

# SEGA™

ML0379  
DEITH LEISURE SPARES



TWIN TYPE

## OWNER'S MANUAL



IMPORTANT

- Before using this product, read this OWNER'S MANUAL carefully to understand the contents herein stated.
- After reading this manual, be sure to keep it available nearby the product or elsewhere convenient for referring to it anytime when necessary.

# SEGA ENTERPRISES, LTD.

MANUAL NO. 420 - 6579 - 01

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# BEFORE USING THE PRODUCT, BE SURE TO READ THE FOLLOWING:

## To maintain the safety:

To ensure the safe usage of the product, be sure to read the following before using the product. The following instructions are intended for the users, operators and the personnel in charge of the operation of the product. After carefully reading and sufficiently understanding the warning displays and cautions, handle the product appropriately. Be sure to keep this manual nearby the product or elsewhere convenient for referring to it when necessary.

Herein, explanations which require special attention are enclosed with dual lines. Depending on the potentially hazardous degrees, the terms of DANGER, WARNING, CAUTION, etc. are used. Be sure to understand the contents of the displays before reading the text.



Indicates that mishandling the product by disregarding this pictograph will cause severe injury or death.



Indicates that mishandling the product by disregarding this caution will cause a slight hazardous situation which can result in personal injury and or material damage.



Indicates that mishandling the product by disregarding this warning will cause a potentially hazardous situation which can result in death or serious injury.

## For the safe usage of the product, the following pictographs are used:



Indicates "HANDLE WITH CARE." In order to protect the human body and equipment, this display is attached to places where the Owner's Manual and or Service Manual should be referred to.



Indicates a "Protective Earth Terminal." Before operating the equipment, be sure to connect it to the Ground.

- **Perform work in accordance with the instructions herein stated.**  
Instructions for work are explained by paying attention to the aspect of accident prevention. Failing to perform work as per the instructions can cause accidents. In the case where only those who have technical expertise should perform the work to avoid hazardous situation, the instructions herein state that the serviceman should perform such work.
- **Be sure to turn off power before working on the machine.**  
To prevent electric shock, be sure to turn off power before starting the work in which the worker touches the interior of the product. If the work is to be performed in the power-on status, the Instruction Manual herein always states to that effect.
- **Be sure to ground the Earth Terminal** (this, however, is not required in the case where a power cord with earth is used).  
This product is equipped with the Earth Terminal. When installing the product, Connect the Earth Terminal to the "accurately grounded indoor earth terminal" by using an earth wire. Unless the product is grounded appropriately, the user can be subject to electric shock. After performing repair, etc. for the Control equipment, ensure that the Earth Wire is firmly connected to the Control equipment.
- **Ensure that the Power Supply used is equipped with an Earth Leakage Breaker.**  
This product does not incorporate the Earth Leakage Breaker. Using a power supply which is not equipped with the Earth Leakage Breaker can cause a fire when earth leakage occurs.
- **Be sure to use fuses which meet the specified rating.** (only for the machines which use fuses).  
Using fuses exceeding the specified rating can cause a fire and electric shock.

- **Specification changes (removal of equipment, conversion and addition) not designated by SEGA are not allowed.**

The parts of the product include warning labels for safety, covers for personal protection, etc. It is very hazardous to operate the product by removing parts and or modifying the circuits. Should doors, lids and protective parts be damaged or lost, refrain from operating the product, and contact where the product was purchased from or the office herein stated.

SEGA shall not be held responsible for any accidents, compensation for damage to a third party, resulting from the specifications not designated by SEGA.

- **Ensure that the product meets the requirements of appropriate Electrical Specifications.**

Before installing the product, check for Electrical Specifications. SEGA products have a nameplate on which Electrical Specifications are described. Ensure that the product is compatible with the power supply voltage and frequency requirements of the location. Using any Electrical Specifications different from the designated Specifications can cause a fire and electric shock.

- **Install and operate the product in places where appropriate lighting is available, allowing warning labels to be clearly read.**

To ensure safety for the customers, labels and printed instructions describing potentially hazardous situation are applied to places where accidents can be caused. Ensure that where the product is operated has sufficient lighting allowing the warnings to be read. If any label is peeled off, apply it again immediately. Please place an order with where the product was purchased from or the office herein stated.

- **When handling the Monitor, be very careful. (Applies only to the product w/monitor.)**

Some of the monitor (TV) parts are subject to high tension voltage. Even after turning off power, some portions are still subject to high tension voltage sometimes. Monitor repair and replacement should be performed only by those technical personnel who have knowledge of electricity and technical expertise.

- **Be sure to adjust the monitor (projector) properly. (Applies only to the product w/ monitor.)**

Do not operate the product leaving on-screen flickering or blurring as it is. Using the product with the monitor not properly adjusted may cause dizziness or a headache to an operator, a player, or the customers.

- **When transporting or reselling this product, be sure to attach this manual to the product.**

In the case where commercially available monitors and printers are used in this product, only the contents relating to this product are explained herein. Some commercially available equipment has functions and reactions not stated in this manual. Read this manual together with the specific Instruction Manual of such equipment.

- Descriptions herein contained may be subject to improvement changes without notice.
- The contents described herein are fully prepared with due care. However, should any question arise or errors be found, please contact SEGA.

## **INSPECTIONS IMMEDIATELY AFTER TRANSPORTING THE PRODUCT TO THE LOCATION.**

Normally, at the time of shipment, SEGA products are in a status allowing for usage immediately after transporting to the location. Nevertheless, an irregular situation may occur during transportation. Before turning on power, check the following points to ensure that the product has been transported in a satisfactory status.

- Are there any dented portions or defects (cuts, etc.) on the external surfaces of the cabinet?
- Are Casters and Adjusters, damaged?
- Do the power supply voltage and frequency requirements meet with those of the location?
- Are all wiring connectors correctly and securely connected? Unless connected in the correct direction, connector connections can not be made accurately. Do not insert connectors forcibly.
- Do power cords have cuts and dents?
- Do the fuses used meet specified rating? Is the Circuit Protector in an energized status?
- Are all accessories available?
- Can all Doors and Lids be opened with the Accessory keys? Can Doors and Lids be firmly closed?

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BEFORE USING THE PRODUCT, BE SURE TO READ THE FOLLOWING:

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## SPECIFICATIONS

Installation space	: 1,632 mm (W) × 1,650 mm (D) (64.3 in. × 65.0 in.)
Height	: 2,322 mm (91.4 in.) When the POP is not installed :1,896mm(74.6 in.)
Weight	: Approx. 477 kg. (1051.6 lbs.)
Power, maximum current	: 680W 7.60A (AC 110V 50 Hz AREA) 660W 7.40A (AC 110V 60 Hz AREA) 665W 6.80A (AC 120V 60 Hz AREA) 680W 3.90A (AC 220V 50 Hz AREA) 665W 3.80A (AC 220V 60 Hz AREA) 685W 3.80A (AC 230V 50 Hz AREA) 665W 3.60A (AC 230V 60 Hz AREA) 680W 3.60A (AC 240V 50 Hz AREA) 661W 3.50A (AC 240V 60 Hz AREA)
For TAIWAN Power, current	: 660W 7.35A (MAX.) 500W 5.60A (MIN.)
MONITOR	: 29 TYPE COLOR MONITOR

## INTRODUCTION OF THE OWNER'S MANUAL

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 the product, **STAR WARS RACER ARCADE TWIN TYPE.**

This manual is intended for the owners, personnel and managers in charge of operation of the product. Operate the product after carefully reading and sufficiently understanding the instructions. If the product fails to function satisfactorily, non-technical personnel should under no circumstances touch the internal system. Please contact where the product was purchased from.

Use of this product is unlikely to cause physical injuries or damages to property. However, where special attention is required this is indicated by a thick line, the word "IMPORTANT" and its sign in this manual.



**IMPORTANT**

Indicates that mishandling the product by disregarding this display can cause the product's intrinsic performance not to be obtained, resulting in malfunctioning.

SEGA ENTERPRISES, INC. (U.S.A.)/CUSTOMER SERVICE  
45133 Industrial Drive, Fremont, California 94538, U.S.A.  
Phone : (415) 701-6580  
Fax : (415) 701-6594

## DEFINITION OF LOCATION MAINTENANCE MAN AND SERVICEMAN



Non-technical personnel who do not have technical knowledge and expertise should refrain from performing such work that this manual requires the location's maintenance man or a serviceman to carry out, or work which is not explained in this manual. Failing to comply with this instruction can cause a severe accident such as electric shock.

Ensure that parts replacement, servicing & inspections, and troubleshooting are performed by the location's maintenance man or the serviceman. It is instructed herein that particularly hazardous work should be performed by the serviceman who has technical expertise and knowledge.

The location's maintenance man and serviceman are herein defined as follows:

### **"Location's Maintenance Man" :**

Those who have experience in the maintenance of amusement equipment and vending machines, etc., and also participate in the servicing and control of the equipment through such routine work as equipment assembly and installation, servicing and inspections, replacement of units and consumables, etc. within the Amusement Facilities and or locations under the management of the Owner and Owner's Operators of the product.

### **Activities of Location's Maintenance Man :**

Assembly & installation, servicing & inspections, and replacement of units & consumables as regards amusement equipment, vending machines, etc.

### **Serviceman :**

Those who participate in the designing, manufacturing, inspections and maintenance service of the equipment at an amusement equipment manufacturer.

Those who have technical expertise equivalent to that of technical high school graduates as regards electricity, electronics and or mechanical engineering, and daily take part in the servicing & control and repair of amusement equipment.

### **Serviceman's Activities :**

Assembly & installation and repair & adjustments of electrical, electronic and mechanical parts of amusement equipment and vending machines.



# 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.

Non-compliance with the following points or inappropriate handling running counter to the cautionary matters herein stated can cause personal injury or damage to the machine.



- Before performing work, be sure to turn power off. Performing the work without turning power off can cause an electric shock or short circuit. In the case work should be performed in the status of power on, this manual always states to that effect.
- To avoid electric shock or short circuit, do not plug in or unplug quickly.
- To avoid electric shock, do not plug in or unplug with a wet hand.
- Do not expose Power Cords and Earth Wires on the surface, (floor, passage, etc.). If exposed, the Power Cords and Earth Wires are susceptible to damage. Damaged cords and wires can cause electric shock or short circuit.
- To avoid causing a fire or electric shock, do not put things on or damage Power Cords.
- When or after installing the product, do not unnecessarily pull the power cord. If damaged, the power cord can cause a fire or electric shock.
- In case the power cord is damaged, ask for replacement through where the product was purchased from or the office herein stated. Using the cord as is damaged can cause fire, electric shock or leakage.
- Be sure to perform grounding appropriately. Inappropriate grounding can cause an electric shock.
- Be sure to use fuses meeting specified rating. Using fuses exceeding the specified rating can cause a fire or electric shock.
- Completely make connector connections for IC BD and others. Insufficient insertion can cause an electric shock.
- Specification changes, removal of equipment, conversion and/or addition, not designated by SEGA are not permitted.
  - Failure to observe this may cause a fire or an electric shock. Non-compliance with this instruction can have a bad influence upon physical conditions of the players or the lookers-on, or result in injury during play.
  - SEGA shall not be held responsible for damage, compensation for damage to a third party, caused by specification changes not designated by SEGA.
- Be sure to perform periodic maintenance inspections herein stated.



- For the IC board circuit inspections, only the logic tester is allowed. The use of a multiple-purpose tester is not permitted, so be careful in this regard.
- When cleaning the CRT surfaces, use a soft, dry cloth. Do not apply chemicals such as thinner, benzine, etc.
- The electronic parts on the IC Board could be damaged due to human body's static electricity. Before performing IC Board related work, be sure to discharge physically accumulated statics by touching grounded metallic surfaces, etc.



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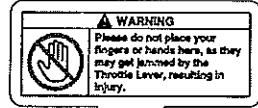
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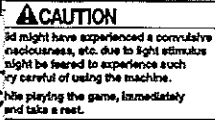
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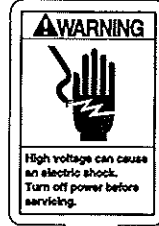
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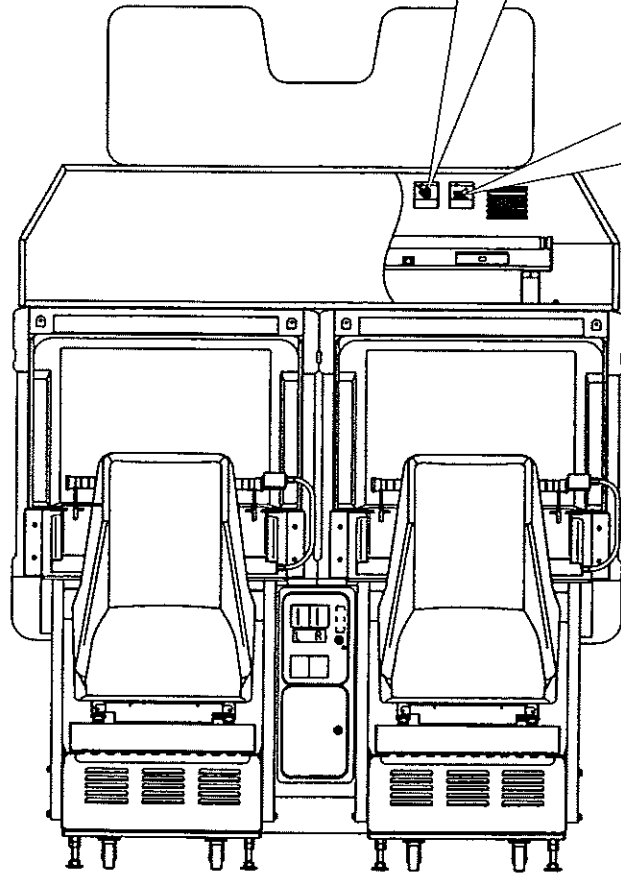
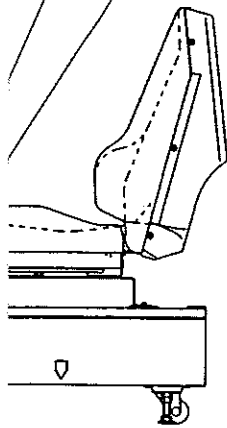


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440-WS0002XEG



Electrical Specifications Display



## 2. PRECAUTIONS CONCERNING INSTALLATION LOCATION



This product is an indoor game machine. Do not install it outside. Even indoors, avoid installing in places mentioned below so as not to cause a fire, electric shock, injury and or malfunctioning.

- Places subject to rain or water leakage, or places subject to high humidity in the proximity of an indoor swimming pool and or shower, etc.
- Places subject to direct sunlight, or places subject to high temperatures in the proximity of heating units, etc.
- Places filled with inflammable gas or vicinity of highly inflammable/volatile chemicals or hazardous matter.
- Dusty places.
- Sloped surfaces.
- Places subject to any type of violent impact.
- Vicinity of anti-disaster facilities such as fire exits and fire extinguishers.
- The operating (ambient) temperature range is from 5°C to 40°C. Only in the case a projector is employed, the temperature range is from 5°C to 30°C.

### LIMITATIONS OF USAGE REQUIREMENTS



- Be sure to check the Electrical Specifications. Ensure that this product is compatible with the location's power supply, voltage and frequency requirements. A plate describing Electrical Specifications is attached to the product. Non-compliance with the Electrical Specifications can cause a fire and electric shock.
- This product requires the Breaker and Earth Mechanisms as part of the location facilities. Using them in a manner not independent can cause a fire and electric shock.
- Ensure that the indoor wiring for the power supply is rated at 15A or higher (AC single phase 100 ~ 120V area), and 7A or higher (AC 220 ~ 240V area). Non-compliance with the Electrical Specifications can cause a fire and electric shock.
- Be sure to independently use the power supply equipped with the Earth Leakage Breaker. Using a power supply without the Earth Leakage Breaker can cause an outbreak of fire when earth leakage occurs.
- Putting many loads on one electrical outlet can cause generation of heat and a fire resulting from overload.
- When using an extension cord, ensure that the cord is rated at 15A or higher (AC 100 ~ 120V area) and 7A or higher (AC 220 ~ 240V area). Using a cord rated lower than the specified rating can cause a fire and electric shock.

OPERATION AREA



- For the operation of this machine, secure a minimum area of 2.8m (W) × 2.3m (D). In order to prevent injury resulting from the falling down accident during game play, be sure to secure the minimum area for operation.
- Be sure to provide sufficient space so as to allow this product's ventilation fan to function efficiently. To avoid machine malfunctioning and a fire, do not place any obstacles near the ventilation opening.
- SEGA shall not be held responsible for damage, compensation for damage to a third party, resulting from the failure to observe this instruction.



For transporting the machine into the location's building, the minimum necessary dimensions of the opening (of doors, etc.) are 0.85m(W) and 1.55m(H).

Electric current consumption

MAX.	7.60 A	(AC 110V 50 Hz)
MAX.	7.40 A	(AC 110V 60 Hz)
MAX.	6.80 A	(AC 120V 60 Hz)
MAX.	3.90 A	(AC 220V 50 Hz)
MAX.	3.80 A	(AC 220V 60 Hz)
MAX.	3.80 A	(AC 230V 50 Hz)
MAX.	3.60 A	(AC 230V 60 Hz)
MAX.	3.60 A	(AC 240V 50 Hz)
MAX.	3.50 A	(AC 240V 60 Hz)
MAX.	7.35 A	(For TAIWAN)

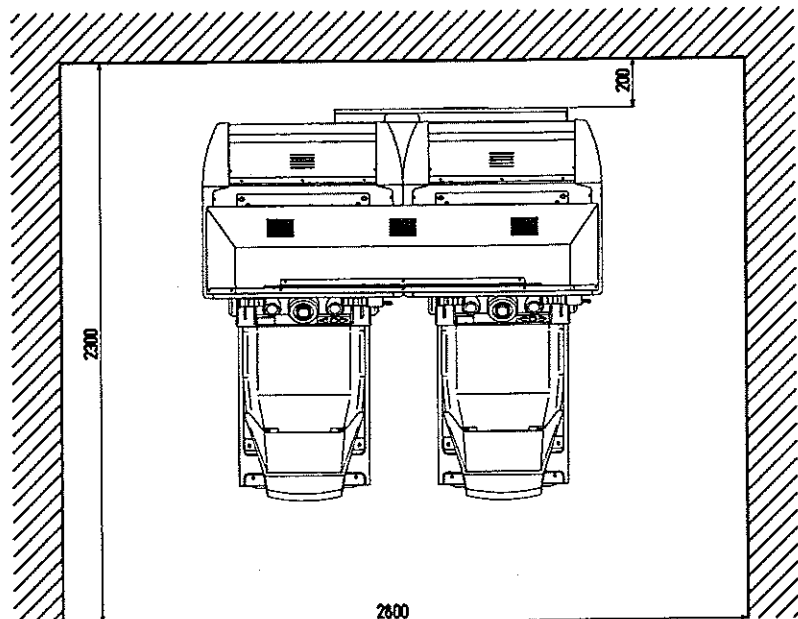


FIG. 2

### 3. OPERATION

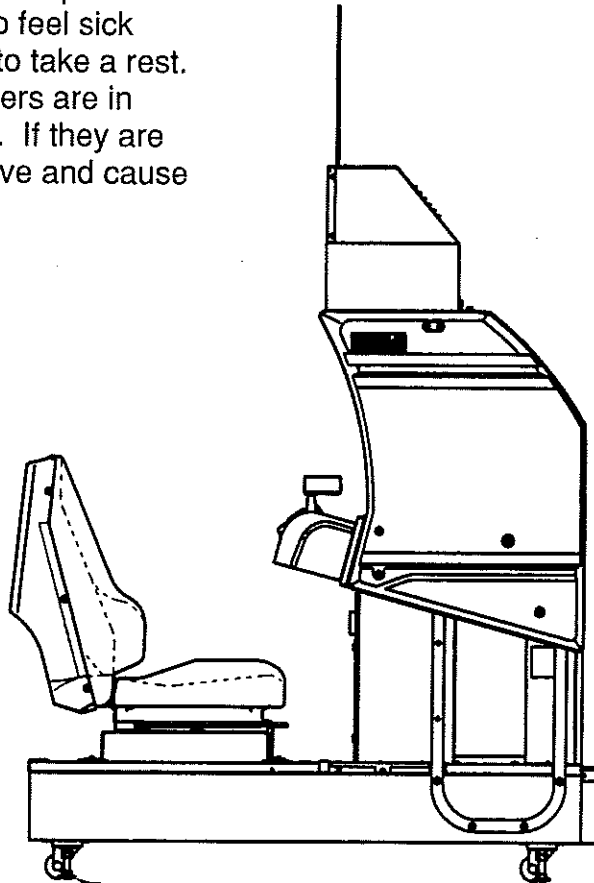
#### PRECAUTIONS TO BE HEEDED BEFORE STARTING THE OPERATION

To avoid injury and trouble, be sure to constantly give careful attention to the behavior and manner of the visitors and players.



In order to avoid accidents, check the following before starting the operation:

- To ensure maximum safety for the players and the customers, ensure that where the product is operated has sufficient lighting to allow any warnings to be read. Operation under insufficient lighting can cause bodily contact with each other, hitting accident, and or trouble between customers.
- Be sure to perform appropriate adjustment of the monitor (projector). For operation of this machine, do not leave monitor's flickering or deviation as is. Failure to observe this can have a bad influence upon the players' or the customers' physical conditions.
- It is suggested to ensure a space allowing the players who feel sick while playing the game to take a rest.
- Check if all of the adjusters are in contact with the surface. If they are not, the Cabinet can move and cause an accident.



Ensure that all of the Adjusters are in contact with the floor.

- Do not put any heavy item on this product. Placing any heavy item on the product can cause a falling down accident or parts damage.
- Do not climb on the product. Climbing on the product can cause falling down accidents. To check the top portion of the product, use a step.



- To avoid electric shock, check to see if door & cover parts are damaged or omitted.
- To avoid electric shock, short circuit and or parts damage, do not put the following items on or in the periphery of the product. Flower vases, flowerpots, cups, water tanks, cosmetics, and receptacles/containers/vessels containing chemicals and water.



To avoid injury, be sure to provide sufficient space by considering the potentially crowded situation at the installation location. Insufficient installation space can cause making bodily contact with each other, hitting accidents, and or trouble between customers.

#### PRECAUTIONS TO BE HEEDED DURING OPERATION (PAYING ATTENTION TO CUSTOMERS)

To avoid injury and trouble, be sure to constantly give careful attention to the behavior and manner of the visitors and players.



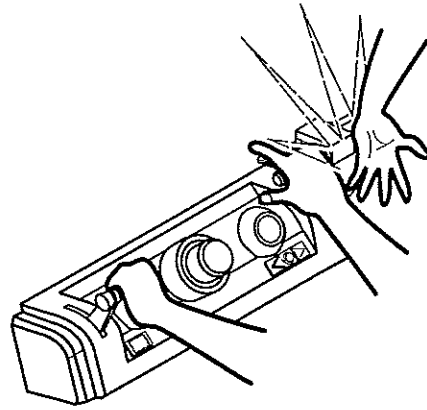
- To avoid injury and accidents, those who fall under the following categories are not allowed to play the game.
  - Those who need assistance such as the use of an apparatus when walking.
  - Those who have high blood pressure or a heart problem.
  - Those who have experienced muscle convulsion or loss of consciousness when playing video game, etc.
  - Those who have a trouble in the neck and or spinal cord.
  - Intoxicated persons.
  - Pregnant women or those who are in the likelihood of pregnancy.
  - Persons susceptible to motion sickness.
  - Persons whose act runs counter to the product's warning displays.
- A player who has never been adversely affected by light stimulus might experience dizziness or headache depending on his physical condition when playing the game. Especially, small children can be subject to those conditions. Caution guardians of small children to keep watch on their children during play.
- Instruct those who feel sick during play to have a medical examination.
- To avoid injury resulting from falling down and electric shock due to spilled drinks, instruct the player not to place heavy items or drinks on the product.
- To avoid electric shock and short circuit, do not allow customers to put hands and fingers or extraneous matter in the openings of the product or small openings in or around the doors.
- To avoid falling down and injury resulting from falling down, immediately stop the customer's leaning against or climbing on the product, etc.
- To avoid electric shock and short circuit, do not allow the customers to unplug the power plug without a justifiable reason.



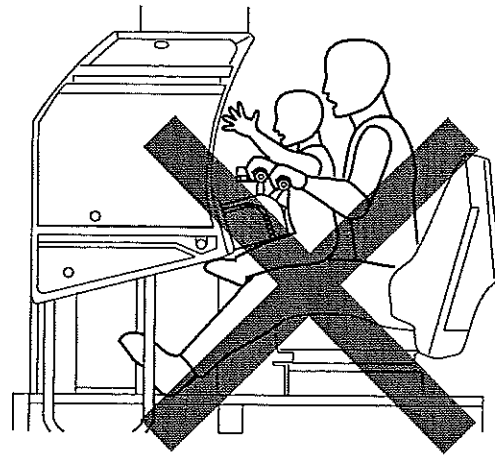


WARNING

- Caution lookers-on so as not to touch the operating unit while in play. Failure to observe this may cause bodily contact with the player and trouble between the customers.



- Caution the player so as not to hold a child in her/his lap to play. Failure to observe this may cause the child to be caught between the Control Panel and the player and fall down.



CAUTION

- Immediately stop such violent acts as hitting and kicking the product. Such violent acts can cause parts damage or falling down, resulting in injury due to fragments and falling down.
- Instruct the Player to adjust the seat before playing the game. Playing the game in a forcible posture can cause a contingent accident.

## 4. NAME OF PARTS

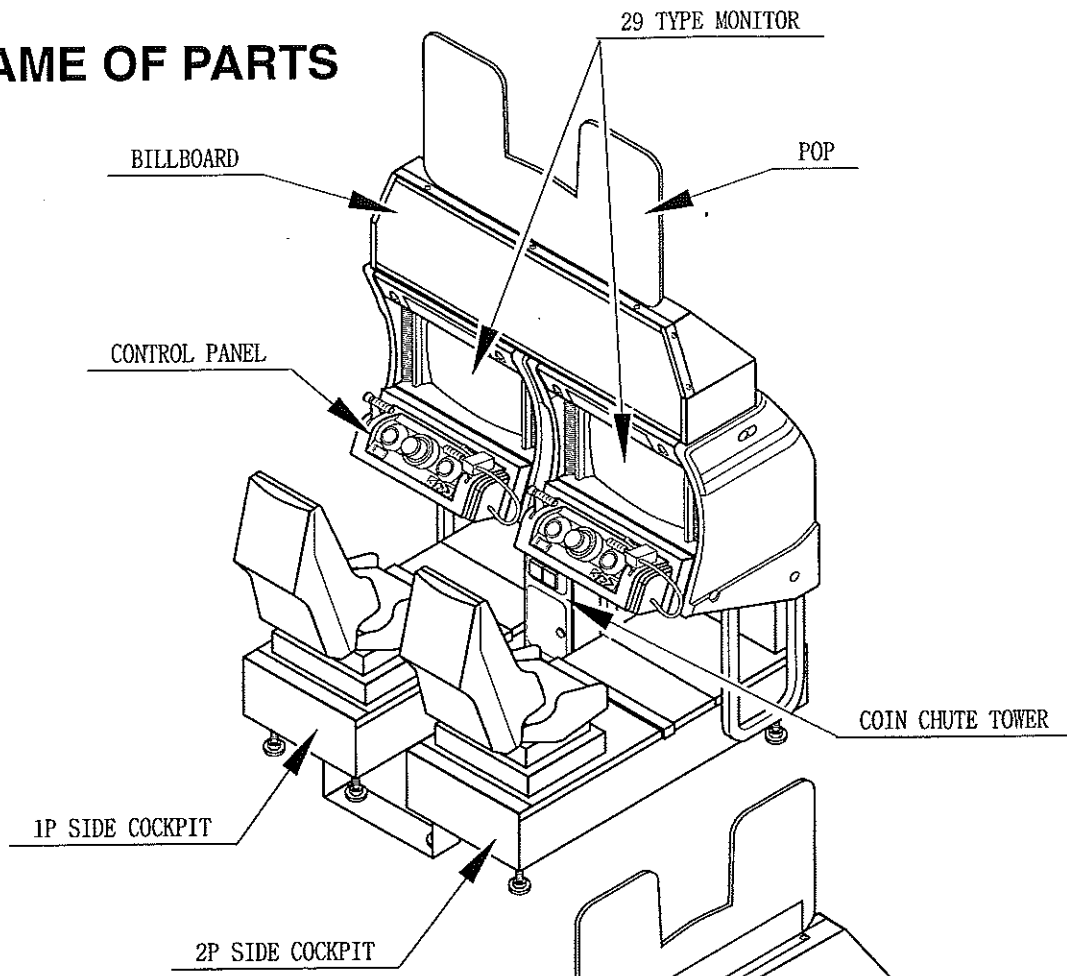


FIG. 4 a OVERVIEW

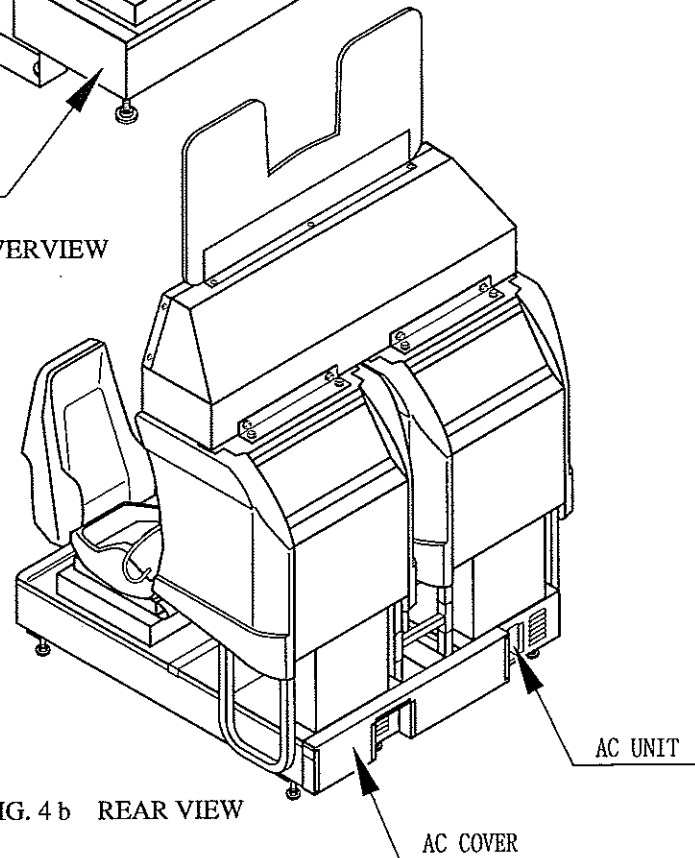


FIG. 4 b REAR VIEW

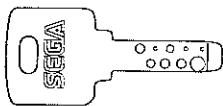
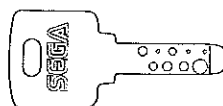
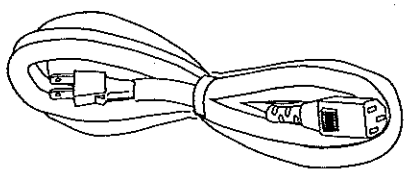
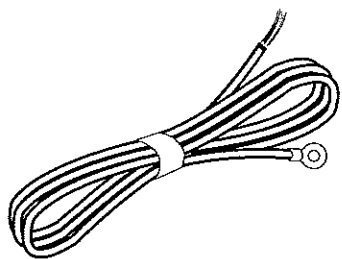
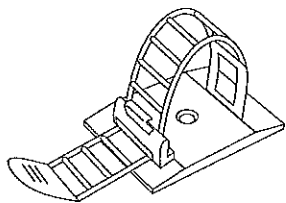
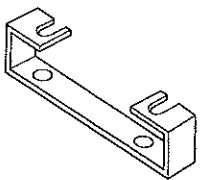
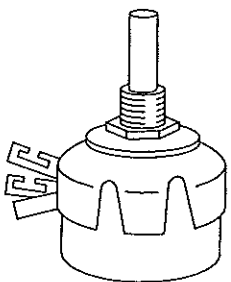
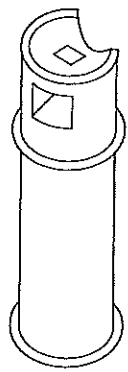
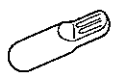
TABLE 4

	Width	Length	Height (mm)	Weight (kg.)
COCKPIT (per seat)	816	1,495	1,520	215
COIN CHUTE TOWER	265	325	570	15
BILLBOARD	1,603	356	384	25
When assembled	1,632	1,650	2,322	477
	When the POP is not installed : 1,896			

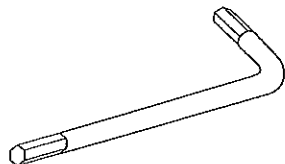
# 5. ACCESSORIES

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

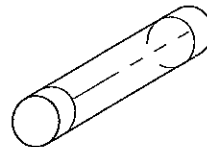
TABLE 5 ACCESSORIES

DESCRIPTION	OWNERS MANUAL	KEY MASTER	KEY
Part No. (Qty.)	420-6579-01 (1)	220-5576 (2)	(2)
Note		For opening/closing the doors	For the CASHBOX DOOR
Figures			
If Part No. has no description, the Number has not been registered or can not be registered. Such a part may not be obtainable even if the customer desires to purchase it. Therefore, ensure that the part is in safekeeping with you.			The Keys are inside the Coin Chute Door at the time of shipment from the factory.
AC Cable (Power Cord) 600-6228 600-6729 (1) TAIWAN 600-6618 (1) OTHERS 600-6619 (1) HONG KONG 600-6695 (1) USA Used for installation, see [5] of Section 6.	WIRE HARN EARTH W/LUG M6 600-6664-02 (1) For TAIWAN. Used for installation, see [5] of Section 6.	CORD CLAMP 280-5009-01 (1) Used for securing the power cord. see [5] of Section 6.	
			
