



Standard Version  
**Owner's Manual**



SEGA AMUSEMENTS USA, INC.

MANUAL NO. 999-1930

GAME CODE:FZR

# VISIT OUR WEBSITE!

The screenshot shows a browser window with the address bar displaying <http://www.segaservice.com/>. The browser's navigation bar includes buttons for Back, Forward, Stop, Refresh, Home, AutoFill, Print, and Mail. The browser's address bar shows the URL and a 'GO' button. The browser's tab bar shows several tabs, including 'Mac OS X', 'Microsoft MacTopia', 'SegaService.com', 'SAU Parts Site', 'Mac OS X Hints - Get the most from XI', and 'Microsoft Outlook Web Access - Logon'.

The website content features a large 'SEGA SERVICE' logo in blue, 3D-style text. To the left of the logo, the text 'LEDs "Burning" you up ??' is displayed in a blue, italicized font, with a small graphic of a burning LED below it. To the right of the logo, a list of navigation links is shown: '• Bulletin', '• Darl's Office', '• Game Manuals', '• Search', and '• What's New'. Below the logo and text, a message reads: 'If you have any questions or comments about this site please E-Mail to [Darl.Davidson@scu.sega.com](mailto:Darl.Davidson@scu.sega.com)'. Below this message is a 'POWERED BY Mac OS X' logo featuring the Apple logo. Below the logo is a list of navigation links: '[what's new]', '[manuals]', '[bulletins]', '[assemblies]', '[specials]', '[Search]', '[staff]', '[Darl's office]', '[Return/Parts Policy]', '[warranty]', '[corporate info]', '[plugins]', and '[Non-framed page]'. Below the links is the text: 'You will need the following items to view this page in its entirety.' Below this text are two logos: 'Get Acrobat Reader' and 'Get Microsoft Internet Explorer'. Below the logos is the text: 'All Platforms Windows Macintosh'.

The left sidebar of the website contains a 'SEGA SERVICE' logo, a 'What's new' section with links to 'Manuals', 'Bulletins', 'Assemblies', 'Graphics', and 'Specials', a 'Search' section with a 'Search' button and a 'Bulletin Sign-up' link, a 'Staff' section with links to 'Darl's Office', 'Return Policy', and 'Warranty Policy', a 'Corporate Info' section with links to 'Home Page', 'Plug-Ins', and 'No Frames', and a 'Google' search bar. Below the search bar is the text: 'Search SEUService.com' and a 'Site Search' input field. At the bottom of the sidebar is the text: 'Sega Amusements USA Inc. 45137 Industrial Dr. Fremont, CA 94538 (415) 701-6580'.

## 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 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 warning will cause a potentially hazardous situation which can result in death or serious injury.



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.

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



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

- **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 running 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	: 72 inches width X 90 inches deep
Height	: 77 inches
Width	: 39 inches
Length	: 68.5 inches
Weight	: 580 lbs
Power, maximum current	: 600 W 5 A (AC 120V 60 Hz AREA)

MONITOR	: Sanwa #29E31S
	Sega Part Number: 998-0162
	Chassis Part Number: 998-0161

## INTRODUCTION OF THE OWNERS 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,

### **F-ZERO AX STANDARD 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.



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

SEGA AMUSEMENTS USA, INC. / CUSTOMER SERVICE  
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## 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.

**LISTED**



**5K92**

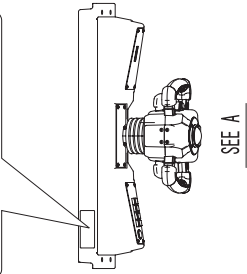
**AMUSEMENT MACHINE**

**Notes:**



440-6018EG

**CAUTION**  
 If you or your child might have experienced a convulsive seizure, fainting, or other symptoms while playing on TV games, or might be liable to experience such symptoms, be very careful of using the machine.  
 If you feel sick while playing the game, immediately discontinue use and take a rest.

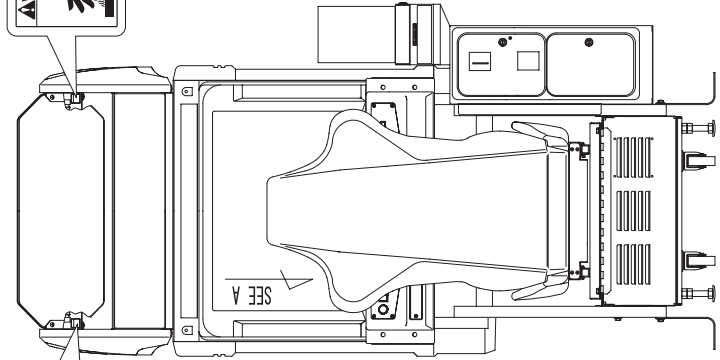


SEE A

440-V8016EG



440-V80179EG



### CONCERNING WARNING DISPLAYS

SEGA product has warning displays on Stickers, Labels and or printed instructions adhered/attached to or incorporated in the places where a potentially hazardous situation can arise. The warning displays are intended for accident prevention for the customers and for avoiding hazardous situation relating to maintenance and servicing work. There are some portions in the Cabinet, which are subject to high tension voltage, etc. where accidents can be caused merely by touching. When performing the servicing work, be very careful of the warning displays. Especially, any complex repair and replacement work not mentioned herein, should be performed by those technical personnel who have knowledge of electricity and technical expertise. For the prevention of accidents, caution any customer whose act runs counter to the warnings, as to the effect that he must stop the act.

### CONCERNING THE STICKER DISPLAY

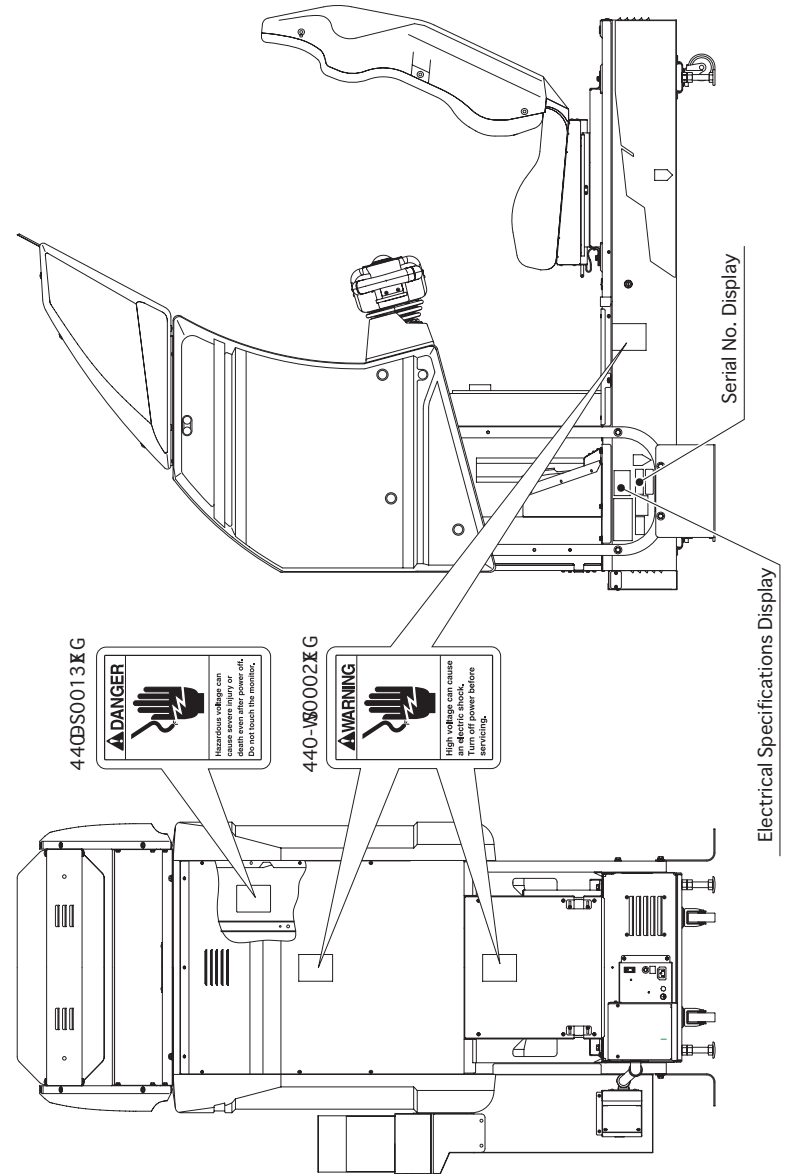
SEGA product has Stickers describing the product manufacture No. (Serial No.) and Electrical Specifications. Also it has a Sticker describing where to contact for repair and for purchasing parts. When inquiring about or asking for repair, mention the Serial No. and Name of Machine indicated on the Sticker. The Serial No. indicates the product register. Identical machines could have different parts depending on the date of production. Also, improvements and modifications might have been made after the publication of this Manual. In order to meet the above situations, mention the Serial No. when contacting the applicable places.

440DS0013XG

**DANGER**  
 Hazardous voltage can cause serious injury or death. Do not touch the power on, Do not touch the transformer.

440-V80002XG

**WARNING**  
 High voltage can cause serious injury. Turn off power before servicing.



Serial No. Display

Electrical Specifications Display

# 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.
- The Projector is employed for this machine. The Projector's screen is susceptible to damage, therefore, be very careful when cleaning the screen. For details, refer to PROJECTOR.
- Static electricity from your body may damage some electronics devices on the IC board. Before handling the IC board, touch a grounded metallic surface so that the static electricity can be discharged.
- Some parts are the ones designed and manufactured not specifically for this game machine. The manufacturers may discontinue, or change the specifications of, such general-purpose parts. If this is the case, Sega cannot repair or replace a failed game machine whether or not a warranty period has expired.

## 2. PRECAUTIONS REGARDING 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° to 30°.

### 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 7 A or higher (AC single phase 100~120 V area), and 4 A or higher (AC 220~240 V 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 7 A or higher (AC 100~120 V area) and 4 A or higher (AC 220~240 V 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 6 Ft (W) × 7.5 Ft (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 40 in (W) and 77 in (H).

Electric current consumption

MAX. 5 A (AC 120 V 60 Hz)

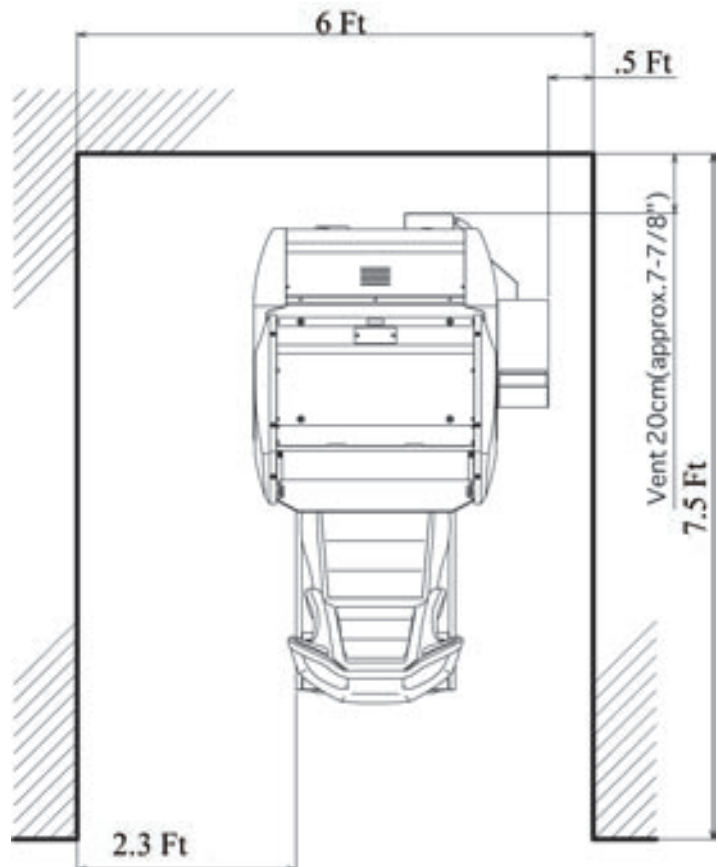


FIG. 2

### 3. PRECAUTION REGARDING PRODUCT OPERATION

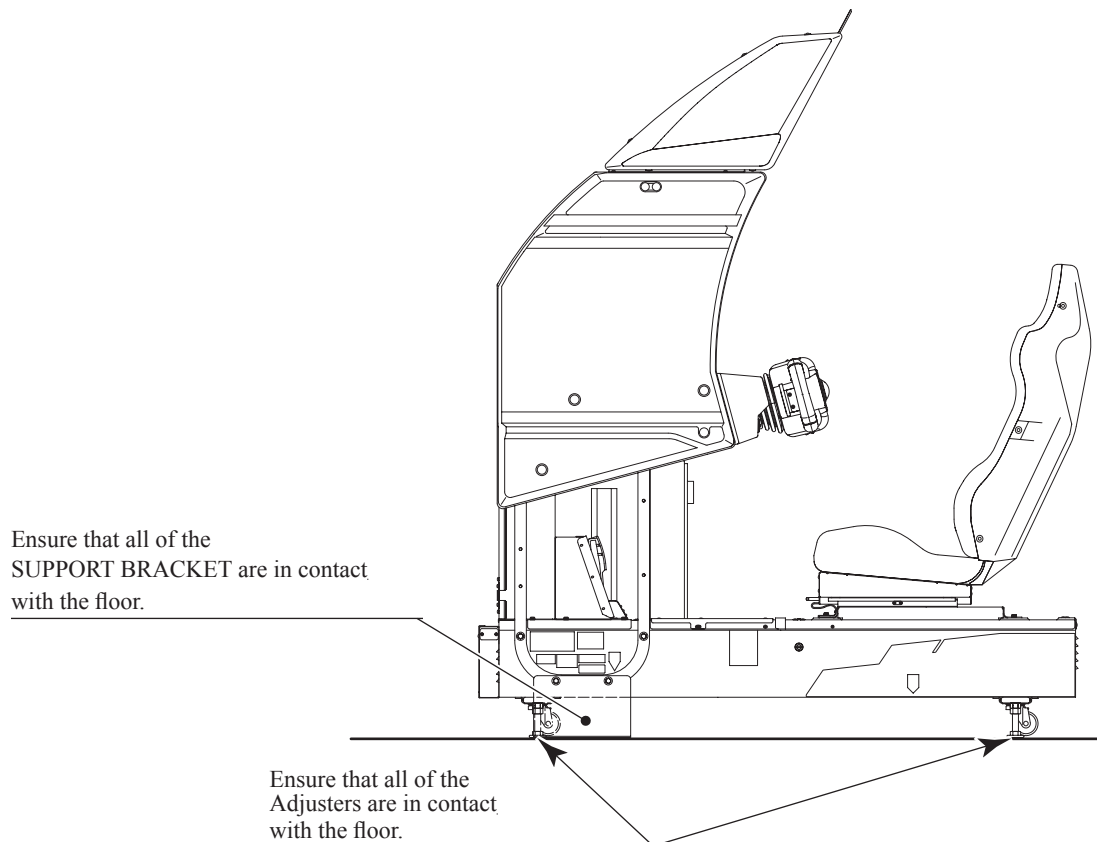
#### PRECAUTIONS TO BE HEEDED BEFORE STARTING THE OPERATION

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.





- 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.
- Check the control devices to make sure that there are no scratches or cracks on parts touched by players, as such defects can cause injury to hands and fingers.



This product features a license card slot and a memory card slot. Check to make sure that these parts have not been tampered with (e.g. by inserting foreign objects.)

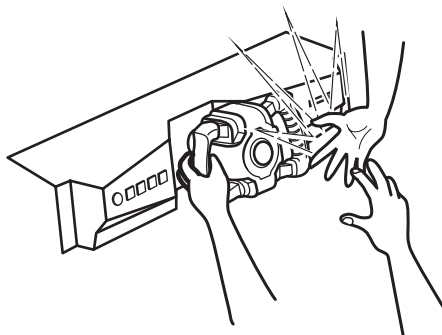


## DURING OPERATION(PATRON CONDUCT)

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

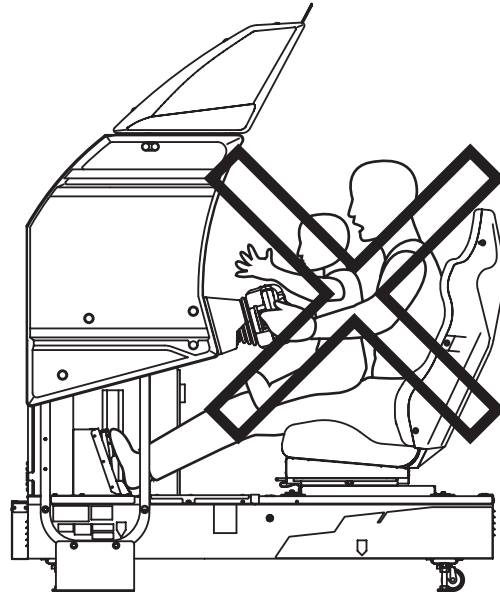


- To avoid injury and accidents, those who fall under the following categories are not allowed to play the game.
  - Those who need assistance such as the use of an apparatus when walking.
  - Those who have high blood pressure or a heart problem.
  - Those who have experienced muscle convulsion or loss 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 patrons 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 patron's leaning against or climbing on the product, etc.
- To avoid electric shock and short circuit, do not allow the patrons to unplug the power plug without a justifiable reason.
- This product is intended for 1 Player only. Playing the game by 2 or more Players riding on the seat together can cause falling down and collision accidents by striking head, hand, or elbow.
- Persons other than the player should not be allowed to touch the controls during play. They may brush against or collide with the controls or the player, possibly resulting in accidents.





- 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.



- 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.



- When an unjust act is performed, no written data is backed up mechanically. The following acts may be judged to be unjust acts. Since it also becomes a defect of operation and the cause of parts damage, caution the player not to perform the following acts.
  - Use of cards bent or deformed
  - Use of cards adhered seals or extraneous matter on
  - Use of a card mixed two sheets
  - Use of cards other than dedicated cards
  - When a card is extracted quickly
- Since the order in which cards are dispensed is random, note that there may be cases in which the same card comes out several times in a row or a certain card fails to come out at all.

If the card reader/writer has not been set as being unused, you will be unable to select any game mode with use of cards while the game will be in progress.

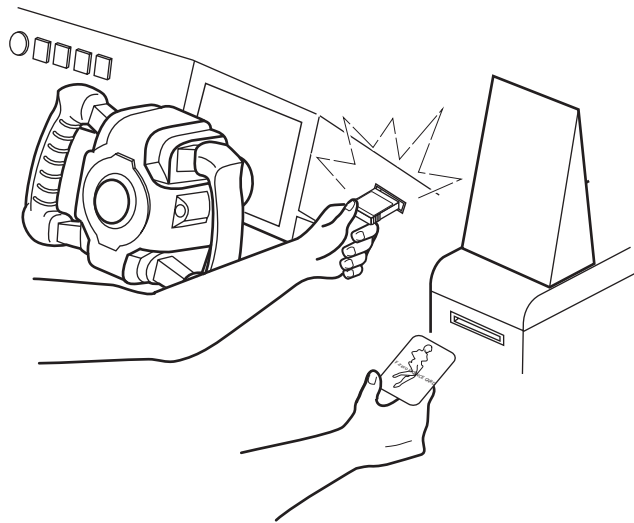
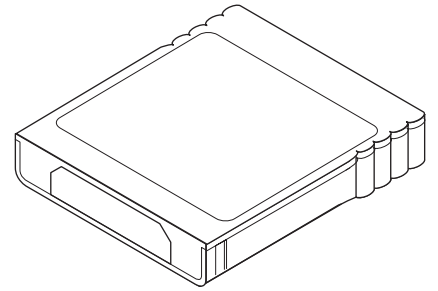
Thus, for the card reader/writer, deal with the player, paying attention to the following points:

Even if the player request the system for use of cards when you have set the machine so that the card reader/writer is not used, the request is rejected because of the nature of the system.

## USING MEMORY CARDS

Players who use memory cards should be advised of the following precautions. Data that is damaged or lost cannot be recovered.

- Before inserting a memory card, check to make sure there are no problems with the slot.
- When using a memory card and a license card at the same time, insert the memory card first. Player data will not be used in the game if the cards are inserted in the wrong order.



- Be sure to use a memory card containing "F-ZERO GX" game data.
- Never attempt to remove/insert a card during play. Doing so may damage the data.
- Do not use memory cards other than authorized Nintendo products or official licensed products.

## 4. NAMES OF PARTS

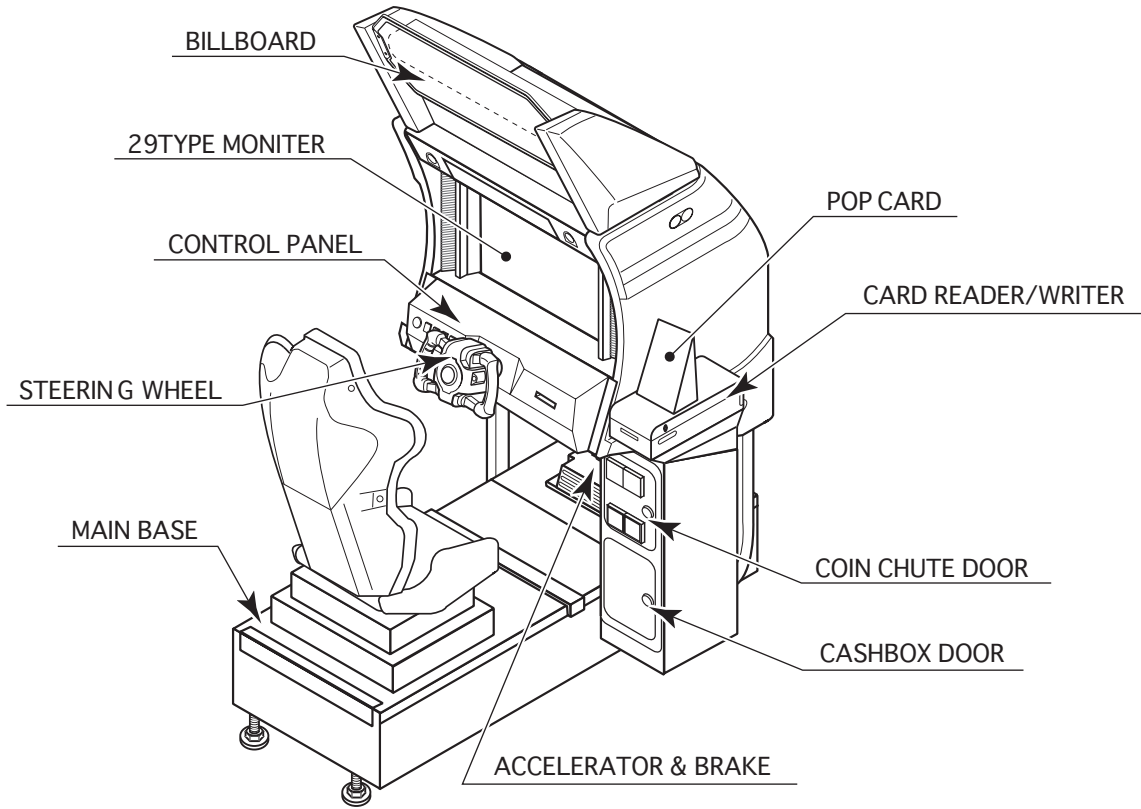


FIG. 4 a OVERVIEW

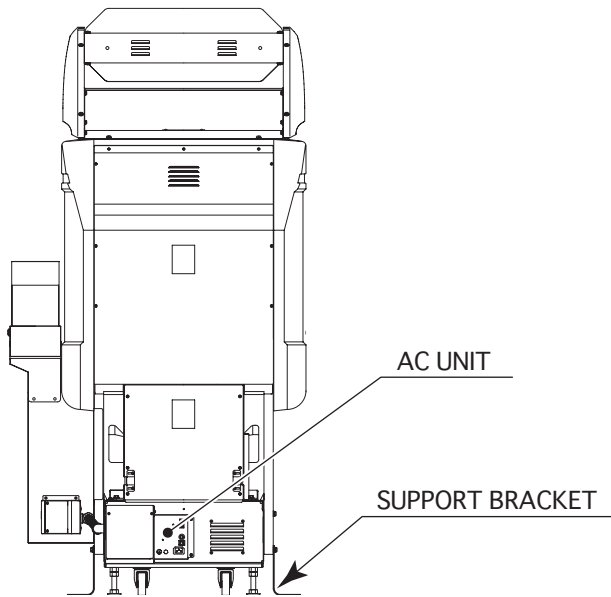


FIG. 4 b REAR VIEW

TABLE 4 Dimensions and Weights

	Width × Length × Height	Weight
CABINET	39 in × 68.5 in × 60 in	550 lbs
BILLBOARD	32 in × 26 in × 17 in	28.6 lbs
When assembled	39 in × 68.5 in × 77 in	580 lbs

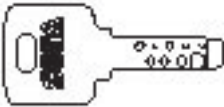
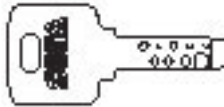

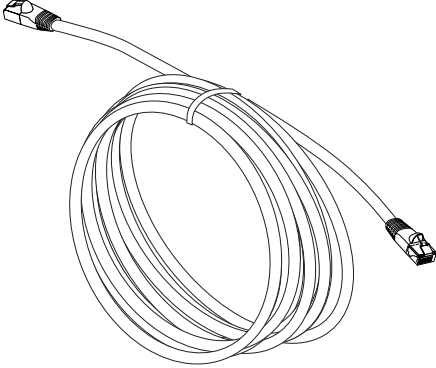
## 5. ACCESSORIES

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

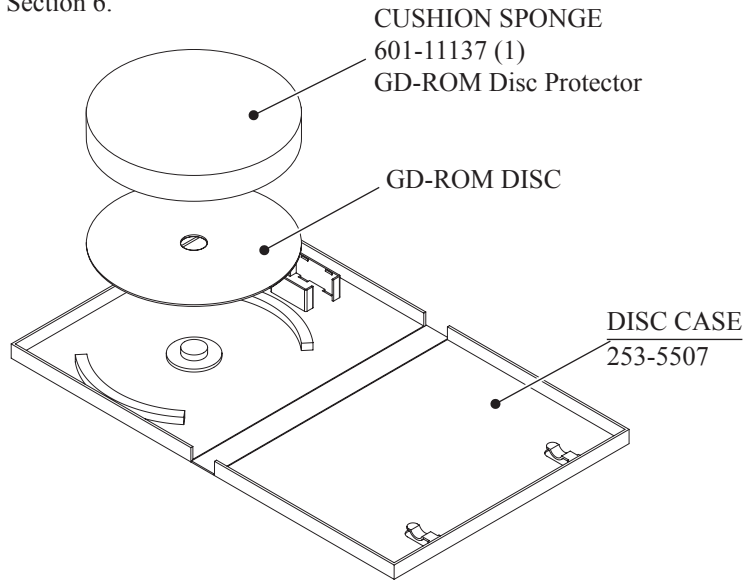
Magnetic cards for the recording of play results, and cleaning kits for cleaning the head of the card reader/writer are sold separately. Subsequent purchases of these items can be made by contacting the office listed on this Owner's Manual or the dealer from whom the product was originally purchased. Be sure to provide the part number(s), name(s), and required number of items.

- Cleaning Kit  
601-11050 CLEANING CARD: Package of 30 sheets
- Magnetic Cards  
601-11334-01 CARD PACKAGE FZR ENG: Package of 200 Magnetic Cards

TABLE 5 a ACCESSORIES

<p><b>DESCRIPTION</b>      <b>OWNER'S MANUAL</b> Part No. (Qty.)      999-1930 Notes Figures Parts not labeled with part numbers are as yet unregistered or cannot be registered. Be sure to handle all parts with care, as some parts are not available for purchase separately.</p>	<p><b>KEY MASTER</b> 220-5576 (2) For opening/closing the doors</p>	<p><b>KEY</b> (2) For the CASHBOX DOOR</p>
		
	<p>The Keys are inside the Coin Chute Door at the time of shipment from the factory.</p>	
<p><b>CLEANING CARD</b> 601-11050 (1) For the periodic maintenance. See Sections 7 and 10. (30 sheets of Cleaning Card)</p>	<p><b>ASSY FIBER CABLE (NETWORK CABLE) 5 m</b> 600-7269-0500 (1) Used for the Network Play. See Section 20.</p>	
		

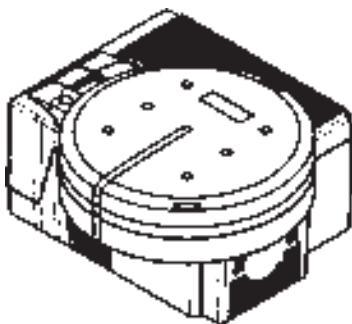
GD SOFT KIT FZR  
 610-0650-0004 (1) <OTHERS>  
 GD-ROM software.  
 See 3 of Section 6.



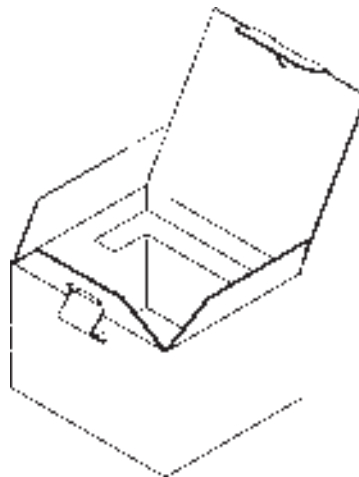
The following Table 5b lists the parts that are separately marketed but are necessary when booting this product's software. When having unpacked the shipping crate, make sure that all the parts in this Table 5b are in the crate. If not so, contact where you have obtained the product.

TABLE 5 b (XKT-0833 : GD-ROM DRIVE KIT)

GD-ROM DRIVE  
 610-0617  
 610-0617-013 (1)  
 Device that loads the software in a GD-ROM disc.  
 see 3 of Section 6.



GD-ROM DRIVE CARTON BOX (1)  
 Used for transporting the GD-ROM DRIVE.  
 See Section 19.



This carton box is a standard accessory of the GD-ROM drive. If you want to obtain the carton box itself separately, specify the part number 601-11031.



## 6. ASSEMBLY AND INSTALLATION



- Perform assembly work by following the procedure herein stated. Failing to comply with the instructions can cause electric shock hazard.
- Perform assembling 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.
- Ensure that connectors are accurately connected. Incomplete connections can cause electric shock hazard.
- Be careful not to damage the wires. Damaged wires may cause electric shock or short circuit or present a fire risk.
- This work should be performed by the site maintenance individual or other skilled professional. Performing work by non-technical personnel can cause a severe accident such as electric shock. Failing to comply with this instruction can cause a severe accident such as electric shock to the player during operation.
- Provide sufficient space so that assembling can be performed. Performing work in places with narrow space or low ceiling may cause an accident and assembly work to be difficult.
- To perform work safely and avoid serious accident such as the cabinet's falling down, do not perform work in places where step-like grade differences, a ditch, or slope exist.
- Do not leave power cords, grounding wires, or network cables exposed in areas of heavy foot traffic. Doing so may cause them to become damaged, possibly resulting in electric shock and/or short circuits. When laying wiring across the floor, always use safety covers to protect the wires. (Wiring diameter: power cable - approx. 8mm; network cable - approx. 5mm)

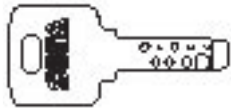


- Handle molded parts with care. Undue weight or pressure may cause them to break and the broken pieces may cause injury.
- To perform work safely and securely, be sure to prepare a step which is in a secure and stable condition. Performing work without using the step can cause violent falling down accidents.
- Make sure that the GD cable connector is inserted parallel to the plug. Improper insertion may cause damage to the connector and present a fire risk.

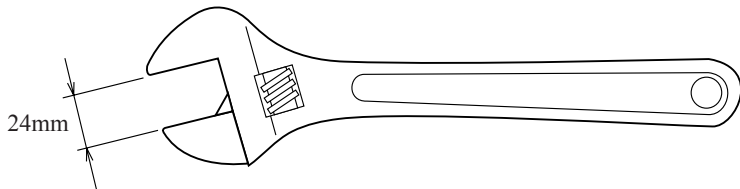
When carrying out the assembling and installation, follow the following 6-item sequence.

- 1 INSTALLING THE BILLBOARD AND THE POP CARD
- 2 SECURING IN PLACE(ADJUSTER ADJUSTMENT)
- 3 INSTALLING THE GD-ROM DRIVE(SETTING THE GD-ROM DISC)
- 4 POWER SUPPLY, AND EARTH CONNECTION
- 5 TURNING THE POWER ON
- 6 ASSEMBLY CHECK

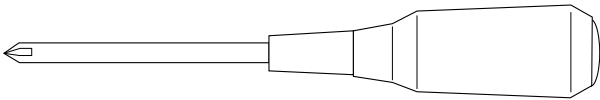
The master key (accessories) in addition to the tools such as a Phillips type screwdriver, wrench, socket wrench and Ratchet Handle are required for the assembly work.



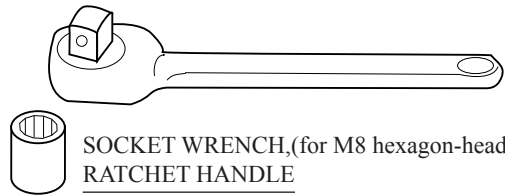
KEY MASTER



WRENCH (for M16 hexagon-head bolt)



Phillips type screwdriver



SOCKET WRENCH,(for M8 hexagon-head bolt)  
RATCHET HANDLE

# 1

## INSTALLING THE BILLBOARD AND POP CARD

- Install the billboard on the cabinet. This operation should be performed by at least 2 people working together.



PHOTO 6. 1 a

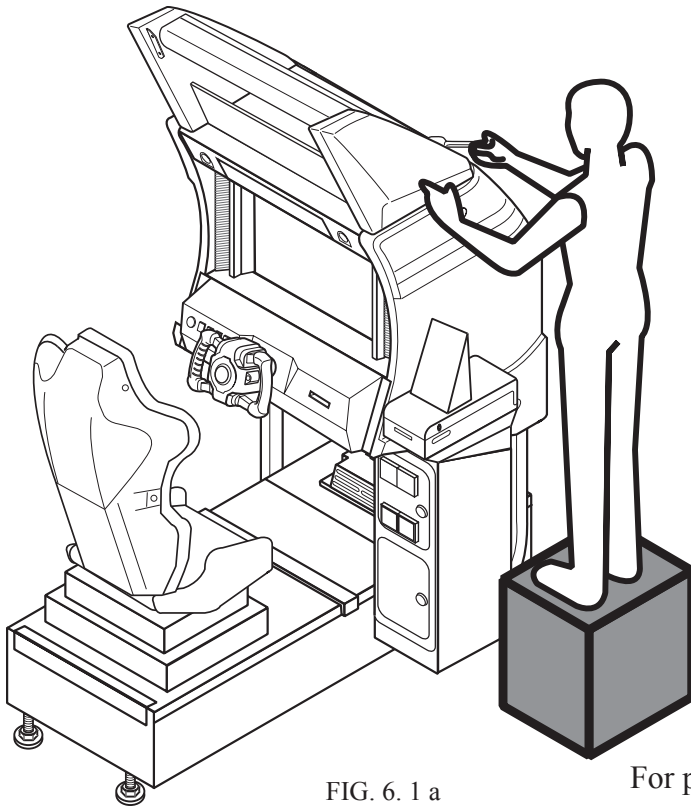


FIG. 6. 1 a

For performing work, prepare a step.

- Secure the billboard with 4 hexagonal bolts.

HEXAGONAL BOLT(4), black  
M8×20, w/spring washer, flat washer used

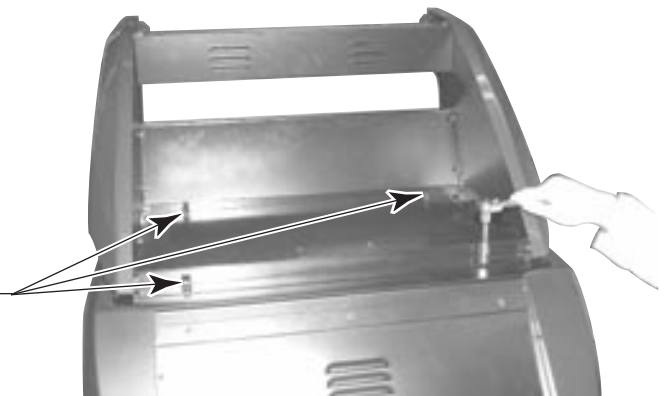


PHOTO 6. 1 b

- Remove the 2 truss screws from the connector lid and then remove the lid.

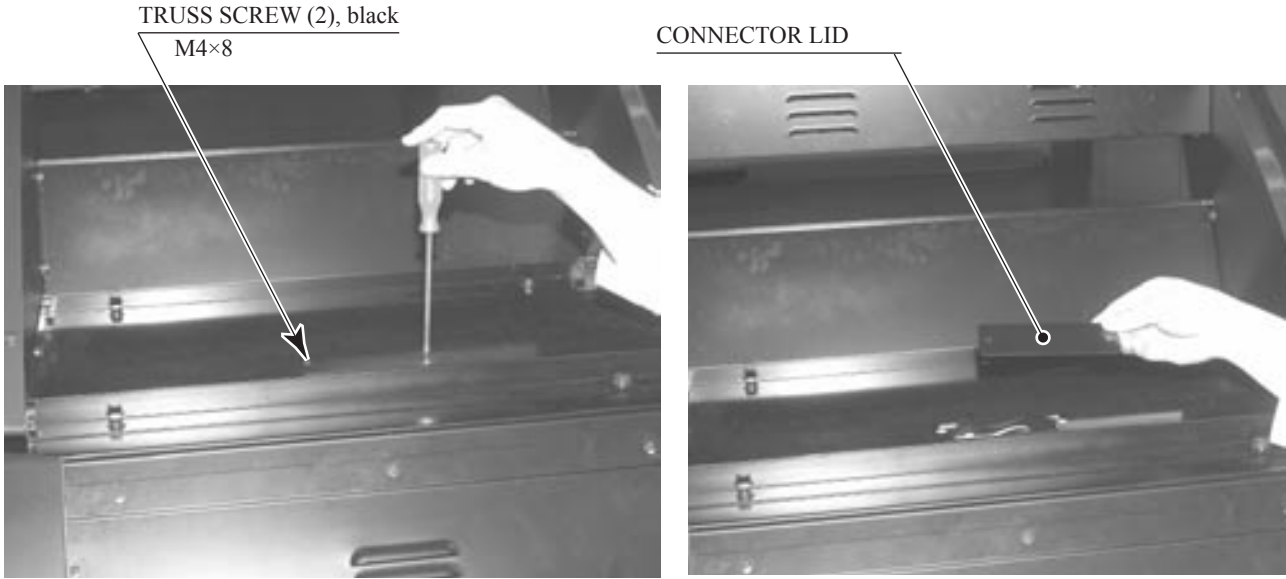


PHOTO 6. 1 c

- Plug in the connectors.

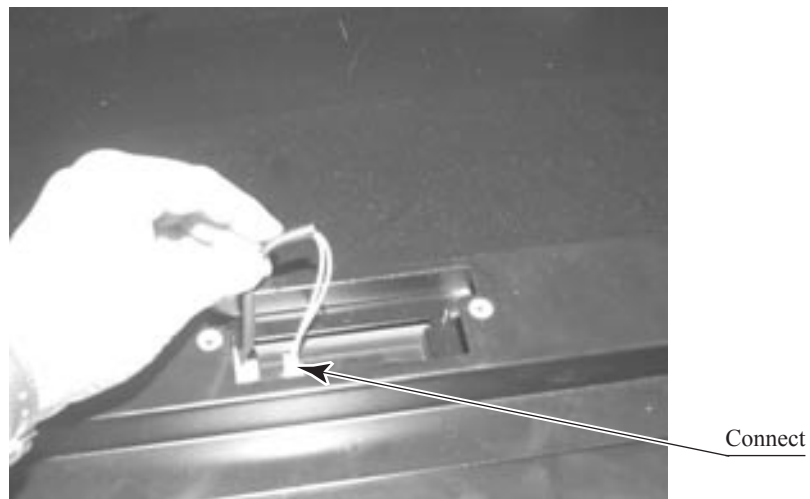
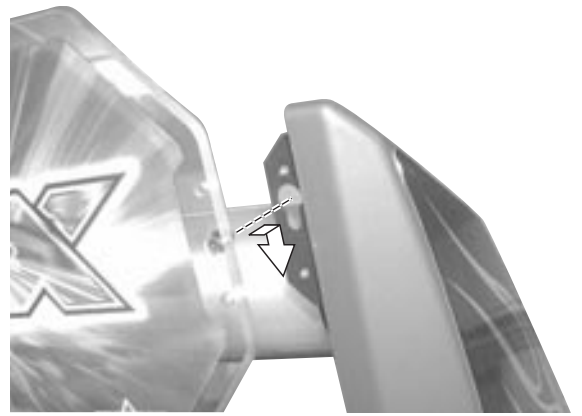


PHOTO 6. 1 d

- Re-install the 2 truss screws on the connector lid.

- Attach the billboard plate to the billboard.



- Secure each side of the billboard with 2 truss screws and a plate sash.

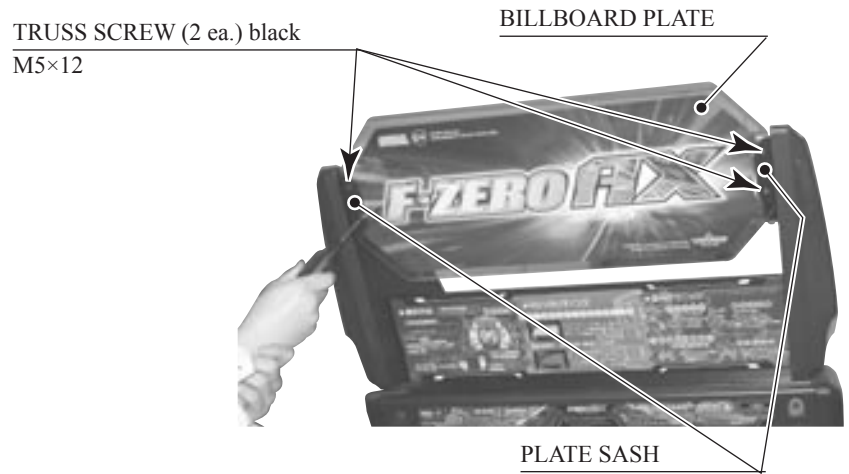


PHOTO 6. 1 e

- Assembling the POP Card as shown in the figure and attach it to the top of the Card Reader/Writer.

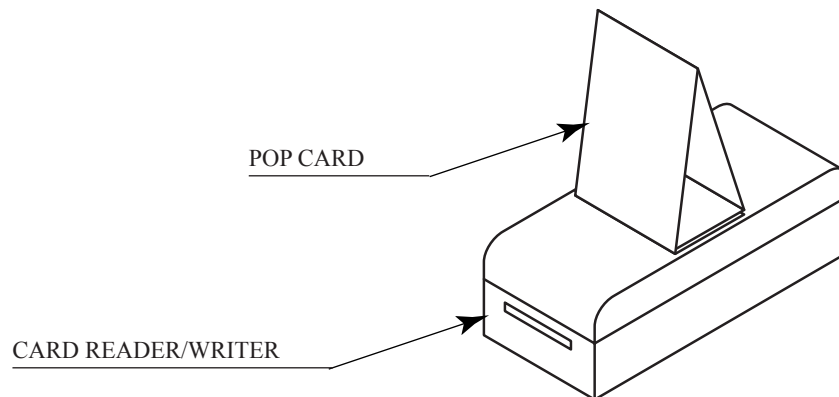


FIG. 6. 1

## 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.

This product has 4 casters and 4 Adjusters. (FIG. 6. 2 a) 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 5 mm from the floor and make sure that the machine position is level.

- Transport the product to the installation position.
- Have all of the Adjusters make contact with the floor. Adjust the Adjuster's height by using a wrench so that the machine position is kept level.
- After making adjustment, fasten the Adjuster Nut upward and secure the height of Adjuster.

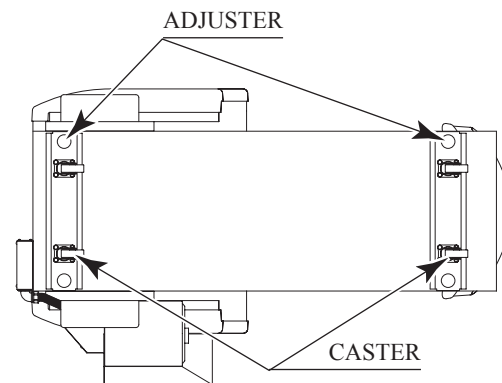


FIG. 6. 2 a BOTTOM VIEW

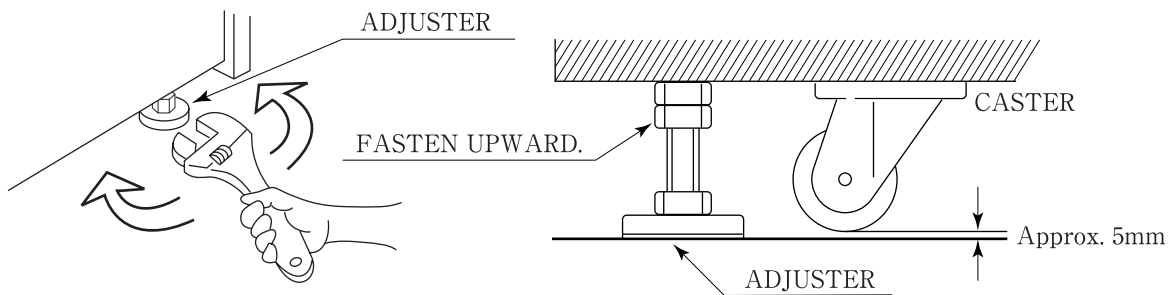


FIG. 6. 2 b ADJUSTER

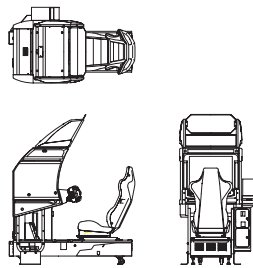


FIG. 6. 2 d  
Refer to this Fig. (Scale:1/100)  
for the layout of the place of  
installation.

