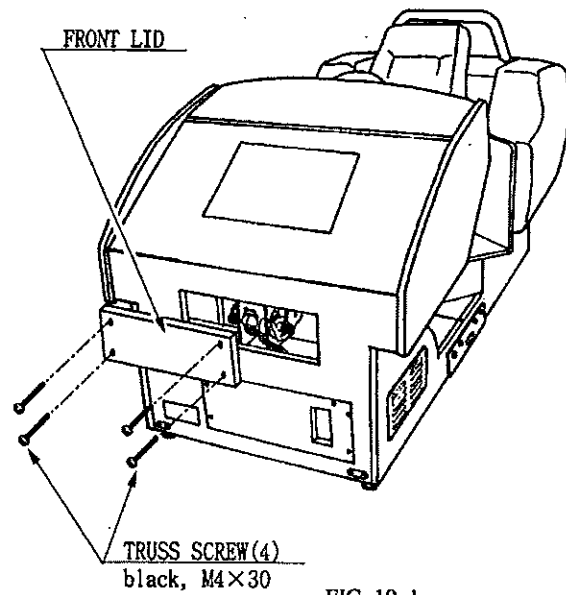


FIG. 10. 1

### 10-1 ADJUSTMENT AND REPLACEMENT OF VOLUME

The ACCEL. & BRAKE MECHA can be accessed by removing the front lid. The ACCEL. V. R. is on the left-hand side and the BRAKE V. R. is on the right-hand side of the MECHA. Check the V. R. value in the test mode. The appropriate value of each V. R. is as follows:

ACCEL.:	When released:	↔	When stepped on:
BRAKE:	Under 30H	↔	Over COH
	Under 30H	↔	Over COH

Note: "ACCEL. " refers to the ACCELERATOR.

#### Method of V. R. replacement

To replace the V. R., after taking off the connector from the V. R. to be replaced, take out the 2 screws which secure the VR BRACKET, and remove the V. R. together with the bracket and gear. After the replacement, check the V. R. value variations in the test mode.

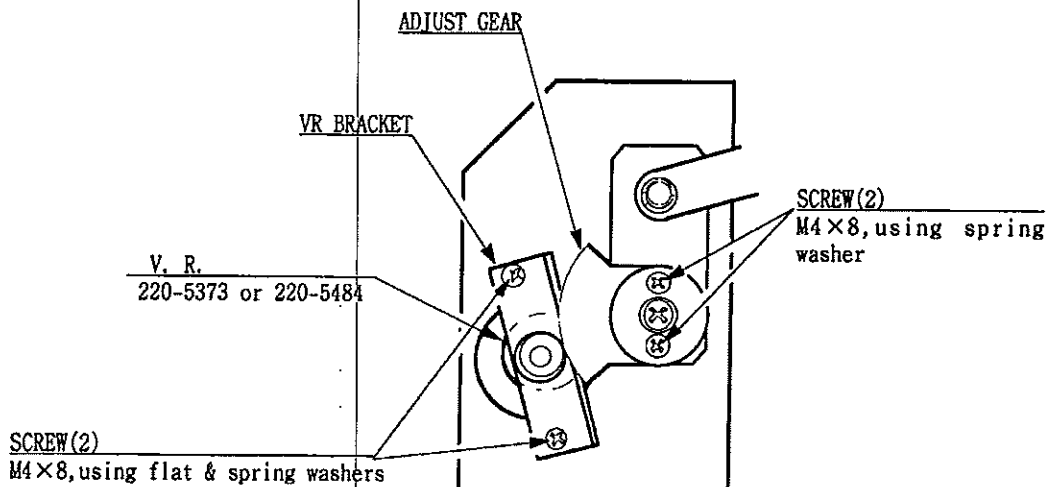


FIG. 10. 2

### Method of V. R. adjustment

- ① Loosen the 2 screws which secure the V. R. BRACKET and move the V. R. BRACKET to disengage the gears.
- ② Cause the V. R. value to match with the value obtained when the pedal is released.
- ③ Cause the gears to be engaged and secure the V. R. BRACKET. At this time, be sure to obtain an appropriate backlash.
- ④ Step on the pedal and check the V. R. value variation. If the value is not within the appropriate range, loosen the 2 screws which secure the ADJUST GEAR.

### 10-2 GREASING

Grease the gears and bearings once every 3 months as a standard.

## 11. 4 SPEED SHIFTER

In the test mode, if the shift lever input is found to be irregular, replace the switch. Also, grease the MECHA's shafts or sliding portions once every 3 months as a standard. When performing the work, remove the shift lever unit.

When performing the above work, remove the shift lever unit.

### 11-1 REMOVING THE SHIFTER

- ① Take off the 4 tamperproof screws and remove the design plate.
- ② Take out the 4 hexagon bolts and pull the shift lever unit upward. At this time, pay careful attention so as not to cause damage to the wiring.
- ③ Disconnect the 2 connectors to allow the unit to be removed.

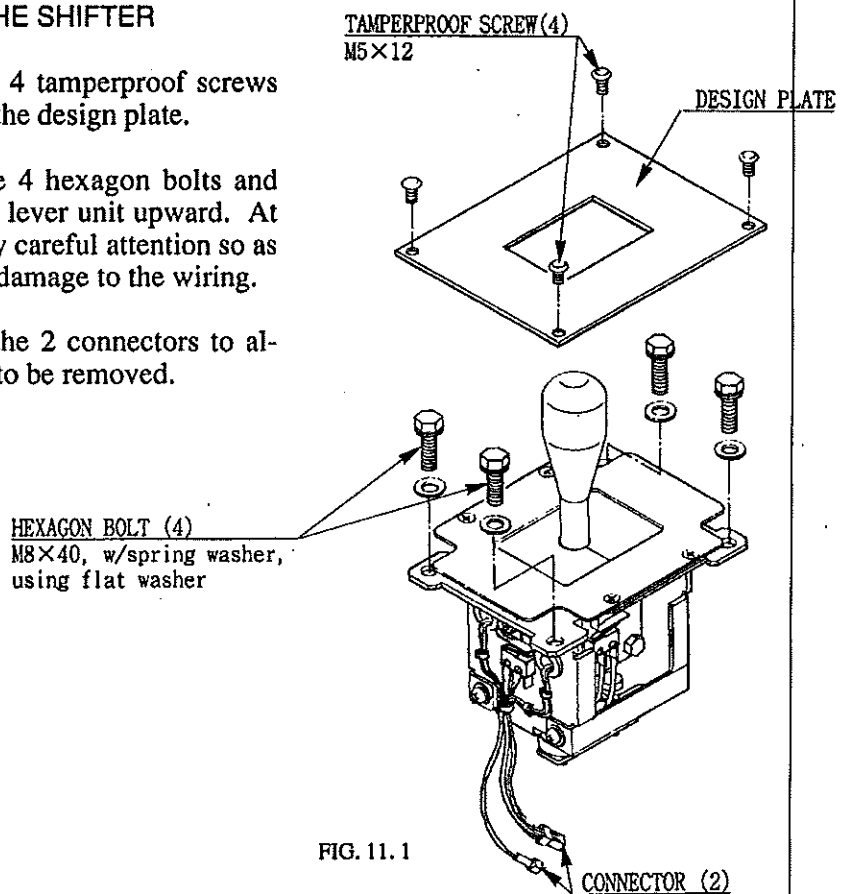


FIG. 11.1

## 11-2 REPLACEMENT OF SWITCH

### Method of replacement

- ① Disconnect the wiring connector of the SW to be replaced.
- ② Take off the 2 screws which secure the SW, and replace the SW.

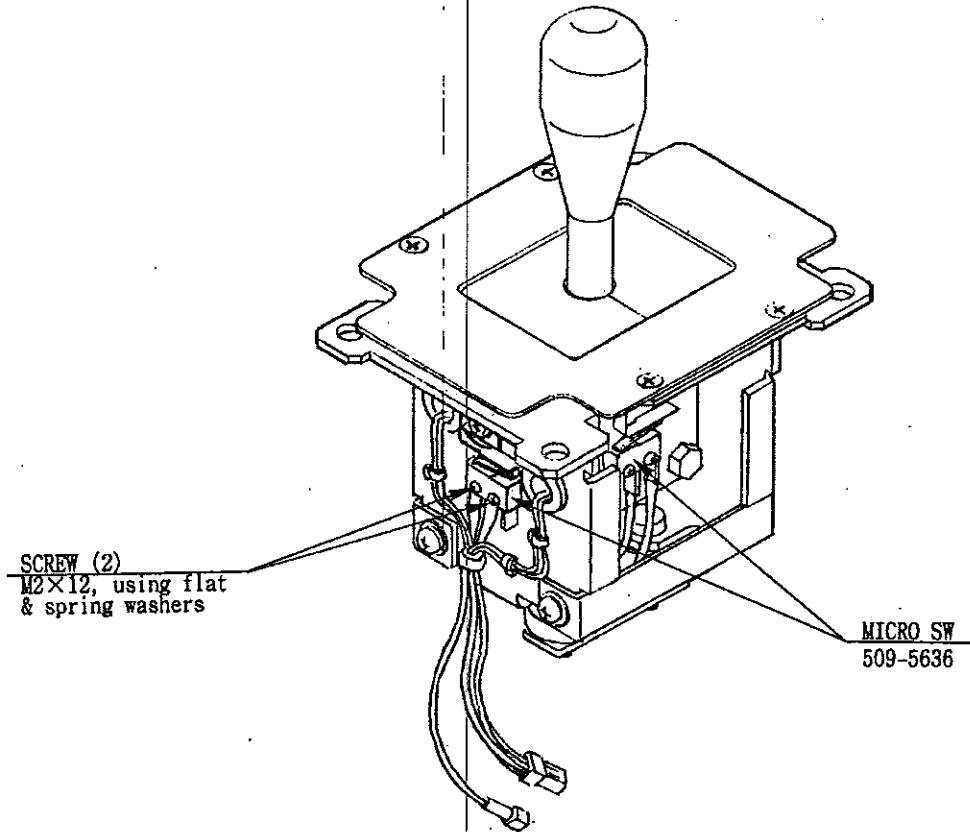


FIG. 11.2

## 11-3 GREASING

Grease the following specified points once every 3 months as a standard.

The portion where the Derurin Bearing and the shaft come into contact with each other.

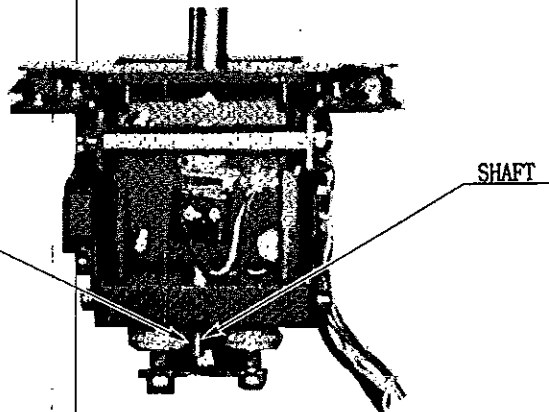


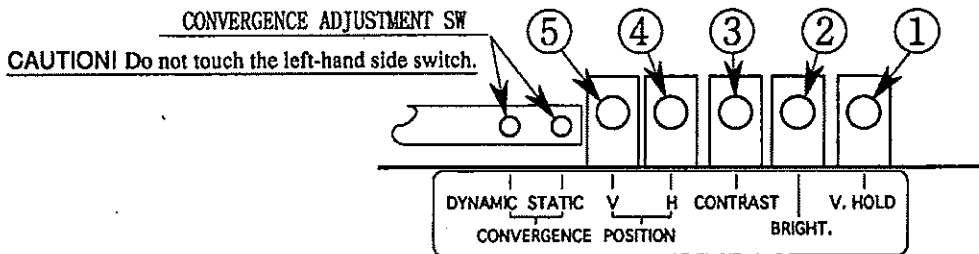
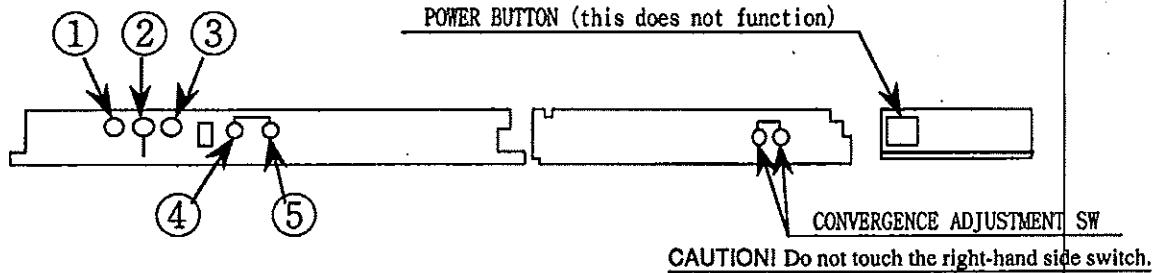
FIG. 11.3



## 13-2 ADJUSTING THE HITACHI PROJECTOR

There are 2 types of HITACHI PROJECTORS. As shown below, Control Panel layouts are different from each other. The lower layout allows static convergence adjustment to be made merely via remote control operation.

### □ HITACHI PROJECTOR CONTROL PANEL



- ① V. HOLD
- ② BRIGHT
- ③ CONTRAST
- ④ H. POSITION
- ⑤ V. POSITION

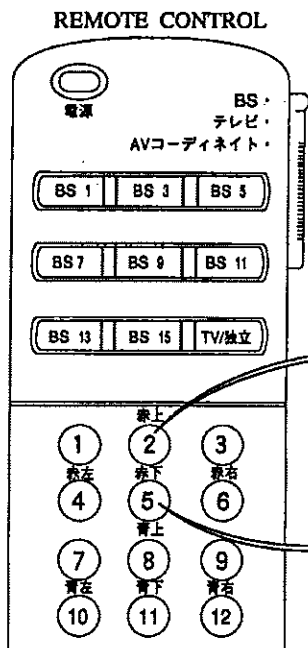
### STATIC CONVERGENCE ADJUSTMENT

**CAUTION!** Do not touch the Dynamic Convergence Adjustment SW. Dynamic Convergence adjustment work is quite troublesome and the visual effect is expected to be negligible. As such, no explanation is given in this manual. Should the SW be pressed by mistake or otherwise, turn the power off and turn it back on again.

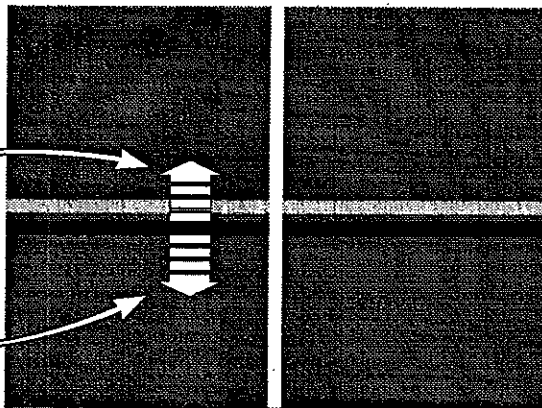
#### CROSS PATTERN



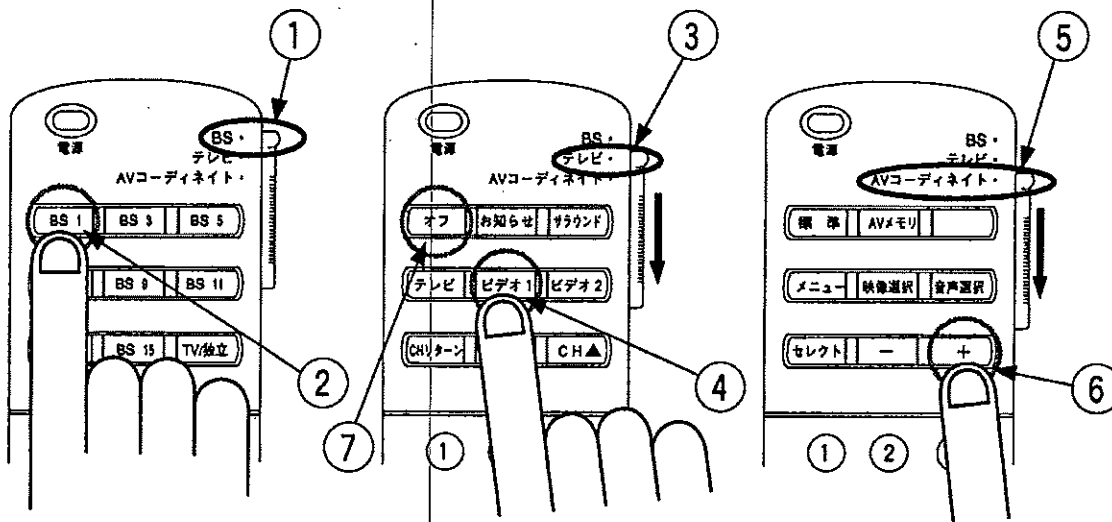
- ① Press the Static Convergence Adjustment SW which is on the Control Panel to cause the cross pattern to appear.
- ② Use the remote control to make static adjustment.
  - Remote control [ 2 ], [ 5 ] ..... Causes the red horizontal line to match with the green horizontal line.
  - Remote control [ 4 ], [ 6 ] ..... Causes the red vertical line to match with the green vertical line.
  - Remote control [ 8 ], [ 11 ] ..... Causes the blue horizontal line to match with the green horizontal line.
  - Remote control [ 10 ], [ 12 ] ..... Causes the blue vertical line to match with the green vertical line.
- ③ Press the Static Convergence SW.



If the Convergence adjustment is incorrect, a red or blue line may appear to move when a Remote Control Numerical Key is pressed after the cross pattern appears. If the line is superimposed on the green cross pattern, the cross pattern becomes white.



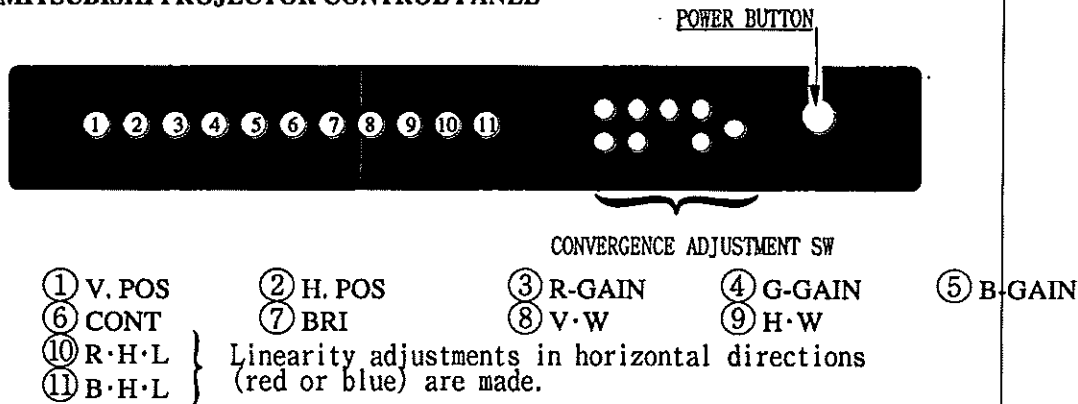
In the case of the lower Control Panel's Projector in the previous page, remote control operation allows to cause the cross pattern to appear. Have the cross pattern appear in the following procedure and shift for the Static Convergence adjustment mode.



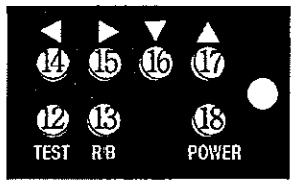
- ① Make sure that the slide portion of the Remote Control is positioned as per ① above.
- ② Press BS1.
- ③ Position the slide portion of the Remote Control to ③ in the above Figure.
- ④ Press VIDEO 1.
- ⑤ Position the Remote Control's slide portion to the above ⑤.
- ⑥ Press "+" to have the cross pattern appear.  
Perform Static Convergence adjustment in accordance with Procedure ② in the preceding page.
- ⑦ Position the Remote Control's slide portion to ③ in the above Figure and push "OFF" 5 times to return to the normal mode.

### 13-3 MITSUBISHI PROJECTOR

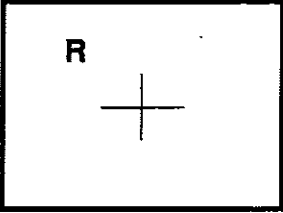
#### □ MITSUBISHI PROJECTOR CONTROL PANEL



#### STATIC CONVERGENCE ADJUSTMENT



Convergence Adjustment SW



- |         |                      |
|---------|----------------------|
| ⑫ TEST  | Test mode on/off key |
| ⑬ R/B   | R/B shift key        |
| ⑭ ◀     | Left shift key       |
| ⑮ ▶     | Right shift key      |
| ⑯ ▼     | Lower shift key      |
| ⑰ ▲     | Upper shift key      |
| ⑱ POWER | Power button         |

- ① For the Convergence adjustment mode, press the test mode on/off key ⑫.
- ② Ensure that "R" is displayed on the screen.
- ③ Make adjustment so as to cause the red cross pattern to match with the green cross pattern by using Left Shift key ⑭, Right shift key ⑮, Lower shift key ⑯ and Upper shift key ⑰.
- ④ By using R/B shift key ⑬, cause the red adjustment "R" to shift to blue adjustment "B" and make sure that "B" is displayed on the screen.
- ⑤ In the same manner as in ③ above, cause the blue cross pattern to match with the green cross pattern.
- ⑥ After making adjustment, press the test mode on/off key ⑫ to cancel the Convergence adjustment mode.

## STATIC CONVERGENCE ADJUSTMENT WITH REMOTE CONTROL

### CAUTION!

- Although the remote control buttons other than the following do not function during convergence adjustment even if they are pressed, do not press them during the adjustment work.
- When operating the remote control, direct it on to the PTV screen.

**BEFORE USING THE REMOTE CONTROL:** First make sure that the main SW on the Projector's control panel is ON (the LED adjacent to the main SW is lit).

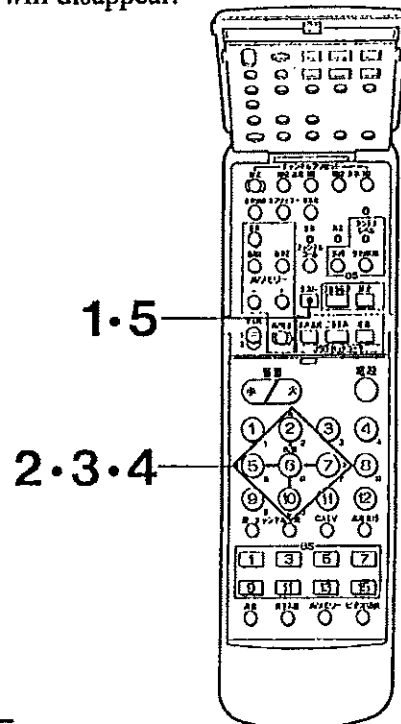
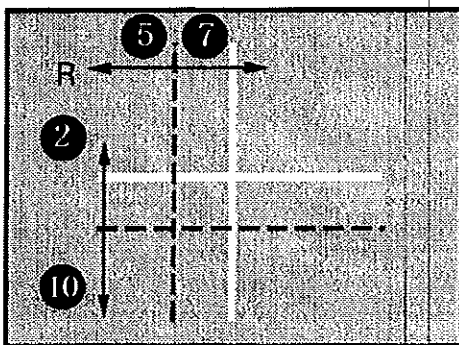
- ① For the Convergence Adjustment mode, press the test button (FIG. 1 · 5 below). Ensure that "R" is displayed on the screen.
- ② Make adjustment so as to cause the red cross pattern to match with the green cross pattern. When the red cross matches the green cross, the green cross turns yellow or white (FIG. 2 · 3 · 4 below).

Use remote control buttons shown below to move the red cross as follows:

- Button ⑤ ..... to the left.  
 ⑦ ..... to the right.  
 ② ..... Upward.  
 ⑩ ..... Downward.

- ③ Use Remote Control button ⑥ to shift "R" to "B." Make sure that "B" is displayed on the screen. Each time Button ⑥ is pressed, red and blue adjustments are shifted.
- ④ In the same manner as in ② above, cause the blue cross to match with the green cross. When the blue cross matches with the green cross, the green cross turns white.
- ⑤ After adjustment is made, press the test button (FIG. 1 · 5 below) to cancel the Convergence Adjustment mode.

**Note:** When 2 minutes or more elapses in the Convergence mode screen without taking any action, the on-screen adjustment mode will disappear.



## 14. REPLACING THE FLUORESCENT LAMP

Remove the BILLBOARD HOLDER and pull the BILLBOARD upwards to access the fluorescent lamp.

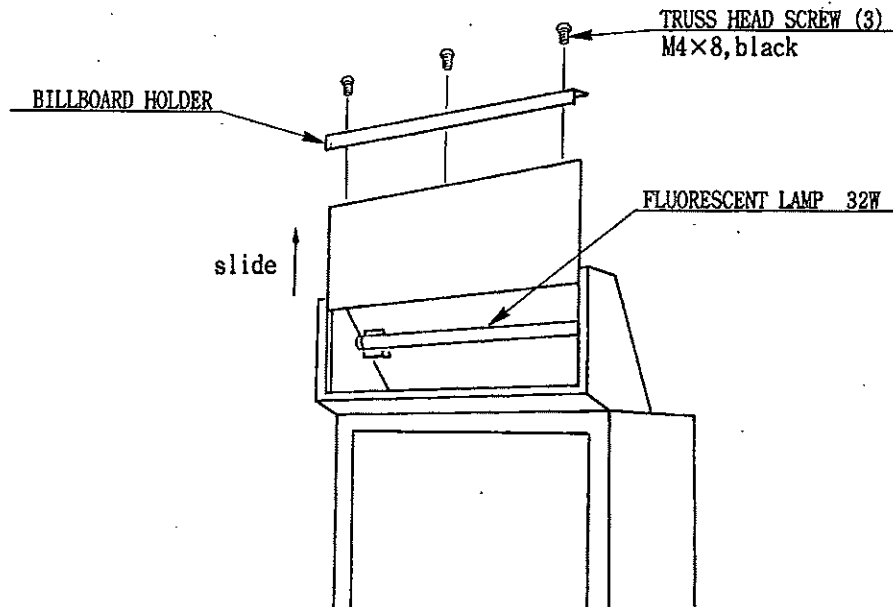


FIG. 14

## 15. PERIODIC CHECK

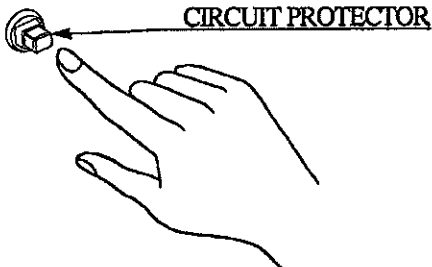
The items listed below require periodic check and maintenance to retain the performance of this machine and to ensure safe business operation.