JOINT PLATE DYN-0020 (1) Used for installation, see [2] of Section 6.	VOL CONT B-5K OHM 220-5373 (1) 220-5484 (1) Spare, see Section 10.	STATICIDE (300ML) 090-0074 (1) Articles of consumption (see below).	
			
LAMP 6V 3W 390-5160 (2) Spare, refer to Section 13.		Periodically once every two months as standard, apply the "STATICIDE" (an antistatic spray agent) to the SEATs and wipe with a dry cloth.	
			

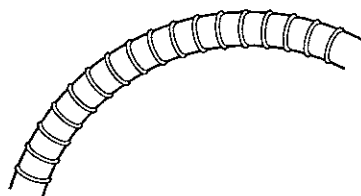
TAMPERPROOF WRENCH  
M8 540-0009-01 (1)  
TOOL



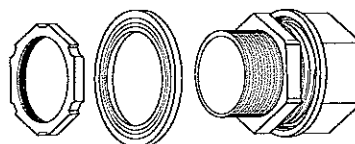
FUSE 7A  
514-5036-7000 (1)  
Spare, see Section 15.



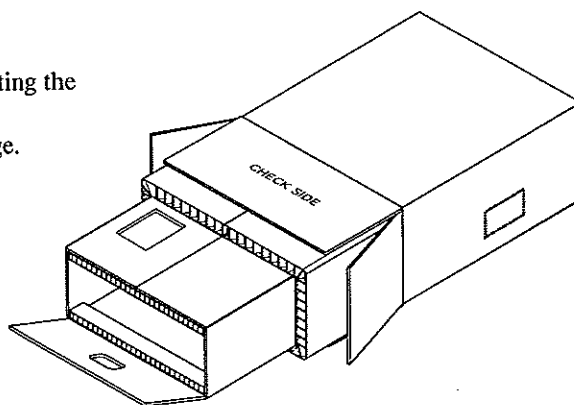
FLEX TUBE  
310-5050-220090 (1)  
For communication play,  
refer to Section 18.



CONN 22  
310-5051-22 (2)  
For communication play,  
refer to Section 18.



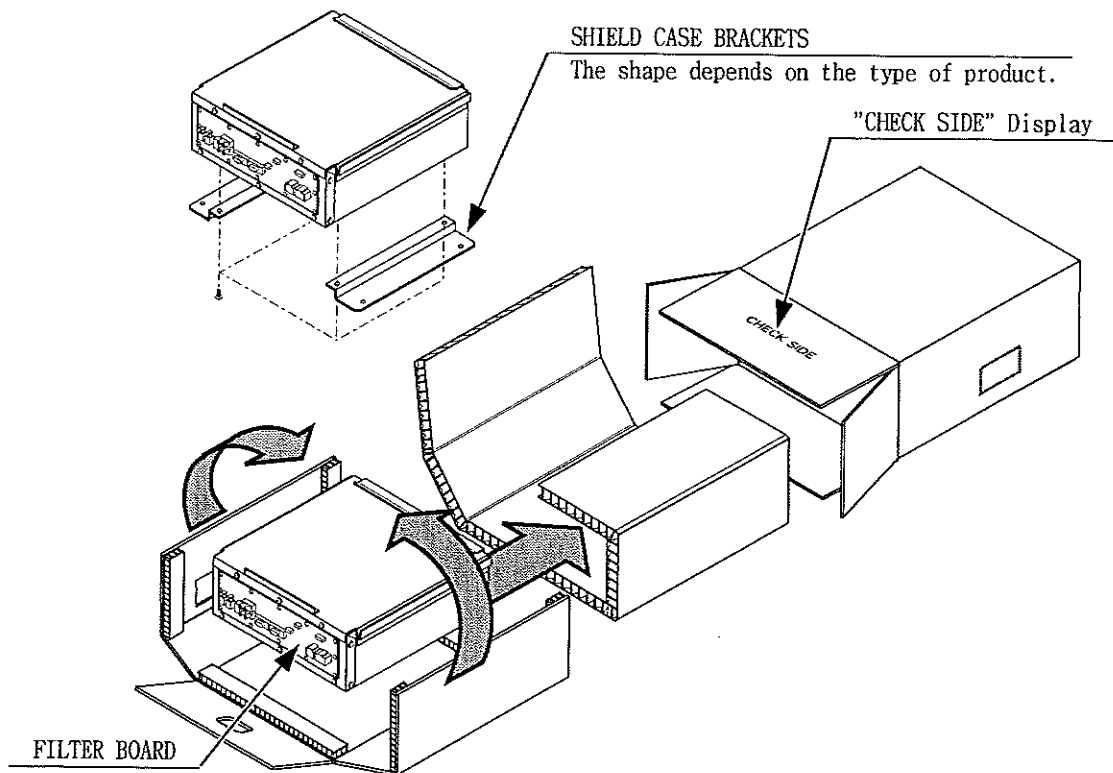
CARTON BOX  
601-10642 (2)  
Used for transporting the  
Game Board.  
Refer to Next Page.



## HOW TO USE THE CARTON BOX



- When asking for the replacement or repair of the product's Game Board (SEGA HIKARU), be sure to put the Game Board together with the Shield Case in a Carton Box. Otherwise, the request is not acceptable.
- Put the Shield Case in the Carton Box by paying attention to the correct direction as per the following instructions and as shown by the instructions printed on the Carton Box. Handling in an erroneous manner can damage the Game Board.
- Remove the Shield Case Brackets from the Shield Case and put the Shield Case in the Carton Box.



Wrap the Shield Case with the packing material and put it in the Carton Box as shown. Putting it upside down or packing otherwise in the manner not shown can damage the Game Board and parts.

## 6. ASSEMBLING AND PRECAUTIONS



- Perform assembly work by following the procedure herein stated. Failing to comply with the instructions can cause electric shock hazard.
- Assembling should be performed as per this manual. Since this is a complex machine, erroneous assembling can cause an electric shock, machine damage and or not functioning as per specified performance.
- When assembling, be sure to use plural persons. Depending on the assembly work, there are some cases in which working by one person alone can cause personal injury or parts damage.
- Perform connector connection securely. Insufficient insertion can cause electric shock and short circuit hazards.

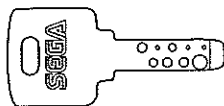


Perform the tightening of hexagon bolts described in **1** above after adjusting the adjusters as per **2**. Make sure that until the adjuster adjustments are made, keep the hexagon bolts tightened temporarily.

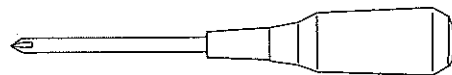
When carrying out the assembly work, follow the procedure in the following 7-item sequence:

- 1** ASSEMBLING THE COCKPIT
- 2** SECURING IN PLACE (ADJUSTER ADJUSTMENT)
- 3** INSTALLING THE BILLBOARD
- 4** INSTALLING THE AC COVERS (WIRING CONNECTION)
- 5** POWER SUPPLY, AND EARTH CONNECTION
- 6** TURNING POWER ON
- 7** ASSEMBLING CHECK

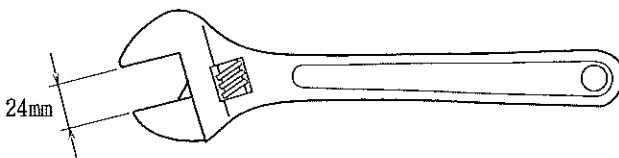
Note that the master key and the cashbox door key (accessories) in addition to the tools such as a Phillips type plus screwdriver, wrench for M16 hexagon bolt and socket wrench are required for the assembly work.



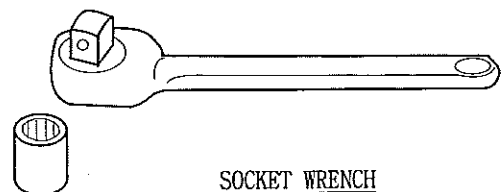
MASTER KEY



Phillips type screwdriver



WRENCH (for M16 hexagon bolt)



SOCKET WRENCH

# 1

## ASSEMBLING THE COCKPIT

- ① Place the two cockpits side by side. Position the 1P cabinet at the left-hand side as viewed facing the monitor. STICKER "L" is attached on the back of 1P cabinet, and STICKER "R" on the back of 2P cabinet (Fig. 6.1a).

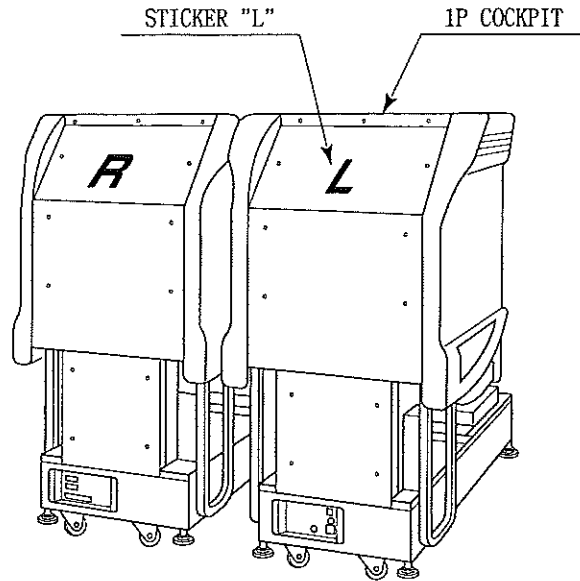


FIG. 6. 1 a

- ② Install the coin chute tower in between both cabinets. Open the coin chute door and the cashbox door to secure with the 4 hexagon bolts from inside the doors. At this time, make sure that the bolts are fastened temporarily (Fig. 6.1b).

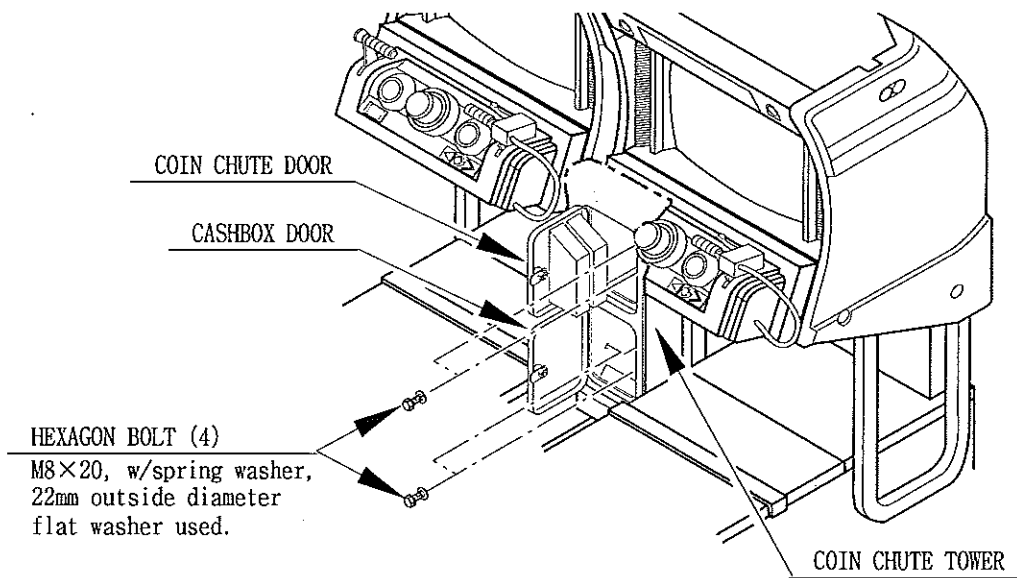
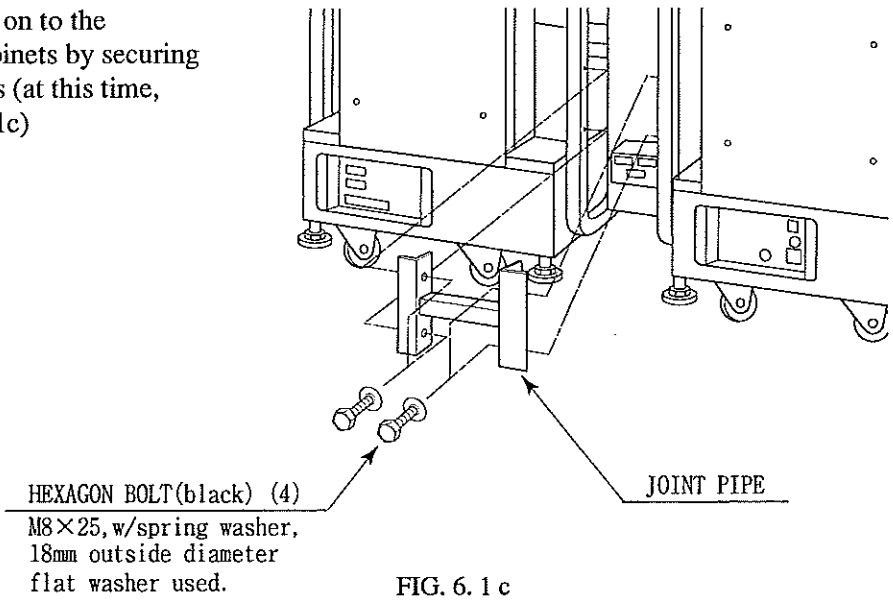
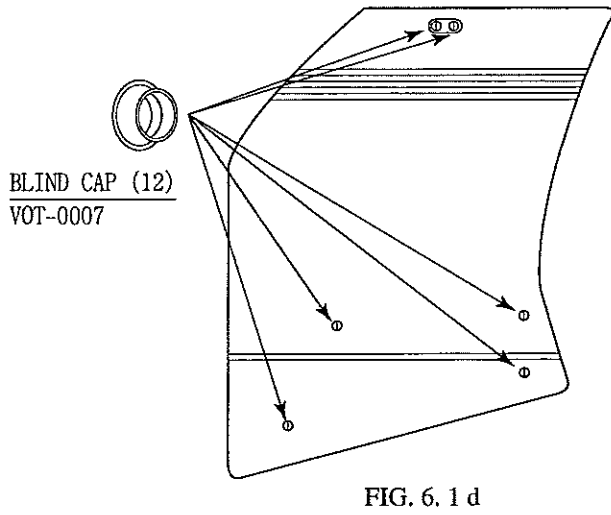


FIG. 6. 1 b

- ③ Install the joint pipe on to the backside of both cabinets by securing with 4 hexagon bolts (at this time, temporarily) (Fig.6.1c)



- ④ Attach the blind cap to the head of each hexagon bolt (6 bolts on each side of the monitor ... a total of 12) by pressing it in.





## 2 SECURING IN PLACE (ADJUSTER ADJUSTMENT)



- Make sure that all of the adjusters are in contact with the floor. If they are not, the cabinet can move and cause an accident.
- Be sure to use plural workers to perform work. Depending on the specific work, there are some cases in which working by one person alone can cause personal injury and parts damage.

This machine has 8 casters and 8 adjusters (Fig. 6.2a). When the installation position is determined, cause the adjusters to come into contact with the floor directly, make adjustments in a manner so that the casters will be raised approximately 5mm. 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 Attach the joint plate for the 2 internal adjusters shown. First, cause the other 6 adjusters to come into contact with the floor. Make adjuster adjustments with a wrench in a manner to ensure the machine's position is level (Fig.6.2b).
- ③ After making adjustments, fasten the adjuster nut upward and secure the height of the adjuster (Fig.6.2b).

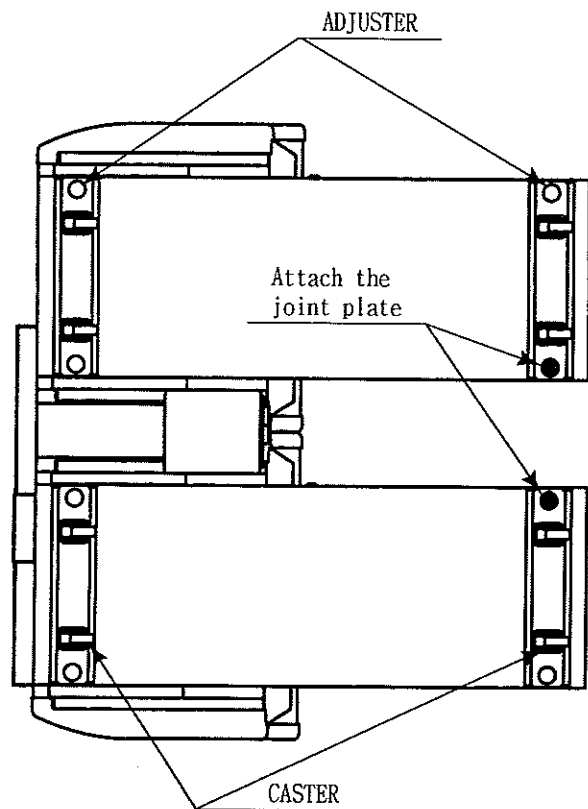


FIG. 6.2 a BOTTOM VIEW

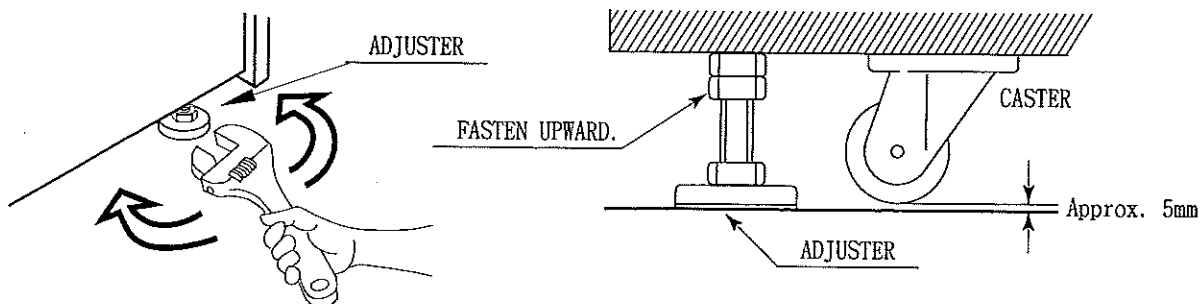


FIG. 6.2 b ADJUSTER

- ④ Insert the notch portions of the joint plate to the 2 adjuster bolt portions.
- ⑤ Lower the adjuster and fasten the nut upward. Secure the joint plate with the nuts and the bottom of adjuster (Fig.6.2c).

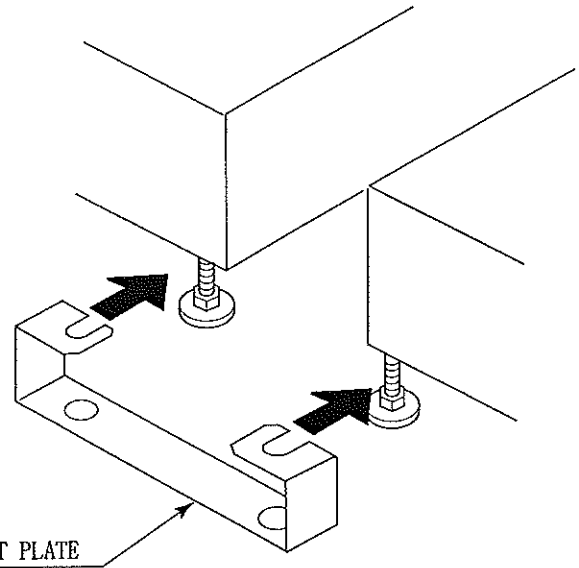
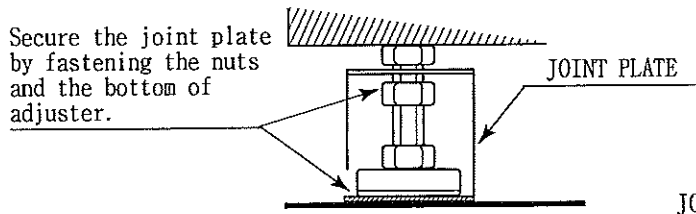


FIG. 6. 2 c JOINT PLATE

After securing the height of the adjusters, tighten all of the hexagon bolts which were fastened temporarily as per i above.

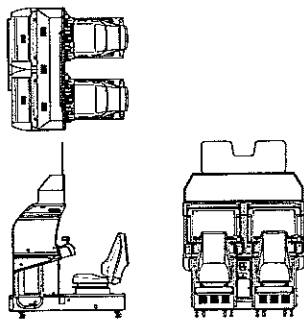


FIG. 6. 2 d  
Refer to this Fig. (Scale:1/100)  
for the layout of the place of  
installation.

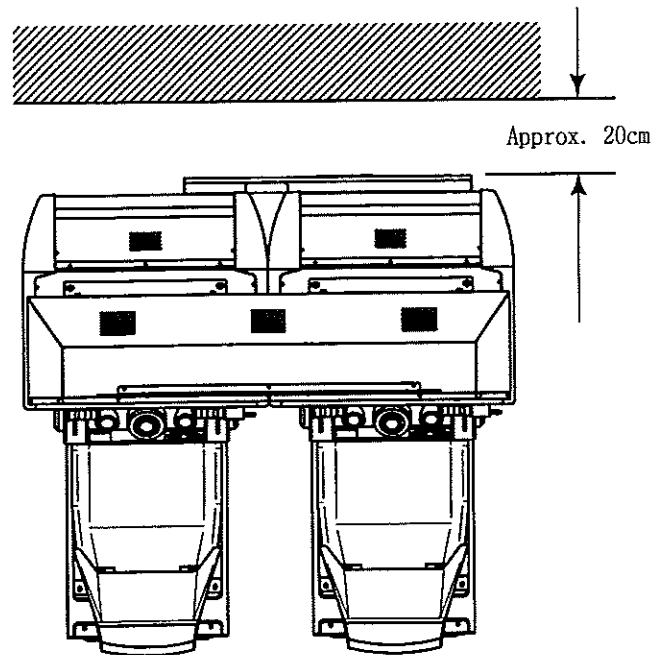


FIG. 6. 2 e  
Provide sufficient space so as to  
allow for ventilation by the ven-  
tilation fan.

### 3

## INSTALLING THE BILLBOARD



Do not perform work alone. Performing work alone can cause an accident. Be sure to use plural workers to perform work.



To perform work safely and securely, be sure to prepare a step which is in a secure and stable condition. Performing work without using the step can cause violent falling down accidents.

- ① Lift the Billboard by 2 workers and mount it on the 2 Cockpit assembled previously.
- ② Take off the 7 truss screws to remove the Billboard Sash from the Billboard.
- ③ Remove the Billboard Plate from the Billboard in the manner as pulling out upwards.
- ④ Fasten the 4 Hexagon Bolts inside the Billboard to secure.
- ⑤ Connect the wire connector inside the Billboard to the wire connector for the fluorescent lamp in the left side of the base when facing the Billboard inside.

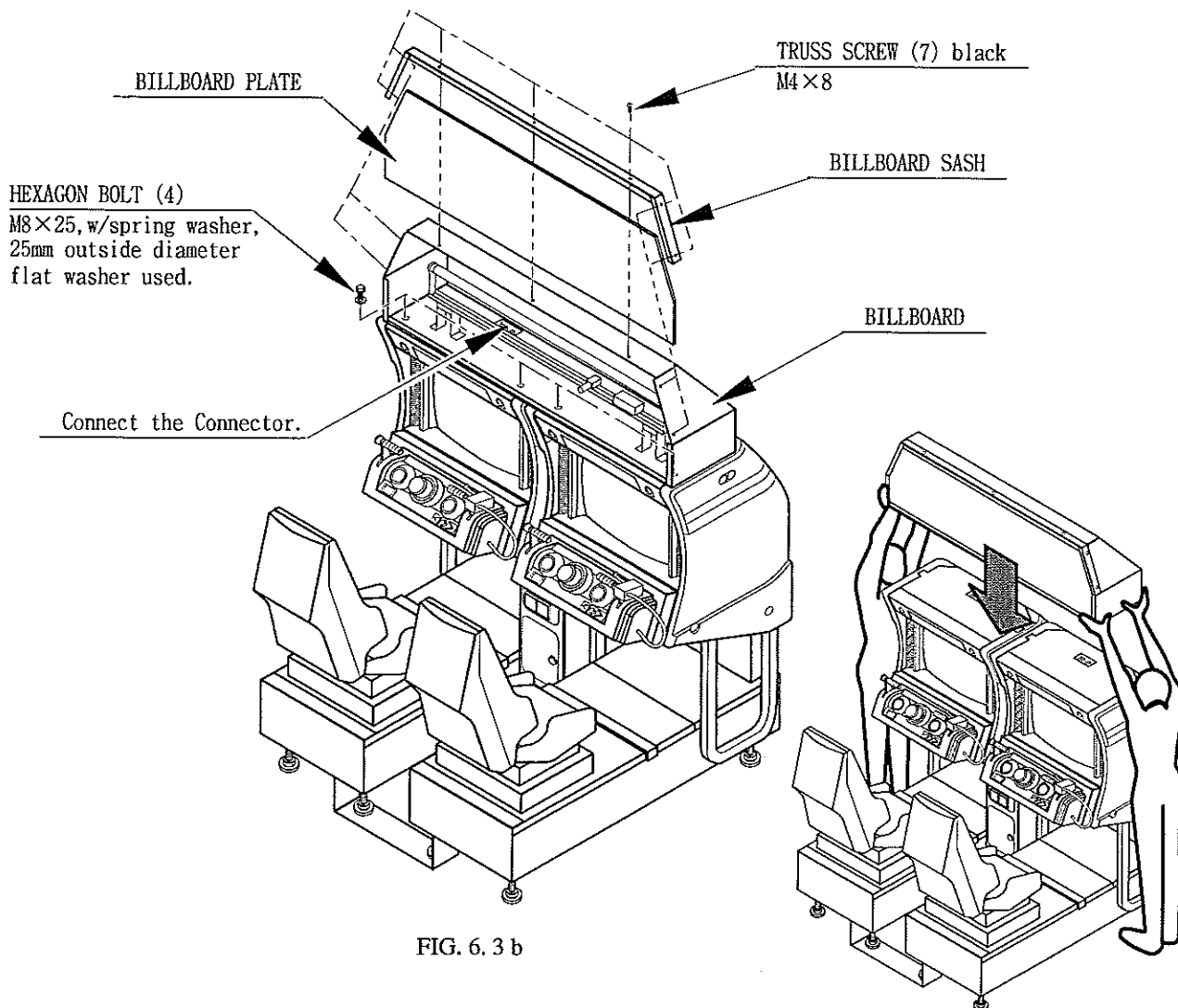
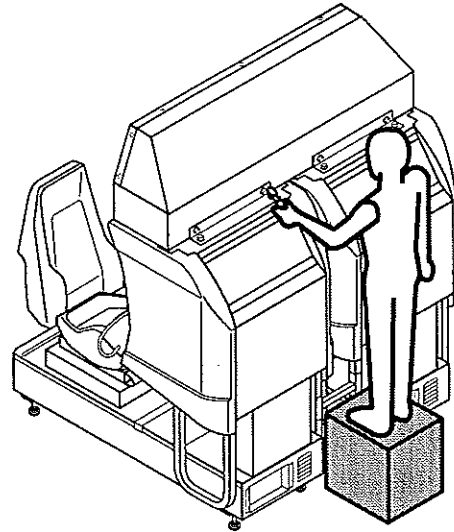


FIG. 6.3 b

For performing work, use 2 workers.