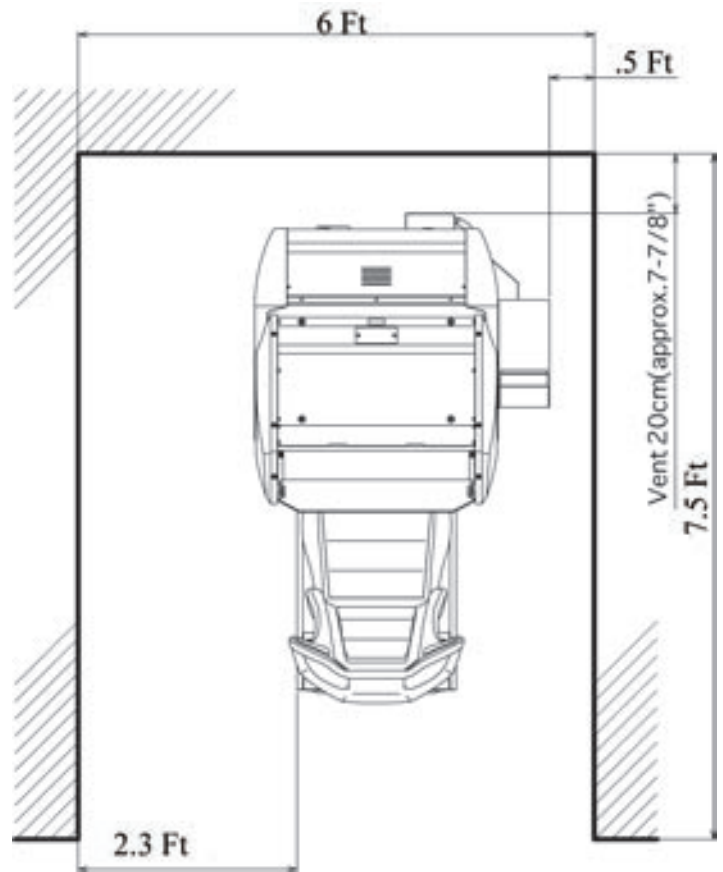


FIG. 6. 2 e  
Provide ventilation space for the ventilation opening.  
Allow more than 70 cm (approx. 28 in) of space for  
customer traffic.



# 3

## INSTALLING THE GD-ROM DRIVE (SETTING THE GD-ROM DISC)



- Carefully handle the GD-ROM drive so as not to contaminate the disc and the readout lens with stains and dust particles.
- Do not continue to use the scratched GD-ROM disc. The scratched GD-ROM disc may cause the system to malfunction.
- Set the GD-ROM disc onto the GD-ROM drive with its labeled side facing upward.
- The key chip is a precision device. Handle it carefully and avoid exposure to heat, shock and static electricity, as these may cause damage to the device.
- The key chip is contained in the GD-ROM disc case. Always use them as a set.

- Unpack the shipping crate, and take out the GD-ROM drive, GD-ROM drive bracket, and GD-ROM disc.



GD DRIVE BRACKET



GD-ROM DRIVE

PHOTO 6. 3 a

- Use the 4 tapping screws to fix the GD-ROM drive bracket onto the GD-ROM drive. Be careful about a fixing direction.

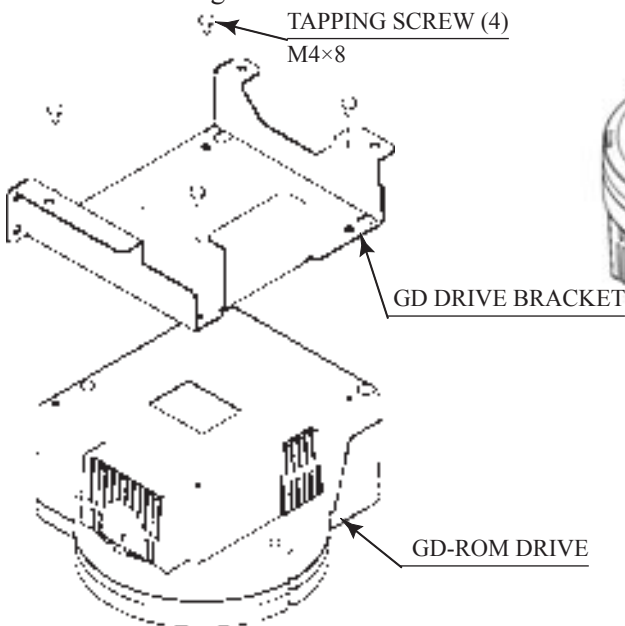
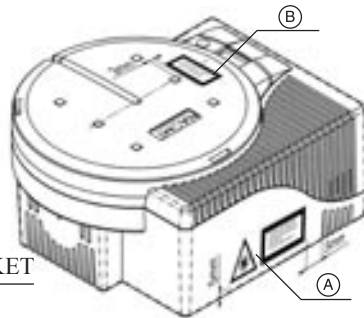


FIG. 6. 3 a



Please follow the drawing and place the sticker with the right language.

### Application diagram

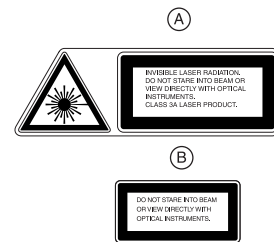
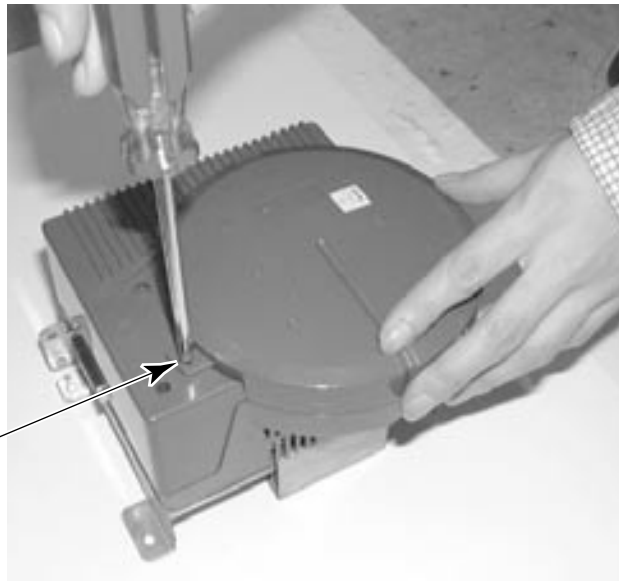


FIG. 6. 3 b

CAUTION for U. S. A., Europe, and Australia:  
Attach the 2 caution stickers for a laser ray onto the GD-ROM drive.

- Remove the 1 truss screw that fixes the GD-ROM drive lid (DISC LID). And turn clockwise the lid to remove. Keep the screw to replace the disc lid below.



TRUSS SCREW (1)  
M3x8

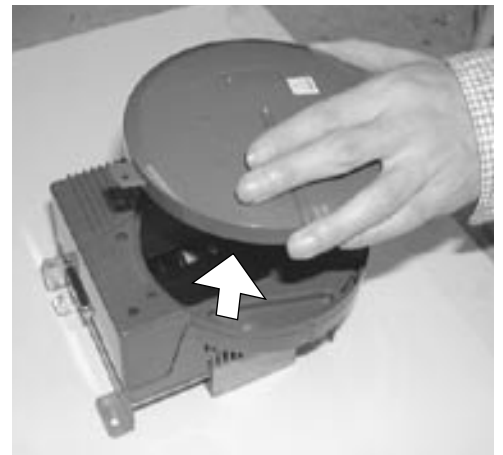
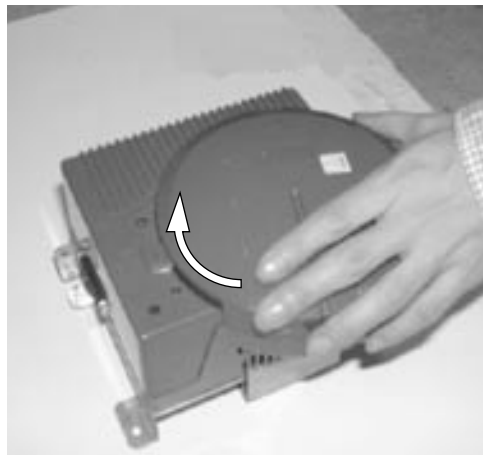


PHOTO 6. 3 b

- Set the GD-ROM disc onto the GD-ROM drive with its labeled side facing upward.
- Return the lid to its original place, and fix it with 1 truss screw. Be careful not to fasten the screw too tightly.



PHOTO 6. 3 c



TRUSS SCREW (1)  
M3x8

- Undo the lock on the side of the unit base and remove the Truss screws.
- Turn the lock handle to open the lock, and lower the seat towards the backrest. Slowly lower the backrest until it touches the floor to prevent damage to the seat components. Put a drop cloth on the floor to prevent damaging the surface of the seat components.

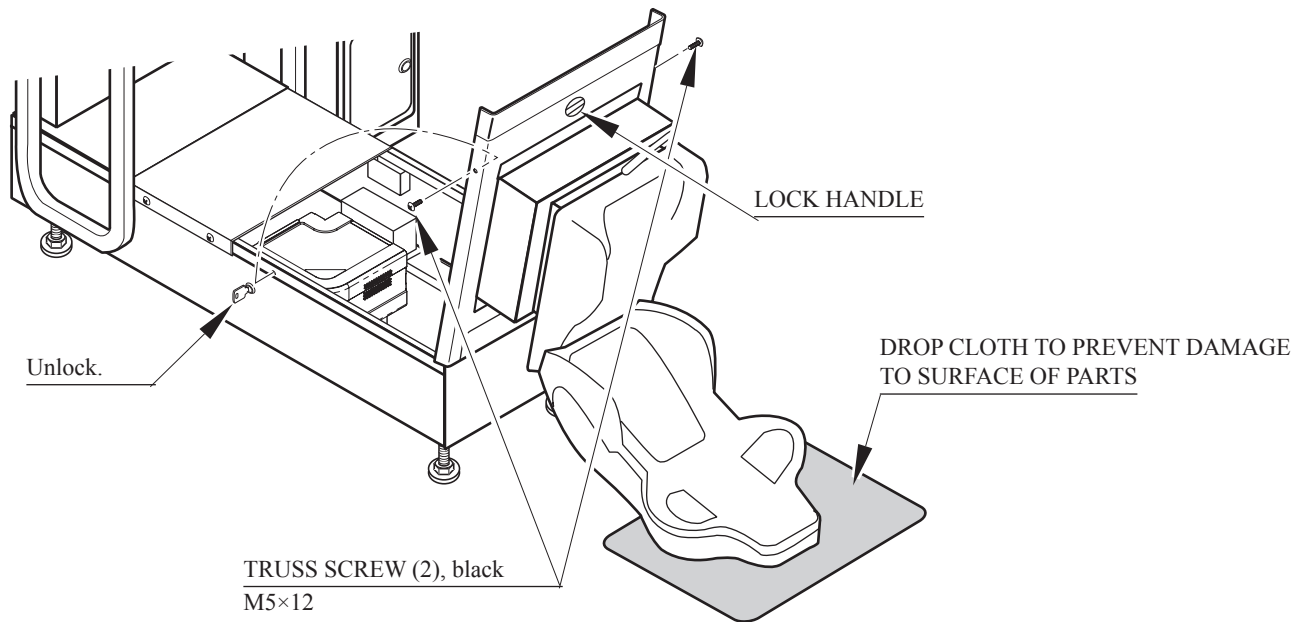


FIG. 6. 3 b

- Attach the GD-ROM drive with 3 screws.

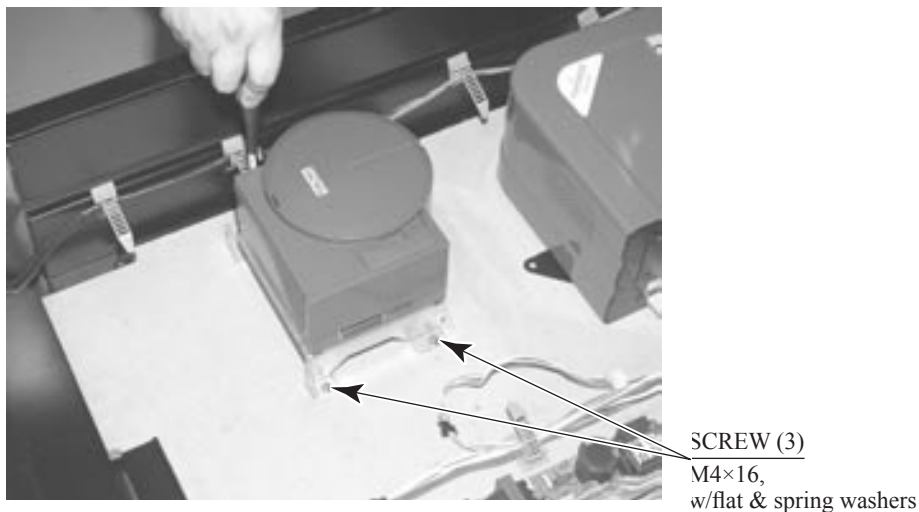
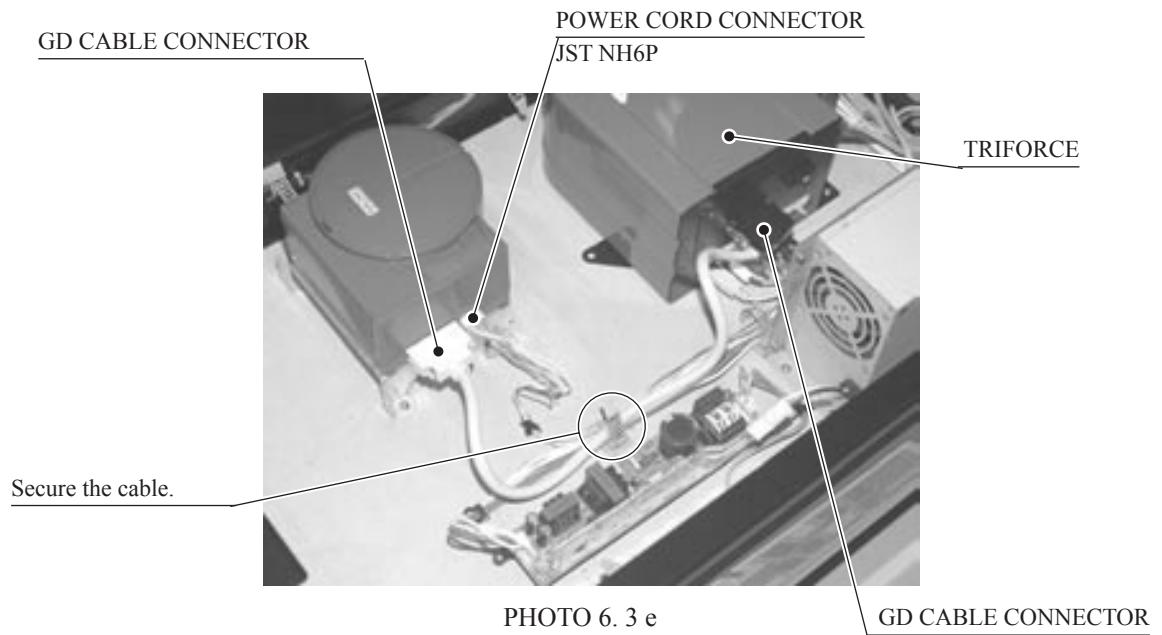


PHOTO 6. 3 d

- Connect the GD cable connector to TRIFORCE. Insert both the GD cable connector and the power cord connector (JST NH6P) into the GD-ROM drive. Be careful about an inserting direction in this instance. Make sure that the connectors are inserted firmly and completely. Secure the cable with the cord clamp.



## 4

## 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 located on one side of Cabinet. The AC Unit has Main SW, Earth Terminal and the Inlet which connects the Power Cord.

- Ensure that the Main SW is OFF.

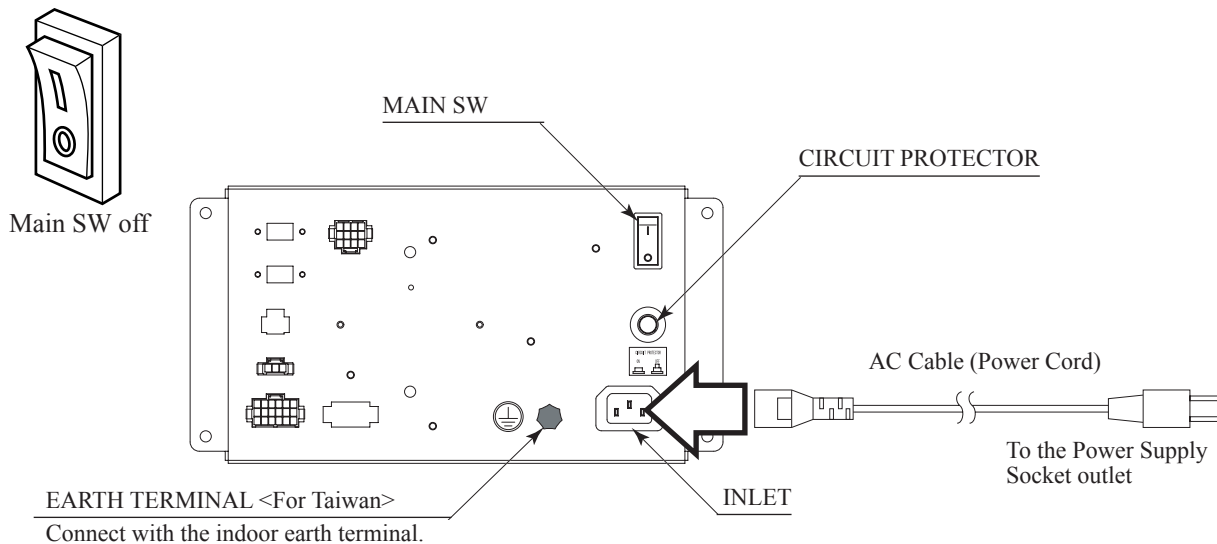


FIG. 6. 4 a AC UNIT

- 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. <For Taiwan>

\*Note that the Earth Wire is incorporated in the Power Cord for the Areas of AC 120 V (USA) and AC 220~240 V, and therefore, this procedure is not necessary.

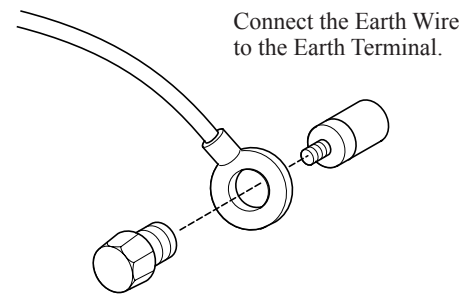


FIG. 6. 4 b \*Earth Wire Connection

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

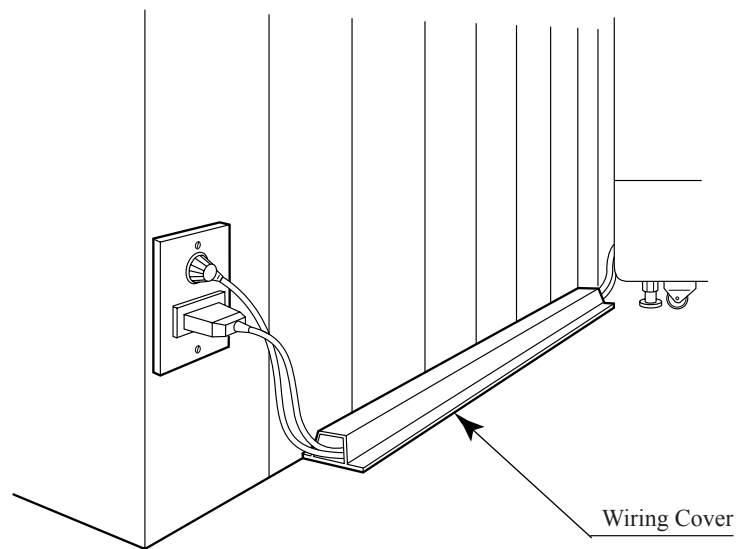
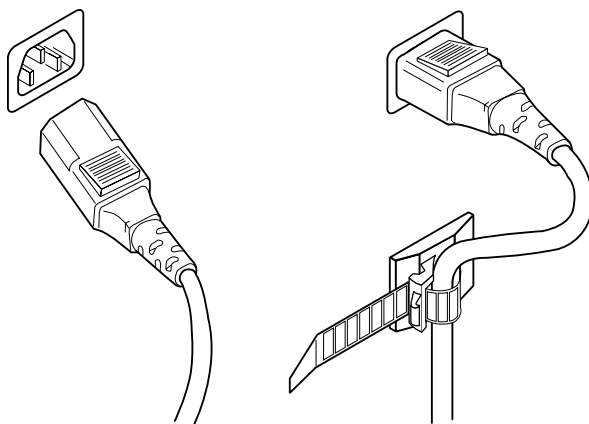


FIG. 6. 4 c Connecting Power Cord and Earth Wire



HOW TO USE THE CORD CLAMP

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).

## 5

## TURNING THE POWER ON



Do not touch the machine until it has completed the initialization process and the advertising screen has appeared. Doing so may cause the person touching the machine to be struck by the seat. It may also prevent the machine from initializing properly. Failure to initialize properly can lead to control malfunction and other problems.

Turn the main switch on the AC unit ON to turn on the power. The fluorescent lamp inside the billboard will light up when the power is turned on.

After displaying the system startup screen, the monitor will indicate that the card reader/writer and motor, in that order, are being tested.

Next, the initialization screen will be displayed, and the initialization process will begin. Initialization consists of the following steps, with each part moving and coming to rest in the preset position and direction automatically.

- 1) The steering wheel rotates left and right.
- 2) The steering wheel comes to rest in a 12 o'clock position.

When the initialization process is complete, the machine will go into Advertising mode. The monitor will display the demo screen, and the speakers to the left and right of the monitor and on the left and right of the seat's headrest will begin sound output. If the "no sound during Advertising mode" option is selected, sound output will be turned off.

When a sufficient number of credits have been inserted, the "Start" button on top of the control panel will flash. After the race begins, the "View Change" button for the currently selected mode will light up. The buttons will not be lit up during Advertising mode when no credits have been inserted.

After displaying the initialization screen, if the machine is set for network play, the monitor will indicate that the network is being tested.

If there are no problems with the network play connection and settings, the machine will enter Advertising mode.

If there is a problem with game board system, an error message will be displayed on the screen. If there is a problem with steering unit response, an error message will be displayed. Refer to the on-screen error message to locate and resolve the problem.

If, after the initialization process is complete, the seat comes to rest at an angle or the steering unit comes to rest in a position other than straight, turn the power off and back on and have the machine go through initialization again.

If the steering unit continues to come to rest at an angle after going through initialization again, there is likely a problem such as bad VR settings or a glitch in the initialization process. Adjust the VR settings. (See Sections 10, 11 and 12.)

If there are any defects or abnormalities in the network play connection or settings, the machine will continue to display the network test screen. Check the network play cable connection and settings.

The machine will save the number of credits inserted and rankings data even when the power is turned off. Fractions of credits (i.e. any coins inserted that do not add up to a full credit) and bonus adder count data will not be saved.

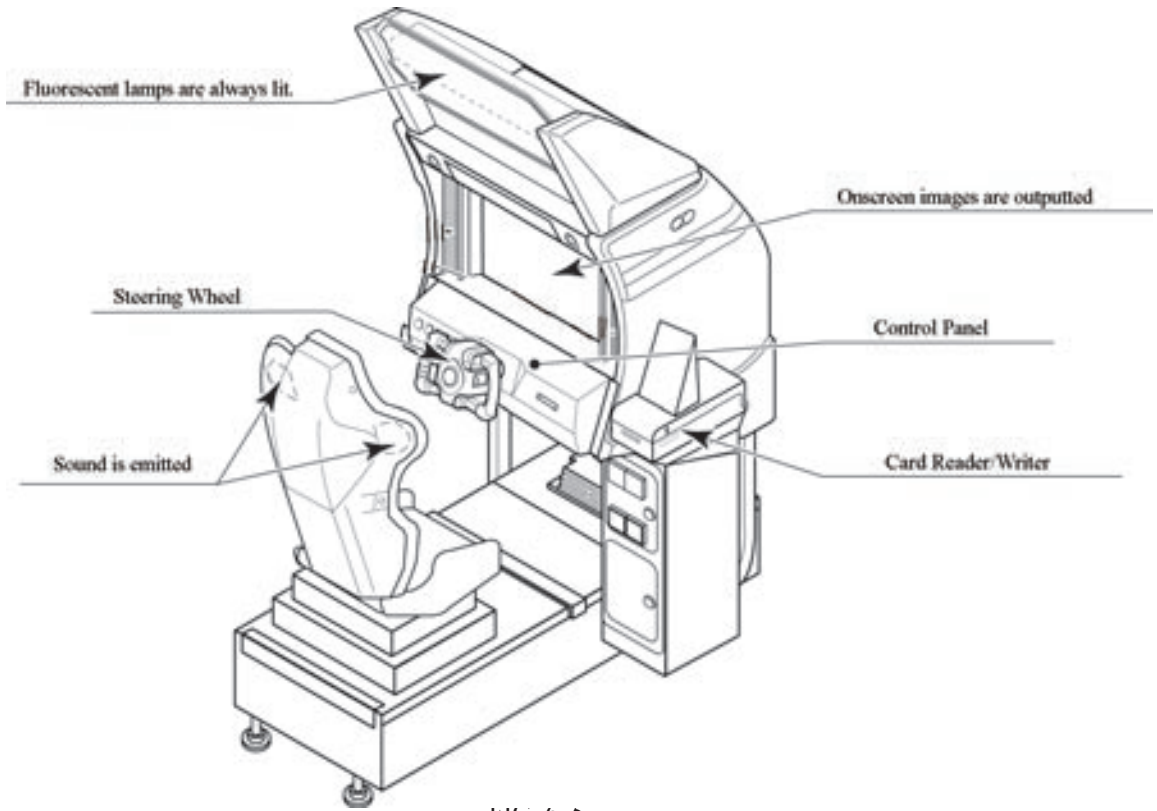


FIG. 6. 5



# 6

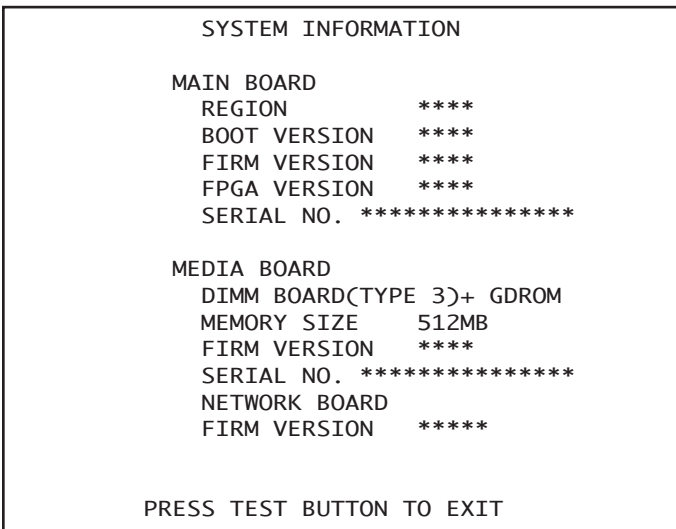
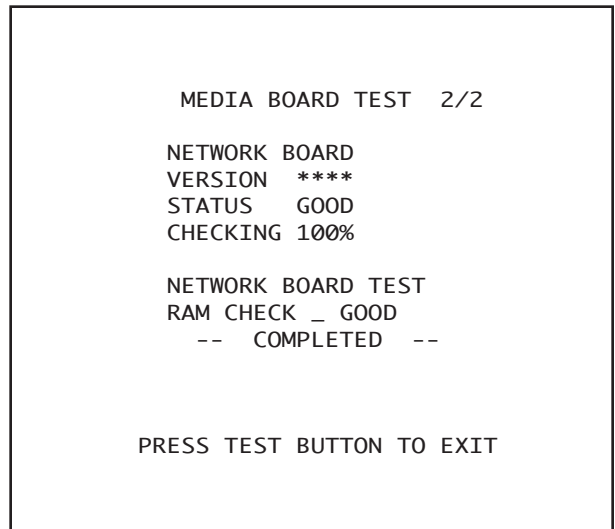
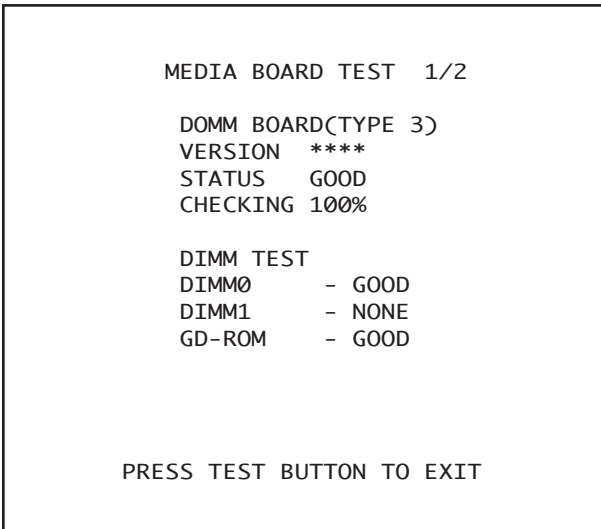
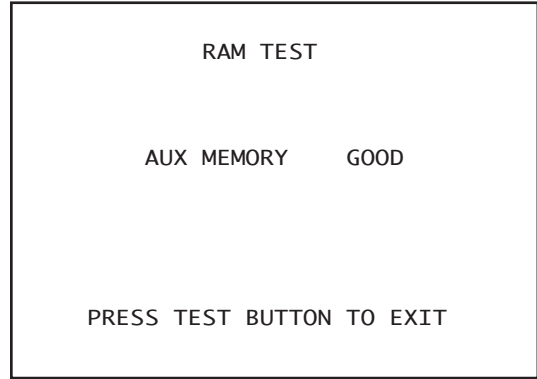
## ASSEMBLY CHECK

In the TEST MODE, ascertain that the assembly has been made correctly and IC BD. is satisfactory (refer to Section 10).

In the test mode, perform the following test:

### (1)MEMORY TEST

Selecting RAM TEST or MEDIA BOARD TEST from the menu screen in System Test mode will cause the machine to automatically perform a test of the memory on the game boards. If "GOOD" is displayed next to the number of each memory segment, the game boards are working properly. Select SYSTEM INFORMATION to display information on the main game board and the media board. If the information is displayed correctly, this indicates that the game boards are functioning properly.



## (2)INPUT TEST

Select INPUT TEST from the menu screen in either System Test mode or Game Test mode to bring up a test screen for the input devices.

Test the input on each device. If "ON" is displayed next to each device as it is tested and the numbers change smoothly in accordance with the input, the input devices and their wiring connections are working properly.

```

                JVS TEST
                INPUT TEST

NODE           1/1
SYSTEM        00
PLAYER 1      0000
PLAYER 2      0000
COIN 1        0000
COIN 2        0000
ANALOG 1      0000
ANALOG 2      0000
ANALOG 3      0000
ANALOG 4      0000
ANALOG 5      0000
ANALOG 6      0000
ANALOG 7      0000
ANALOG 8      0000

PRESS TEST AND SERVICE BUTTON TO EXIT
```

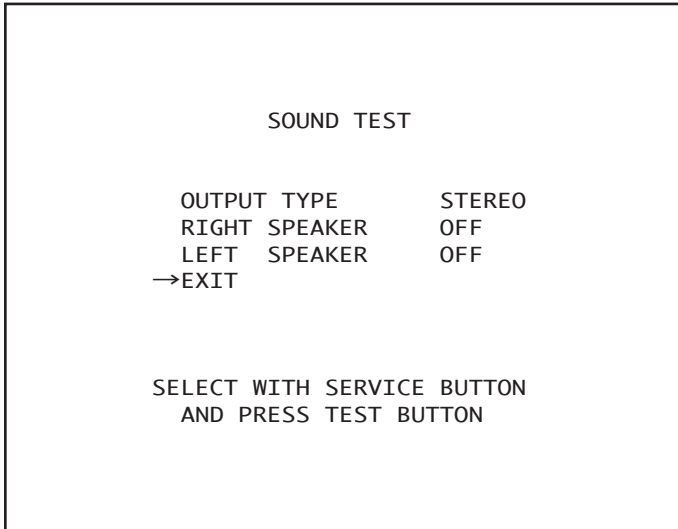
```

                        INPUT TEST

STEERING X      0(~FF)      SERVICE      OFF(ON)
STEERING Y      0(~FF)      TEST        OFF(ON)
PADDLE LEFT     OFF(ON)
PADDLE RIGHT    OFF(ON)
BOOST           OFF(ON)
GAS             0(~FF)
BRAKE           0(~FF)
START BUTTON
VIEW CHANGE 1   OFF(ON)
VIEW CHANGE 2   OFF(ON)
VIEW CHANGE 3   OFF(ON)
VIEW CHANGE 4   OFF(ON)

PRESS TEST AND SERVICE BUTTON TO EXIT
```

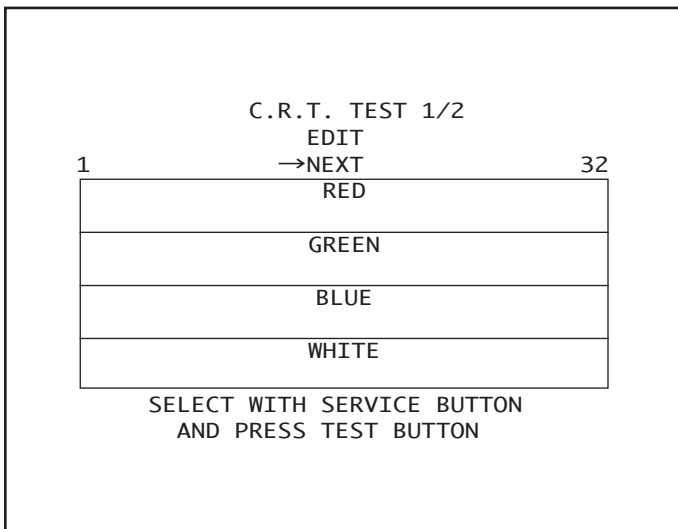
### (3)SOUND TEST



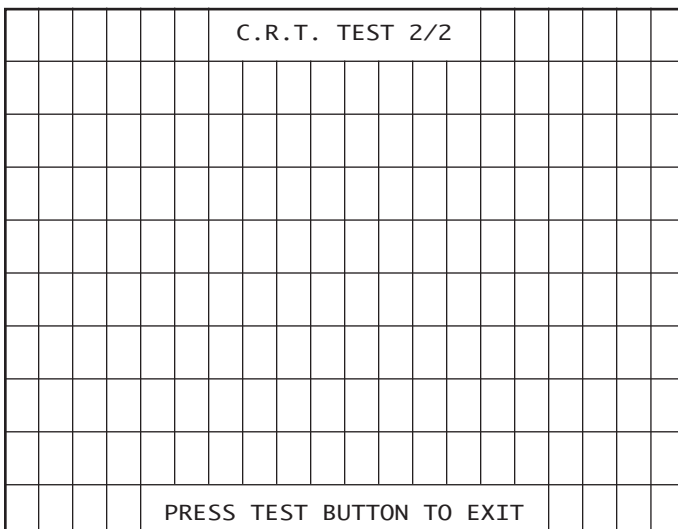
In the system test mode, selecting SOUND TEST causes the screen (on which sound related BD and wiring connections are tested) to be displayed.

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

### (4)C.R.T. TEST



In the system test mode menu, selecting C.R.T. TEST allows the screen (on which the monitor is tested) to be displayed. Although the monitor adjustments have been made at the time of shipment from the factory, color deviation, etc., may occur due to the effect caused by geomagnetism, the location building's steel frames and other game machines in the periphery. By watching the system test mode screen, make judgment as to whether an adjustment is needed. If it is necessary, adjust the monitor by referring to Chapter 15.



## (5)OUTPUT TEST

OUTPUT TEST	
START BUTTON	OFF(ON)
VIEW CHANGE 1	OFF(ON)
VIEW CHANGE 2	OFF(ON)
VIEW CHANGE 3	OFF(ON)
VIEW CHANGE 4	OFF(ON)
BOOST	OFF(ON)
STEERING	
CENTER	OFF(ON)
LEFT	OFF(ON)
RIGHT	OFF(ON)
-> EXIT	
SELECT WITH SERVICE BUTTON AND PRESS TEST BUTTON	

Select OUTPUT TEST from the menu screen in Game Test mode to bring up a test screen for the output devices (lamps, etc.) If each output device activates correctly, the output devices and their wiring connections are working properly.

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

## 7. CARD READER/WRITER

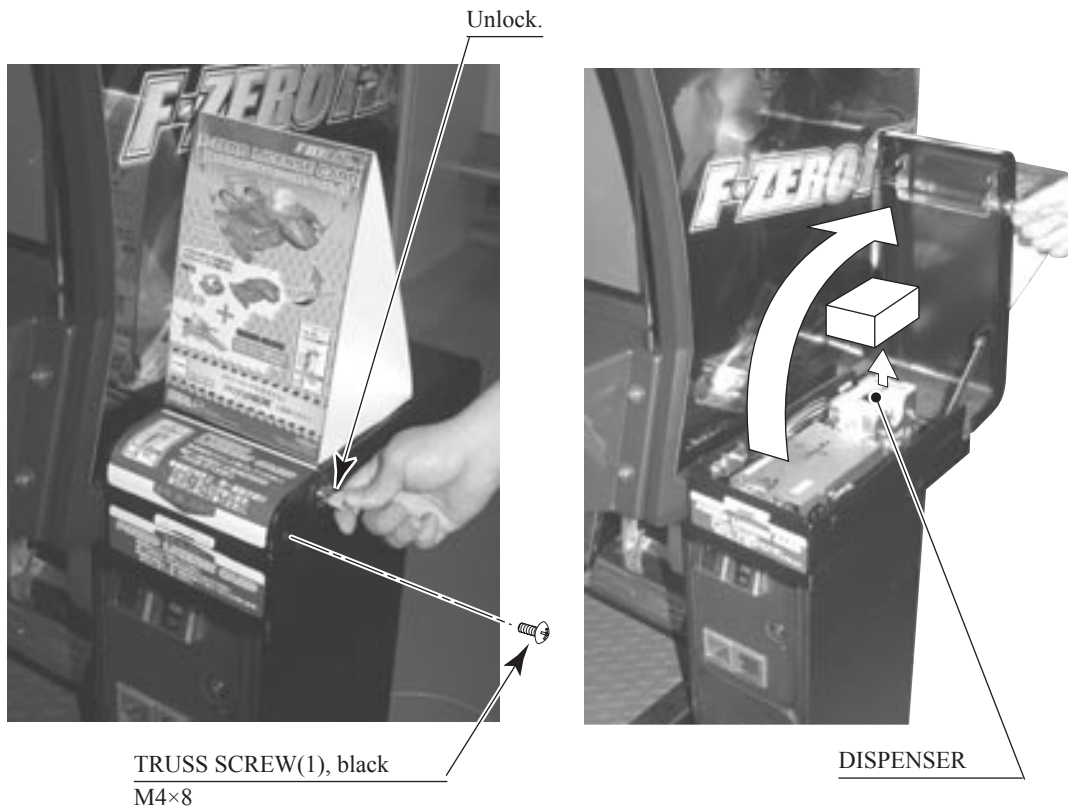
### 7-1 SETTING DEDICATED CARDS



- Be sure to use dedicated cards available for this product. Use of ones other than such dedicated cards may cause a malfunction or failure of the machine.
- Be sure to set the specified number of card in the specified orientation by using the specified procedure. Wrong setting of the cards may cause the machine to fail.
- This machine allows you to set up to 100 cards at a time. You must not set over 101 cards at a time. If you do so, a trouble such as card jamming may occur.
- Set virgin cards taken out from a container that was unpacked immediately before use. Use of any deformed or deteriorated card may cause a trouble.
- Do not include a corrugated, bent, or used card in the card deck.

When the unit is out of cards, a message will be displayed at the center of the screen. Follow the instructions below to restock the system with cards. Cards may be stocked when the unit is on or off.

- Remove the truss screw.
- Unlock and open the cover to find the card reader/writer. The dispenser on which you should place the cards is located at the rear of the reader/writer.
- From the card reader/writer, take out the dispenser upward in a straight line.



- Remove the cover from the back of the dispenser.

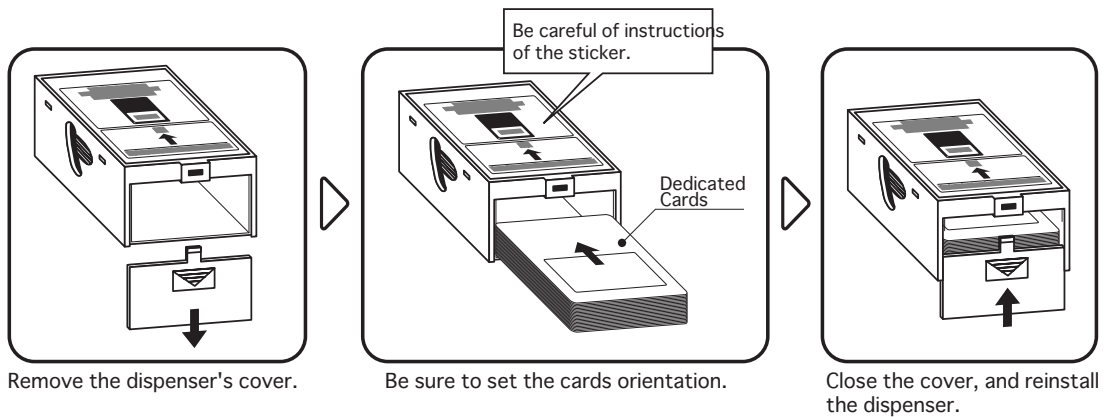


FIG. 7. 1 a

- Place the cards into the dispenser according to the instructions on the sticker annexed to the dispenser. Refer to the diagram shown on the sticker attached to the Dispenser and insert the cards into the Dispenser. Be careful not to insert the cards in the wrong direction or with the wrong side facing up. The Dispenser can only hold 100 cards. Do not attempt to insert more than 100 cards. Too many cards may cause the Dispenser to jam or result in other problems. Insert magnetic cards into the Dispenser in complete packs of 100 or after carefully counting the number of cards (not to exceed 100).

### Load cards in the correct orientation.

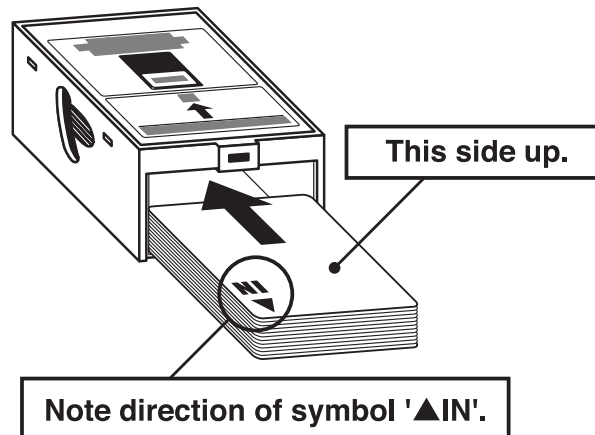


FIG. 7. 1 b

- Reinstall the cover to the dispenser.
- Insert the dispenser into the card reader/writer. The dispenser can be inserted only in the predetermined orientation.
- Close and lock the cover.
- Secure with the truss screw



- The unit enters Head Cleaning Mode when any of the following conditions are met:
  - At power-up if the Card Reader/Writer has operated 150 times or more
  - At boot time after performing Backup Data Clear
- Once the unit enters Head Cleaning Mode, follow the on-screen instructions and perform Head Cleaning. The unit will not exit Cleaning Mode (i.e. games may not be played) until head cleaning is complete.
- Always use the designated Cleaning Card. Using anything other than the designated card or carrying out any other procedure other than the one outlined in the manual may cause faulty printing, faulty operation and/or unit failure.
- Cleaning Cards may only be used once. Dispose of them after use.
- Cleaning Cards should be used immediately after removal from the package. Cleaning Cards will not clean effectively if dried out.
- Perform head cleaning only when there are cards in the Card Reader/Writer Dispenser. If the Dispenser is empty, the part that secures the cards inside the Dispenser may touch the rotating part of the Card Reader/Writer and cause noise.
- Always remember to remove the Cleaning Card after completing head cleaning.
- After head cleaning, wait for the "SEGA LOGO" to be displayed at least twice before resuming gameplay.

This machine records the number of times the Card Reader/Writer is used. The Card Reader/Writer writes data to and reads data from cards. Each write and read is counted, so the Card Reader/Writer usage count will not be the same as the number of times the game is played. Once head cleaning of the Card Reader/Writer is complete, the unit will exit this mode. Follow the on-screen instructions to carry out cleaning.