	Item	Interval	Reference
CONTROL PANEL	Check lamp.	Monthly	8
	Check VOLUME VALUE.	Monthly	6, 8
	Check ADJUST GEAR engagement.	Trimonthly	9-1
	Greasing of GEAR and bearing.	Trimonthly	9-2
ACCEL. & BRAKE	Check VOLUME VALUE.	Monthly	6, 8
	Check ADJUST GEAR engagement.	Trimonthly	10-1
	Greasing of GEAR and bearing.	Trimonthly	10-2
4 SPEED SHIFTER	Check SW.	Monthly	6, 8
	Greasing of bearing.	Trimonthly	11-3
	Check RUBBER STOPPERS.	Semi-yearly	
FRONT CABI	Check COIN SW.	Monthly	8
	Cleaning of COIN SELECTOR.	Trimonthly	12
PROJECTOR	Check adjustments.	Monthly	6, 8, 13
	Cleaning of screen.	Weekly	13-1
GAME BD	MEMORY TEST.	Monthly	8
	Check settings.	Monthly	8

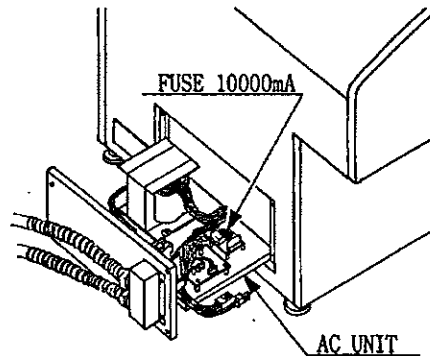
## 16. TROUBLESHOOTING

In case a problem occurs, first check wiring connector connections.

PROBLEMS	CAUSE	COUNTERMEASURES
When the main SW is turned ON, the machine is not activated.	The power is not ON. Incorrect power source/voltage.  The CIRCUTI PROTECTOR functioned due to momentary overcurrent.	Firmly insert the plug into the outlet.  Make sure that the power supply/voltage are correct.  Remove the cause of overload to reset the circuit protector.
PTV screen is blackened and the fluorescent lamp does not light up.	Power supply unit fuse blown off due to instantaneous overcurrent.	First remove the cause of overcurrent, then replace the fuse. 514-5036-10000 FUSE 6.4 φ × 30 10000mA 125V
PTV screen is all blue.	Defective connections in between each board.	Make sure of correct connections in between each board.
The color of image on PTV screen is incorrect.	Connector connections are defective.  Incorrect monitor adjustment.	Check to see if connector connections of RGB and SYNC are correct.  Make appropriate adjustments (see Sec. 13).
PTV screen has a color deviation.	Affected by the periphery, such as other machines, location building's steel frames, etc.	Make convergence adjustments (see Sec. 13).  Change installation direction/ position. Move the other machines which causes the problem.
No image is projected on the PTV screen.	Connector connection is incorrect.	Check connector connection inside the coin chute door. (see Sec. 6).
Sound is not emitted.	Sound volume adjustment is not correct.  Malfunctioning of sound BD and memory.	Adjust the SWITCH UNIT's sound adjustment volume (control) (see Sec. 8).  Perform SOUND TEST(see Sec. 8).
Control panel and pedal not operable satisfactorily.	V. R. position deviated, or V. R. malfunctioning.  ADJUST GEAR's engagement is not correct.	Adjust or replace the V. R. (see Sec. 9 & 10).  Adjust the engagement of ADJUST GEAR (see Sec. 9 & 10).
SHIFT LEVER doesn't operate satisfactorily.	Switch malfunctioning.	Replace the Switch (see Sec. 11).
Steering Wheel reaction strength is insufficient.	POWER ON CHECK not performed correctly.  V. R. position deviated, or V. R. malfunctioning.  Reaction mecha's secular change.	First turn the power off and then turn it back on again. Complete the POWER ON CHECK.  Adjust or replace the V. R. (see Sec. 9).  Change DRIVE BD DIP SW setting (see Sec. 8 & 17).
Fluorescent lamp doesn't light up.	Fluorescent lamp needs replacement.  No connector connection is made.	Replace the fluorescent lamp (see Sec. 14).  Check connector connection. (see Sec. 6).



Functions due to the activation of bimetal .  
To restore the function, wait for approximately one minute or longer until the bimetal cools off.

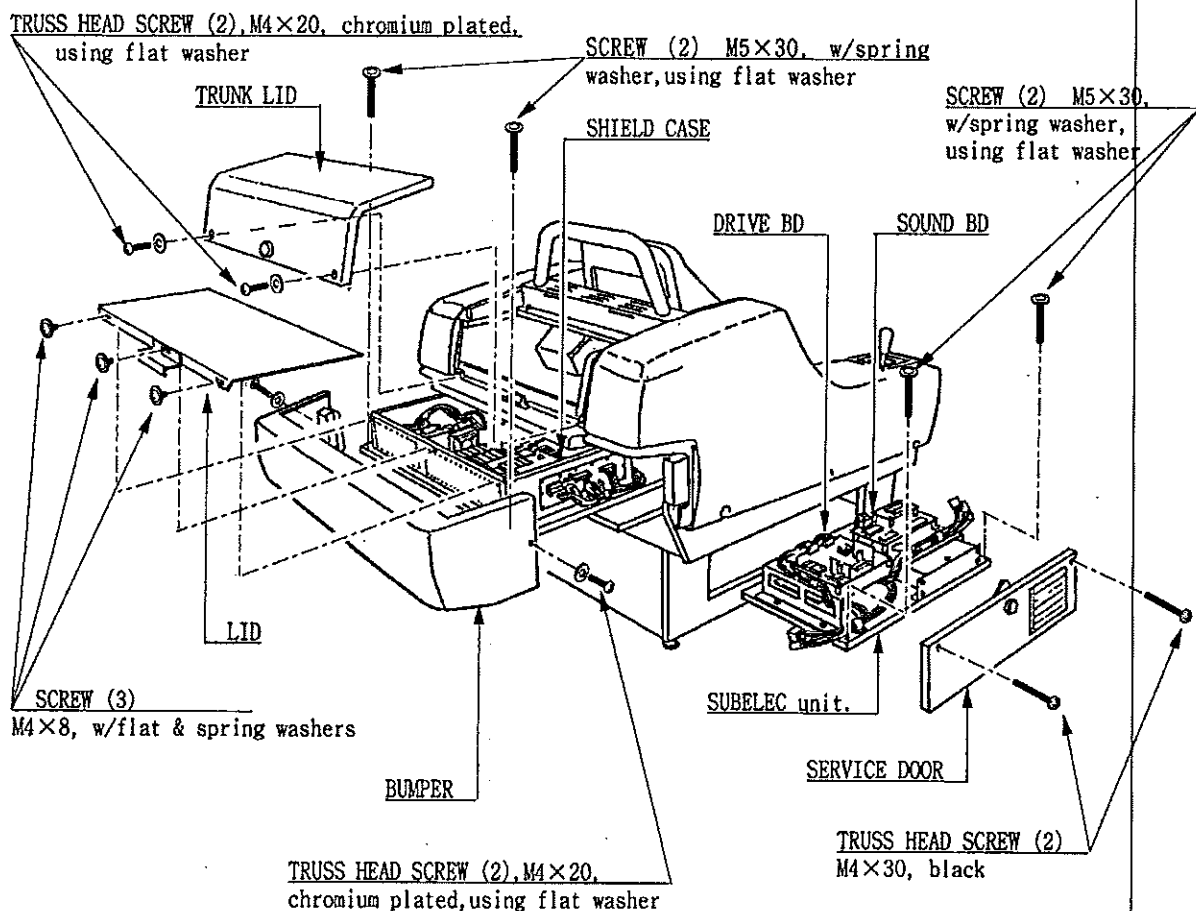


## 17. GAME BOARD

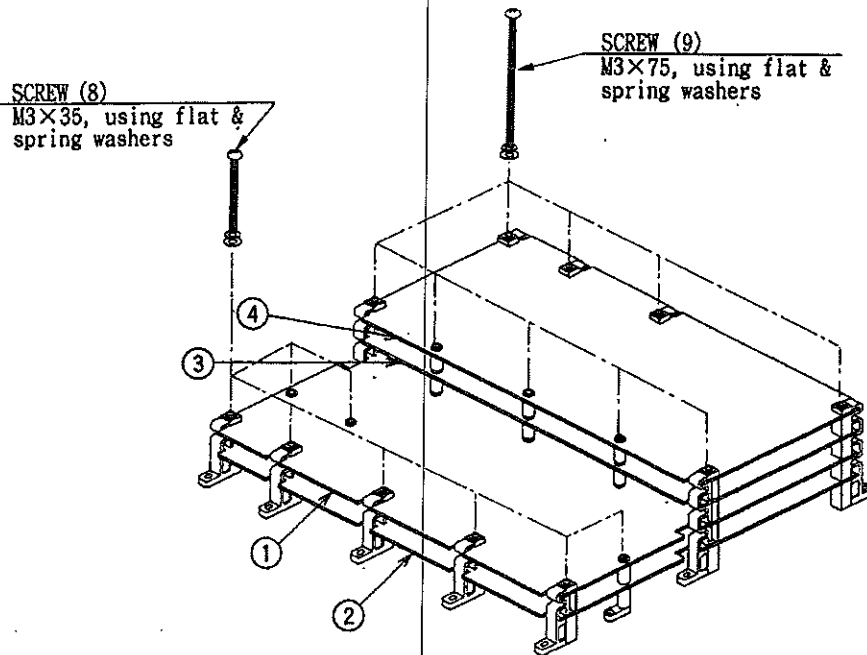
### 17-1 REMOVING THE BOARD

To replace the IC BD (such as Game BD, Drive BD, etc.), or to change DIP SW settings, take out the IC BD by using the following procedure:

- ① Turn the MAIN SW off.
- ② Unlock and take off the 2 screws to remove the trunk lid.
- ③ To remove the BUMPER, take off the 2 screws, one each on both sides and unfasten the 2 snap fasteners, one each on both sides from the inside of the rear cabi.
- ④ Disconnect all of the wiring connectors from the shield case in which the game BD and I/O BD are incorporated.
- ⑤ Pull out the base (on which the shield case is mounted) by taking off the 2 screws.
- ⑥ Take off the 3 screws and remove the case lid by causing it to slide.
- ⑦ Unlock and take off the 2 screws to remove the rear cabi's service door.
- ⑧ Disconnect all of the wiring connectors from the SUBELEC unit.
- ⑨ SUBELEC unit can be pulled out of the rear cabi by taking off the 2 screws which secure the SUBELEC unit base.



## 17-2 COMPOSITION OF GAME BOARD



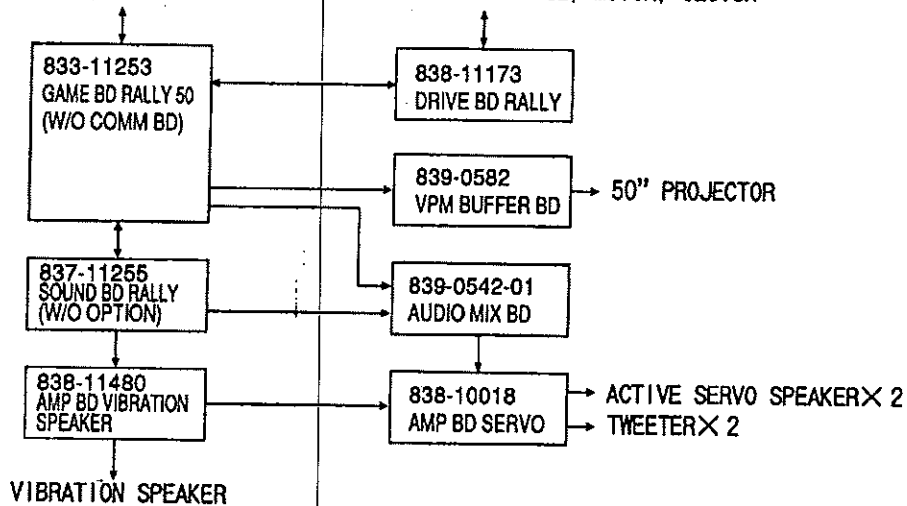
No.	PART No.	DESCRIPTION
1	837-10848-91	MODEL2 A-CRX CPU BD COM
	837-10848-01-91	MODEL2 A-CRX CPU BD COM
2	837-10849-01	MODEL2 A-CRX VIDEO BD COM
	837-10849-02	MODEL2 A-CRX VIDEO BD COM
3	834-11254	ROM BD RALLY 50
4	117-5273	DUMMY BRKT CRX

## 17-3 INPUT AND OUTPUT RELATIONS

### SEGA RALLY CHAMPIONSHIP

STEERING WHEEL, ACCELERATOR,  
BRAKE, VR BUTTON, START BUTTON,  
TEST BUTTON, SERVICE BUTTON,  
& COIN METER

STEERING WHEEL, MOTOR, CLUTCH





# 18. DESIGN RELATED PARTS

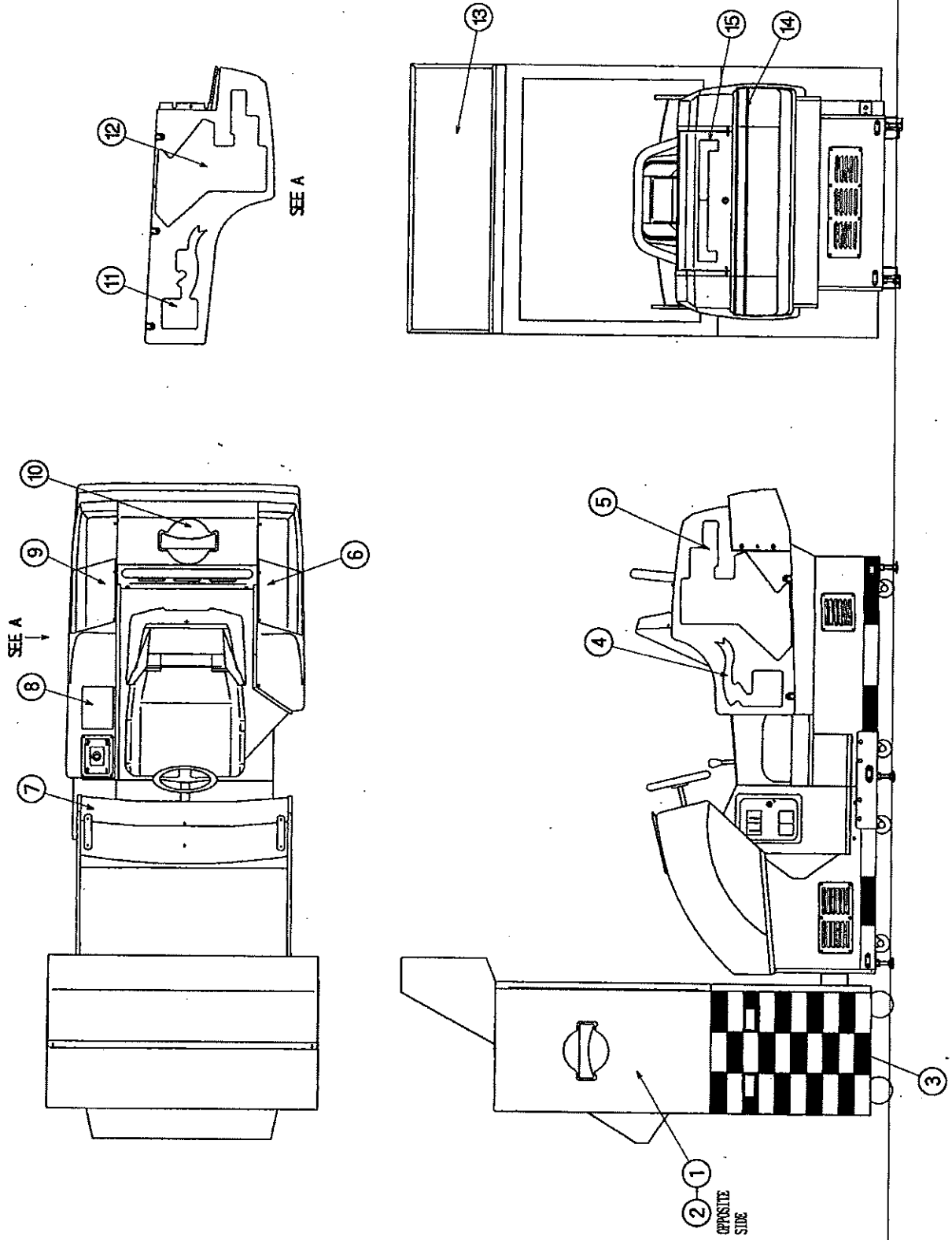


FIG. 18

No.	PART No.	DESCRIPTION
1	421-8680	STICKER SIDE TV R
2	421-8679	STICKER SIDE TV L
3	421-8758	STICKER SIDE TV LOWER
4	RAL-2103-A	STICKER LINE L
5	RAL-2102-C	STICKER CAR NUMBER L
6	RAL-2103-B	STICKER LINE L SIDE
7	421-8759	STICKER VISOR
8	422-0500-01	PLAY INSTR RAL ENG
9	RAL-2102-B	STICKER LINE R SIDE
10	RAL-2105-A	STICKER SEGA LOGO
11	RAL-2102-A	STICKER LINE R
12	RAL-2102-C	STICKER CAR NUMBER R
13	RAL-0561	BILLBOARD
14	RAL-2104-A	STICKER NUMBER PLATE
15	RAL-2105-B	STICKER TRUNK LOWER

## 19. COMMUNICATION PLAY

### 19-1 OUTLINE OF COMMUNICATIONS (LINKAGE) FUNCTION

By adding COMMUNICATIONS BOARDs used exclusively for the SEGA RALLY C.S., communications for 2P ~ 4P are possible.

There are two different communications kits available as follows. Purchase them as required.

- ① Kit which allows for communication between two units . (LIST-K687)
- ② Kit for adding one more unit (LIST-K687-01)

When linked, each machine has an ID number and the one with the ID number "1" will be the master unit and the others, slave units.

The ID numbers are to be set as per each unit's TEST MODE ( hereinafter described).

### 19-2 INSTALLATION PRECAUTIONS

When linking a number of machines, be sure to supply sufficient power for the corresponding number of machines. The per unit standard voltage/amperage is 100 ~ 120V/10A and 200 ~ 240V/5A.

Install the machines by referring to the following illustrations. Since the length of the communications cable's protection tube is 1.4 meters, the distances in between the machines will be approximately 0.3 meters.

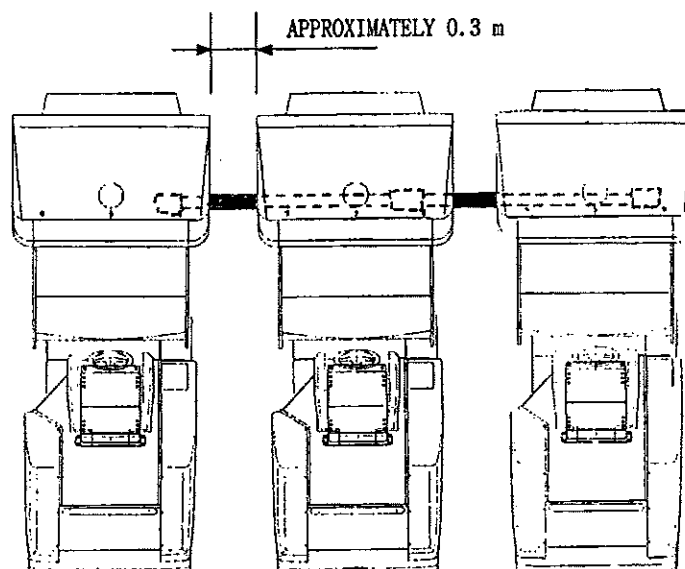


FIG. 19. 2

### 19-3 ASSEMBLING THE IC BOARD

Install the COMMUNICATIONS BOARD in the following procedure:

- ① Take out the SHIELD CASE and BASE by referring to 17-1 REMOVING THE BOARD, OWNER'S MANUAL.
- ② Take out the 3 screws and remove CASE LID by sliding it.
- ③ Take off 10 screws and remove the GAME BD from the SHIELD CASE.
- ④ Take off 9 screws M3 x 75 and BOARD CARRIERS and remove the ROM BD and DUMMY BD (FIG. 19.3a).

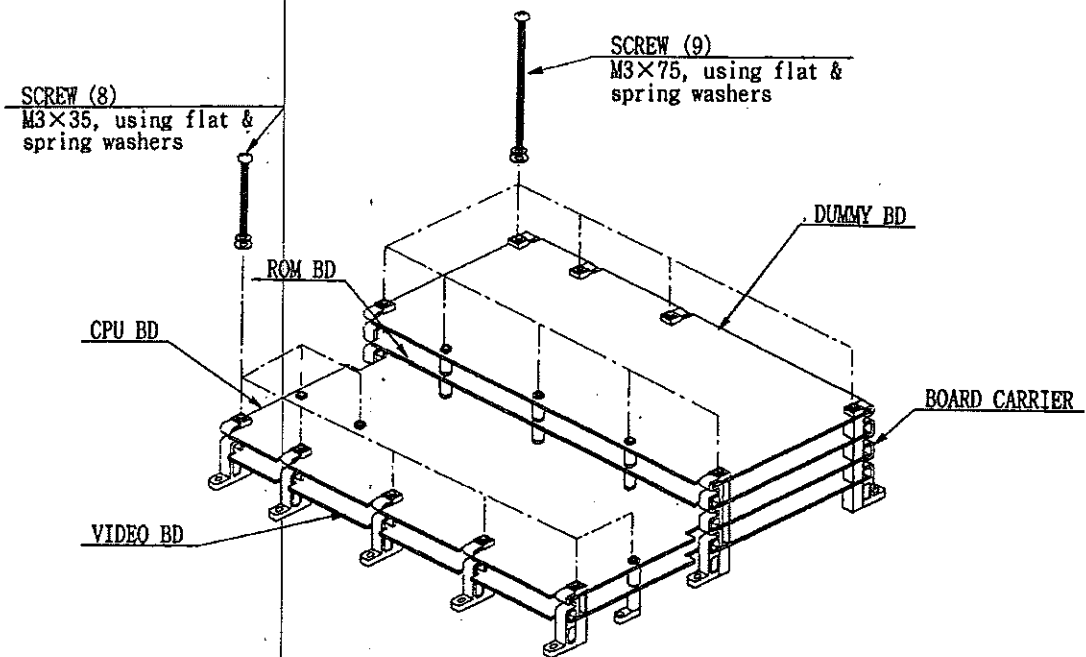


FIG. 19. 3a

- ⑤ Install sequentially in order of COMMUNICATION BD and ROM BD, then secure with SCREWS, BOARD CARRIERS and "L" LOCKS. (FIG. 19.3b)

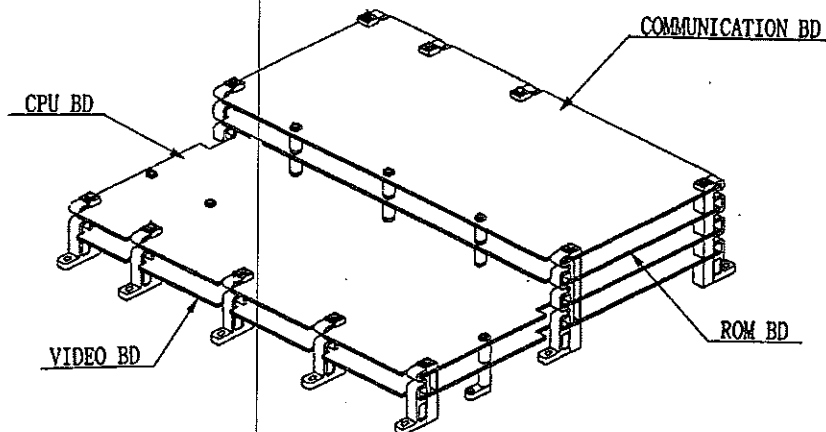
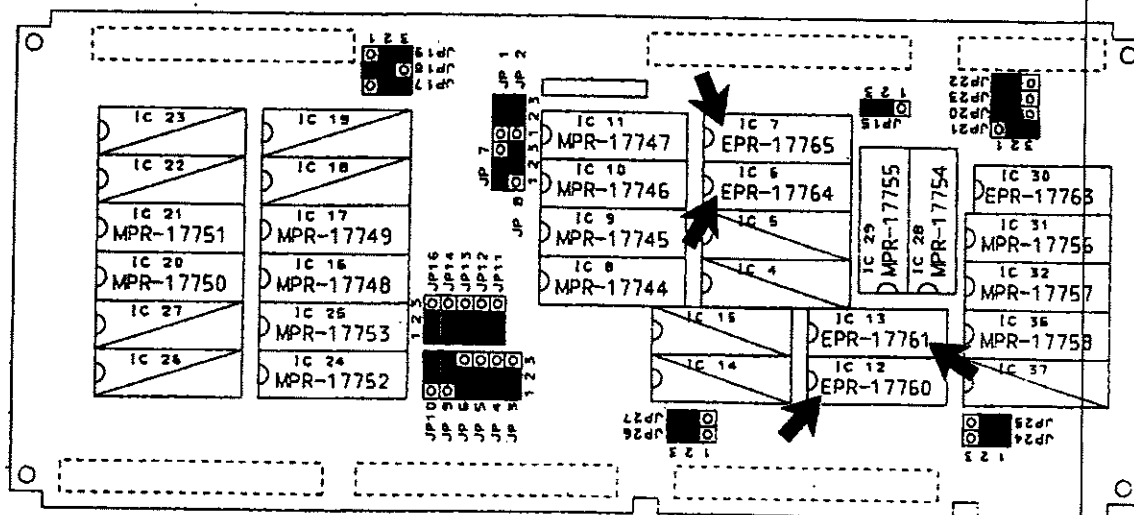
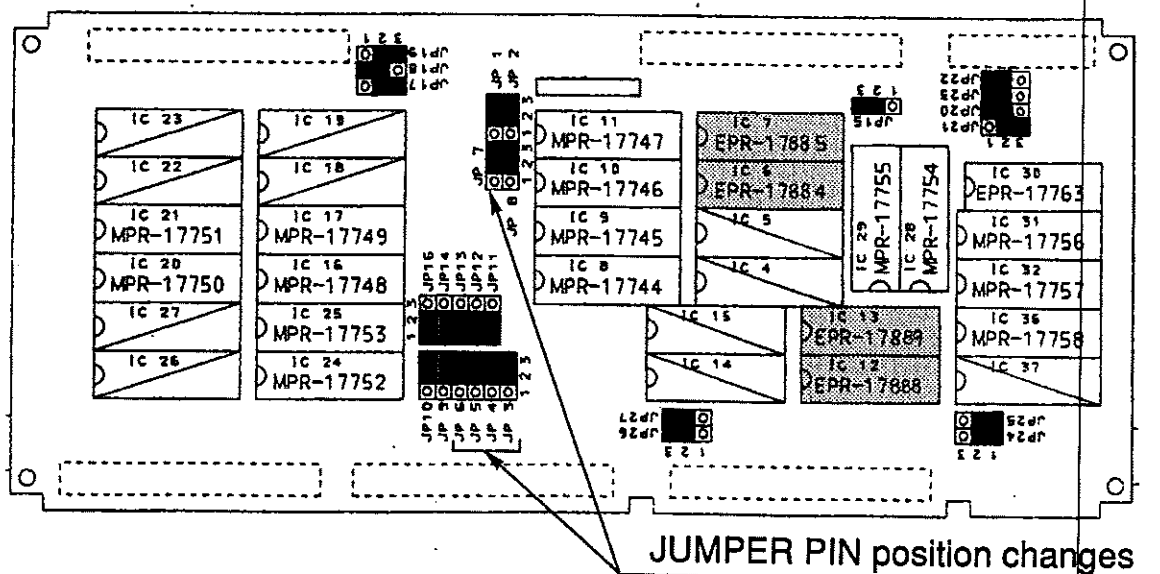


FIG. 19. 3b

- ⑥ Take out the ROMs positioned as shown in FIG. 19. 3c and change them with the corresponding ROMs which come with the kit. At this time, pay careful attention so as not to damage the BD, and also be very careful of the direction in which the ROM is positioned. Reinsert Jumper Pins JP3 ~ JP7 to Position 2-3 from 1-2 as shown.