FIG. 6.3 a

- ⑥ Install the 2 Billboard Holders to the back of the Billboard and secure with the 4 Hexagon Bolts for each.
- ⑦ Insert the Billboard Plate into the Billboard and install the Billboard Sash.



When performing work, be sure to use a step.

FIG. 6. 3 c

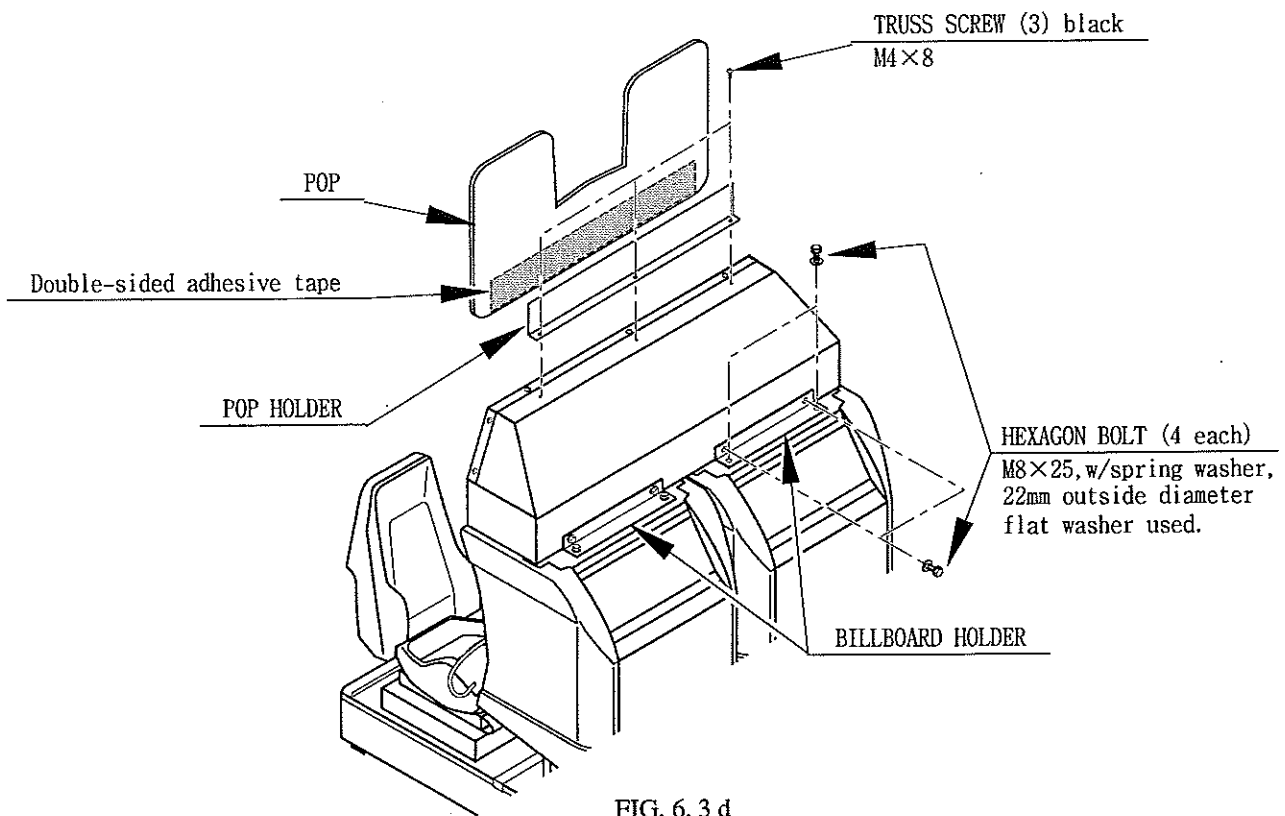


FIG. 6. 3 d

### INSTALLING THE POP

When the POP is installed, the height is 2,322mm.

- ① Peel off the double-sided adhesive tape on the POP reverse and stick the POP Holder. (FIG. 6. 3 d)
- ② By using the 3 Truss screws, secure the POP Holder to the Billboard ceiling. (FIG. 6. 3 d)

# 4

## INSTALLING THE AC COVERS (WIRING CONNECTION)



- Before starting to work, ensure that the Power SW is OFF. Failure to observe this can cause electric shock and short circuit hazards.
- Use care so as not to damage wirings. Damaged wiring can cause electric shock and short circuit hazards.

The AC cover is used for protecting the wiring and optic fiber cables. When performing the work, be very careful so as not to cause damage by catching them. Pay due attention to handling optic fiber cables in particular. Ensure not to cause breakage to the cables due to excessive bending.

- ① Attach AC COVER A to the back of the cabinet (Fig. 6.4) by securing with 5 screws.
- ② Make wiring connections between both cabinets & the coin chute tower. Insert the supplied wiring connectors to the corresponding ones which have an identical color and the same number of pins.
- ③ Insert the optic fiber cables to the optic fiber connectors in a manner as applicable. There are "TX" and "RX" connectors. Make sure to connect the "TX" connector of one cabinet to the "RX" connector of the other cabinet (see Sec. 20).
- ④ Secure the wiring and optic fiber cable with cord clamps in AC COVER A.
- ⑤ Install AC COVER B. Insert AC COVER B to AC COVER A from above and secure with 4 screws.
- ⑥ Secure AC Cover C & AC Cover Lid with 4 screws for each.

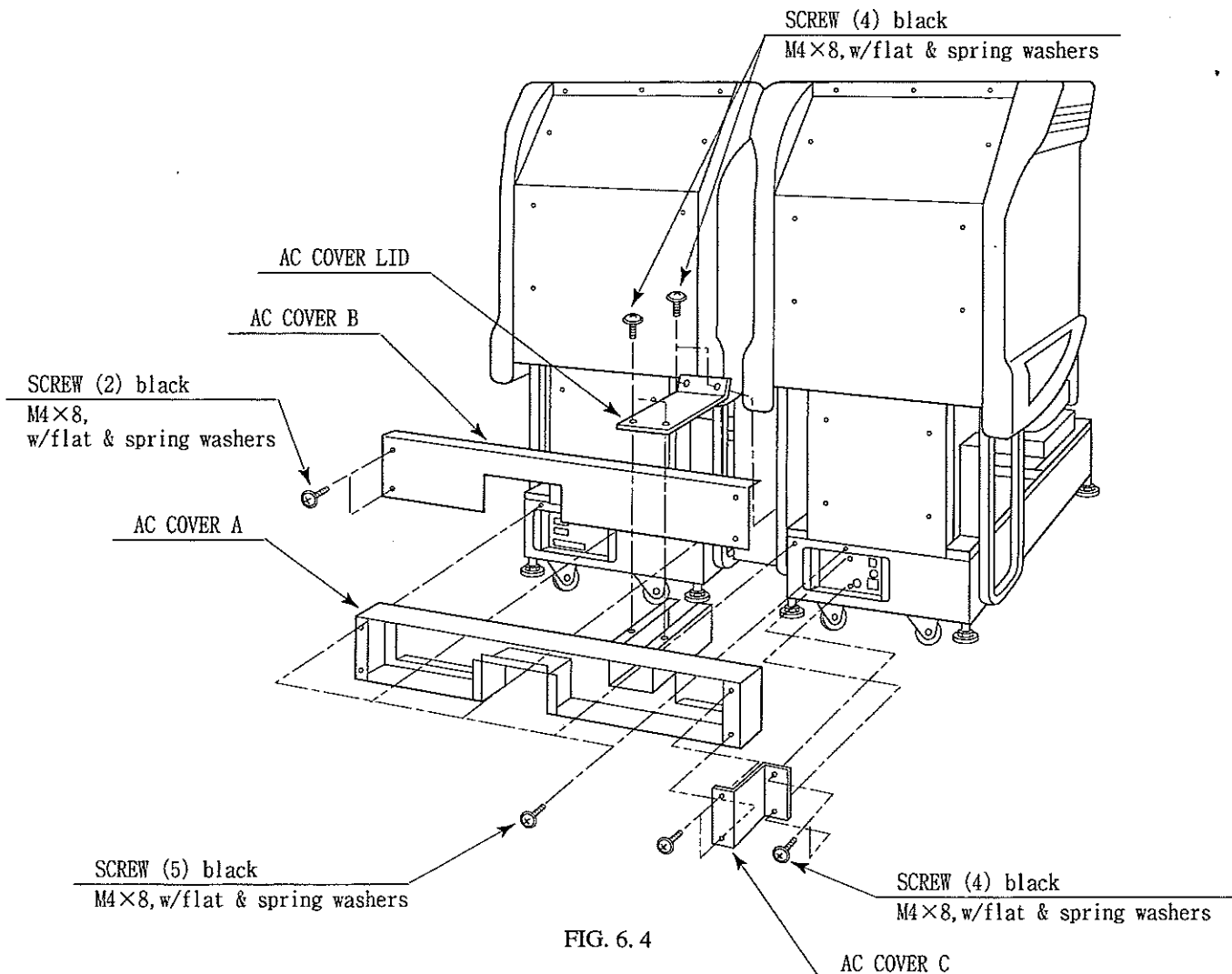


FIG. 6.4

# 5

## POWER SUPPLY, AND EARTH CONNECTION



- Be sure to independently use the power supply socket outlet equipped with an Earth Leakage Breaker. Using a power supply without an Earth Leakage Breaker can cause a fire when electric leakage occurs.
- Ensure that the "accurately grounded indoor earth terminal" and the earth wire cable are available (except in the case where a power cord plug with earth is used). This product is equipped with the earth terminal. Connect the earth terminal and the indoor earth terminal with the prepared cable. If the grounding work is not performed appropriately, customers can be subjected to an electric shock, and the product's functioning may not be stable.
- Ensure that the power cord and earth wire are not exposed on the surface (passage, etc.). If exposed, they can be caught and are susceptible to damage. If damaged, the cord and wire can cause electric shock and short circuit accidents. Ensure that the wiring position is not in the customer's passage way or the wiring has protective covering.
- After wiring power cord on the floor, be sure to protect the power cord. Exposed power cord is susceptible to damage and causes an electric shock accident.

The AC Unit is mounted on the 1P COCKPIT. The AC Unit incorporates the Main SW, earth terminal and Inlet.

- ① Ensure that the Main SW is OFF.

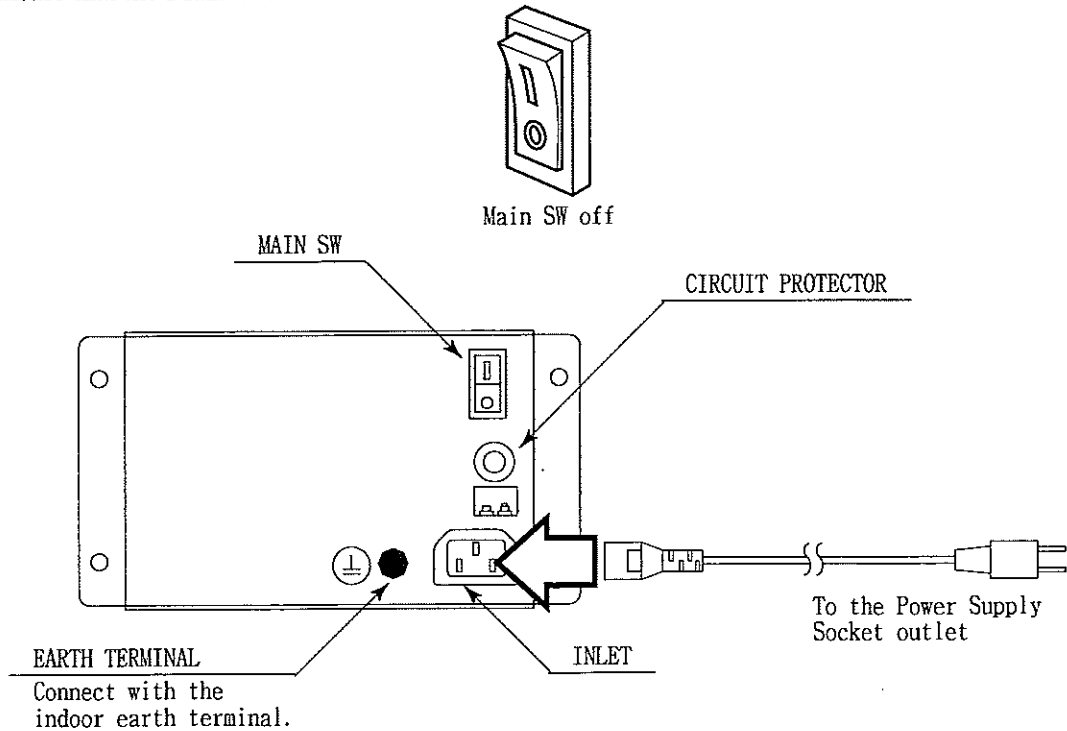


FIG. 6. 5 a AC unit

- ② Connect one end of the earth wire to the AC Unit earth terminal, and the other end to the indoor earth terminal. The AC Unit earth terminal has a Bolt and Nut combination. Take off the Nut, pass the end of earth wire through the Bolt, and fasten the Nut. Note that the Earth Wire is incorporated in the Power Cord for the Areas of AC 120V (USA) and AC 220 ~ 240V, and therefore, this procedure is not necessary.

Connect the Earth Wire to the Earth Terminal.

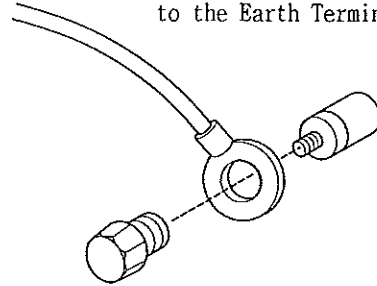


FIG. 6. 5 b Earth Wire Connection

- ④ Firmly insert the power plug into the socket outlet. Insert the opposite side of Power Cord plug to the AC Unit's connector ("INLET").
- ⑤ Perform wiring for the Power Cord and Earth Wire. Install protective covering for the Power Cord and Earth Wire.

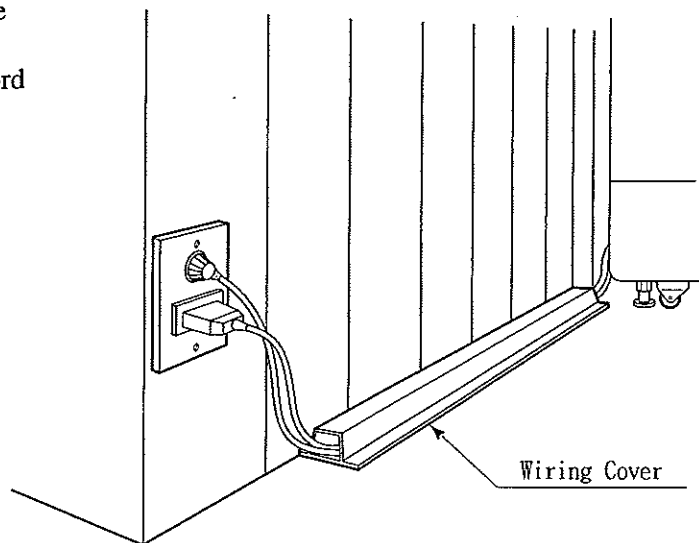
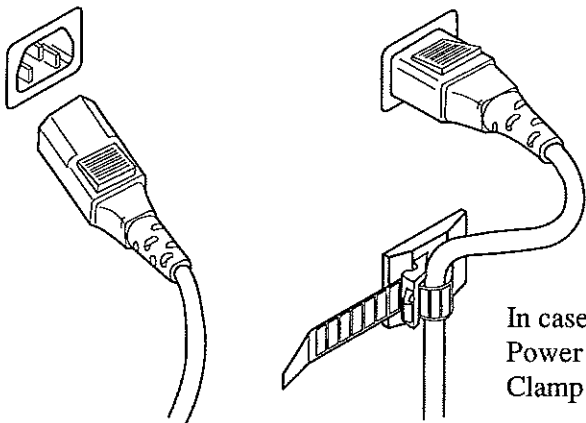


FIG. 6. 5 c Connecting Power Cord and Earth Wire



In case the Power Plug is apt to come out of place, secure the Power Cord to the periphery of the AC Unit with the Cord Clamp (an accessory).

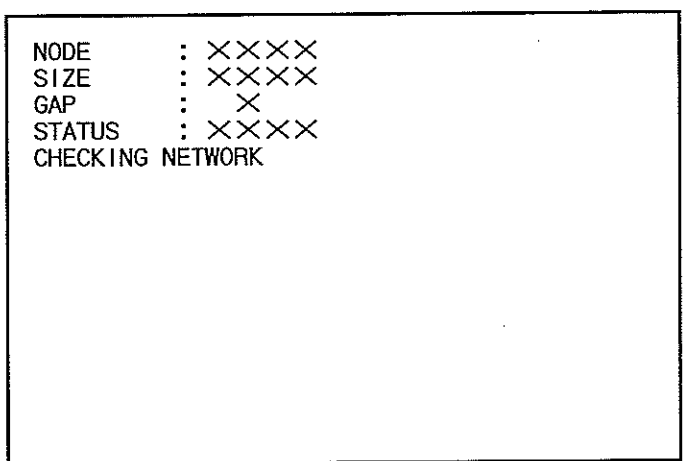
HOW TO USE THE CORD CLAMP

# 6

## TURNING POWER ON

Turn the AC Unit Main SW on to turn on power. When power is turned on, the fluorescent lamp inside the Billboard lights up. The NETWORK check will be performed upon turning power on. During the NETWORK check, the network checking is displayed on the screen. The Advertise screen appears after the checking has been finished. Normally the NETWORK check is finished less than a minute.

Simultaneously at this time, sound is emitted from the speakers on the monitor left and right. If NO SOUND OUTPUT is set in the TEST mode, sound is not emitted during ADVERTISE. Turning power off does not clear the data such as the number of credits, the ranking, and the latest scores in this product. However, the data of inserted coins less than one credit and BONUS ADDER is cleared once the power is turned off. If power is turned on again after turning it off when the play-worth credits are remaining, the game start screen is displayed on the monitor and the game begins. When there is any problem with communication play, the checking screen is kept displayed. In the case of error, an error message is displayed for a while and the NETWORK check is performed again.



NETWORK check screen

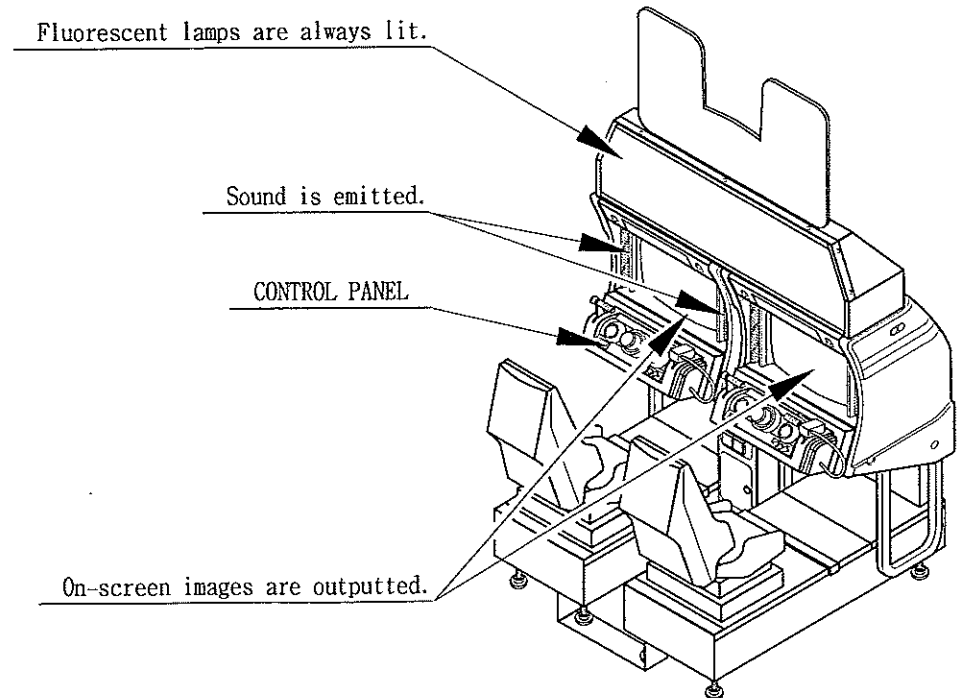


FIG. 6. 6



# 7

## ASSEMBLING CHECK

In the TEST MODE, ascertain that the assembly has been made correctly and IC BD. is satisfactory (refer to Section 9).

In the test mode, perform the following test:

### (1) MEMORY TEST

RAM TEST				
IC15	IC16	IC17S	IC18S	GOOD
IC22	IC23	IC24S	IC25S	GOOD
IC28	IC29S			GOOD
IC41				GOOD
IC42				GOOD
IC44	IC45S	IC46	IC47S	GOOD
IC91S	IC92S			GOOD
IC98				GOOD
OPTIONAL SOUND BOARD:				
IC12				GOOD
OPTIONAL COMMUNICATION BOARD:				
IC7	IC8	IC9	IC10	GOOD
.				
.				
PRESS TEST BUTTON TO EXIT				

Selecting the RAM TEST on the system 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) C.R.T. TEST

C.R.T. TEST PAGE#1	
0	31
RED	
GREEN	
BLUE	
WHITE	
PRESS SERVICE BUTTON TO ANOTHER PAGE	
PRESS TEST BUTTON TO EXIT	

In the system test mode menu, selecting C.R.T. TEST allows the screen (on which the monitor is tested) to be displayed.

C.R.T. TEST PAGE#2	
PRESS SERVICE BUTTON TO ANOTHER PAGE	
PRESS TEST BUTTON TO EXIT	

(3) SOUND TEST

```
SOUND TEST

MAIN SPEAKER LEFT
MAIN SPEAKER RIGHT
OPTION SPEAKER LEFT
OPTION SPEAKER RIGHT
> EXIT

SELECT WITH SERVICE BUTTON
AND
PRESS TEST BUTTON
```

In the system test mode, selecting SOUND TEST causes the screen (on which sound related BD and wiring connections are tested) to be displayed.

Check if the sound is satisfactorily emitted from each speaker and the sound volume is appropriate.

(4) INPUT TEST

```
INPUT TEST

BOOST                OFF
BRAKE                OFF
LEFT  BUTTON         OFF
RIGHT BUTTON         OFF
START                OFF

SERVICE             OFF
TEST                 OFF

LEFT  LEVER          **
RIGHT LEVER          **

PRESS TEST AND SERVICE BUTTON TO EXIT
```

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

```
JVS TEST
> DISPLAY CONFIG
EXIT

NODE      1/1
SWITCH
SYSTEM  _____
PLAYER1  _____
PLAYER2  _____
COIN
SLOT1 0000  SLOT2 8000
ANALOG
CH1 6300 CH2 5A00 CH3 7D00 CH4 8100
CH5 1F00 CH6 1D00 CH7 1F00 CH8 2000

SELECT WITH SERVICE BUTTON
AND
PRESS TEST BUTTON
```

(5) OUTPUT TEST

OUTPUT TEST	
START LAMP	OFF
BOOST LAMP	OFF
BOOST LOCK	OFF
> EXIT	

SELECT WITH SERVICE BUTTON  
AND  
PRESS TEST BUTTON

Select OUTPUT TEST from the Menu screen in the Game Test Mode to cause the screen (on which output unit such as lamps and wiring connections are tested) to appear. Ensure that the output unit functions satisfactorily.

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

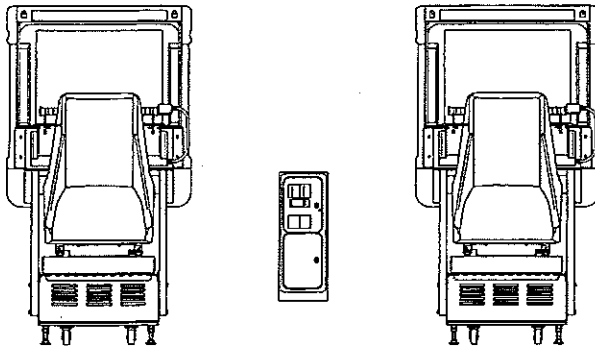
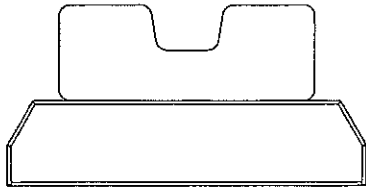
## 7. PRECAUTIONS TO BE HEEDED WHEN MOVING THE MACHINE



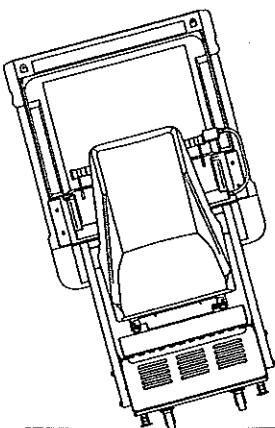
- When moving the machine, be sure to unplug the power plug. Moving the machine with the plug as is inserted can damage the power cord, and cause fire and electric shock hazards.
- When moving the machine on the floor, retract the Adjusters and ensure that Casters make contact with the floor. During transportation, pay careful attention so that Casters do not tread power cords and earth wires. Damaging the power cords can cause electric shock and short circuit hazards.
- When moving the machine, do not push the cabinet from the left/right direction. Pushing the cabinet from the left/right direction can cause the cabinet to fall down, resulting in injury and or parts damage.



When transporting the product in places with steps, disassemble into each unit before transporting. Inclining the product in an as is assembled condition or placing the cabinet in places with steps can damage the unit's joining portions.



When transporting the product in places with step-like differences in grade, disassemble into each unit before transporting.



Do not push an independent (detached) cockpit from the left/right direction.

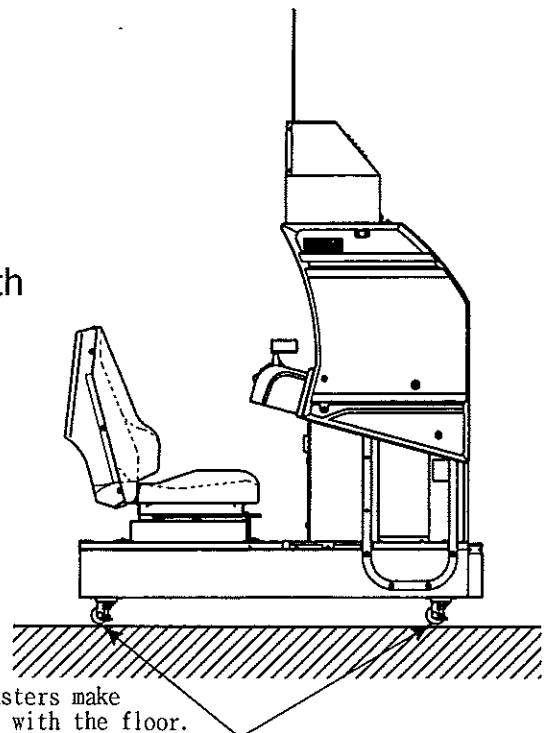


FIG. 7

## 8. CONTENTS OF GAME

The following explanations apply to the case the product is functioning satisfactorily. Should there be any moves different from the following contents, some sort of faults may have occurred. Immediately look into the cause of the fault and eliminate the cause thereof to ensure satisfactory operation.

When the product is energized, the Billboard's fluorescent lamp is always lit. During the advertise mode, advertise screen is shown on the monitor and sound is emitted from the speakers on the monitor left and right. Setting to No Sound Output during the advertise can be performed in the TEST mode. During the advertise mode, the button on the Control Panel is unlit.

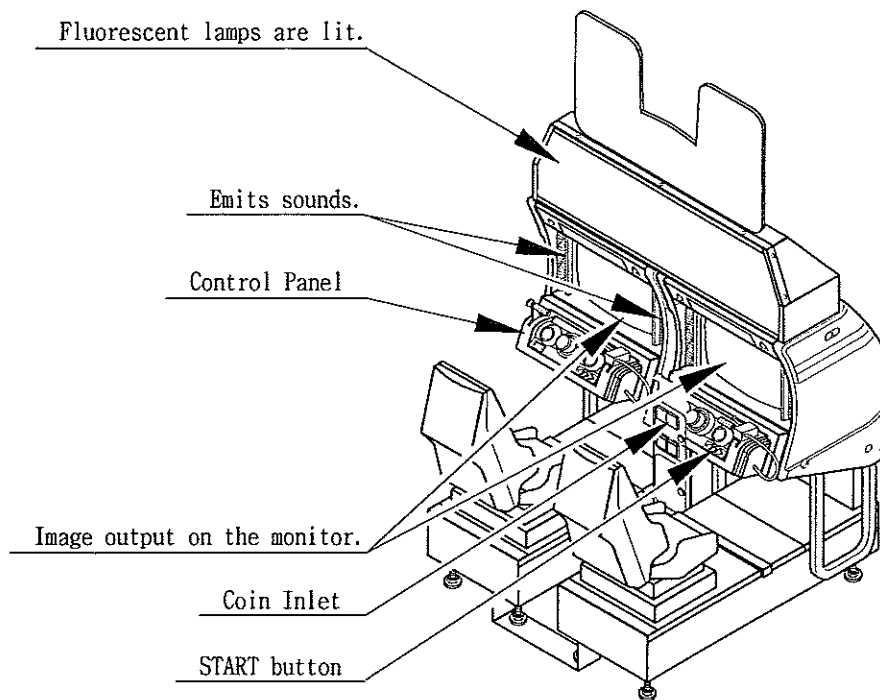


FIG. 8

## HOW TO PLAY

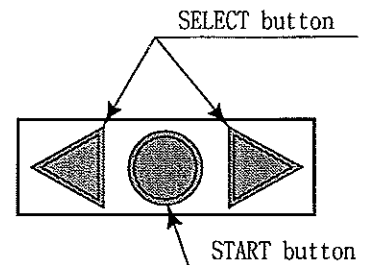
Get in the seat. To adjust the seat position forward and rearward, pull the lever under the seat in the right-hand side to release the seat lock.