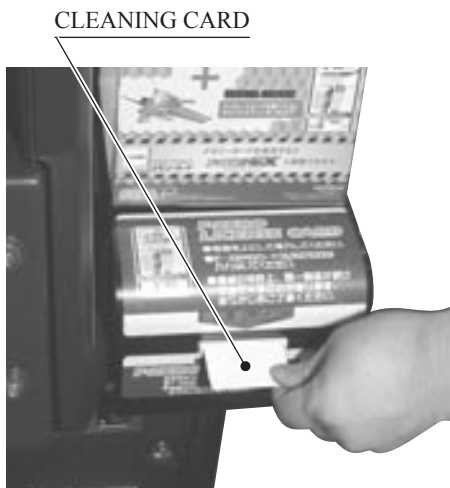


PHOTO 7. 2

Insert the CLEANING CARD.

Insert the Cleaning Card into the card slot.



(NO MESSAGE)

The unit is undergoing cleaning. Wait for cleaning to be completed.



Retrieve the CLEANING CARD.

Do not forget to remove the Cleaning Card. The unit exits to normal mode after cleaning is complete. Wait for the "SEGA LOGO" to be displayed at least twice before resuming gameplay after cleaning.

The Card Reader/Writer usage count described above is reset when cleaning is performed.

Manual head cleaning may also be performed from Test Mode. Refer to Test Mode <10-3F> for more details.

### 7-3 CLEARING CARD JAMS



When attempting to perform this operation without powering down so that gameplay can be restored, exercise extreme caution. Machine parts may move unexpectedly when the power is ON. This may result in fingers being caught or severed and other injuries. Verify the Stay Lock on the top cover before attempting this procedure. If the top cover closes during the procedure, it may result in serious injury.

If a trouble such as card jamming occurs on the card reader/writer, you are notified of the trouble on the screen. You cannot proceed to a play unless you resolve the trouble at this time. First identify the trouble before you begin to take action.

An error message is displayed at the top of the screen when cards become jammed.

When not discharging a card, follow the instructions below to remove the card. Removing the card may force the game to shut down. If the game shuts down, existing customer game data will not be saved.

- Remove the truss screw.
- Unlock and open the cover.

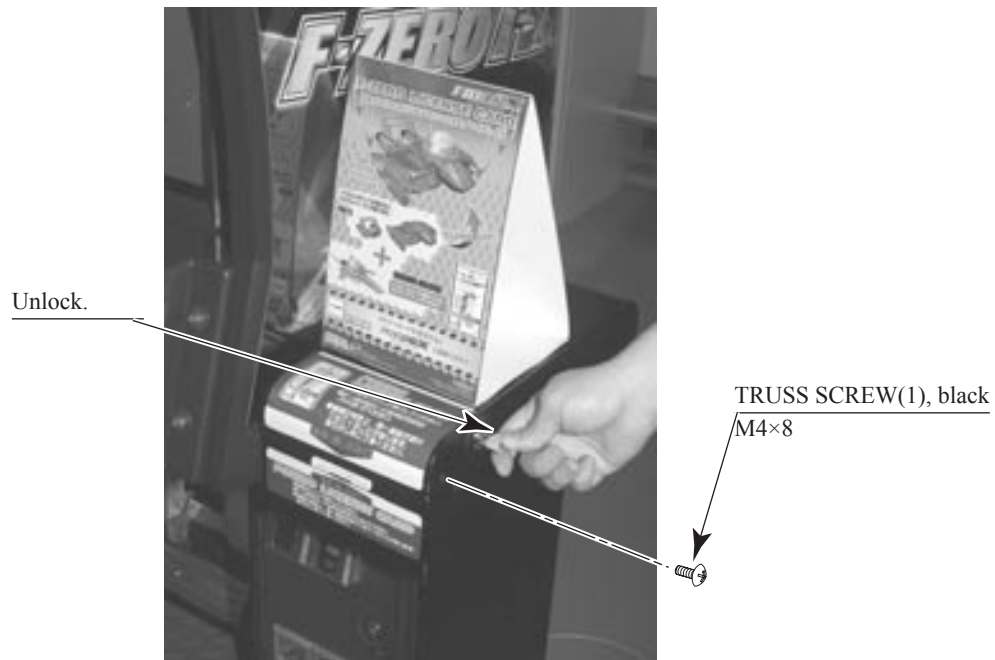


PHOTO 7.3 a



- Unlock the hatch by drawing the green shaft attached to the top cover on the card reader/writer. While drawing the shaft, open the cover up.
- Remove the card jammed in the card reader/writer.

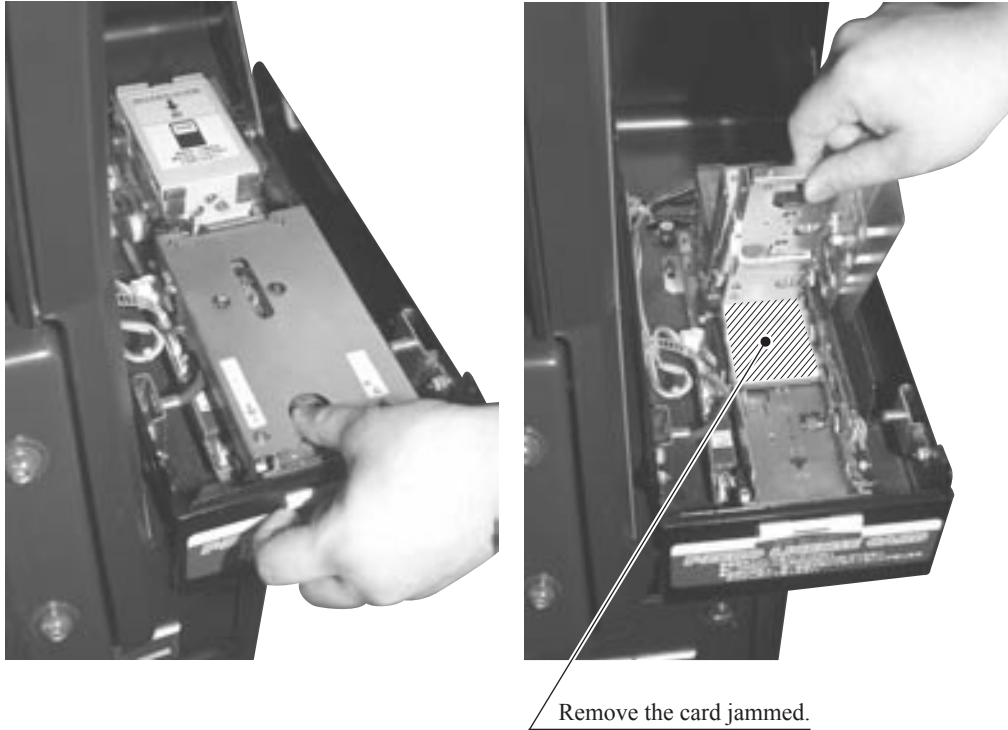


PHOTO 7.3 b

- While drawing the shaft, close the cover. With the top cover closed, release the green shaft. Check that the top cover has been locked securely.
- Close and lock the cover.
- Secure with the truss screw.

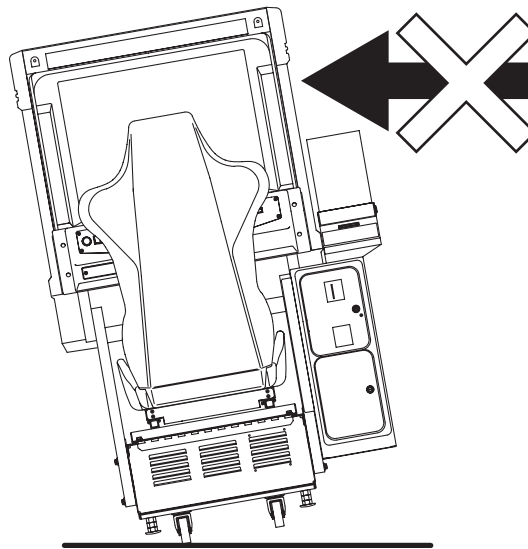
## 8. PRECAUTIONS WHEN MOVING THE MACHINE



- 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.
- Do not push the cabinet from the left/right when attempting to move the unit. Pushing from the sides may cause the unit to tip and result in injury and damage to parts.



Do not push on any parts made of glass (e.g. CRT screen) or plastic, as these parts may break and result in bodily injury.



Do not push the cabinet from the left/right direction.

FIG. 8 a

In locations with low ceilings,  
remove the Billboard before  
moving the machine.

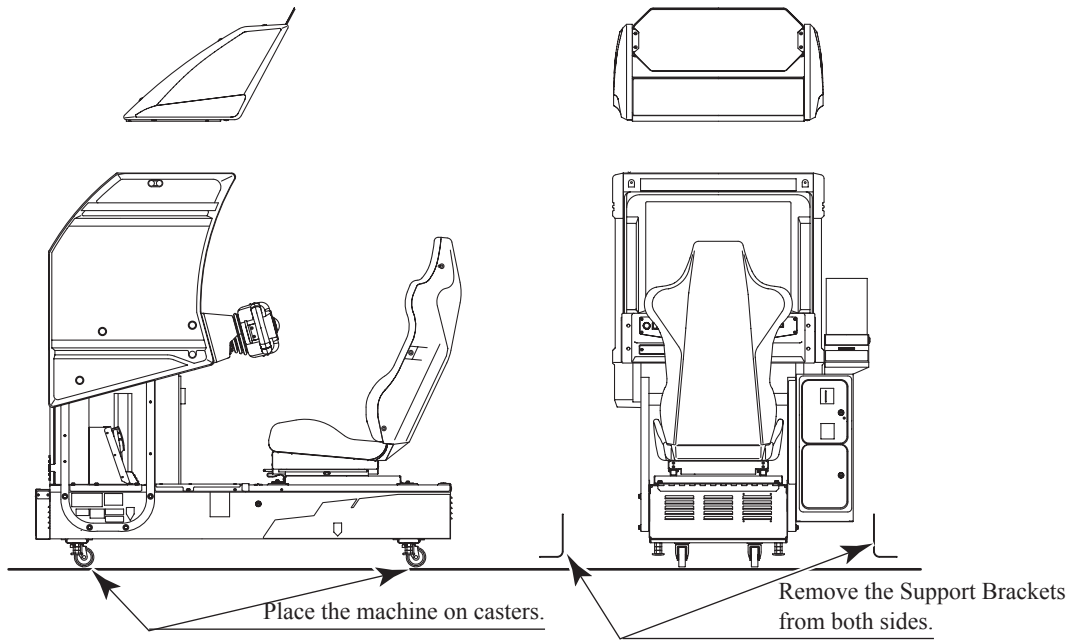


FIG. 8 b

## 9. GAME DESCRIPTION

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.

Whenever power is flowing to the machine, the fluorescent lamp is lit up. While in Advertising mode, the monitor will go through an advertising display loop, explaining the game's content and card system, displaying the rankings, and so on.

Sound is output from the speakers to the left and right of the monitor and on the left and right of the seat's headrest. Sound output during Advertising mode can be turned on or off by adjusting the corresponding setting in test mode.

The "Start" button and the 4 "View Change" buttons on top of the control panel are able to light up. They are not lit during Advertising mode.

The "Start" button will blink when enough credits have been inserted to play the game, and cease to blink when it is pressed to start the game. If there are still enough credits to play again after the game ends, the button will begin to blink again. After the race starts, the "View Change" button corresponding to the currently selected view will light up; all the others will remain unlit.

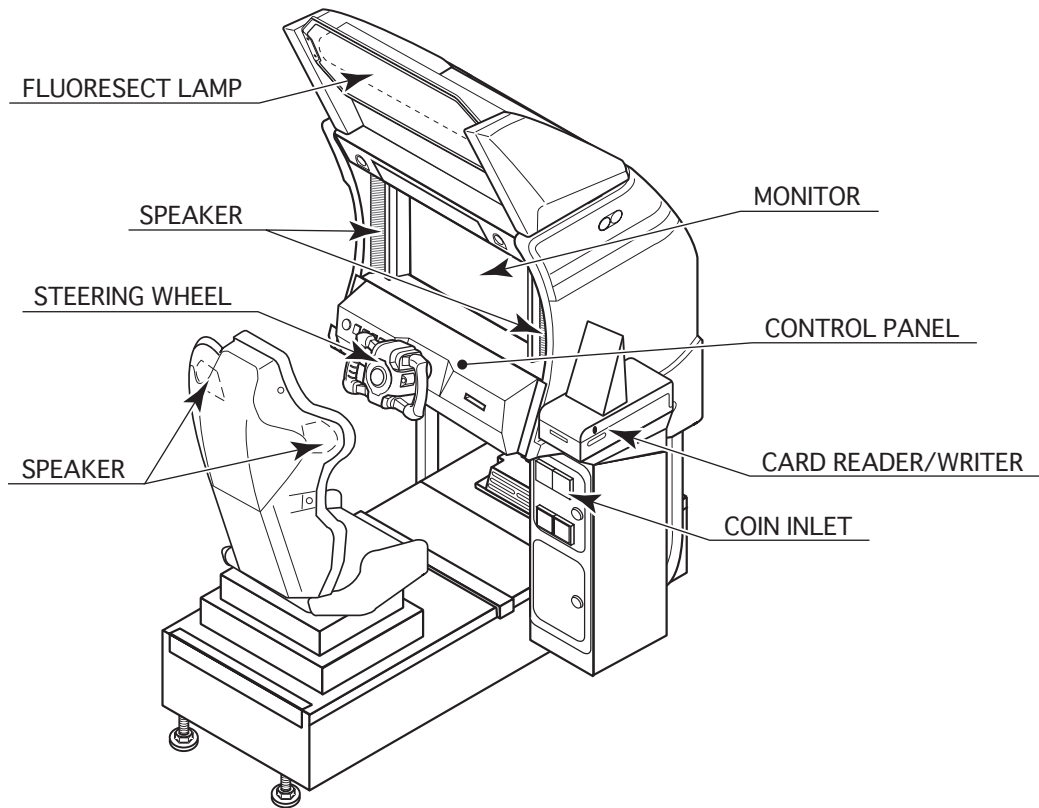


FIG. 9 a

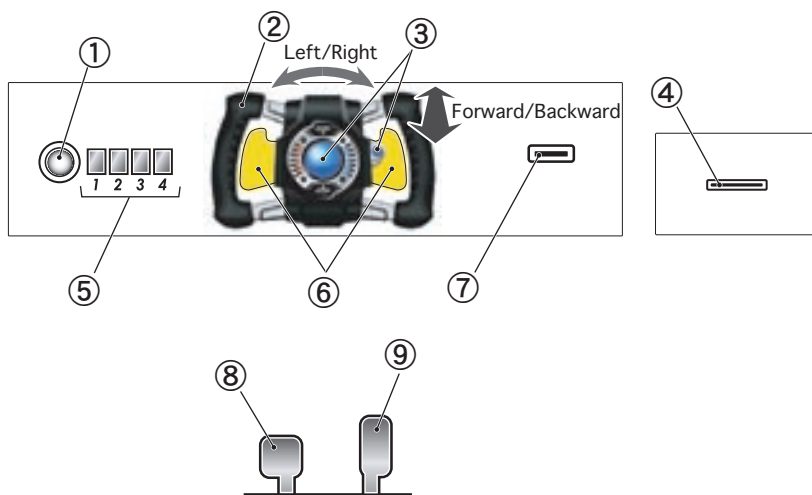


FIG. 9 b CONTROL PANEL

- (1) START BUTTON: start game
- (2) STEERING UNIT: control direction
- (3) BOOST BUTTON: accelerate
- (4) LICENSE CARD SLOT
- (5) VIEW CHANGE BUTTON (1 - 4)
- (6) PADDLE LEVER: control center of gravity (while driving)
- (7) MEMORY CARD SLOT
- (8) BRAKE PEDAL: brake
- (9) GAS PEDAL: control speed

## Game Outline

This product is a racing game. It has two modes, RACE MODE and TIME ATTACK MODE. When the cabinets are connected (up to four cabinets), VERSUS PLAY is available. The game features six courses from which the players can choose freely. Each course has a time limit, and if you don't reach the goal within the time limit, your time is up and the race will end. Passing through checkpoints and control lines increases your time. Each course has a different number of checkpoints. A time penalty occurs when the player leaves the course and when his car explodes (energy goes to zero).

### ● F-ZERO LICENSE CARD

You can receive your very own machine by purchasing a license card at the start of play. You can save player data to the card, including your name, pilot rank, pilot points, and time attack records. 1st-place data and numbers of wins are also recorded on the card.

#### Pilot Points

Use your license card to earn pilot points based on your play in Race and Time Attack Modes. Once you've collected enough points, you can get custom parts to customize your machine with!

#### Pilot Rank

Your pilot rank increases based on your play. Your rank can never decrease in this game.

### ● Nintendo GameCube Memory Card

Use your Memory Card to link the game with F-ZERO GX for Nintendo GameCube. But in order to use this special feature you must have F-ZERO GX game data on your card. Please note that the game cannot link with a Memory Card that does not contain F-ZERO GX game data.

## Game Mode

- Race Mode

A single-course race. Thirty machines go head to head for first place. In linked play, players can go head-to-head against other players.

When using a license card, the game ends when the player takes first place on every course.

- Time Attack Mode

Race a set number of laps in time-trial format and fight for the best total time record. Ghost play is also available.

Internet rankings via PC are also planned. A license card is needed for Internet rankings.

### Internet Rankings

When PASSWORD DISP is set to OFF, the Internet Rankings guide is not shown during advertising.

When it is set to ON, a password is shown after playing Time Attack. Enter this password with a PC to join the F-ZERO Internet Rankings.

The rankings will be available on the F-ZERO Official Home Page (<http://f-zero.jp/>).

## Playing the Game

### (1) The Card Check Screen

If you already have a license card, place it in the License Card Slot to continue automatically to the next screen. You can insert the Memory Card in this screen as well, but if you do not insert the Memory Card before the license card, it will not work properly.



(2) The F-ZERO LICENSE CARD Screen

Press down on the accelerator in the Card Check Screen to move to the Purchase Screen. When creating a new card, insert the required number of coins to make a new license card. When your license card's credits have been used up, you will be moved to the Renewing Purchase Screen.

You can insert the Memory Card in this screen as well, but if you do not insert the Memory Card before the license card, it will not work properly.



<Creating a new card>



<Renewing>

(3) The NAME ENTRY Screen (Shown the first time a license card is purchased)

When you purchase a new license card, you are moved to the Name Entry Screen. (Inappropriate words will be changed into asterisks.)



(4) The LICENSE CARD Screen

(Not shown if a license card is not used)

Shows your personal car and play information.



(5) The MODE SELECT Screen

Choose either RACE MODE or TIME ATTACK MODE. Different descriptions will appear below based on the cabinet and Test Mode settings. In Versus Play, select the race mode while holding down the brake to bypass the Versus Screen.



(6) The VERSUS Screen

(When linked and playing Race Mode.)

When you choose Race Mode in the usual way, you will be taken to the Versus Screen. Empty cabinets will display a similar screen.

If you are using a license card, Race Mode-related data will appear. If others are also using license cards, you can take a look at their data. The layout of the screen differs according to the number of linked cabinets (though the information shown is the same).

\* You cannot skip this screen.



<2 cabinets linked>



<3-4 Cabinets linked>



(7) The COURSE SELECT Screen

Select your favorite course from the six available. In Time Attack Mode, you can also configure Ghost settings. (Use the pedal lever to choose a ghost.) If you are using a License Card, you can look at information on each course. In Race Mode, wins, win percentage, and other data appear. In Time Attack Mode, total time, best lap, and max speed are shown.



< Race Mode >



< Time Attack Mode >

(8) The MACHINE SELECT Screen

Select your machine. You always get to choose machines, regardless of your card. The machines you can choose from change based on the card(s) you've inserted.

- No Card: Select from the default 14 machines.
- License Card: Select from 15 machines, including your own on the far left.
- Memory Card: Adds machines from your F-ZERO GX garage on the far right. If there are no cars in your F-ZERO GX garage, no machines will appear.



(9) The MACHINE SETTING Screen

Use the graph to configure your machine.

In multiplayer Race Mode, you can view other players' machines. If you are using a License Card in Time Attack Mode, you can look at best total times, machines used and settings.

If there is no data, NO DATA appears.



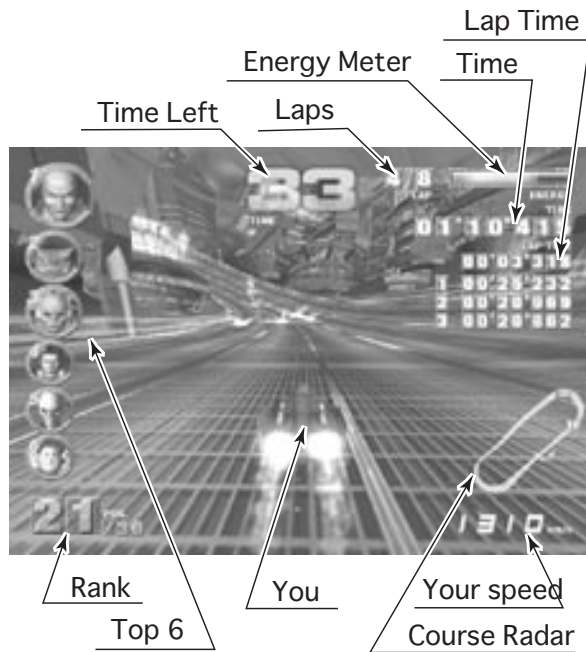
<Race Mode>



<Time Attack Mode>

(10) Race

This is the racing screen. The basic controls of the machine are the steering wheel and the accelerator. You can use the booster after the second lap, so feel free to press the button in the center of the steering wheel. When the booster is used, the energy drain rate increases. If energy reaches zero and your machine takes damage, your machine will flash red, you will be unable to move, and an official car will come with extra energy. If you leave the course, an official car will come to return your machine to the course.



<Race Mode>



<Time Attack Mode>

(11) VS RESULT Screen

When you complete the race, the results of the race appear. Results do not appear when you retire. The display for COM races and multiplayer races are different in Race Mode. In Time Attack Mode, your personal best and other data are also shown if you use a license card.



<Race Mode: COM>



<Race Mode: Multiplayer>



<Time Attack Mode>

(12) RESULTS Screen (Race Mode), TIME ATTACK RANKING Screen (Time Attack Mode)

The Results Screen shows the results of the race, while the Time Attack Ranking Screen shows the best times recorded in the cabinet. When using a License Card, your username is automatically entered. If you are not using a License Card, you can enter a three-letter rankings name.



<Race Mode>



<Time Attack Mode>

(13) The PILOT POINTS Screen

(Only with License Card)

Gives you Pilot Points based on your race performance.

Points are added and totaled for each category.

When your Pilot Points exceed the required value, you are congratulated and moved to the Configuration Screen. This screen also informs you of Pilot Rank promotions.



(14) The CONFIGURATION Screen

(Only with a License Card and sufficient Pilot Points)

Lets you switch out your personal machine's parts and change pilots. Changing parts and pilots costs Pilot Points. When you change machine parts, the old parts are disposed of.



(15) Memory Card Screen

(Only with a Nintendo GameCube Memory Card inserted)

If you play with a Memory Card inserted and satisfy certain conditions, you can download special F-ZERO AX data to your Memory Card. You can then use the downloaded data in F-ZERO GX.



(16) The PASSWORD Screen

(Only with a License Card, when playing Time Attack Mode, and when the course has completed data)  
Once you complete a course in Time Attack Mode, you are taken to the Password Screen and given a password. This password is for your best total time. It is shown every time, but it is not necessarily the password for the race.

Enter the ID and name written to your License Card and the password shown on this screen into the F-ZERO Official Home Page to join the Internet Rankings. The Internet Rankings are announced on the F-ZERO Official Home Page (<http://f-zero.jp/>).

Set PASSWORD DISP to OFF in GAME ASSIGNMENTS in Test Mode to hide this screen.

You cannot continue to the next screen until the License Card is removed.



(17) The GAME OVER Screen

This screen is shown when the game is over. A reminder regarding your card is shown. And if your license card will need to be renewed next time, this screen will indicate that.



## Other Warnings

### ● Error Display

Basic errors related to magnetic cards and memory cards cause detailed instructions to appear on the screen. Mechanical errors in the cabinet, however, are displayed with error numbers. The following is a description of those errors. (See 18-3.)

Error 05: Steering : I/O Error

Error 06: Steering : Overheat/Overload Error

Error 07: Steering : Encoder Error

Error 08: Steering : Excess Current Error

### ● Secret Codes

#### Race Mode: "No Versus"

- Description: Play by yourself, with no VERSUS screen.
- To access: Hold down the brake when selecting a race mode in the MODE SELECT screen. This is explained in the MODE SELECT Screen help.

Note: No Versus cannot be used when there is only one cabinet.

#### Race Mode: "VS BATTLE" (Human-only race)

- Description: A race with only human competitors. COM machines cannot join the race. For two to four players.
- To access: Each participant must hold down the brake when selecting their machine in the MACHINE SELECT screen.

Note: Cannot be used with only one cabinet or in one-player play. COM machines will always join.

#### Race Mode: "No Handicap"

- Description: In Race Mode, cars in the rear are given supplemental speed and can go faster (player-controlled machines only). To turn off supplemental speed, use No Handicap.
- To access: All players (even in one-player races) must hold down the brake when selecting a machine from the Machine Settings Screen.

Note: In Race Mode, even one-player games are handicapped, so use the above to turn handicapping OFF.

#### Time Attack: Racing Staff Ghosts

- Description: Lets you race against Staff Ghosts
- To access: Hold down the brake with the cursor on "Champion Ghost" in the Course Selection Screen and select a course.

## 10. TEST AND DATA DISPLAY



Do not touch the machine until it has completed the initialization process and the advertising screen has appeared. Doing so may cause the person touching the machine to be struck by the seat. It may also prevent the machine from initializing properly. Failure to initialize properly can lead to control malfunction and other problems.

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.

This product's basic system consists of the TRIFORCE game board and the GD-ROM drive.

The product supports, therefore, the following 2 test modes:

- (1) System test mode for an automatic self-diagnostic test (generally used by every product that contains the basic system) and a coin assignment (specifically used by this product) and
- (2) Game test mode for testing the input/output control devices and setting the difficulty level (specifically used by this product).

TABLE 10 EXPLANATION OF TEST MODE

ITEMS	DESCRIPTION
INSTALLATION OF MACHINE	When the machine is installed, perform the following: 1. Check to ensure each is the standard setting at shipment. 2. Check each Input equipment in the INPUT TEST mode. 3. Check each Output equipment in the OUTPUT TEST mode. 4. Test on-IC-Board IC's in the SELF-TEST mode.
MEMORY TEST	This test is automatically executed by selecting MEDIA BOARD TEST, or SYSTEM INFORMATION in the Menu mode.
PERIODIC SERVICING	Periodically perform the following: 1. MEMORY TEST 2. Ascertain each setting. 3. To test each Input equipment in the INPUT TEST mode. 4. To test each Output equipment in the OUTPUT TEST mode.
CONTROL SYSTEM	1. To check each Input equipment in the INPUT TEST mode. 2. Adjust or replace each Input equipment. 3. If the problem still remains unsolved, check each equipment's mechanism movements.
MONITOR	In the Monitor Adjustment mode, check to see if Monitor (Projector) adjustments are appropriate.
IC BOARD	MEMORY TEST
DATA CHECK	Check such data as game play time and histogram to adjust the difficulty level, etc.



## 10-1 SWITCH UNIT AND COIN METER



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



- Adjust the sound to the optimum volume, taking into consideration the environmental requirements of the installation location.
- Removing the Coin Meter circuitry renders the game inoperable.

### SWITCH UNIT

Open the coin chute door, and the switch unit shown will appear.

The functioning of each SW is as follows:

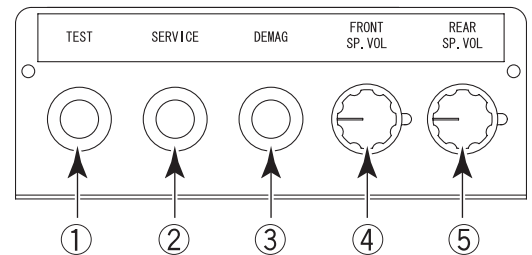


FIG. 10. 1 a SWITCH UNIT

- |                                       |  |
|---------------------------------------|--|
| (1)TEST BUTTON:<br>(TEST)             | For the handling of the test button, refer to the following pages.   |
| (2)SERVICE BUTTON:<br>(SERVICE)       | Gives credits without registering on the coin meter.   |
| (3)DEMAGNETIZER SWITCH:<br>(DEMAG)    | Eliminates the on-screen color unevenness due to magnetization of CRT. First use this SW before performing the monitor's color adjustment. |
| (4)VOLUME CONTROL:<br>(FRONT SP. VOL) | Adjusts the volume of the speakers on the left and right sides of the monitor.   |
| (5)VOLUME CONTROL:<br>(REAR SP. VOL)  | Adjusts the volume of the speakers on the left and right of the seat headrest.   |

### COIN METER

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

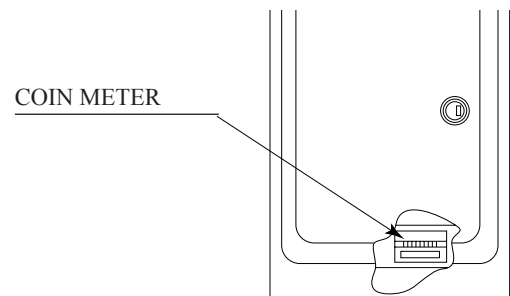


FIG. 10. 1 b



## 10-2 SYSTEM TEST MODE



- Any settings that are changed by users during TEST MODE are saved upon exiting TEST MODE with the EXIT command in the SYSTEM MENU. If the unit is powered off prior to exiting, changes to settings will not take effect.
- You may not enter GAME TEST MODE while the unit is reading from or checking the GD-ROM. If error messages are displayed when exiting TEST MODE, you should power the unit off and on again.

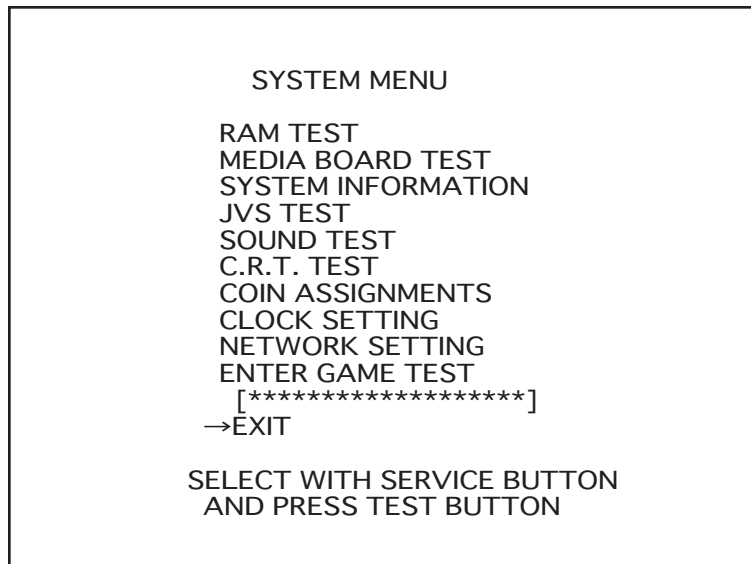
The following settings should be set as indicated for this product.

- Coin Chute Type: Common
- Service Type: Common
- Network Type: Ether

### 10-2A SYSTEM TEST MENU

SYSTEM TEST MODE is used primarily to check if boards are functioning properly, to adjust monitor colours and change coin/credit settings.

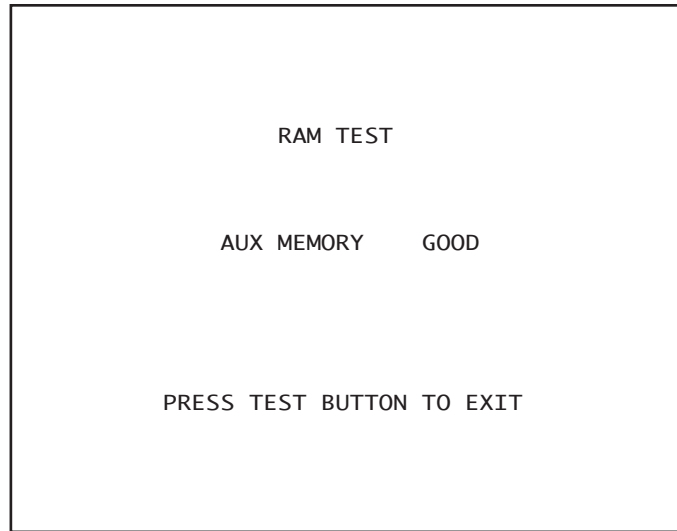
- Press the TEST Button after powering on the unit to display the following SYSTEM MENU.



- Press the SERVICE Button to move the cursor to the desired test item.
- Move the cursor to the desired item and press the TEST Button to display each test screen.
- Move the cursor to ENTER GAME TEST and press the TEST Button to enter the individual test menus for each game. Refer to "10-3 GAME TEST MODE".
- When testing is complete, move the cursor to EXIT and press the TEST Button. The game advertisement screen should be displayed.

## 10-2B RAM TEST

Use RAM TEST to run a check of the TRIFORCE MAIN BOARD memory IC.



- RAM TEST begins immediately upon entering this test mode.
- If "GOOD" is displayed at the right-hand side of the screen, memory IC is functioning properly.
- After the test is complete, move the cursor to EXIT and press the TEST Button to return to the SYSTEM MENU screen.



Powering off the system during the MEDIA BOARD TEST with a DIMM BOARD will erase the game programme data. It may be necessary to reload the data. Always wait for the test to complete before attempting to exit.

MEDIA BOARD TEST is used to check the memory and IC on the MEDIA BOARD connected to the TRIFORCE. Test screens and test times may differ depending on the type of MEDIA BOARD connected to the unit.

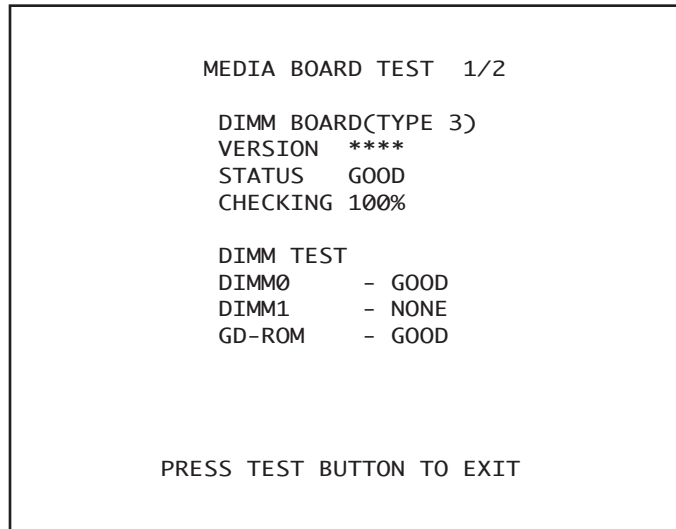


FIG 10. 2 c a MEDIA BOARD TEST Screen (1/2)

- MEDIA BOARD TEST begins immediately upon entering this test mode.
- If "GOOD" is displayed to the right of each item, the MEDIA BOARD components are functioning properly.
- Press the TEST Button to move to Screen 2/2.
- Press the TEST Button on Screen 2/2 to return to the SYSTEM MENU screen.

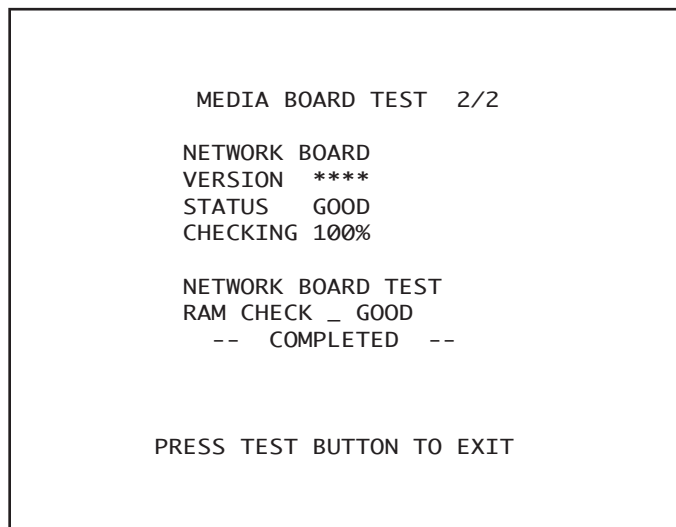


FIG 10. 2 c a MEDIA BOARD TEST Screen (2/2)

## 10-2D SYSTEM INFORMATION

Use SYSTEM INFORMATION to check version and other information for system programmes. Screens may differ depending on the type of MEDIA BOARD connected to the unit.

SYSTEM INFORMATION		
MAIN BOARD		
REGION	****	(A)
BOOT VERSION	****	(B)
FIRM VERSION	****	(B)
FPGA VERSION	****	(B)
SERIAL NO.	*****	(C)
MEDIA BOARD		
DIMM BOARD(TYPE 3) + GDROM		(D)
MEMORY SIZE	512MB	(E)
FIRM VERSION	****	(F)
SERIAL NO.	*****	(G)
NETWORK BOARD		
FIRM VERSION	****	(F)
PRESS TEST BUTTON TO EXIT		

Press the TEST Button to return to the SYSTEM MENU screen.

- (A) REGION  
The COUNTRY CODE of the MAIN BOARD.
- (B) BOOT VERSION, FIRM VERSION, FPGA VERSION  
Version information for the MAIN BOARD system programmes.
- (C) SERIAL NO.  
Serial number of the MAIN BOARD.
- (D) DIMM BOARD + GDROM  
Type of MEDIA BOARD. This example shows a DIMM BOARD (TYPE 3) with a GD-ROM DRIVE connected.
- (E) MEMORY SIZE  
Capacity of DIMM memory installed on the DIMM BOARD.
- (F) FIRM VERSION  
Version information for the DIMM BOARD system programme.
- (G) SERIAL NO.  
Serial number of the DIMM BOARD.

## 10-2E JVS TEST

JVS TEST is used to verify the specs of the I/O BOARD connected to the TRIFORCE and to run input tests.

I/O BOARD specs are displayed initially.

```

                                JVS TEST
                                INPUT TEST
                                NEXT NODE
                                →EXIT
NODE                             1/1
NAME                             *****
                                I/O BD JVS
                                *****
                                Ver****
CMD VER                          1.1
JVS VER                          2.0
COM VER                          1.0
SWITCH                          2 PLAYER(S) 12 BITS
COIN                             2 SLOT
ANALOG                          8 CH
ROTARY                          0 CH
KEYCODE                          0
SCREEN                          X:0 Y:0 CH:0
CARD                             0 SLOT
HOPPER OUT                       0 CH
DRIVER OUT                       22 CH
ANALOG OUT                       0 CH
CHARACTER                        CHARA:0 LINE:0
BACKUP                           0
                                SELECT WITH SERVICE BUTTON
                                AND PRESS TEST BUTTON
```

- Use the SERVICE Button to move the cursor to the desired test item.
- Move the cursor to INPUT TEST and press the TEST Button to enter the INPUT TEST screen for the I/O BOARD currently displayed.
- When 2 or more I/O BOARDS are connected, move the cursor to NEXT NODE and press the TEST Button to enter the test screen for the next I/O BOARD. The lower the NODE number, the further away the node is from the TRIFORCE.
- Move the cursor to EXIT and press the TEST Button to return to the SYSTEM MENU screen.

## INPUT TEST Screen

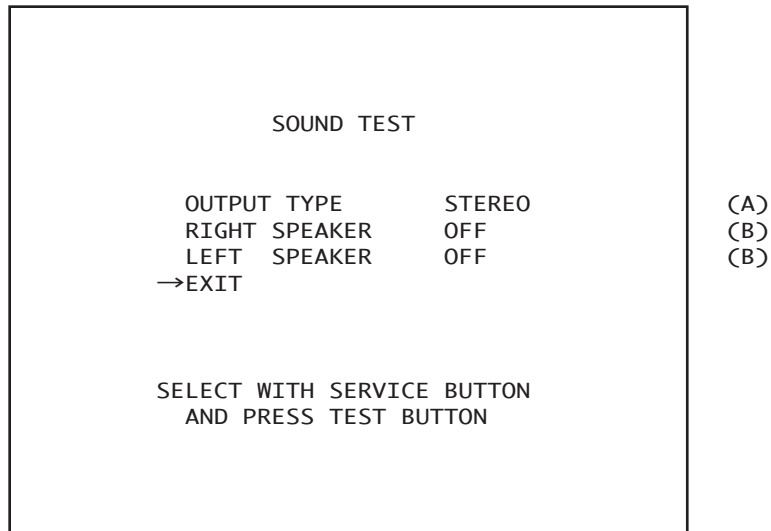
JVS TEST		
INPUT TEST		
NODE	1/1	
SYSTEM	00	(A)
PLAYER 1	0000	(A)
PLAYER 2	0000	(A)
COIN 1	0000	(B)
COIN 2	0000	(B)
ANALOG 1	0000	(C)
ANALOG 2	0000	(C)
ANALOG 3	0000	(C)
ANALOG 4	0000	(C)
ANALOG 5	0000	(C)
ANALOG 6	0000	(C)
ANALOG 7	0000	(C)
ANALOG 8	0000	(C)

PRESS TEST AND SERVICE BUTTON TO EXIT

- On-screen values change according to the input from switches and the volume.
  - (A) SYSTEM, PLAYER  
Values change with input from control panel/other switches.
  - (B) COIN  
Increases with input from the COIN SWITCH. The count is cleared when exiting TEST MODE.
  - (C) ANALOG  
Displays analog values from "0000" to "FF00".
- Press the SERVICE and TEST Buttons simultaneously to return to the JVS TEST main screen.

## 10-2F SOUND TEST

Use SOUND TEST to test sound output and to toggle the stereo/mono setting.



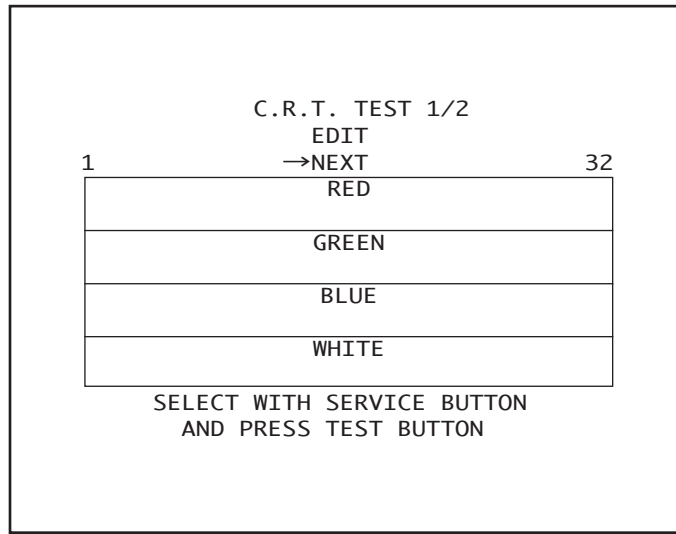
- Use the SERVICE Button to move the cursor to the desired test item.
- Press the TEST Button to enter the selected item.
  - (A) OUTPUT TYPE(STEREO, MONO)  
Toggle the sound output from the I/O PANEL audio output interface setting between STEREO and MONO.  
Set to STEREO in this game machine.
  - (B) RIGHT/LEFT SPEAKER(ON, OFF)  
When set to "ON", the test sends a beep to each right and left audio output interface. Only the word "SPEAKER" is displayed when the OUTPUT TYPE is set to "MONO", and when set to "ON", the test sends the same beep to both the left/right audio output interfaces.
- Move the cursor to EXIT and press the TEST Button to return to the SYSTEM MENU screen.

## 10-2G C.R.T. TEST

Use the C.R.T. TEST to adjust monitor colours and verify screen size.

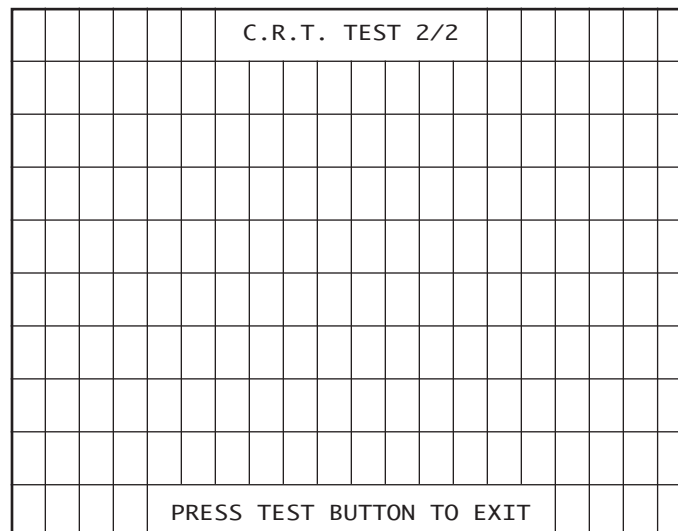
### COLOUR CHECK Screen

- Monitor COLOUR CHECK screen is displayed initially.  
Each of the colours (red, green and blue) is darkest at the far left and gets progressively lighter (32 steps) towards the right.  
Monitor brightness is set correctly if the white colour bar is black at the left edge and white at the right edge.



- Use the SERVICE Button to move the cursor to the desired test item.
- Move the cursor to EDIT and press the TEST Button to enter COLOUR ADJUST mode.
- Move the cursor to NEXT and press the TEST Button to enter the SIZE CHECK screen.

### SIZE CHECK Screen



- Adjust the CHECK GRID so that the entire GRID is displayed on the screen.
- Press the TEST Button to return to the SYSTEM MENU screen.



## COLOUR ADJUST MODE Screen

This mode is for monitors that do not have colour adjustment features.  
Normally the colour should be adjusted through the monitor.