BEFORE ROM CHANGE



JUMPER PIN position changes

AFTER ROM CHANGE

FIG. 19. 3c

- ⑦ Put the GAME BD in the SHIELD CASE and secure with screws.
- ⑧ Reinstall the SHIELD CASE in the cabinet by reversing the procedure used when removing it.

- ⑨ Insert the OPTICAL FIBER CONNECTORS as shown in FIG. 19.3d below.

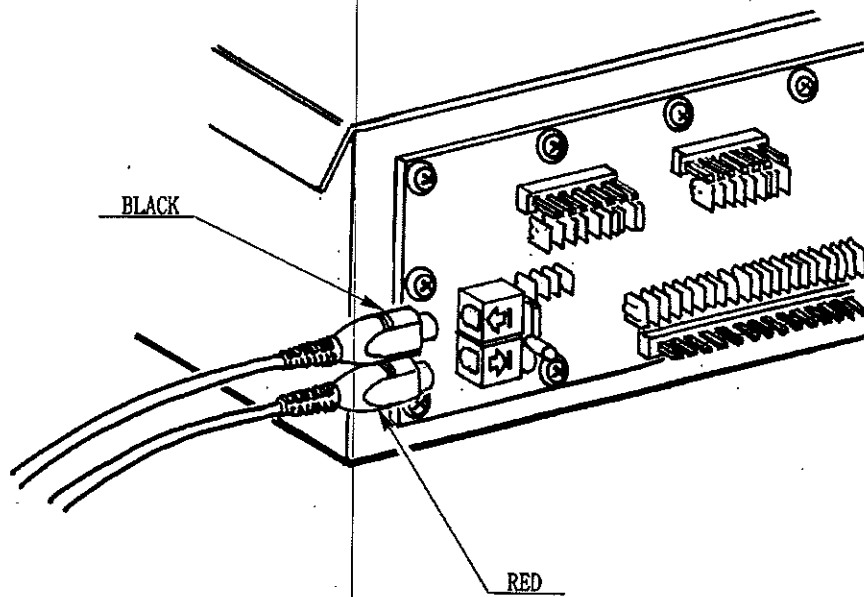


FIG. 19. 3d

## 19-4 CONNECTING THE COMMUNICATION CABLES

The PROTECT TUBE is used to link plural machine units and the communication cables are caused to pass through the PROTECT TUBE. Depending on the number of machine units to be linked, connect the communication cables (optic fiber cables) in the manner shown in Figures 19. 4d.

- ① The JOINT BOX CABI (to which the PROTECT TUBE is to be attached) has 2 holes, one each on both sides. Attach the RUBBER GROMMET ( $\phi$  26) to each exterior hole of the end cabinets to which the PROTECT TUBE is not to be attached.
- ② Attach CONNECTOR 22 to the both ends of FLEX TUBE and assemble the PROTECT TUBE. First, disassemble CONNECTOR 22 (FIG. 19. 4a).
- ③ First, pass the plastic nut through the flex tube. Otherwise, the following work can not be performed and therefore, be very careful of this point.
- ④ Install the holder and then the "INSERT" for both ends of the flex tube by turning them as in bolts and nuts (FIG. 19. 4b).
- ⑤ Tighten the plastic nut to the connector. At this time, pass the optic fiber through the flex tube ahead of time so as to allow the following work to be performed easily (FIG. 19. 4c).
- ⑥ Install the PROTECT TUBE into the JOINT BOX CABI hole. Insert the connector into the joint box cabi hole, put the seal washer through and fasten the metal nut (FIG. 19. 4e).

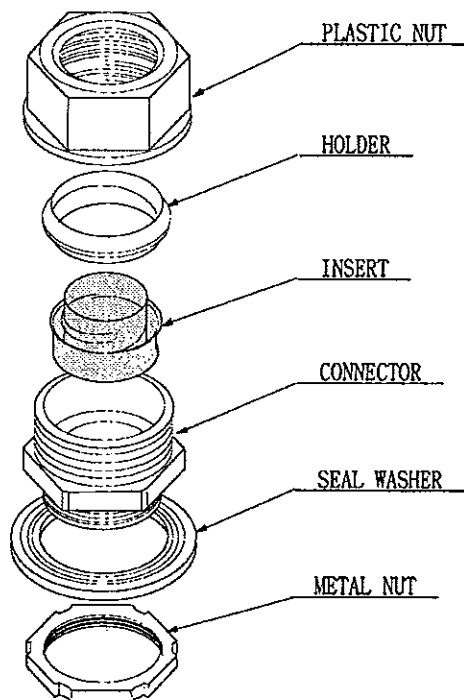


FIG. 19. 4a DISASSEMBLING CONNECTOR 22

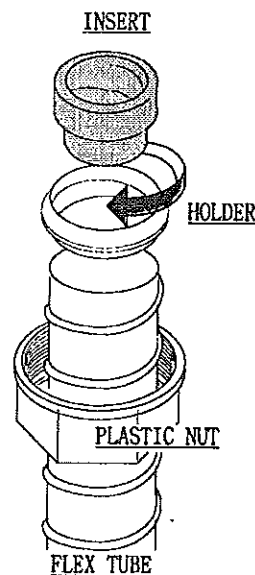


FIG. 19. 4b

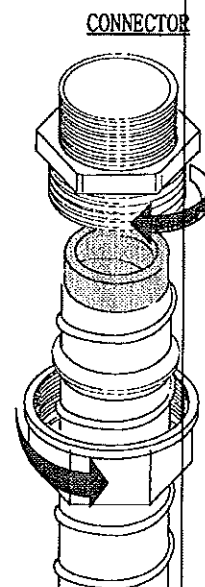
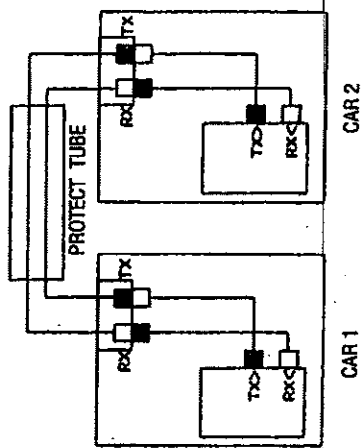
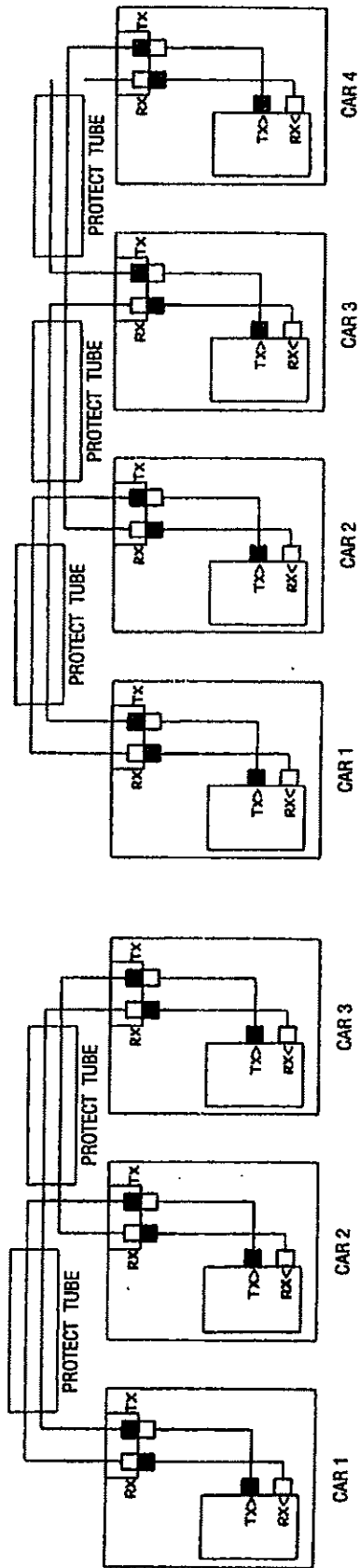


FIG. 19. 4c



2P LINK



3P LINK

4P LINK

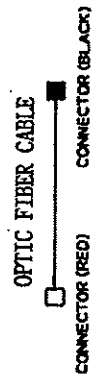


FIG. 19. 4d



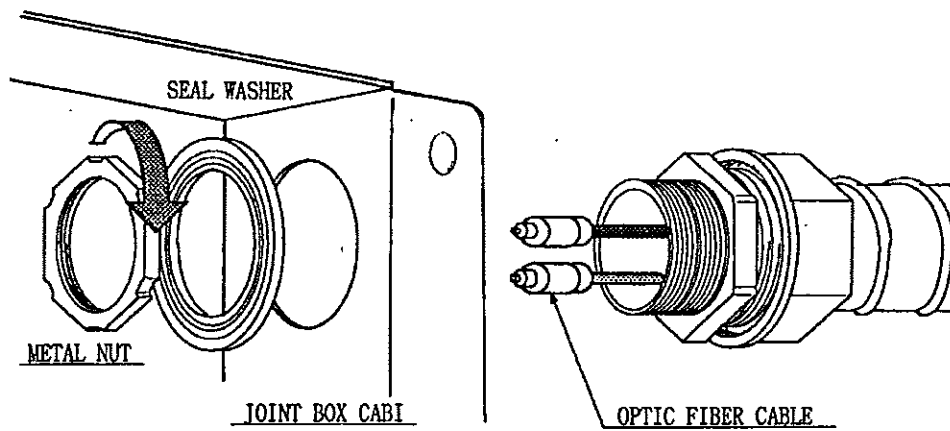


FIG. 19. 4e

- ⑦ Take off the 2 screws from the connector bracket to remove the connector cover. At this time, take out the connector bracket and make sure that the cabinet side optic fiber cables are connected.
- ⑧ Connect the communication cables. Depending on the machines to be linked, communication cable connections vary (FIG. 19. 4d). Secure the JOINT BOX CABI together with CONNECTOR BRACKET by using the 2 screws (FIG. 19. 4f).

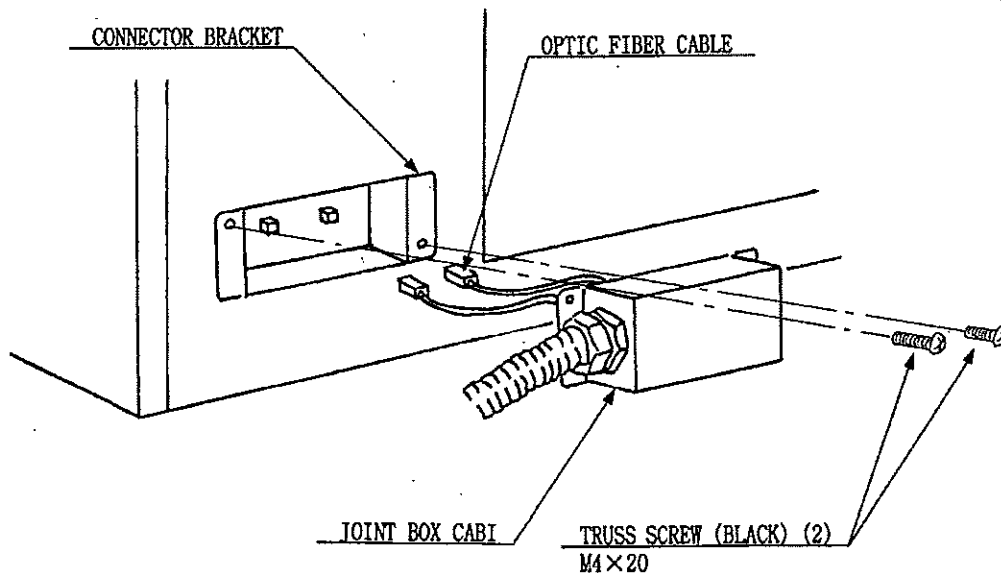


FIG. 19. 4f

## 19-5 SETTING COMMUNICATION PLAY AND GAME CONTENTS

Turn the power on and press the test switch to enter the test mode. Selecting the **GAME ASSIGNMENTS** causes the following screen to be displayed and allows settings such as game difficulty, etc., to be made. Make sure that each seat enters the test mode and settings for communication play are made.

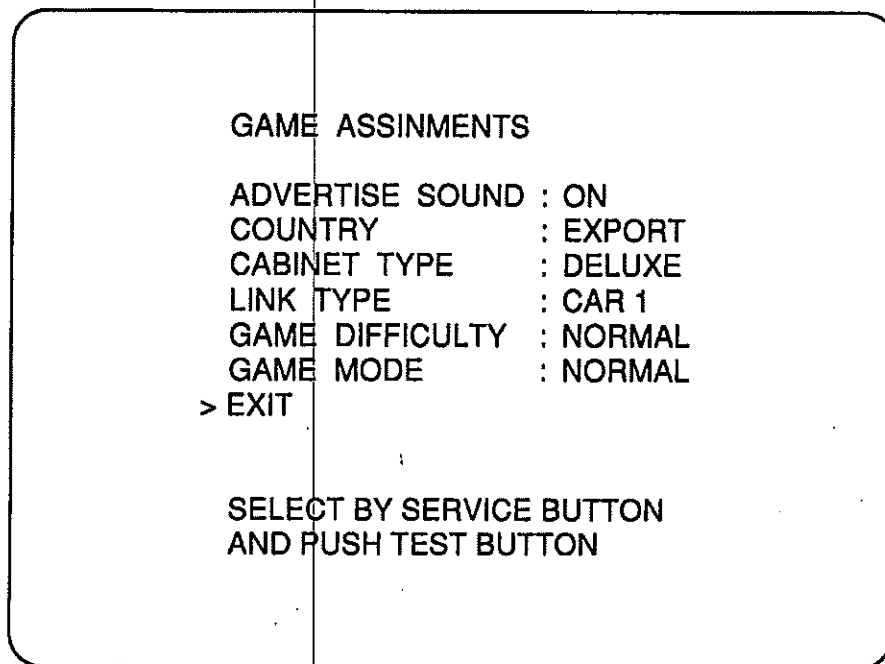


FIG. 19.5

- **ADVERTISE SOUND** Advertising sound during standby. Sound is produced with "ON," and no sound with "OFF."
- **COUNTRY** Message language (select USA for the U. S. A., and EXPORT for other countries.)
- **CABINET TYPE** Setting of cabinet. Set to "DELUXE" for this machine.
- **LINK TYPE** For communication (interactive) play, set the leftmost (facing the monitor screen) seat to "CAR 1," and the rest of the seats to "CAR 2~4" as applicable. Among the settings by the "CAR 1" seat, DIFFICULTY and GAME MODE directly apply to the seats. When machines are not interactively used (for communication), set all machines to "NOT LINK."
- **GAME DIFFICULTY** The game difficulty is classified into 4 different categories, i. e., EASY, NORMAL, HARD and HARDEST.
- **GAME MODE** Selection of laps. The following are the by-race laps:  
NORMAL, SHORT, LONG and LONGEST.

## SETTING CHANGE PROCEDURE

- ① Press the SERVICE BUTTON or VIEW CHANGE BUTTON to move the arrow (>) to the desired item.
- ② Choose the desired setting change item by using the TEST BUTTON or START BUTTON.
- ③ To return to the MENU mode, move the arrow to EXIT and press the TEST BUTTON or START BUTTON.

In the case of communication play, the game difficulty and the number of laps are set by the "CAR1" cabinet. The setting changes made by the "CAR1" cabinet apply to all the cabinets. Even if the setting is changed by the CAR2~4 machines, the setting will not be effective for the game.

Exiting from the test mode causes the unit to perform the network check automatically.

If the test results are satisfactory, approximately 30 seconds after all the machines entered the network check, the machines will be ready for starting the game. If, after an elapse of time exceeding one minute, the network check is not completed and the machine does not become ready for starting the game, turn all machines' power off and check optic fiber connections, etc.

During this time, all of the linked units will not allow the game to be played in normal status. Therefore, be sure not to enter the test mode if any one of the units is in play. On the other hand, if even one unit is in the mode, make sure that other machines are not in play.

## 19-6 ASSEMBLING THE NUMBER PLATES

- ① Secure the number plate to the roll bar with plate holders (FIG. 19. 6).
- ② Attach an applicable number to the number plate by using STICKER No.1 ~ 4, (No. 421-8781) in the manner so that the linked machines (starting from the left, facing the monitor) are numbered in the sequential order of 1, 2, 3, 4.

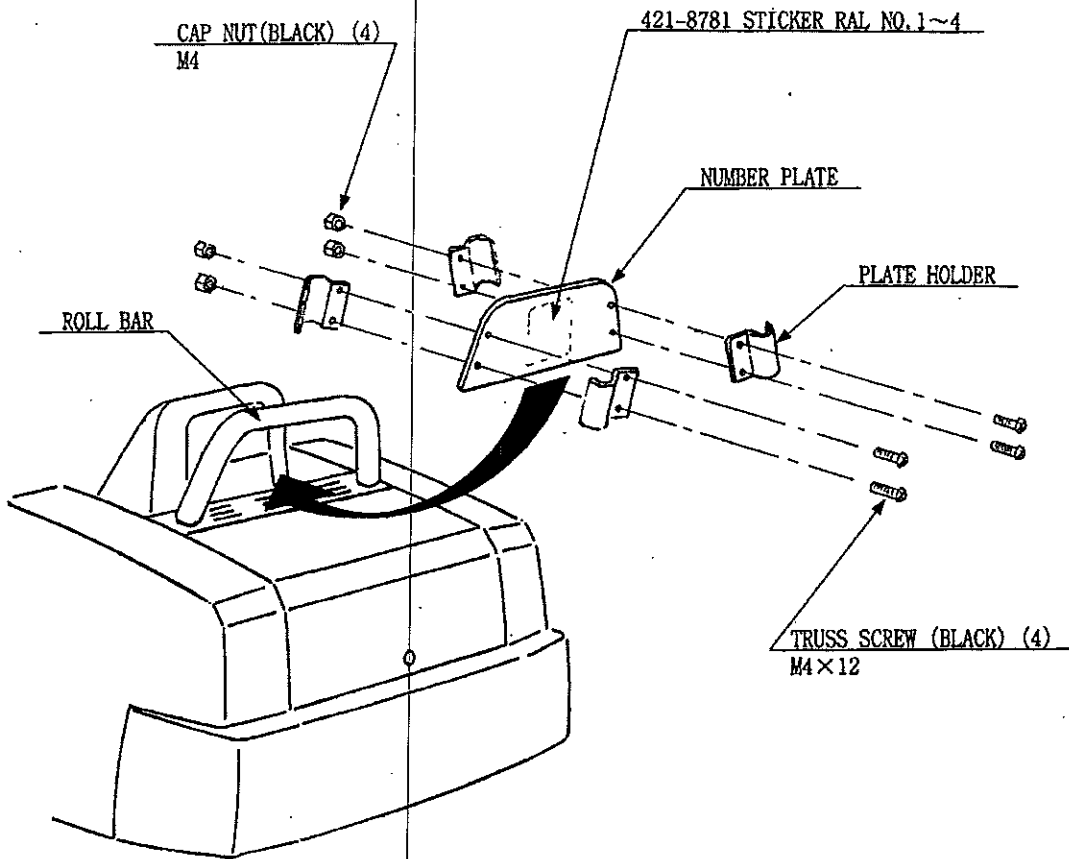
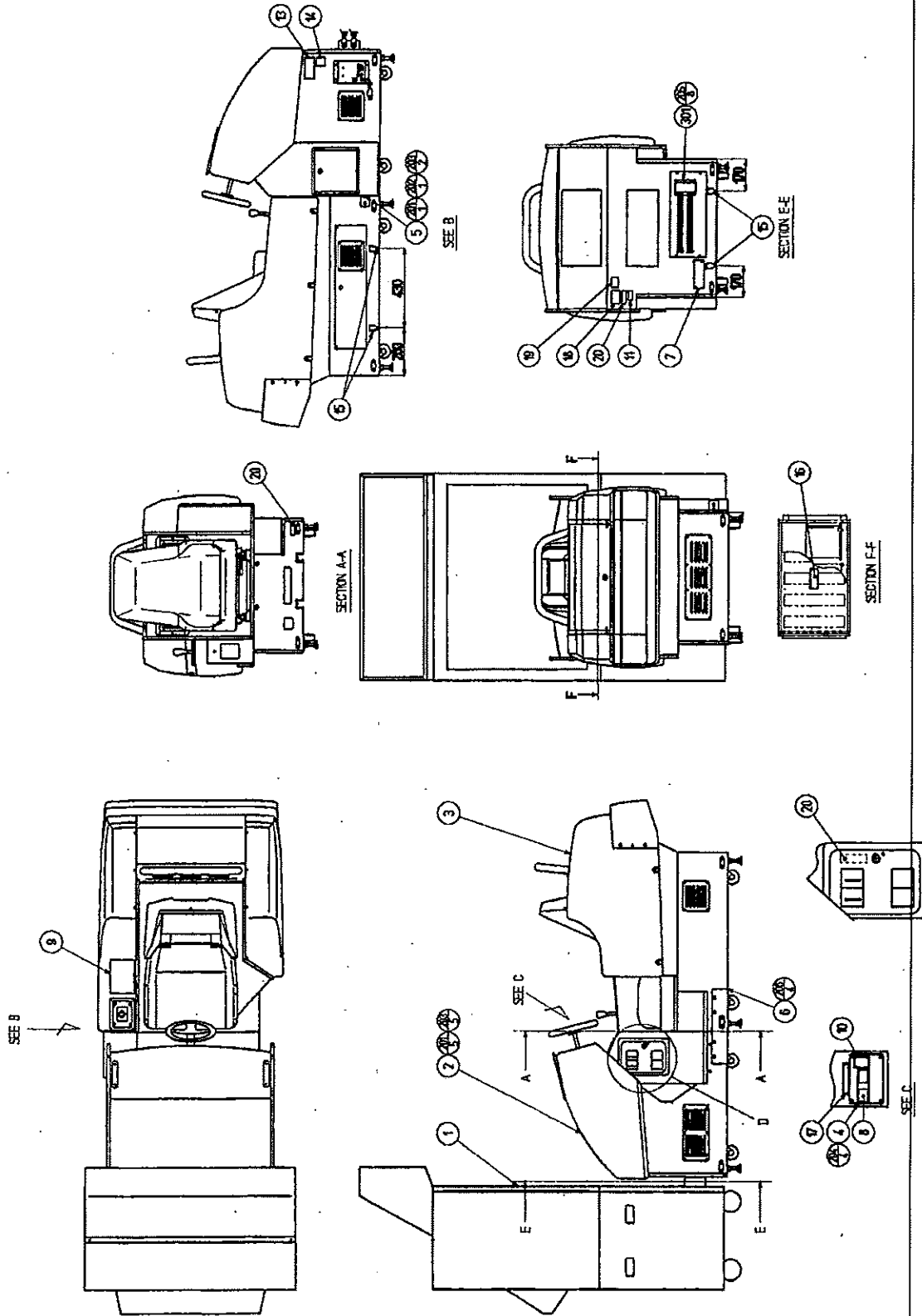