The game starts upon inserting the one play-equivalent number of coins.

### ■ SELECT SCREEN

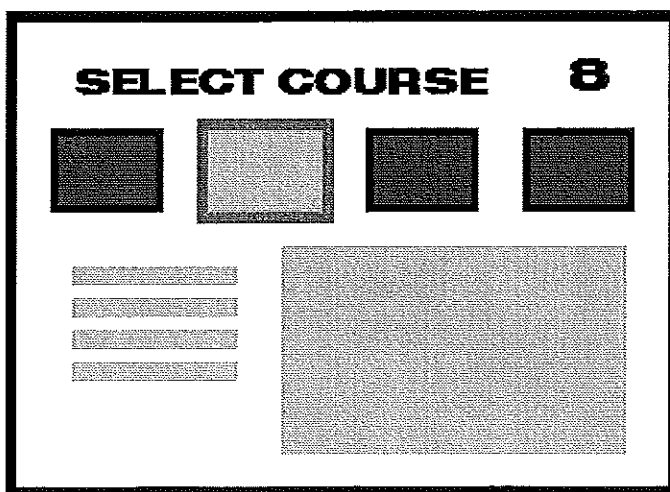
For Communication Play:

When the communication play is set effective, the monitor screen remains stationary for approximately 10 seconds to wait for the participant. The time limit is displayed at the upper right screen. Press the START button to cancel vs. play and proceed to the 1P mode. During the first 3 seconds, to avoid miss operation, pressing the START button does not cancel vs. mode.



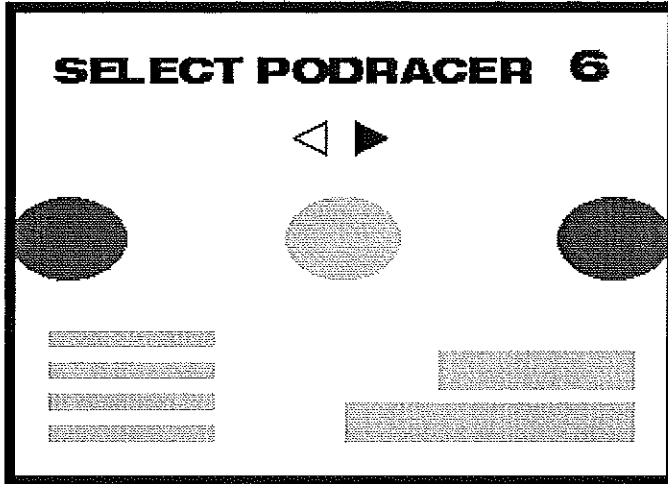
< "NOW WAITING FOR NEW ENTRY" screen >

Select one from among the 4 courses. Select the course with the SELECT button and press the START button to decide. The time limit for selecting the course is displayed at the upper right screen. The course indicated in the left is easier, and the difficulty is increased upon proceeding to the right side.



< "SELECT COURSE" screen >

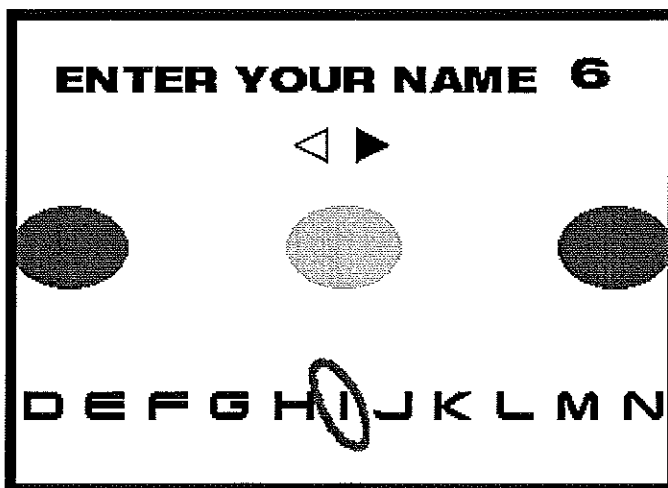
Select one from among the 4 vehicles. Select the vehicle with the SELECT button and press the START button to decide. The time limit for selecting the vehicle is displayed at the upper right screen. There are only 2 types of vehicles usable at the time of shipment. However, by fulfilling the requirements described later in this manual, the remaining 2 vehicles can be available. Performance of each vehicle differs.



< "SELECT PODRACER" screen >

#### For Communication Play:

After selecting your vehicle, input your name in the 3 alphabet letters. The name inputted here is displayed at the upper of the opponent's vehicle in the game screen. Scroll the letter screen with the SELECT button and press the START button to decide. Finally select the END to confirm. The time limit for inputting your name is displayed at the upper right screen. Upon completion of name input by all players, the monitor proceeds to the next screen.



< "ENTER YOUR NAME" screen >

While loading the game data, the screen remains stationary for a while. You cannot skip this screen.

## ■ COURSES and VEHICLES

There are 4 courses in this product.

### [BANTHA TRACKS] EASY

The actual course shown in the motion picture has been simplified and shortened for the beginners. The huge rocks rise out of the stretched wilderness.

### [SMUGGLER'S COVE] NORMAL

The beautiful scenery of a shoal and land covered with moss can be seen in this course. Although you will face consecutive curves in the course, the difficulty itself is not too high.

### [PIXELITO CHALLENGE] HARD

The stage in this course is the mountains by night. The narrower road and the number of hairpin curves make it the most difficult among the 4 courses in terms of the course layout.

### [THE BOONTA CLASSIC] EXPERT

The courses shown in the motion picture have been reproduced in this course. The length of the course is longer than the other 3 courses, and this makes it difficult to stay the course.

There are 4 kinds of vehicles that can be used. The 2 of them can be usable if the certain requirements are fulfilled. Therefore, the vehicles available at the beginning are the ANAKIN SKYWALKER and the SEBULBA.

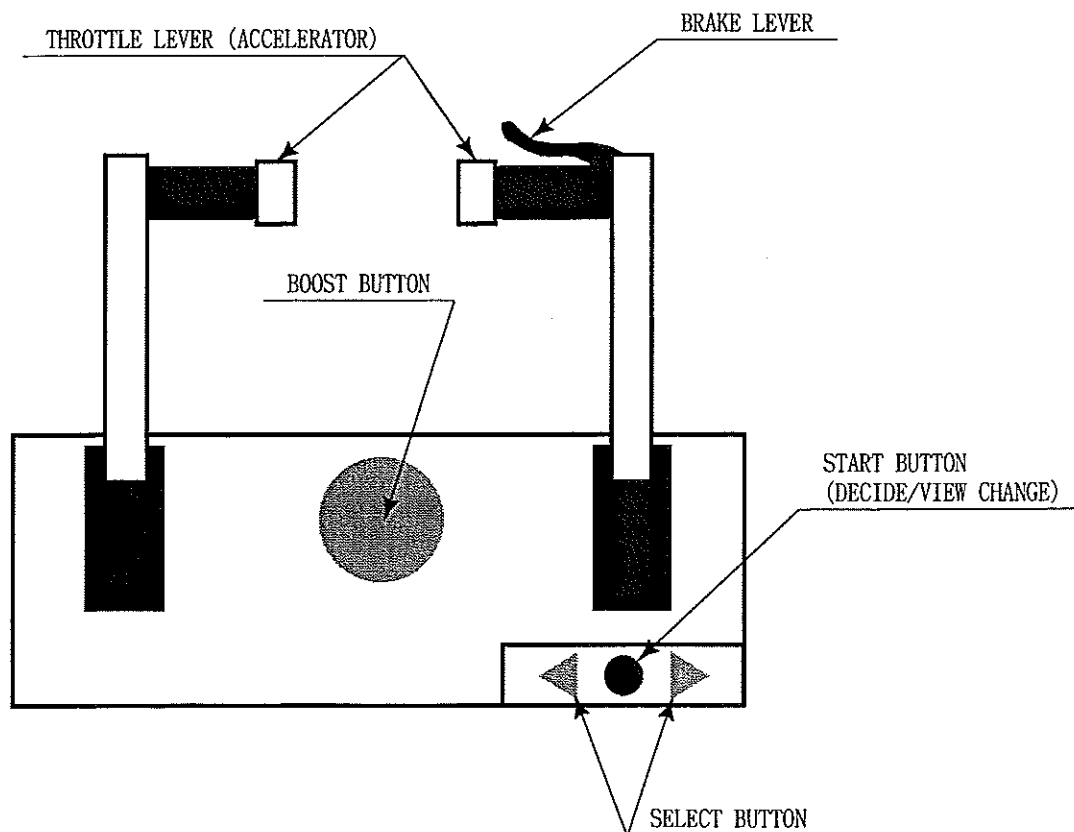
Conditions to have the hidden vehicle appear.

[GASGANO] When exceeded 700 plays in total (at any course/character).

[BEN QUADINAROS] In the EXPERT course, when game is finished for 50 times or more (at any character).

Note that once the items appear, although the BACKUP RAM CLEAR is performed, they will not be cleared.

## ■ HOW TO OPERATE





The THROTTLE LEVER left & right also function as an accelerator and steering. Incline the THROTTLE LEVER forward to gain speed. To reduce the speed, pull the THROTTLE LEVER toward you. To turn right, incline the left Lever forward and pull the right Lever toward you. Incline the right Lever forward and pull the left Lever toward you to turn left. Grip the Brake Lever on the right-hand Lever to quickly reduce the speed. The Brake Lever itself is in the digital switch system, however, braking power varies in accordance with the strength of gripping the Lever.

Press the BOOST button on the center of the panel to gain a rapid speed for a certain period of time. The gauge displayed at the lower right screen shows the current BOOST effect. The BOOST power gradually diminishes, and when it becomes zero, acceleration is finished. While the BOOST is in effect, the button is kept pressed down. Once the BOOST becomes active, the button returns to its original state.

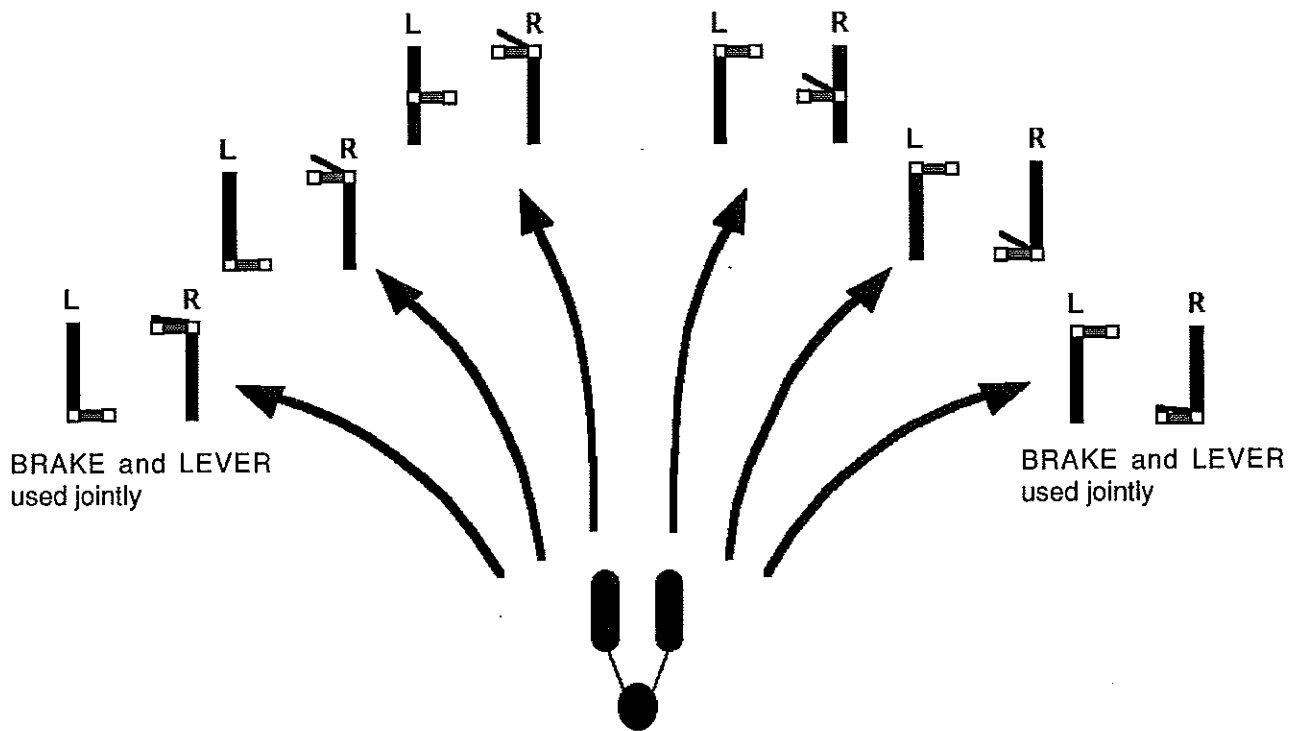
Note that setting of not performing the aforementioned operation can be selected (9-3D).

In that case however, gaining a rapid speed by the BOOST button remains unchanged.

BOOST can be used up to 3 times per race. The BOOST button goes on when active, flashes during use, and goes off when inactive.

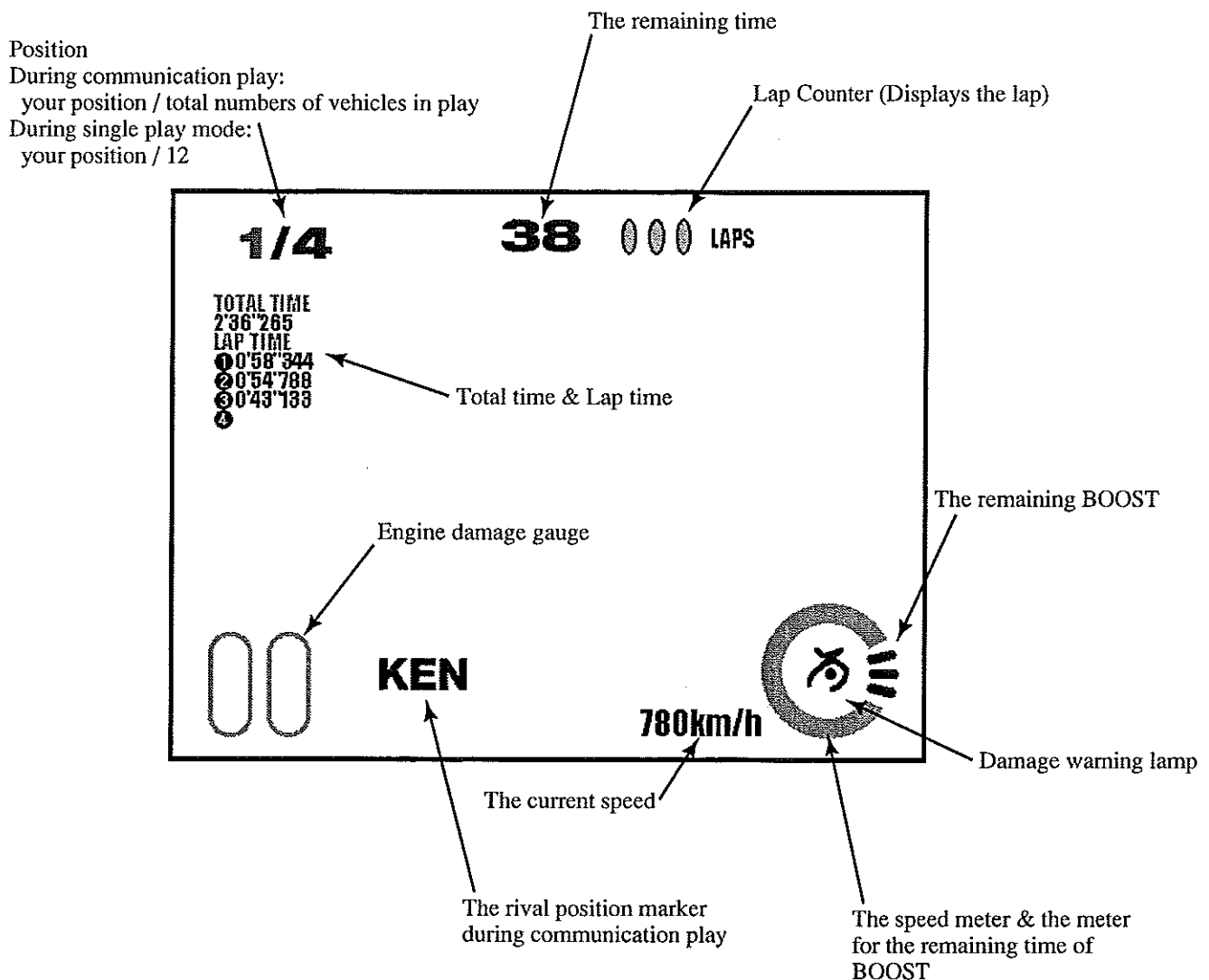
The START button can be used for "DECIDE" in the select screen and "VIEW CHANGE" during game. It goes on during the race only.

Use the SELECT button for selecting the course, the vehicle, and the letters in the NAME entry.



OPERATION - EFFECT of the LEVER

## ■ GAME SCREEN



## ■ GAME OVER

The purpose is to finish the predetermined number of laps within the time limit. There are 3 laps in the EXPERT course and 4 in the other courses. When the remaining time becomes zero, you have to retire unfinished. Pass through the checkpoints on the course, and you can get extra time. When the first position player goes through the checkpoint, extra time is given to other players. The same applies to communication play.

## ■ DAMAGE SYSTEM

When hitting or making contact with obstacles, damage increases and the gauge displayed at the lower left screen turns yellow. Recovery is possible if you do not hit or make contact with them thereafter. When damage reaches the maximum, the gauge turns red and BOOST cannot be used due to the limitation applied to the maximum speed. The condition can automatically be restored, however, it takes approximately 10 seconds to do so.

## ■ NAME ENTRY

The NAME ENTRY screen where you can input your name up to 3 letters will be displayed on the following conditions:

- (1) In 1P mode, when the player's record is excellent. (after race)
- (2) In 1P mode, when the player is finished within the first to the third position. (after race)
- (3) Communication (vs.) play is formed. (before race)

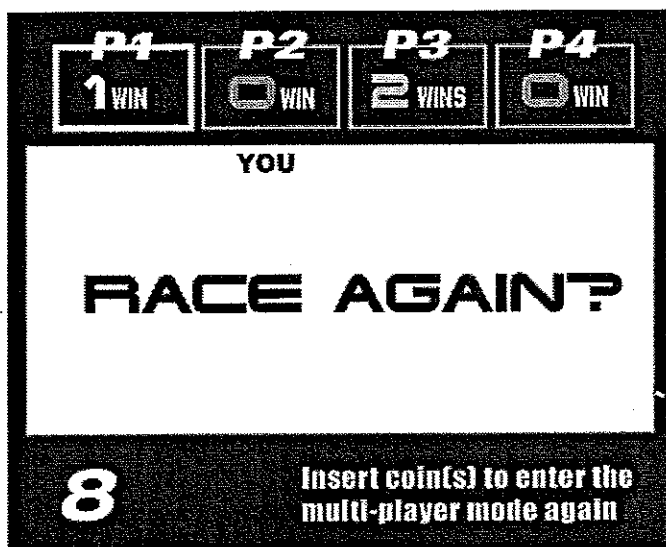
Scroll the letter screen with the SELECT button and press the START button to decide. After inputting the 3 letters, bring the cursor to "END" and press the START button to decide.

In case of (1) as above, after the name entry, the rank will be displayed.

In case of (2) as above, the name entry is for making password for the Internet ranking registration. Therefore, the name will not necessarily be displayed for in-game ranking.

## ■ CONTINUOUS VS. PLAY

In vs. play, while the game over screen is displayed, you are asked if you continue vs. play. The countdown is displayed at the same time. If 2 or more players insert coins before countdown reaches zero, continuous vs. play is effective, and vs. play record in total is displayed. Note that "P1 ~ P4" as above displays the seat numbers set in the TEST MODE.

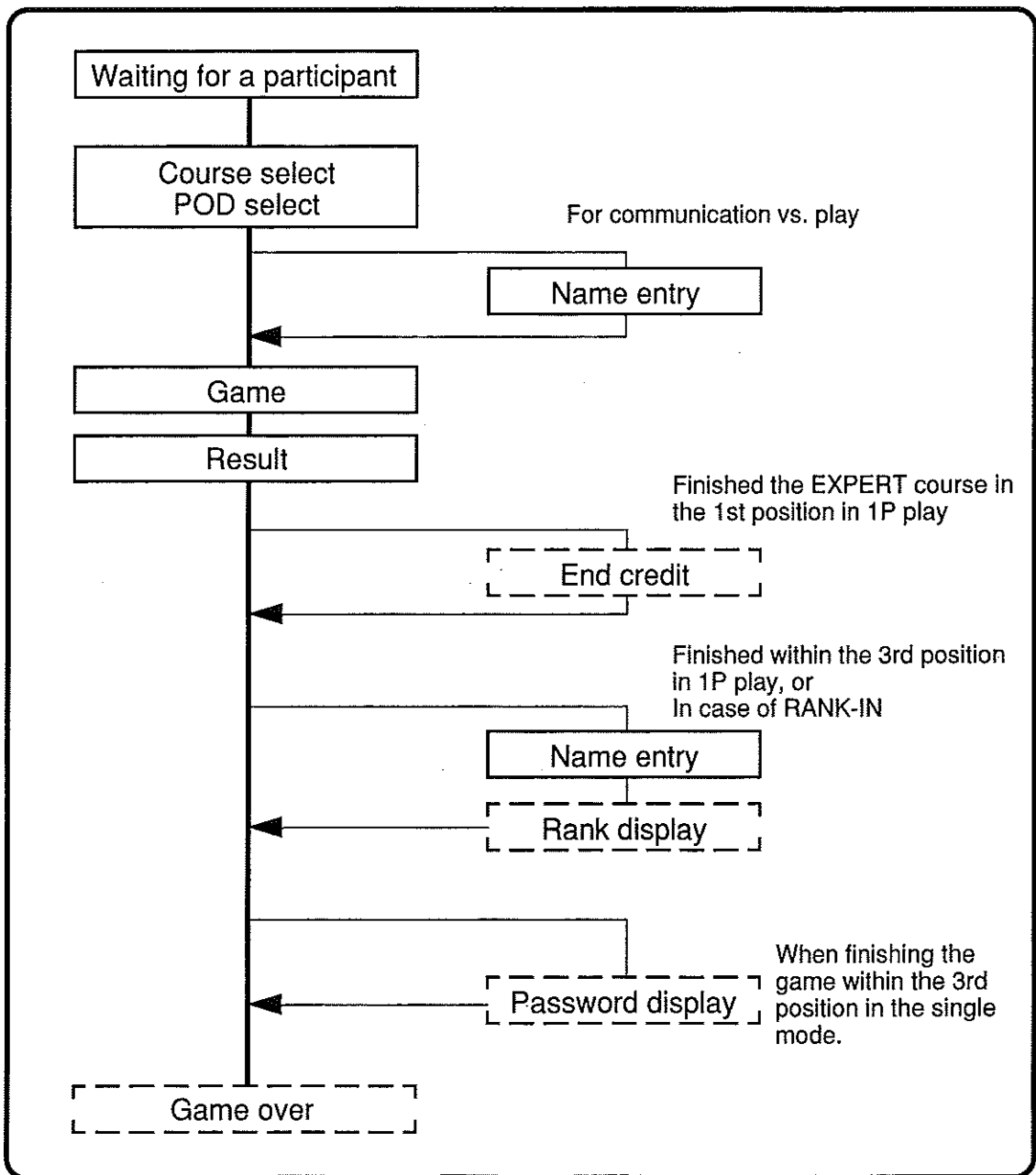


< GAME OVER screen after vs. play >

## ■ PASSWORD

When you succeed to run the whole distance in 1P mode in any course, the password screen will be displayed. Make a note of the password shown in the screen and send it to the Home Page exclusive for this game, and you can enter in the world ranking register. You can skip this screen by pressing the START button. The Home Page has been open since May 2000. Operation and maintenance in the second year and thereafter are undecided, however.  
URL: <http://www.sega.co.jp/racer/>

## ■ FLOW CHART



You can skip the items enclosed with a dot line in the above chart with the START button.

## 9. 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.

SEGA HIKARU GAME BOARD is used for the product. The system of this game board allows another game to be played by replacing the ROM Board Case mounted on the SEGA HIKARU CASE. As such, the Test Mode of this system consists of the System Test Mode for the system to execute SELF-TEST, COIN ASSIGNMENTS, etc. used in common for the machines employing the SEGA HIKARU BOARD, and the Game Test Mode for the specific product to execute Input/Output test for the operation equipment, difficulty setting, etc.



- The contents of settings changed in the TEST mode are stored when the test mode is finished from EXIT in the menu mode. If the power is turned off before the TEST mode is finished, the contents of setting change become ineffective.
- Executing "BACKUP DATA CLEAR" in the SYSTEM TEST MODE does not clear the BOOKKEEPING data in the GAME TEST mode.
- Entering the TEST mode clears fractional number of coins less than one credit and BONUS ADDER data.
- When the 2 or more machines are linked for communication play, be careful to enter the test mode. If one of the machines linked enters the test mode, all others display the NETWORK CHECK screen.

TABLE 9 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 such input devices as each SW, V.R., etc.</li> <li>3. In the OUTPUT TEST mode, check such output devices as lamps, motors, etc.</li> <li>4. In the SELF-TEST mode, check ICs on the IC Board.</li> </ol>	9-2 F,G, 9-3 D 9-2 C, 9-3 B 9-3 C 9-2 B,J
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.	9-2 B,J
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 such output devices as lamps, motors, etc.</li> </ol>	9-2 B,J 9-2 F,G, 9-3 D 9-2 C, 9-3 B 9-3 C
CONTROL SYSTEM	<ol style="list-style-type: none"> <li>1. In the INPUT TEST mode, check such input devices as each SW, V.R., etc.</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>	9-2 C, 9-3 B 9-3 F, 10
MONITOR	In the MONITOR ADJUSTMENT mode, check to see if the PROJECTOR adjustment is appropriately made.	9-2 E 12
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>	9-2 B,J 9-2 D
DATA CHECK	Check such data as game play time and histogram to adjust the difficulty level, etc.	9-2 H, 9-3 E

9-1 SWITCH UNIT AND COIN METER



Never touch places other than those specified. Touching places not specified can cause electric shock and short circuit hazards.



- Adjust to the optimum sound volume by considering the environmental requirements of the installation location.
- If the COIN METER and the game board are electrically disconnected, game play is not possible.

**SWITCH UNIT**

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

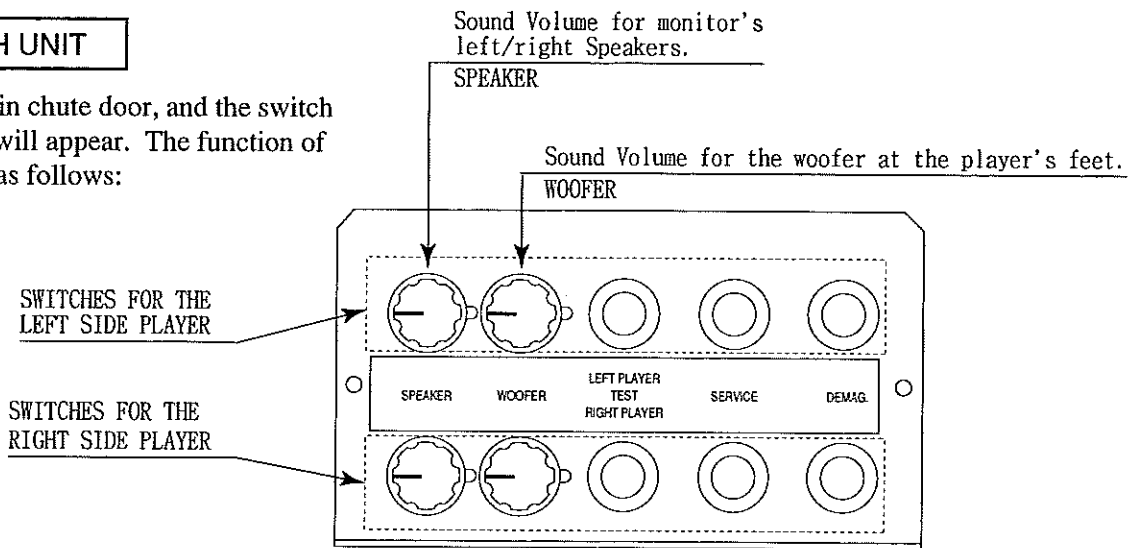


FIG. 9.1 a SWITCH UNIT

**TEST BUTTON:**  
TEST SW

For the handling of the test button, refer to the following pages.

**SERVICE BUTTON:**  
SERVICE SW

Gives credits without registering on the coin meter.