- Use the SERVICE Button to move the cursor to the item to be adjusted.
- Press the TEST Button to enter the selected item.

C.R.T. TEST 1/2	
VIDEO PARAMETER EDIT	
1	32
BRIGHTNESS	14
CONTRAST	26
CONTRAST_R	255
CONTRAST_G	255
CONTRAST_B	255
AUTO ADJUST	
→EXIT	
SELECT WITH SERVICE BUTTON	
AND PRESS TEST BUTTON	

(A)  
(B)  
(C)  
(D)  
(E)  
(F)

- (A) BRIGHTNESS(10-60)  
Adjust the brightness of the screen.
  - (B) CONTRAST(10-44)  
Adjust the colour contrast.
  - (C) CONTRAST\_R(155-255)  
Adjust the RED contrast.
  - (D) CONTRAST\_G(155-255)  
Adjust the GREEN contrast.
  - (E) CONTRAST\_B(155-255)  
Adjust the BLUE contrast.
  - (F) AUTO ADJUST  
Adjust colour settings automatically.
- Move the cursor to EXIT and press the TEST Button to enter the SIZE CHECK screen.

## 10-2H COIN ASSIGNMENTS

Use COIN ASSIGNMENTS to set the credit rate for each coin inserted.

- Use the SERVICE Button to move the cursor to the desired test item.
- Press the TEST Button to change the setting or to open the detailed settings.
- Move the cursor to EXIT and press the TEST Button to return to the SYSTEM MENU screen.

COIN ASSIGNMENTS	
COIN CHUTE TYPE	COMMON
SERVICE TYPE	COMMON
COIN CHUTE #1 COIN TO CREDIT RATE	
1 COIN(S) COUNT AS 1 CREDIT(S)	
COIN CHUTE #2 COIN TO CREDIT RATE	
1 COIN(S) COUNT AS 1 CREDIT(S)	
DETAIL SETTING	
GAME COST SETTING	
→EXIT	
SELECT WITH SERVICE BUTTON AND PRESS TEST BUTTON	

COIN CHUTE TYPE...COMMON

COIN ASSIGNMENTS	
(A) COIN CHUTE TYPE	INDIVIDUAL
(B) SERVICE TYPE	INDIVIDUAL
(C) COIN CHUTE #1 COIN TO CREDIT RATE	
1 COIN(S) COUNT AS 1 CREDIT(S)	
(C) COIN CHUTE #2 COIN TO CREDIT RATE	
1 COIN(S) COUNT AS 1 CREDIT(S)	
(D) DETAIL SETTING	
(H) GAME COST SETTING	
→EXIT	
SELECT WITH SERVICE BUTTON AND PRESS TEST BUTTON	

COIN CHUTE TYPE...INDIVIDUAL

### (A) COIN CHUTE TYPE(COMMON, INDIVIDUAL)

Adjust settings according to the specs of the cabinet COIN CHUTE.  
Set to COMMON in this game machine.

#### COMMON

This is for cabinets where a single COIN CHUTE is used by multiple players.

Coins inserted by each player are treated as common credits.

Up to 2 COIN CHUTES (#1 and #2) may be used. The (C) COIN TO CREDIT RATE setting for COIN CHUTE #1 and #2 may be set differently.

#### INDIVIDUAL

This is for cabinets with individual COIN CHUTES for each player.

Coins inserted by each player are treated as individual player credits.

The (C) COIN TO CREDIT RATE setting is used by all COIN CHUTES.

### (B) SERVICE TYPE(COMMON, INDIVIDUAL)

Use this to set the function of each SERVICE Button when there is more than one SERVICE Button.  
Set to COMMON in this game machine.

#### COMMON

Pressing any SERVICE Button enters service credits for all players.

#### INDIVIDUAL

Pressing the SERVICE Button enters service credits only for the corresponding player.

- (C) COIN TO CREDIT RATE  
Set the CREDIT RATE for each coin inserted.  
The "x COIN(S) COUNT AS y CREDIT(S)" setting indicates that "Inserting x coins equals y credits".  
Set this to "FREE PLAY" to allow game play without credits.  
When (A) COIN CHUTE TYPE is set to "COMMON", COIN CHUTE #2 settings are restricted to some extent by the settings for COIN CHUTE #1.
- (D) DETAIL SETTING  
This mode allows for more detailed credit rate settings than the (C) COIN TO CREDIT RATE setting.  
Changes made in DETAIL SETTING override any (C) COIN TO CREDIT RATE settings.

DETAIL SETTING Screen

```

          COIN ASSIGNMENTS
          DETAIL SETTING
COIN CHUTE #1 MULTIPLIER
  1 COIN COUNT AS 1 COIN(S)
COIN CHUTE #2 MULTIPLIER
  1 COIN COUNT AS 1 COIN(S)
BONUS ADDER          NO BONUS ADDER
COIN TO CREDIT    1 COIN(S) 1 CREDIT
→EXIT
COIN CHUTE #1 OPERATION
COIN  1  2  3  4  5  6  7  8  9
CREDIT 1  2  3  4  5  6  7  8  9
COIN CHUTE #2 OPERATION
COIN  1  2  3  4  5  6  7  8  9
CREDIT 1  2  3  4  5  6  7  8  9
          SELECT WITH SERVICE BUTTON
          AND PRESS TEST BUTTON

```

COIN CHUTE TYPE...COMMON

- (E)
- (E)
- (F)
- (G)

```

          COIN ASSIGNMENTS
          DETAIL SETTING
COIN CHUTE #1 MULTIPLIER
  1 COIN COUNT AS 1 COIN(S)
          BONUS ADDER          NO BONUS ADDER
COIN TO CREDIT    1 COIN(S) 1 CREDIT
→EXIT
COIN CHUTE #1 OPERATION
COIN  1  2  3  4  5  6  7  8  9
CREDIT 1  2  3  4  5  6  7  8  9

          SELECT WITH SERVICE BUTTON
          AND PRESS TEST BUTTON

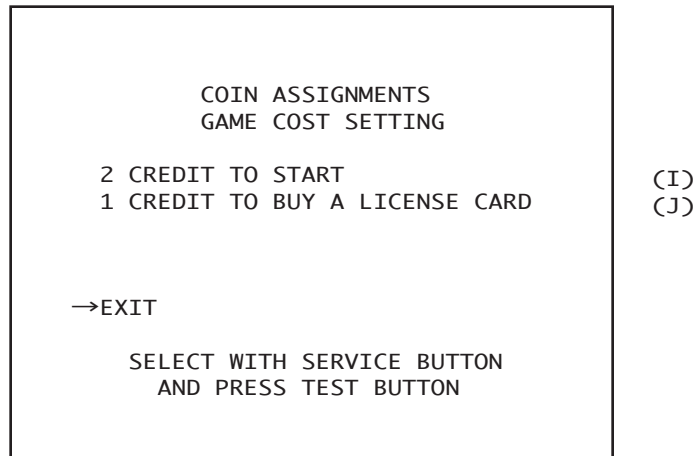
```

COIN CHUTE TYPE...INDIVIDUAL

- (E) COIN CHUTE MULTIPLIER  
Use this to set how many coins will be counted for each coin inserted.  
The "1 COIN COUNT AS x COIN(S)" setting indicates that "Each coin will be counted as x coins".  
When the (A) COIN CHUTE TYPE is set to "COMMON", the setting may be set individually for COIN CHUTE #1 and #2.
- (F) BONUS ADDER  
Use this to set the number of coins calculated with the (E) COIN CHUTE MULTIPLIER setting that need to be inserted to get 1 bonus coin. When the (A) COIN CHUTE TYPE is set to "COMMON", the sum of the coins for COIN CHUTE #1 and #2 is used for the calculation.  
The "x COINS GIVE 1 EXTRA COIN" setting indicates that "For every x coins, 1 bonus coin is given".  
Set this to "NO BONUS ADDER" to disable bonus coins entirely.
- (G) COIN TO CREDIT  
Use this to set how many coins calculated with the (F) BONUS ADDER setting count as 1 credit.  
The "x COIN(S) 1 CREDIT" setting indicates that "Every x coins equals 1 credit."

(H) GAME COST SETTING

Use this mode to set the number of credits required to start a game.



(I) Set the number of credits required to start a game.

(J) Set the number of credits required to buy a license card.

## 10-2I CLOCK SETTING

Use CLOCK SETTING to set the TRIFORCE internal clock.

CLOCK SETTING

2003/06/20(FRI) 05:10:34

YEAR  
MONTH  
DAY  
HOUR  
MINUTE  
→EXIT

SELECT WITH SERVICE BUTTON  
AND PRESS TEST BUTTON

- Use the SERVICE Button to move the cursor to the item to be set.
- Move the cursor to the desired item and press the TEST Button to increase values.  
The max value for YEAR is "2099"; further increases return the value to "2000".
- Move the cursor to EXIT and press the TEST Button to return to the SYSTEM MENU screen.



This product should only be used with the factory settings indicated in this manual. Selecting certain options from the screens listed below may alter settings or bring up other screens. However, since these functions are not used by this machine, they are not described in this manual.

In the event that settings are altered on a screen not mentioned in this manual, the machine may cease to function properly. Restore the settings to the values shown on the screens below.

Refer to "10-3E Network Settings" for actual network play settings.

Use NETWORK SETTING to establish and test network connections.

- Use the SERVICE Button to move the cursor to the desired test item.
- Press the TEST Button to change the setting or to open the detailed settings.
- Move the cursor to EXIT and press the TEST Button to return to the SYSTEM MENU screen.

```

NETWORK SETTING

NETWORK TYPE          ETHER          (A)

SET IP ADDRESS        (B)

CLEAR NETWORK SETTING

NETWORK TEST

->EXIT

SELECT WITH SERVICE BUTTON
AND PRESS TEST BUTTON
    
```

(A) NETWORK TYPE  
Choose a type of the communication network.  
Set to ETHER in this game machine.

NONE: Sets that the communication system does not perform. Sets to NONE when you don't set the network system.

ETHER: Sets ETHER for the communication network.

MOBILE: Sets a mobile communication terminal for the communication network.

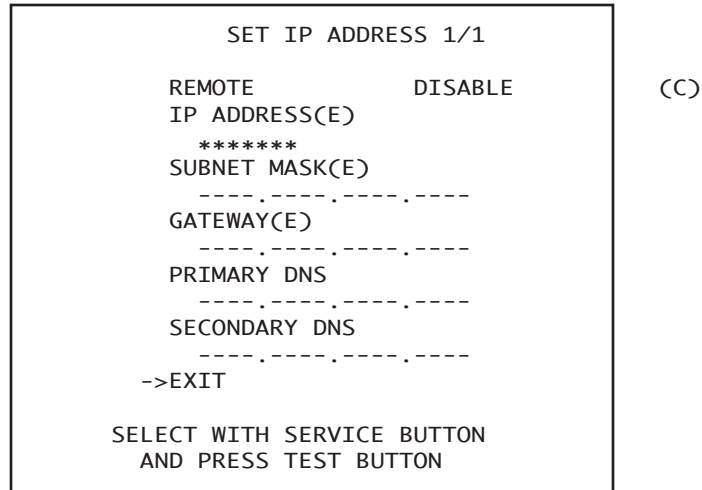
ETHER/MOBILE  
DEFAULT ETHER: Set ETHER or MOBILE automatically for the communication network.  
Priority is given to ETHER.

ETHER/MOBILE  
DEFAULT MOBILE: Set ETHER or MOBILE automatically for the communication network.  
Priority is given to MOBILE.

(B) SET IP ADDRESS

This sets up the details of the communication network. Depending on the NETWORK TYPE setting, the contents of setting vary. If setting to NONE, it does not appear.

●ETHER Setting



(C) REMOTE

This option determines whether network settings will be handled automatically. For this machine, the option should be set to DISABLE.

The other items are set up automatically. It's not necessary to change anything.

## 10-3 GAME TEST MODE



- When changing the game configuration, changes will not be enabled until the Game Test Mode has been completed. Be sure to exit the Game Test Mode properly after configuration changes.
- Do not configure the game in ways not described in this text, as this may lead to game malfunctions.

### 10-3A GAME TEST MENU

Select GAME TEST MODE from the System Menu screen to display the Game Test Menu screen as follows.

Use the SERVICE Button to move the cursor to the desired test item. Press the TEST Button to enter the selected item.

After selecting an item, read the explanations below regarding operation.

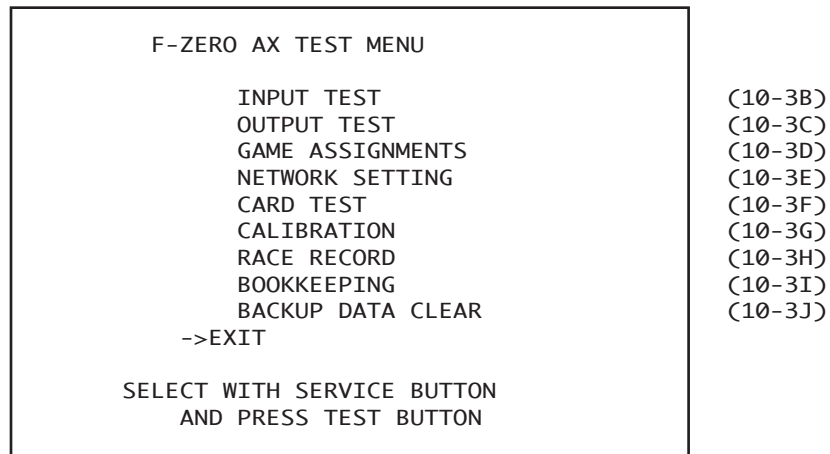


FIG. 10. 3 a GAME TEST MENU Screen

After making changes, be sure to select EXIT and press the TEST Button in order to enable the new settings.

Move the cursor to EXIT and press the TEST Button to return to the System Menu screen.



## 10-3B INPUT TEST

Select INPUT TEST to display the following screen and check the status of input devices. This test should be used periodically to check that each input device is functioning correctly.

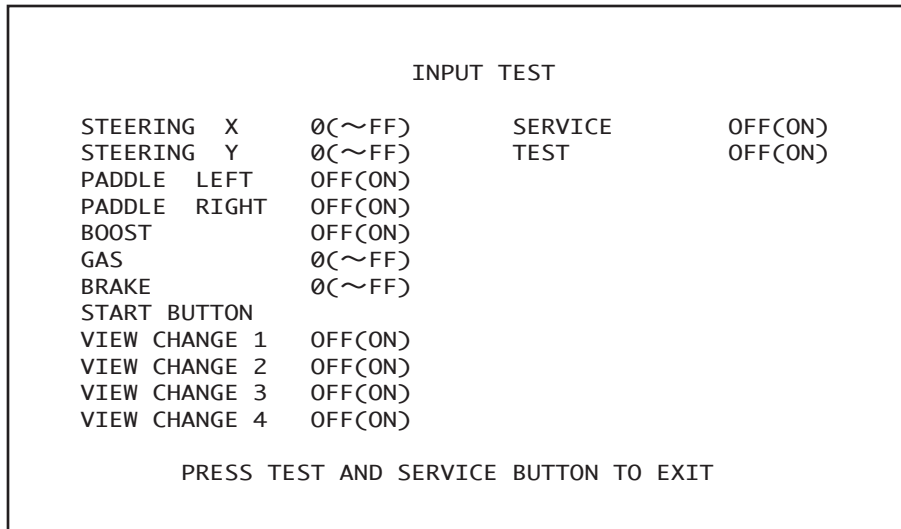


FIG. 10.3 b a INPUT TEST Screen

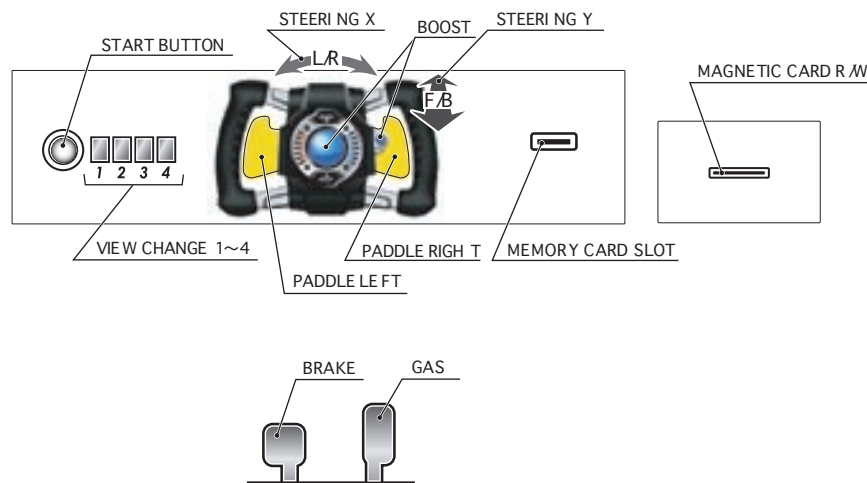


FIG. 10.3 b b

Test the STEERING, GAS and BRAKE controls to ensure that they are functioning properly and that the parameters change smoothly as each input device is operated.

If the other input devices (switches, buttons) switch from "OFF" to "ON" when operated, they are functioning normally.

Press the SERVICE and TEST Buttons simultaneously to return to the Game Test Menu screen.

## 10-3C OUTPUT TEST



- Select STEERING and press the TEST Button to make the steering wheel turn. To avoid injury, first make sure that no one is touching the wheel.
- To avoid injury, first check that no one is touching the steering wheel. Select OUTPUT TEST and press the TEST Button. After initialization the steering wheel will turn.

Selecting OUTPUT TEST and pressing the TEST Button will cause the next screen to initialize and load. This allows you to check the status of each output device. This test should be used periodically to check that the lamps are functioning correctly.

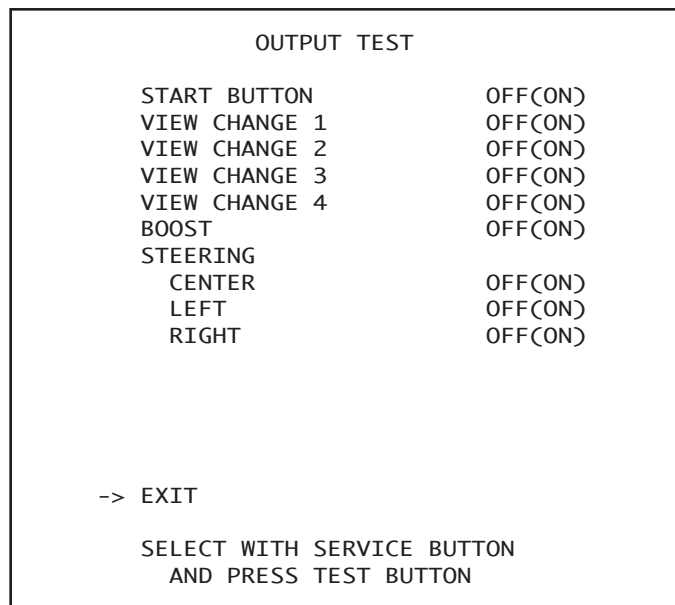


FIG. 10. 3 c a OUTPUT TEST Screen

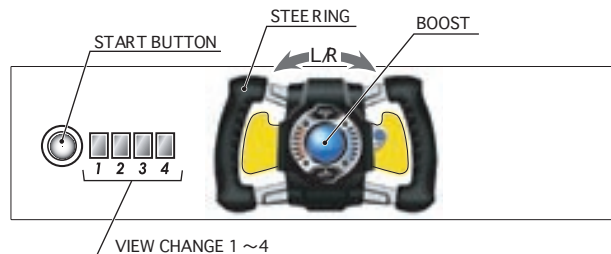


FIG. 10. 3 c b

The START BUTTON, VIEW CHANGE 1-4, and BOOST allow you to check the status of the lights on top of the control panel. Select each item and press the TEST Button to turn the respective light on and off as indicated by the display to the right of the item.

Come to this screen periodically to check that the lamps light up with ON and turn off with OFF.

When you select STEERING and press the TEST Button, it will move in the selected direction for a set period of time and stop.

Move the cursor to EXIT and press the TEST Button to return to the Game Test Menu screen.

## 10-3D GAME ASSIGNMENTS

Select GAME ASSIGNMENTS to display the current game settings and make changes. Periodically come to this screen to check game settings.

GAME ASSIGNMENTS	
ADVERTISE SOUND	ON(OFF)
FORCE FEEDBACK	2(1~3)
MAGNETIC CARD R/W USE	ON(ON→OFF→OUT OF SERVICE)
MEMORY CARD SLOT USE	ON(ON→OFF→OUT OF SERVICE)
GAME DIFFICULTY	NORMAL(VERY EASY→EASY→NORMAL→HARD→HARDEST)
HANDICAP	ON(OFF)
VS BATTLE MODE	OFF(ON)
PASSWORD DISP	ON(OFF)
RACE MODE LAPS	NORMAL(SET1~5)
1[Sonic Oval]	8 (10→15→20→30→40)
2[Screw Drive]	6 ( 8→10→15→20→30)
3[Meteor Stream]	4 ( 6→ 8→10→15→20)
4[Cylinder Wave]	3 ( 5→ 7→ 9→10→15)
5[Thunder Road]	3 ( 5→ 7→ 9→10→15)
6[Spiral]	3 ( 5→ 7→ 9→10→15)
-> EXIT	

SELECT WITH SERVICE BUTTON  
AND PRESS TEST BUTTON

FIG. 10. 3 d GAME ASSIGNMENTS

Press the SERVICE Button and move the cursor to the setting you wish to change. Press the TEST Button to cycle the parameters on the left of the item through its various settings.

Note that GAME DIFFICULTY, HANDICAP, VS BATTLE MODE, PASSWORD DISP and RACE MODE LAPS are shown on the machine whose NUMBER on the NETWORK SETTING screen is set to 1.

Changing the configuration of the NUMBER 1 machine automatically follows the settings of the other numbered machines.

### ● ADVERTISE SOUND

Turn advertising sound output ON and OFF.  
(Default setting: ON)

### ● FORCE FEEDBACK

There are three settings for steering resistance. (Default setting: 2)  
1: Weak  
2: Normal  
3: Strong

### ● MAGNETIC CARD R/W USE

Configure the usability of the card reader/writer. Turn the card reader/writer on and off. (Default setting: ON)  
Set it to ON if you want to activate card reader/writer, and to OUT OF SERVICE or OFF if a malfunction or other factor makes the card reader/writer unusable.

- If you set this option to OUT OF SERVICE, the advertising loop (demo screen) will display the message, "The F-ZERO LICENSE CARD can not be used or purchased at this time," and users will be unable to play with license cards.
- If you set this option to OFF, no message regarding license cards will be shown during the advertising loop.

### ● MEMORY CARD SLOT USE

Configure Nintendo GameCube Memory Card usage. This option lets you enable or disable the memory card slot. (Default setting: ON)

- Set this option to ON to enable compatibility with F-ZERO GX for the Nintendo GameCube. Note that this option cannot be used if the player does not have F-ZERO GX game data.
- If you set this option to OUT OF SERVICE, the advertising loop will display the message, "Can not use Nintendo GameCube Memory Card."
- If you set this option to OFF, no message regarding the Memory Card will be shown during the advertising loop.

#### NOTES:

- If both license cards and memory cards are set to OUT OF SERVICE, the advertising loop will display the message, "Cards cannot be used."
- If both are set to OFF, no message will be shown.
- If one of the two is set to OUT OF SERVICE, the message specific to that card will be shown.
- If one is set to OUT OF SERVICE and the other to OFF, no card instructions will be shown during the advertising loop.

### ● GAME DIFFICULTY

Set the game's difficulty level to five settings: VERY EASY, EASY, NORMAL, HARD, and HARDEST. (Default setting: NORMAL)

This changes the amount of bonus time given at checkpoints and the speed of COM machines (Race Mode only).

### ● HANDICAP

Turns the Race Mode (COM battles, player battles) handicap ON or OFF. (Default setting: ON)

### ● VS BATTLE MODE

Sets COM machine participation in Race Mode ON or OFF. (Default setting: OFF)

When set to ON, players race only against other players.

However, note that COM machines will join in Single Mode and Play Solo Even when in Linked Mode.

### ● PASSWORD DISP

Turn password display during Time Attack Mode ON and OFF. When set to ON, the password screen is shown after racing in Time Attack Mode. This password lets users join the F-ZERO Internet Rankings via their home computers. Please set this to OFF if Internet Rankings are not being listed. The Internet Rankings are announced on the Official F-ZERO Home Page, <http://f-zero.jp/>. (Default setting: ON)

### ● RACE MODE LAPS

In Race Mode, there are six setting levels for the number of laps; Normal and Settings 1 to 5. (Default setting: NORMAL). The game features six courses, and the number to the left of each course is its number of laps. The number of laps in Time Attack Mode cannot be changed.

Changes to settings are not enabled until Test Mode is exited. After changing settings, be sure to exit Test Mode.

After changing the settings, select EXIT and press the TEST Button to return to the Game Test Menu screen.

## 10-3E NETWORK SETTING

Select NETWORK SETTING to display the following screen and configure linked play settings.

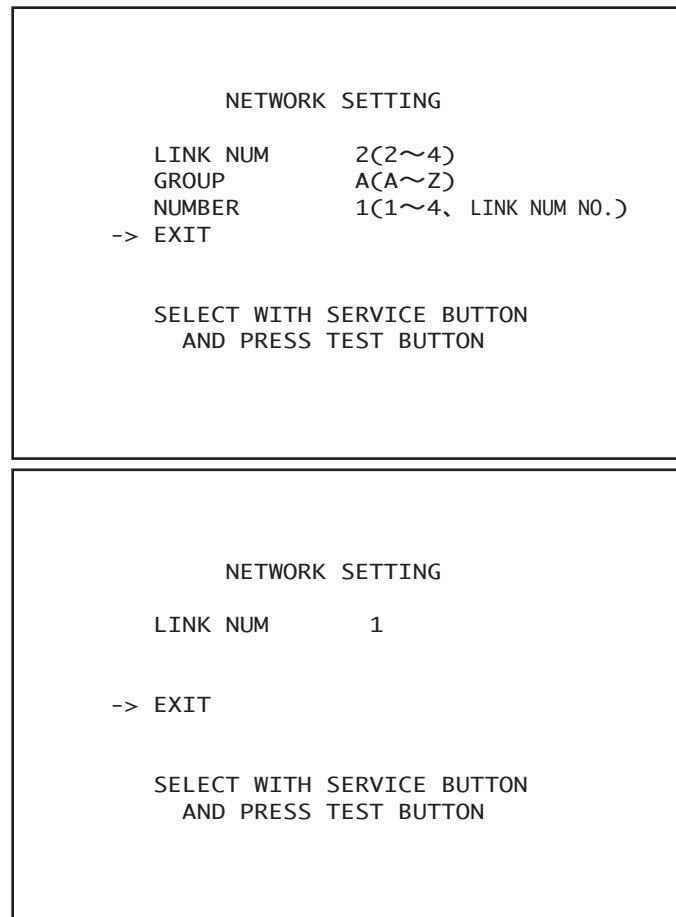


FIG. 10. 3 e NETWORK SETTING Screen

Press the SERVICE Button and move the cursor to select an option to change. Press the TEST Button to cycle through the settings shown to the left of the item.

- **LINK NUM**  
Set the number of game machines to link. Set this to "1" for the single setting. "2" or more allows linked play. You will need to set up groups and configure the NUMBER to enable linked play.
- **GROUP**  
Used to set groups among the linked machines. For instance, if four machines are connected and you want two groups of two, set two to "A" and the other two to "B." Ensure that you always have a group "A".
- **NUMBER**  
Assigns a number for each machine within a group. Do not use the same number twice in one group. Also note that you must set one machine as "1."  
Changing the GAME DIFFICULTY, HANDICAP, VS BATTLE MODE, PASSWORD DISP, and RACE MODE LAPS settings of the "1" machine will automatically change the settings of machines numbered "2" to "4."

After changing the settings, select EXIT and press the TEST Button to return to the Game Test Menu screen.

## 10-3F CARD TEST

Test the functionality of or clean the card read/writer. The card read/writer should be tested and cleaned periodically.



- Clean the card reader/writer periodically.
- Set the TRIFORCE's internal clock to the correct time (see section 10-2I). If the internal clock is not set to the correct time, card play may be turned off at a different time from the one intended.

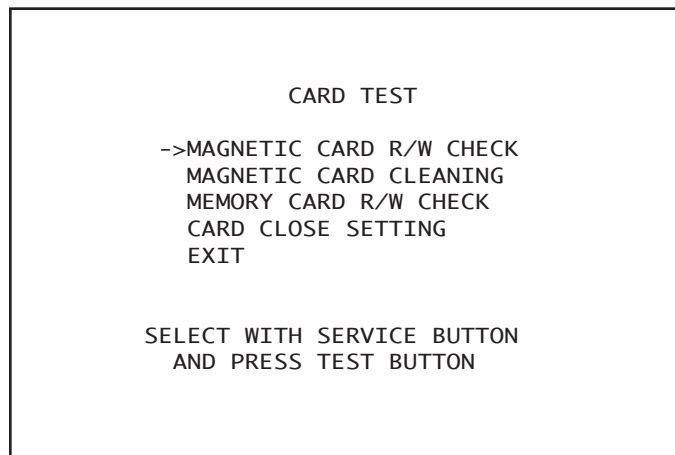


FIG. 10. 3 f a CARD TEST Screen

- **MAGNETIC CARD R/W CHECK**

Checks the card reader/writer.

When checking, the message "Checking the card reader/writer" is shown and a read test, write test, and print test are automatically performed. Checking uses up one magnetic card.

If the test is completed without an error, the machine dispenses the card from the card reader/writer slot and posts a message asking you to remove the card. When the card has been taken, the screen reads "Succeeded to read/write."

If an error occurs, the screen produces an error display (see 18-1). If the error persists, try cleaning the read/write heads.

- **MAGNETIC CARD CLEANING**

This allows you to clean the card reader/writer head. For instructions on handling the cleaning card, see "7-2 Head Cleaning".

- 1- Select **MAGNETIC CARD CLEANING** and press the **TEST** Button. The message "Insert the **CLEANING CARD**." will appear on the screen.
- 2- Insert the cleaning card into the card slot.
- 3- When cleaning is complete, the cleaning card will be automatically ejected and the user will be instructed to "Retrieve the **CLEANING CARD**."
- 4- Remove the cleaning card and throw it away. When the card has been removed, the screen reads "Succeeded to cleaning."

## ● MEMORY CARD R/W CHECK

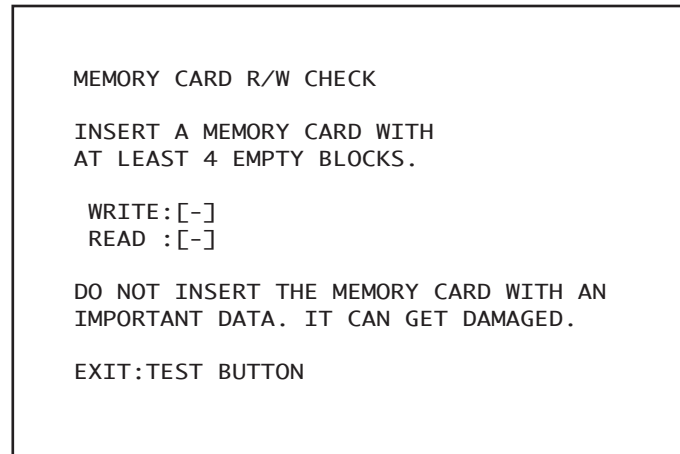


FIG. 10. 3 f b MEMORY CARD SLOT CHECK Screen (1)

This checks the Memory Card slot. To perform the check, you will need a Nintendo GameCube Memory Card with four blocks of free space.

Note that there is a chance of data loss. Do not use a Memory Card that contains important information.

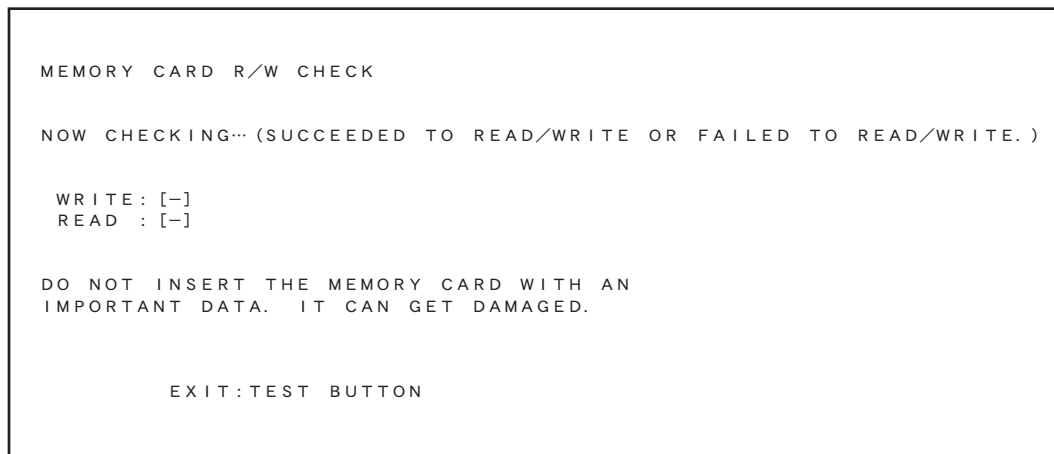


FIG. 10. 3 f b MEMORY CARD SLOT CHECK Screen (2)

Insert the Memory Card to automatically begin reading and writing tests. Re-insertion is directed when the Card is already inserted.

If all goes well, "NOW CHECKING..." will switch to "SUCCEEDED TO READ/WRITE." and a circle [○] will appear by each item.

If there is a problem, the message "FAILED TO READ/WRITE" will appear and an "×" will be displayed by each item.

If the "×" continues to appear after repeated tests with different memory cards, check the wiring. If you cannot find anything wrong with the wiring, you will need to replace the Memory Card slot.



## ● CARD CLOSE SETTING



Users will be unable to use their cards during the time(s) that you set. Be sure to set the appropriate time(s) based on the circumstances.

This allows you to assign the "card close" times. Players will not be able to use their cards from the time that you set; cards will remain unusable until the power is reset.

Be sure to set the appropriate time given the circumstances. For instance, if you close at midnight, try setting the time to fifteen minutes before closing, at 11:45.

If you have set RACE MODE LAPS to SET5, the large number of laps may take some time to complete, so 30 minutes before closing time (11:30) might be more appropriate.

There are three ways to set the "card close": WEEK, DAY, and OFF. Set the cursor to DAY and press the TEST Button to change the type.

### Day Time Settings

Use this to set the "card close" time to be the same every day. Configure in the same way as with WEEK. (The default setting is 23:45.)

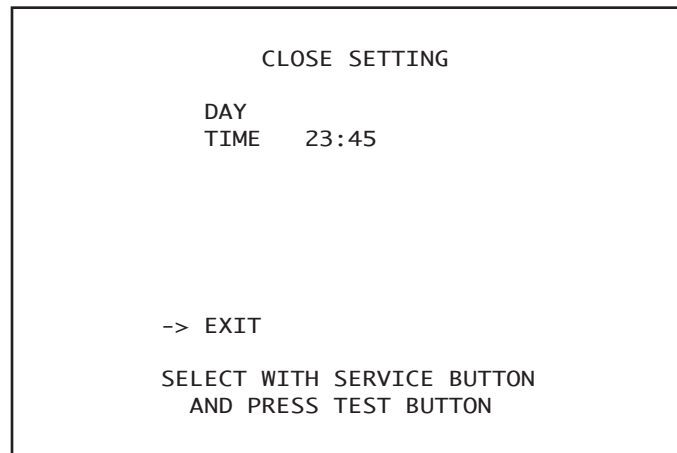


FIG. 10. 3 f d CLOSE SETTING (DAY) Screen

### Weekly Time Settings

Set the "card close" time for each day. Press the SERVICE Button to select the day and the TEST Button to change the time. Times can be changed in fifteen-minute intervals. (The default setting is 0:45 for Friday, Saturday and Sunday, and 23:45 for other days.)

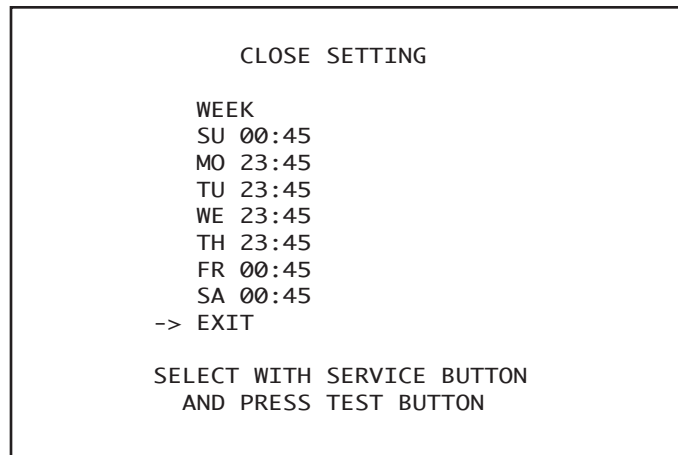


FIG. 10. 3 f c CLOSE SETTING (WEEK) Screen

### The OFF Setting

Disable "card close" setting.

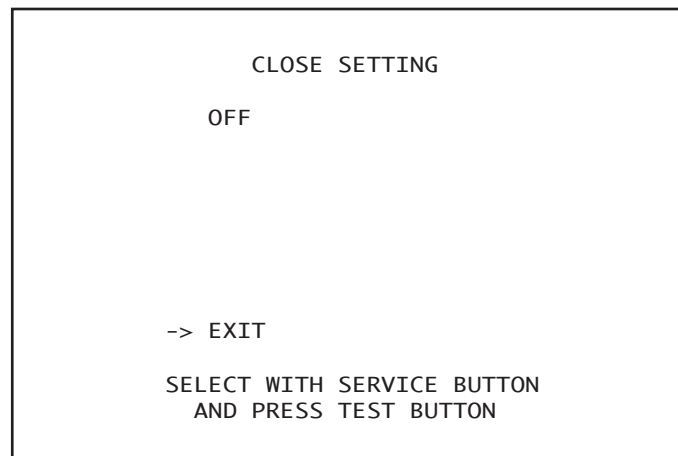


FIG. 10. 3 f e CLOSE SETTING (OFF) Screen

After changing the settings, select EXIT and press the TEST Button to return to the Game Test Menu screen.



To calibrate the input devices, be sure to move them to their maximum extent. The input devices will not be calibrated unless the number displayed exceeds "10".

Calibration adjusts the controls to eliminate inconsistencies.

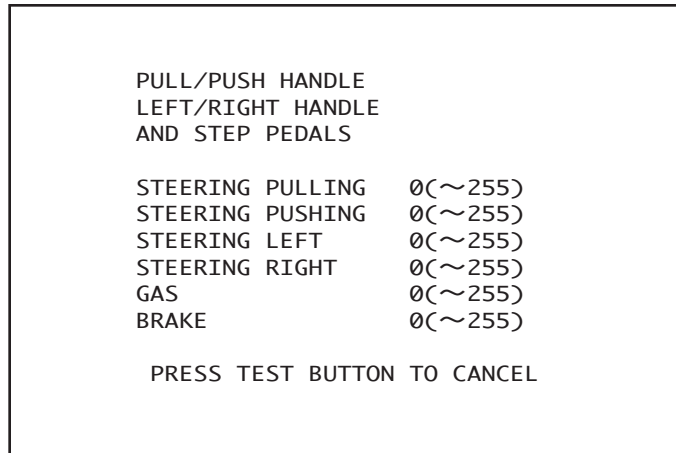


FIG. 10. 3 g CALIBRATION Screen

This calibrates the input magnitudes for the steering wheel, accelerator (GAS), and brake. To calibrate the steering wheel, move the handle all the way up, down, right and left, and press the pedal all the way down. The adjustments made to the values with this program are reflected in the game's controls.

After the input devices have been moved and their input values adjusted, the screen display will change from "PRESS TEST BUTTON TO CANCEL" to "PRESS TEST BUTTON TO EXIT". Press the TEST Button to return to the menu screen; the input devices will be calibrated to reflect the input values. If the TEST Button is pressed while the screen displays "PRESS TEST BUTTON TO CANCEL", the input devices will not be calibrated.

Press the TEST Button to return to the Game Test Menu screen.

## 10-3H RACE RECORD

Select RACE RECORD to display the twelve screens of play data.

Press the TEST Button to cycle through each screen from (1/12) to (12/12). Pressing the TEST Button while the (12/12) screen is displayed returns you to the Game Test Menu.

RACE RECORD 1/12	
NUMBER OF GAMES	00
LICENSE CARD PLAY	00
LICENSE CARD BUY	00
MEMCARD PLAY	00
LINK VS PLAY	00
PRESS TEST BUTTON TO CONTINUE	

FIG. 10. 3 h a RACE RECORD (1/12) Screen

- NUMBER OF GAMES: Total number of games
- LICENSE CARD PLAY: Number of times license cards have been used
- LICENSE CARD BUY: Number of license cards sold
- MEMCARD PLAY: Number of times players have played using the Memory Card
- LINK VS PLAY: Number of times link play has been played

RACE RECORD 2/12					
MACHINE DATA					
Machine	Play	Col 1	Col 2	Col 3	Col 4
ORIGINAL	0	0	0	0	0
BFALCON	0	0	0	0	0
GFOX	0	0	0	0	0
WGOOSE	0	0	0	0	0
FSTING	0	0	0	0	0
RAINP	0	0	0	0	0
SMOON	0	0	0	0	0
RTURTLE	0	0	0	0	0
CDOLPHIN	0	0	0	0	0
SRAT	0	0	0	0	0
PINKS	0	0	0	0	0
BFLASH	0	0	0	0	0
MGULL	0	0	0	0	0
GTAXI	0	0	0	0	0
FATS	0	0	0	0	0
PRESS TEST BUTTON TO CONTINUE					

FIG. 10. 3 h b RACE RECORD (2/12) Screen

Shows the machines and colors chosen by the players.

RACE RECORD 3/12

VS COURSE DATA

Course	Play	Runall	destroy		courseout		burst	
			AVG	MAX	AVG	MAX	AVG	MAX
1	0	0	0.0	0	0.0	0	0.0	0
2	0	0	0.0	0	0.0	0	0.0	0
3	0	0	0.0	0	0.0	0	0.0	0
4	0	0	0.0	0	0.0	0	0.0	0
5	0	0	0.0	0	0.0	0	0.0	0
6	0	0	0.0	0	0.0	0	0.0	0

PRESS TEST BUTTON TO CONTINUE

FIG. 10. 3 h c RACE RECORD (3/12) Screen

Race Mode play data by course.

- Course: Course number
- Play: Times played
- Runall: Number of times completed
- destroy: Number of rival cars which have been destroyed in a single game (shows average and maximum)
- courseout: Number of times the player has run off course in a single game (shows average and maximum)
- burst: Number of times the player's machine has been destroyed in a single game (shows average and maximum)

RACE RECORD 4/12

VS COURSE RANK DATA

COURSE	1	2	3	4	5	6
RANK 1	0	0	0	0	0	0
RANK 2	0	0	0	0	0	0
RANK 3	0	0	0	0	0	0
RANK 4	0	0	0	0	0	0
RANK 5	0	0	0	0	0	0
RANK 6	0	0	0	0	0	0
RANK 7	0	0	0	0	0	0
RANK 8	0	0	0	0	0	0
RANK 9	0	0	0	0	0	0
RANK 10	0	0	0	0	0	0
RANK 11	0	0	0	0	0	0
RANK 12	0	0	0	0	0	0
RANK 13	0	0	0	0	0	0
RANK 14	0	0	0	0	0	0
RANK 15	0	0	0	0	0	0
RANK 16	0	0	0	0	0	0
RANK 17	0	0	0	0	0	0
RANK 18	0	0	0	0	0	0
RANK 19	0	0	0	0	0	0
RANK 20	0	0	0	0	0	0
RANK 21	0	0	0	0	0	0
RANK 22	0	0	0	0	0	0
RANK 23	0	0	0	0	0	0
RANK 24	0	0	0	0	0	0
RANK 25	0	0	0	0	0	0
RANK 26	0	0	0	0	0	0
RANK 27	0	0	0	0	0	0
RANK 28	0	0	0	0	0	0
RANK 29	0	0	0	0	0	0
RANK 30	0	0	0	0	0	0

PRESS TEST BUTTON TO CONTINUE

FIG. 10. 3 h d RACE RECORD (4/12) Screen

Shows rank information by course for Race Mode.

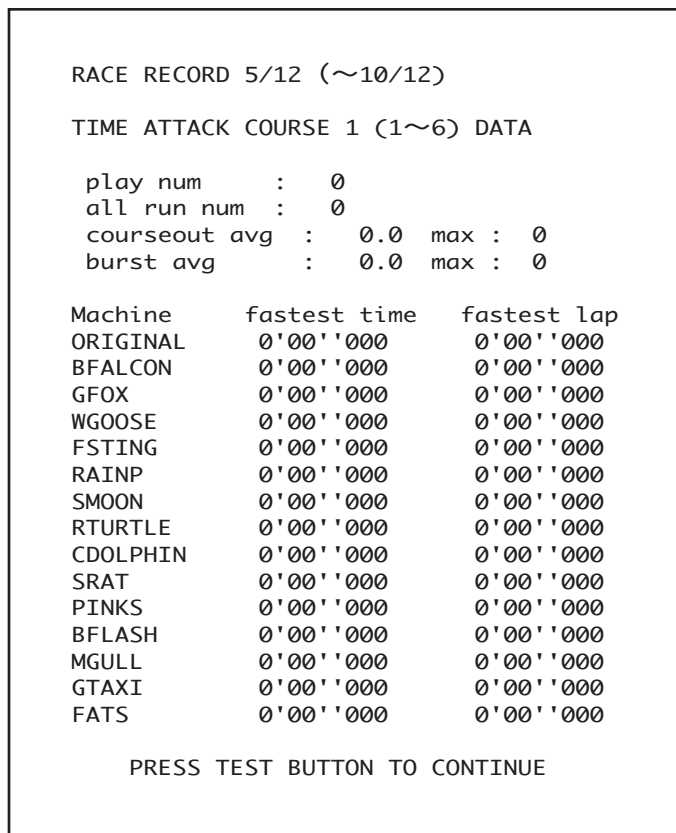


FIG. 10.3 h e RACE RECORD (5/12) Screen

This is play data by course for Time Attack Mode. Course-specific information is shown on screens (5/12) through (10/12). Press the TEST Button to change the screen (the number "X" will change in the TIME ATTACK COURSE "X" DATA title).