FIG. 19. 6

# 20. PARTS LIST

① TOP ASSY SEGA RALLY CHAMPIONSHIP 50

(D-1/2)



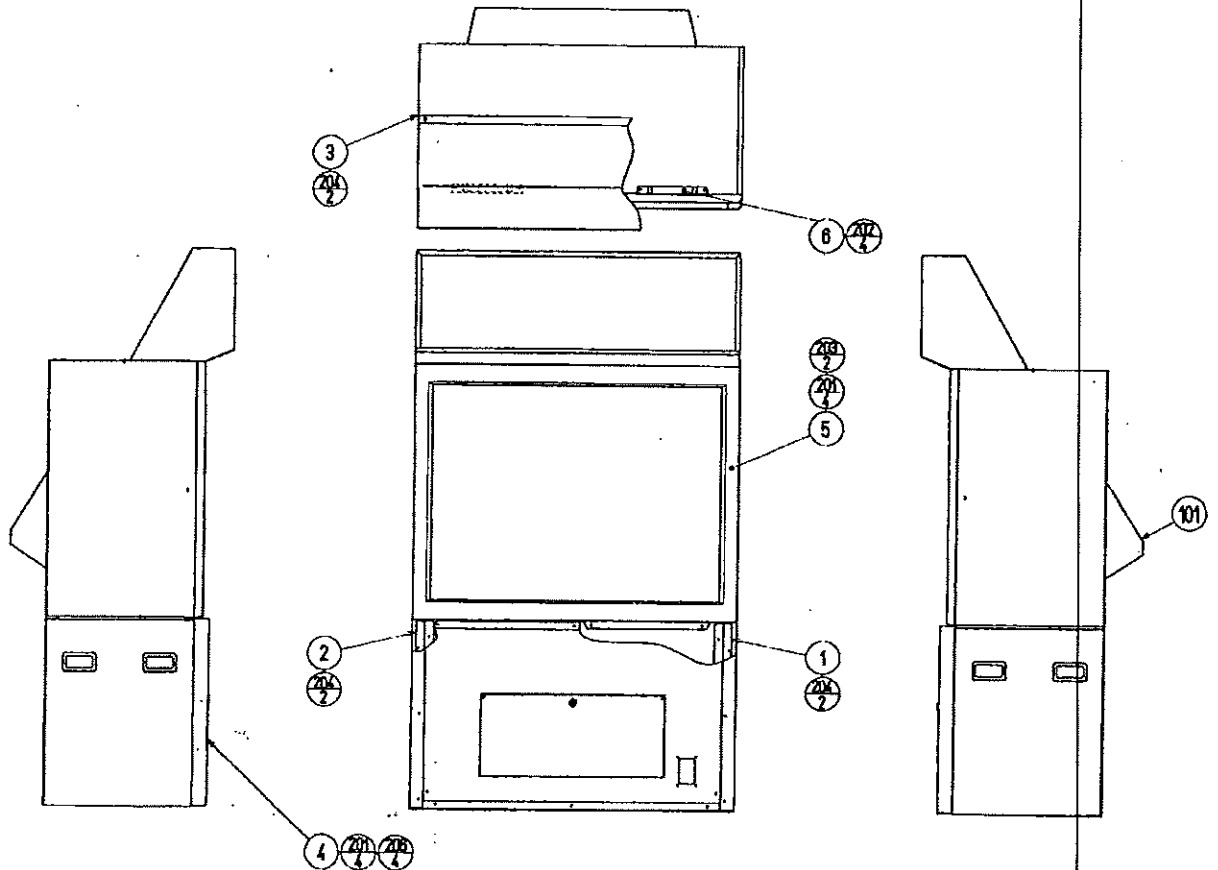
Details of PART D

① TOP ASSY SEGA RALLY CHAMPIONSHIP 50

(D-2/2)

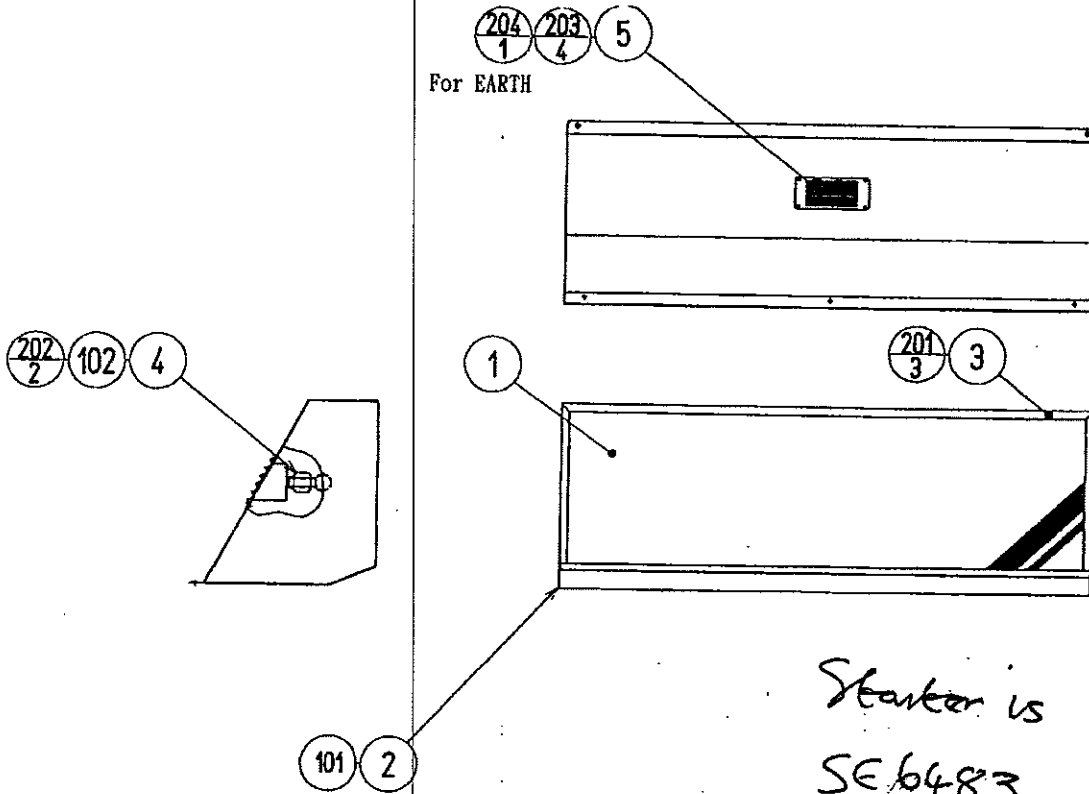
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	RAL-0500	ASSY PTV	
2	RAL-1000	ASSY FRONT CABINET	
3	RAL-2000	ASSY REAR CABINET	
4	DYN-0004-01	DENOMI PLATE ENG	
5	DYN-0001	JOINT BRACKET R	
6	RAL-0001	JOINT BRACKET L	
7	DYN-0003	CONNECTOR COVER	
8	421-7907~	DENOMI SH ~	
9	422-0500-01	PLAY INSTR SH RAL ENG	
10	421-5800-249	ORIGINAL SEAL SEGA RALLY CHAMPIONSHIP	
11	421-6594-91	STICKER CERTIFICATE	
15	421-7020	STICKER CAUTION FORK	
16	421-6709	STICKER SERVICE INSTR ENG	
18	421-7987	STICKER ELEC SPEC	OTHERS
	421-8408	STICKER ELEC SPEC FOR TAIWAN	TAIWAN
20	421-7988-91	STICKER SERIAL NUMBER	
21	421-8479-01	STICKER INSTR SUNLIGHT ENG	
22	SGM-4275	POLYETHYLENE COVER 950×1000×1000	
23	SGM-4276	AIR CAP COVER 1400×1100×1100	
/	RCR-0012	SHIPPING BRKT	
/	BVG-0026	SHIPPING BRKT	
/	000-P00525-W	M SCR PH W/FS M5×25	
201	030-000840-SB	HEX BLT W/S BLK M8×40	
202	030-000830-SB	HEX BLT W/S BLK M8×30	
203	068-852216-0B	FLT WSHR BLK 8.5-22×1.6	
204	000-T00408-0C	M SCR TH CRM M4×8	
205	000-T00420-0B	M SCR TH BLK M4×20	
206	FAS-300007	HEX BLT CRM W/FS M8×40	
301	600-6445-63	WIRE HARN CONNECT TUBE	
401	601-6604-70	CARTON BOX 70	
402	420-6150-01	OWNERS MANUAL SEGA RALLY C. S. 50 ENG	
403	SGM-2675	POLYETHYLENE BAG 240×370	
404	220-5381	KEY MASTER FOR 220-5380	
405	SGM-4111	KEY BAG	
408	540-0007-01	WRENCH FOR TAMP PRF SCR DUAL TYPE M5	
409	540-0009-01	WRENCH FOR TAMP PRF SCR DUAL TYPE M8	
410	220-5373	VOL CONT B-5K OHM	
	220-5484	VOL CONT B-5K OHM	
411	514-5036-10000	FUSE 6.4φ×30 10000mA 125V	
412	200-5297	REMOTE CONTROLLER H	
	200-5298	REMOTE CONTROLLER M	
413	601-6605-04	CARTON BOX 600×460×70	
414	509-5636	SW MICRO TYPE SS-5GL2T	
/	421-6690~	STICKER ~ V	

② ASSY PTV (RAL-0500) ✓



ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	DYN-0501	PANEL MOUNT BRKT L	
2	DYN-0502	PANEL MOUNT BRKT R	
3	RAL-0560	ASSY BILLBOARD	
4	EZT-0600	ASSY FRONT PANEL	
5	MGL-1150	ASSY MASK	
6	RAL-0501	MASK HOLDBR	
101	200-5315-RAL	ASSY PROJECTION DISPLAY RAL	
201	000-T00520-0B	M SCR TH BLK M5×20	
202	000-F00414	M SCR FH M4×14	
203	000-T00525-0C	M SCR TH CRM M5×25	
204	000-P00516-W	M SCR PH W/FS M5×16	
206	068-552016-0B	FLT WSHR BLK 5.5-20×1.6	

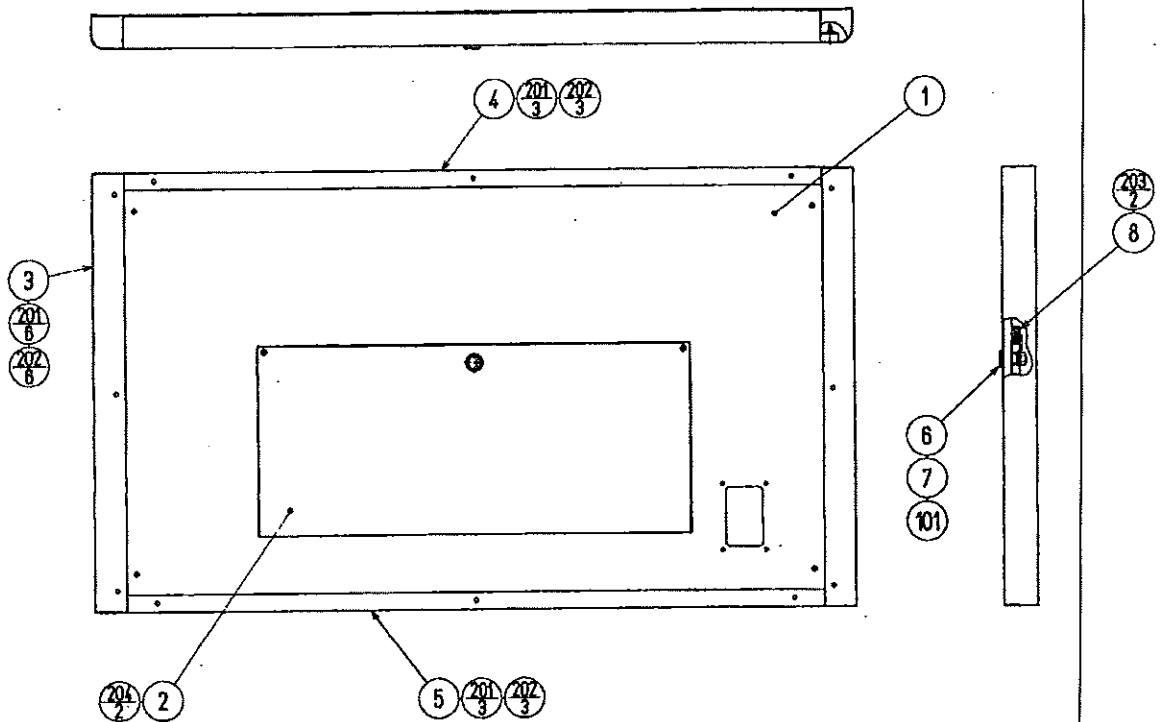
③ ASSY BILLBOARD (RAL-0560)



ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	RAL-0561	BILLBOARD	
2	RAL-0562	BILLBOARD BOX	
3	RAL-0563	BILLBOARD HOLDER	
4	421-7501-18	STICKER FL32W	
5	UP-1018	AIR VENT	
101	280-5009	CORD CLAMP $\phi$ 21	-01 also acceptable.
102	390-5538-32EX	ASSY FL32W EX W/CONN HIGH	
201	000-T00408-0C	M SCR TH CRM M4 $\times$ 8	
202	000-P00416-W	M SCR PH W/FS M4 $\times$ 16	
203	000-T00408-0B	M SCR TH BLK M4 $\times$ 8	
204	050-P00400	FLG NUT M4	For earth
301	600-6445-46	WIRE HARN BILLBOARD	

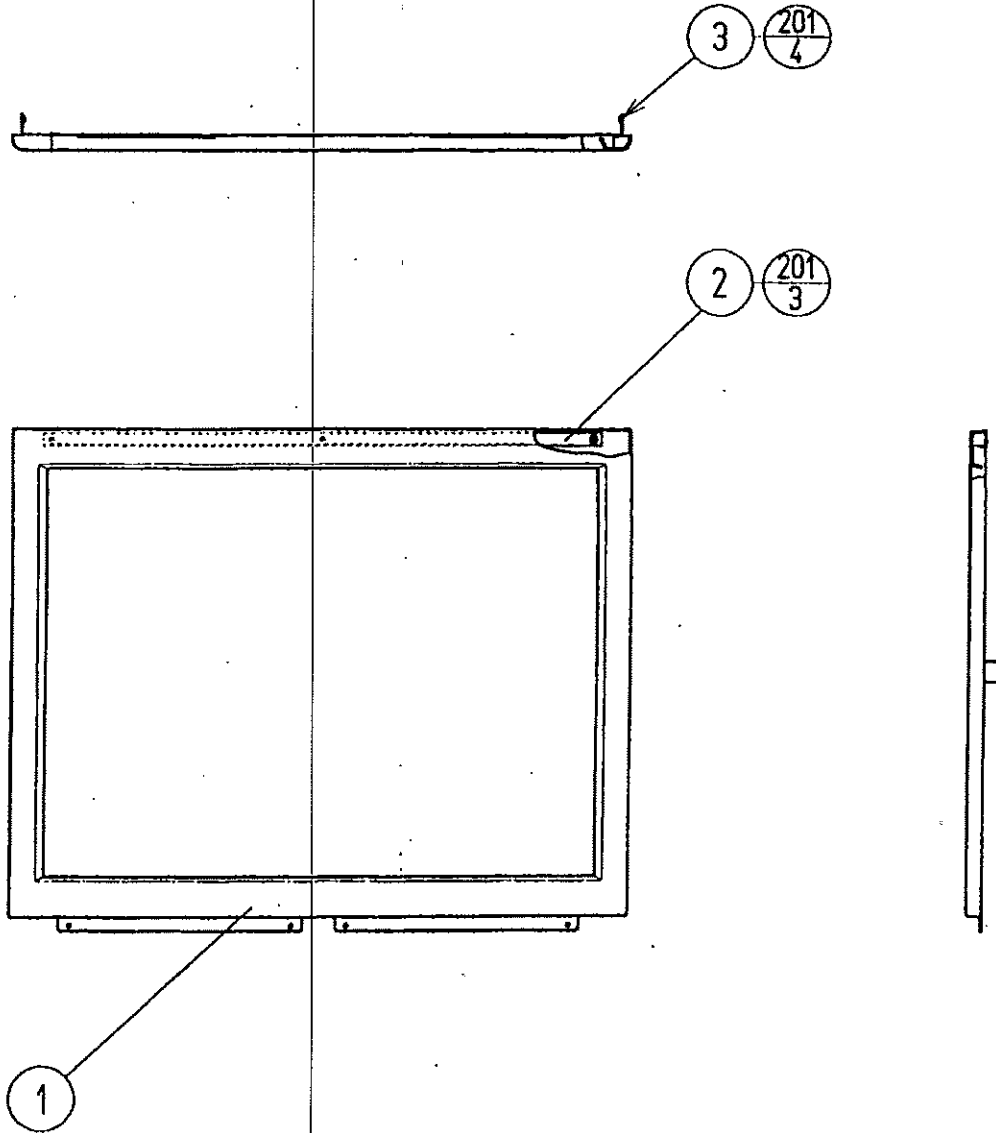


④ ASSY FRONT PANEL (EZT-0600)



ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	EZT-0601	FRONT PANBL	
2	EZT-0602	SERVICE DOOR	
3	EZT-0603	SIDE BRKT	
4	EZT-0604	BRKT UPPER	
5	EZT-0605	BRKT LOWER	
6	DP-1148X	LKG TNG	
7	117-0062	PLATE LOCK RETAINER	
8	117-5098	TNG RETAINER PLATE	
101	220-5380	MAG LOCK MASTBR W/O KEY	
201	068-552016	PLT WSHR 5. 5-20×1. 6	
202	050-F00500	PLG NUT M5	
203	011-T00312	TAP SCR TH 3×12	
204	000-T00430-0C	M SCR TH CRM M4×30	

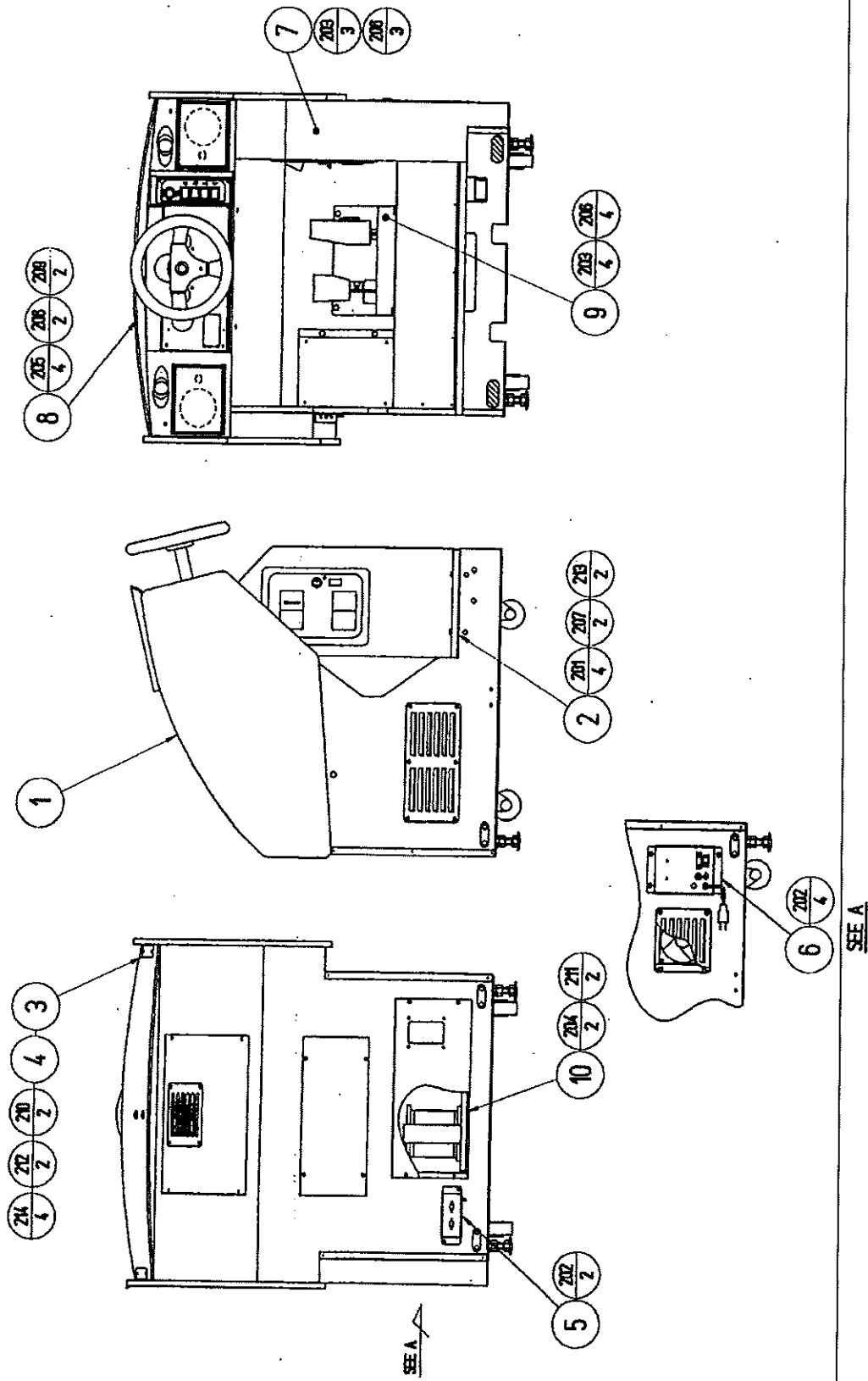
⑤ ASSY MASK (MGL-1150)



ITEM NO.	PART NO.	DESCRIPTION
1	MGL-1102	TV MASK
2	MGL-1151	SLIT PLATE
3	MGL-1152	MASK SIDE HOLDER
201	012-F00408-0B	TAP SCR FH BLK 4×8
202	000-F00410	M SCR FH M4×10

⑥ ASSY FRONT CABINET (RAL-1000)

(D-1/2)



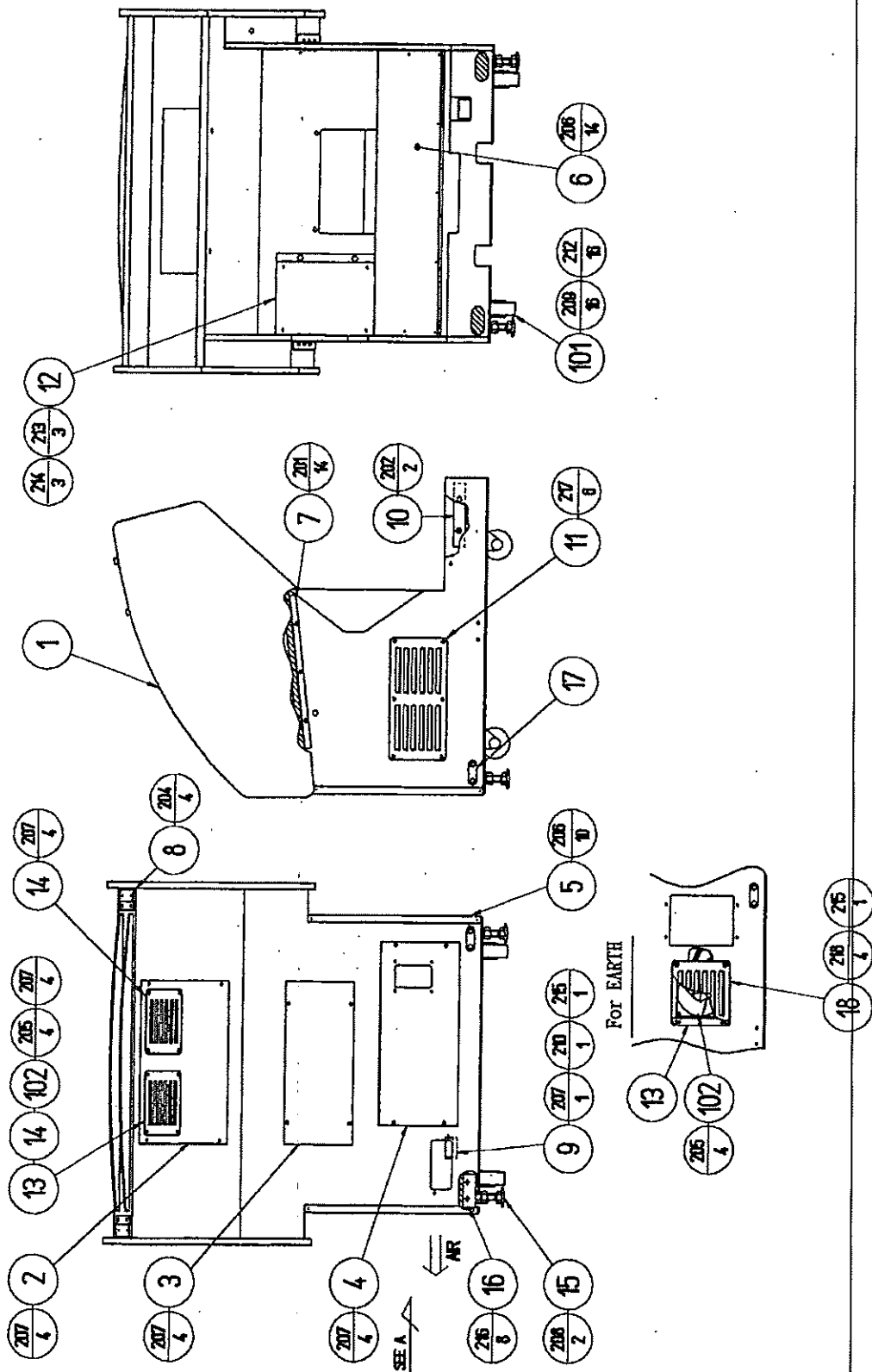
⑥ ASSY FRONT CABINET (RAL-1000)