**DEMAGNETIZER BUTTON:**  
DEMAG SW

Eliminates the on-screen color unevenness due to magnetization of CRT. First use this SW before performing the monitor's color adjustment.

**COIN METER**

Open the Cashbox Door by using the key to have the Coin Meter appear underneath the Cashbox.

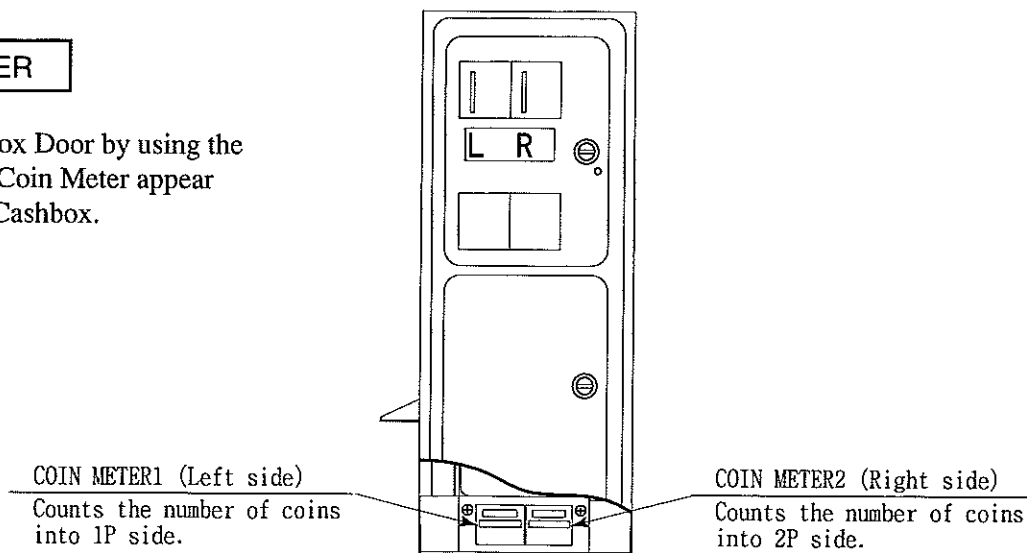


FIG. 9.1 b

## 9-2 SYSTEM TEST MODE

### A. SYSTEM TEST MODE MENU

Press TEST Button to enter the TEST MODE, and the following Menu screen will be displayed.

```
SYSTEM MENU
XXXXXXXXVERSION

RAM TEST
JVS TEST
SOUND TEST
C.R.T. TEST
SYSTEM ASSIGNMENTS
COIN ASSIGNMENTS
BOOKKEEPING
BACKUP DATA CLEAR
ROMBD TEST
CLOCK SETTING
GAME TEST MODE
> EXIT

SELECT WITH SERVICE BUTTON
AND
PRESS TEST BUTTON
```

- Press SERVICE Button to move the arrow (>) to the desired item and select with TEST Button.
- Bring the arrow to EXIT and press TEST Button to return to the GAME Mode.

### B. RAM TEST

This allows for checking the functioning of the RAM on the Game BD.

In this test, IC's are checked in every row. During the test, "CHECKING" is displayed at the right-hand side of the screen. "BAD" is indicated for irregular RAMs, if any.

Upon finishing the test, "PRESS TEST BUTTON TO EXIT" is displayed on the lower center of the monitor. Press TEST Button to return to the MENU screen.

```
RAM TEST

IC15 IC16 IC17S IC18S GOOD
IC22 IC23 IC24S IC25S GOOD
IC28 IC29S          GOOD
IC41                GOOD
IC42                GOOD
IC44 IC45S IC46 IC47S GOOD
IC91S IC92S          GOOD
IC98                GOOD

OPTIONAL SOUND BOARD:
IC12                GOOD

OPTIONAL COMMUNICATION BOARD:
IC7  IC8  IC9  IC10 GOOD
.
.
.

PRESS TEST BUTTON TO EXIT
```



### C. JVS TEST

```

                JVS TEST
                INPUT TEST
                > EXIT

NODE           1/1
NAME           SEGA ENTERPRISES,LTD. ;I/O BD JVS;
                837-13551 ;Ver1.00;98/10
CMD VER       1.1
JVS VER       2.0
COM VER       1.0
SWITCH        2PLAYERS 13BITS
COIN          2SLOTS
ANALOG        8CH
DRIVER OUT    6CH

                SELECT WITH SERVICE BUTTON
                AND
                PRESS TEST BUTTON
```

In this test, Functioning of the I/O Board connected to Game Board is displayed and INPUT TEST can be performed. Execute EXIT to return to the MENU screen.

When INPUT TEST is selected and executed, the following screen appears.

```

                JVS TEST
                > DISPLAY CONFIG
                EXIT

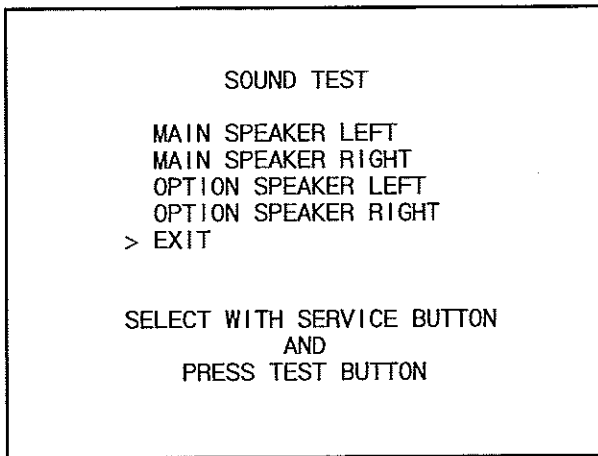
NODE           1/1
SWITCH
  SYSTEM      _____
  PLAYER1     _____
  PLAYER2     _____
COIN
  SLOT1 0000  SLOT2 8000
ANALOG
  CH1 6300 CH2 5A00 CH3 7D00 CH4 8100
  CH5 1F00 CH6 1D00 CH7 1F00 CH8 2000

                SELECT WITH SERVICE BUTTON
                AND
                PRESS TEST BUTTON
```

When INPUT is performed, the Switch value changes to 1 from \_ . Execute EXIT to return to the MENU screen.

### D. SOUND TEST

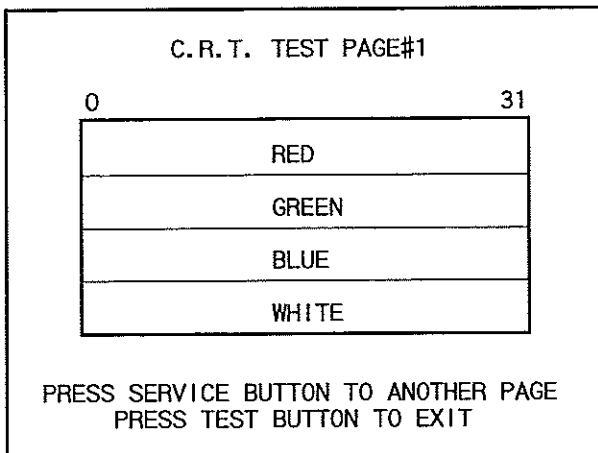
Sound Output can be performed and each Speaker can be checked.



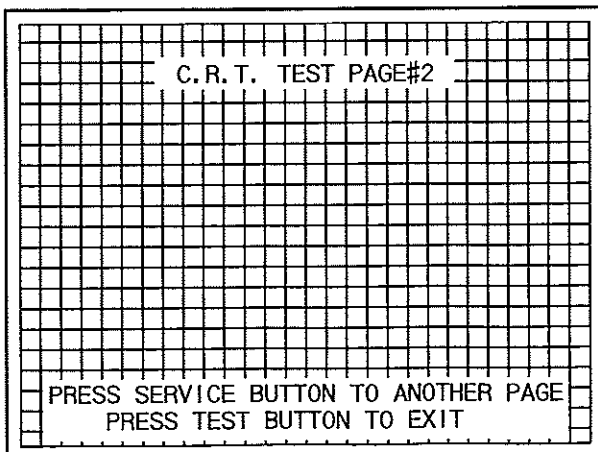
Select the desired item and press TEST Button, and sound is emitted from the corresponding Speaker.  
On the Test screen, OPTIONAL SPEAKER LEFT and OPTIONAL SPEAKER RIGHT are displayed. However, this product does not have speakers applicable to the display. Execute EXIT to return to the MENU screen.

### E. C.R.T. TEST

In this test, monitor adjustment can be performed. Periodically check to see if the monitor adjustment is appropriate in this test. This test consists of 2 screens. Use SERVICE Button to change the screen displayed. Press TEST Button to return to the MENU screen.



The first screen displays color bars. The color adjustment can be checked. Each of red, green, blue is the darkest at the leftmost end, and becomes brighter towards the right-hand end.



The second screen displays crosshatches. In this page, monitor size and deviation can be checked.

## F. SYSTEM ASSIGNMENTS

Performs setting for the whole system. Set each item in accordance with the cabinet. Use the items except ADVERTISE SOUND and COMMUNICATION MODE as they are at the time of shipment. To change setting, bring the arrow (>) to the desired item with the SERVICE button and press the TEST button.

SYSTEM ASSIGNMENTS	
CABINET TYPE	2PLAYERS
ADVERTISE SOUND	ON
MONITOR TYPE	HORIZONTAL
DISPLAY TYPE	AUTOSCAN
SERVICE TYPE	COMMON
COMMUNICATION MODE	MASTER
> EXIT	

SELECT WITH SERVICE BUTTON  
AND  
PRESS TEST BUTTON

- CABINET TYPE specifies Control Panel and number of Coin Chute. The number of Player displayed in BOOKKEEPING varies in accordance with the value here.
- ADVERTISE SOUND is used for settings of emitting sound during ADVERTISE.
- MONITOR TYPE sets the on-screen display to the positional direction of monitor (HORIZONTAL or VERTICAL). If set to VERTICAL, the on-screen display for the test mode is vertically positioned in accordance with the setting.
- DISPLAY MODE sets the monitor's display frequency. In this mode, if other than AUTOSCAN is selected and EXIT is executed, the display frequency is changed to the selected setting.
- SERVICE TYPE sets the functioning of when the Service Button is pressed, in case that several Service Buttons exist.
  - INDIVIDUAL  
By pressing Service Button, Service credit can be obtained for the Player corresponding to the Service Button pressed.
  - COMMON  
By pressing any Service Button, Service credit can be obtained for all Players.

○ COMMUNICATION MODE is for communication play setting. Select from among MASTER, SLAVE, NO LINK, and RELAY. When performing setting for communication play, be careful of the following points.

MASTER : Set only one of the linked machine to MASTER for communication play.

SLAVE : Set the other linked machines to SLAVE for communication play.

NO LINK : Set to NO LINK when you operate the machine alone.

RELAY : Set to RELAY when you want to use the machine as a monitor showing the communication play.

#### [SEAT NUMBER]

Give a different seat number to each of the MASTER and SLAVE machines linked for communication play. If the same numbers are used among the linked machines, game does not start. (Refer to 9-3 D. GAME ASSIGNMENTS)

[The following setting items in the MASTER apply to the SLAVE.]

- ADVERTISE SOUND ON/OFF (SYSTEM MENU)
- DIFFICULTY SETTING (GAME TEST MODE)
- Object / Subject View of Default View (GAME TEST MODE)
- URL display ON/OFF during ADVERTISE (GAME TEST MODE)
- Hidden vehicles that are usable

When set to NO LINK, each machine's individual setting value is applied.

## G. COIN ASSIGNMENTS

In this mode, the setting of incremental credit increase as against coin insertion can be changed. This test consists of 3 screens, and the following is the first screen. The setting done in the first screen will be stored when exited.

```

                COIN ASSIGNMENTS
COIN CHUTE TYPE      COMMON
COIN/CREDIT SETTING  #1
COIN CHUTE #1
    1COIN 1CREDIT

COIN CHUTE #2
    1COIN 1CREDIT

MANUAL SETTING
SEQUENCE SETTING
> EXIT

SELECT WITH SERVICE BUTTON
      AND
PRESS TEST BUTTON
```

- COIN CHUTE TYPE sets whether Coin Chute is used in common by all players or separately allocated to each player in case 2 or more Coin Chutes are incorporated.  
COMMON: This setting is for common use by plural players.  
INDIVIDUAL: As each player uses an independent coin chute, setting to INDIVIDUAL causes COIN CHUTE #2 to be disappeared.
- COIN/CREDIT SETTING is set when using one of the existing 26 settings or FREE PLAY. The selected coin rates in the COIN/CREDIT SETTING are displayed below COIN CHUTE #1 and COIN CHUTE #2. If you wish to set a coin rate rather than to select from the existing setting, select MANUAL SETTING. The display next to COIN/CREDIT SETTING indicates "MANUAL", not "#n" in this case.

○ MANUAL SETTING

When MANUAL SETTING is selected in the first screen, the following second screen appears.

```

COIN ASSIGNMENTS
MANUAL SETTING

COIN TO CREDIT          1
BONUS ADDER             0
COIN CHUTE #1 MULTIPLIER
1 COINCOUNT AS      1COIN
COIN   1  2  3  4  5  6  7  8  9
CREDIT 1  2  3  4  5  6  7  8  9

COIN CHUTE #2 MULTIPLIER
1 COINCOUNT AS      1COIN
COIN   1  2  3  4  5  6  7  8  9
CREDIT 1  2  3  4  5  6  7  8  9

SEQUENCE SETTING
> EXIT

SELECT WITH SERVICE BUTTON
AND
PRESS TEST BUTTON
    
```

- COIN TO CREDIT determines how many coins are needed for one credit. (1 ~ 9)
- BONUS ADDER determines how many coins should be inserted to obtain one SERVICE COIN.
- COIN CHUTE #1 MULTIPLIER, COIN CHUTE #2 MULTIPLIER sets how many tokens one Coin represents inserted in each COIN CHUTE.

SETTING EXAMPLE 1)

Setting of 2 COINS 1 CREDIT, set to:  
 COIN TO CREDIT :2  
 BONUS ADDER :0  
 COIN CHUTE #1 MULTIPLIER :1

SETTING EXAMPLE 2)

Setting of 5 COINS 6 CREDITS (5 COINS 1 BONUS), set to  
 COIN TO CREDIT :1  
 BONUS ADDER :5  
 COIN CHUTE #1 MULTIPLIER :1

When exiting from MANUAL SETTING, if the identical coin rate is in the existing COIN/ CREDIT SETTING, such existing mode other than what is set in the MANUAL SETTING is confirmed.

TABLE 1 COIN/CREDIT SETTING

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	2 CREDITS	1 COIN	1 CREDIT
SETTING #3	1 COIN	3 CREDITS	1 COIN	1 CREDIT
SETTING #4	1 COIN	4 CREDITS	1 COIN	1 CREDIT
SETTING #5	1 COIN	5 CREDITS	1 COIN	1 CREDIT
SETTING #6	1 COIN	2 CREDITS	1 COIN	2 CREDITS
SETTING #7	1 COIN	5 CREDITS	1 COIN	2 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	1 COIN	1 CREDIT	2 COINS	1 CREDIT
SETTING #14	1 COIN	2 CREDITS	2 COINS	1 CREDIT
SETTING #15	1 COIN	1 CREDIT	1 COIN	1 CREDIT
	2 COINS	3 CREDITS	2 COINS	3 CREDITS
SETTING #16	1 COIN	3 CREDITS	1 COIN	1 CREDIT
			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	5 CREDITS	1 COIN	1 CREDIT
			2 COINS	2 CREDITS
			3 COINS	3 CREDITS
			4 COINS	5 CREDITS
SETTING #21	5 COINS	1 CREDIT	5 COINS	1 CREDIT
SETTING #22	1 COIN	2 CREDITS	3 COINS	1 CREDIT
			5 COINS	2 CREDITS
SETTING #23	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 #24	1 COIN	3 CREDITS	2 COINS	1 CREDIT
			4 COINS	2 CREDITS
			5 COINS	3 CREDITS
SETTING #25	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 #26	1 COIN	6 CREDITS	1 COIN	1 CREDIT
			2 COINS	2 CREDITS
			3 COINS	3 CREDITS
			4 COINS	4 CREDITS
			5 COINS	6 CREDITS
SETTING #27	FREE PLAY		FREE PLAY	

Table 2: COIN/CREDIT SETTING (COIN CHUTE INDIVIDUAL TYPE)

NAME OF SETTING	EACH SEAT'S COIN CHUTE	NAME OF SETTING	EACH SEAT'S COIN CHUTE
SETTING #1	1 COIN 1 CREDIT	SETTING #21	5 COINS 1 CREDIT
SETTING #2	1 COIN 2 CREDITS	SETTING #23	2 COINS 1 CREDIT
SETTING #3	1 COIN 3 CREDITS		4 COINS 2 CREDITS
SETTING #4	1 COIN 4 CREDITS		5 COINS 3 CREDITS
SETTING #5	1 COIN 5 CREDITS	SETTING #25	1 COIN 1 CREDIT
SETTING #11	1 COIN 6 CREDITS		2 COINS 2 CREDITS
SETTING #12	2 COINS 1 CREDIT		3 COINS 3 CREDITS
SETTING #15	1 COIN 1 CREDIT		4 COINS 4 CREDITS
	2 COINS 3 CREDITS		5 COINS 6 CREDITS
SETTING #17	3 COINS 1 CREDIT	SETTING #27	FREE PLAY
SETTING #18	4 COINS 1 CREDIT		
SETTING #19	1 COIN 1 CREDIT		
	2 COINS 2 CREDITS		
	3 COINS 3 CREDITS		
	4 COINS 5 CREDITS		

Table 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 (#1/#2) 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



## ○ SEQUENCE SETTING

When SEQUENCE SETTING is selected in either first or second screen, the SEQUENCE SETTING Mode (the third screen) appears.

In this mode, number of credits required for starting game can be set.

```
COIN ASSIGNMENTS
SEQUENCE SETTING

SEQUENCE1 *CREDIT
SEQUENCE2 *CREDIT
SEQUENCE3 *CREDIT
SEQUENCE4 *CREDIT
SEQUENCE5 *CREDIT
SEQUENCE6 *CREDIT
SEQUENCE7 *CREDIT
SEQUENCE8 *CREDIT
> EXIT

[XXXXXXXXXXXXXXXXXX]
[ SEGA ENTERPRISES, LTD. ]
DESCRIPTION OF SEQUENCE
SEQ1 ****
SEQ2 ****
SEQ3 ****
SEQ4 ****
SEQ5 ****
SEQ6 ****
SEQ7 ****
SEQ8 ****

SELECT WITH SERVICE BUTTON
AND
PRESS TEST BUTTON
```

Each sequence can be set between 1 ~ 5.  
Select EXIT to return to the first screen.

## H. BOOKKEEPING

This allows such data as operating time/No. of coins inserted/ No. of credits to be checked, etc. This test consists of 2 screens. Pressing SERVICE Button causes screen to be changed. Press TEST Button to return to the MENU screen.

On the first screen, such data as total time, coin, and credit are displayed.

BOOKKEEPING			
TOTAL TIME	55H27M13S		
COIN1	16	SERVICE1	5
COIN2	4	SERVICE2	0
CREDIT	10		
TOTAL COIN	20		
COIN CREDIT	10		
SERVICE CREDIT	5		
TOTAL CREDIT	15		
PRESS SERVICE BUTTON TO ANOTHER PAGE			
PRESS TEST BUTTON TO EXIT			

○ Total Time is displayed as " × × H × × M × × S" and no date will be displayed after exceeding 24 hours.

○ The displays for number of coin and number of service vary depending on the CABINET TYPE set in SYSTEM ASSIGNMENTS.

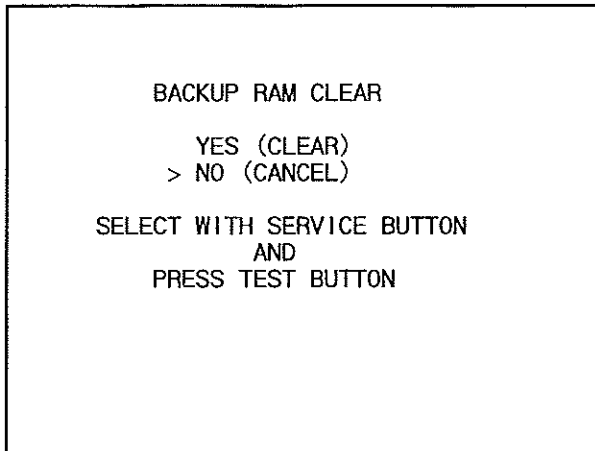
Number of credit displays 1 if COIN CHUTE TYPE is set to COMMON in COIN ASSIGNMENTS. If COIN CHUTE TYPE is set to INDIVIDUAL, the applicable number in CABINET TYPE setting will be displayed.

On the second screen, each sequence displays the frequency of functioning.

BOOKKEEPING			
PLAYER1		PLAYER2	
SE01	1	SE01	0
SE02	0	SE02	1
SE03	1	SE03	0
SE04	0	SE04	1
SE05	0	SE05	0
SE06	0	SE06	0
SE07	0	SE07	0
SE08	0	SE08	0
PRESS SERVICE BUTTON TO ANOTHER PAGE			
PRESS TEST BUTTON TO EXIT			

## I. BACKUP RAM CLEAR

Clears contents of BOOKKEEPING, operating time, coin/credit data, number of games played, etc.



Selecting YES clears the aforementioned data. Select NO and press TEST Button to have the MENU mode return without clearing data.

Note that this does not affect the data of BOOKKEEPING in GAME TEST Mode. To clear the contents of BOOKKEEPING in GAME TEST Mode, enter into GAME TEST Mode and execute BACKUP DATA CLEAR.

# J. ROMBD TEST

In this test, on-ROM-BD ROM check is executed. If GOOD is displayed, it is satisfactory. The IC No., TYPE, BYTE, and WORD refers to the check sum of each unit. Press TEST Button to return to MENU mode.

```

ROMBD TEST
[ XXXXX XXXXX XXXXX ]
[ SEGA ENTERPRISES, LTD. ]

NO. TYPE RESULT      NO. TYPE RESULT
IC29 **M ----        IC** **M GOOD
IC30 **M ----        IC** **M GOOD
IC** **M GOOD        IC** **M GOOD
IC** **M GOOD        IC** **M GOOD
IC** **M GOOD        IC** **M GOOD
IC** **M GOOD        IC** **M GOOD
IC** **M GOOD        IC** **M GOOD
IC** **M GOOD        IC** **M GOOD
IC** **M GOOD        IC** **M GOOD
IC** **M GOOD        IC** **M GOOD
..... ..           ..
..... ..           ..
IC** **M GOOD

PRESS TEST BUTTON TO EXIT

```

In case of above screen, IC 29 and IC 30 do not display GOOD or BAD. Press SERVICE Button to proceed to the screen the check sum is displayed.

```

ROMBD TEST
[ XXXXX XXXXX XXXXX ]
[ SEGA ENTERPRISES, LTD. ]

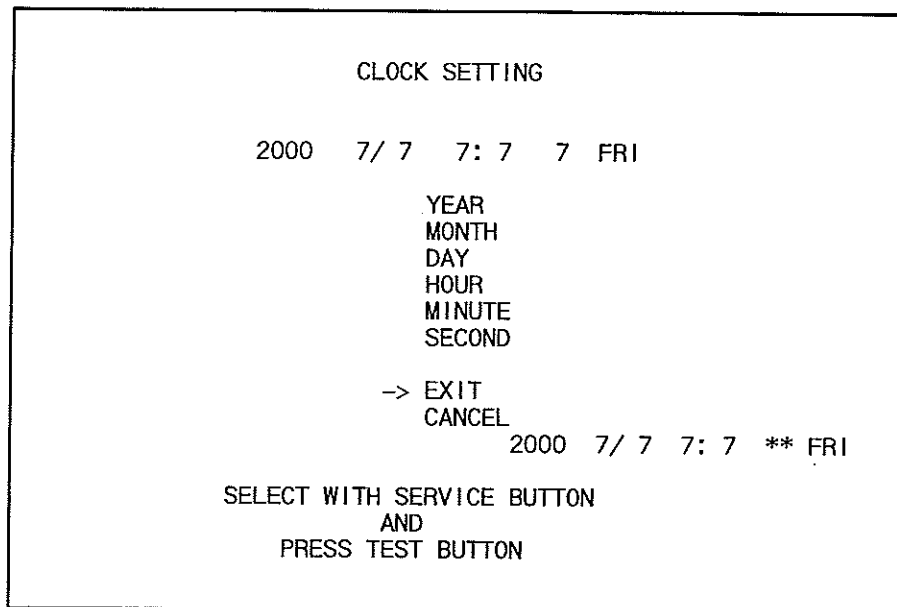
NO. TYPE BYTE WORD    NO. TYPE BYTE WORD
IC29 **M **** *      IC** **M **** *
IC30 **M **** *      IC** **M **** *
IC** **M **** *      IC** **M **** *
IC** **M **** *      IC** **M **** *
IC** **M **** *      IC** **M **** *
IC** **M **** *      IC** **M **** *
IC** **M **** *      IC** **M **** *
IC** **M **** *      IC** **M **** *
IC** **M **** *      IC** **M **** *
IC** **M **** *      IC** **M **** *
..... ..           ..
IC** **M **** *

PRESS TEST BUTTON TO EXIT

```

## K. CLOCK SETTING

YEAR, MONTH, DAY, HOUR, and MINUTE are set for SEGA HIKARU BD.  
Select the desired item with SERVICE Button and press TEST Button to increase the value.  
Bring the arrow to EXIT and press TEST Button to return to MENU Mode.



## L. GAME TEST MODE

Enters the TEST Mode of the game connected to SEGA HIKARU BD. The TEST Mode includes INPUT Test, GAME ASSIGNMENTS such as game difficulty, etc. Refer to 9-3 for details.

## 9-3 GAME TEST MODE

### A. GAME MENU

According to the COMMUNICATION MODE setting in the SYSTEM ASSIGNMENTS screen in the SYSTEM TEST MODE, the display items in the GAME TEST MENU vary.

In the case as the COMMUNICATION MODE is set to other than RELAY:

```
STAR WARS RACER ARCADE
  GAME MENU

INPUT TEST
OUTPUT TEST
GAME ASSIGNMENTS
BOOKKEEPING
CALIBRATION
BACKUP DATA CLEAR
FEATURES
> EXIT

SELECT WITH SERVICE BUTTON
      AND
PRESS TEST BUTTON
```

When the COMMUNICATION MODE is set to RELAY:

```
STAR WARS RACER ARCADE
  GAME MENU

INPUT TEST
OUTPUT TEST
BACKUP DATA CLEAR
FEATURES
> EXIT

SELECT WITH SERVICE BUTTON
      AND
PRESS TEST BUTTON
```

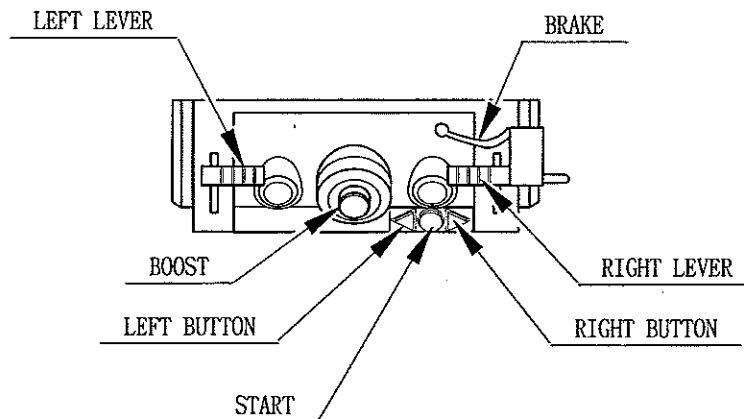
Bring the arrow (>) to the desired item and press the TEST button. Hereafter the same applies to the items that display an arrow. The SELECT button and the START button on the CONTROL PANEL function the same. Select the EXIT and press the TEST button to return to the SYSTEM TEST MENU screen.

## B. INPUT TEST

INPUT TEST	
BOOST	OFF
BRAKE	OFF
LEFT BUTTON	OFF
RIGHT BUTTON	OFF
START	OFF
SERVICE	OFF
TEST	OFF
LEFT LEVER	**
RIGHT LEVER	**

PRESS TEST AND SERVICE BUTTON TO EXIT

Performs test for the input units. Periodically perform test in this screen. While each button on the cabinet is pressed down, if the display goes ON, operation is satisfactory. The value for the Lever changes according to operation of the LEVER. Press the SERVICE button and the TEST button simultaneously to return to the GAME TEST MENU screen.

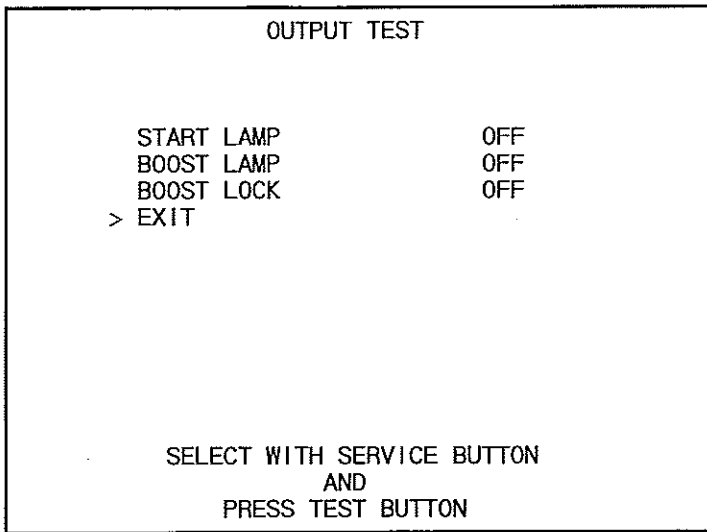


### RECOMMENDED VOLUME VALUE

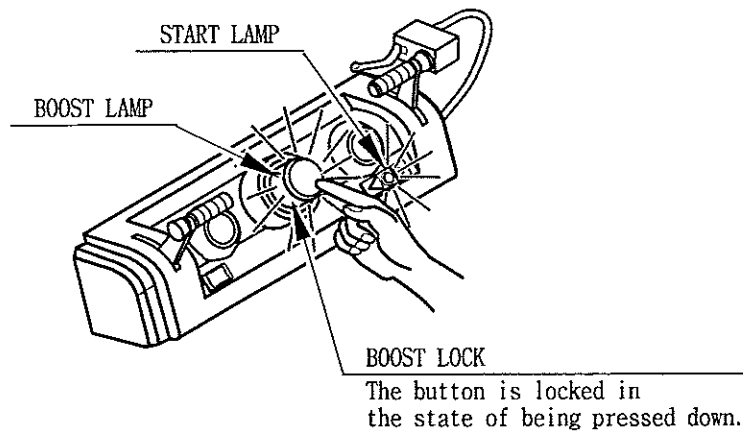
The range of the recommend Volume value for the Lever is within 2D ~ C1. If the value does not fall into the range, or if the Lever V.R. value movements are irregular, adjust the V.R. in the following procedure (10-2).