- play num: The number of times each course has been played
- all run num: The number of times races have been completed
- courseout: The number of times players have run off the course (shows average and maximum)
- burst: The number of times machines have exploded (shows average and maximum)

RACE RECORD 11/12

GARAGE GET PARTS

NAME	BUY/DISP	RATE
Brave Eagle	0/0	0%
Giant Planet	0/0	0%
Megalo Cruiser	0/0	0%
Splash Whale	0/0	0%
Wild Chariot	0/0	0%
Holy Spider	0/0	0%
Optical Wing	0/0	0%
Dread Hammer	0/0	0%
Silver Sword	0/0	0%
Space Cancer	0/0	0%
Wonder Worm	0/0	0%
Combat Cannon	0/0	0%
Cyber Fox	0/0	0%
Heat Snake	0/0	0%
Rave Drifter	0/0	0%
Spark Bird	0/0	0%
Dank Chaser	0/0	0%
Crystal Egg	0/0	0%
Red Rex	0/0	0%
Sonic Soldier	0/0	0%
Euros-01	0/0	0%
Triangle-GT	0/0	0%
Bluster-X	0/0	0%
Devilfish-RX	0/0	0%
Extreme-ZZ	0/0	0%
Punisher-4X	0/0	0%
Impulse 220	0/0	0%
Meteor-RR	0/0	0%
Jupiter-Q	0/0	0%
Comet-V	0/0	0%

PRESS TEST BUTTON TO CONTINUE

FIG. 10. 3 h f RACE RECORD (11/12) Screen

Shows information regarding parts swapped in the Configuration Screen. The denominator is the number of times the part has appeared, and the numerator is the number of times it has been acquired.

RACE RECORD 12/12

PILOT POINT

COURSE	AVG POINT	MAX POINT	MIN POINT
1	000	0000	100
2	000	0000	100
3	000	0000	100
4	000	0000	100
5	000	0000	100
6	000	0000	100

PRESS TEST BUTTON TO EXIT

FIG. 10. 3 h g RACE RECORD (12/12) Screen

Shows pilot points earned by course.

## 10-3I BOOKKEEPING

Select BOOKKEEPING to display three screens of operating status data.

Press the TEST Button to cycle through each screen from (1/3) to (3/3). Pressing the TEST Button while the (3/3) screen is displayed returns you to the Game Test Menu.

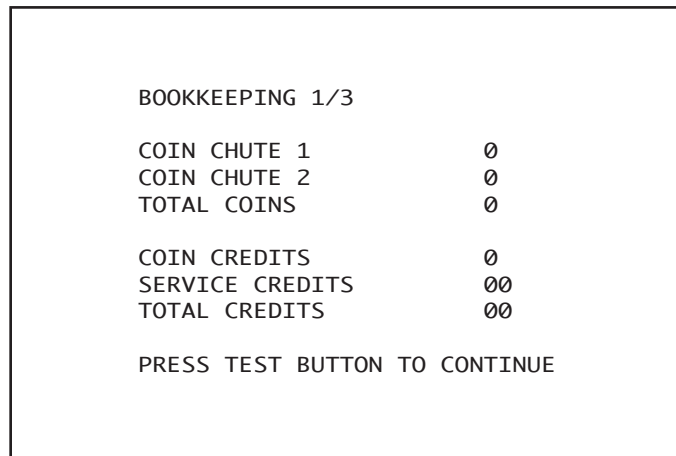


FIG. 10. 3 i a BOOKKEEPING (1/3) Screen

- COIN CHUTE 1: Number of coins inserted into Coin Slot 1.
- COIN CHUTE 2: Number of coins inserted into Coin Slot 2.
- TOTAL COINS: Total number of coins inserted into the coin slots.
- COIN CREDITS: Number of credits for the coins inserted.
- SERVICE CREDITS: Number of credits input by the SERVICE Button.
- TOTAL CREDITS: Total credits from coins and the SERVICE Button.

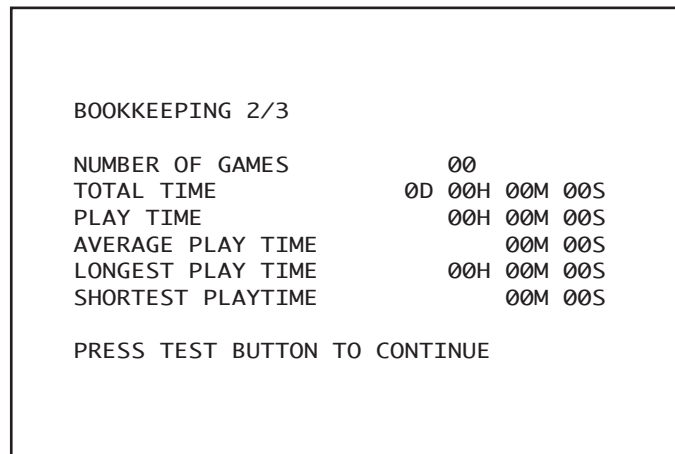


FIG. 10. 3 i b BOOKKEEPING (2/3) Screen

- NUMBER OF GAMES: Total number of games played
- TOTAL TIME: Powered-up time (length of time the machine has been on)
- PLAY TIME: Total playing time
- AVERAGE PLAY TIME: Average game play time
- LONGEST PLAY TIME: Longest game play time
- SHORTEST PLAY TIME: Shortest game play time



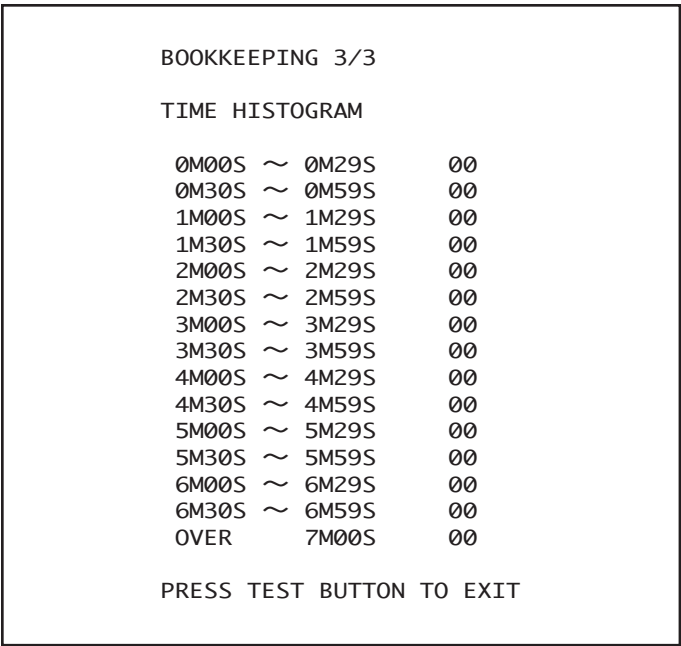


FIG. 10. 3 i c BOOKKEEPING (3/3) Screen

TIME HISTOGRAM shows the number of plays and the respective play times. This histogram should be referred to when setting the Game Difficulty.

## 10-3J BACKUP DATA CLEAR

Select BACKUP DATA CLEAR to clear the contents of RACE RECORD and BOOKKEEPING. Game settings and other data besides RACE RECORD and BOOKKEEPING will not be affected.

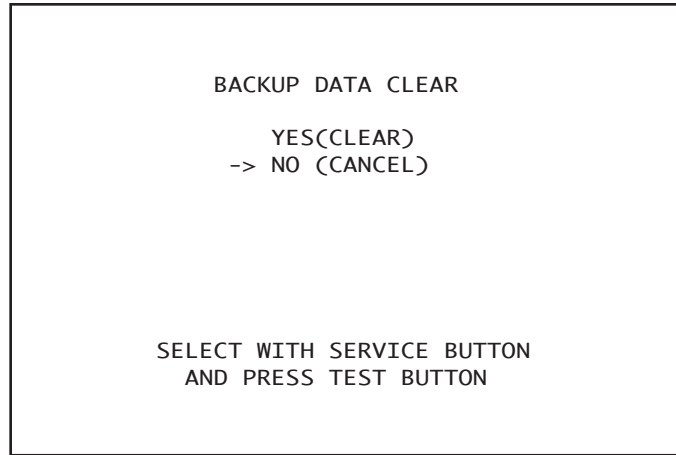


FIG. 10. 3 j BACKUP DATA CLEAR Screen

To clear data, use the SERVICE Button to move the cursor to YES (CLEAR) and then press the TEST Button. When the data has been cleared, the message "COMPLETED" will be displayed.

Press the TEST Button again to return to the Game Test Menu screen.

Move the cursor to NO (CANCEL) and press the TEST Button to return to the Game Test Menu screen without clearing the data.

Note that when you clear this data, information about the number of times the card reader/writer has been used will also be cleared. After data clearing the machine moves directly to card reader/writer head cleaning mode. Refer to "7-2 Head Cleaning", when performing head cleaning.

## 11. STEERING UNIT



- In order to prevent an electric shock and short circuit, be sure to turn power off before performing work by touching the interior parts of the product.
- Be careful not to damage the wires. Damaged wires may cause electric shock or short circuit or present a fire risk.
- Do not touch undesignated places. Touching places not designated can cause electric shock or short circuit.
- This work should be performed by the site maintenance individual or other skilled professional. 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.
- Be very careful when soldering. Handling a soldering iron carelessly may result in a fire or a burn.
- Be extremely careful when heating the heat-shrinkable tube. Failure to do so may result in a fire or burns.



- Exercise extreme caution when handling the internal parts of the Steering Unit. Watch out for damage, warping and loss. The loss of just one piece may result in damage to or lead to faulty operation of the entire unit.
- 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.



- When adjusting or changing the variable resistor, set the variable resistor values on the Volume Settings screen and check the values on the Input Test screen in Test mode.
- After adjusting or replacing a microswitch, be sure to verify that the switch turns on and off correctly on the Input Test screen in Test mode.

If steering unit response is less than ideal and adjusting the settings on the Volume Settings screen in Test mode has no effect, the problem is most likely due to an incorrectly engaged gear, an improperly placed microswitch, or a broken variable resistor or microswitch.

Follow the steps listed below to correct the gear engagement, adjust the position of the switch, or replace the variable resistor or switch.

Refer to Section 12, "Control Panel", for instructions on how to: adjust and replace the direction control variable resistor.

## 11-1 ADJUSTING AND REPLACING THE Y-AXIS VR

The variable resistor that detects the forward and backward tilting operation of the steering unit is called the Y-axis steering VR. Follow the steps listed below to adjust the gear engagement or replace the VR. In this machine, the VR will not be damaged as long as its axle is rotating within its range of motion when the handles on the machine are tilted to their maximum extent. Secure the VR so that its axle points in the indicated direction and the gear is properly engaged when the handles are not being tilted. The recommended value of the VR is within the range 70H ~ 80H when the steering unit is in the horizontal position (see 10-3B).

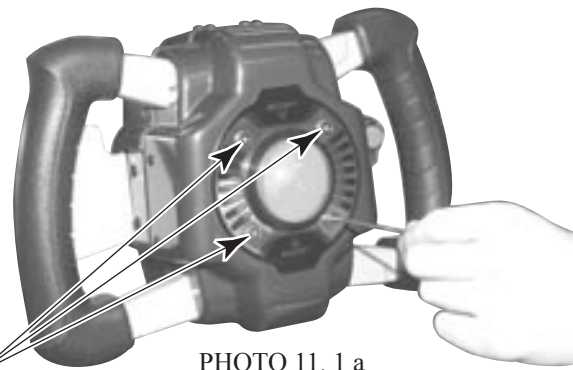
The following tools and instruments are required to perform these operations:

- 3mm diameter hexagonal screwdriver or wrench
- M4-size Phillips screwdriver
- 1.5mm diameter hexagonal screwdriver or wrench
- 10mm diameter spanner
- Soldering iron

### ADJUSTMENT PROCEDURE

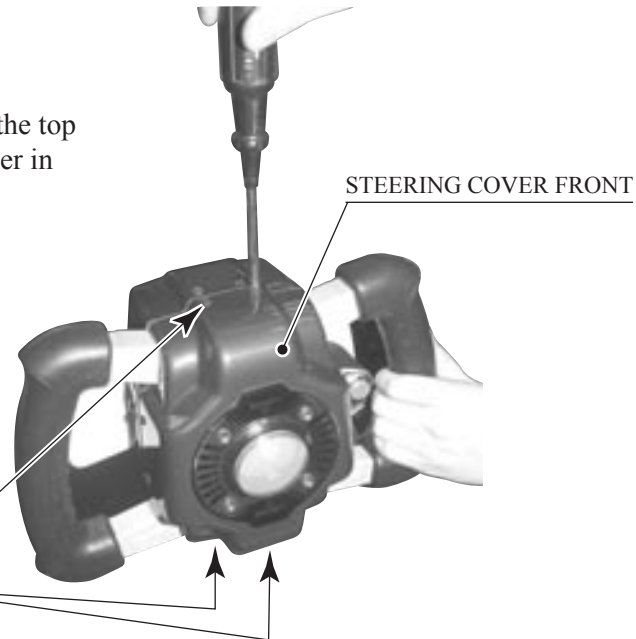
- Turn off the power.
- Remove the 4 hexagon socket screws around the boost button.

HEXAGON SOCKET SCREW (4)  
M4×10, chrome



- Remove the 4 truss screws holding the top and bottom of the front steering cover in place.

TRUSS SCREW (4), black  
M4×6



- Remove the 4 truss screws holding the left and right sides of the front steering cover in place.

TRUSS SCREW (4), black  
M4×4

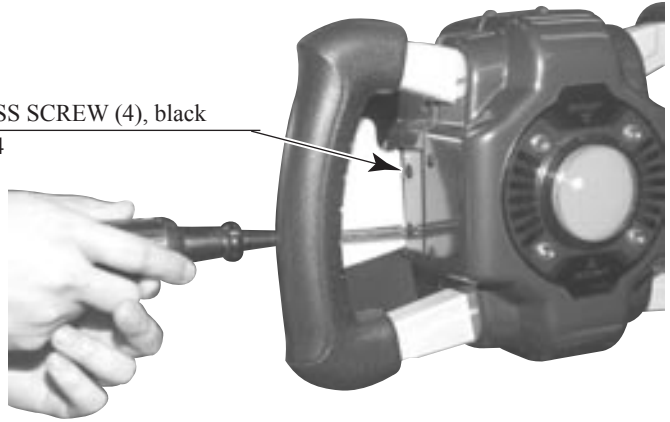


PHOTO 11. 1 c

- Detach the front steering cover. There are several wires connected to the inside of the cover. Remove the cover slowly and unplug the connectors, taking care not to damage the wiring.

CONNECTOR (1)

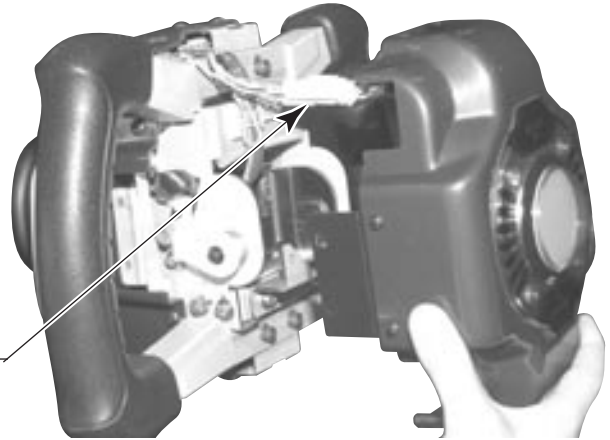


PHOTO 11. 1 d

- Remove the 4 truss screws holding the top and bottom of the rear steering cover in place.

STEERING COVER REAR

TRUSS SCREW (4), black  
M4×6

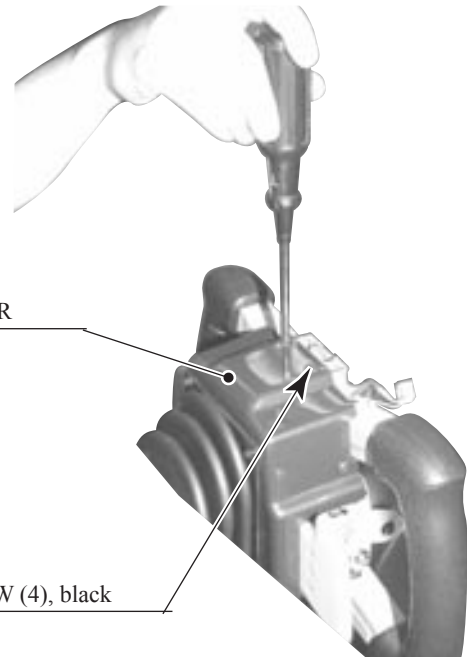
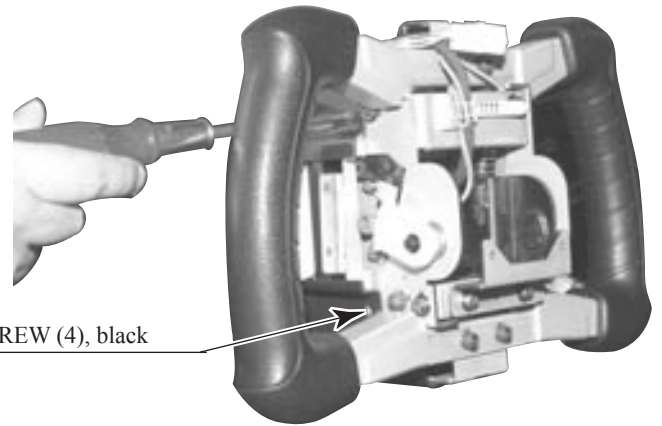


PHOTO 11. 1 e

- Remove the 4 truss screws holding the left and right sides of the rear steering cover in place.

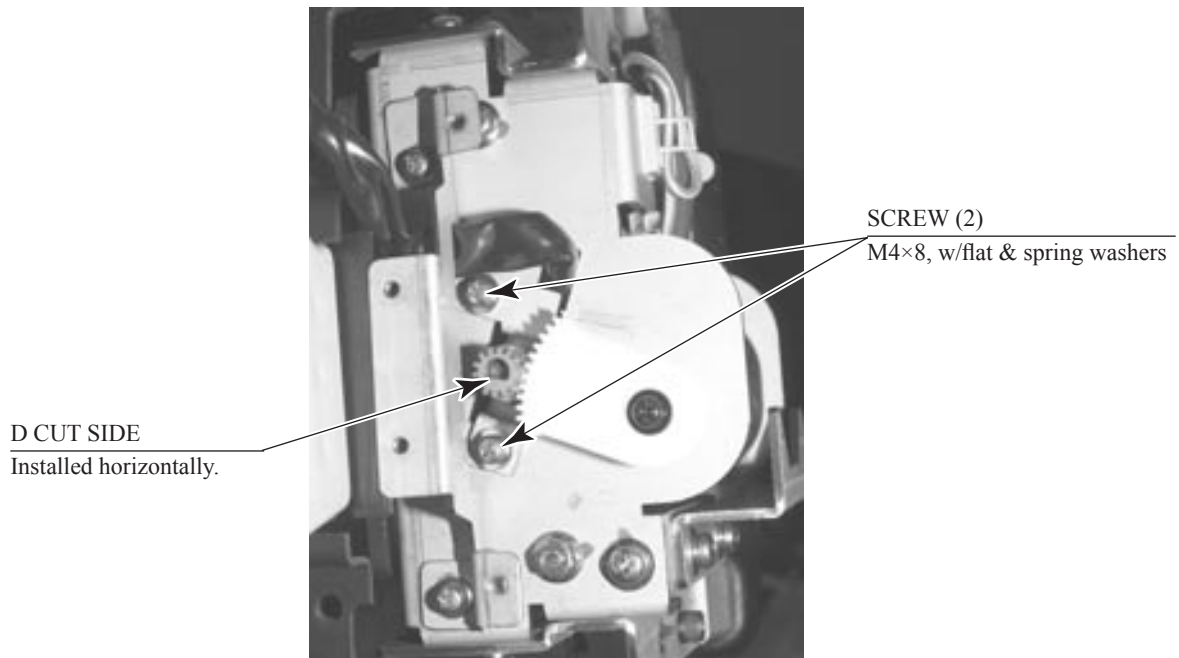


TRUSS SCREW (4), black  
M4×6

PHOTO 11. 1 f

- Push the rear steering cover towards the interior of the machine, pressing down on the accordion-fold behind the cover. The Y-axis VR should now be visible inside the cover, on the left side when facing the monitor.

NOTE: The steering unit has been removed in this photograph for better visibility. It is not necessary to remove the steering unit when performing the actual operation.



SCREW (2)  
M4×8, w/flat & spring washers

D CUT SIDE  
Installed horizontally.

PHOTO 11. 1 g

- Loosen the 2 screws holding the variable resistor bracket in place, move the variable resistor bracket, and adjust the gear engagement for angle and positioning.

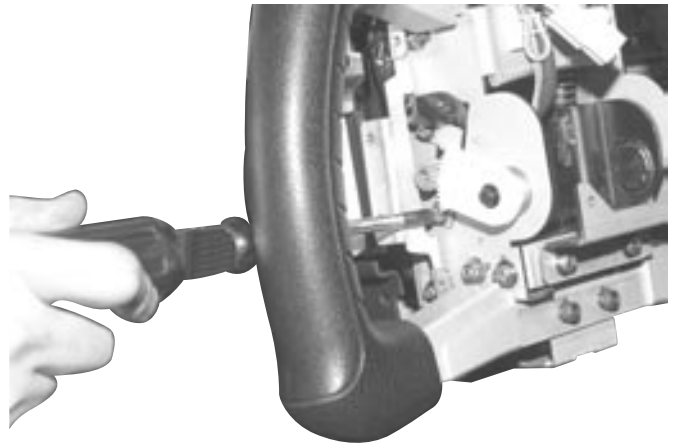


PHOTO 11. 1 h

- Engage and secure the gear at such an angle that the D-cut side of the VR axle is horizontal and facing downward when the steering unit is not tilted.
- Manipulate the steering unit and make sure the gear is turning smoothly.
- Repeat the above steps in reverse to replace the front and rear steering covers. Take care not to pinch the wires or overtighten screws.  
Note that the screws used to secure the left and right sides of the front steering cover have different dimensions from the others. Check the screw sizes before installing them.
- Adjust the variable resistor settings on the Volume Settings screen. (see 10-3G.)
- Check to make sure the "STEERING Y" value on the Input Test screen is within the range 78H±8H.

#### REPLACEMENT PROCEDURE

- Perform the steps under "Adjustment Procedure" to detach the front and rear steering covers.
- Unplug the Y-axis VR wire connectors and unfasten the harness lug holding the wiring in place.



PHOTO 11. 1 i

- Remove the 2 screws holding the variable resistor bracket in place and then remove the Y-axis VR, bracket and all.

SCREW (2)  
M4×8, w/flat & spring washers

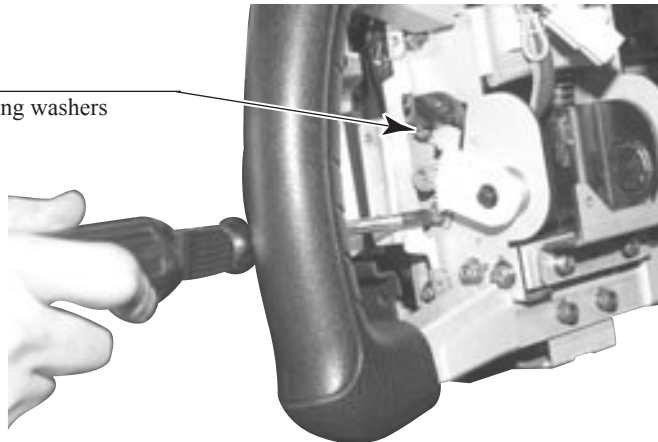


PHOTO 11. 1 j

HEXAGON SOCKET SCREW (2)  
M3×4

- Loosen the 2 hexagon socket screws holding the gear in place and disengage the gear from the VR axle.

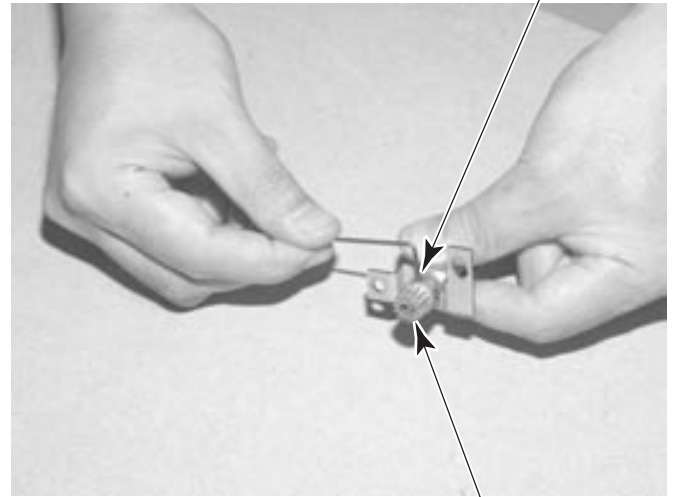


PHOTO 11. 1 k

GEAR

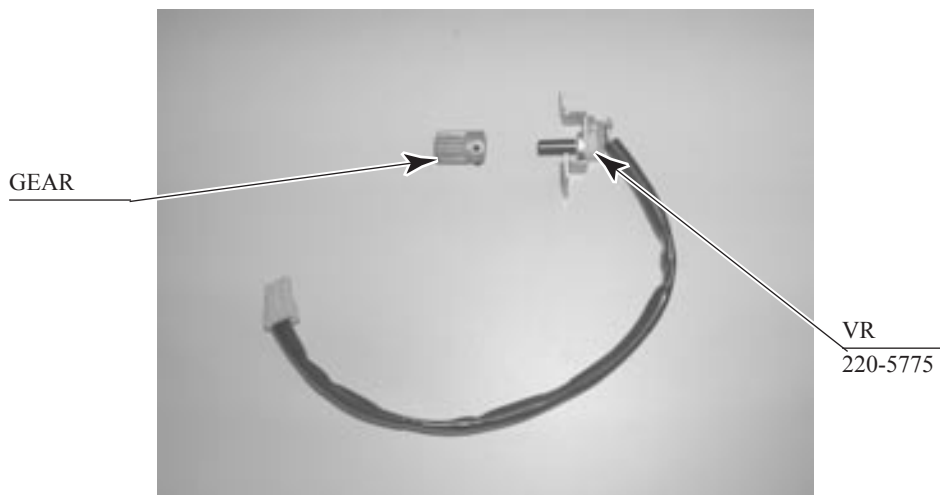


PHOTO 11. 1 l



- The wires connected to the old VR can be reused for the new VR. Use the soldering iron to melt the welds and remove the wires from the VR.
- Solder the wires to the new VR. Check the wiring diagram to make sure there are no mistakes in the wiring.

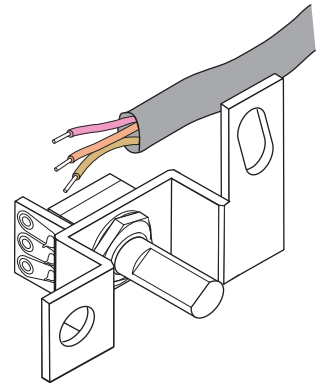


FIG. 11. 1

- Attach the gear to the new VR.
- Install the new Y-axis VR. Engage and secure the gear at such an angle that the D-cut side of the VR axle is level and facing downward when the steering unit is not being tilted.
- Manipulate the steering unit make sure the gear is turning smoothly.
- Plug in the wiring connectors and secure the wires with the harness lug.
- Repeat the above steps in reverse to replace the front and rear steering covers. Take care not to pinch the wires or overtighten screws.  
Note that the screws used to secure the left and right sides of the front steering cover have different dimensions from the others. Check the screw sizes before installing them.
- Adjust the variable resistor settings on the Volume Settings screen. (see 10-3G.)
- Check to make sure the "STEERING Y" value on the Input Test screen is within the range 78H±8H.

## 11-2 REPLACING THE MICROSWITCHES

Movement in the steering unit's paddle levers is detected by 2 microswitches on the bottom of the interior of the steering cover. Follow the steps listed below to replace or adjust the position of these switches.

Note that each of the 2 microswitches on the bottom of the steering unit is linked to the paddle on the OPPOSITE side in the "PADDLE LEFT/RIGHT" test on the Input Test screen; that is, the microswitch on the right controls the "PADDLE LEFT" value, and vice-versa. Check to make sure the switch being replaced or adjusted is the correct one.

The following tools and instruments are required for the following operations:

- 3mm diameter hexagonal screwdriver or wrench
- M4-size Phillips screwdriver
- M3-size Phillips screwdriver
- Nippers
- Cutters
- Soldering iron
- Industrial dryer

### ADJUSTMENT PROCEDURE

- Perform steps 1 through 7 for adjusting the Y-axis VR to remove the front steering cover and detach the rear steering cover (see 11-1).
- Loosen the 2 screws securing the SW ADJUST plate on which the microswitch to be adjusted is installed, and then move the SW ADJUST plate to adjust it. Do not loosen the screws on the side the microswitch is installed on.

SCREW (2)

M3×6, w/flat & spring washers

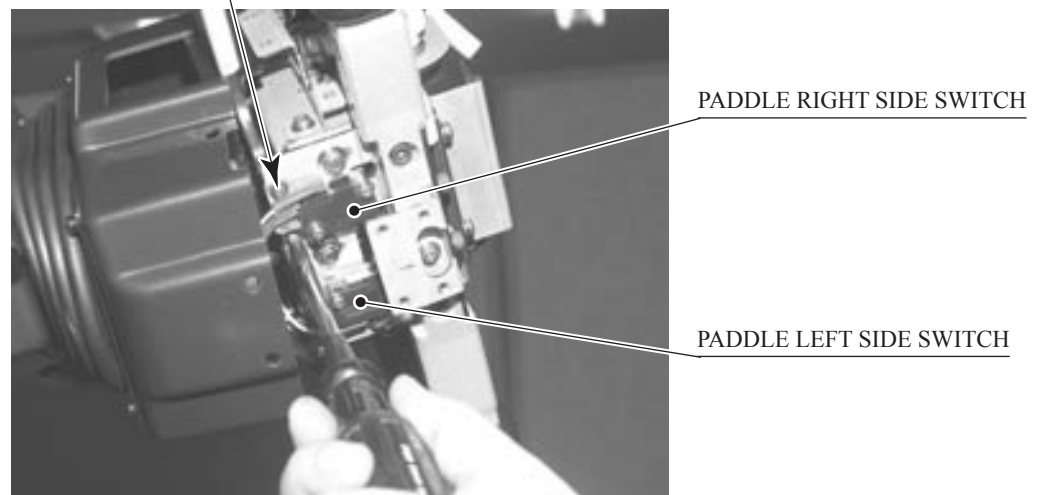


PHOTO 11. 2 a

- Adjust the switch so that the roller on its actuator terminal touches the pin that interlocks with the paddle lever when the lever is not being manipulated.
- Tighten the 2 screws.
- Manipulate the paddle lever to make sure the microswitches are turning on and off properly. Listen for a clicking sound. Also, make sure that the switch does not adhere to the actuator itself when turned on.
- Replace the front and rear steering covers. Take care not to pinch the wires or overtighten the screws. Note that the screws used to secure the left and right sides of the front steering cover have different dimensions from the others. Check the dimensions of the screws before installing them.
- On the Input Test screen, check to make sure that the microswitches turn on and off consistently when the paddle levers are manipulated (see 10-3B).

#### REPLACEMENT PROCEDURE

- Remove the front steering cover and detach the rear steering cover (see 11-1).
- Unplug the wire connectors from the microswitch and unfasten the harness lug holding the wires in place.

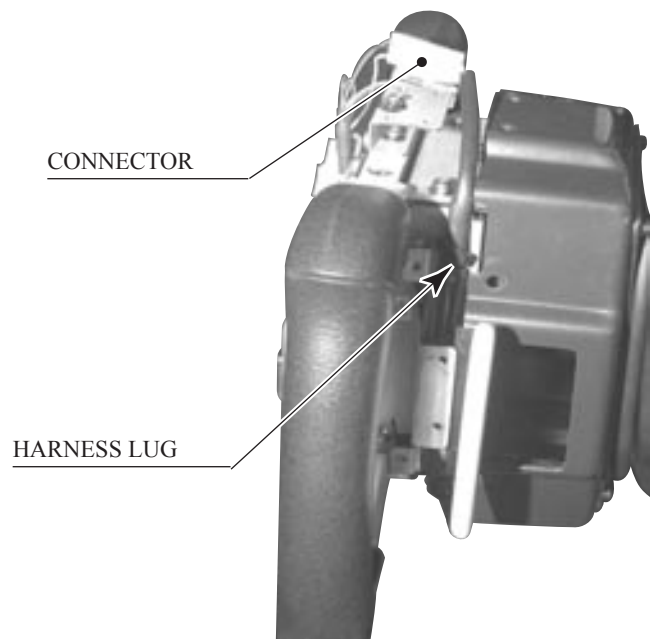


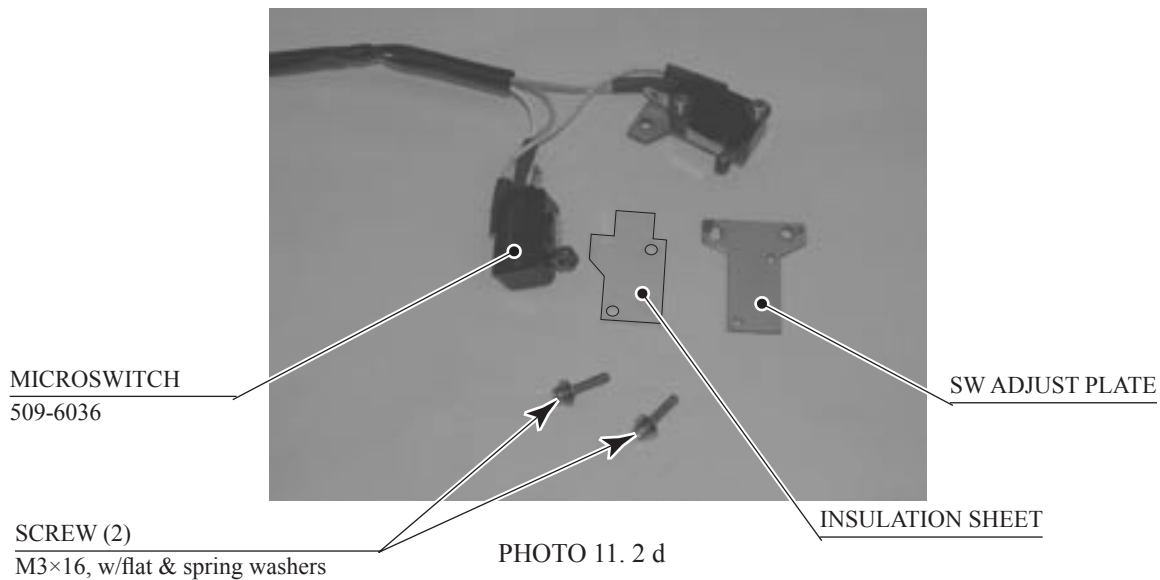
PHOTO 11. 2 b

- Remove the 2 screws holding the SW ADJUST plate in place and then remove the microswitch together with the SW ADJUST plate.



PHOTO 11. 2 c

- Remove the 2 screws securing the microswitch to be replaced and then remove the SW ADJUST plate and the transparent insulation sheet.



- The wires connected to the old microswitch can be reused for the new microswitch. Remove the heat contraction tube covering the soldered areas, use the soldering iron to melt the solder, and remove the wires from the microswitch.
- Solder the wires to the new microswitch. Check the wiring diagram to make sure there are no mistakes in the wiring. In addition, use a heat contraction tube or other protection to prevent short-circuiting.
- Attach the SW ADJUST plate and the insulation sheet to the new microswitch and secure them with 2 screws. Be sure to insert the insulation sheet between the switch and the plate.
- Install the SW ADJUST plate with the new microswitch in the bottom of the steering unit. Adjust the position of the plate so that the roller on the microswitch's actuator terminal touches the pin that interlocks with the paddle lever when the lever is not being manipulated, and secure it with 2 screws.
- Connect the wire connectors and secure the wires with a harness lug.
- Manipulate the paddle lever to make sure the microswitches are turning on and off properly. Listen for a clicking sound. Also, make sure that the switch does not adhere to the actuator itself when turned on.
- Replace the front and rear steering covers. Take care not to pinch the wires or overtighten the screws. Note that the screws used to secure the left and right sides of the front steering cover have different dimensions from the others. Check the dimensions of the screws before installing them.
- On the Input Test screen, check to make sure that the microswitches turn on and off consistently when the paddle levers are manipulated (see 10-3B).

## 11-3 GREASING



- Be sure to use the designated type of grease. If a non-designated type grease is used, components may break.
- Do not apply grease to any part of the machine other than those parts specifically indicated. Doing so may result in malfunctioning and/or deterioration of parts.
- The period for greasing specified herein is a standard. Apply greasing to the specified portions as occasion arises.

Use spray grease once every three months to grease up the gear mesh portion of the constituent parts. Use "Grease Mate" (part number 090-0066) for the spray grease.

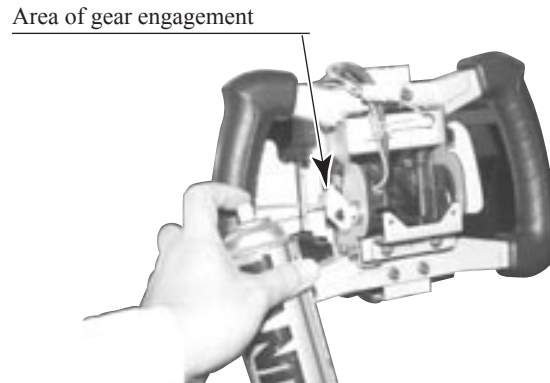


PHOTO 11. 3

## 12. CONTROL PANEL



- In order to prevent an electric shock and short circuit, be sure to turn power off before performing work by touching the interior parts of the product.
- Be careful not to damage the wires. Damaged wires may cause electric shock or short circuit or present a fire risk.
- Do not touch undesignated places. Touching places not designated can cause electric shock or short circuit.
- This work should be performed by the site maintenance individual or other skilled professional. 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.
- Be very careful when soldering. Handling a soldering iron carelessly may result in a fire or a burn.
- Be extremely careful when heating the heat-shrinkable tube. Failure to do so may result in a fire or burns.



- Do not drop parts when removing them. Dropping parts may damage them or cause sudden accidents.
- To prevent accidents, more than one person must perform these operations.
- Exercise extreme caution when handling the internal parts of the Control Panel. Watch out for damage, warping and loss. The loss of just one piece may result in damage to or lead to faulty operation of the entire unit.
- 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.



Be sure to perform volume's move value setting in the Volume Setting in the Test Mode after replacing or adjusting the Volume. (See 10-3G.)

## 12-1 REMOVING THE CONTROL PANEL

Poor handle response/lack of response when adjusting the Volume in Test Mode may be caused by faulty Volume alignment and/or a damaged Volume.

Follow the instructions below to adjust the gear alignment and/or replace the Volume.

If the Volume Shaft is rotating within its normal area of mobility, there is little chance the Volume can be damaged by rotating the handle as far as possible to the left/right. With the handle in the center position, i.e. straight, and the Volume Shaft in the same direction shown in the diagram, attach the Volume so that it aligns properly with the gears. The recommended value of the VR is within the range 78H ~ 88H when the steering unit is in the straight position (see 10-3B). In order to adjust or replace the Volume, follow the instructions below to remove the Control Panel.

A 5 mm hexagonal wrench is required for the following procedure.

- Turn off the power.
- Remove the 6 hexagon socket screws from the Control Panel.

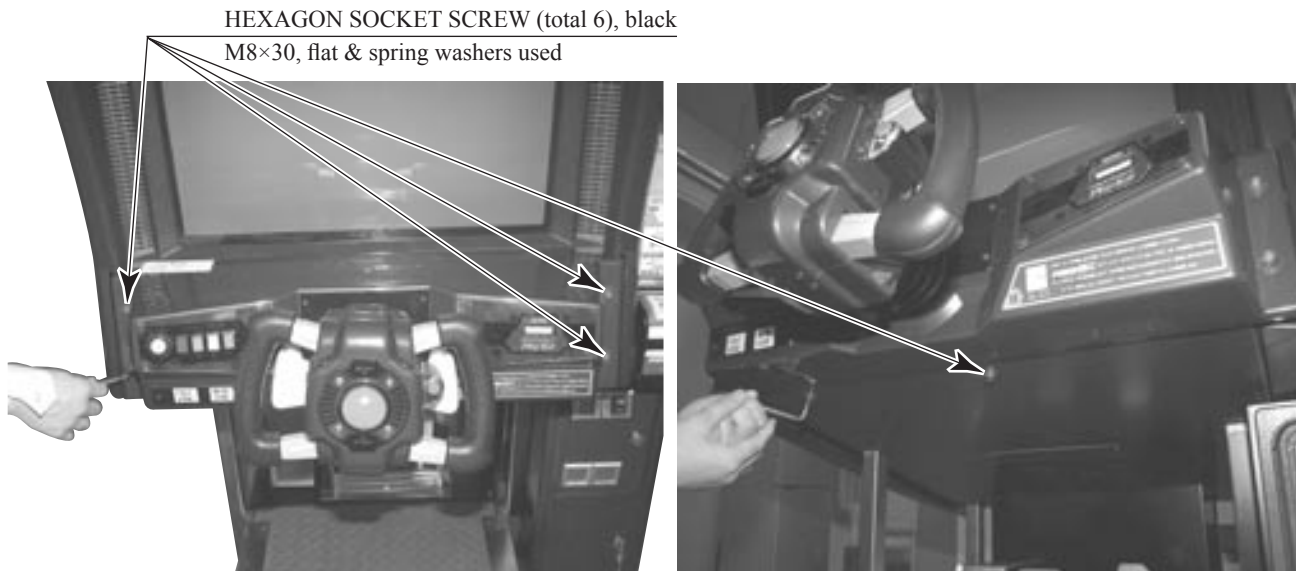


PHOTO 12. 1 a

- The mass of the control panel is approximately 23 kg. Removal and installation of the control panel should be performed by at least 2 people working together. The panel should be firmly supported using both hands.



PHOTO 12. 1 b

- Unplug the 8 connectors and remove the Control Panel. Be careful not to damage any of the wiring.



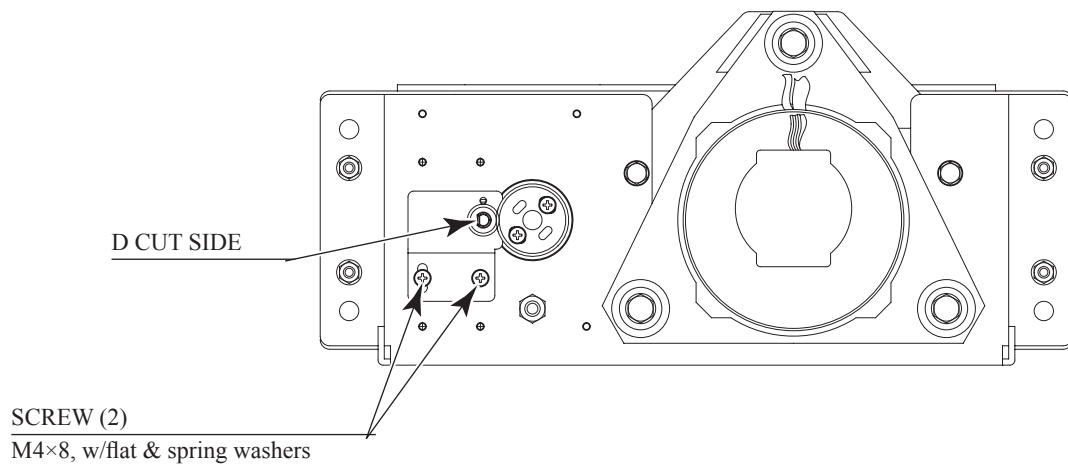
CONNECTOR (8)  
 BROWN: 4P  
 YELLOW: 10P, 12P  
 RED: 3P, 6P  
 WHITE: 2P, 8P, 18P

PHOTO 12. 1 c

## 12-2 ADJUSTING/REPLACING THE VOLUME

### ADJUSTMENT PROCEDURE

- Loosen the 2 screws that secure the VR Bracket and move the VR Bracket to adjust the angle and condition of the gear alignment.
- Keeping the handle straight, align the gears so that the direction of the D Cut side of the Volume Shaft matches that shown in the diagram.



- Tighten the 2 screws and secure the VR Base.
- Adjust the variable resistor settings on the Volume Setting screen (see 10-3G).
- Check to make sure the "STEERING X" value on the Input Test screen is within the range  $80H \pm 8H$  when the steering unit is in the straight position.



## REPLACEMENT PROCEDURE

This procedure requires the following tools: Philips screwdriver for the M4 screws, 1.5 mm hexagonal wrench, 11—12mm monkey wrench, nipper, cutter, wire stripper, soldering iron and industrial dryer.