(D-2/2)

ITBM NO.	PART NO.	DESCRIPTION	NOTE
1	RAL-1001	ASSY SUB CABI FRONT	
2	DYN-1020	STEP BOARD	
3	RAL-1007	VISOR *	
4	DYN-1023	VISOR HOLD PLATE	
5	DYN-1050	ASSY FIBER CONNECTOR	
6	EZT-1080	AC UNIT	
<del>7</del>	RAL-1100	ASSY COINCHUTE TOWBR	
<del>8</del>	RAL-1200	ASSY CONTROL PANBL	
<del>9</del>	DYN-1300	ASSY ACCEL & BRAKE	
<del>10</del>	RAL-4000	ASSY PWR SPLY	
201	030-000650-SB	HEX BLT W/S BLK M6×50	
202	000-T00420-OB	M SCR TH BLK M4×20	
203	030-000830-SB	HEX BLT W/S BLK M8×30	
204	032-000530	WING BLT M5×30	
205	000-T00630-OB	M SCR TH BLK M6×30	
206	060-F00800-OB	FLT WSHR BLK M8	
207	068-652016-OB	FLT WSHR BLK 6.5-20×1.6	
208	SLC-0006	FLAT WASHER 8.4-25×2	
209	008-B00830-OB	TMP PRF SCR BH BLK M8×30	
210	068-441616-OB	FLT WSHR BLK 4.4-16×1.6	
211	068-552016	FLT WSHR 5.5-20×1.6	
212	000-T00430-OB	M SCR TH BLK M4×30	
213	060-F00600-OB	FLT WSHR BLK M6	
214	000-T00412-OB	M SCR TH BLK M4×12	

⑦ ASSY SUB CABI FRONT (RAL-1001)

(D-1/2)



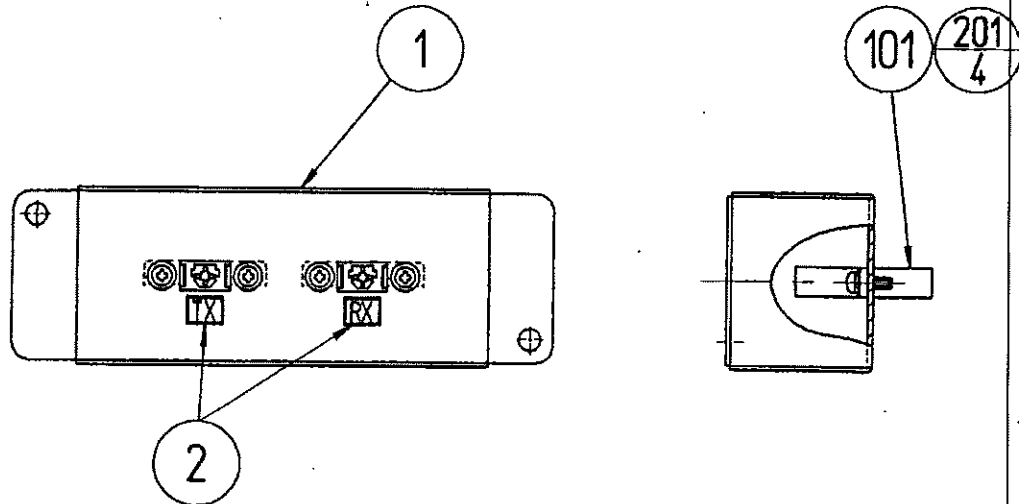
SEE A For EARTH

⑦ ASSY SUB CABI FRONT (RAL-1001)

(D-2/2)

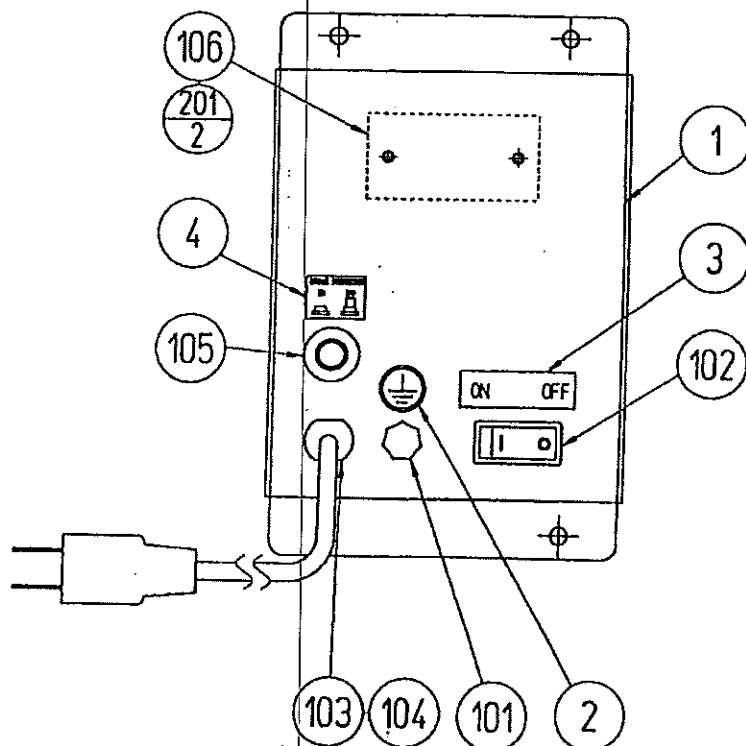
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	RAL-1002	WOODEN FRONT CABINET	
2	RAL-1003	FRONT LID UPPER	
3	RAL-1004	FRONT LID	
4	RAL-1005	FRONT LID LOWER	
5	DYN-1006	FRONT EDGE GUARD	
6	DYN-1007	STBP GUARD	
7	DYN-1008	SIDE SUPPORT BRKT	
8	DYN-1009	VISOR BRKT	
9	DYN-1010	OPT FIBER GUIDE	
10	DYN-1011	JOINT SUPPORT PLATE	
11	RAL-1006	TWIN AIR VENT	
12	DYN-1024	FOOT REST	
13	HN-1042X	FAN BRKT	
14	BVG-2064	AIR VENT WHITE	
15	601-5699X	LEG ADJUSTER BOLT M16×75	
16	ARC-1006	LEG BRACKET	
17	117-5191	PLATE	
18	RAL-2205	AIR VENT	
101	601-6224	CASTER $\phi$ 75	
<del>102</del>	260-0011-02	AXIAL FLOW FAN AC100V 50-60Hz	
103	280-5009	CORD CLAMP $\phi$ 21	-01 also acceptable.
104	601-0460	PLASTIC TIE BELT 100MM	
201	000-T00525-0B	M SCR TH BLK M5×25	
202	000-P00525-W	M SCR PH W/FS M5×25	
204	000-T00420-0B	M SCR TH BLK M4×20	
205	000-P00312-W	M SCR PH W/FS M3×12	
206	079-000008	SCR NAIL THH STNLS 1.5×16	
207	000-T00430-0B	M SCR TH BLK M4×30	
208	050-H01600	HEX NUT M16	
209	060-F00600	FLT WSHR M6	
210	011-T03512	TAP SCR TH 3.5×12	
211	011-F00310	TAP SCR FH 3×10	
212	030-000625-SB	HEX BLT W/S BLK M6×25	
213	030-000830-SB	HEX BLT W/S BLK M8×30	
214	060-F00800-0B	FLT WSHR BLK M8	
215	050-F00400	FLG NUT M4	
216	030-000630-SC	HEX BLT W/S CRM M6×30	
217	000-T00420-0C	M SCR TH CRM M4×20	
218	000-T00430-0C	M SCR TH CRM M4×30	
301	600-6363-13	WIRE HARN FRONT CABI EXT 2	
302	600-6363-16	WIRE HARN FRONT CABI EXT 5	
303	600-6363-17	WIRE HARN FRONT CABI EXT 6	
304	600-6363-61	WIRE HARN AC FAN A	
306	600-6419-33	WIRE HARN SPEAKBR F	
308	600-6445-17	WIRE HARN EXT HANDLE F	
309	600-6445-48	WIRE HARN EXT AC F	
310	600-6445-69	WIRE HARN BARTH FRONT CABI	
311	600-6445-70	WIRE HARN BARTH FRONT CABI 2	
312	600-6445-71	WIRE HARN EXT AC FAN C	
313	600-6445-72	WIRE HARN AC FAN C	

⑧ ASSY FIBER CONNECTOR (DYN-1050)



ITEM NO.	PART NO.	DESCRIPTION
1	DYN-1051	OPT CONNECTOR BRKT
2	421-7515	STICKER FIBER CABLE TX/RX
101	211-5479	CONN OPT JOINT
201	000-P00312-W	M SCR PH W/FS M3×12

⑨ AC UNIT (EZT-1080)

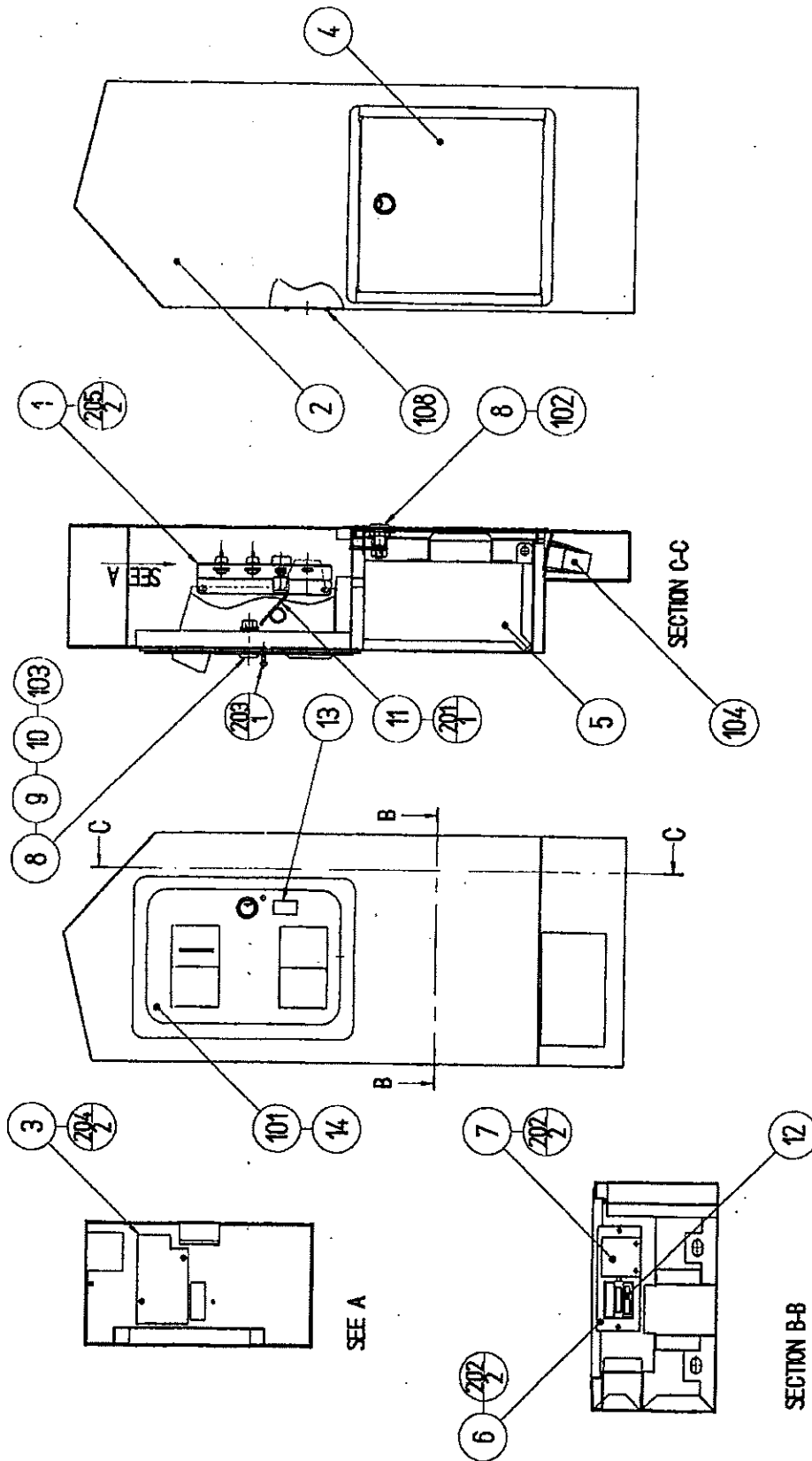


ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	DYN-1081X	AC UNIT BRKT	
2	421-8202	STICKER EARTH MARK	
3	421-6592	STICKER ON-OFF	
4	421-7468-01	STICKER C. P. W/PIC	
101	280-0417	TERMINAL BINDING POST BLACK	
102	509-5453-H-B	SW ROCKER J8 H-B (MATSUSHITA)	
103	280-5134-6N34	BUSHING STRAIN RELIEF 6N34	TAIWAN
	280-5134-6N4	BUSHING STRAIN RELIEF 6N4	OTHERS
104	600-5843-25	CA & PLUG ASSY 15A W/-F- L=2.5M	TAIWAN
	600-5007	CABLE & PLUG ASSY W/EARTH	OTHERS
105	512-5033-15000	CIRCUIT PROTECTOR 15000mA	AC100~120V AREA
	512-5033-8000	CIRCUIT PROTECTOR 8000mA (NRF-8A)	AC220~240V AREA
106	117-5225	TERMINAL PLATE 3P 20A	
107	601-0460	PLASTIC TIE BELT 100MM	
108	280-5009	CORD CLAMP $\phi$ 21	
109	209-0032	CONN CLOSED END	-01 also acceptable. LARGE TYPE
201	000-P00412-S	M SCR PH W/S M4 $\times$ 12	
301	600-6363-83	WIRE HARN BARTH AC UNIT	
302	600-6419-01	WIRE HARN AC CABLE & C. P.	
303	600-6419-02	WIRE HARN AC SW	
304	600-6419-03	WIRE HARN AC UNIT	
/	211-0167	TBRM LUG RND ID 5	



⑩ ASSY COINCHUTE TOWER (RAL-1100)

D-1/2)

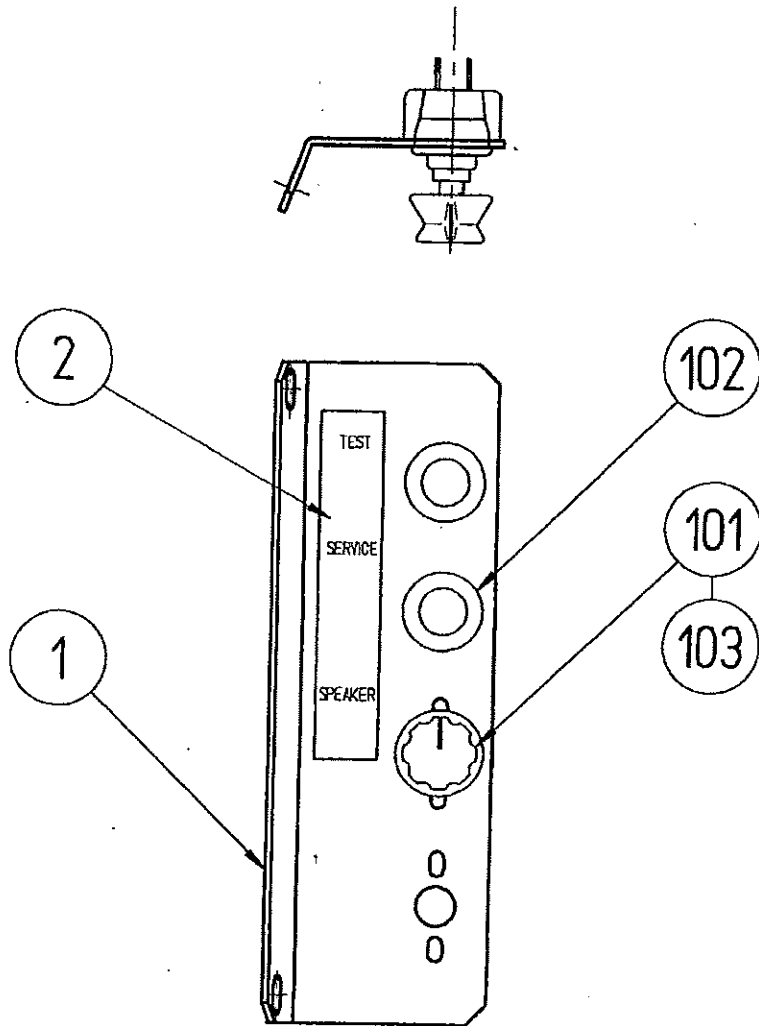


⑩ ASSY COINCHUTE TOWER (RAL-1100)

(D-2/2)

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	RAL-1150	SW UNIT	
<del>2</del> ?	DYN-1101	COINCHUTE TOWER	
3	DYN-1105	CHUTE PLATE DOUBLE	OTHERS
	DYN-1106	CHUTE PLATE MARS	FOR MARS
4	DYN-1103	CASH BOX DOOR	
5	DYN-1104	CASH BOX	
6	GLC-0502	COIN METER PLATE	
7	SLC-0119	COIN METER LID	FOR MARS
		NOT USED	OTHERS
8	DP-1167	TNG LKG	FOR MARS
9	HN-1050	SPACER RING	OTHERS
		NOT USED	FOR MARS
11	109-0045-91	KEY HOLDER	OTHERS
		NOT USED	FOR MARS
12	421-6591-01	STICKER COIN METER	OTHERS
14	421-7501-02	STICKER 6.3V 0.15A	FOR MARS
		NOT USED	
101	220-5231~	ASSY COIN CHUTE DOOR~	OTHERS
	220-5334	SINGLE MINI DOOR FRAME MARS	FOR MARS
102	220-5046-91	MAGNETIC LOCK W/KBYS	
103	220-5380	MAG LOCK MASTER W/O KEY	OTHERS
		NOT USED	FOR MARS
104	220-5412	MAG CNTR W/CONN	OTHERS
	220-5217-01	MAG CNTR 6DIG DC 12V	FOR MARS
105	280-5009	CORD CLAMP $\phi$ 21	
106	310-5029-F20	SUMITUBE F F20MM	$\phi$ 4
107	601-0460	PLASTIC TIE BELT 100MM	
108	601-5525-157	BUSH 1.2t	
201	000-P00306-W	M SCR PH W/FS M3 $\times$ 6	
202	000-P00412-W	M SCR PH W/FS M4 $\times$ 12	
204	010-P00408-F	S-TITE SCR PH W/F M4 $\times$ 8	
205	050-P00400	FLG NUT M4	
301	600-6445-61-91	WIRE HARN COIN CHUTE EXT 1	
302	600-6363-54-91	WIRE HARN COIN CHUTE EXT 2	
303	600-6363-72	WIRE HARN COIN SW	OTHERS
	600-6363-92	WIRE HARN MARS	FOR MARS
304	600-6363-86	WIRE HARN BARTH COIN CHUTE	
305	600-6363-91	WIRE HARN COIN CHUTE EXT 3	
/	220-5412-01	MAG CNTR W/CONN BLACK	OTHERS

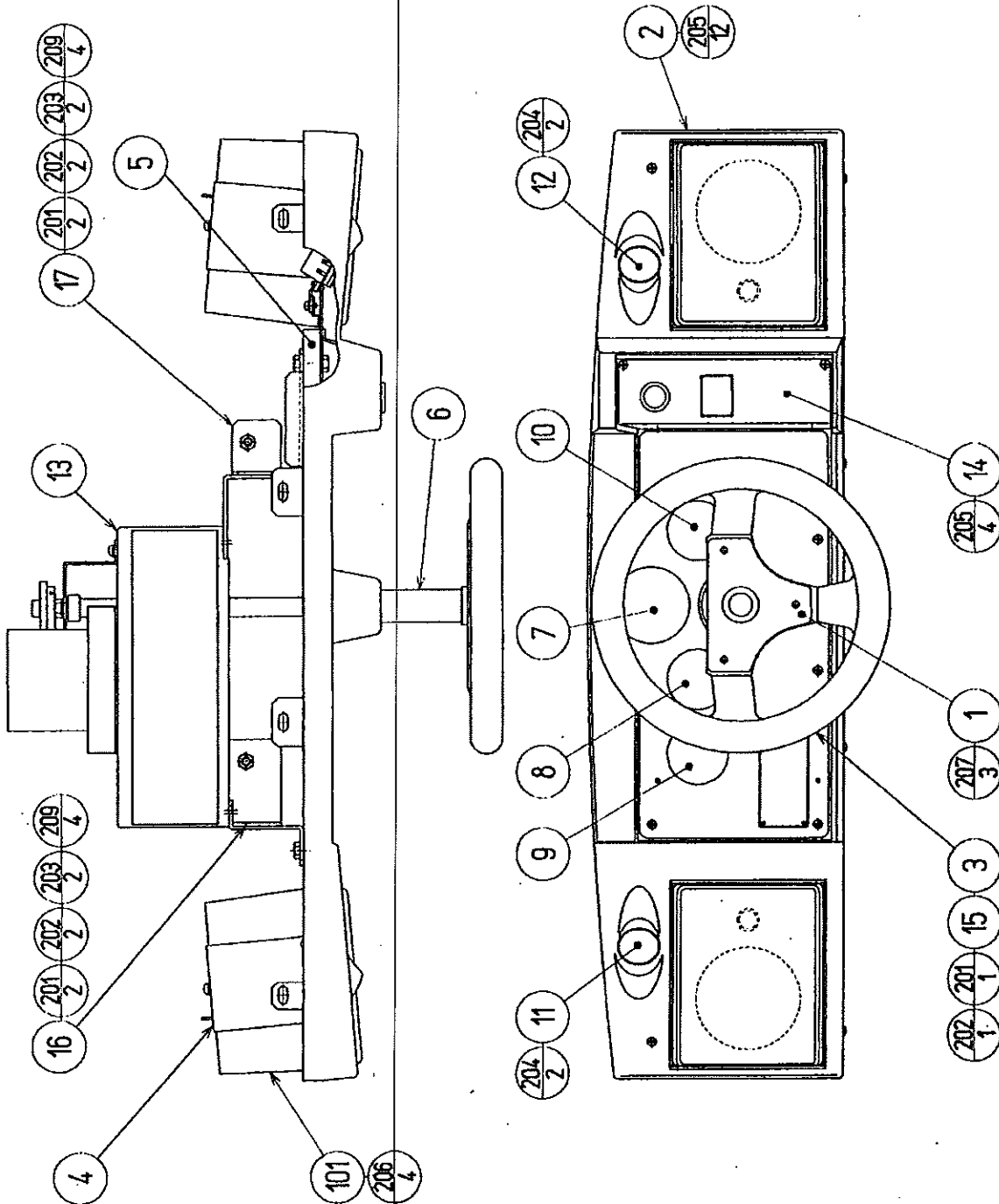
⑪ SW UNIT (RAL-1150)



ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	DYN-1151	SW BRACKET	
2	421-8753	STICKBR SW UNIT RAL	
101	220-5179	VOL CONT B-5K OHM	
102	509-5028	SW PB 1M	
103	601-0042	KNOB 22mm	
104	310-5029-F20	SUMITUBE F F20MM	
105	601-0460	PLASTIC TIE BELT 100MM	φ 4
301	600-6445-67	WIRE HARN SOUND VOL	
302	600-6363-71	WIRE HARN SW UNIT	

⑫ ASSY CONTROL PANEL (RAL-1200)

(D-1/2)

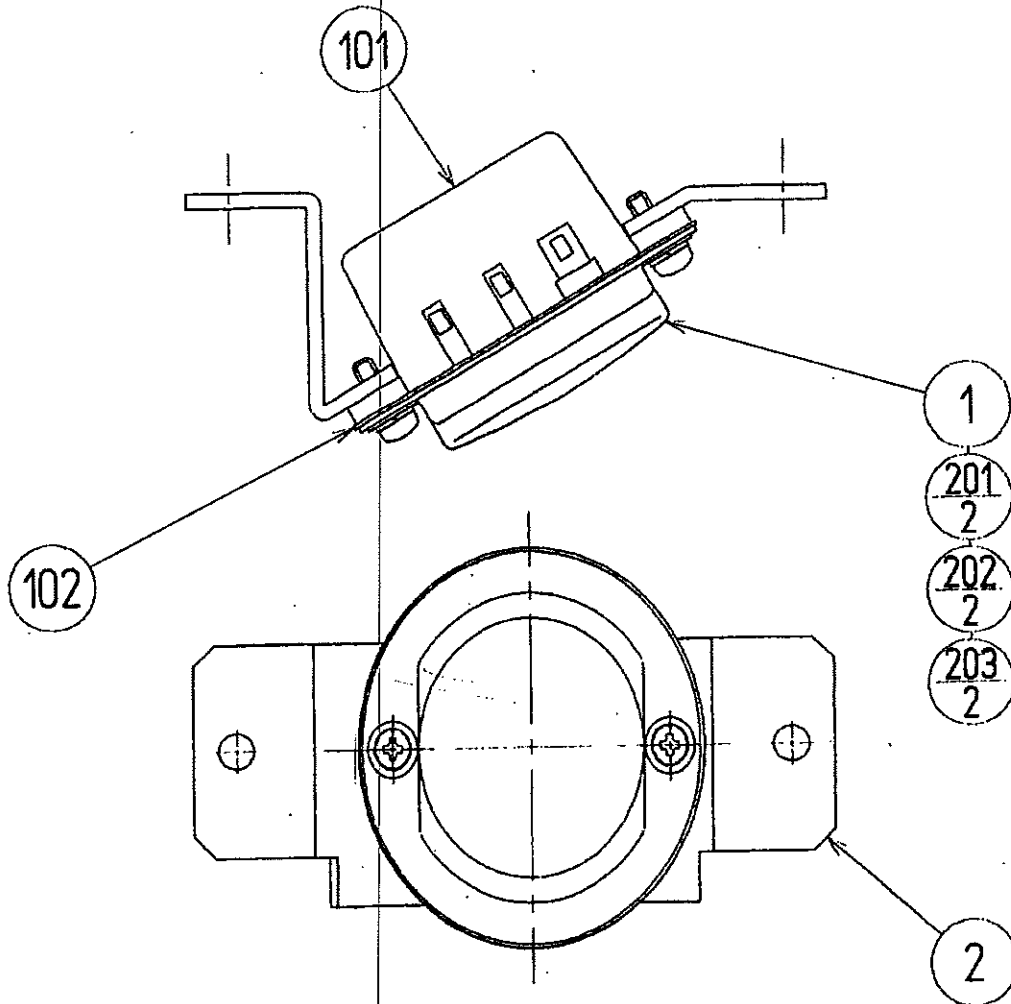


⑫ ASSY CONTROL PANEL (RAL-1200)