The above range shows the maximum allowable values. From the viewpoint of the design, the moving range of the Volume is approximately 70H, therefore when the minimum value is 2D, the maximum value should be  $\pm 9D$ .

### C. OUTPUT TEST



Operation status of each output unit can be checked. Select an item with the SERVICE button and press the TEST button. Each time you press the TEST button, ON/OFF display alters. If the lamps for the START and the BOOST buttons go on when ON is displayed, operation is satisfactory. Change the BOOST LOCK to ON with the BOOST button pressed down. If the button is locked in the state of being pressed down, operation is satisfactory. If the CONTROL PANEL is set to STANDARD in D. GAME ASSIGNMENTS, the BOOST LOCK is not displayed on the screen.





## D. GAME ASSIGNMENTS

According to COMMUNICATION MODE setting in the SYSTEM ASSIGNMENT screen in the SYSTEM TEST MODE, the display items in the GAME ASSIGNMENTS vary.

In the case the cabinet is set to MASTER.

GAME ASSIGNMENTS	
DEFAULT VIEW	POD
DIFFICULTY	NORMAL
URL	ON
SEAT NUMBER	1
CONTROL PANEL	DELUXE
> EXIT	

SELECT WITH SERVICE BUTTON  
AND  
PRESS TEST BUTTON

In the case the cabinet is set to SLAVE.

GAME ASSIGNMENTS	
SEAT NUMBER	4
CONTROL PANEL	DELUXE
> EXIT	

SELECT WITH SERVICE BUTTON  
AND  
PRESS TEST BUTTON

In the case the cabinet is set to NO LINK.

GAME ASSIGNMENTS	
DEFAULT VIEW	POD
DIFFICULTY	NORMAL
URL	ON
CONTROL PANEL	DELUXE
> EXIT	

SELECT WITH SERVICE BUTTON  
AND  
PRESS TEST BUTTON

The in-game default view can be set in the DEFAULT VIEW. Select either POD (Subjective view) or REAR (Objective view from the rear).

The game difficulty can be set in the DIFFICULTY. Select from among VERY EASY/ EASY/ NORMAL/ HARD/ VERY HARD. The higher the difficulty, the lesser the points you get when passing through the checkpoints.

When the URL is set to ON, the official Home Page address for the game is displayed during the ADVERTISE mode.

The ID number for each machine for communication play can be set in the SEAT NUMBER. Select the ID number from 1 to 4 and apply to each machine linked for communication play. If the same numbers are applied to the 2 or more machines, the monitor displays "CONFLICTING SEAT NUMBER" and game cannot start.

In CONTROL PANEL, settings for the solenoid control for the lock mechanism inside the Control Panel and the error display can be performed.

Select either DELUXE or STANDARD. In the case of selecting DELUXE, when the BOOST button is pressed, the button is locked as is pressed down due to activation of the solenoid. An error is displayed on the screen if the BOOST button or the lock mechanism malfunctions (Sec.15).

In the case of selecting STANDARD, the solenoid control and an error display are not performed.

## E. BOOKKEEPING

The BOOKKEEPING displays the data of gameplay time, the frequencies of the vehicles and the course selection, etc. in a total of 2 pages.

BOOKKEEPING 1/2	
NUMBER OF GAMES	0
PLAY TIME	0D 0H 0M 0S
AVERAGE PLAY TIME	0H 0M 0S
LONGEST PLAY TIME	0H 0M 0S
SHORTEST PLAY TIME	0H 0M 0S
TIME HISTOGRAM	
0M00S~0M29S	0
0M30S~0M59S	0
1M00S~1M29S	0
1M30S~1M59S	0
2M00S~2M29S	0
2M30S~2M59S	0
3M00S~3M29S	0
3M30S~3M59S	0
4M00S~4M29S	0
4M30S~4M59S	0
OVER 5M00S	0
PRESS TEST BUTTON TO CONTINUE	

- NUMBER OF GAMES:  
Total number of plays.
- PLAY TIME:  
Total play time.
- TIME HISTOGRAM:  
By-playtime play frequency bookkeeping is displayed in increments of 30 seconds from 0M00S to 5M00s.

Press the TEST button to proceed to the next page (2/2).

BOOKKEEPING 2/2	
TOTAL NUMBER OF GAMES	637 (391F:246R)
POD SELECTED	
ANAKIN	384 (280F:104R)
SEBULBA	195 ( 85F:110R)
QUADINAROS	40 ( 18F:22R )
GASGANO	18 ( 8F:10R )
COURSE SELECTED	
EASY	382 (269F:113R)
NORMAL	75 ( 49F:26R )
HARD	48 ( 33F:15R )
EXPERT	132 ( 40F:92R )
PRESS TEST BUTTON TO EXIT	

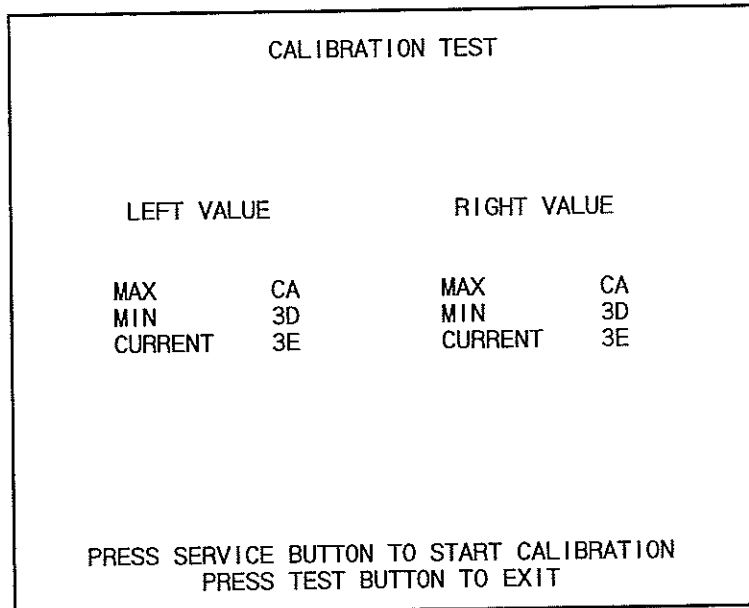
In the parentheses next to each item, the F refers to "FINISH" and the R refers to "RETIRE" (for your reference when setting the game difficulty).

In the POD SELECTED screen, only ANAKIN and SEBULBA are displayed at the time of shipment. Once each of the other 2 vehicles becomes usable by fulfilling the certain requirements, such vehicle will be added to the screen one by one.

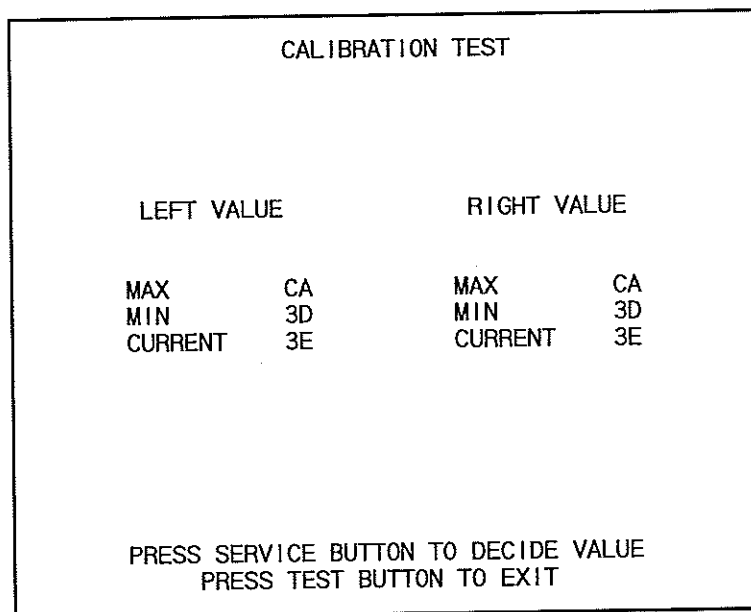
Press the TEST button while the page 2 is displayed to return to the GAME MENU screen.

## F. CALIBRATION TEST

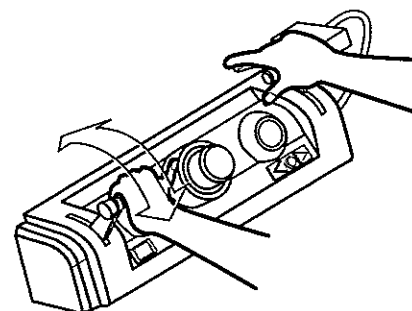
The volume values for the Throttle Levers left & right can be calibrated. When operation of the Lever is not satisfactory, adjust the volume value in this screen.



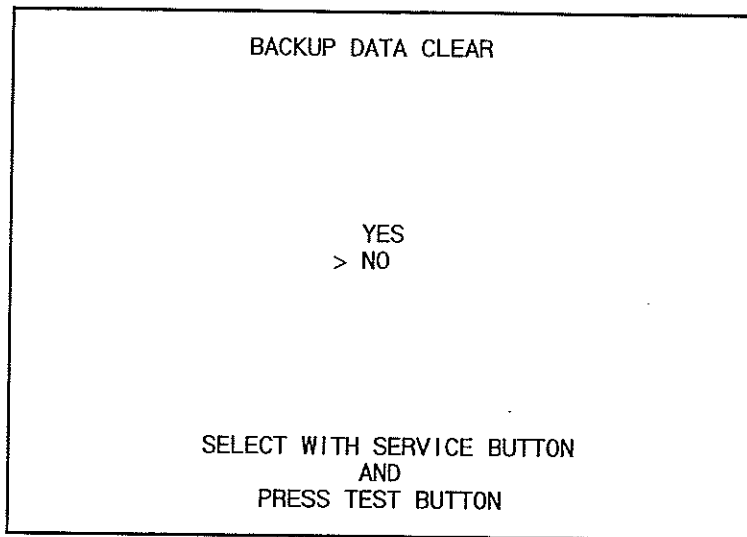
When performing calibration, first press the SERVICE button. The message in the lower screen changes as shown.



While the above screen is displayed, incline the Throttle Levers left & right lightly to the front and the rear ends. Each of the MAX/ MIN/ CURRENT analog input values for both the left and the right Levers are displayed. Press the TEST button to return to the GAME MENU screen.



## G. BACKUP DATA CLEAR

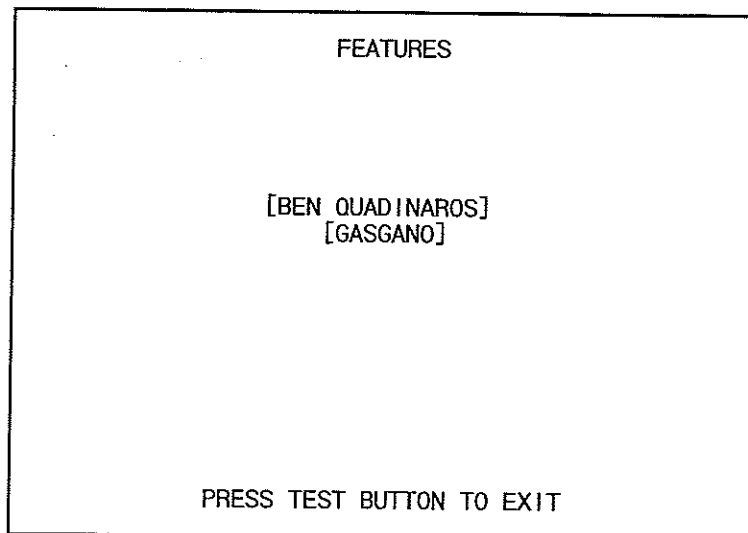


Clears the contents of the BOOKKEEPING. Bring the arrow to "YES" with the SERVICE button and press the TEST button. "COMPLETED" is displayed after the data have been cleared. Bring the arrow to "NO" and press the TEST button when not clearing. Unlike the "BACKUP DATA CLEAR" in the SYSTEM TEST MENU, the play frequency data are cleared mainly in this mode.

(The setting values in the GAME ASSIGNMENTS, the BOOKKEEPING data in the GAME MENU, and the high scores.)

Since the BACKUP DATA CLEAR clears the play-frequency data, executing this mode before meeting the requirements delays appearance of the hidden vehicles.

## H. FEATURES



In the FEATURES, the name of hidden vehicles that have been made appeared by fulfilling the certain requirements can be checked. If the hidden vehicles have not been made appeared, nothing but "DISABLED" is displayed. There are 2 kinds of vehicles hidden, and the requirements to make the vehicle appear differ one by one. Press the TEST button to return to the GAME MENU screen.

## 10. CONTROL PANEL



- Before starting to work, ensure that the Power SW is OFF. Failure to observe this can cause electric shock or short circuit.
- Use care so as not to damage wirings. Damaged wiring can cause electric shock or short circuit.
- Do not touch undesignated places. Touching places not designated can cause electric shock or short circuit.
- This work should be performed by the Location's Maintenance Man or Serviceman. Performing work by non-technical personnel can cause electric shock hazard.
- Do not perform work other than those specified in this Manual in order to prevent accidents during performing work and operation after performing work. Performing work not specified in this Manual may require special training for this product. If performing work other than those stated in this manual is required for repair, contact the offices herein stated in this manual or where you purchased the product from and ask for repair or inquire how to repair.



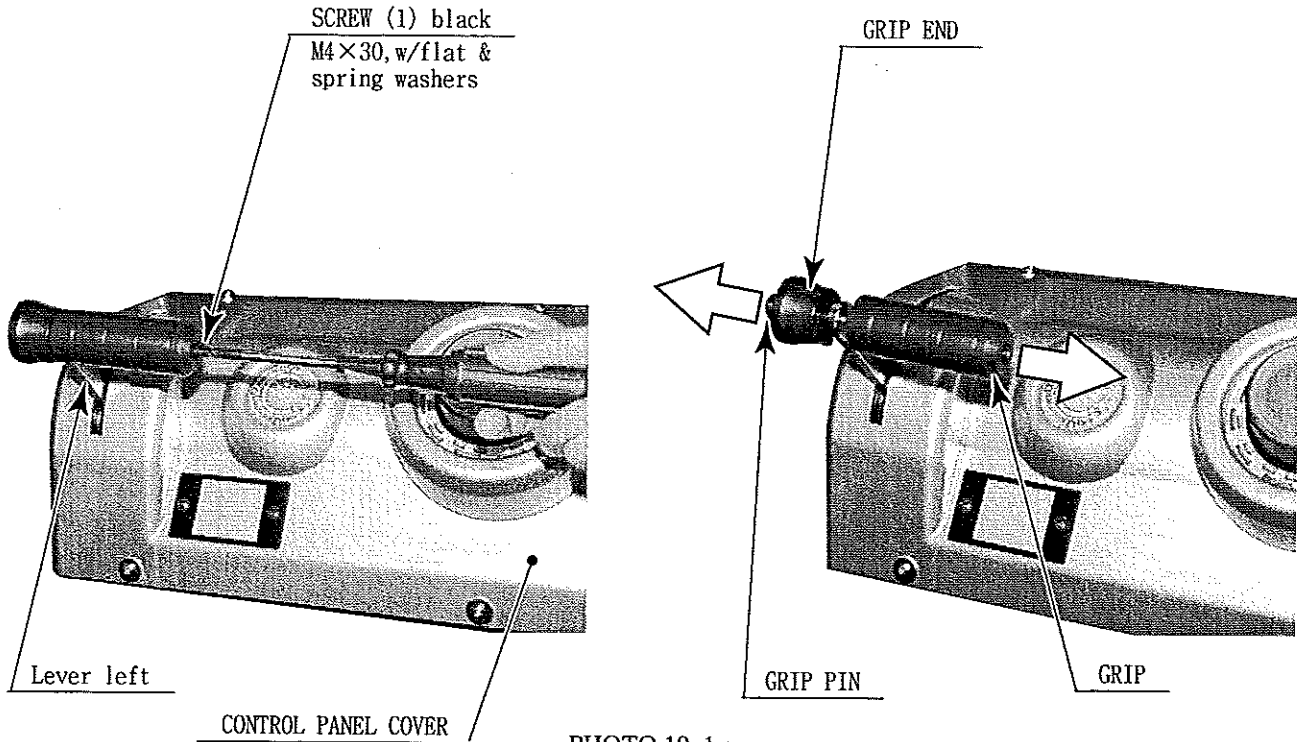
- Use care when handling the parts inside the control panel. Be careful so as not to cause damaging, missing, or deforming the parts. Damaging small portion of a part can cause malfunctioning.
- When securing the plastic-made parts, do not excessively fasten screws and nuts. Failure to observe this may damage the parts and cause injury due to fragments resulting from damage.

In this product, the input units are mounted on the control panel. The input units include the Levers on the control panel left and right, the Brake Lever (the right-hand side), the BOOST button (the center), the START button (the lower right), and the SELECLT buttons beside the START button on the control panel. Be sure to check reaction of each input unit at a monthly inspection. If the operability is poor and performing CALIBRATION in the test mode does not improve the situation, the causes may be malfunctioning of the input unit in the control panel.

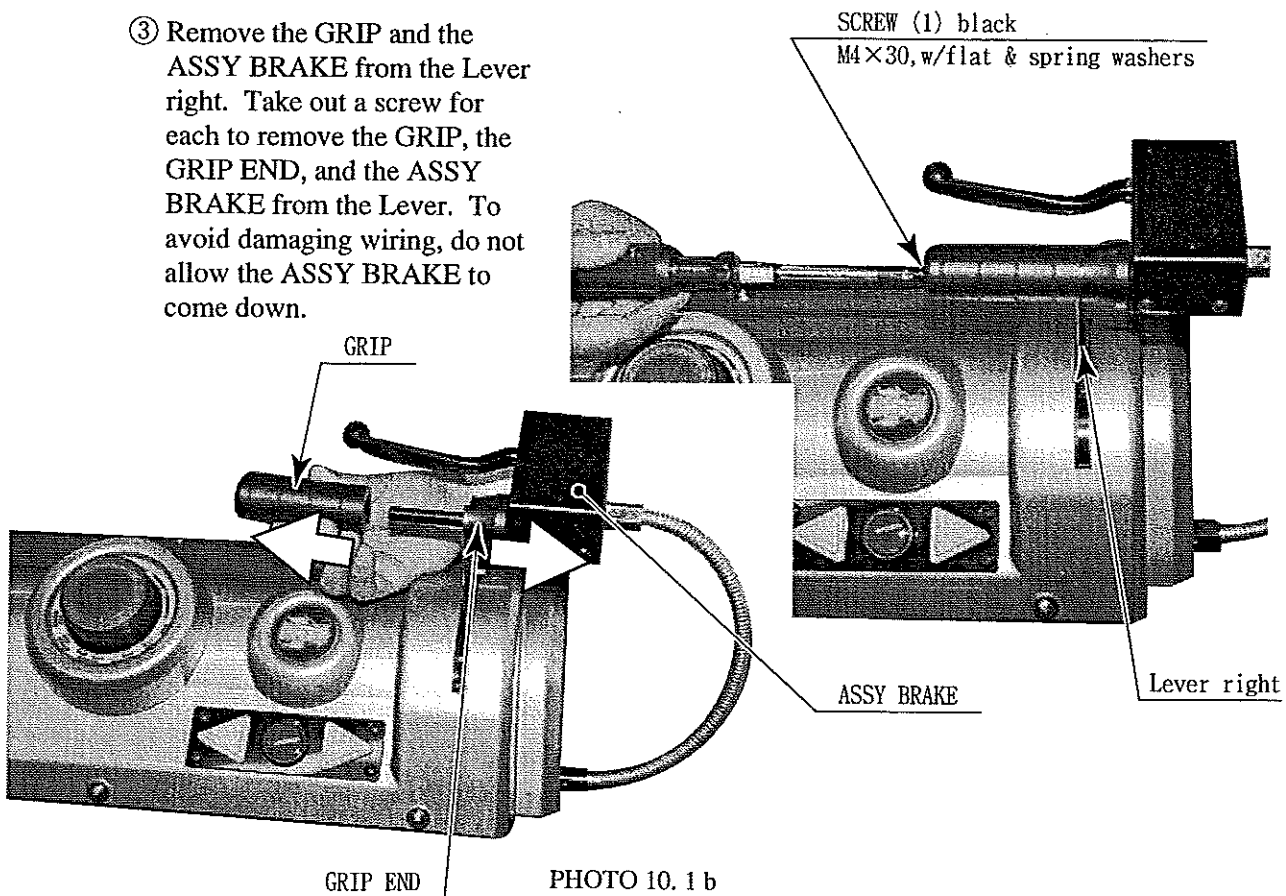
## 10 - 1 REMOVING THE CONTROL PANEL COVER

In order to check the control panel inside, first remove the control panel cover.

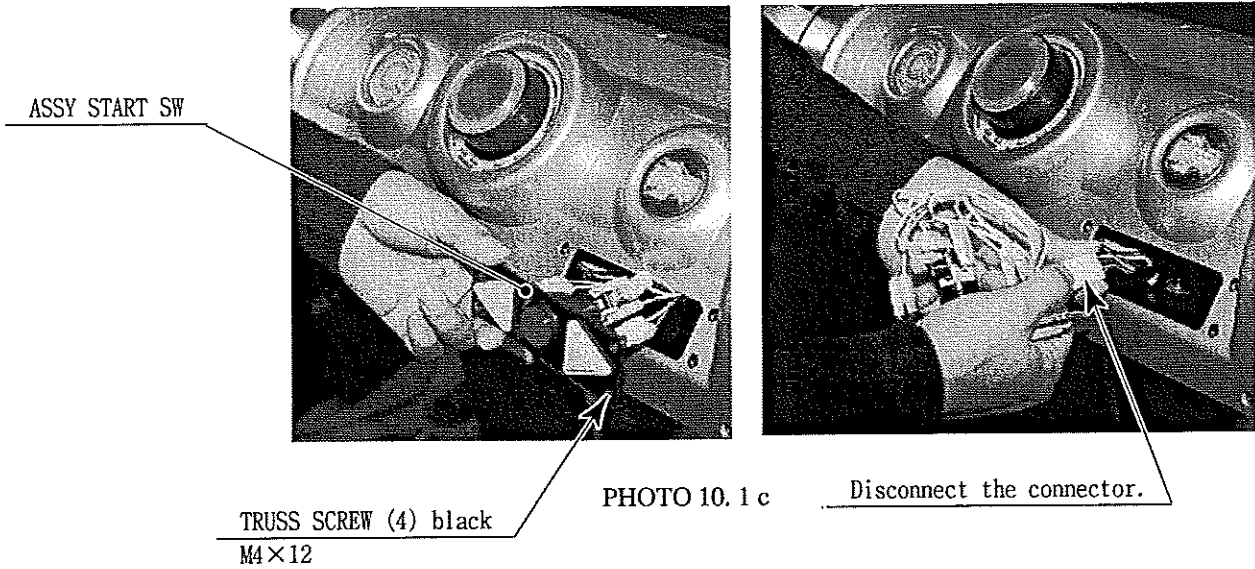
- ① Turn power off.
- ② Remove the GRIP from the Lever left. Take out a screw for each to remove the GRIP, the GRIP END, and the GRIP PIN from the Lever.



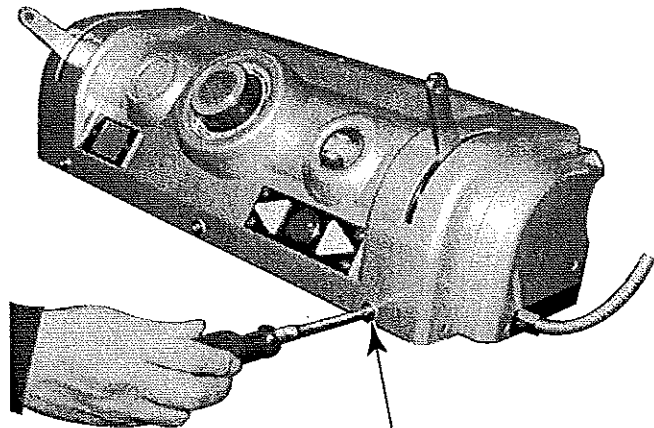
- ③ Remove the GRIP and the ASSY BRAKE from the Lever right. Take out a screw for each to remove the GRIP, the GRIP END, and the ASSY BRAKE from the Lever. To avoid damaging wiring, do not allow the ASSY BRAKE to come down.



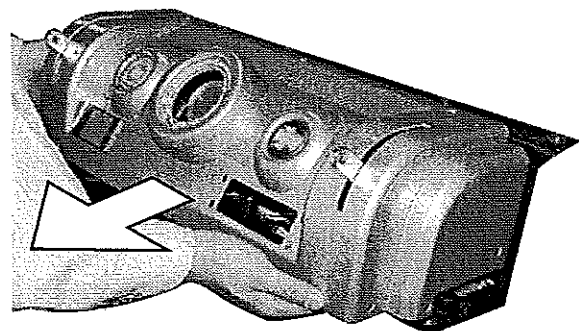
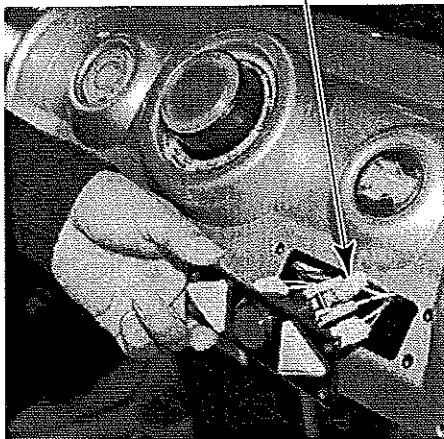
- ④ Take out the 4 truss screws securing the ASSY START SW. Handle with care so as not to damage the wiring inside the unit.
- ⑤ By using care, pull out the WIRE CONNECTOR from the ASSY START SW.



- ⑥ Take out a total of 11 screws securing the CONTROL PANEL COVER.
- ⑦ Remove the CONTROL PANEL COVER from the cabinet. To reinstall the CONTROL PANEL COVER, follow the above procedure in a reverse order. Don't mistake the right side for the left (and vice versa) when reinstalling the ASSY START SW. At this time make sure the terminal on the START button is located in the upper right.



The START button's terminals.





## 10-2 VOLUME ADJUSTMENT/REPLACEMENT

In case the operability of the Lever left and right is poor and performing CALIBRATION in the test mode does not improve the situation, the causes may be the failure of the Volume Gear's engagement in the ASSY LEVER MECHA inside the control panel and or Volume malfunctioning. Follow the following procedure to perform Volume adjustment or replacement. Since work is performed inside the energized cabinet, be very careful so as not to touch undesignated places.

### ADJUSTMENT

- ① Turn off power and remove the CONTROL PANEL COVER (10-1).
- ② Loosen the 2 screws securing the VR BRACKET in the ASSY LEVER MECHA to push the gear out of mesh.
- ③ With the Lever being at the centering position, bring the gear into mesh so that the status of the volume's shaft is as shown in the Fig. (FIG.10.2)

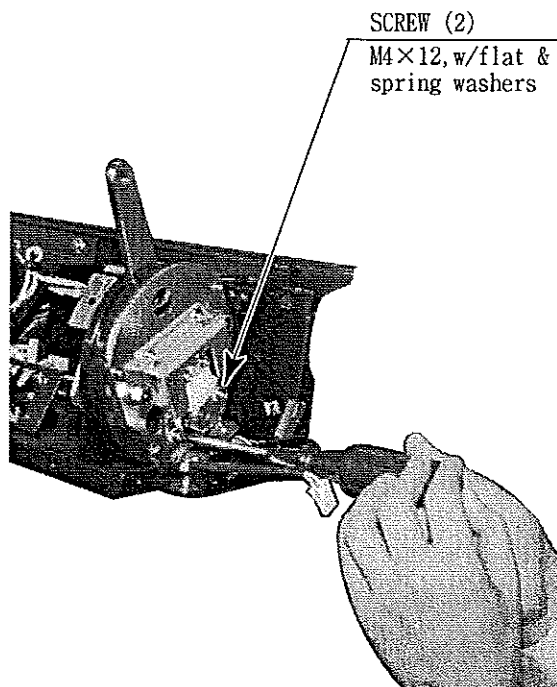


PHOTO 10.2 a

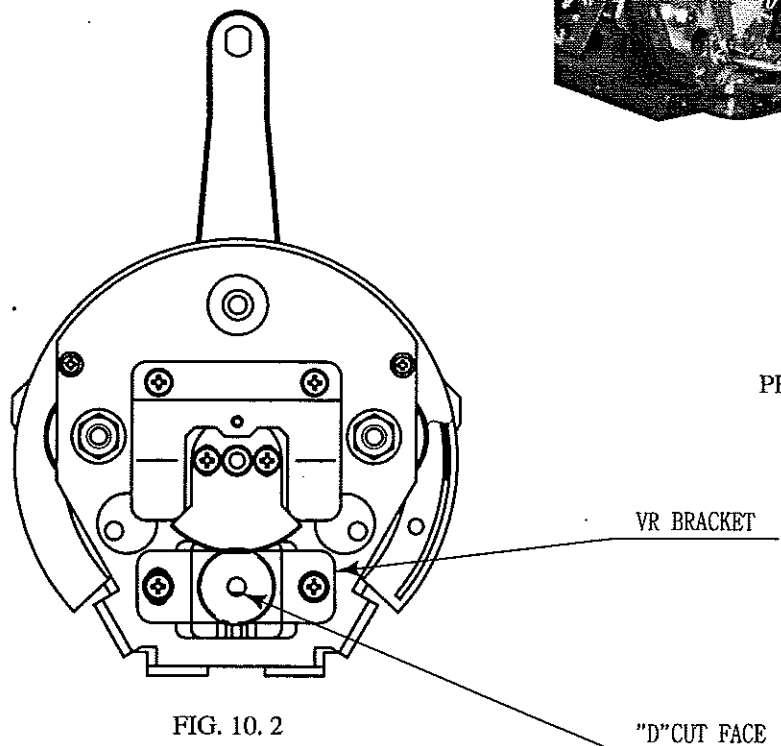


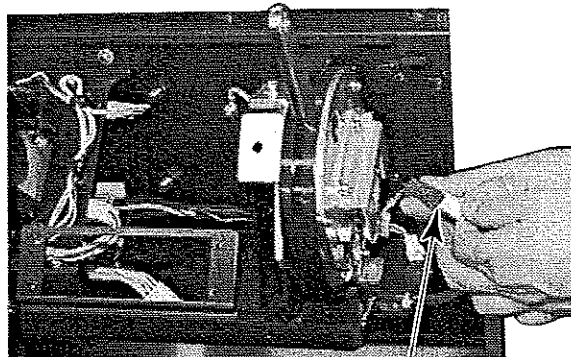
FIG. 10.2

- ④ Fasten the screws securing the VR BRACKET.
- ⑤ Turn power on and perform volume setting in the CALIBRATION in the test mode. (9-3)
- ⑥ During the INPUT TEST in the test mode, check to see if the volume value varies smoothly in accordance with operation of the Lever. (9-3)
- ⑦ Turn off power.
- ⑧ Install the CONTROL PANEL COVER to change back to the former state.