- Remove the connectors.
- Remove the 2 screws securing the VR Bracket and remove the entire Bracket and Volume.

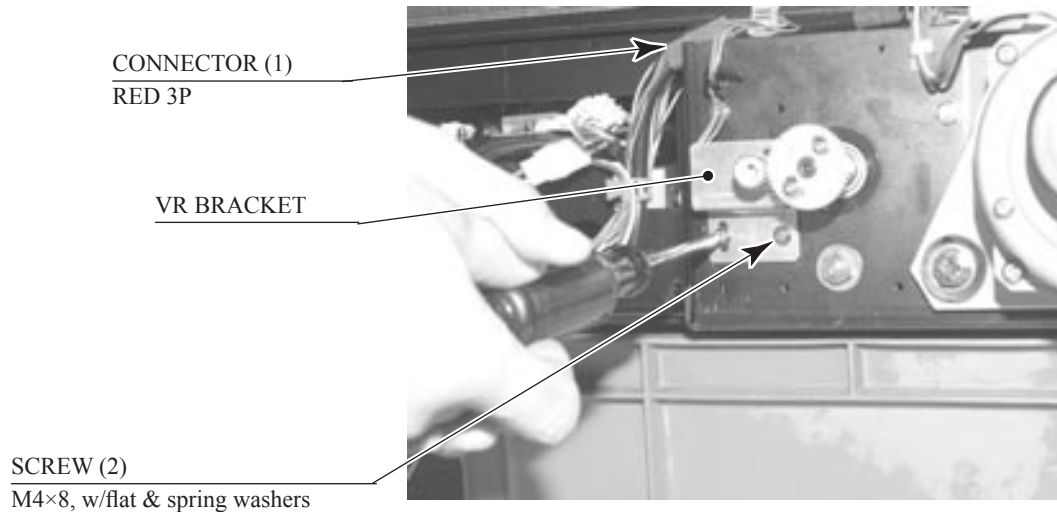


PHOTO 12. 2

- Loosen the 2 hexagon socket screws on the Gear and remove the Gear.
- Remove the nut securing the VR Bracket, then separate the Volume from the VR Bracket and replace it.

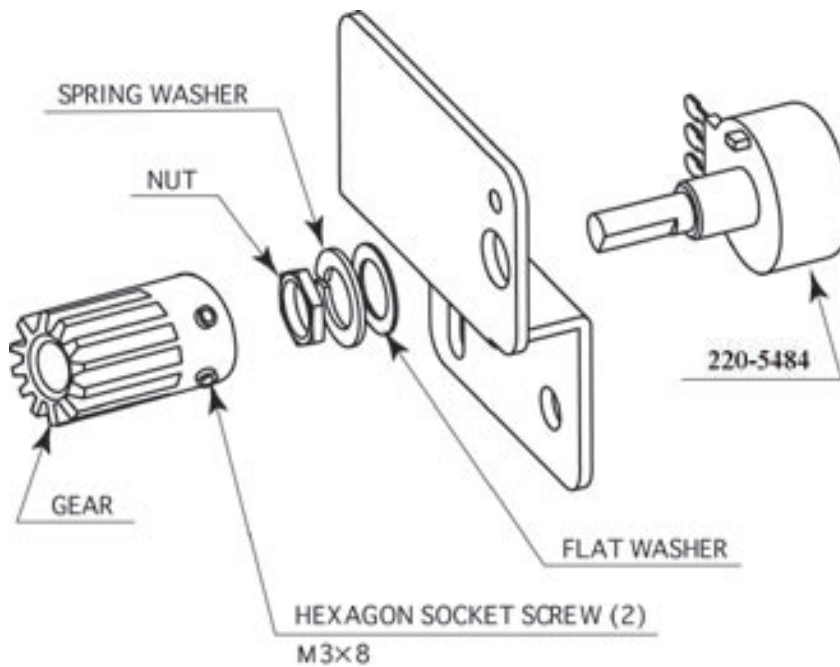


FIG. 12. 2 b

- Adjust the variable resistor settings on the Volume Setting screen (see 10-3G).
- Check to make sure the "STEERING X" value on the Input Test screen is within the range  $80H \pm 8H$  when the steering unit is in the straight position.

## 12-3 GREASING



- Be sure to use the designated type of grease. If a non-designated type grease is used, components may break.
- Do not apply grease to any part of the machine other than those parts specifically indicated. Doing so may result in malfunctioning and/or deterioration of parts.
- The period for greasing specified herein is a standard. Apply greasing to the specified portions as occasion arises.

Use spray grease once every three months to grease up the gear mesh portion of the constituent parts.

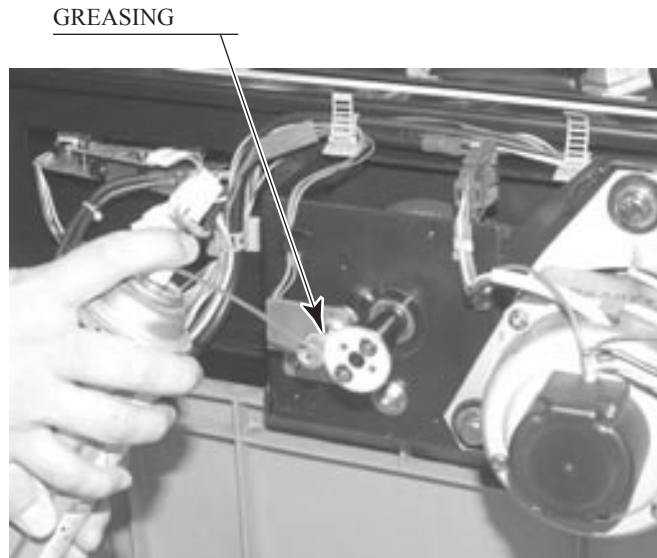


PHOTO 12. 3

## 13. ACCELERATOR & BRAKE



- 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 site maintenance individual or other skilled professional. Performing work by non-technical personnel can cause electric shock hazard.
- When performing work such as parts replacement other than those specified in this manual, be sure to contact where you purchased the product from. Confirm the work procedures and obtain precautions from where you purchased the product prior to performing work. Inappropriate parts replacement and/or installation with erroneous adjustment can cause an overload or the parts to come into contact, resulting in an electric shock, a short circuit, and a fire.



Be sure to perform volume's move value setting in the Volume Setting in the Test Mode after replacing or adjusting the Volume. (See 10-3G.)

If Accel. and Brake operation is not satisfactory, adjustment of volume installation position or volume replacement is needed. Also, be sure to apply greasing to the gear mesh portion once every 3 months.

### 13-1 ADJUSTING OR REPLACING THE VOLUME

The following tools are required for the operations below: Phillips screwdrivers for M4 and M5. The appropriate value for both ACCEL. Volume and Brake Volume is under 30H when released and over C0H when stepped on. Check Volume values in the TEST mode. Since work is performed inside the energized cabinet, be very careful so as not to touch undesignated places. Touching places not specified can cause electric shock or short circuit.

#### ADJUSTMENT PROCEDURE

- Take out the 2 truss screws and remove the Front Cover from the Accel. & Brake Unit (FIG. 13. 1 a).

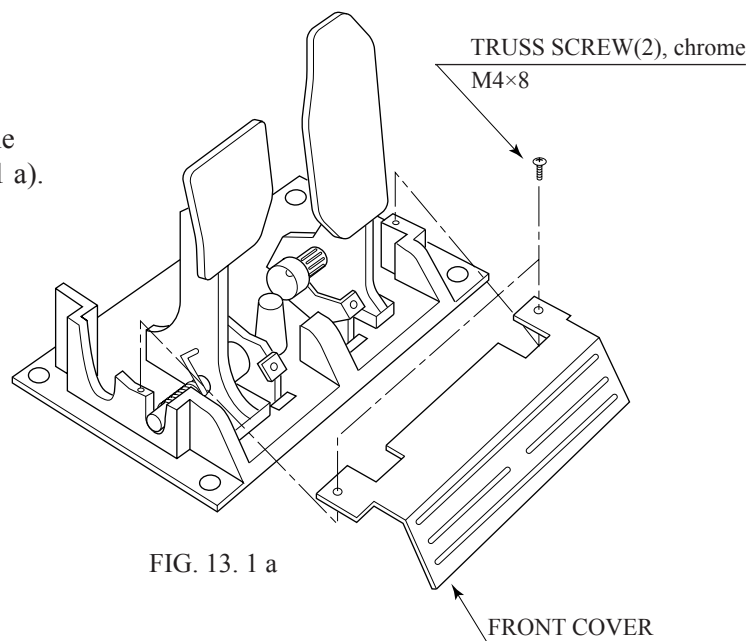


FIG. 13. 1 a

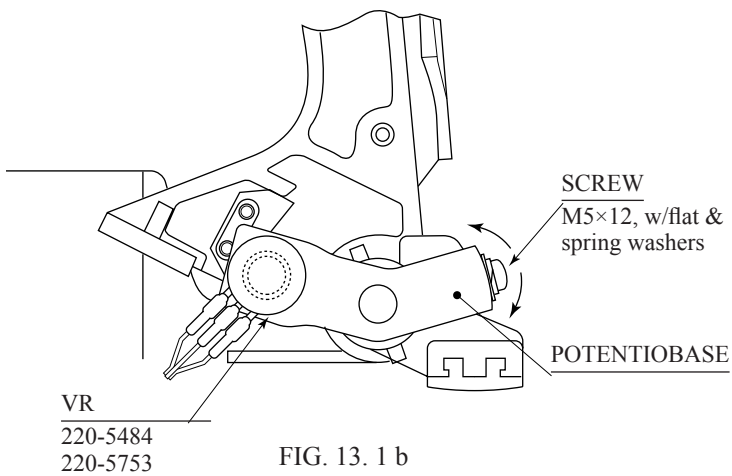


FIG. 13. 1 b

**REPLACEMENT PROCEDURE**

- Turn the power off.
- Take out the 2 screws and remove the Potentiocover (FIG. 13. 1 c).
- Disconnect the connector of the volume to be replaced.
- Remove the screw which secures the Potentiobase (FIG. 13. 1 b).
- Remove the Potentiobase together with the volume as is attached. (FIG. 13. 1 c)
- Remove the base and the gear to replace the volume.
- Adjust the volume as per the previous page after replacing.

- Loosen the screw which secure the Potentiobase, and adjust the Volume value by moving the Base. (FIG. 13. 1 b)
- Secure the Potentiobase.
- Perform volume setting in the volume setting mode. (See 10-3G.)

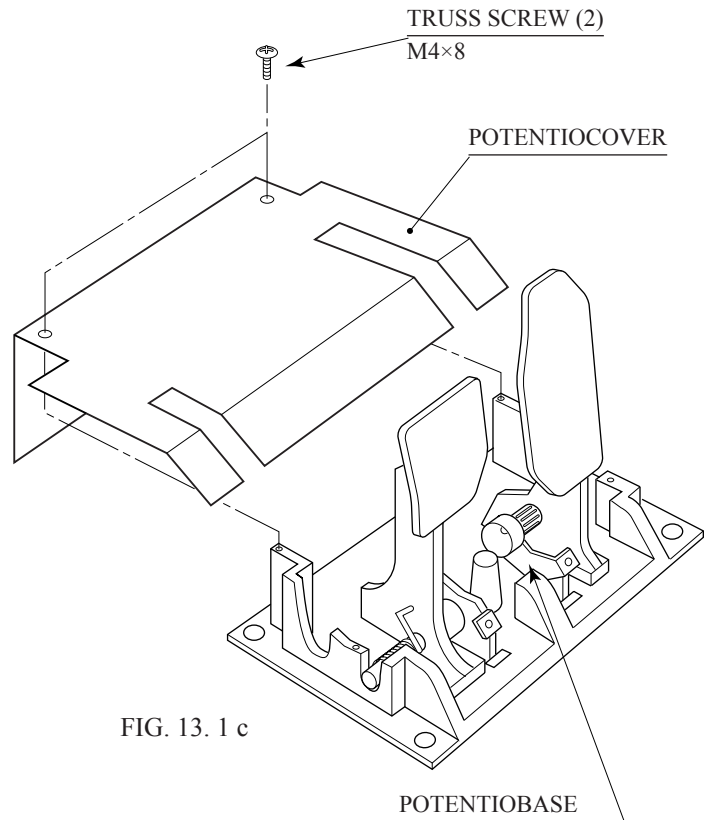


FIG. 13. 1 c

13-2 GREASING



Be sure to use the designated grease. Using undesigantated grease can cause parts damage.

Use spray grease once every three months to grease up the Spring and gear mesh portion.

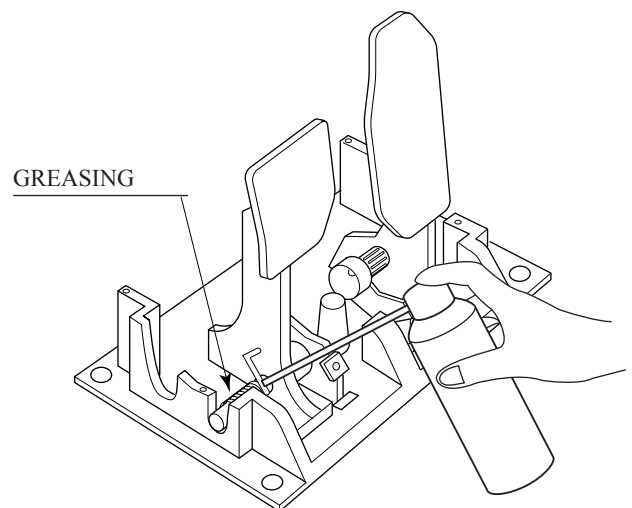


FIG. 13. 2

# 14. 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.

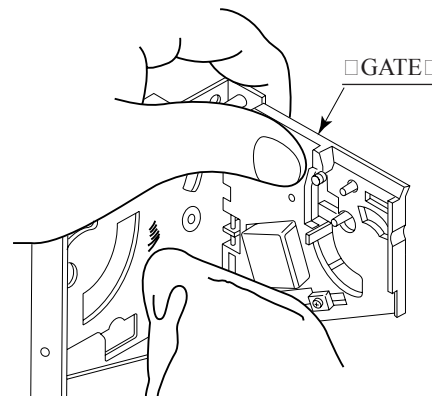


FIG. 14 a

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

- Turn the power for the machine OFF. Open the coin chute door.
- Remove the coin selector from the coin chute door.
- Open the gate and dust off by using a soft brush (made of wool, etc.).
- Remove and clean smears by using a soft cloth dipped in water or diluted chemical detergent and then squeezed dry.
- Remove the CRADLE.

When removing the retaining ring (E ring), be very careful so as not to bend the rotary shaft.

- Remove stain from the rotary shaft and shaft receiving portions by wiping off with a soft cloth, etc.
- After wiping off as per above, further apply a dry cloth, etc. to cause the coin selector to dry completely.

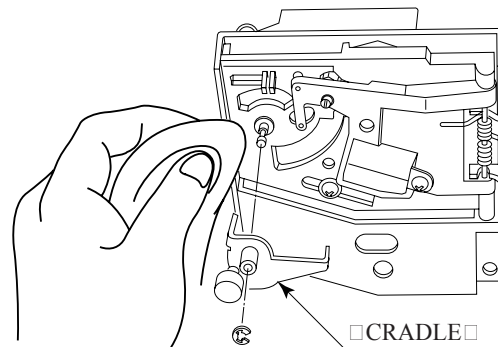


FIG. 14 b

## 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?

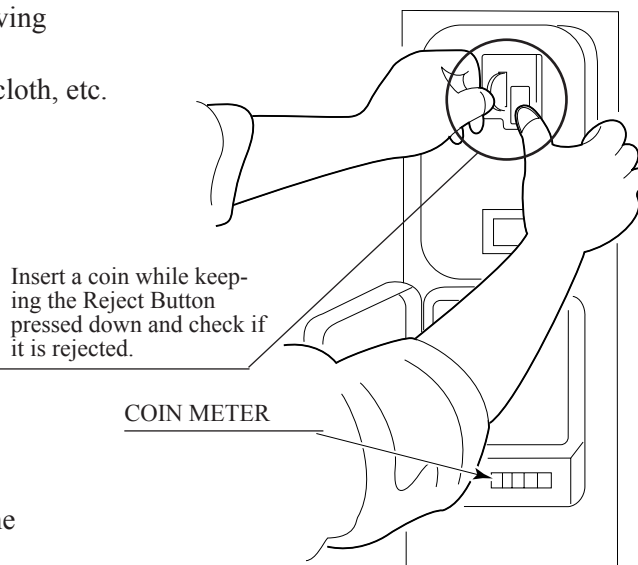
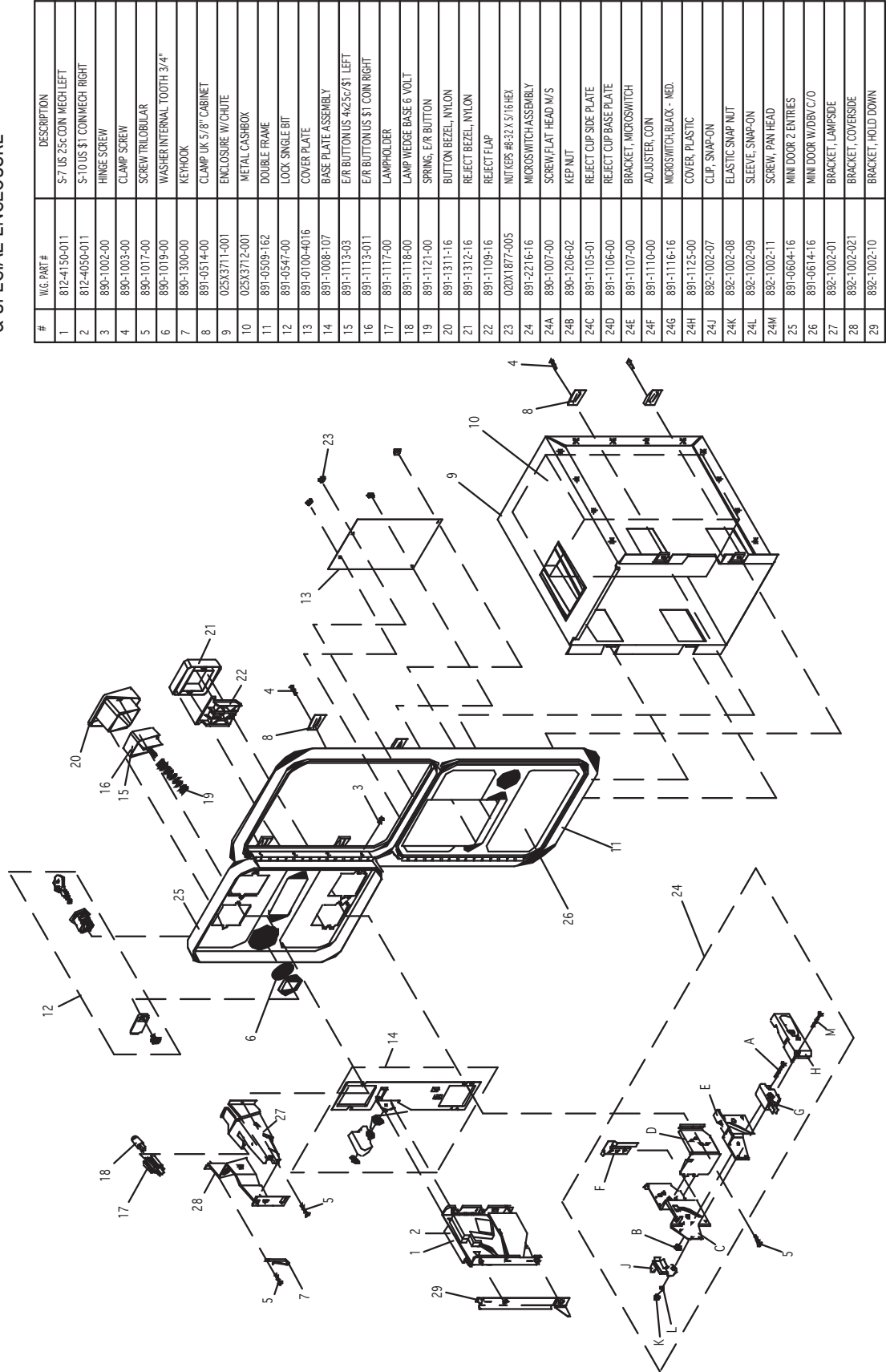


FIG. 14 c

WELLS-GARDNER  
ELECTRONICS CORPORATION  
2701 N. KILDARE CHICAGO, IL 60639  
1-800-336-6630  
WWW.WGEC.COM

WGD15-2110-01  
OVER/UNDER MINI DOOR  
2 ENTRIES WITH BILL  
VALIDATOR BOTTOM DOOR  
& SPECIAL ENCLOSURE



#	WG.PART #	DESCRIPTION
1	812-4150-011	S-7 US 25c COIN MECH LEFT
2	812-4050-011	S-10 US \$1 COIN MECH RIGHT
3	890-1002-00	HINGE SCREW
4	890-1003-00	CLAMP SCREW
5	890-1017-00	SCREW TRILOBULAR
6	890-1019-00	WASHER INTERNAL TOOTH 3/4"
7	890-1300-00	KEYHOOK
8	891-0514-00	CLAMP UK 5/8" CABINET
9	025X3711-001	ENCLOSURE W/CHUTE
10	025X3712-001	METAL CASHBOX
11	891-0509-162	DOUBLE FRAME
12	891-0547-00	LOCK SINGLE BIT
13	891-0100-4016	COVER PLATE
14	891-1008-107	BASE PLATE ASSEMBLY
15	891-1113-03	E/R BUTTON US 425C/\$1 LEFT
16	891-1113-011	E/R BUTTON US \$1 COIN RIGHT
17	891-1117-00	LAMP HOLDER
18	891-1118-00	LAMP WEDGE BASE 6 VOLT
19	891-1121-00	SPRING, E/R BUTTON
20	891-1311-16	BUTTON BEZEL, NYLON
21	891-1312-16	REJECT BEZEL, NYLON
22	891-1109-16	REJECT FLAP
23	020X1877-005	NUT KEYS #6-32 X 5/16 HEX
24	891-2216-16	MICROSWITCH ASSEMBLY
24A	890-1007-00	SCREW, FLAT HEAD M/S
24B	890-1206-02	KEP NUT
24C	891-1105-01	REJECT CUP SIDE PLATE
24D	891-1106-00	REJECT CUP BASE PLATE
24E	891-1107-00	BRACKET, MICROSWITCH
24F	891-1110-00	ADJUSTER, COIN
24G	891-1116-16	MICROSWITCH, BLACK - MED.
24H	891-1125-00	COVER, PLASTIC
24I	892-1002-07	CLIP, SNAP-ON
24K	892-1002-08	ELASTIC SNAP NUT
24L	892-1002-09	SLEEVE, SNAP-ON
24M	892-1002-11	SCREW, PAN HEAD
25	891-0604-16	MINI DOOR 2 ENTRIES
26	891-0614-16	MINI DOOR W/DBV C/O
27	892-1002-01	BRACKET, LAMPSIDE
28	892-1002-021	BRACKET, COVERSIDE
29	892-1002-10	BRACKET, HOLD DOWN



# 15. MONITOR

## 15-1 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.



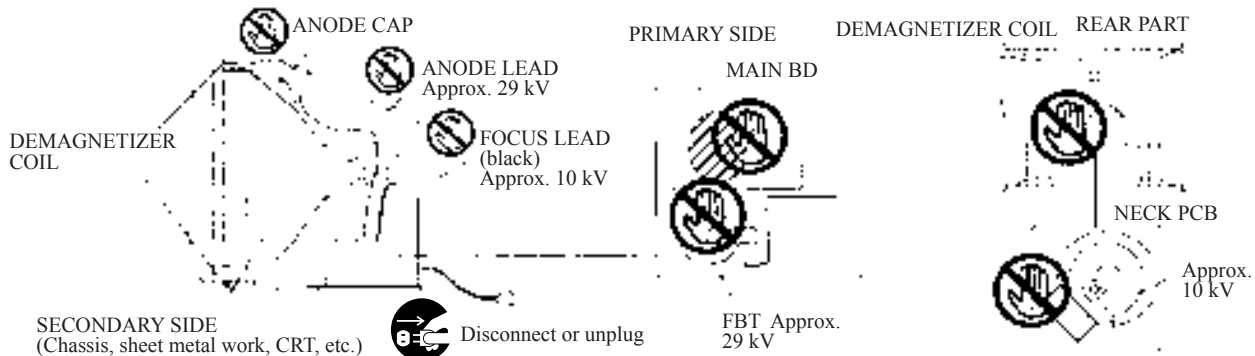
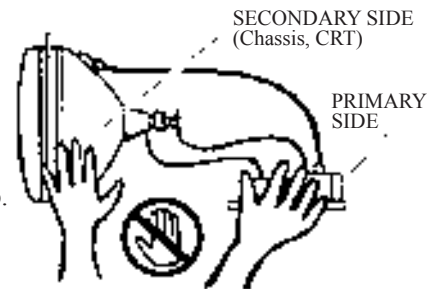
Indicates the instruction to disconnect a power connector or to unplug.



- 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.

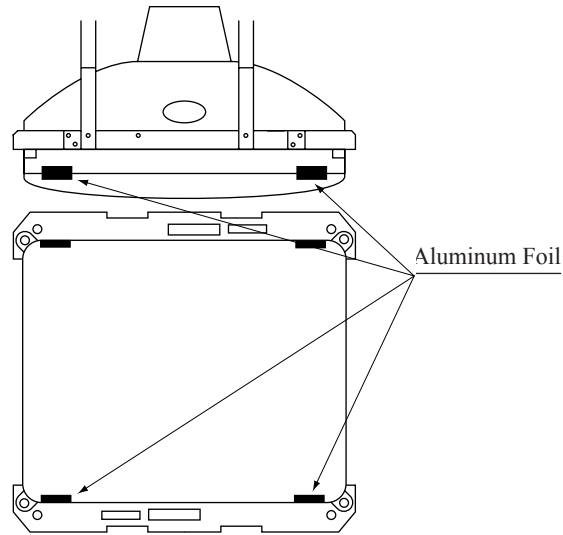


- Static Electricity  
Touching the CRT surface sometimes causes you to slightly feel electricity. This is because the CRT surfaces are subject to static and will not adversely affect the human body.
- Installation and removal  
Ensure that the Magnetizer Coil, FBT (Fly-Back Transformer), Anode Lead 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.



#### 15-2 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.

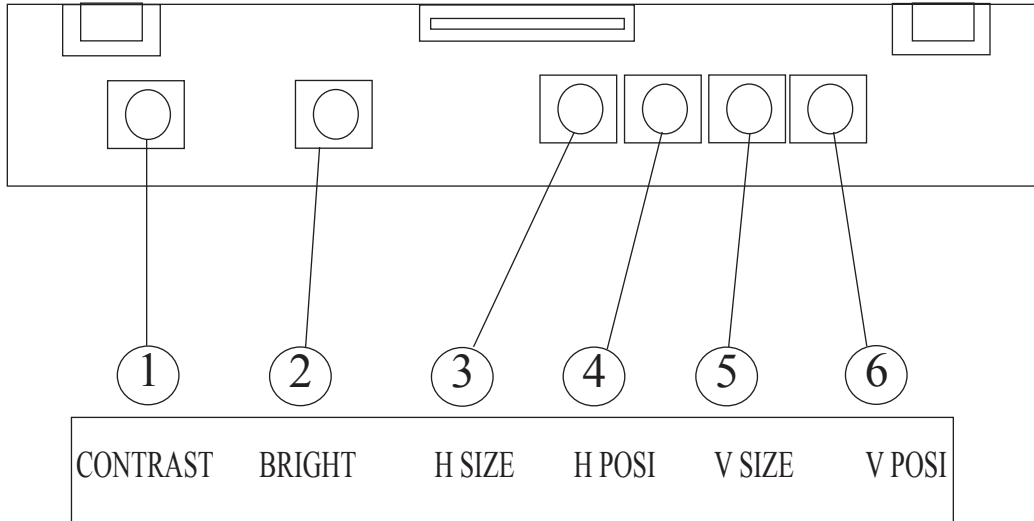
Clean the CRT surfaces once a week. When cleaning, pay attention to the above caution so that the antistatic coating will not come off.

#### 15-3 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.
- 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 cause to worsen the players' or the customers' physical conditions.





- ① CONTRAST..... Adjust image contrast.
- ② BRIGHT.....Controls screen brightness.
- ③ H. SIZE.....Controls horizontal screen size.
- ④ H. POSI.....Controls horizontal display position on screen.
- ⑤ V. SIZE.....Controls vertical screen size.
- ⑥ V. POSI.....Controls vertical display position on screen.

## 16. REPLACING THE FLUORESCENT LAMP



- 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.



- 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 parts. Failure to observe this may cause injury due to damage or fragments resulting from damage.

- Turn off the power
- Remove the 4 truss screws and the 2 plate sashes.

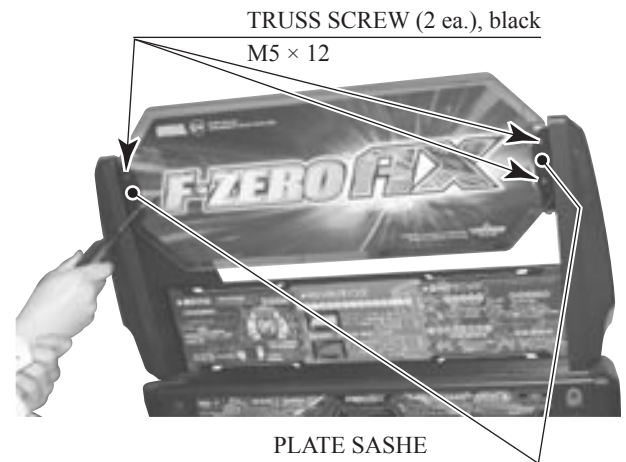


PHOTO 16 a

- Remove the billboard plate.



PHOTO 16 b

- Remove the 4 truss screws. Use a stepladder when removing the 2 truss screws on the upper side.

TRUSS SCREW (4), black  
M4×8, flat washer used

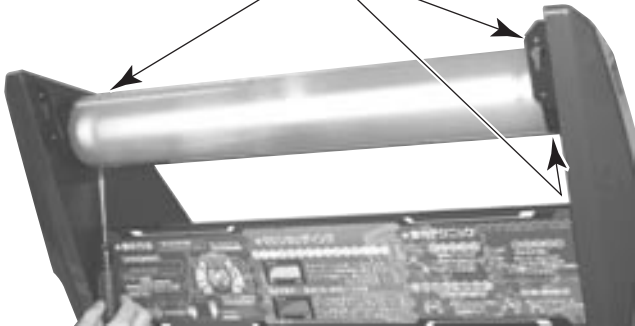


PHOTO 16 c

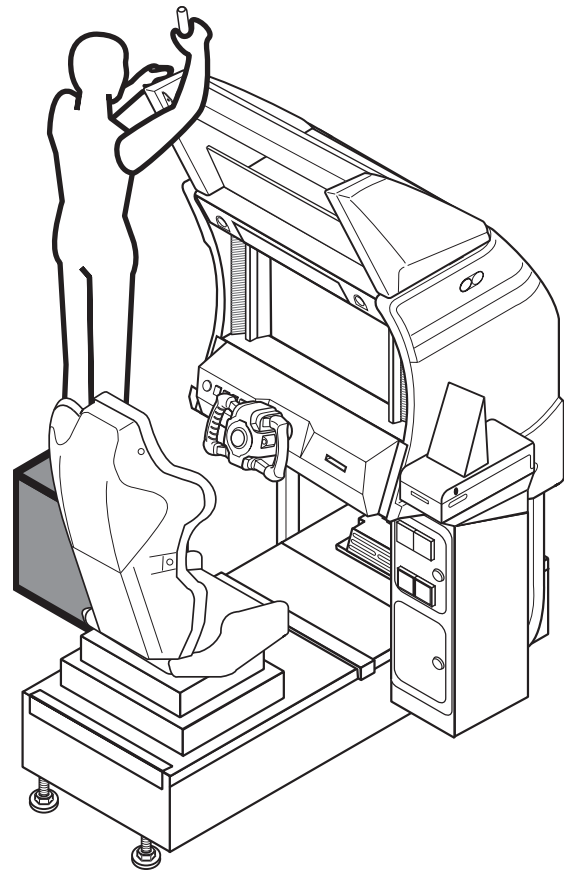


FIG. 16

When performing work,  
prepare a step.

- Tilt the FL cover upward and remove it. The FL box sashes on both sides must be removed as well.

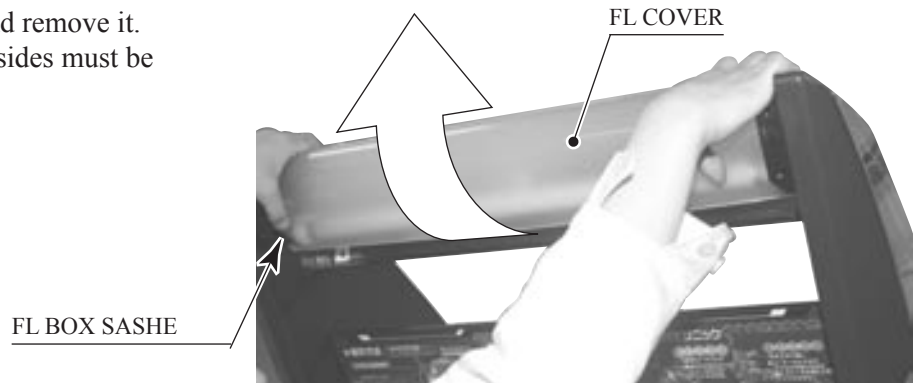


PHOTO 16 d

- Once the FL cover has been removed, the fluorescent lamp can be replaced.

FLUORESCENT LAMP 20W WHITE: 390-5251-20-01  
GLOW BULB: 390-5638-1E



PHOTO 16 e

# 17. 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.
- Never use a water jet, etc. to clean inside and outside the cabinet. If wetness occurs for any reason, do not use the product until it has completely dried.
- 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 17

ITEMS	DESCRIPTION	PERIOD
CABINET	Check Adjusters'contact with surface.	Daily
CARD READER/WRITER	Head cleaning	Every 151 counts of the card reader/writer or Daily
STEERING UNIT	Inspection of VR	Monthly
	Inspection of adjusting gear mesh	Trimonthly
	Greasing	Trimonthly
CONTOROL PANEL	Inspection of VR	Monthly
	Inspection of adjusting gear mesh	Trimonthly
	Greasing	Trimonthly
ACCEL. & BRAKE	Inspection of VR	Monthly
	Gear and Spring portion greasing	Trimonthly
MONITOR	SCREEN cleaning.	Weekly
	Check adjustments.	Monthly or when moving.
COIN CHUTE DOOR	Inspection of COIN SW	Monthly
	Coin insertion test	Monthly
	Cleaning of COIN SELECTOR	Trimonthly
SEAT	Greasing to the seat rail	Trimonthly
GAME BD	MEMORY TEST	Monthly
	Check settings.	Monthly
POWER SUPPLY PLUG	Inspection and cleaning	Annually
INTERIOR	Cleaning	
CABINET SURFACES	Cleaning	

## 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 position and apply spray greasing to the portion shown at the right once every 3 months.

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.

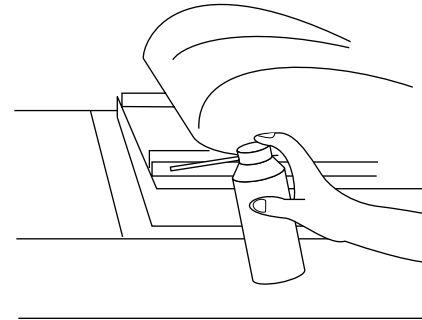


FIG. 17

## 18. TROUBLESHOOTING



- If an error code is displayed, have the site maintenance individual or other skilled professional resolve it. If someone without specialized or technical knowledge attempts to rectify the problem, electric shock, short circuits or fire may result. If there is no site maintenance individual or technician available, turn the power OFF immediately, and contact your retailer or the office listed in this manual.
- If problems other than those noted in this manual occur, or the countermeasures suggested result in no improvement, do not try to rectify the problem by other means. Turn the power OFF immediately, and contact your retailer or the office listed in this manual. Careless countermeasures can result in unexpected accidents.

### 18-1 CARD READER/WRITER



- If an error occurs in the card reader/writer, the machine will not be able to update data on cards. There is also a chance that card data may have been damaged. Attempting to use a card with damaged data will trigger another error. Explain to the player that in order to determine whether the card can be used or not, he or she must play the game again. If the player wishes to play again, press the SERVICE Button to give him or her a credit.
- If errors occur repeatedly, perform a head cleaning.

If the machine detects a problem while the machine's card reader/writer is in use, it will display an error message from Table 18.1a. The message will also be displayed if a problem is detected while testing the reader/writer. (see 10-3F.)

If an error occurs in the card reader/writer, the machine will not be able to update data on cards. There is also a chance that card data may have been damaged. Attempting to use a card with damaged data will cause the same error message to be displayed again.

Explain to the player that in order to determine whether the card can be used or not, he or she must play the game again.

If there is data left over from an update in progress, the machine will display a message from Table 18.1b. By following the instructions contained in the message, the data can be transferred to a new card from the dispenser.

Table 18.1a

ERROR MESSAGES	COUNTERMEASURES
Error occurred. Please notify the store attendant. Read-Error.	Eject the card and ask the player to play again to determine whether the card can be used the next time he or she plays.
Error occurred. Please notify the store attendant. Write-Error.	Eject the card and ask the player to play again to determine whether the card can be used the next time he or she plays.
Error occurred. Please notify the store attendant. Print-Error.	Eject the card and ask the player to play again to determine whether the card can be used the next time he or she plays.
Shutter-Error. Please remove the card from the entry of the card reader. Press the VIEW-CHANGE-BUTTON after the card is removed.	Eject the card and return it to the player. The player's results have been recorded on the card. Check to make sure there are no foreign objects stuck in the card reader/writer. If there are no foreign objects, press the "View Change" button.
Error occurred. Please notify the store attendant. Card jam. Remove the card.	Remove the jammed card (see 7-3). Ask the player to play again to determine whether the card can be used the next time he or she plays.
Error occurred.	Displayed when a problem is detected during the power-up test. Check the wire connections on the card reader/writer.
Error occurred. Please notify the store attendant. The dispenser is out of the F-ZERO LICENSE CARD. Please refill the dispenser with the F-ZERO LICENSE CARD.	Refill the card dispenser as the message instructs (see 7-1).

Table 18.1b

MESSAGES
<p>The last data of the F-ZERO LICENSE CARD still remains in the card reader. Writing the data will cost a new F-ZERO LICENSE CARD. Press START to write the data to the F-ZERO LICENSE CARD or step on the ACCELERATION-PEDAL to skip.</p>

If a time has been set for card play to be turned off, the messages in Table 18.1c will be displayed at the selected time and players will no longer be able to use cards (see 10-3F).  
If card play is disabled at a different time from the one intended, the time settings need to be revised.  
The TRIFORCE contains an internal clock. If this clock is not set to the correct time, card play will be disabled at a time different from the actual time.

Table 18.1c

F-ZERO LICENSE CARDS will be out of service as the store is closing soon.
F-ZERO LICENSE CARDS cannot be used or purchased at this time.



When sending the machine's TRIFORCE out for repairs, do not disassemble it or remove the key chip.

TRIFORCE displays on-screen error messages indicating various types of malfunction. Games cannot be played when error messages are displayed. Below are listed some causes and countermeasures. The TRIFORCE consists of a media board mounted on a main board. The TRIFORCE in this machine uses a DIMM board as its media board.

**MEDIA BOARD IS NOT FOUND.**

[DISPLAY]	MEDIA BOARD IS NOT FOUND.
[CAUSE]	MAIN BOARD or MEDIA BOARD is broken.
[COUNTERMEASURES]	With the MEDIA BOARD still attached to the MAIN BOARD, send the TRIFORCE for repair.

Error 01 [DISPLAY]	Error 01 This game is not acceptable by main board.
[CAUSE]	MEDIA BOARD is not inserted (completely) into the MAIN BOARD.
[COUNTERMEASURES]	Power off the unit, then reinsert the MEDIA BOARD. Should the problem persist, the BOARD may be damaged. Send the TRIFORCE to be repaired. Do not disassemble it.

Error 02 [DISPLAY]	Error 02 Main board malfunctioning.
[CAUSE]	MAIN BOARD is inoperative.
[COUNTERMEASURES]	Verify that the MAIN BOARD is connected properly. If this does not remedy the situation, send the TRIFORCE to be repaired. Do not disassemble it.

Error 03 [DISPLAY]	Error 03 Bad serial number on main board.
[CAUSE]	Unable to read MAIN BOARD serial ID.
[COUNTERMEASURES]	Send the TRIFORCE to be repaired. Do not disassemble it.

Error 04 [DISPLAY]	Error 04 Bad serial number on media board.
[CAUSE]	Unable to read MEDIA BOARD serial ID.
[COUNTERMEASURES]	Send the TRIFORCE to be repaired. Do not disassemble it.



<p>Error 05 [DISPLAY]</p> <p>[CAUSE]</p> <p>[COUNTERMEASURES]</p>	<p>Error 05 This game is not acceptable by main board. The game is a foreign edition. Use the domestic version of the game.</p>
<p>Error 11 [DISPLAY]</p> <p>[CAUSE]</p> <p>[COUNTERMEASURES]</p>	<p>Error 11 JVS I/O board is not connected to main board. (1) I/O BOARD is not connected. (2) Unreliable connection between MAIN BOARD and I/O BOARD. (1) Connect the I/O BOARD to the MAIN BOARD. Verify that the power cable is connected to I/O BOARD. (2) Reconnect or replace the JVS CABLE that connects the I/O BOARD to the MAIN BOARD.</p>
<p>Error 12 [DISPLAY]</p> <p>[CAUSE]</p> <p>[COUNTERMEASURES]</p>	<p>Error 12 JVS I/O board does not fulfill the game spec. Correct I/O BOARD is not connected. Use an I/O BOARD that provides the proper input/output for the game.</p>
<p>Error 21 [DISPLAY]</p> <p>[CAUSE]</p> <p>[COUNTERMEASURES]</p>	<p>Error 21 This game is not acceptable by main board. Game data loaded from the GD-ROM to the DIMM BOARD is corrupted. Verify the GD-ROM DRIVE and TRIFORCE connection. Check the GD-ROM disc for scratches, dust or dirt.</p>
<p>Error 22 [DISPLAY]</p> <p>[CAUSE]</p> <p>[COUNTERMEASURES]</p>	<p>Error 22 Communication error occurred between main board and media board. No response from DIMM BOARD to MAIN BOARD. Ensure that the DIMM BOARD and the GD INTERFACE BOARD are properly connected. Should the problem persist, the DIMM BOARD or GD INTERFACE BOARD may be damaged. Send the TRIFORCE to be repaired. Do not disassemble it.</p>
<p>Error 23 [DISPLAY]</p> <p>[CAUSE]</p> <p>[COUNTERMEASURES]</p>	<p>Error 23 GD-ROM drive cover is open. The GD-ROM DRIVE cover is open. Ensure the GD-ROM DRIVE cover is firmly closed.</p>

Error 24  
[DISPLAY]  
  
[CAUSE]  
[COUNTERMEASURES]

Error 24  
GD-ROM is not found.  
GD-ROM disc is not found.  
Insert the GD-ROM disc correctly.  
Verify that the disc is a TRIFORCE GD-ROM disc.  
Check the GD-ROM disc for scratches, dust or dirt.

Error 25  
[DISPLAY]  
  
[CAUSE]  
  
[COUNTERMEASURES]

Error 25  
Cannot access GD-ROM drive.  
(1) Unable to access GD-ROM DRIVE.  
(2) The GD-ROM DRIVE cover is open.  
(1) Verify that the GD CABLE and the power cable are properly connected to the GD-ROM DRIVE.  
(2) Close the GD-ROM cover securely.  
Should the problem persist, the GD-ROM DRIVE may be damaged.

Error 26  
[DISPLAY]  
  
[CAUSE]  
[COUNTERMEASURES]

Error 26  
Media board malfunctioning.  
KEY CHIP is not found.  
Attach the proper KEY CHIP for the game.  
Insert the KEY CHIP securely.

Error 27  
[DISPLAY]  
  
[CAUSE]  
  
[COUNTERMEASURES]

Error 27  
DIMM memory is not enough.  
(1) Insufficient DIMM MEMORY on DIMM BOARD.  
(2) DIMM MEMORY is not connected securely.  
(1) Provide a suitable amount of DIMM MEMORY for the software.  
(2) Verify that the DIMM MEMORY is connected securely to the DIMM BOARD.  
This error cannot occur in this machine. In the unlikely event that it does occur, send the TRIFORCE to be repaired. Do not disassemble it.