(D-2/2)

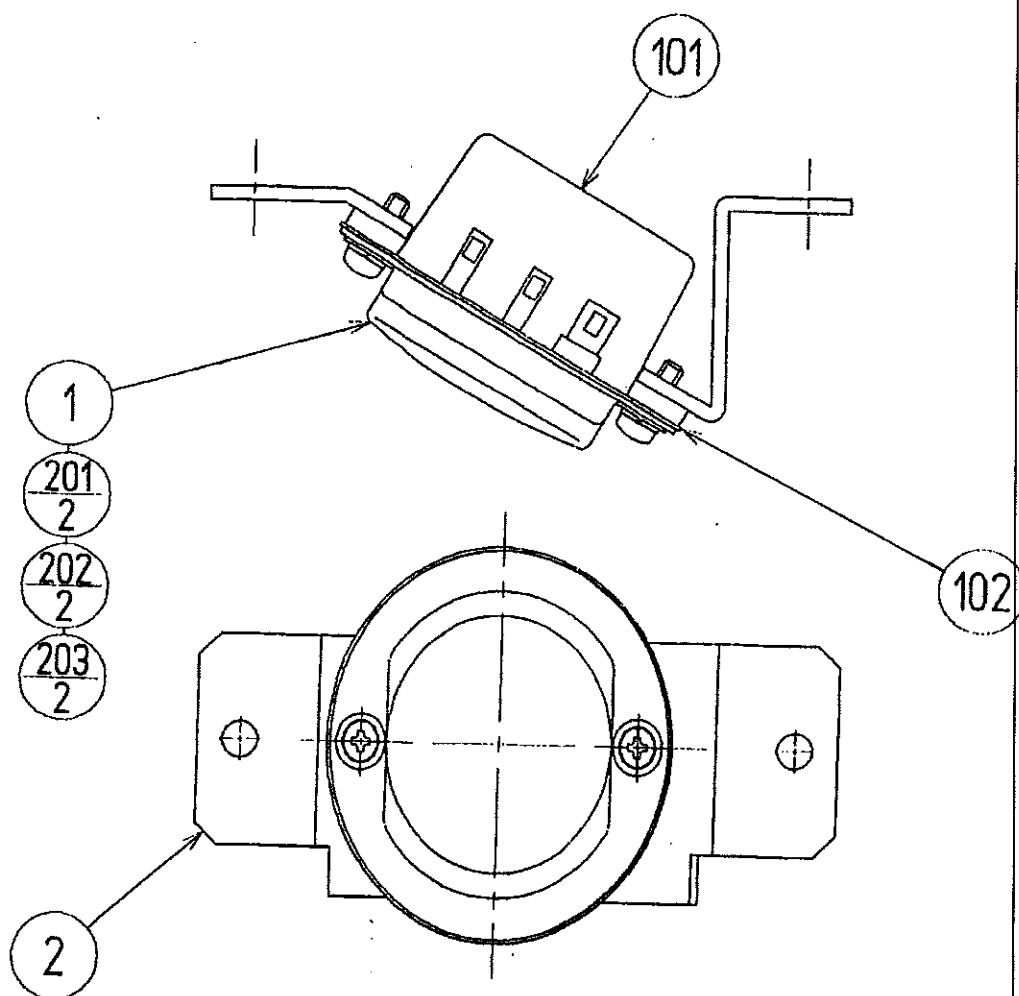
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	RAL-1201	STEERING EMBLEM	
<del>2</del>	<del>RAL-1202</del>	<del>CONTROL PANEL COVER</del>	
<del>3</del>	<del>DYN-1201</del>	<del>STEERING WHEEL</del>	
4	DYN-1204	CONTROL PANEL BRKT	
5	DYN-1205	CONTROL PANEL BASE	
<del>6</del>	<del>DYN-1200</del>	<del>HANDLE COLLAR</del>	
7	DYN-1215	DESIGN PL TACO MTR	
8	DYN-1216	DESIGN PL OIL PRESS MTR	
9	DYN-1217	DESING PL OIL TEMP MTR	
10	DYN-1218	DESIGN PL WATER TEMP MTR	
11	DYN-1220	ASSY TWEETER L	
12	DYN-1230	ASSY TWEETER R	
13	610-0366	ASSY HANDLE MECHA W/2CL	
14	RAL-1280	ASSY START BUTTON	
15	OUT-2026	SPACER	
16	RAL-1203	MECHA BRKT L	
17	RAL-1204	MECHA BRKT R	
101	130-5096	SPEAKER BOX SERVO	
102	601-0460	PLASTIC TIE BELT 100MM	
103	280-5009	CORD CLAMP $\phi$ 21	
104	280-0425	CORD CLAMP $\phi$ 10	-01 also acceptable.
201	050-H00800	HBX NUT M8	
202	060-S00800	SPR WSHR M8	
203	060-F00800	FLT WSHR M8	
204	000-P00408-W	M SCR PH W/FS M4 $\times$ 8	
205	000-T00408-OB	M SCR TH BLK M4 $\times$ 8	
206	000-P00512-W	M SCR PH W/FS M5 $\times$ 12	
207	008-T00508-OC	TMP PRF SCR TH CRM M5 $\times$ 8	
208	000-P00412-W	M SCR PH W/FS M4 $\times$ 12	
209	030-000620-S	HEX BLT W/S M6 $\times$ 20	
301	600-6419-34	WIRE HARN SPEAKER	
304	600-6363-68	WIRE HARN VR SW	

⑬ ASSY TWEETER L (DYN-1220)



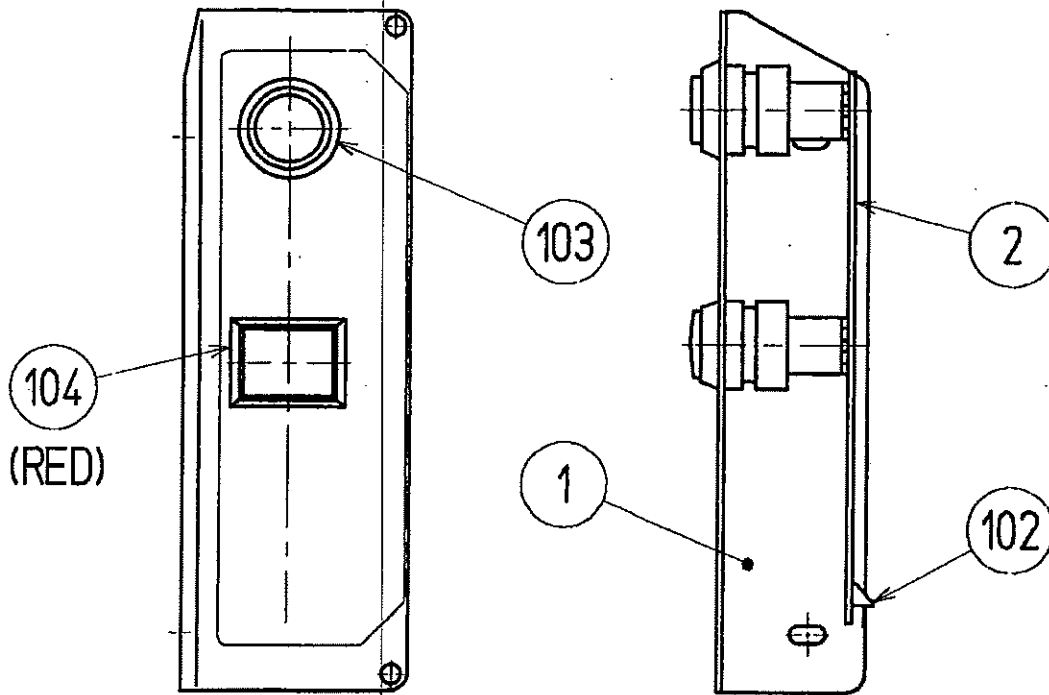
ITEM NO.	PART NO.	DESCRIPTION
1	DYN-1208	TWEETER NET
2	DYN-1206	TWEETER BRKT L
101	130-5112	TWEETER 8 OHM 2W $\phi$ 35
102	310-5055	INSULATOR SHEET
201	000-P00310-0B	M SCR PH BLK M3 $\times$ 10
202	060-F00300-0B	FLT WSHR BLK M3
203	060-S00300-0B	SPR WSHR BLK M3

⑭ ASSY TWEETER R (DYN-1230)



ITEM NO.	PART NO.	DESCRIPTION
1	DYN-1203	TWBBTER NET
2	DYN-1207	TWBBTER BRKT R
101	130-5112	TWBBTER 8 OHM 2W $\phi$ 35
102	310-5055	INSULATOR SHEET
201	000-P00310-0B	M SCR PH BLK M3 $\times$ 10
202	060-F00300-0B	FLT WSHR BLK M3
203	060-S00300-0B	SPR WSHR BLK M3

⑮ ASSY START BUTTON (RAL-1280)

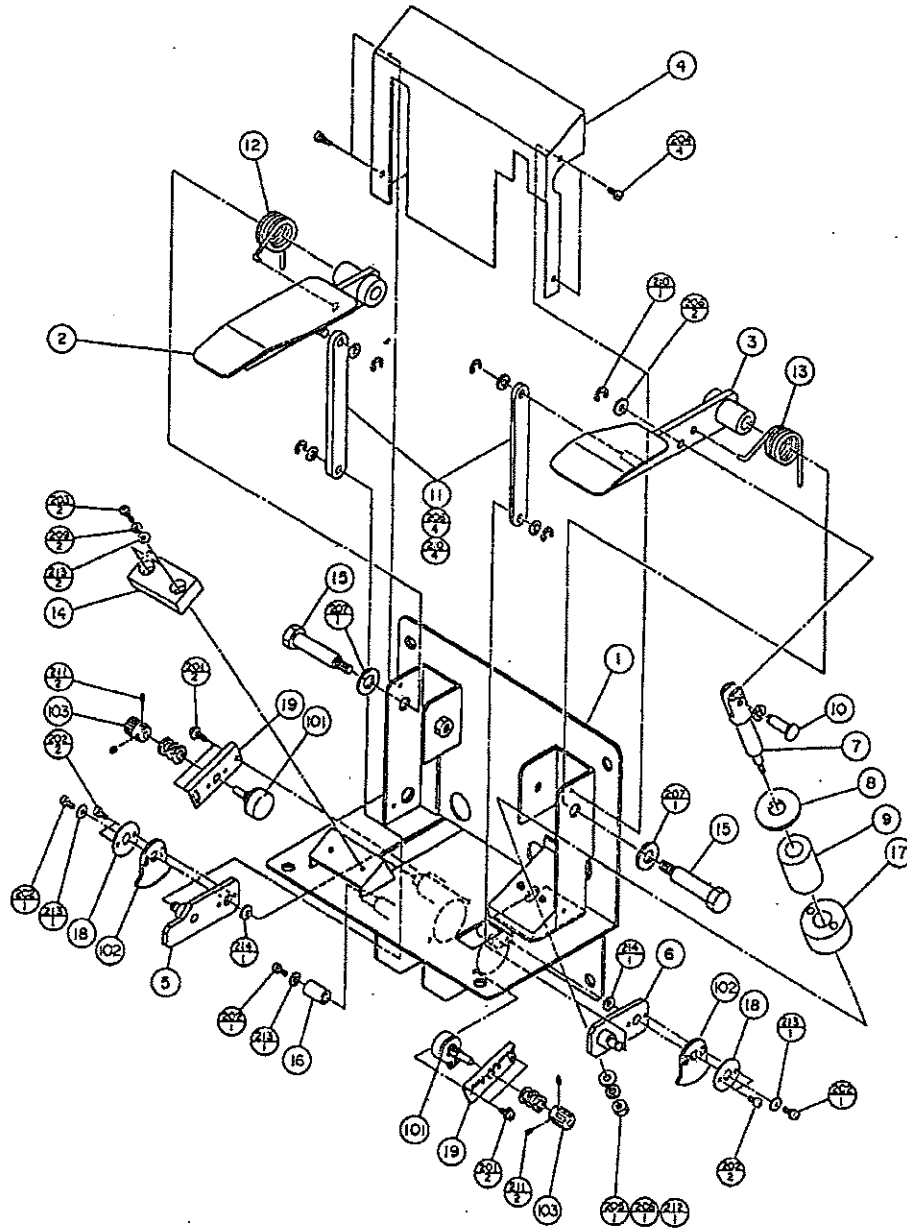


ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	RAL-1281	START SW BRKT	
2	171-6478B	PC BD LIGHTING SW×5	
102	212-5205-12	CONN JST M 12P RTA	
<del>103</del>	<del>500 5500-Y</del>	<del>PB SW W/L 0V 1L Y</del>	
<del>104</del>	<del>500 5501-R</del>	<del>PB SW W/L 0V 5L R</del>	



16 ASSY ACCEL & BRAKE (DYN-1300)

D-1/2)

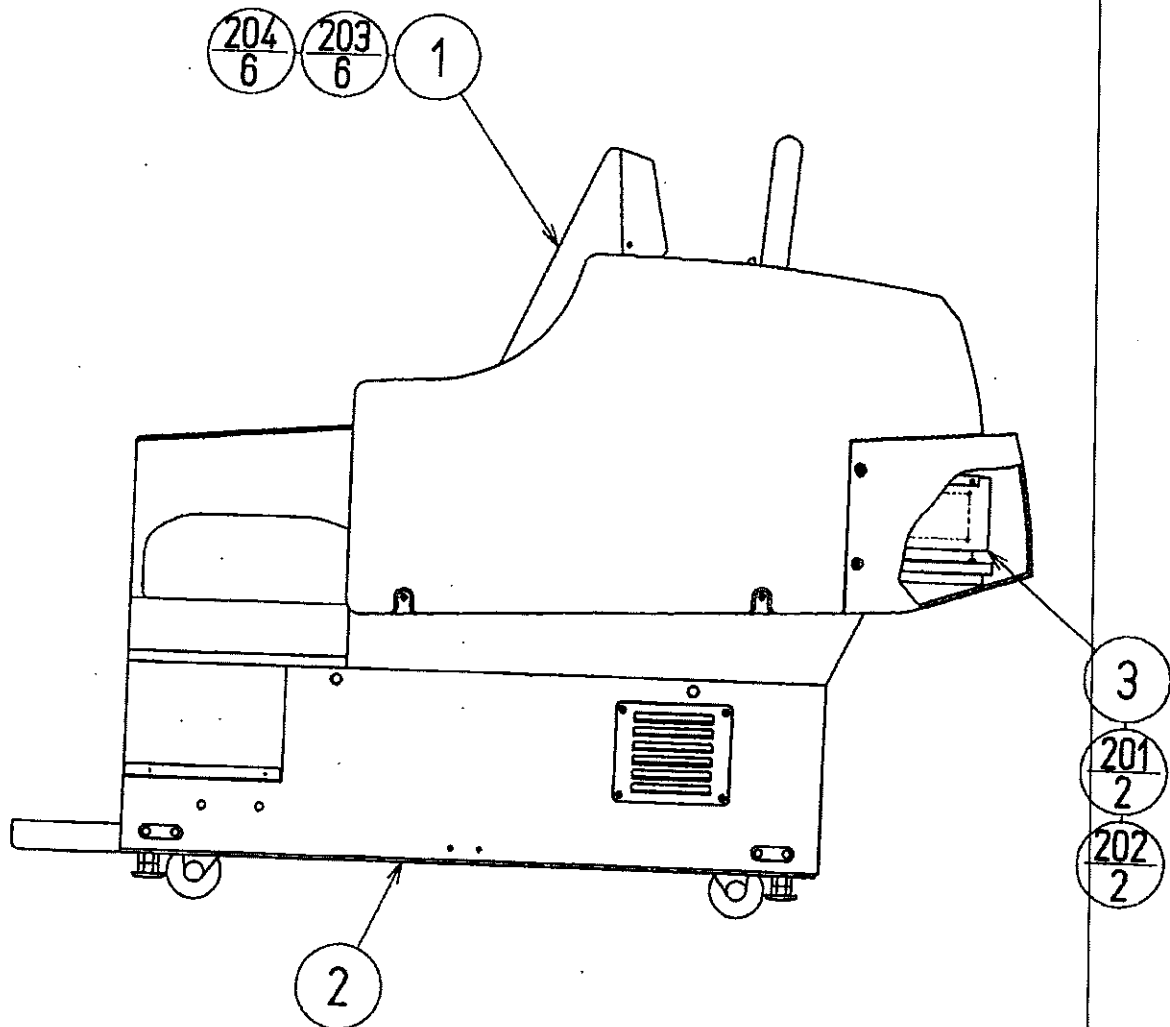


⑩ AS ~~XXXXXXXXXX~~ & BRAKE (DYN-1300)

(D-2/2)

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	DYN-1301	PEDAL BASE	
2	BVG-1402	ACCEL PEDAL	Use either one
	DYN-1306	ACCEL PEDAL AL	
3	BVG-1403	BRAKE PEDAL	Use either one
	DYN-1307	BRAKE PEDAL AL	
4	BVG-1404	PEDAL COVER	
5	BVG-1405	SWING ARM A	
6	BVG-1406	SWING ARM B	
7	BVG-1407	PUSH ROD	
8	BVG-1408	PUSH PLATE	
9	DYN-1302	RUBBER DUMPER	
10	BVG-1410	PUSH ROD PIN	
11	BVG-1411	LINK ROD	
12	DYN-1303	TORSION SPRING ACCEL	
13	BVG-1413	TORSION SPRING B	
14	BVG-1414	RUBBER STOPPER	
15	BVG-1415	PEDAL SHAFT	
16	BVG-1416	SWING ARM STOPPER	
17	BVG-1417	SPACER	
18	GLC-2122	GEAR PLATE	
19	RDM-1210	VR BRACKET	
101	220-5373	VOL CONT B-5K OHM	Use either one
	220-5484	VOL CONT B-5K OHM	
102	601-6005	ADJUST GEAR	
103	601-5943	GEAR 20 $\phi$ 15	
104	310-5029-F20	SUMITUBE F F20MM	$\phi$ 4
105	601-0460	PLASTIC TIE BELT 100MM	
106	280-5009	CORD CLAMP $\phi$ 21	-01 also acceptable.
201	000-P00408-W	M SCR PH W/FS M4 $\times$ 8	
202	000-P00408-S	M SCR PH W/S M4 $\times$ 8	
203	000-P00416-OB	M SCR PH BLK M4 $\times$ 16	
204	008-T00408-OB	TMP PRF SCR TH BLK M4 $\times$ 8	
205	050-H00600	HEX NUT M6	
206	060-F00800-OB	FLT WSHR BLK M8	
207	060-S01200-OB	SPR WSHR BLK M12	
208	060-S00600	SPR WSHR M6	
209	060-S00400-OB	SPR WSHR BLK M4	
210	065-B00600	E RING 6MM	
211	028-A00308-P	SET SCR HEX SKT CUP P M3 $\times$ 8	
212	068-652016	FLT WSHR 6.5-20 $\times$ 1.6	
213	DYN-1304	FLT WSHR BLK 4.4-12 $\times$ 1.6	
214	DYN-1305	FLT WSHR 12.2-22 $\times$ 0.5	
301	600-6178-54	WIRE HARN ACCEL & BRAKE	
302	600-6178-113	WIRE HARN BARTH ACCEL & BRAKE	

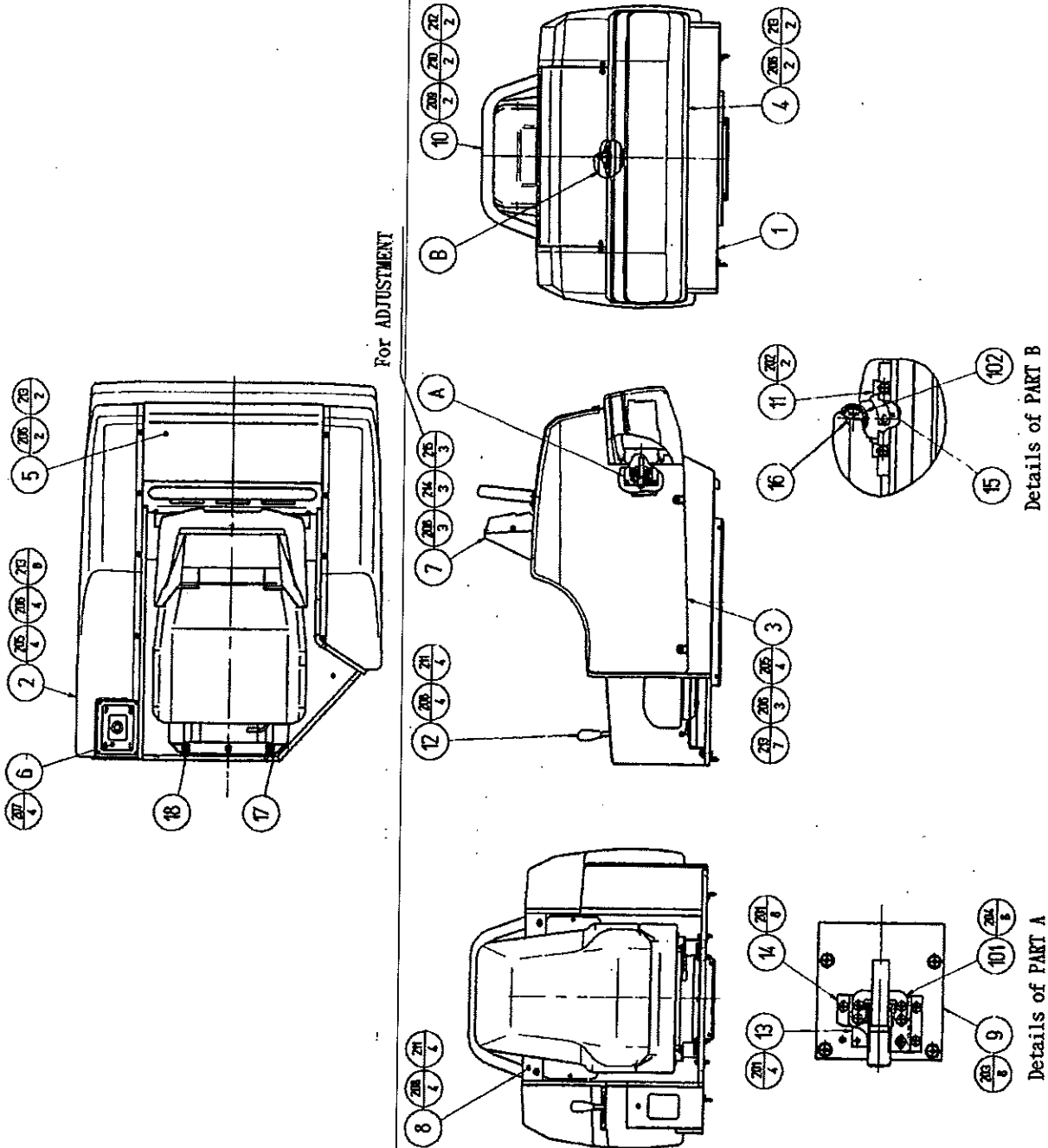
⑰ ASSY REAR CABINET (RAL-2000)



ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	RAL-2100	ASSY REAR CABI UPPER	
2	RAL-2200	ASSY REAR CABI LOWER	
3	RAL-2300	ASSY SHIELD CASE	
201	000-P00530-S	M SCR PH W/S M5×30	
202	060-F00500	FLT WSHR M5	
203	030-000850-SB	HEX BLT W/S BLK M8×50	
204	068-852216-0B	FLT WSHR BLK 8.5-22×1.6	

⑱ ASSY REAR CABI UPPER (RAL-2100)

(D-1/2)