## REPLACEMENT

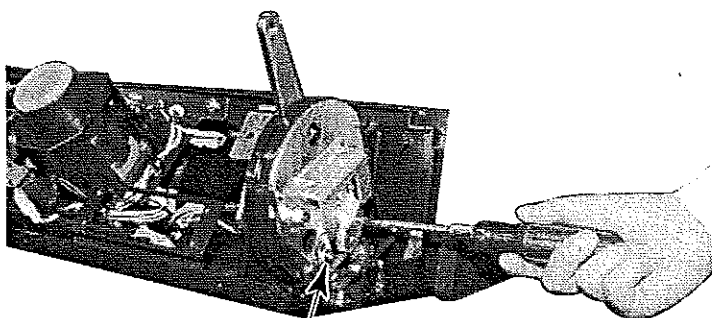
If the Volume is in a status as per FIG.10.2, moving the Lever fully forward and backward does not damage parts, as the value does not exceed the Volume's movable range.

- ① Turn off power and remove the CONTROL PANEL COVER (10-1).
- ② Disconnect the connector from the VOLUME to be replaced.
- ③ Take out the 2 screws securing the VR BRACKET in the ASSY LEVER MECHA to remove the VR BRACKET with the GEAR and the VOLUME mounted on it.



Disconnect the connector.

PHOTO 10. 2 b



SCREW (2)  
M4x12, w/flat & spring washers

PHOTO 10. 2 c

- ④ Remove the GEAR and the VOLUME from the VR BRACKET and replace the VOLUME.

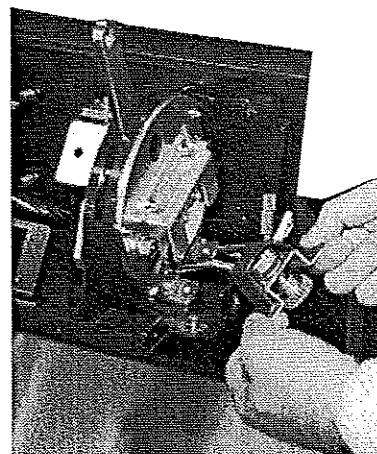


PHOTO 10. 2 d

- ⑤ With the LEVER being at the centering position, bring the gear into mesh so that the status of the volume's shaft is as shown in the Fig. (FIG.10.2)
- ⑥ Fasten the 2 screws securing the VR BRACKET.
- ⑦ Turn power on and perform volume setting in the CALIBRATION in the test mode.
- ⑧ During the INPUT TEST in the test mode, check to see if the volume value varies smoothly in accordance with operation of the Lever. (9-3)
- ⑨ Turn off power.
- ⑩ Install the CONTROL PANEL COVER to change back to the former state.



Do not touch the solenoid. The solenoid can be very hot.



- Be sure to use the designated grease. Using undesignated grease can cause parts damage.
- Do not apply greasing to undesignated places. Failure to observe this can cause malfunctioning or quality deterioration of parts.
- The period for greasing specified herein is a standard. Apply greasing to the specified portions as occasion arises.

Once every 3 months apply greasing to the volume mesh portion in the ASSY MECHA LEVER and the ASSY BRAKE spring. For spray greasing, use GREASE MATE (PART NO. 090-0066). Apply greasing to the BOOST button MECHA portion semiannually. Use GREASE 248 (PART NO.090-0070) for the portion. If the specified greasing is not obtainable, use greasing for the cold-proof, heat-resisting plastic instead.

APPLY GREASING TO THE ASSY MECHA LEVER

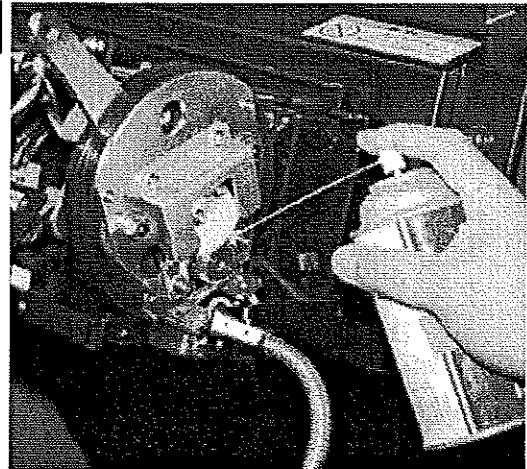


PHOTO. 10. 3 a VOLUME GEAR MESH PORTION

APPLY GREASING TO THE ASSY BRAKE

Insert the spray-greasing nozzle into the square hole of the ASSY BRAKE LEVER to apply greasing to the spring portion.

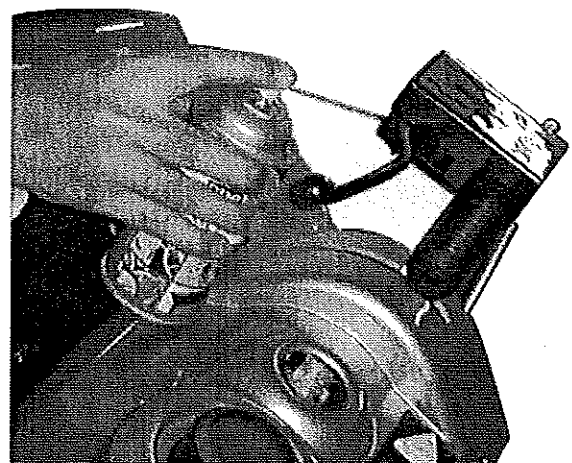


PHOTO 10. 3 b SPRING PORTION

APPLY GREASING TO THE BOOST BUTTON

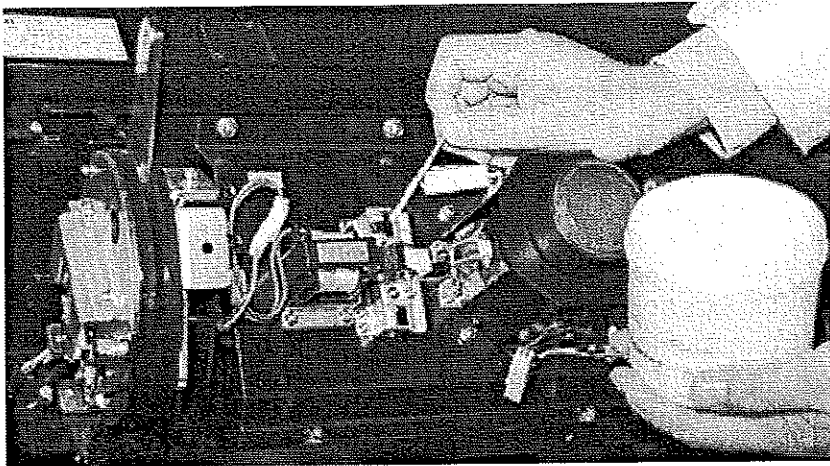


PHOTO 10. 3 c

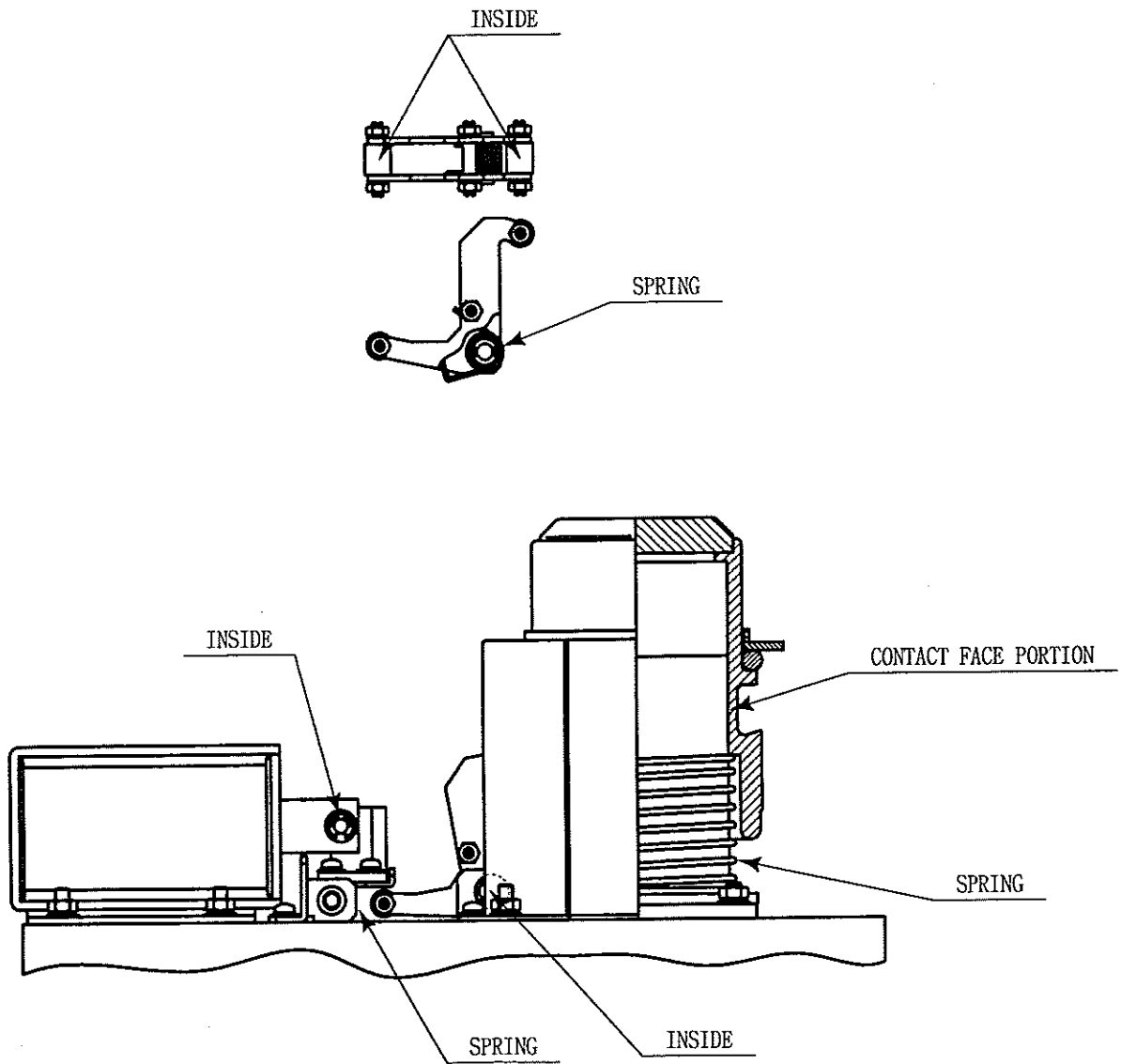


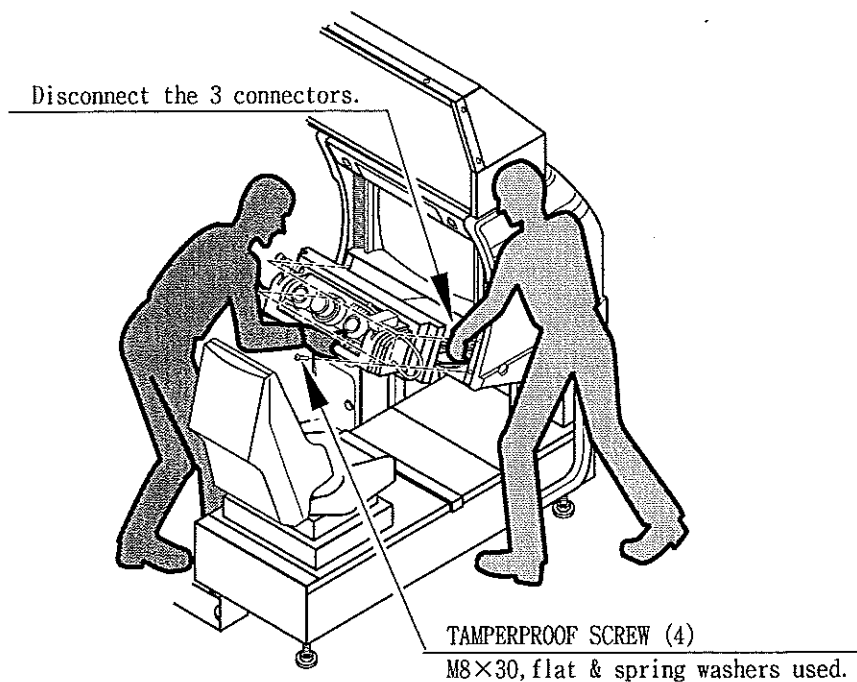
FIG. 10. 3

## 10 - 4 REMOVING THE CONTROL PANEL



- To perform work safely and securely, use 2 or more workers.
- When the screws are removed, the Control Panel can fall down by its empty weight. Take off the screws while another person supporting the Control Panel. Failure to observe this can cause injury resulting from falling down of the Control Panel.

- ① Turn off power.
- ② Take off a total of 4 Tamperproof screws from the Control Panel left and right. Be sure to take off the screws while another person supporting the Control Panel.
- ③ Remove the Control Panel. A wiring connection is inside the Control Panel. Use care so as not to damage the wiring.
- ④ The Connector Panel is inside the right-hand side of the Control Panel. Disconnect the 3 connectors on the Control Panel. At this time too, be sure to perform work while another person supporting the Control Panel.



For performing work, use 2 or more workers.

FIG. 10. 4

# 11. COIN SELECTOR

## HANDLING THE COIN JAM

If the coin is not rejected when the REJECT button is pressed, open the coin chute door and open the selector gate. After removing the jammed coin, put a normal coin in and check to see that the selector correctly functions.

## CLEANING THE COIN SELECTOR



- Remove and clean smears by using a soft cloth dipped in water or diluted chemical detergent and then squeezed dry.
- Never apply machine oil, etc. to the Coin Selector.
- After cleaning the Coin Selector, insert a regular coin in the normal working status and ensure that the Selector correctly functions.

The coin selector should be cleaned once every 3 months. When cleaning, follow the procedure below:

- ① Turn the power for the machine OFF. Open the coin chute door.
- ② Open the gate and dust off by using a soft brush (made of wool, etc.).
- ③ Remove and clean smears by using a soft cloth dipped in water or diluted chemical detergent and then squeezed dry.
- ④ Remove the CRADLE.  
When removing the retaining ring (E ring), be very careful so as not to bend the rotary shaft.
- ⑤ Remove stain from the rotary shaft and shaft receiving portions by wiping off with a soft cloth, etc.
- ⑥ After wiping off as per ⑤ above, further apply a dry cloth, etc. to cause the coin selector to dry completely.

## COIN INSERTION TEST

Once every month, when performing the Coin SW Test, simultaneously check the following:

- Does the Coin Meter count satisfactorily?
- Does the coin drop into the Cashbox correctly?
- Is the coin rejected when inserted while keeping the Reject Button pressed down?

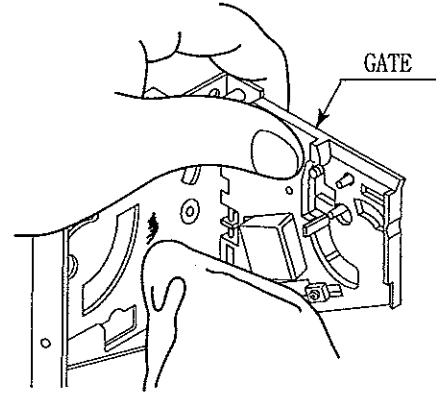


FIG. 11 a

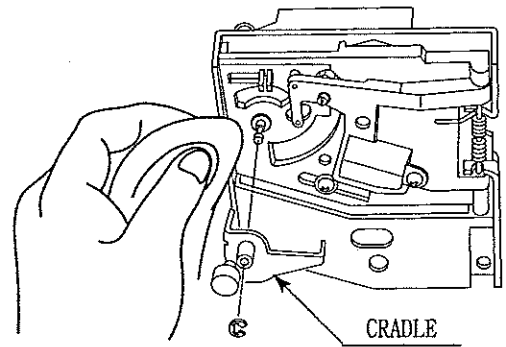
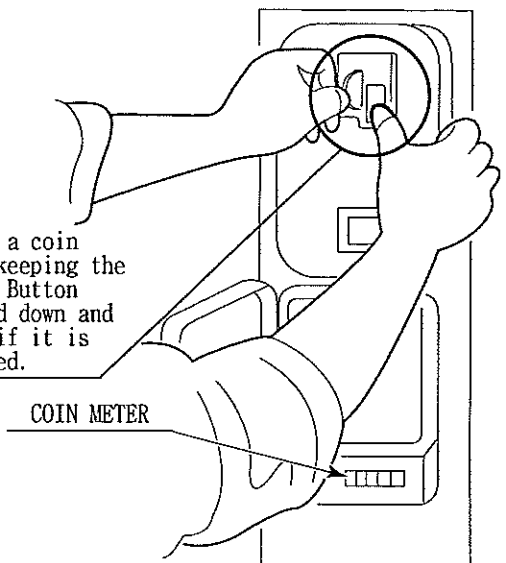


FIG. 11 b



Insert a coin while keeping the Reject Button pressed down and check if it is rejected.

FIG. 11 c

# 12. MONITOR

## 12-1 CAUTIONS AND WARNINGS CONCERNING THE SAFETY FOR HANDLING THE MONITORS

Before handling the monitors, be sure to read the following explanations and comply with the caution/warning instructions given below. Note that the caution/warning symbol marks and letters are used in the instructions.



Indicates that handling the monitors erroneously by disregarding this warning may cause a potentially hazardous situation, which could result in death or serious injury.



Indicates that handling the monitors by disregarding this caution may cause a potentially hazardous situation, which could result in personal injury and or material damage.



Indicates that access to a specific part of the equipment is forbidden.



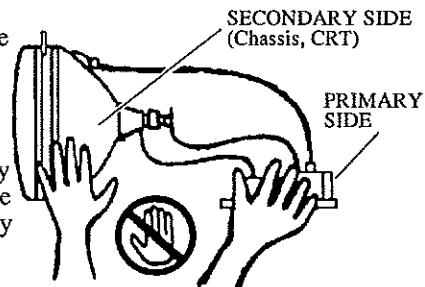
Indicates the instruction to disconnect a power connector or to unplug.



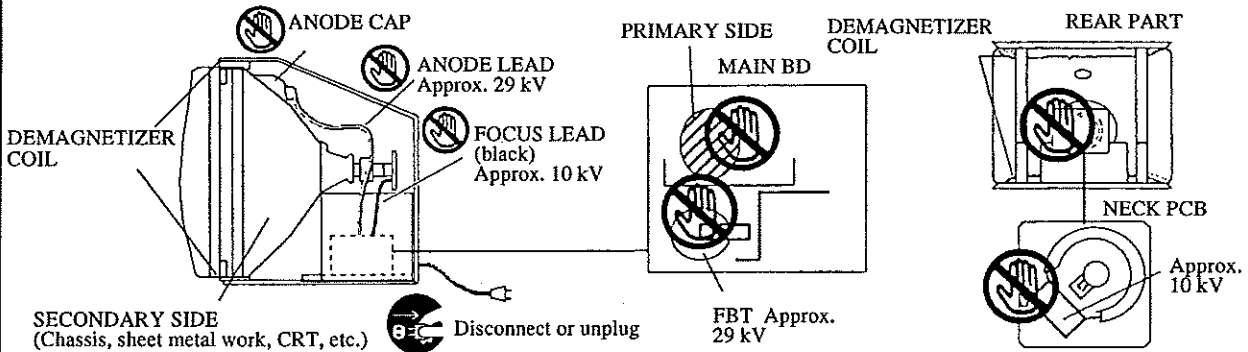
- When performing such work as installing and removing the monitor, inserting and disconnecting the external connectors to and from monitor interior and the monitor, be sure to disconnect the power connector (plug) before starting the work. Proceeding the work without following this instruction can cause electric shock or malfunctioning.
- Using the monitor by converting it without obtaining a prior permission is not allowed. SEGA shall not be liable for any malfunctioning and accident caused by said conversion.



- **Primary side and Secondary side**  
The monitor's circuit which is divided into the Primary side and Secondary side, is electrically isolated. Do not touch the primary side, or do not touch both the primary side and the secondary side simultaneously. Failing to observe the instruction can cause electric shock and this is very dangerous. When making monitor adjustments, use a non-conductive driver and make adjustment without touching any part other than the Adjustment V. R. and knob. Also, be sure not to cause a short-circuit to the Primary side and Secondary side. If short-circuited, it can cause electric shock or malfunctioning, which is very dangerous.



- **High-tension Voltage**  
Some of the parts inside monitor are subject to high-tension voltage in excess of 20,000 volts and very dangerous. Therefore, do not touch the monitor interior. Should soldering & paper wastes, etc. be mixed in the monitor interior, turn the power off so as not to cause malfunctioning or fire hazard.



- **Connecting the CRT and PCB**  
For combining the CRT and PCB, use the specified part No. to maintain the status of adjustments made at the factory. The anode of the CRT itself will be accumulatively charged as time elapses, generating high-tension voltage which is very dangerous. The monitor should be used with the Chassis, CRT and PCB assembled. When repair, etc. is required at the time of malfunctioning, be sure to send it in an "as is assembled" condition. If these are disassembled, what's charged to said high tension voltage can be discharged, causing a very hazardous situation. Therefore, under no circumstances should it be disassembled.

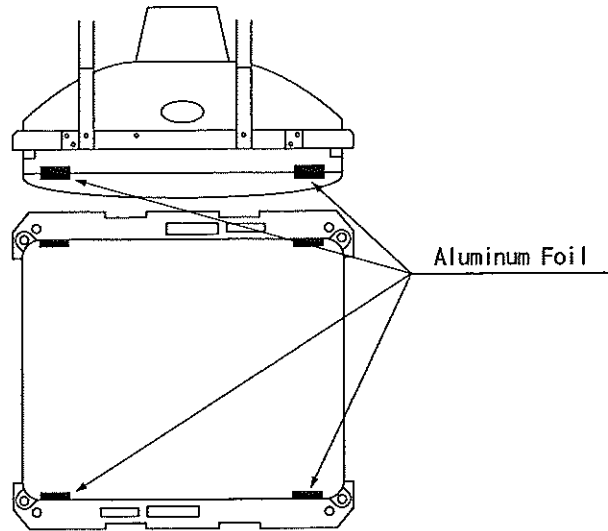


- **Static Electricity**  
Touching the CRT surface sometimes causes you to slightly feel electricity. This is because the CRT surfaces are subject to static and will not adversely affect the human body.
- **Installation and removal**  
Ensure that the Magnetizer Coil, FBT (Fly-Back Transformer), Anode Lead and Focus Lead are not positioned close to the sheet metal work's sharp edges, etc. and avoid damaging the insulated portions so as not to cause electric shock and malfunctioning. (For the name of parts, refer to the above Figures).



For the purpose of static prevention, special coating is applied to the CRT face of this product. To protect the coating, pay attention to the following points. Damaging the coating film can cause electric shock to the customers.

- Do not apply or rub with a hard item (a rod with pointed edge, pen, etc.) to or on the CRT surfaces.
- Avoid applying stickers, seals, etc. on the CRT face.
- Do not remove aluminum foils from the CRT corners. Removing the aluminum foils can cause static prevention effects to be lowered.



## 12-2 CAUTIONS TO BE HEEDED WHEN CLEANING THE CRT SURFACES



Static preventive coating is applied to the CRT surfaces. When cleaning, pay attention to the following points. Peeling off of static preventive coat can cause electric shock.

- Remove smears by using a dry, soft cloth (flannels, etc.). Do not use a coarse gauze, etc.
- For smear removing solvent, alcohol (ethanol) is recommended. When using chemical detergent, be sure to follow instructions below:
  - Dilute chemical detergent with water and dip a soft cloth in and then thoroughly wring it to wipe smears off.
  - Do not use a chemical detergent containing an abradant, powder or bleaching agent.
  - Do not use alkaline chemical detergents such as "glass cleaner" available on the market or solvents such as thinner, etc.
- Do not rub or scratch the CRT face with hard items such as brushes, scrub brush, etc.

Clean the CRT surfaces once a week. When cleaning, pay attention to the above caution so that the antistatic coating will not come off.



## 12 - 3 ADJUSTMENT METHOD



- Monitor adjustments have been made at the time of shipment. Therefore, do not make further adjustment without a justifiable reason. Adjusting the monitor which contains high tension parts is a dangerous work. Also, an erroneous adjustment can cause deviated synchronization and image fault, resulting in malfunctioning.
- When making adjustment, utilize a resinous Alignment Rod. Servicing with bare hand or using conductive tools can cause electric shock.

To make monitor adjustment, take off the 2 Truss Screws from CRT ADJUST PANEL portion. The Adjustment BD appears when the screws are removed.

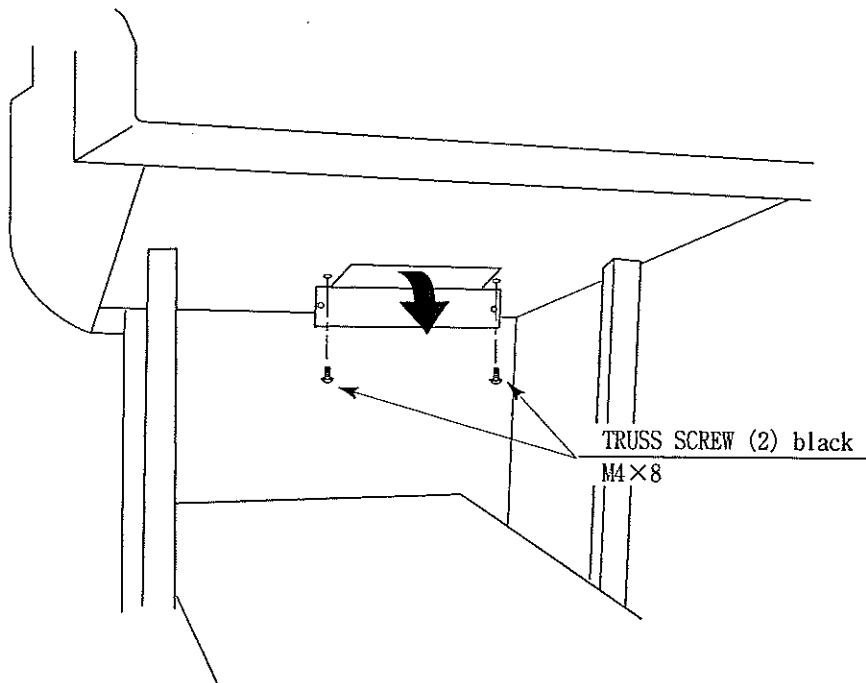
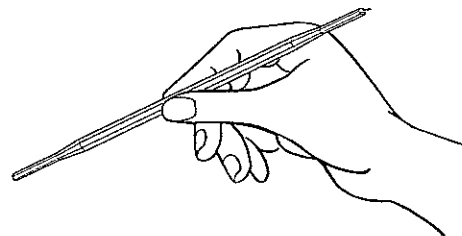


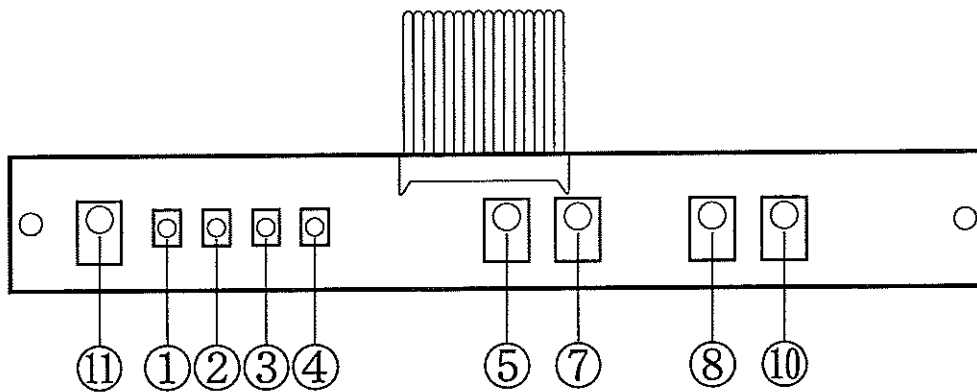
FIG. 12. 3 a



For adjustment, use the Resinous Adjustment Rod.