<p>Error 31 [DISPLAY]</p> <p>[CAUSE]</p> <p>[COUNTERMEASURES]</p>	<p>Error 31</p> <p>This game is not acceptable by main board. The game has not been downloaded into the DIMM BOARD from the HOST MACHINE.</p> <p>Check network connections. Verify that the PC is connected to the network. Reset the main power. Wait until the game is displayed on the main screen, then turn the satellite power on and reboot. In Test Mode, select NETWORK SETTING from the SYSTEM MENU and check that the NETWORK TYPE is set to ETHER. In Test Mode, select NETWORK SETTING from the SYSTEM MENU, go to SET IP ADDRESS and verify that the REMOTE setting is appropriate for the game in use. Check the internal DIMM BOARD battery is functioning correctly. This error cannot occur in this machine. In the unlikely event that it does occur, send the TRIFORCE to be repaired. Do not disassemble it.</p>
<p>Error 32 [DISPLAY]</p> <p>[CAUSE]</p> <p>[COUNTERMEASURES]</p>	<p>Error 32</p> <p>DIMM memory is not enough. (1) Insufficient DIMM MEMORY on DIMM BOARD. (2) DIMM MEMORY is not connected securely. (1) Ensure there is sufficient DIMM MEMORY for the software. (2) Verify that the DIMM MEMORY is connected securely to the DIMM BOARD. This error cannot occur in this machine. In the unlikely event that it does occur, send the TRIFORCE to be repaired. Do not disassemble it.</p>
<p>Error 33 [DISPLAY]</p> <p>[CAUSE]</p> <p>[COUNTERMEASURES]</p>	<p>Error 33</p> <p>Gateway is not found. HOST MACHINE is not found. Attach the KEY CHIP designed to support the game. Make certain that the KEY CHIP is inserted completely. This error cannot occur in this machine. In the unlikely event that it does occur, send the TRIFORCE to be repaired. Do not disassemble it.</p>
<p>Caution 51 [DISPLAY]</p> <p>[CAUSE]</p> <p>[COUNTERMEASURES]</p>	<p>Caution 51</p> <p>Wrong video output setting of horizontal scanning frequency. The game does not support horizontal sync frequency setting. Change the No. 6 DIPSW on the CONNECTOR BOARD. ON is 31 kHz, OFF is 15 kHz. The monitor must support these frequencies. This option must be set to ON for this machine.</p>

Caution 52

[DISPLAY]

[CAUSE]

[COUNTERMEASURES]

Caution 52

Wrong video output setting of horizontal/vertical screen.

The game does not support the vertical/horizontal screen settings.

Change the No. 4 DIPSW on the CONNECTOR BOARD.

ON is for vertically placed monitor screens, OFF is for horizontally placed monitor screens.

Change the monitor placement from vertical to horizontal or vice versa if necessary.

This option must be set to OFF for this machine.

### 18-3 OTHER MECHANICAL ERROR MESSAGES (EXCL. CARD READER/WRITER)

If a mechanical error occurs somewhere other than the card reader/writer, the screen will read "Error XX Occurred".

The following list contains descriptions of each error and how to deal with them.

#### Error05

[CONTENTS]

[COUNTERMEASURES]

Steering - I/O Error

The machine is unable to communicate with the steering unit's reaction control board. Check the wiring.

#### Error06

[CONTENTS]

[COUNTERMEASURES]

Steering - Overheat/Overload Error

The thermal element on the steering unit's reaction motor was activated. Wait for it to cool down.

#### Error07

[CONTENTS]

[COUNTERMEASURES]

Steering - Encoder Error

There is a problem with the data in the steering unit's reaction encoder. Check to see if there are any problems with the wires connected to the encoder.

#### Error08

[CONTENTS]

[COUNTERMEASURES]

Steering - Excess Current Error

The steering unit's reaction motor experienced excess current flow. Check to see if there are any problems with the wires connected to the motor.

18-4 PROBLEMS NOT COVERED BY ERROR MESSAGES



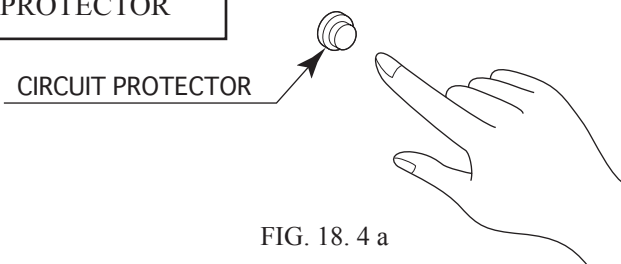
- In order to prevent electric shock and short circuit, be sure to turn power off before performing work.
- Be careful so as not to damage wirings. Damaged wiring can cause electric shock or short circuit.
- After removing the cause of the functioning of the Circuit Protector, reinstate the Circuit Protector. 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 the event that a problem cannot be resolved by employing the procedures listed in this Manual, be sure to request service from the office shown on this Manual or the dealer from whom the product was originally purchased. Attempts to employ procedures other than those specified in this Manual can cause electrical shock, shorting, or fire.
- In the event of a problem that is not described here, be sure to contact the office shown on this Manual or the dealer from whom the product was originally purchased. Careless attempts at repair can result in electrical shock, shorting, or fire.

If a problem occurs, first check to make sure that the wiring connectors are properly connected.

TABLE 18. 4

PROBLEM	CAUSE	COUNTERMEASURES
When the main SW is turned ON, the machine is not activated.	The power is not ON.	Firmly insert the plug into the outlet.
	Incorrect power source/voltage.	Make sure that the power supply/voltage are correct.
	The CIRCUIT PROTECTOR functioned due to momentary overcurrent.	After eliminating the cause of overload, have the Circuit Protector of the AC Unit restored. (See 4 of Section 6, Refer to Fig. 18. 4 a)
	The fuse of the fase holder was blown out due to momentary overcurrent.	After eliminating the cause of overload, replace the specified rating fuse. (Fig. 18. 4 b)
Fluorescent lamp inside light box doesn't light up.	Connector connection fault.	Check connector connections between the Cabinet and the light box.
	Fluorescent lamp and Glow lamp need replacement.	Replace the fluorescent lamp and the glow lamp. (See Section 16.)

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. 18. 4 a

TABLE 18. 4

PROBLEM	CAUSE	COUNTERMEASURES
Sounds are emitted and the lamps are lit, but the screen is black.	Faulty connections for the visual signal connector or the monitor power connector.	Check the connections for the monitor and game board connectors.
	Broken monitor.	Contact the company from whom the unit was purchased.
Sound is not emitted.	Sound volume adjustment is not correct.	Adjust the Switch Unit's sound adjustment volume . (See Section 10.)
	Faulty connections for various connectors.	Check the connections for the game board, amp, speakers and Volume connectors.
	Malfunctioning BD, Amp. and Speaker.	Perform SOUND TEST. (See Section 10.)
Irregular/uneven colors on the monitor screen.	Magnetization of the CRT.	Press the Demag. switch on the switch unit. (See Section 10.)
Colors on the monitor screen are strange.	Faulty connection for the visual signal connector.	Check the visual signal connector connection and make sure it is secured properly.
	Screen adjustment is not appropriate.	Make adjustment appropriately. (See Section 15.)
The on-screen image sways and/or shrinks.	The power source and voltage are no correct.	Make sure that the power supply and voltage are correct.
Does not accept input from any switch or volume.	Faulty connector connections.	Check the connection for the I/O Board and Cabinet connector.
		Check the power for the I/O Board.
STEERING (Servomotor) response is incorrect.	Incomplete power on check.	Power on and verify that the power on check completes properly. (See 5 of Section 6.)
	Deviation of the volume value.	Adjust the calibration in the Test Mode. (See Section 10.)
	Volume gear engagement fault.	Adjust the engagement of the gear. (See Sections 10, 11 & 12.)
	Volume malfunctioning.	Replace the volume. (See Sections 11 & 12.)
	Detached wires.	Check for faulty wire connections around moving parts. When replacing wires, secure them so that they do not touch any moving parts.

TABLE 18.4

PROBLEM	CAUSE	COUNTERMEASURES
No response from Steering (Servomotor).	Failure of power-on checking procedure.	Reconnect the power and complete a power-on checking procedure. (See 5 of Section 6.)
	Faulty connector connections.	Check the connections for the connectors between the Game Board and Servodriver and between the Servodriver and the Servomotor.
	Thermal element in the Servomotor is operating.	Occurs when the internal temperature reaches 70°C (158°F) and corrects automatically when the unit cools.
	Momentary overload caused a fuse on the Servodriver to blow.	Contact the company from whom the unit was purchased.
Unsatisfactory Accel and Brake operation.	Incorrect volume setting.	Adjust the volume value in the Test Mode. (See Section 10.)
	Faulty Volume attachment or adjust gear alignment.	Adjust the volume attachment and verify in Test Mode. (See Sections 10 & 13.)
	Faulty connector connection.	Check the connections for the Accel and Brake connectors and the connectors between the Accel, Brake and Cabinet.
	Failure of the volume.	Replace the volume. (See Section 13.)
Failure of the network play.	Network play is wrongly set.	Reset correctly. (See Section 20.)
	Network cables are disconnected.	Reconnect the cables. (See Section 20.)
	Network cables are wrongly connected.	
	Damage of network cables.	Replace the cables. Contact the company from whom the unit was purchased.
Memory cards and license cards cannot be used.	The machine is set not to accept cards.	Change the settings in Test mode. (See Section 10.)



## REPLACING FUSES



- 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.

Fuses are located on the top of the Connector Board inside the Cockpit Base. Lower the Seat and remove the Tower Bracket and Base Lid F to replace fuses.

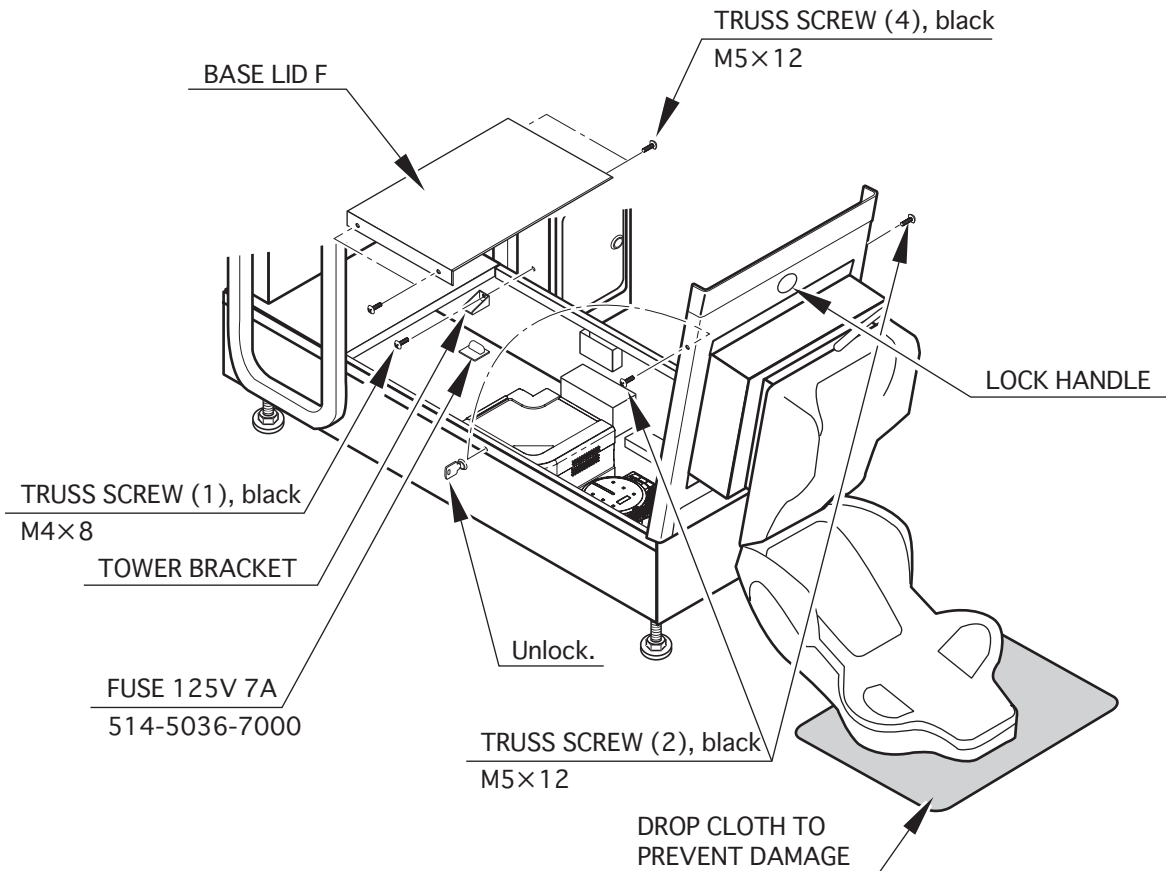


FIG. 18. 4 b

## 19. GAME BOARD



- In order to prevent electric shock and short circuit hazards, be sure to turn power off before performing work.
- Be careful not to damage the wires. Damaged wires may cause electric shock or short circuit or present a fire risk.
- Do not expose the Game BD, etc. without a good reason. Failure to observe this can cause electric shock hazard or malfunctioning.
- Do not use this product with connectors other than those that were connected and used with the Game Board at the time of shipping. Do not carelessly connect wires to connectors that were not used at the time of shipping, as this may cause overheating, smoke or fire damage.



- In this product, setting changes are made during the test mode. The Game BD need not be operated. Use the Game BD, etc. as is with the same setting made at the time of shipment so as not to cause electric shock and malfunctioning.
- Static electricity from your body may damage some electronics devices on the IC board. Before handling the IC board, touch a grounded metallic surface so that the static electricity can be discharged.



When having the game board replaced or repaired, use the included carton box to ship it. Do not disassemble it. If the board is not received in the proper condition, it may not be eligible for repair or replacement, or extra service charges may be applied. The disassembly procedure for the game board is described in this manual for the purpose of replacing the battery inside the board. Do not disassemble the board when sending it in for replacement or repair.

## 19-1 REMOVING THE GD-ROM DRIVE

- Turn the power off.
- Remove 1 truss screw from each side of Base Lid R.
- Unlock the base with the Master Key.
- Turn the Lock Handle on Base Lid R to unlock the lid.
- Lower the seat towards the backrest. Slowly lower the backrest until it touches the floor to prevent damage to the seat part. Put a drop cloth on the floor to prevent damaging the surface of the seat part.

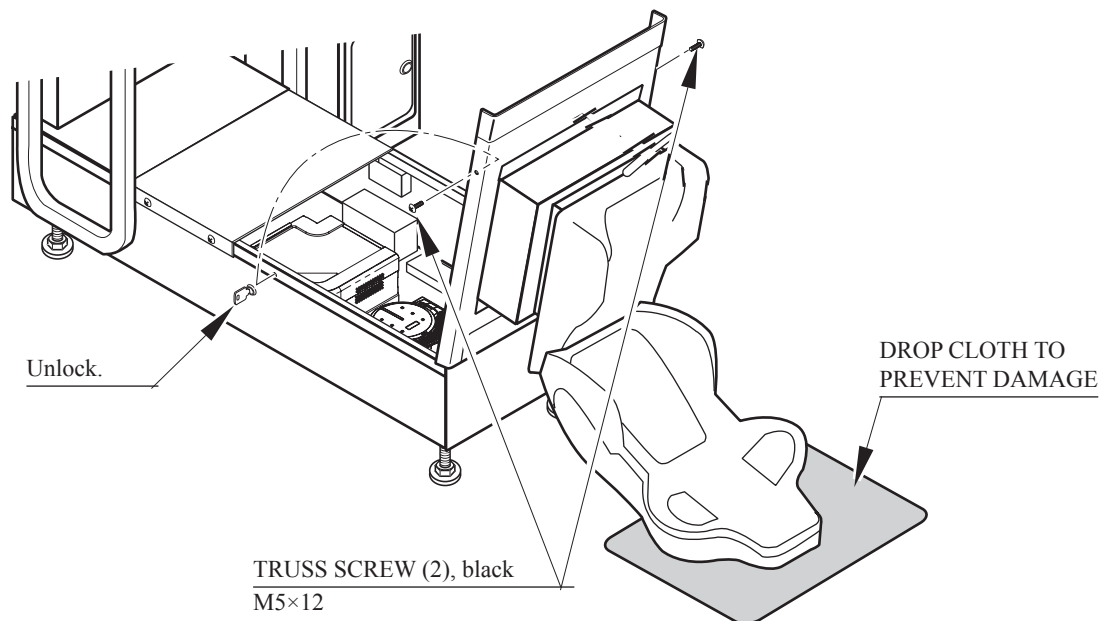


FIG. 19.1 Note: Actual Unit may differ from image.

- Remove the GD cable connector and the power cord connector from the GD-ROM drive.

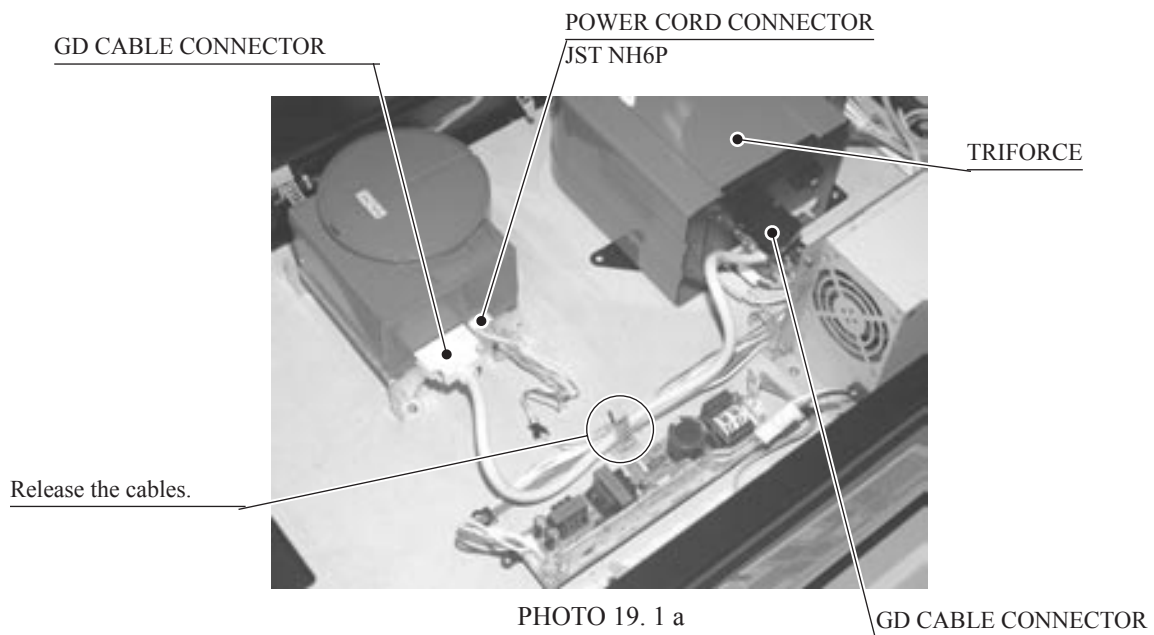
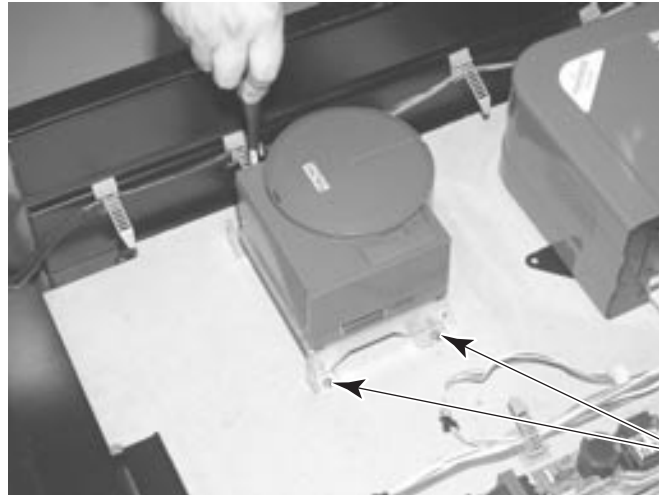


PHOTO 19.1 a

- Remove the 4 screws to remove the GD-ROM drive.



SCREW (3)  
M4x16, w/flat & spring washers

PHOTO 19.1 b

## 19-2 REMOVING THE GAME BOARD (TRIFORCE)



- When returning the game board for replacement or repair, make sure that the connectors are attached correctly. Incorrect connections can lead to accidents such as electric shock, short circuits, and/or fire.
- When plugging in connectors, pay close attention to the direction of the connection. The connectors are designed to be connected in a specific direction. Attempting to plug in a connector by applying excessive force may damage the connector or its terminal clasp, possibly resulting in electric shock, short circuits, and/or fire.

- Follow the above described actions.
- Remove all the connectors from the TRIFORCE.
- Remove the 3 screws that fix the Game Board.

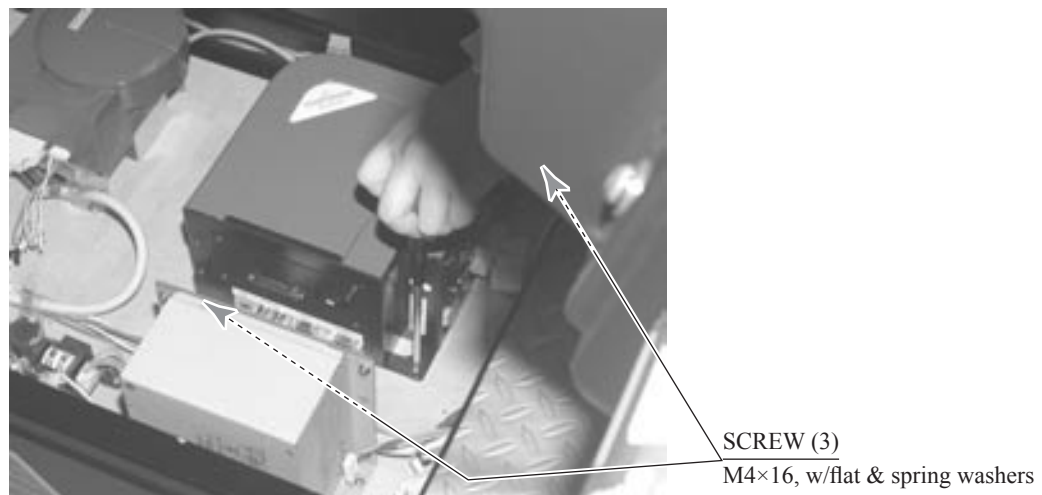
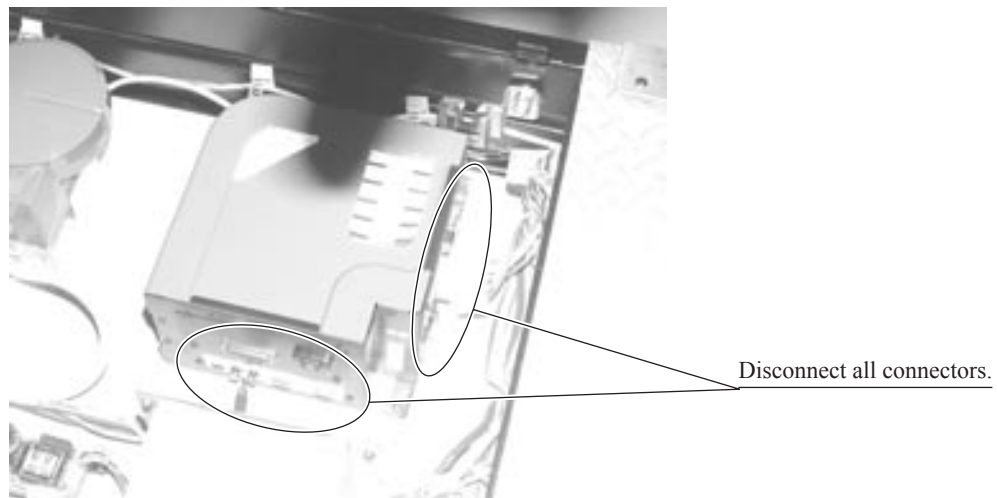


PHOTO 19. 2

### 19-3 COMPOSITION OF THE GAME BOARD



With the key chip installed, the TRIFORCE board becomes a proprietary game board for this product.

ASSY TRF FZR USA(842-02DD511U): USA

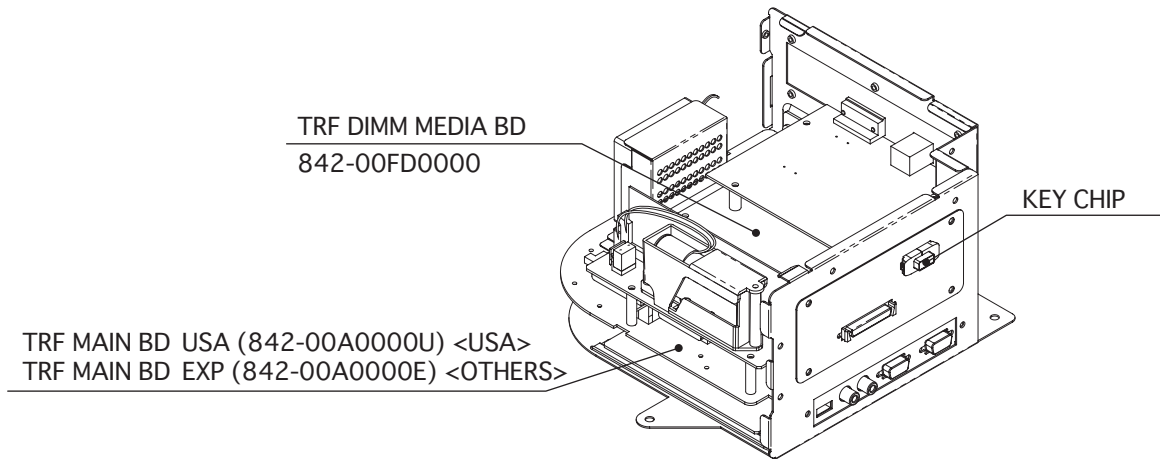


FIG. 19.3 a

#### DIP SW SETTING

Use this product with the DIP SW settings shown in the figure below.

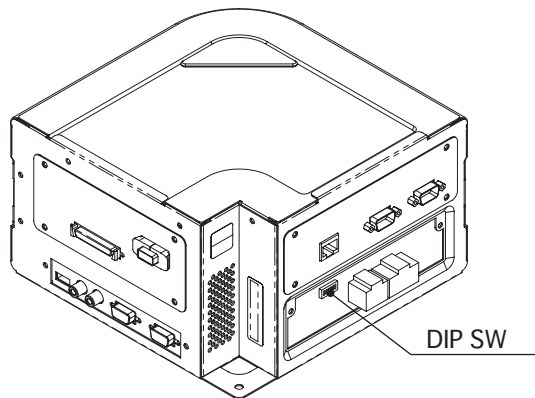
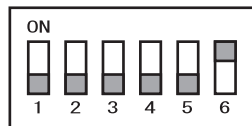


FIG. 19.3 b

## 19-4 REPLACING THE MAIN BOARD BATTERY



- To prevent overheating, explosion, or fire:
  - Do not recharge, disassemble, heat, incinerate, or short the battery.
  - Do not allow the battery to come into direct contact with metallic objects or other batteries.
  - To preserve the battery, wrap it in tape or other insulating material.
- Follow local regulations when disposing of the battery.  
Improper disposal can damage the environment.



- To avoid risk of malfunction and damage:
- Make sure the positive and negative ends are aligned correctly.
  - Use only batteries approved for use with this unit.



If an error appears indicating that the battery power is very low within the first year of use, it is usually an indication of a problem or abnormality with something other than the battery. Be sure to inspect the board that the battery is connected to.

- Remove the 5 screws holding the TRIFORCE and its cover in place.
- Slide the cover off of the TRIFORCE, being careful of the hook that holds them together.

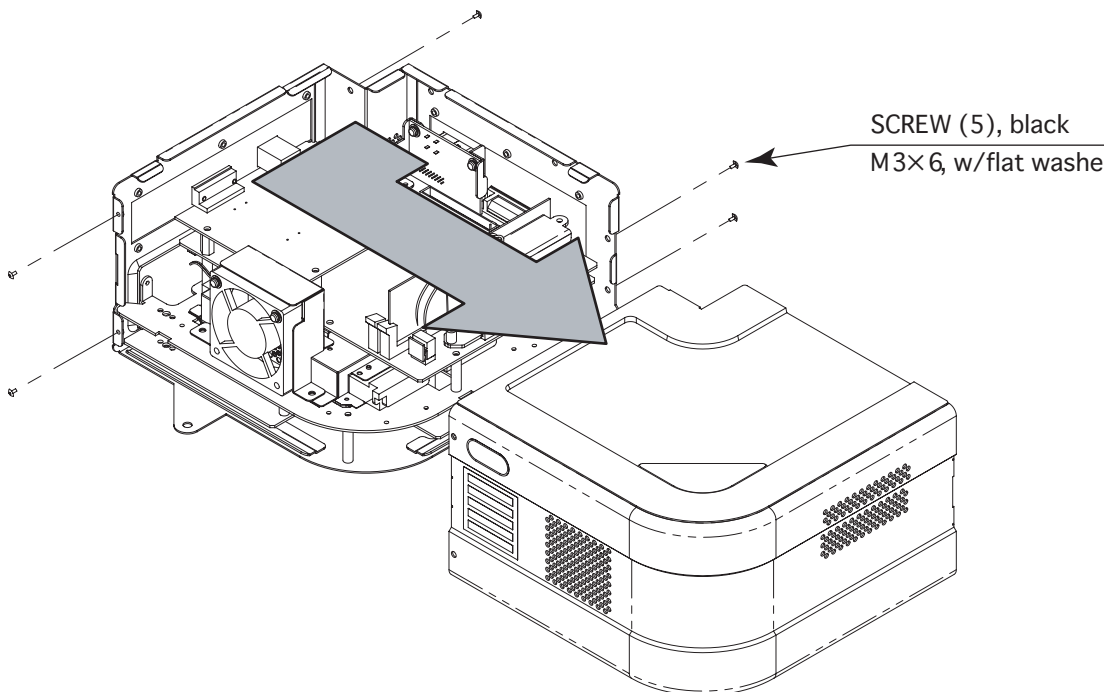


FIG. 19.4 a

- Gently remove the battery from the battery holder. The battery holder is located on the very bottom of the main board.
- Insert the new battery (CR2032) so that the + terminal is pointing upward.

Removed batteries should be disposed of in accordance with relevant national laws and/or local regulations.

**TRIFORCE MAIN BOARD BATTERY**

SEGA PART No.: 401-0065

SEGA PART NAME: BATTERY CR2032 HITACHI

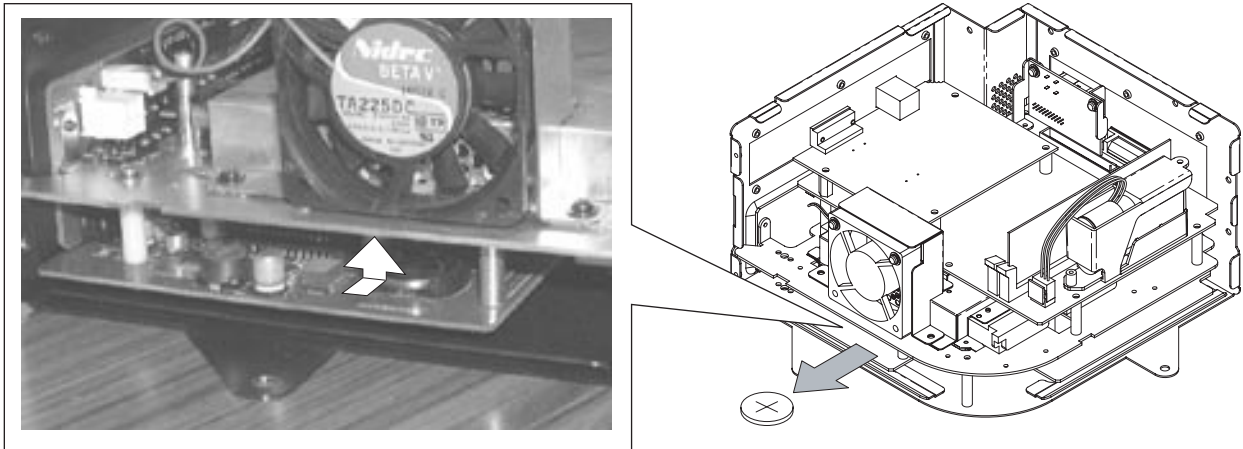


FIG. 19.4 b



WARNINGS AND RESTRICTIONS CONCERNING USE OF BATTERY PACK

Observe the following precautions when handling the DIMM board's battery pack. Sega cannot assume responsibility for any problems that arise from handling the battery pack in disregard of the guidelines set forth in the manual.



- Do not disassemble the battery pack and the batteries.  
If you should fail to observe this instruction, the internal wires and/or protective devices may be damaged; as a result the safety system may not function when discharging and recharging, eventually causing an overheating, fire and explosion. If you should disassemble the batteries, the generated gases may harm your throat and the negative plate may overheat and make a fire.
- Do not make an external short circuit of the battery pack and the batteries.  
If you should fail to observe this instruction, the batteries may overheat, make a fire, and explode.
- Do not fire the battery pack and the batteries.  
If you should fail to observe this instruction, the batteries may make a fire and explode.  
Do not leave the battery pack and the batteries nearby the heat source (fire or heater) or under the intense direct sunlight and flaming sun. If you should fail to observe this instruction, the batteries may reduce the service life and in the worst case may overheat, make a fire, and explode.
- Do not leave the battery pack and the batteries in water or seawater. Also do not apply water or seawater onto the battery pack and the batteries. If you should fail to observe this instruction, the internal wires and/or protective devices may be damaged; as a result the safety system may not function when discharging and recharging, eventually causing an overheating, fire and explosion. Also water may be electrolyzed into oxygen and hydrogen, and eventually the battery's sealed section may be corroded and the internal liquid may leak.
- Do not solder on the battery pack's terminals.  
If you should fail to observe this instruction, the armor may be heated and melted or the internal wires may be damaged, eventually causing an overheating, fire and explosion. Also, when the battery's temperature reaches to 100° or more, the battery may leak its internal liquid due to destruction of its plastic parts (gasket, separator, etc.), or may overheat, make a fire, or explode due to internal short-circuit.
- Do not insert or connect the battery in a reversal polarity.  
If you should fail to observe this instruction, the battery may be externally short-circuited and eventually overheat, make a fire, or explode, depending on the device you connect with.



- Do not tightly seal the battery pack when installing it onto an external device. Flammable gas is generated from the battery when its safety mechanism has functioned. If you should fail to observe the above-described instruction, sparks from motors, switches, etc. may cause the gas to fire. Therefore, install the battery pack so that the gas can be quickly released from the external device.
- Do not use the battery pack for the device/usage other than this game system. If you should fail to observe this instruction, the battery and/or the device may be damaged due to non-applicable specifications.
- Do not strike a nail in, hammer, step on, or apply any other forms of pressures and shocks on, the battery.  
If you should fail to observe this instruction, the battery may be deformed. As a result, the battery may burst at its sealed sections to leak the internal liquid, or may be short-circuited internally to overheat, make a fire, and explode.
- Do not use a battery charger because any battery charger is not usable for this battery pack.  
If you should fail to observe this instruction, the gas may be suddenly generated in the battery and eventually the battery may overheat, make a fire or explode.
- If the battery in use or in keeping shows an abnormal indication (deformation, change of color, bursting of the armor cover, etc.), immediately stop using or keeping it. If it leaks and smells abnormally, immediately keep it away from fire and put it in a safety box.
- If the liquid leaks from the battery and gets in your eyes, do not rub your eyes but immediately wash them with clean water (city water etc.); and consult a medical doctor for a treatment. If you should fail to observe this instruction, the liquid may harm your eyes.
- The battery pack armor (a polyvinyl chloride tube) may be damaged or deformed by external force or heat. When transporting the battery pack or replacing it with a new one, therefore, be careful not to drop or excessively shock it. Do not continue to use any damaged or deformed battery pack. If you should fail to observe this instruction, the battery may overheat, make a fire, or explode.
- The battery pack contains a printed circuit board (PCB) for protective circuitry. It may be destroyed by the static electricity. When handling or servicing the battery pack, therefore, take preventive measures against the static electricity.  
If your battery pack has shown destruction of a protective circuitry PCB, do not continue to use it. If you should fail to observe this instruction, the battery may overheat, make a fire, or explode.
- When wiring the battery pack to a device, be careful not to apply excessive force onto the connectors and lead wires. The battery may overheat, make a fire, or explode if the connectors and lead wires are damaged.
- Do not do away with the used battery packs carelessly because they may contaminate the environment. Submit them to an industrial waste disposal plant.
- Be sure to dispose of the used battery pack in accordance with relevant national laws and/or local regulations.

If the GD-ROM drive appears to be taking too long to read the disc, the battery pack on the DIMM board may need replacing. The battery pack should last approximately 16 months under normal usage. There is no recharging unit for the battery pack.

Follow the steps listed below to replace the battery pack.

- Follow steps 1 and 2 in Section 19-4 to remove the cover.
- Unplug the battery pack's connector.
- Remove the single tapping screw and slide the battery holder cover to remove it.
- Remove the battery pack.
- Repeat the above steps in reverse to install the new battery pack.

The used battery pack is considered industrial waste.

As such, it should be disposed of in accordance with relevant national laws and/or local regulations.

#### DIMM BOARD BATTERY PACK

SEGA PART No.: 401-0081

SEGA PART NAME: BATTERY PACK CGR-B/246A

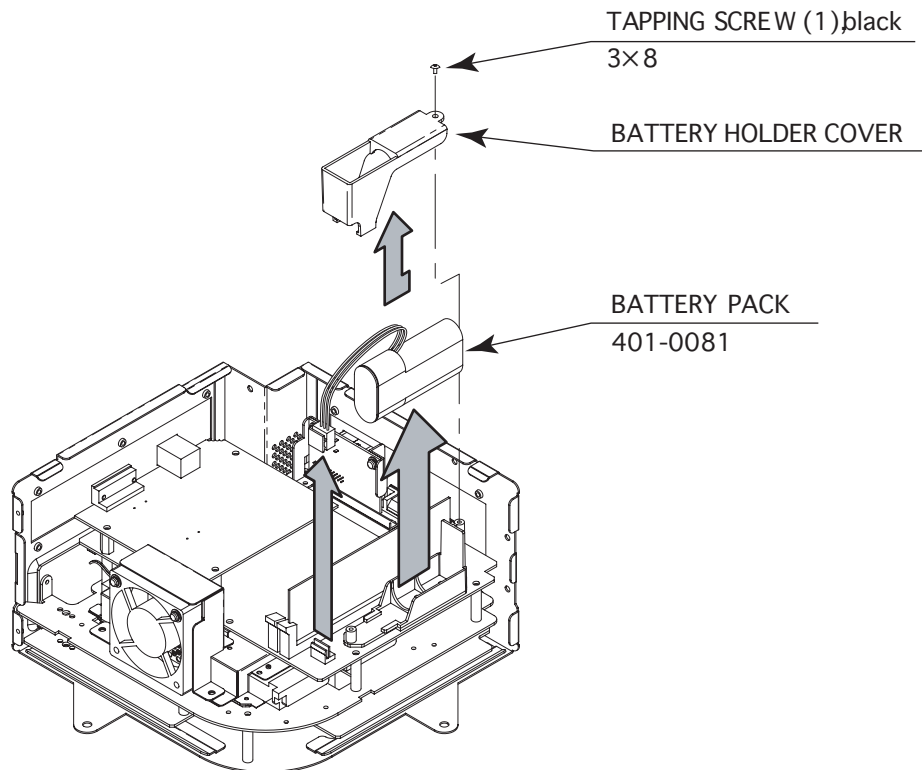


FIG. 19. 5

## 19-6 SHIPPING THE GAME BOARD AND GD-ROM DRIVE

Observe the following precautions when sending the TRIFORCE or GD-ROM drive out for servicing or repairs.

The carton boxes (included) are needed to ship these parts, and should therefore be stored in a safe place to ensure that they are not lost.

- When sending parts in for repairs, they should be configured as follows:
  - (1) TRIFORCE:
    - Leave the key chip installed in the board.
  - (2) GD-ROM drive:
    - Remove the drive bracket.
    - Eject the GD-ROM disc, place it in its case, and store in a safe place.
- Remove the wire harnesses and cables from the TRIFORCE and GD-ROM drive before sending them in for repairs.
- Do not disassemble the TRIFORCE or GD-ROM drive. Place them in the carton box as is when sending them in for repairs.
- Provide a clear, detailed description of the game used and the observed problems when sending to the indicated repair center.

### HOW TO USE THE TRIFORCE CARTON BOX

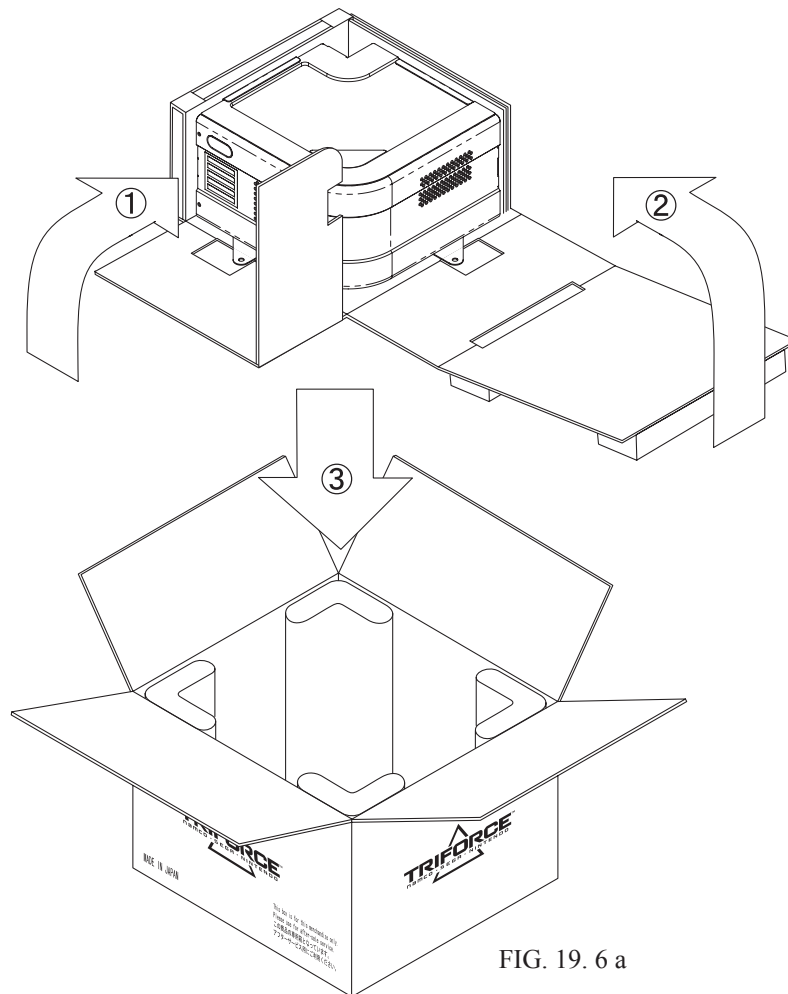


FIG. 19. 6 a

Fold the packaging in the order specified in the diagram and wrap it around the TRIFORCE, making sure that board and box are aligned correctly. Finally, place it in the carton box.

Failure to wrap the product as specified in the diagram may cause damage to parts.

## HOW TO USE THE CARTON BOX (GD-ROM DRIVE)



When you want to order for replacing or repairing service of the GD-ROM drive that is used by the product, pack it in a carton box as instructed below, and then deliver the carton box to a service agent. If you do not observe the instruction, your order may not be accepted or may be charged additionally. If you handle the GD-ROM drive differently from the following instructions, its components may be damaged.

- Contain the GD-ROM drive in a dedicated carton box. Do not disassemble it or remove any part from it unless otherwise instructed.
- Before containing the GD-ROM drive in a dedicated carton box, attach the GD-ROM drive lid (DISC LID) onto the drive and fix the lid with a screw.
- Before containing the GD-ROM drive in a dedicated carton box, remove the GD-ROM disc from the drive. Do not attempt to move the GD-ROM drive with a GD-ROM disc inside.
- Before containing the GD-ROM drive in a dedicated carton box, remove the GD-ROM drive bracket. Carefully keep the GD-ROM drive bracket and the 4 set screws, because they will be reused.
- When inserting the GD-ROM drive into a dedicated carton box, be careful about an inserting direction as illustrated below.
- The packing materials in a carton box are used as a cushion. Use them always when inserting the GD-ROM drive into a dedicated carton box. Do not bend them.

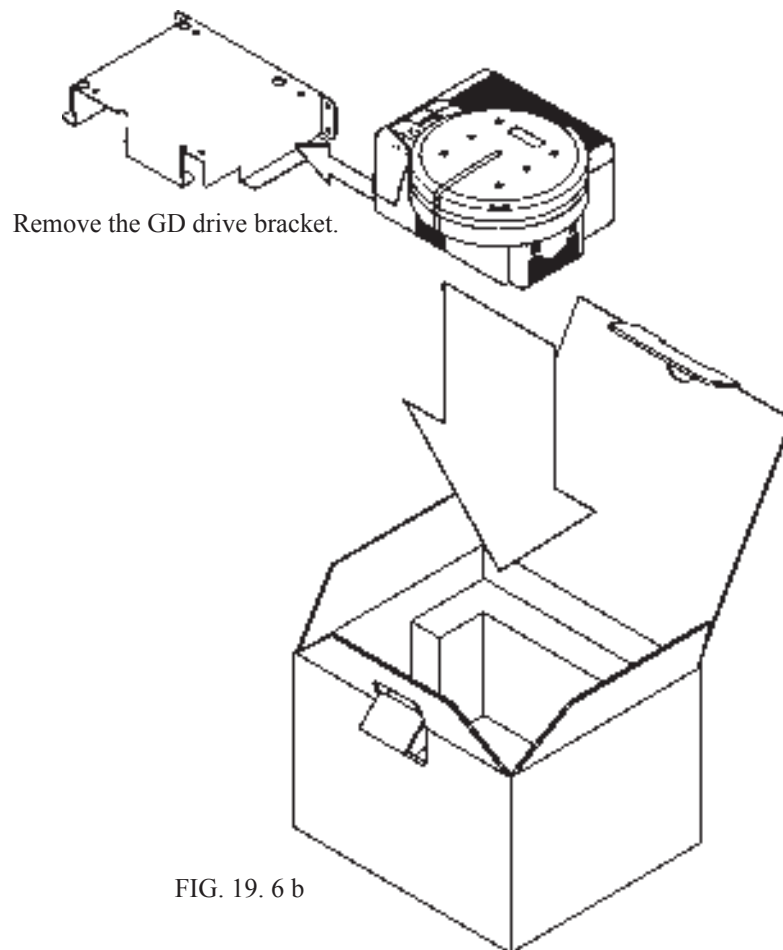


FIG. 19. 6 b

## 20. NETWORK PLAY

Up to 4 machines can be linked for network play. Properly connected network cables and correct network play settings are required for network play.