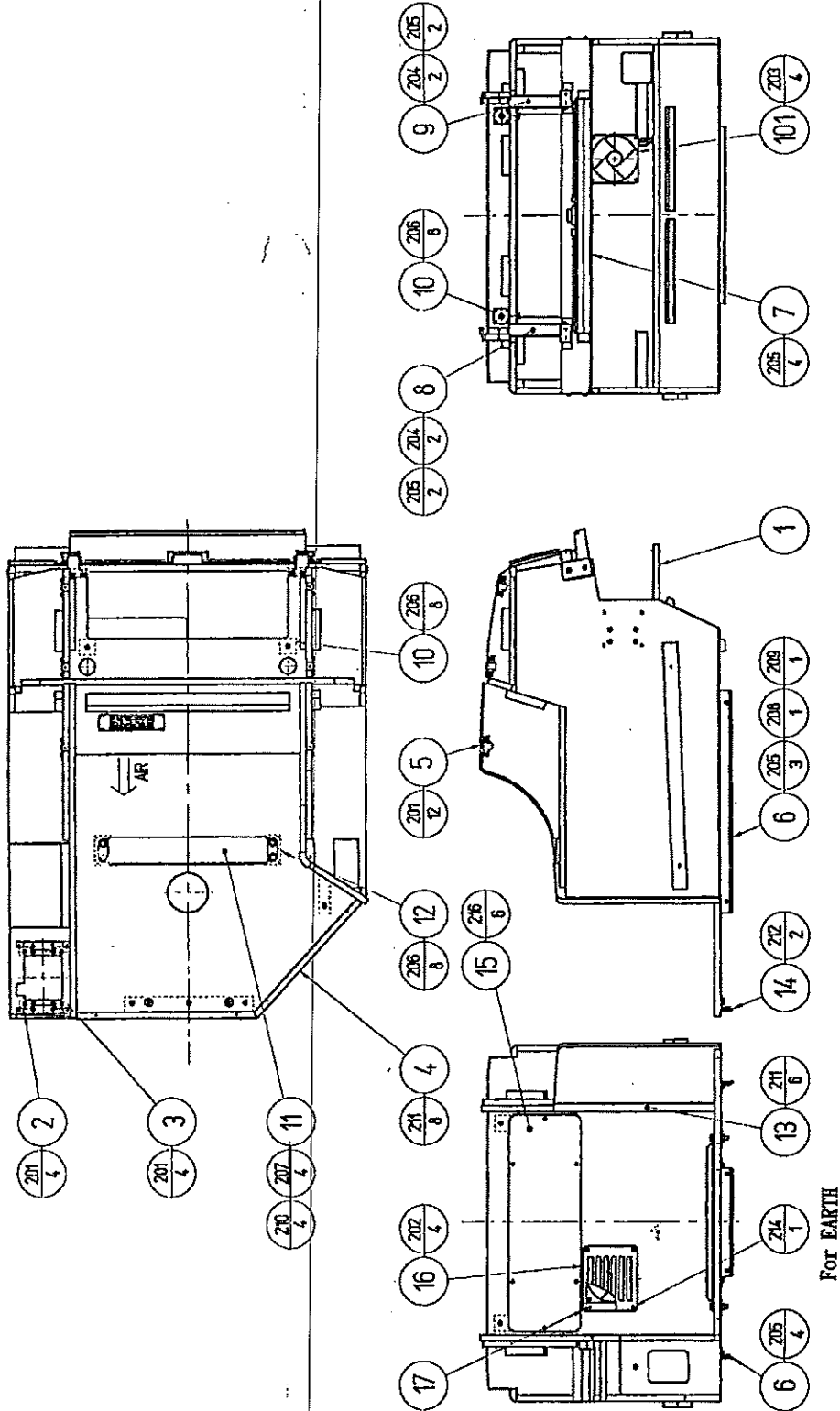
⑱ ASSY REAR CABI UPPER (RAL-2100)

(D-2/2)

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	RAL-2101	ASSY SUB CABI REAR U	
2	RAL-2102	REAR FENDER R RAL	
3	RAL-2103	REAR FENDER L RAL	
4	RAL-2104	BUMPER RAL	
5	RAL-2105	TRUNK LID RAL	
6	RAL-2106	SHIFT PLATE	
7	RAL-2130	ASSY SEAT	
8	OUT-0019	ROLL BAR PILLOW	
9	DYN-2114	CLAMP BASE	
10	DYN-2117	ROLL BAR	
11	DYN-2119	HOOK BRKT	
<del>12</del>	<del>RAL-2150</del>	<del>ASSY 4 SPEED SHIFTER</del>	
13	UCQ-1015	ADJUST PLATE	
14	UCQ-1016	ADJUST BRACKET	
15	TH-1015	LOCKING TONGUE	
16	250-5256	ADJUST SCREW	
17	DYN-2124	RUBBER HOLD PLATE L	
18	DYN-2125	RUBBER HOLD PLATE R	
101	250-5011	SUPBR CLAMP (TAKIGEN C-137)	
102	220-5380	MAG LOCK MASTER W/O KBY	
201	000-P00408-W	M SCR PH W/FS M4×8	
202	000-P00412-W	M SCR PH W/FS M4×12	
203	000-P00520-W	M SCR PH W/FS M5×20	
204	000-F00408	M SCR PH M4×8	
205	000-T00412-OC	M SCR TH CRM M4×12	
206	000-T00420-OC	M SCR TH CRM M4×20	
207	008-T00512-OC	TMP PRF SCR TH CRM M5×12	
208	030-000840-SB	HEX BLT W/S BLK M8×40	
209	050-H01000	HEX NUT M10	
210	060-F01000	FLT WSHR M10	
211	060-F00800-OB	FLT WSHR BLK M8	
212	060-S01000	SPR WSHR M10	
213	068-441616-OC	FLT WSHR CRM 4. 4-16×1. 6	
214	068-852216-OB	FLT WSHR BLK 8. 5-22×1. 6	
215	OUT-2026	SPACBR	

19 ASSY SUB CABI REAR U (RAL-2101)

(D-1/2)



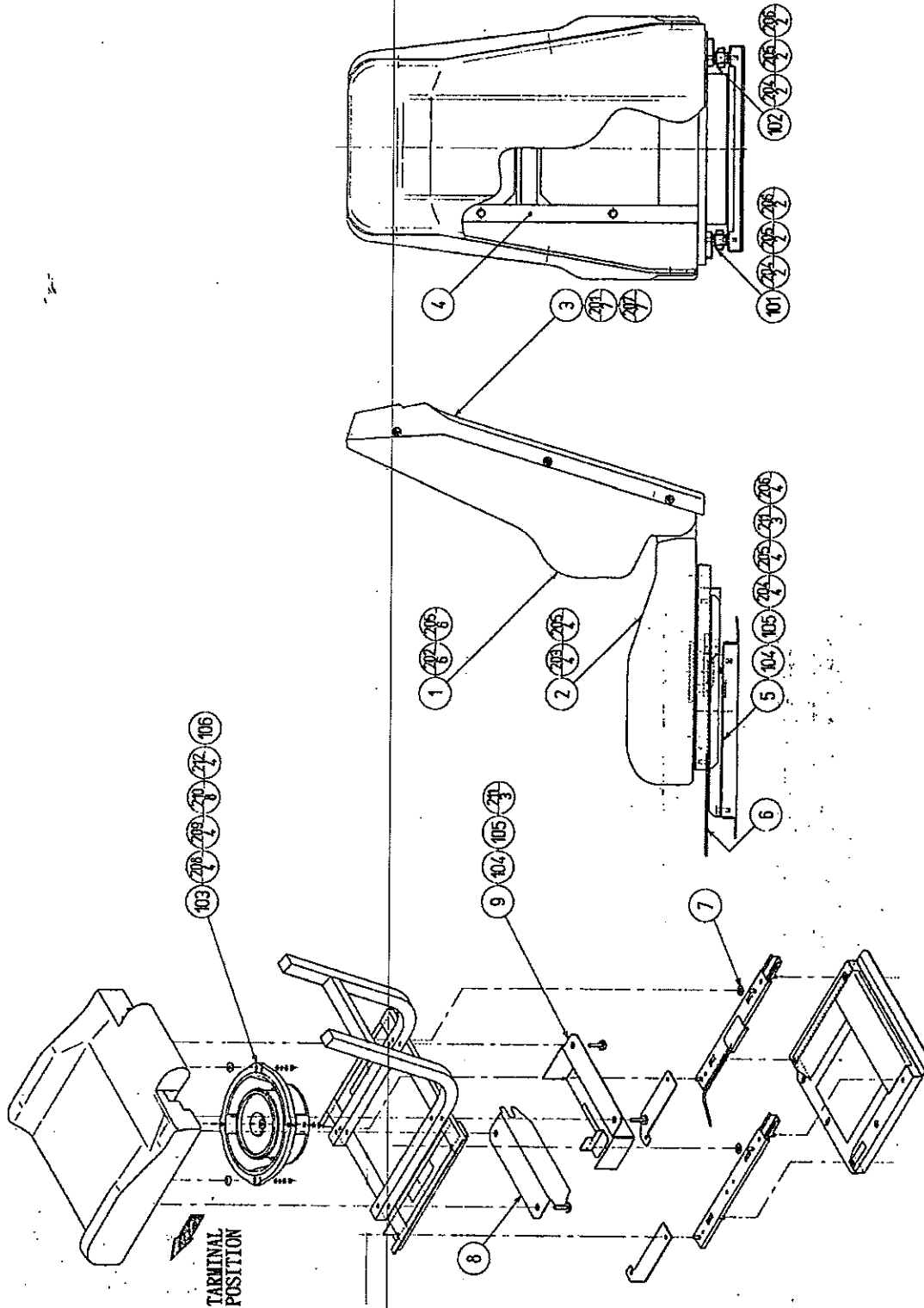
①9 ASSY SUB CABI REAR U (RAL-2101)

(D-2/2)

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	DYN-2105	WOODEN CABI REAR U	
2	DYN-2106	BASE BRKT	
3	DYN-2107	HOLD PLATE M8	
4	DYN-2108	CORNER EDGE	
5	DYN-2109	NUT BRKT	
6	DYN-2110	LOWER JOINT BRKT	
7	DYN-2111X	BACK FRAME	
8	DYN-2112	SIDE PILLAR L	
9	DYN-2113	SIDE PILLAR R	
10	DYN-2115	NUT PLATE M8	
11	DYN-2120	SEAT BRKT HOLDBR	
12	DYN-2121	NUT PLATE 2-M8	
13	DYN-2122	CORNER EDGE SIDE	
14	DYN-2123	LOWER JOINT BRKT FRONT	
15	EZT-2105	REAR LID	
16	UP-1018	AIR VENT	
17	HN-1042X	FAN BRKT	
<del>101</del>	<del>260-0044</del>	<del>FAN MOTOR DC24V</del>	
	260-0048	FAN MOTOR DC24V	
102	209-0023	CONN CLOSED END	SMALL TYPE
103	601-0460	PLASTIC TIE BELT 100MM	
104	280-5009	CORD CLAMP $\phi$ 21	-01 also acceptable.
105	280-0419	HARNES LUG	
106	280-5008	CORD CLAMP $\phi$ 15	
201	000-P00416-W	M SCR PH W/FS M4 $\times$ 16	
202	000-T00420-OB	M SCR TH BLK M4 $\times$ 20	
203	000-P00330-W	M SCR PH W/FS M3 $\times$ 30	
204	000-P00508-W	M SCR PH W/FS M5 $\times$ 8	
205	000-P00520-W	M SCR PH W/FS M5 $\times$ 20	
206	011-T00312	TAP SCR TH 3 $\times$ 12	
207	030-000840-SB	HEX BLT W/S BLK M8 $\times$ 40	
208	031-000525-OB	CRG BLT BLK M5 $\times$ 25	
209	050-F00500	FLG NUT M5	
210	060-F00800-OB	FLT WSHR BLK M8	
211	079-000008	SCR NAIL THH STNLS 1.5 $\times$ 16	
212	000-P00516-W	M SCR PH W/FS M5 $\times$ 16	
213	011-F00310	TAP SCR FH 3 $\times$ 10	
214	050-F00400	FLG NUT M4	
215	011-T03512	TAP SCR TH 3.5 $\times$ 12	
216	000-T00416-OB	M SCR TH BLK M4 $\times$ 16	
301	600-6363-63	WIRE HARN DC FAN A	
302	600-6363-51	WIRE HARN REAR CABI U EXT 1	
303	600-6363-90	WIRE HARN REAR CABI U EXT 3	
304	600-6445-24	WIRE HARN BARTH REAR CABI U	
305	600-6445-57	WIRE HARN EXT VIB SPEAKER	
306	600-6445-68	WIRE HARN BARTH REAR CABI U2	

②① ASSY SEAT (RAL-2130)

(D-1/2)



SLIDE RAIL ASSEMBLY DETAILS



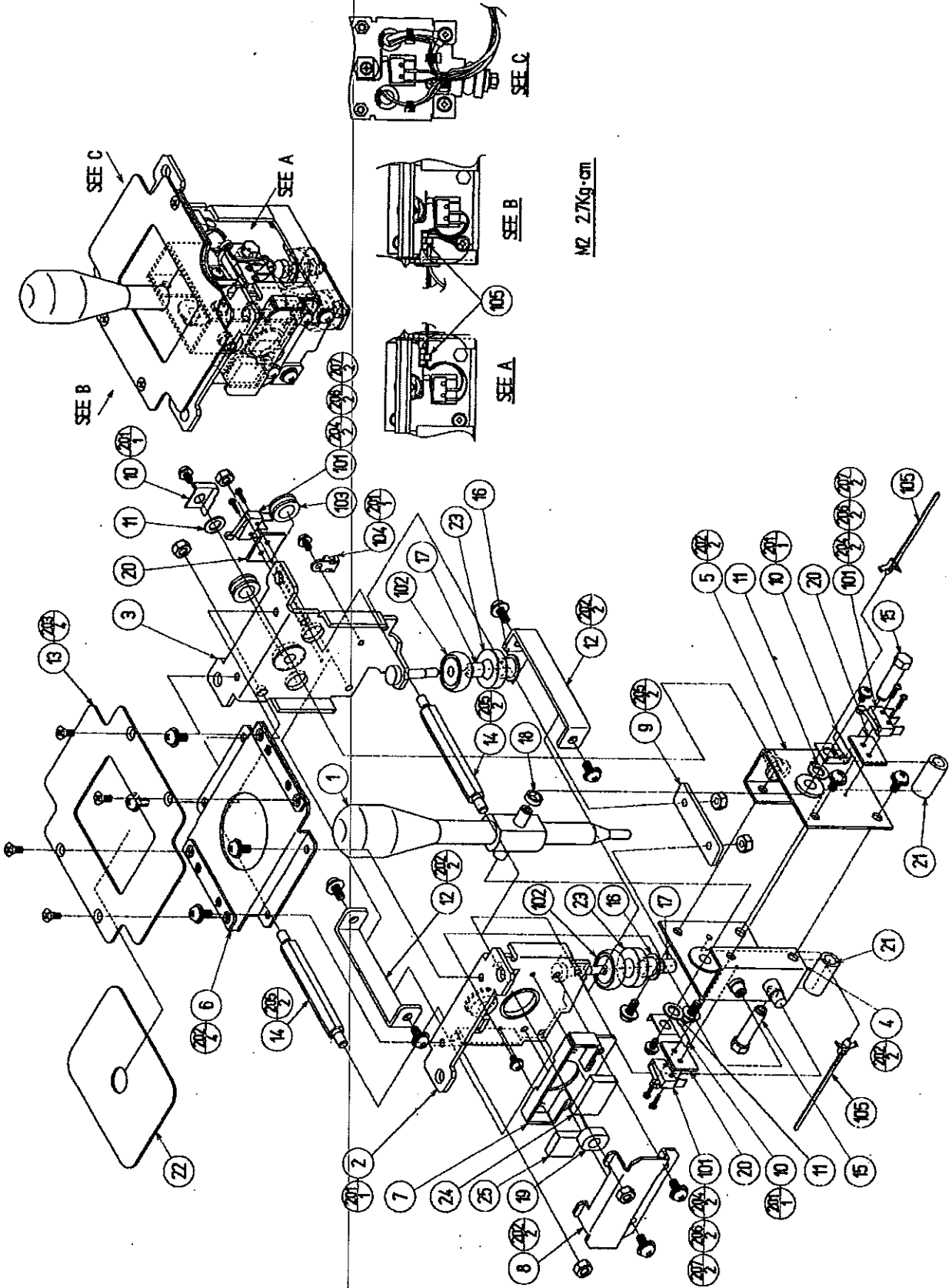
② ASSY SEAT (RAL-2130)

(D-2/2)

ITEM NO.	PART NO.	DESCRIPTION	NOTE
<del>1</del>	<del>DYN-2131</del>	<del>UPPER SEAT</del>	
2	RAL-2132	LOWER SEAT VS	
3	RAL-2131	SEAT BACK COVER	
4	DYN-2134	SEAT FRAME	
5	RAL-2133	SEAT RAIL BASE VS	
6	BZT-2133	PROTECT RUBBER	
7	OUT-2026	SPACER	
8	RAL-2134	SPEAKER COVER F	
9	RAL-2135	SPEAKER COVER R	
101	601-7642	SLIDE RAIL L 180	
102	601-7643	SLIDE RAIL R 180	
103	130-5132	VIBRATION SPEAKER	
104	601-0460	PLASTIC TIE BELT 100MM	
105	280-5249	TIE BELT HOLDER ABM 2S-A	
106	280-0425	CORD CLAMP $\phi$ 10	
201	000-T00412-0B	M SCR TH BLK M4 $\times$ 12	
202	030-000845-S	HEX BLT W/S M8 $\times$ 45	
203	030-000850-SB	HEX BLT W/S BLK M8 $\times$ 50	
204	050-H00800-0B	HEX NUT BLK M8	
205	060-F00800-0B	FLT WSHR BLK M8	
206	060-S00800-0B	SPR WSHR BLK M8	
207	068-441616-0B	FLT WSHR BLK 4. 4-16 $\times$ 1.6	
208	060-F00400	FLT WSHR M4	
209	060-S00400	SPR WSHR M4	
210	050-H00400	HEX NUT M4	
211	010-P00306-P	S-TITE SCR PH W/F M3 $\times$ 6	
212	068-552016	FLT WSHR 5. 5-20 $\times$ 1.6	
301	600-6445-58	WIRE HARN SEAT VIB SPEAKER	
302	600-6445-66	WIRE HARN BARTH SEAT	

21 ASSY 4SPEED SHIFTER (RAL-2150)

(D-1/2)

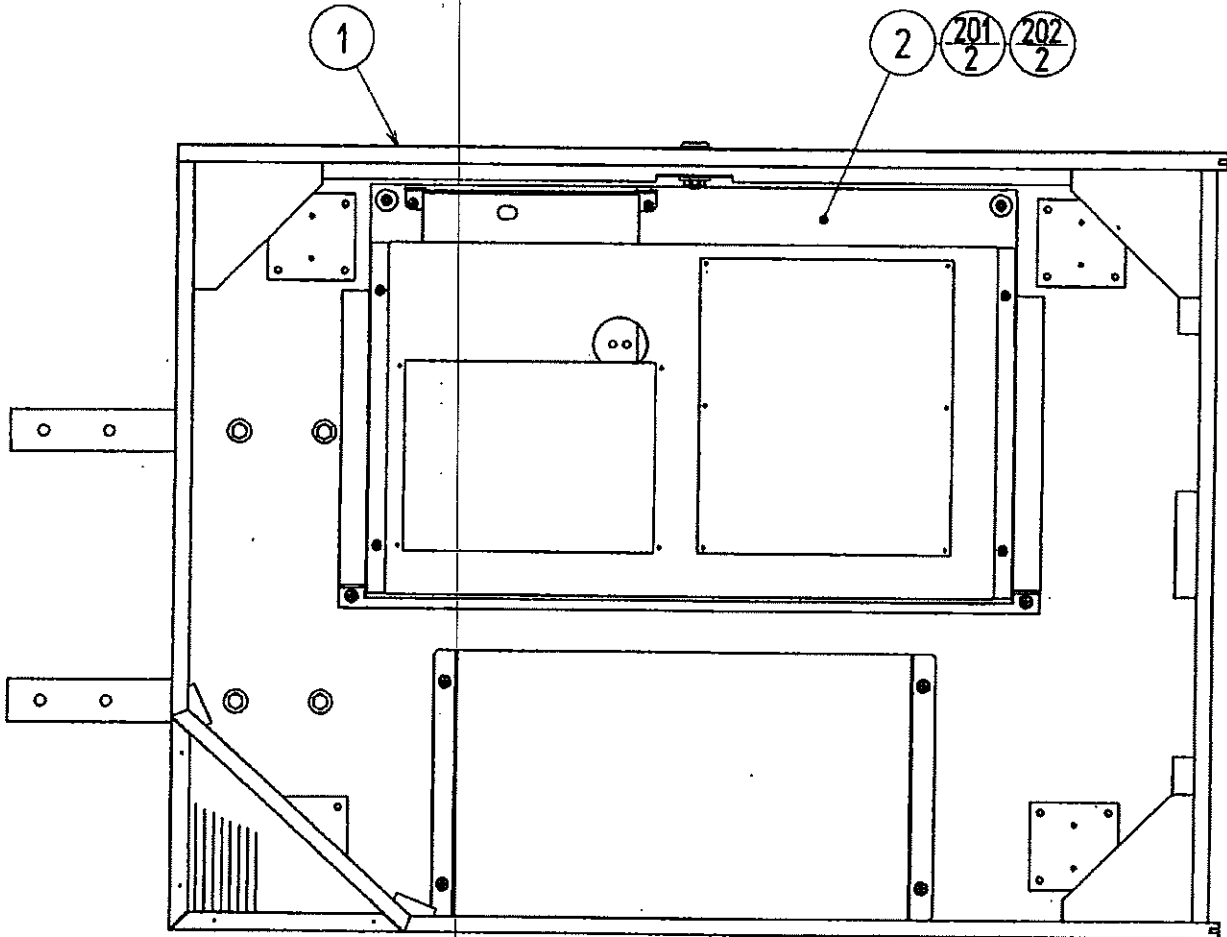


②1 ASSY 4SPEED SHIFTER (RAL-2150) ←

D-2/2)

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	RAL-2151	SHIFT KNOB	
2	RAL-2152	REAR BASE	
3	RAL-2153	FRONT BASE	
4	RAL-2154	SHAFT CASE A	
5	RAL-2155	SHAFT CASE B	
6	RAL-2156	SLIDE PLATE BASE	
7	RAL-2157	RUBBER CASE	
8	RAL-2158	RUBBER CASE LID	
9	RAL-2159	ROLLER SUPPORT PLATE	
10	RAL-2160	SW CAM	
11	RAL-2161	FLT WSHR 8.1-14×1.2	
12	RAL-2162	SIDE SUPPORT PLATE	
13	RAL-2163	SLIDE PLATE COVER	
14	RAL-2164	JOINT BAR	
15	RAL-2165	STOPPER BAR	
16	RAL-2166	COLLAR φ 10	
17	RAL-2167	COLLAR φ 6.2	
18	RAL-2168	COLLAR φ 8	
19	RAL-2169	CENTRING BLOCK	
20	RAL-2170	SPACER PLATE	
21	RAL-2171	STOPPER RUBBER	
22	RAL-2172	SLIDE PLATE	
23	RAL-2173	RUBBER RING φ 29	
24	RAL-2174	RUBBER BLOCK 45	
25	RAL-2175	RUBBER BLOCK 65	
101	509-5636	SW MICRO TYPE SS-5GL2T	
102	100-5188	DERURIN ROLLER φ 26H6.35	
103	100-5193	GROMMET φ 11	
104	280-5257	TAI BASE TAI8	
105	280-5251	SELF MOUNT TIB 2.5	
106	601-0460	PLASTIC TIE BELT 100MM	
201	000-P00408-W	M SCR PH W/FS M4×8	
202	000-P00514-W	M SCR PH W/FS M5×14	
203	000-P00408	M SCR PH M4×8	
204	000-P00212	M SCR PH M2×12	
205	050-U00600	U NUT M6	
206	060-F00200	FLT WSHR M2	
207	060-S00200	SPR WSHR M2	
301	600-6445-45	WIRE HARN SHIFT MECHA	
302	600-6445-65	WIRE HARN BARTH SHIFT MBCHA	

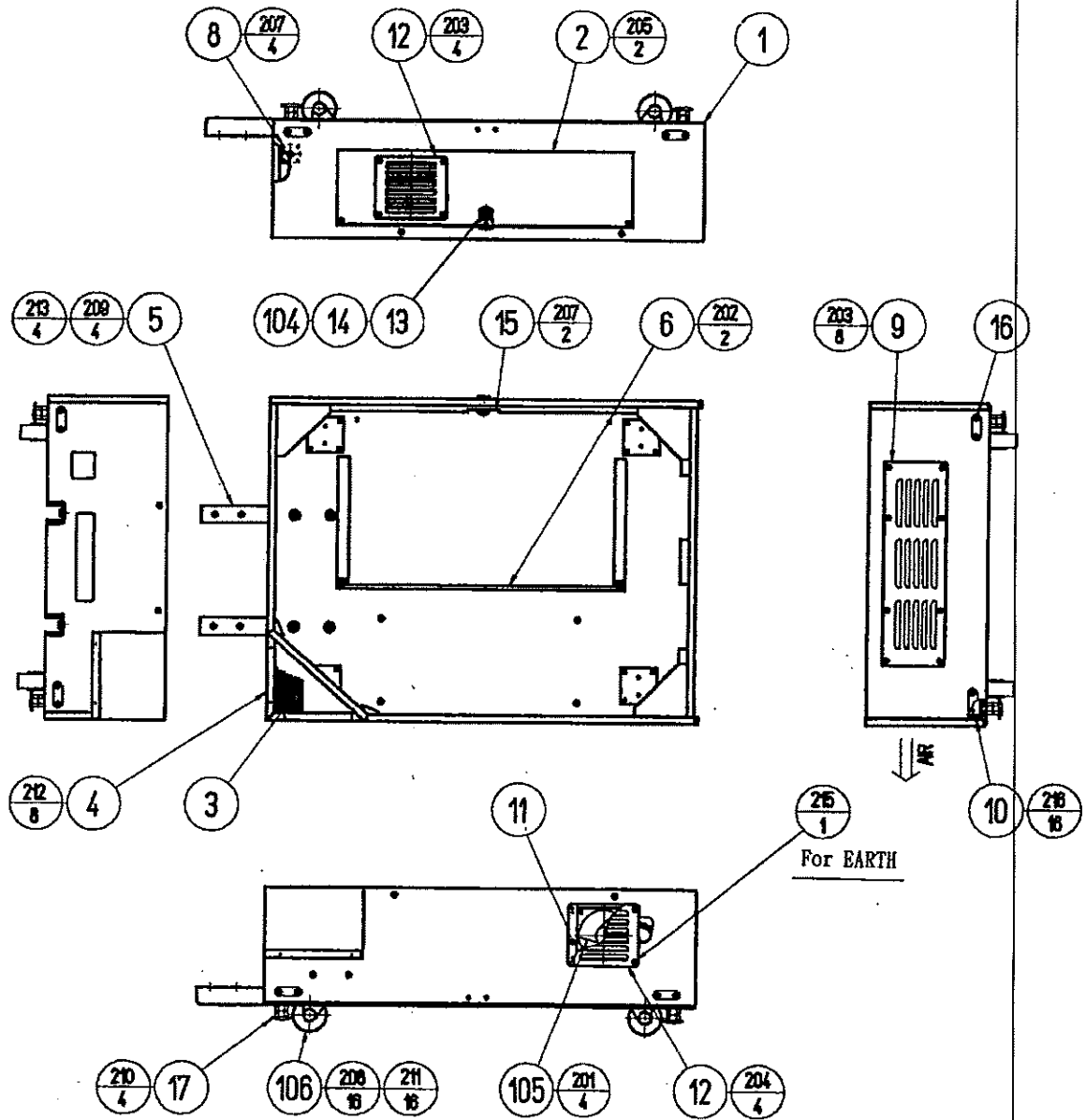
②② ASSY REAR CABI LOWER (RAL-2200)



ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	RAL-2201	ASSY SUB CABI RBAR L	
2	RAL-4100	ASSY BLEC	
3	600-6275-0500	ASSY FIBER CABLE $\phi$ 5 0500CM	
201	032-000530	WING BLT M5 $\times$ 30	
202	068-552016	FLT WSHR 5.5-20 $\times$ 1.6	

②③ ASSY SUB CABI REAR L (RAL-2201)

(D-1/3)



②③ ASSY SUB CABI REAR L (RAL-2201)

(D-2/3)

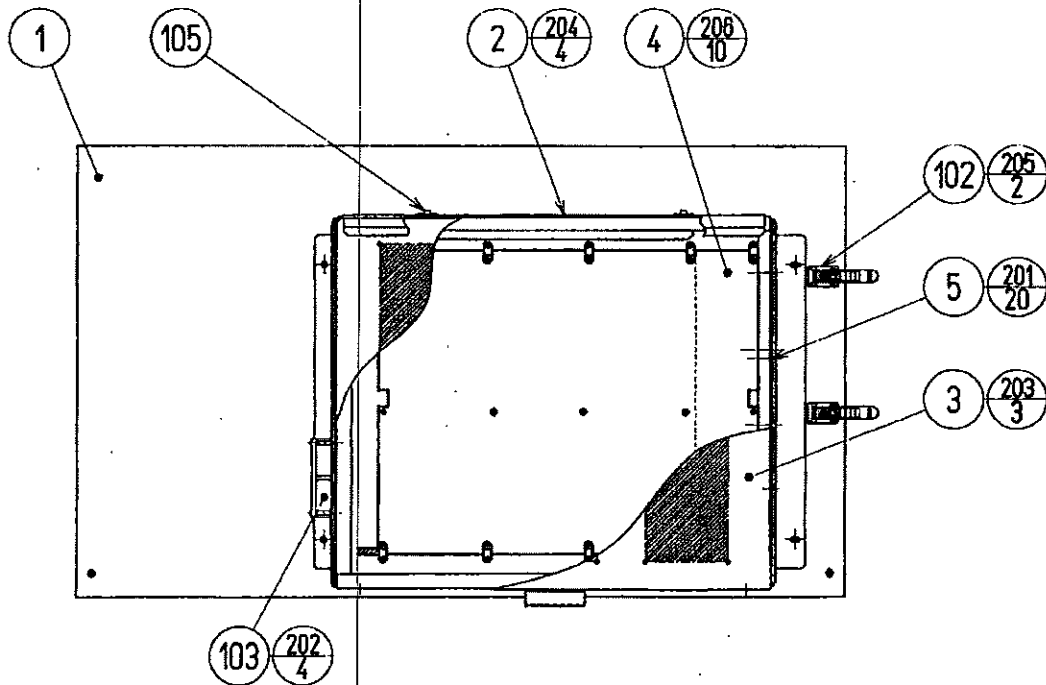
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	RAL-2202	WOODEN CABI REAR L	
2	RAL-2203	SERVICE DOOR	
3	DYN-2204	CORNER MAT	
4	DYN-2205	CORNER PROTECTOR	
5	DYN-2206	JOINT BRKT LOWER	
6	DYN-2207	STOPPER BRKT	
7	DYN-2208	SPBAKER BRKT	
8	DYN-2115	NUT PLATE M8	
9	RAL-2204	AIR VENT	
10	ARC-1006	LEG BRACKET	
11	HN-1042X	FAN BRKT	
12	RAL-2205	AIR VBNT	
13	DP-1148X	LKG TNG	
14	117-0062	PLATE LOCK RETAINER	
15	117-5098	TNG RETAINER PLATE	
16	117-5191	PLATE	
17	601-5699X	LEG ADJUSTER BOLT M16×75	
101	130-5097	SPBAKER BOX SUPER WOOFER	
102	209-0023	CONN CLOSED END	SMALL TYPE
103	601-0460	PLASTIC TIE BELT 100MM	
104	220-5380	MAG LOCK MASTER W/O KEY	
105	260-0011-02	AXIAL FLOW FAN AC100V 50-60Hz	
106	601-6224	CASTER φ75	
107	280-0419	HARNES LUG	
108	280-5009	CORD CLAMP φ21	-01 also acceptable.
201	000-P00312-W	M SCR PH W/FS M3×12	
202	000-P00516-W	M SCR PH W/FS M5×16	
203	000-T00416-0C	M SCR TH CRM M4×16	
204	000-T00420-0C	M SCR TH CRM M4×20	
205	000-T00430-0C	M SCR TH CRM M4×30	
206	011-P00310	TAP SCR PH 3×10	
207	011-T00312	TAP SCR TH 3×12	
208	030-000630-SB	HEX BLT W/S BLK M6×30	
209	030-000840-S	HEX BLT W/S M8×40	
210	050-H01600	HEX NUT M16	
211	060-F00600	FLT WSHR M6	
212	079-000008	SCR NAIL THH STNLS 1.5×16	
213	068-852216	FLT WSHR 8.5-22×1.6	
214	011-F00310	TAP SCR FH 3×10	
215	050-F00400	FLG NUT M4	
216	030-000630-SC	HEX BLT W/S CRM M6×30	
301	600-6363-22	WIRE HARN REAR CABI L EXT 5	
302	600-6363-23	WIRE HARN REAR CABI L EXT 6	
303	600-6363-24	WIRE HARN REAR CABI L EXT 7	
304	600-6363-26	WIRE HARN REAR CABI L EXT 9	
305	600-6363-28	WIRE HARN REAR CABI L EXT 11	
307	600-6363-30	WIRE HARN REAR CABI L EXT 13	
308	600-6363-32	WIRE HARN REAR CABI L EXT 15	
309	600-6363-62	WIRE HARN AC FAN B	

②③ ASSY SUB CABI REAR L (RAL-2201)

(D-3/3)

ITEM NO.	PART NO.	DESCRIPTION	NOTE
310	600-6363-87	WIRE HARN EARTH REAR CABI L	
311	600-6419-32	WIRE HARN EXT SPBAKBR R	
313	600-6445-16	WIRE HARN EXT HANDLE R	
315	600-6445-49	WIRE HARN EXT AC R	
316	600-6445-55	WIRE HARN REAR EXT 24V DC FAN	
317	600-6445-64	WIRE HARN EARTH REAR CABI L2	
318	600-6445-35	WIRE HARN REAR EXT SOUND	

②④ ASSY SHIELD CASE (RAL-2300)

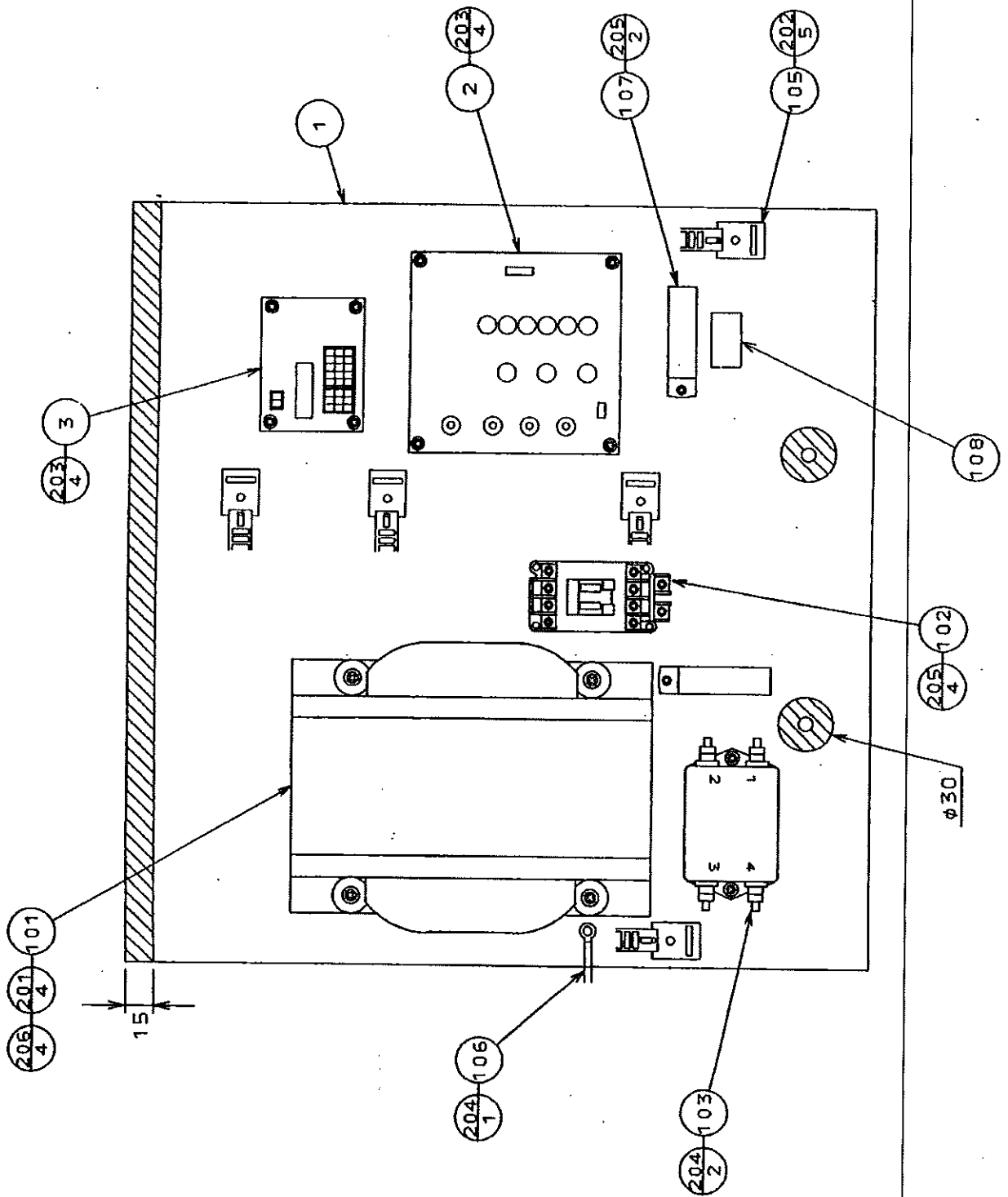


ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	RAL-2301	WOODEN BASE R	
2	RAL-2302	SHIELD CASE MAIN R	
3	RAL-2303	SHIELD CASE LID R	
4	833-11253	GAME BD RALLY 50 (W/O COMM BD)	
5	839-0744	FILTER BD A-CRX RALLY	
101	601-0460	PLASTIC TIE BELT 100MM	
102	280-5009	CORD CLAMP $\phi$ 21	-01 also acceptable.
103	260-0055	FAN MOTOR DC5V	
104	209-0023	CONN CLOSED END	SMALL TYPE
105	280-0425	CORD CRAMP $\phi$ 10	
201	010-P00308-F	S-TITE SCR PH W/F M3 $\times$ 8	
202	000-P00330-W	M SCR PH W/FS M3 $\times$ 30	
203	000-P00408-W	M SCR PH W/FS M4 $\times$ 8	
204	000-P00416-W	M SCR PH W/FS M4 $\times$ 16	
205	011-P00310	TAP SCR PH 3 $\times$ 10	
206	010-P00310-F	S-TITE SCR PH W/F M3 $\times$ 10	
301	600-6445-36	WIRE HARN SHIELD CASE SOUND	
302	600-6445-37	WIRE HARN SHIELD CASE MIDI	
303	600-6445-38	WIRE HARN SHIELD CASE CRX MIDI	
304	600-6445-39	WIRE HARN SHIELD CASE RGB	
305	600-6445-43	WIRE HARN SHIELD CASE ETC	
306	600-6445-52	WIRE HARN SHIELD CASE DC PWR	



25 ASSY PWR SPLY (RAL-4000)

(D-1/2)



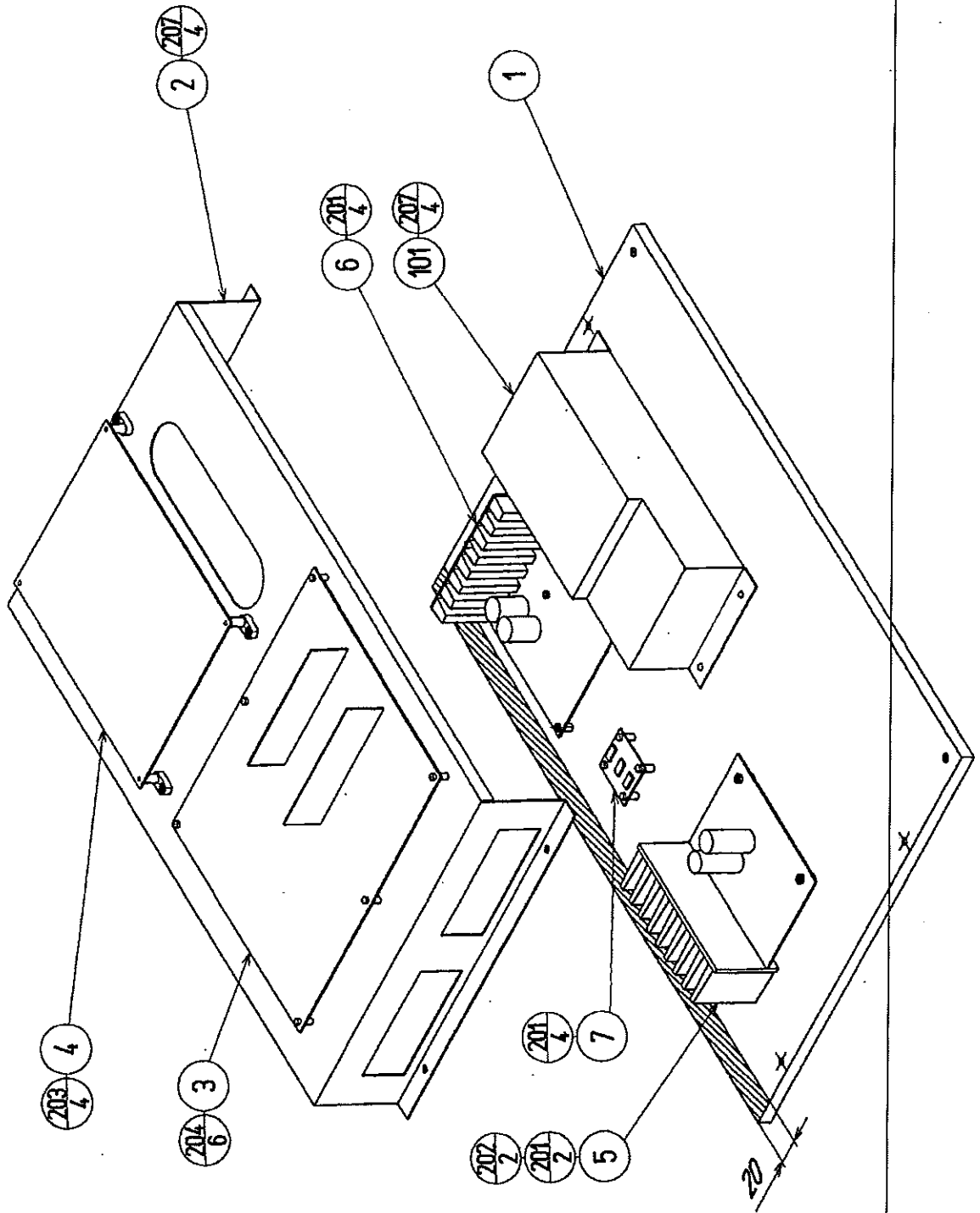
② ASSY PWR SPLY (RAL-4000)

(D-2/2)

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	RAL-4001	WOODEN BASE FRONT	
2	839-0582	VPM BUFFER BD	
3	838-10801-02	CONN BD B (FUSE 10A)	
101	560-5288	PWR XFMR 90-240V 1163VA SHIELD	
102	450-5090	MAGNET CONTACT SC-03 AC110V 1A	TAIWAN
	450-5091	MAGNET CONTACT SC-03 AC240V 1A	AC240V AREA
	450-5092	MAGNET CONTACT SC-03 AC220V 1A	AC220V AREA
103	270-5026	NOISE FILTER 20A	
104	601-0460	PLASTIC TIE BBLT 100MM	
105	280-5009	CORD CLAMP $\phi$ 21	-01 also acceptable.
106	280-0419	HARNES LUG	
107	270-5009	LINE FILTER	
108	270-5052-04	LINE FILTER D. (ASTBL 044S-806402)	
201	000-P00516-W	M SCR PH W/FS M5 $\times$ 16	
202	011-F00310	TAP SCR FH 3 $\times$ 10	
203	011-P00325	TAP SCR PH 3 $\times$ 25	
204	011-T00312	TAP SCR TH 3 $\times$ 12	
205	011-T03516	TAP SCR TH 3.5 $\times$ 16	
206	068-552016	FLT WSHR 5.5-20 $\times$ 1.6	
301	600-6419-04	WIRE HARN PWR SPLY AC IN	
302	600-6419-05	WIRE HARN N. FILTER	
303	600-6419-06	WIRE HARN XFMR IN	
304	600-6419-08	WIRE HARN XFMR & CONN BD	
305	600-6419-09	WIRE HARN BUFFER BD	
306	600-6445-47	WIRE HARN PWR SPLY	

②⑥ ASSY ELEC (RAL-4100)

(D-1/2)



②6 ASSY ELEC (RAL-4100)

(D-2/2)

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	RAL-4101	WOODEN BASE REAR	
2	RAL-4102	MOUNT BRKT	
3	<del>838-11173</del>	DRIVE BD RALLY	
4	<del>837-11255</del>	SOUND BD RALLY (W/O OPTION)	
5	<del>838-11480</del>	AMP BD VIBRATION SPEAKER	
6	<del>888 18010</del>	<del>AMP BD SERVO</del>	
7	<del>888 8842-01</del>	<del>AUDIO MIX BD</del>	
101	400-5264	SW REGU +5V12A, +12V1.5A, -5V.1A	
102	601-5525-310	BUSH 1.2t	
103	601-6231-B560	EDGING NEW TYPE	
104	601-6231-B060	EDGING NEW TYPE	
105	601-0460	PLASTIC TIE BELT 100MM	
106	280-5009	CORD CLAMP $\phi$ 21	
107	280-0419	HARNES LUG	-01 also acceptable.
201	011-P00325	TAP SCR PH 3x25	
202	011-P00310	TAP SCR PH 3x10	
203	010-F00308	S-TITE SCR PH M3x8	
204	010-P00320-F	S-TITE SCR PH W/F M3x20	
205	011-T03512	TAP SCR TH 3.5x12	
206	011-F00310	TAP SCR FH 3x10	
207	000-P00412-W	M SCR PH W/PS M4x12	
301	600-6445-07	WIRE HARN SOUND BD NH6P	
302	600-6445-08	WIRE HARN SOUND BD OUT A	
303	600-6445-11	WIRE HARN SERVO AMP	
304	600-6445-13	WIRE HARN DRIVE BD DATA BUS	
305	600-6445-14	WIRE HARN DRIVE BD HANDLE I/O	
306	600-6445-29	WIRE HARN SOUND BD OUT A2	
307	600-6445-31	WIRE HARN MIXED OUT	
308	600-6445-34	WIRE HARN AUDIO MIX BD IN	
309	600-6445-50	WIRE HARN ELBC AC IN	
310	600-6445-51	WIRE HARN SW REGU DC OUT 12P	
311	600-6445-53	WIRE HARN SW REGU DC OUT 18P	
312	600-6445-54	WIRE HARN DRIVE BD DC OUT 24V	
313	600-6445-56	WIRE HARN VIB SPEAKER AMP OUT	

## 21. WIRE COLOR CODE TABLE

THE WIRE COLOR CODE is as follow:

A	PINK
B	SKY BLUE
C	BROWN
D	PURPLE
E	LIGHT GREEN

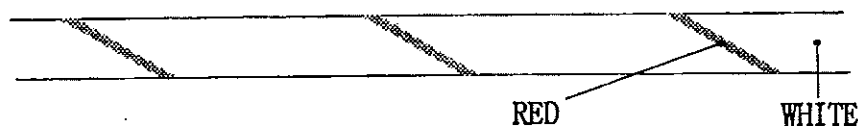
Wires other than those of any of the above 5 single colors will be displayed by 2 alphanumeric characters.

1	RED
2	BLUE
3	YELLOW
4	GREEN
5	WHITE
7	ORANGE
8	BLACK
9	GRAY

If the right-hand side numeral of the code is 0, then the wire will be of a single color shown by the left-hand side numeral (see the above).

Note 1: If the right-hand side alphanumeric is not 0, that particular wire has a spiral color code. The left-hand side character shows the base color and the right-hand side one, the spiral color.

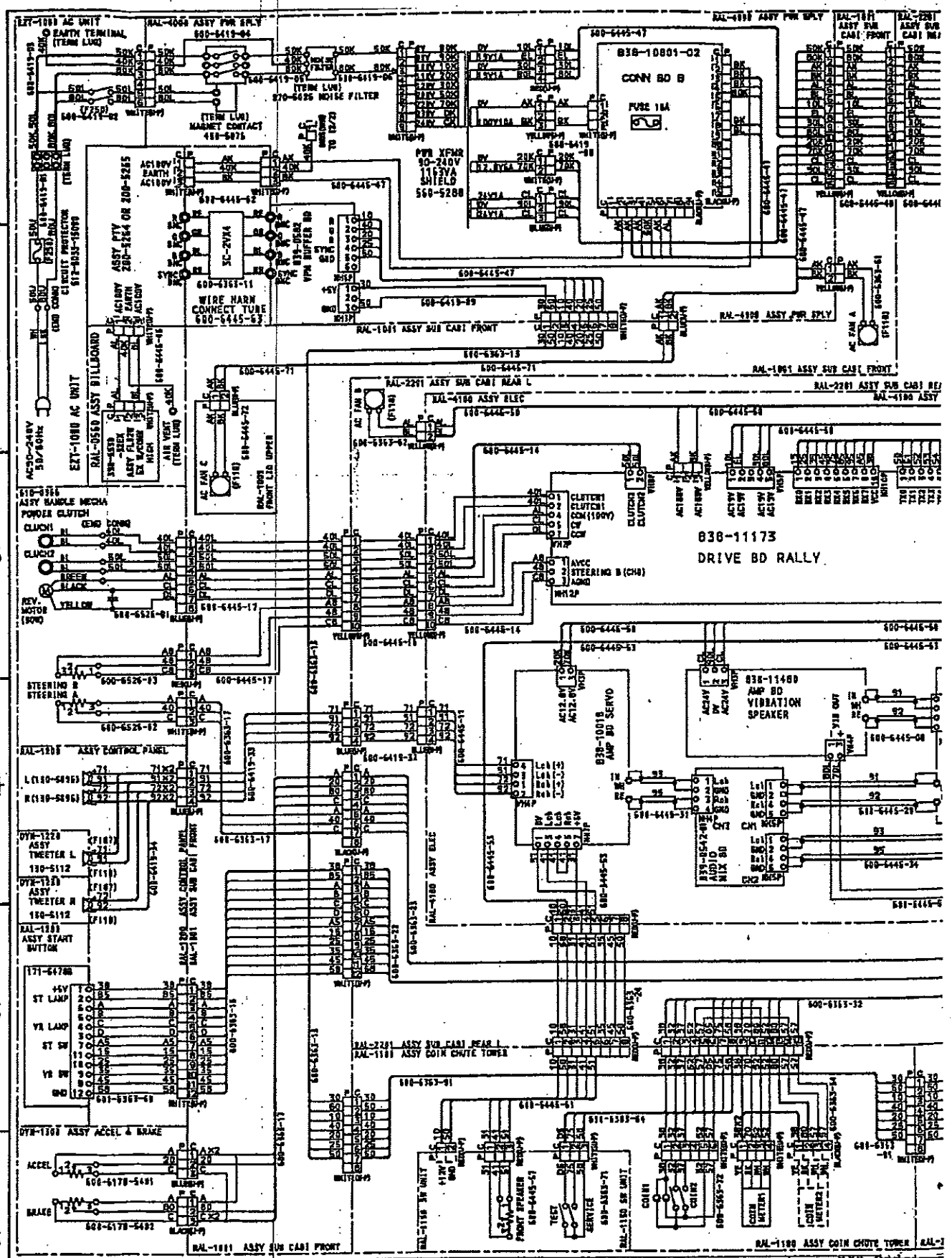
<Example> 51 ..... WHITE / RED



Note 2: The character following the wire color code indicates the size of the wire.

K:	AWG18, UL1015
L:	AWG20, UL1007
None:	AWG22, UL1007

2  
3  
4  
5  
6



A B C



22. WIRING DIAGRAM (D-2/2)