FIG. 12. 3 b

NANAO monitor: 2 0 0 - 5 2 4 2 - 2 4 - 0 4 (24K mode)



- ① R-GAIN .....
- ② G-GAIN ..... Controls colors.
- ③ B-GAIN .....
- ④ BRIGHT ..... Controls screen brightness.
- ⑤ H. SIZE ..... Controls horizontal screen size.
- ⑦ H. POSI ..... Controls horizontal display position on screen.
- ⑧ V. SIZE ..... Controls vertical screen size.
- ⑩ V. POSI ..... Controls vertical display position on screen.
- ⑪ CONTRAST .... Adjusts image contrast.

## 13. REPLACING THE FLUORESCENT LAMP, AND LAMPS



- When performing work, be sure to turn power off. Working with power on can cause electric shock and short circuit hazards.
- The Fluorescent Lamp, when it gets hot, can cause burn. Be very careful when replacing the Fluorescent Lamp.
- Be sure to use lamps of the designated rating. Using lamps of undesignated rating can cause a fire or malfunctioning.



- To perform work safely and securely, be sure to prepare a step which is in a secure and stable condition. Performing work without using the step can cause violent falling down accidents.
- Be careful when handling the plastic made parts. Failure to observe this may cause injury due to damage or fragments resulting from damage.

### INSIDE THE BILLBOARD

- ① Turn off power.
- ② Take off the 7 Truss screws to remove the Billboard Sash from the Billboard.
- ③ Pull out the Billboard Plate upwards to remove from the Billboard.
- ④ Replace the fluorescent lamp.

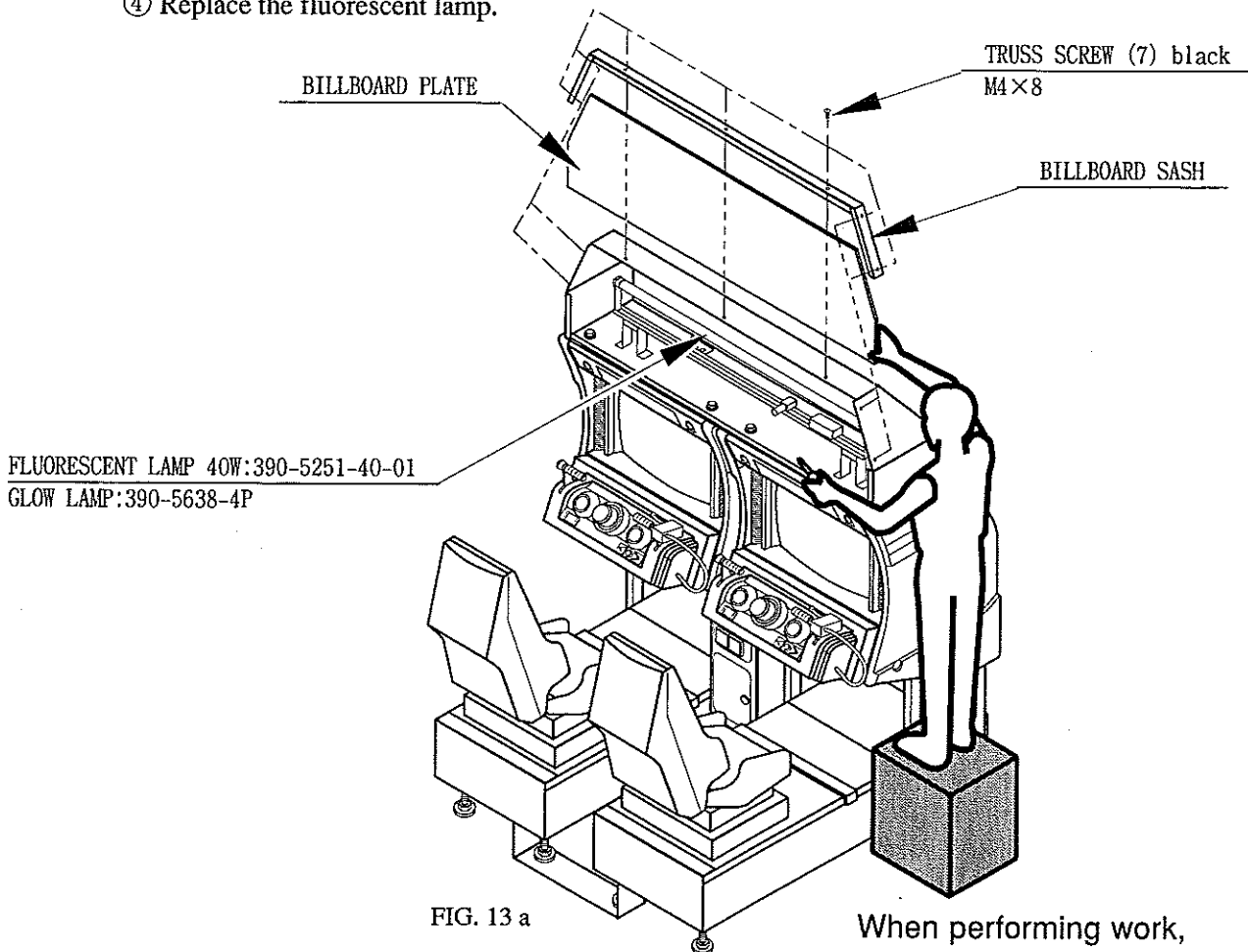
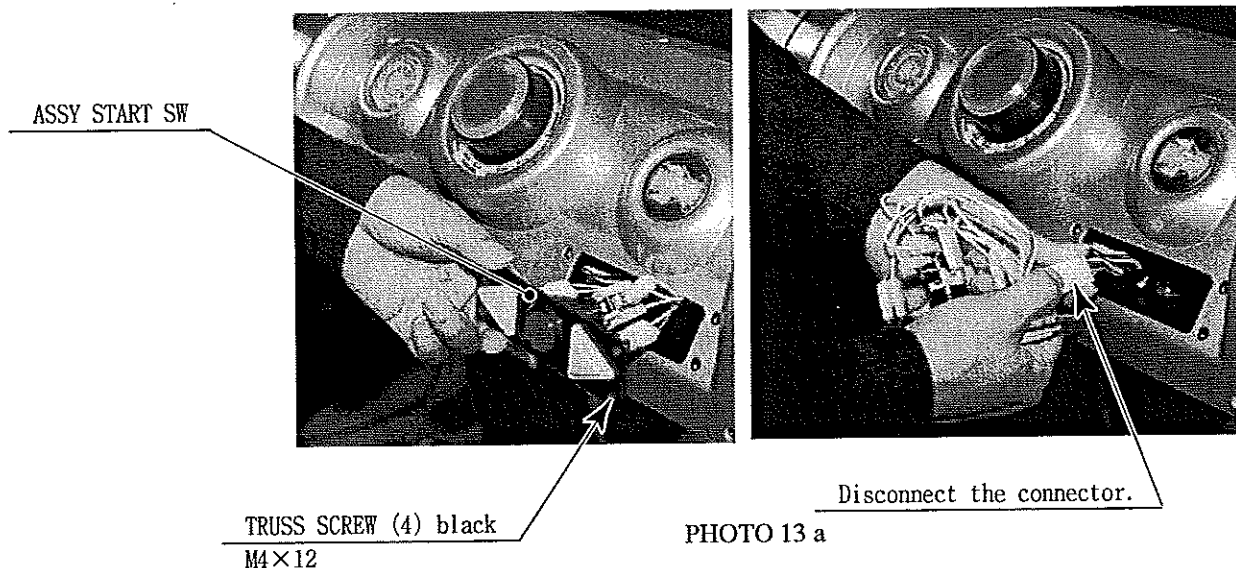


FIG. 13 a

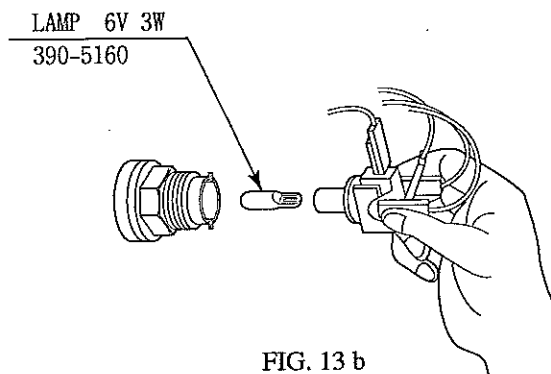
When performing work,  
prepare a step.

## START BUTTON

- ① Turn power off.
- ② Take out the 4 screws to remove the ASSY START SW from the CONTROL PANEL. The wiring connection is inside the ASSY START SW. Use care so as not to damage wiring. The SW PLATE is a plastic-made part. Handle with care.
- ③ Carefully pull out and remove the wire connector of the ASSY START SW.



- ④ Hold the SW portion of the START button and remove from the START button.
- ⑤ Pull out the lamp horizontally and replace. Do not rotate the lamp at this time.



START button is located  
in the upper right.

- ⑥ When installing the ASSY START SW to the CONTROL PANEL, be careful of the inserting direction. Install the ASSY START BUTTON in the manner the START button terminal is located in the upper right.



## 14. PERIODIC INSPECTION TABLE

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

When handling the controller, the player will be in direct contact with it. In order to always allow the player to enjoy the game, be sure to clean it regularly. Also, it is advisable to provide wet tissue, etc. available for player use.



- Be sure to check once a year to see if Power Cords are damaged, the plug is securely inserted, dust is accumulated between the Socket Outlet and the Power Plug, etc. Using the product with dust as is accumulated can cause fire and electric shock hazards.
- Periodically once a year, request the place of contact herein stated or the Distributor, etc. where the product was purchased from, as regards the internal cleaning. Using the product with dust as is accumulated in the interior without cleaning can cause a fire or accident. Note that cleaning the interior parts can be performed on a pay-basis.

TABLE 14

	Item	Interval	Reference
CABINET	Check Adjusters' contact with surface.	Daily	3
CONTOROL PANEL	Cleaning	As necessary	
	Inspection of SW, VR.	Monthly	9
	Greasing to the gear mesh portion and the spring.	Trimonthly	10-3
	Greasing to the BOOST button.	Semiannually	10-3
COIN CHUTE DOOR	Check COIN SW.	Monthly	9
	Coin insertion test.	Monthly	11
	Cleaning of COIN SELECTOR.	Trimonthly	11
MONITOR	Cleaning of CRT surfaces.	Weekly	12-2
	Check adjustments.	Monthly or when moving.	6, 9, 12
SEAT	An anti-static electricity measure.	Bimonthly	5
	Greasing to the seat rail	Trimonthly	FIG.14
GAME BD	MEMORY TEST.	Monthly	9
	Check settings.	Monthly	9
INTERIOR	Cleaning	Annually	See above.
POWER SUPPLY PLUG	Inspection and cleaning		
Cabinet surfaces	Cleaning	As necessary.	See below.

### CLEANING THE CABINET SURFACES

When the cabinet surfaces are badly soiled, remove stains with a soft cloth dipped in water or diluted (with water) chemical detergent and squeezed dry. To avoid damaging surface finish, do not use such solvents as thinner, benzine, etc. other than ethyl alcohol, or abrasives, bleaching agent and chemical dustcloth.

**SEAT (Greasing to Seat Rail Portion)**

Move the Seat to the rearmost portion and apply spray greasing to the portion shown at the right once every 3 months by using NOK KLUBER L60 or GREASE MATE SEGA PART No. 090-0066. After greasing, move the Seat a few times forward and backward so as to allow the grease to be applied all over uniformly. Be sure to wipe grease which attaches to the surfaces of the PROTECT RUBBER on the Seat Rail, or any excess grease.

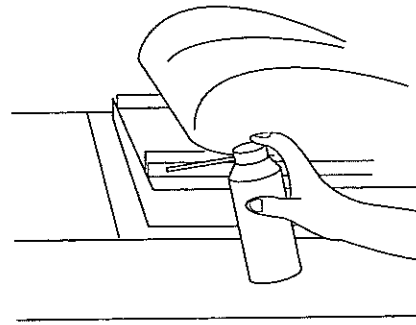


FIG. 14

# 15. TROUBLESHOOTING



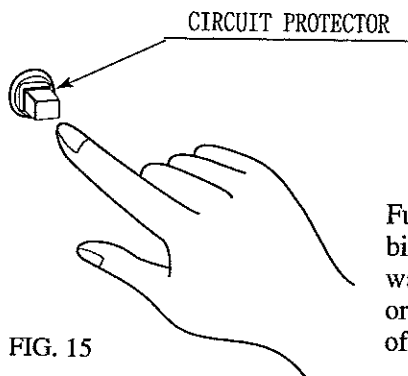
- In order to prevent electric shock and short circuit, be sure to turn power off before performing work.
- Be careful so as not to damage wirings. Damaged wiring can cause electric shock or short circuit.
- After removing the cause of the functioning of the Circuit Protector, reinstate the Circuit Protector. Depending on the cause of the functioning, using the Circuit Protector as is without removing the cause can cause generation of heat and fire hazard.

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

TABLE 15 a

PROBLEMS	CAUSE	COUNTERMEASURES
With Main SW ON, no activation.	Power is not supplied.	Securely insert the power plug into the plug socket.
	Power supply/voltage is not correct.	Make sure that power supply/voltage is correct.
	The Circuit Protector functioned due to the momentary overload.	After eliminating the cause of overload, reinstate the AC Unit's Circuit Protector (see [5], Section 6, Refer to the following).
	The Connect BD Fuse is blown due to momentary overload.	Replace fuse (see PHOTO. 15). 514-5036-7000 FUSE 6.4 × 30 7000mA 125V
The color of image on MONITOR screen is incorrect.	Incorrect monitor adjustment.	Make appropriate adjustments (see 12-3).
The on-screen image of the monitor sways and or shrinks.	The power source and voltage are not correct.	Make sure that the power supply and voltage are correct (see Sec.2).

CIRCUIT PROTECTOR



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

FIG. 15

TABLE 15 b

PROBLEMS	CAUSE	COUNTERMEASURES
No sound is emitted.	Sound volume adjustment is not appropriate. Board and Amplifier malfunctioning.	Adjust sound volume (see Sec. 9). Perform the sound test and confirm (see Sec. 9).
Operability of the Control Panel is poor.	Deviation of the volume value. Volume gear engagement fault. Volume malfunctioning.	Adjust the volume value in the Test mode. (see 9-3) Adjust the engagement of the gear. (see 10-2) Replace the Volume. (see 10-2)
The Fluorescent lamp does not light up.	The Fluorescent tube is burnt out.	Replace the Fluorescent tube (see Sec. 13).
START button does not light up.	The lamp is burnt out.	Replace the lamp. (see Sec.13)

### ERROR DISPLAY

In this product, if an error is detected, the error message will be displayed at the lower right screen. There are 2 kinds of error messages, BOOST ERROR and SOLENOID ERROR. Enter the test mode and exit from it to erase the error message. Turning power on again does not erase the error message. If the error is caused by mechanical fault, game cannot be played. Remove the cause of the malfunctioning to ensure satisfactory operation.

#### BOOST ERROR

PROBLEM: The BOOST button is in a state of being pressed down.

#### SOLENOID ERROR

PROBLEM: The lock mechanism of the BOOST button does not function.

The following causes of the BOOST ERROR can be considered.

- The BOOST button has been pressed down.
- The BOOST button is in a state of pressed down with an extraneous matter put inside it.
- The BOOST button is in a state of locked due to lock mechanism fault or malfunctioning.
- Malfunctioning of the BOOST button sensor.
- An extraneous matter is put in the BOOST button sensor.

The following causes of the SOLENOID ERROR can be considered.

- Malfunctioning of the Solenoid.
- The BOOST button cannot be locked due to lock mechanism fault or malfunctioning.
- Malfunctioning of the BOOST button sensor.



## REPLACEMENT OF FUSE



- Fuse replacements other than those specified can cause accidents and are strictly forbidden. In case fuse replacements other than those stated in this manual are necessary, contact where you purchased the product from for inquiries regarding this matter.
- In order to prevent an electric shock, be sure to turn power off and unplug from the socket outlet before performing work by touching the internal parts of the product.
- Be careful so as not to damage wirings. Damaged wiring can cause electric shock and short circuit accidents.
- Be sure to use fuses meeting specified rating. Using fuses exceeding the specified rating can cause fire and electric shock accidents.
- After eliminating the cause of the blowing of fuse, replace the fuse. Depending on the cause of fuse blowing, continued use with the fuse as is blown can cause generation of heat and fire hazard.

Incline the Seat and remove Base Lid F to view the Base interior. The composition of the Base interior is as shown below. (See Section 18-1). There is a fuse on each of the Connect BD. When replacing the fuse, be sure to use the specified one.

FUSE 125V 7A  
514-5036-7000

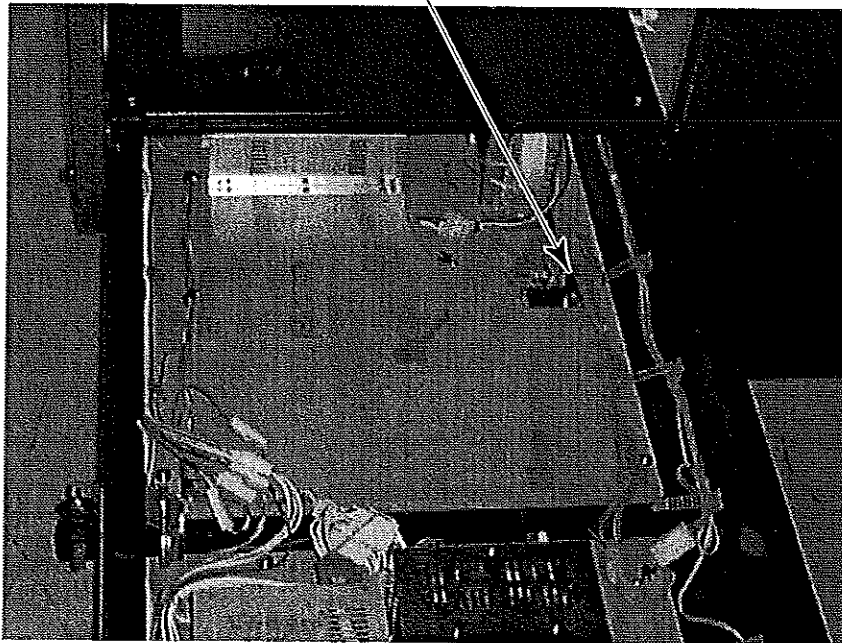


PHOTO 15

## 16. GAME BOARD



- In order to prevent electric shock and short circuit hazards, be sure to turn power off before performing work.
- Be careful so as not to damage wirings. Damaged wiring can cause fire, electric shock and short circuit hazards.
- Do not expose the Game BD, etc. without a good reason. Failure to observe this can cause electric shock hazard or malfunctioning.



The electronic parts on the IC Board could be damaged due to human body's static electricity. Before performing IC Board related work, be sure to discharge physically accumulated statics by touching grounded metallic surfaces, etc.



Put the Game Board in the Carton Box (an accessory) together with the Shield Case when requesting for the replacement or repair. Transporting the Game Board in an undesignated status for replacement/repair is unacceptable.  
In this manual, how to remove the Game Board is explained for convenience. However, this work should be performed by SEGA SERVICEMAN.

### 16 - 1 REMOVING THE GAME BOARD

The Shield Case containing the GAME BOARD is inside the base in each Cockpit.

- ① Turn off power.
- ② Take out the screw for each from the base left and right.
- ③ Unlock with the Master Key.
- ④ Turn the Lock Handle on the Base Lid to unlock.
- ⑤ Incline the seat backwards. By using care so as not to damage the seat parts, cause the backrest portion of the seat to come into contact with the floor. If the floor has hard surfaces, protect the seat from damage by using a cloth, etc. on the floor surfaces.
- ⑥ Disconnect all connectors connected to the Shield Case.

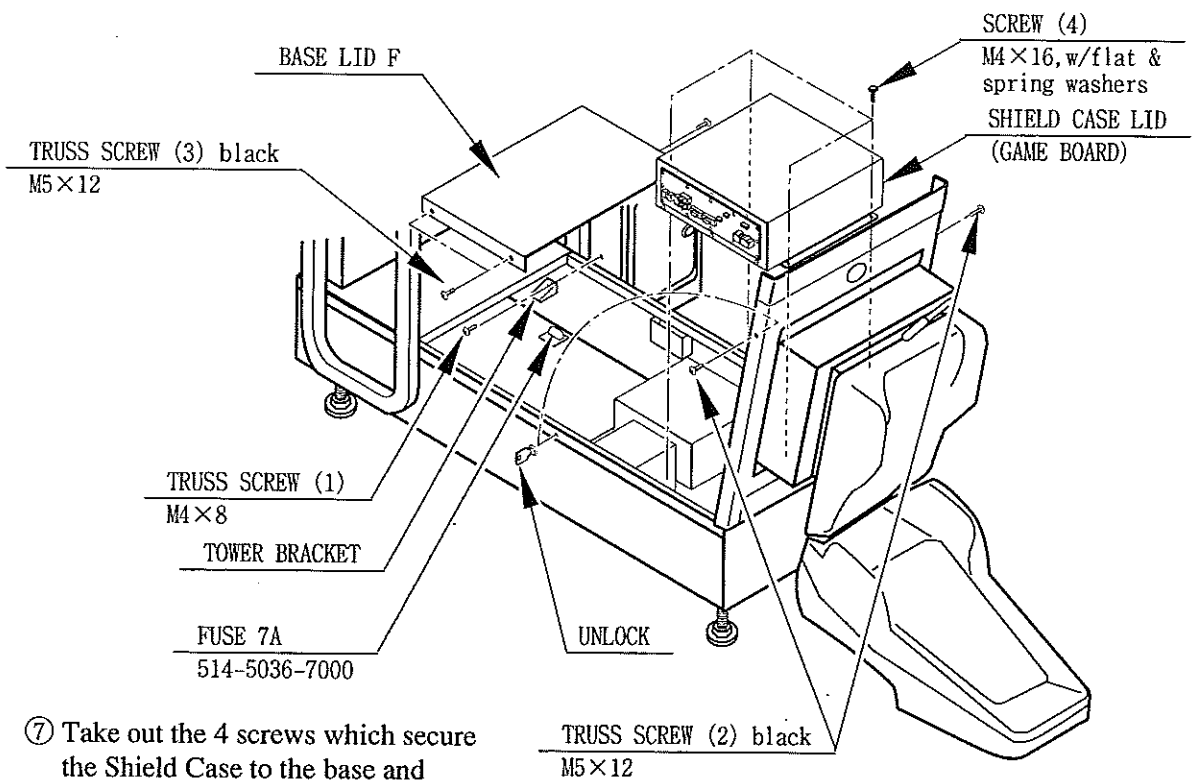


FIG. 16.1 a

- ⑦ Take out the 4 screws which secure the Shield Case to the base and remove the Shield Case from the base. Take out the 3 screws to remove the Shield Case Lid, and the Game Board appears. However, those other than Sega Serviceman should never perform this work.

- ⑧ Take out the 2 screws to remove the 2 Shield Case Brackets from the Shield Case. Pack up the Shield Case with packing materials, put it into a carton box, and request service.

- ⑨ With the seat as is inclined, take off the Truss screw to remove the Tower Bracket.
- ⑩ Take off a total of 3 screws from the sides of the base, and the Base Lid F can be removed. Remove the Base Lid F to replace the fuse.

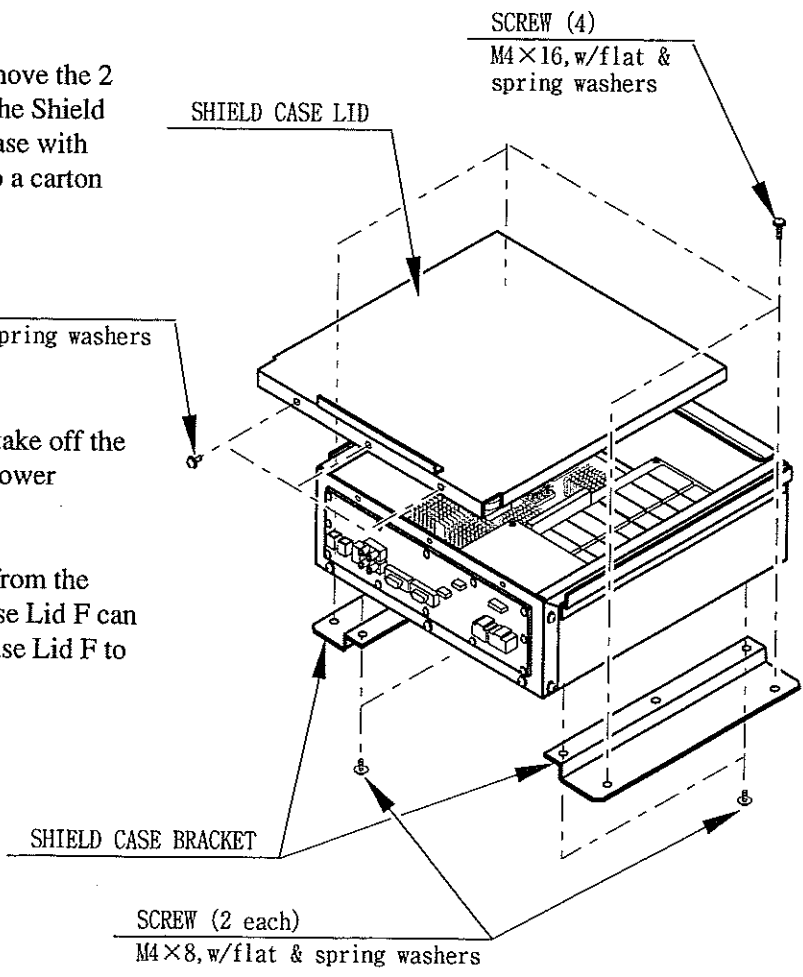


FIG. 16.1 b

16 - 2 COMPOSITION OF GAME BOARD

GAME BD POD (833-14003)

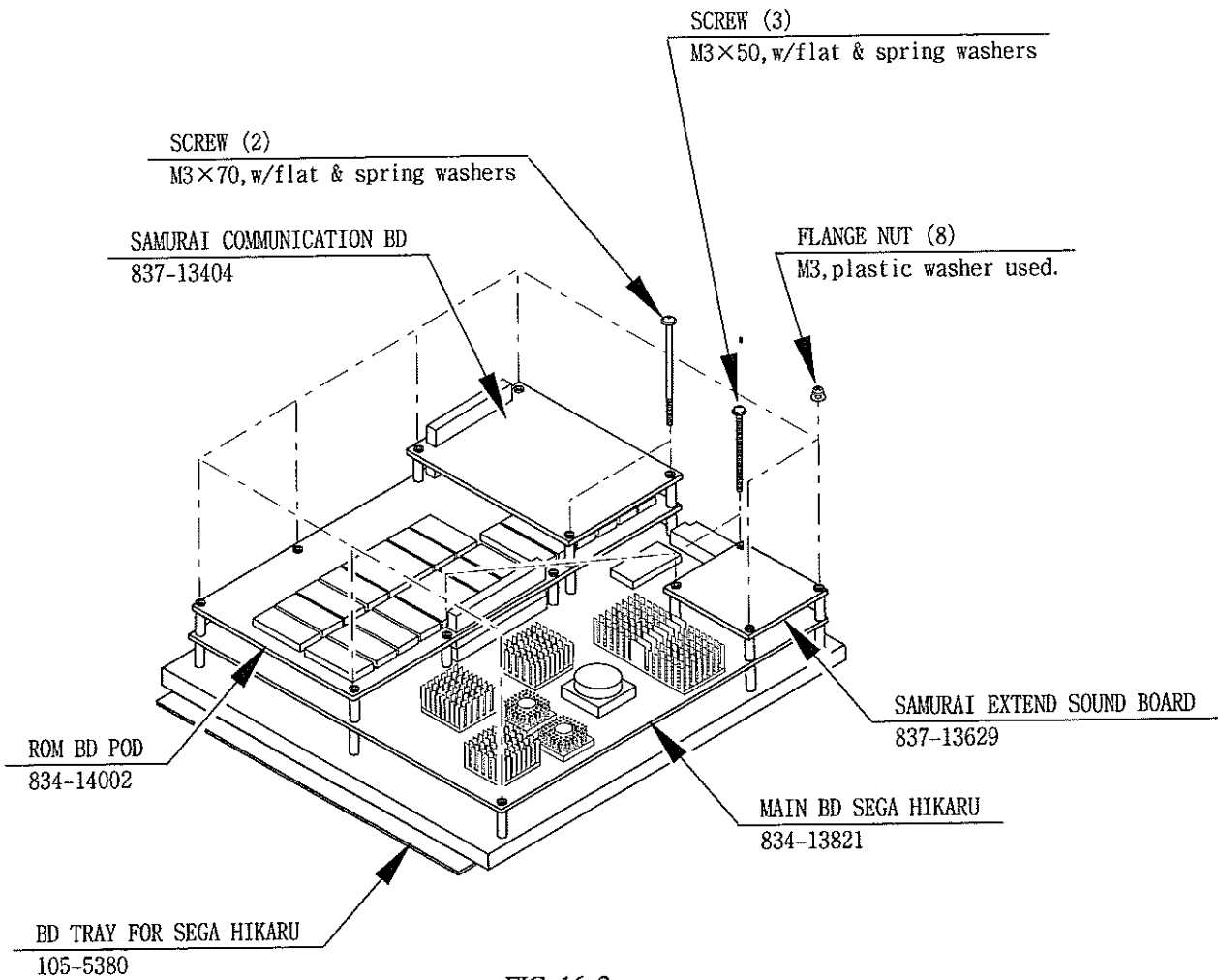


FIG. 16. 2

MAIN BD JUMPER SETTING	
JP4	1-2
JP5	1-2
JP6	1-2
JP7	1-2
JP8	2-3
JP9	2-3
JP10	1-2
JP11	2-3