### 20-1 PRECAUTIONS REGARDING NETWORK PLAY SETUP



- 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 site maintenance individual or other skilled professional. Performing work by non-technical personnel can cause electric shock hazard.
- When linking a number of machines, be sure to supply sufficient power for the corresponding number of machines. Be sure to secure per machine current as stated in this manual. Failure to observe this can cause a fire and an electric shock accident.
- Due to the length of the network cable, the distance in between the machines is limited. However, to avoid accidents, be sure to secure space in excess of 70 cm between the machines.
- To perform work safely and avoid serious accident such as the cabinet's falling down, do not perform work in places where step-like grade differences, a ditch, or slope exist.



- To perform work safely, be sure to secure the space corresponding to number of machines to be linked. Failure to observe this can cause accident.
- To avoid accidents, use a cable cover that will not cause patrons to trip when laying network cables in areas of heavy foot traffic.
- To prevent accidents and acts of vandalism, cover the network cables with the strongest cover possible.



Network play is not possible between game machines with different cabinet types.

When connecting several games machines together, make sure that a sufficient amount of electrical power is available for each machine. Plan on providing 7A for each machine in 100-120V locations, and 4A in 220-240V locations.

# SPACING OF GAME MACHINES

Be sure to secure space in excess of the described distance between machines.

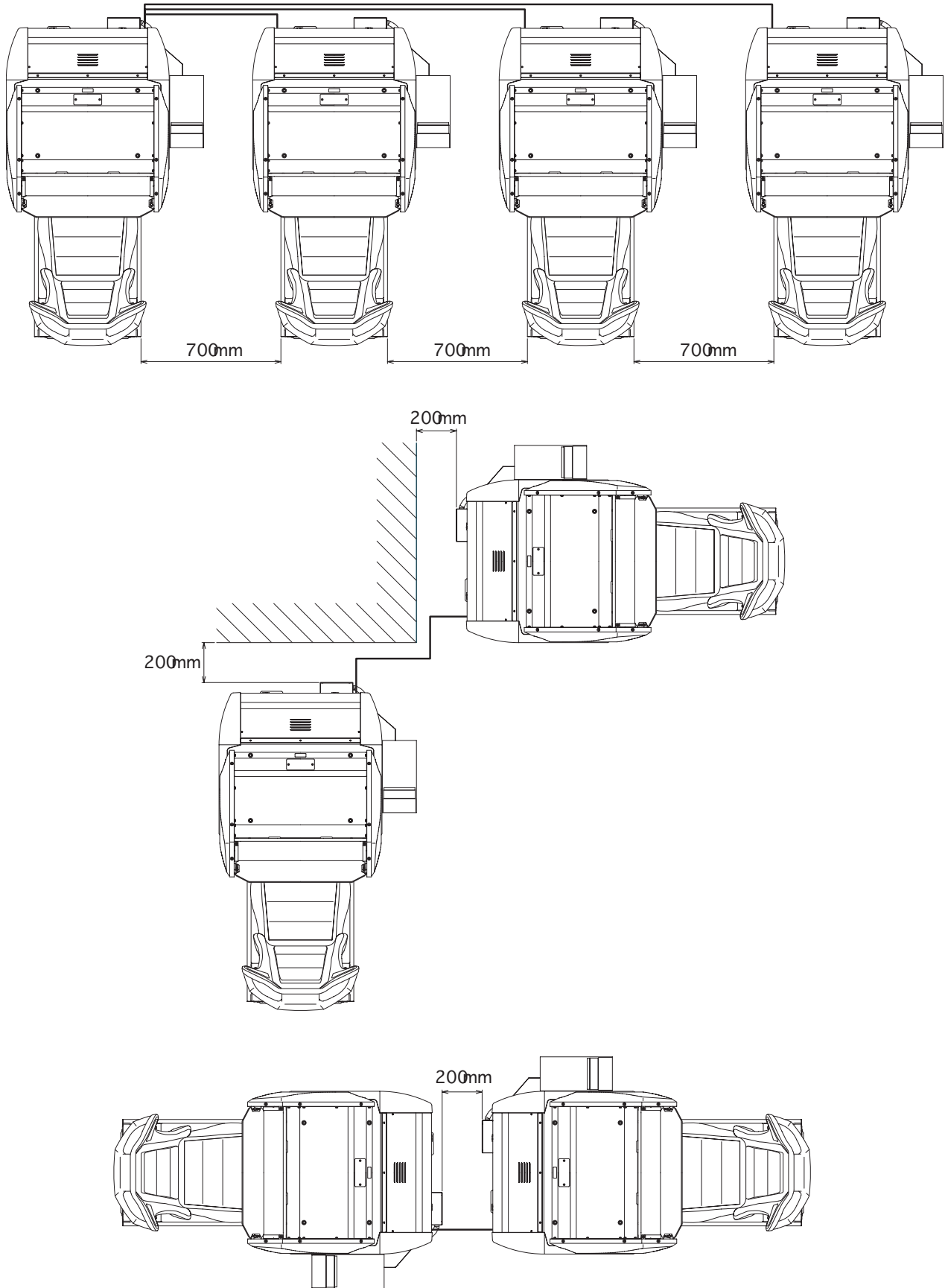


FIG. 20. 1

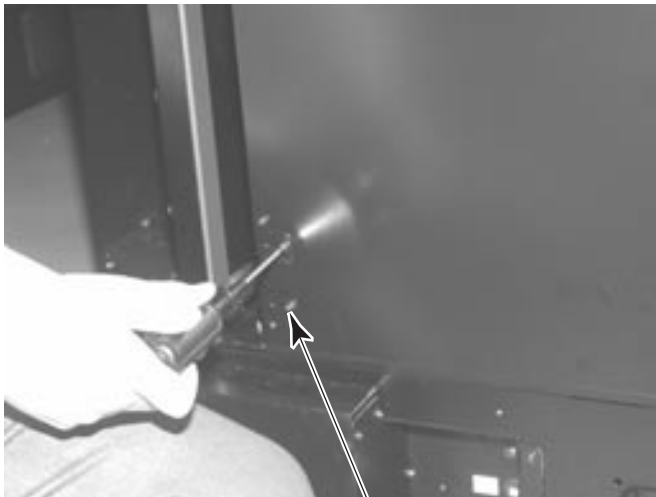
## 20-2 CONNECTING NETWORK CABLES

To enable network play, the hubs inside each of the game machines involved must be connected with network (LAN) cables. Connect the hub inside one of the machines to the hubs in each of the other machines using LAN cables. There is no need to connect the other machines to each other.

Do not connect LAN cables to game machines when they are not used for network play.

The following procedure requires the included LAN cables, the master key and a M4-size screwdriver.

- Turn off the power and unplug the power cord from the outlet. Place the power cord so as not to damage it while working.
- Using Section 8 of this manual as reference, move the machines so that they are lined up. Leave enough space on the back lid side of the machine to perform the rest of the operations in this procedure.
- The edge holders (the holes through which the LAN cables are threaded) are located on the left and right sides of the lower back lid. Decide how the LAN cables should be threaded according to the layout of the machines. To reach the edge holders, loosen 2 of the screws on the cable cover and slide the cover aside.



SCREW (2), black  
M4×8, w/flat & spring washers



CABLE COVER

PHOTO 20. 2 a



- Tighten the 2 screws firmly to secure the cable cover in place.
- Remove the 6 screws from the lower back lid and then remove the lid.

SCREW (6), black  
M4×8, w/flat & spring washers

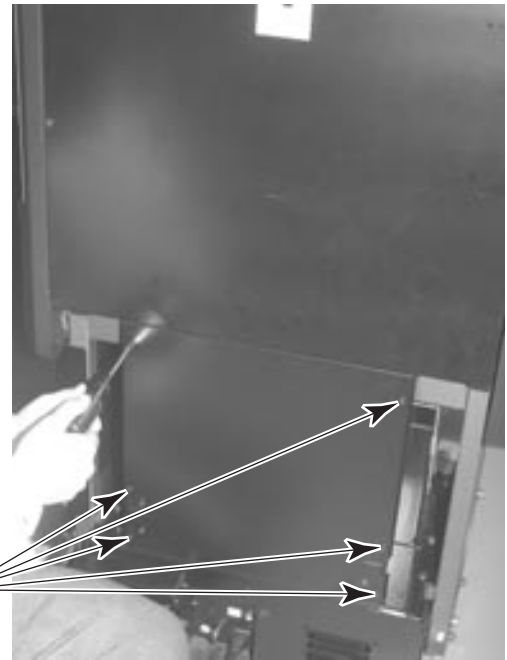


PHOTO 20. 2 b

- Pass the LAN cable through the edge holder (the rectangular frame-shaped plastic part.) Pressing down on the edge holder from above will cause it to stretch elastically and open up.
- Plug the connector on the end of the LAN cable into port 2 or above on the hub. Port 1, located at the front closest to the front lid, is connected to the TRIFORCE in the base interior. Any of the ports 2 or above can be used to connect to any of the other game machines. Since the hub in one machine will be connected to the hubs in each of the other machines via LAN cables, only one machine needs to be fitted with enough LAN cables for all machines involved. The other machines will only have 2 cable connections each.
- Replace the lower back lid.
- Once the machines have been linked for network play, line them up. Leave as much space as possible between the machines.
- Secure all adjustors on each machine. (See 2 of Section 6.)
- Connect the power cord and grounding wire for each machine. (See 4 of Section 6.)

## 20-3 NETWORK PLAY SETTINGS

Each of the linked machines must be set up for network play. If the machines are not set up correctly, network play will not be possible.

### HOW TO SET UP A MACHINE FOR NETWORK PLAY

- Turn off the power on each machine to be used in network play.
- Enter Test mode on each machine. (See 10-2.)
- Select GAME TEST MODE and press the TEST Button. The machine will enter Game Test mode and the screen will display the Game Test menu. (See 10-3.)
- Select NETWORK SETTINGS from the Game Test menu and press the TEST Button. The Network Settings screen will appear. Network settings are carried out on this screen.

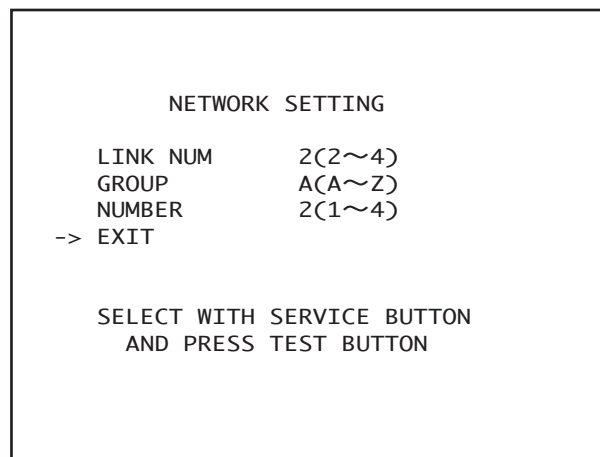


FIG. 20. 3

- Set the LINK NUM setting on the Network Settings screen to the number of game machines linked for network play.
- Set up the GROUP setting on the Network Settings screen. The GROUP setting is used to divide the machines linked for network play into groups. For example, a network of 4 machines could be divided into 2 groups of 2 machines.
- Set the NUMBER setting on the Network Settings screen so that each machine within a group has a different number. Make sure that one machine in each group is set to "1".
- Exit Test mode on each machine. Be sure to choose EXIT from the System Test Menu to exit Test mode properly.
- Once each machine has exited Test mode and gone through initialization, it will begin a network test. During the network test, the monitor will display a network test screen. If there are no problems with network play settings or cable connections, the machine will enter Advertising mode.
- If the advertising screen appears after the network test is finished, network settings are complete. The network test should last roughly 20 to 30 seconds. If the network test screen fails to disappear, the problem is most likely due to one of the following: incorrect settings, an improperly connected LAN cable, a faulty LAN cable connection, or a severed wire.



IMPORTANT!

- When setting up machines for network play, settings such as the game's difficulty level will be derived from the machine whose "NUMBER" is set to "1". If settings on machine "1" are changed, the other machines will have their settings changed accordingly. On machines other than "1", settings derived from machine "1" will not be displayed on screen and cannot be changed.
- Should a network connection fail during network play, gameplay will be suspended and the Network Error Screen will be displayed.
- If one of the units attached for network play enters Test Mode, the other unit will display the same Test Mode Screen.
- Even when units are connected for network play, each seat, each game may be given different cost settings. Incorrect cost settings may cause budget balancing problems.

Note that when 2 or more machines are linked together for network play, some functions are different than for stand-alone machines.

Whenever Test mode is used on a machine linked for network play, all machines connected to the network will display the network test screen. When patrons are engaged in network play, do not enter Test mode on any of the machines in the network, even if the machine is not in use.

However, machines whose GROUP setting is different from that of the machine entering Test mode will not be affected.

## 21. DESIGN RELATED PARTS

For the warning display stickers, refer to Section 1.



## 22. PARTS LIST

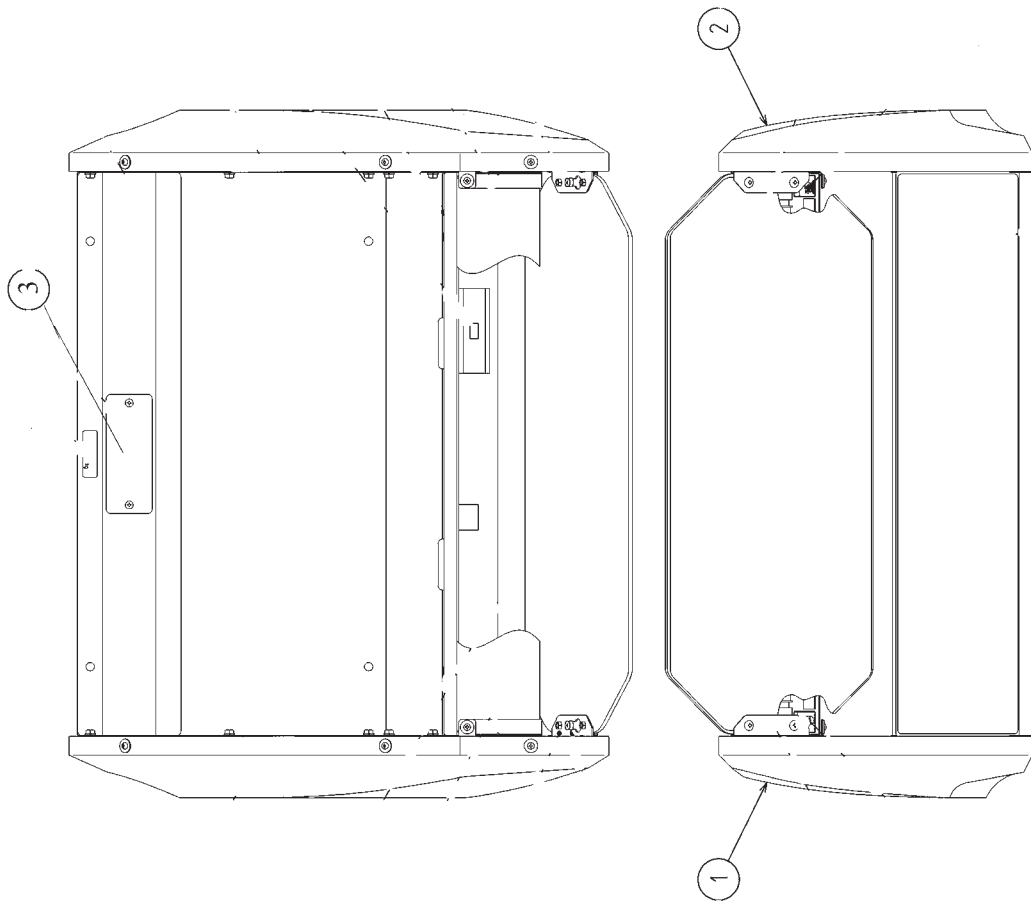
① Main Cabinet

D-1/2



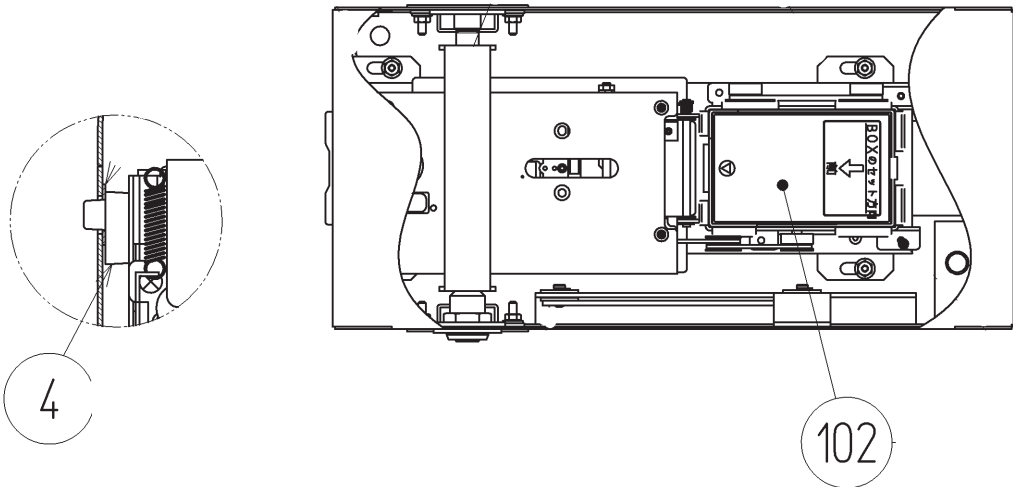
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	999-1931	Marquee Cover Side Left	
2	999-1932	Marquee Cover Side Right	
3	999-1940	Monitor Cover Side Left	
4	999-1941	Monitor Cover Side Right	
5	SPG-2200	Assy Accel and Brake	
6	999-1945	Floor Mat FZR STD	
7	FZR-2500	Assy Steering	
8	FZR-2600	Assy Handle Mecha	
9	FZR-1601	Seat Back Cover	
10	DUT-2202	Upper Seat	
11	DUT-2203	Lower Seat	
12	STCC-00781	Assy Seat Slide Turtle	
13	130-5156-01	Speaker Left	
14	STC-1608	Speaker Net Left	
15	130-5156-01	Speaker Right	
16	STC-1609	Speaker Net Right	
17	999-1935	Monitor Bezel 25"	
18	999-0313	Monitor Glass	24 5/16x21 3/16x3/16 Grey Tint Tempered Glass
19	999-0169	Caster	
20	999-0167	Leg Leveler	
21	130-5156-01	Speaker Box 80Ohm 20W	
22	999-1953	Cushion Seat Black	

② ASSY BILLBOARD (FZR-0200)



ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	999-1931	SIDE COVER L	
2	999-1932	SIDE COVER R	
3	Local Purchase	Fluorescent Lamp 20W Coolwhite	

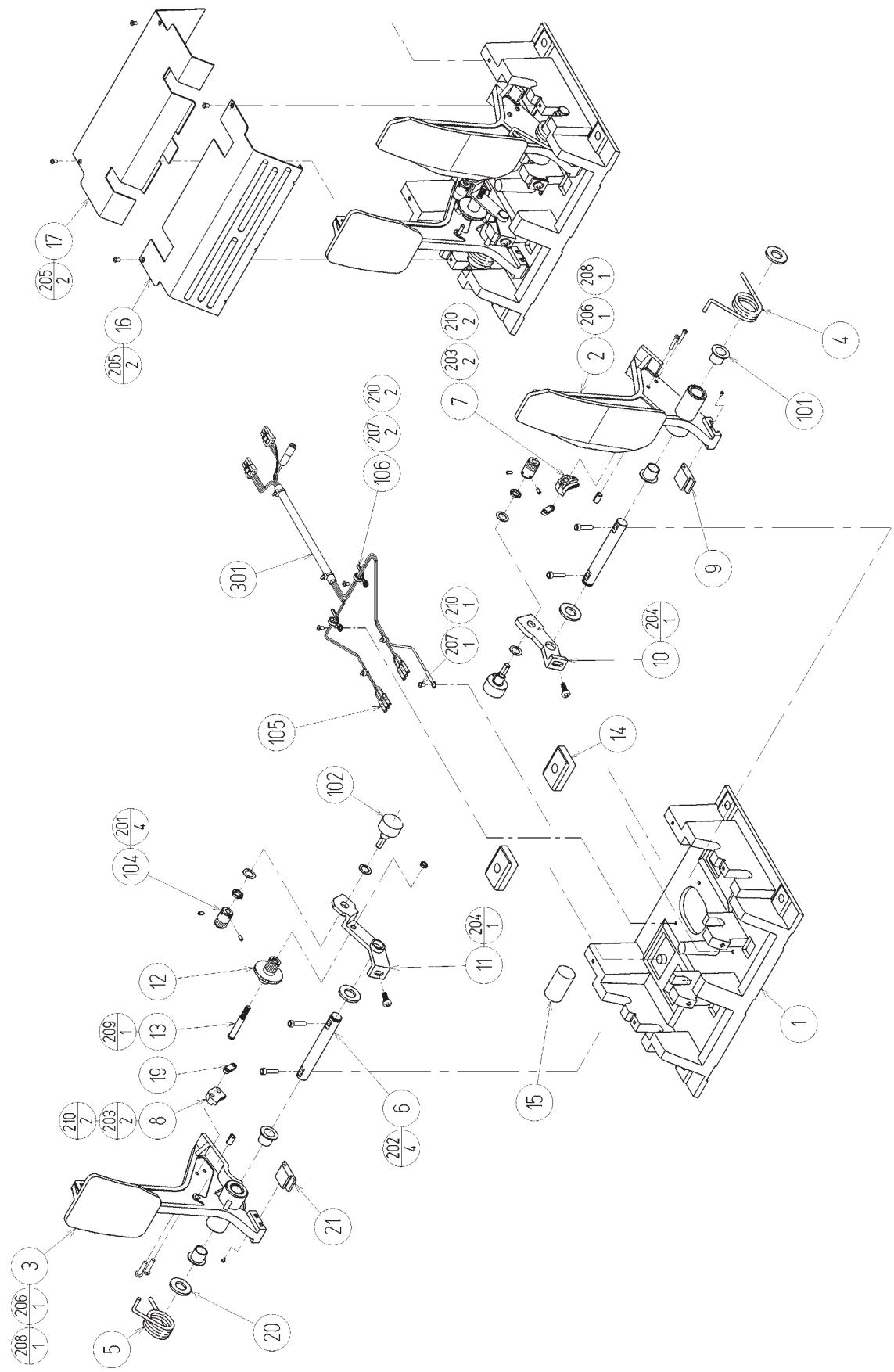
### ③ CARD UNIT



ITEM NO.	PART NO.	DESCRIPTION	NOTE
4	253-5512	Card Guide	
102	601-11082	Card R/W Unit	
	998-0200	Optic Photo Interuptor	
	999-1305	LED Lamp Indicator RED	

14 ASSY ACCEL&BRAKE (SPG-2200)

D-1/2



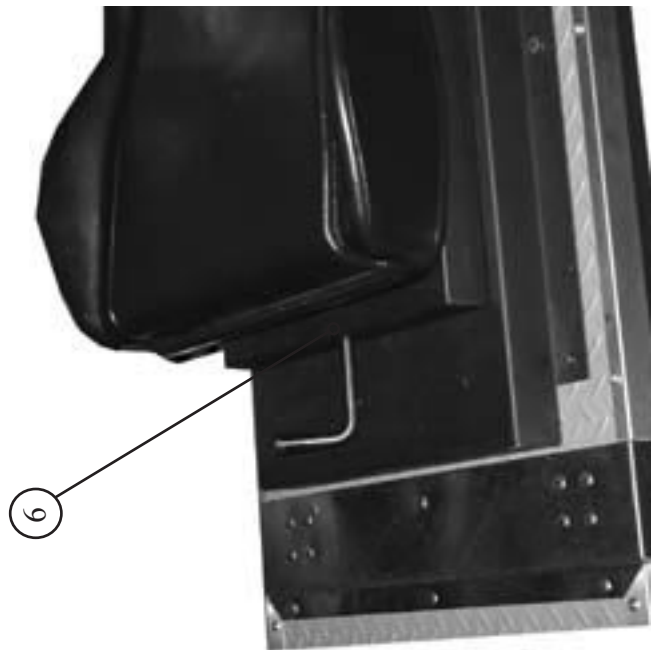
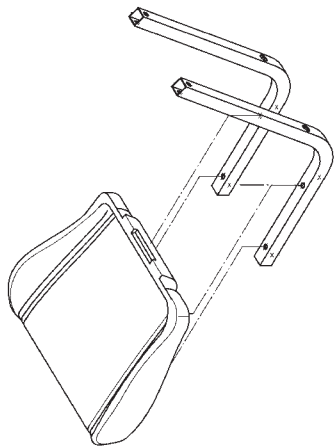
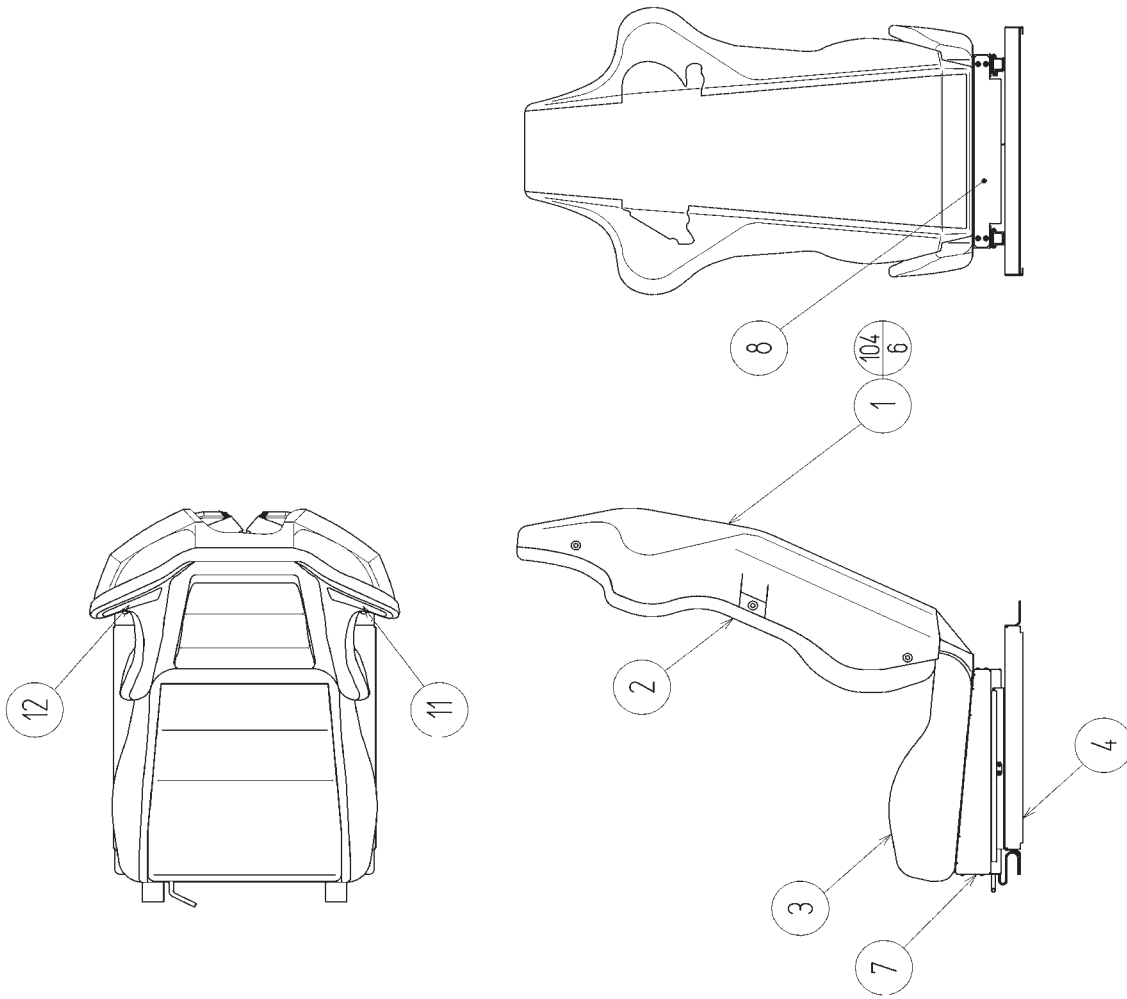


⑭ ASSY ACCEL&BRAKE (SPG-2200)

D-2/2

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	SPG-2201	BASE	
2	SPG-2202	ACCEL PEDAL	
3	SPG-2203	BRAKE PEDAL	
4	SPG-2204	ACCEL SPRING	
5	SPG-2205	BRAKE SPRING	
6	SPG-2206	SHAFT	
7	SPG-2207	ACCEL GEAR	
8	SPG-2208	BRAKE GEAR	
9	SPG-2209	NEUTRAL STOPPER	
10	SPG-2210	VR PLATE ACCEL	
11	SPG-2211	VR PLATE BRAKE	
12	SPG-2212	AMPL GEAR	
13	SPG-2213	GEAR SHAFT	
14	SPG-2214	STOPPER	
15	SPG-2215	RUBBER CUSHION	
16	SPG-2216	COVER	
17	SPG-2217	VR COVER	
19	SPG-2219	GEAR STAY	
20	SPG-2220	WSHR	
21	SPG-2221	NEUTRAL STOPPER D	
101	100-5263	BEARING 12(OILES 80F-1212)	
102	220-5484	VOL CONT B-5K OHM	
	220-5753	VOL CONT B-5K OHM	
104	601-7944	GEAR 15	
105	310-5029-F15	SUMITUBE F F15MM	
106	280-0419	HARNES LUG	
201	028-A00304-P	SET SCR HEX SKT CUP P M3×4	
202	020-000520-0Z	HEX SKT H CAP SCR BLK M5×20	
203	000-P00420	M SCR PH M4×20	
204	000-P00508-W	M SCR PH W/FS M5×8	
205	000-T00408-0C	M SCR TH CRM M4×8	
206	FAS-450005	SPR PIN BLK OZ 6×10	
207	000-P00405	M SCR PH M4×5	
208	FAS-000001	M SCR TH CRM M3×6	
209	050-H00500	HEX NUT M5	
210	060-F00400	FLT WSHR M4	
301	600-6840	WIRE HARN ACCEL&BRAKE	

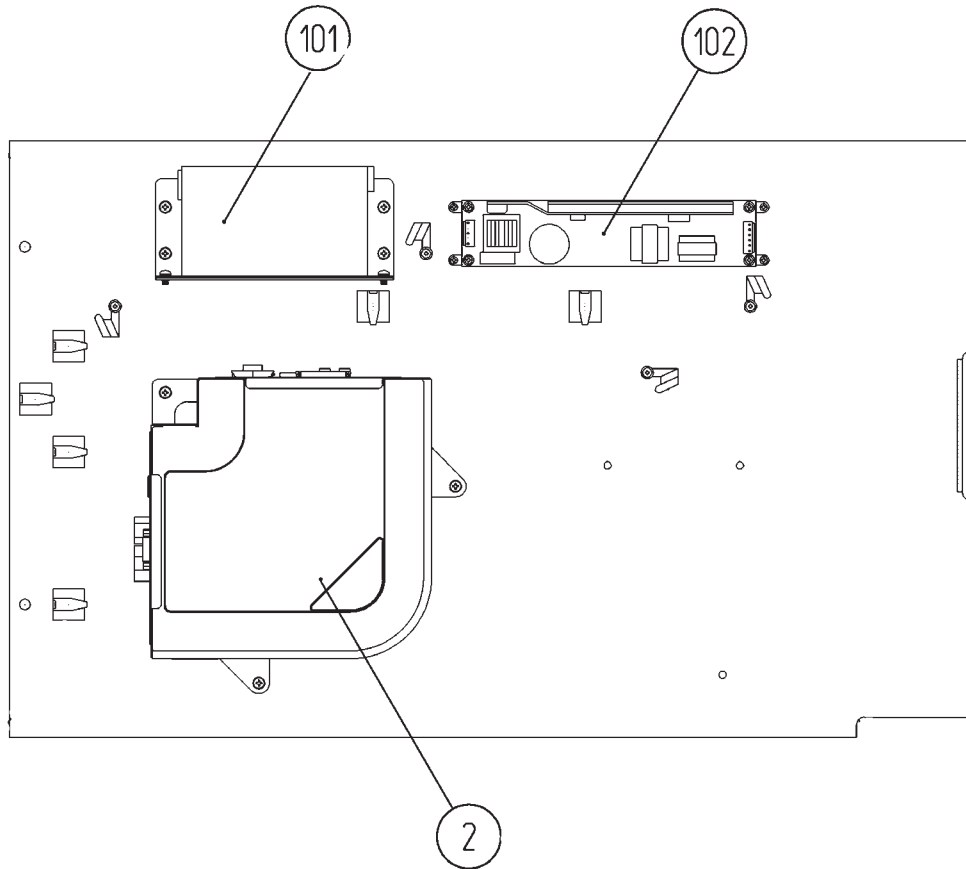
5 ASSY SEAT STD



## ⑤ ASSY SEAT STD

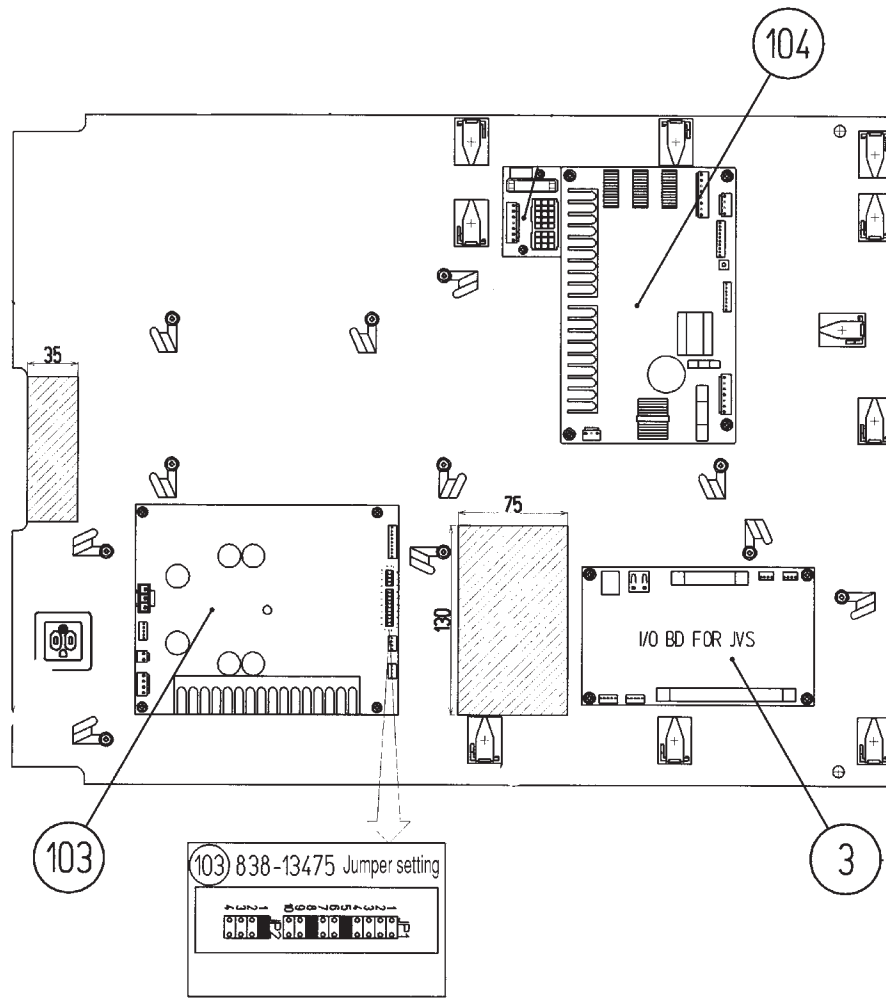
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	999-0874	SEAT BACK COVER ENG	
2	DUT-2202	UPPER SEAT	
3	DUT-2203	LOWER SEAT	
4	FZR-1602	SEAT BASE	
6	STCC-00781	SEAT TURTLE	
7	FRI-3307	FRONT TRAY COVER	
8	NCR-2406	REAR TRAY COVER	
11	STC-1608	SPEAKER NET L	
12	STC-1609	SPEAKER NET R	
104	280-5297	SCRIVET 8 1K31	

⑥ ASSY MAIN BD (FZR-4500)



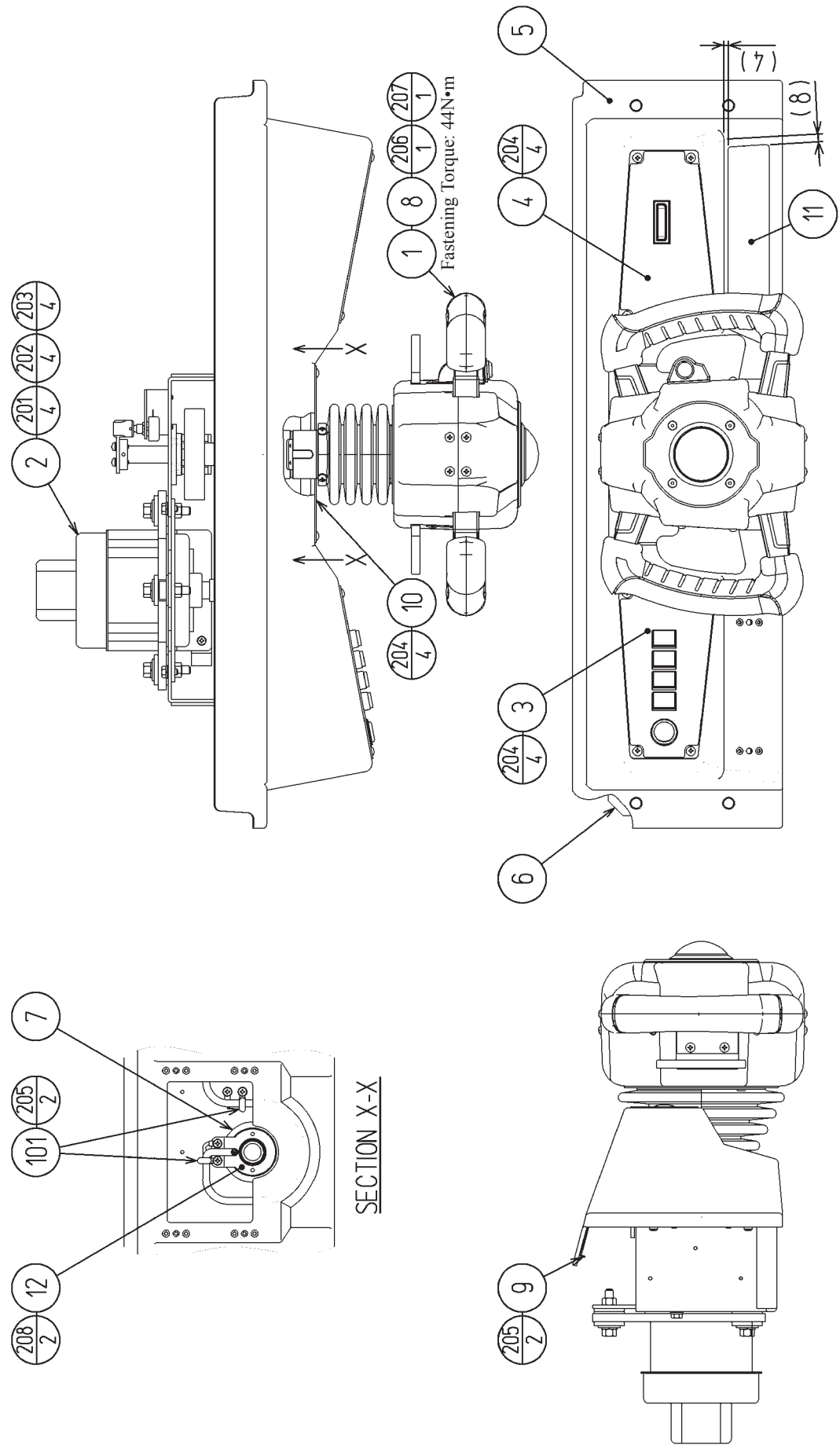
ITEM NO.	PART NO.	DESCRIPTION	NOTE
2	842-02DD511U	ASSY TRF FZR USA	<USA>
101	400-5397-01	SW REGU FOR JVS VA	
102	400-5421-07512	SW REGU LCA75S-12	
	998-0194	Filter Line 6amp Yupen Y	
	998-0138	Transformer FR-503	
	XKT-0833	Kit GD Rom Drive	
		8 Port Hub	
	998-0201	8 Port Hub 7.5V 1amp transformer	

⑦ ASSY ELEC BD (FZR-4600)



Do not wire across the diagonal lines.  
Perform the jumper setup as directed.

ITEM NO.	PART NO.	DESCRIPTION	NOTE
3	837-13551-92	I/O CONTROL BD FOR JVS	
103	838-13475	PWR AMP 4CH & MIXER	
104	838-14174	SERVO MOTOR DRIVE BD MIDI	

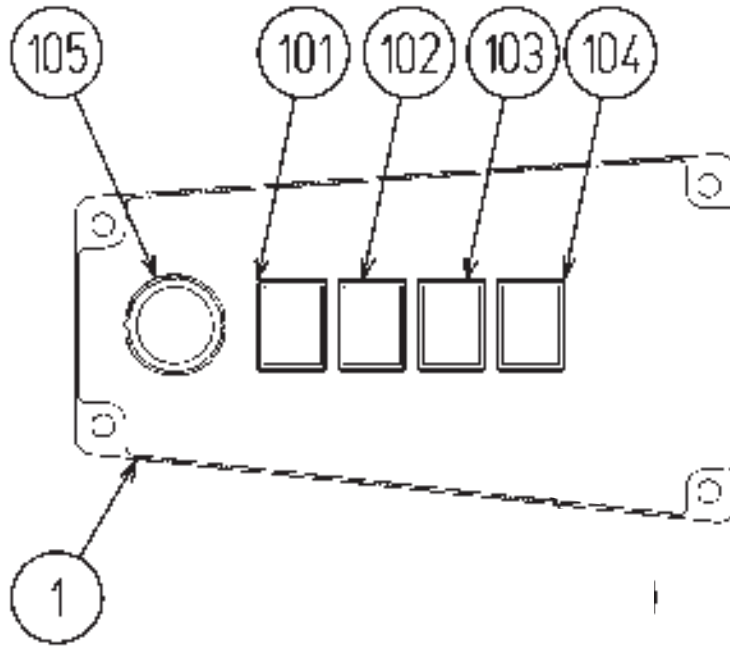
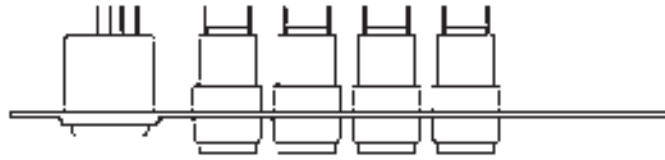


24 ASSY CONTROL PANEL STD (FZR-20001)

D-2/2

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	FZR-2500	ASSY STEERING	
2	FZR-2600	ASSY HANDLE MECHA	
3	FZR-2150	ASSY START VIEW	
4	FZR-2160	ASSY MEMORY SLOT	
5	FZR-2020	CONTROL PANEL COVER	
6	FZR-2021	CONTROL PANEL BRKT	
7	FZR-2022	HANDLE COLLAR	
8	FZR-0014	HANDLE SPACER RING	
9	TOF-2006	COVER HOLDER	
10	FZR-2023	CTRL PNL COVER LID	
11	FZR-2024-01	STICKER MEMORY SLOT LOWER ENG	
12	FZR-1019	WIRE HOLDER	
101	280-5257	TIE BASE TAIS8	
102	601-0460	PLASTIC TIE BELT 100 MM	
103	280-5009-01	CORD CLAMP 21	
104	601-6231-C050	EDGING NEW TYPE	
105	601-5526-120	BUSH 1.6T	
106	280-5275-SR10	CORD CLAMP SR10	
201	050-H00800	HEX NUT M8	
202	060-S00800	SPR WSHR M8	
203	060-F00800	FLT WSHR M8	
204	000-T00412-0B	M SCR TH BLK M4×12	
205	000-P00408-W	M SCR PH W/FS M4×8	
206	050-H01000	HEX NUT M10	
207	060-S01000	SPR WSHR M10	
208	000-F00310	M SCR FH M3×10	
209	000-P00408	M SCR PH M4×8	
210	060-S00400	SPR WSHR M4	
211	060-F00400	FLT WSHR M4	
301	TOF-60016	WH EXT VOLUME C	
302	TOF-60017	WH EXT VIEW BUTTON C	
303	FZR-61008	WH EXT HANDLE	
304	600-7064-027	WIRE HARN EXT ENCODER B	
305	600-7064-028	WIRE HARN EXT MOTOR B	
306	FZR-61019	WH EXT MEM CARD C	
307	FZR-61020	WH EXT MEM CARD PWR C	
308	600-6972-0300	WIRE HARN EARTH ID5 0300MM	

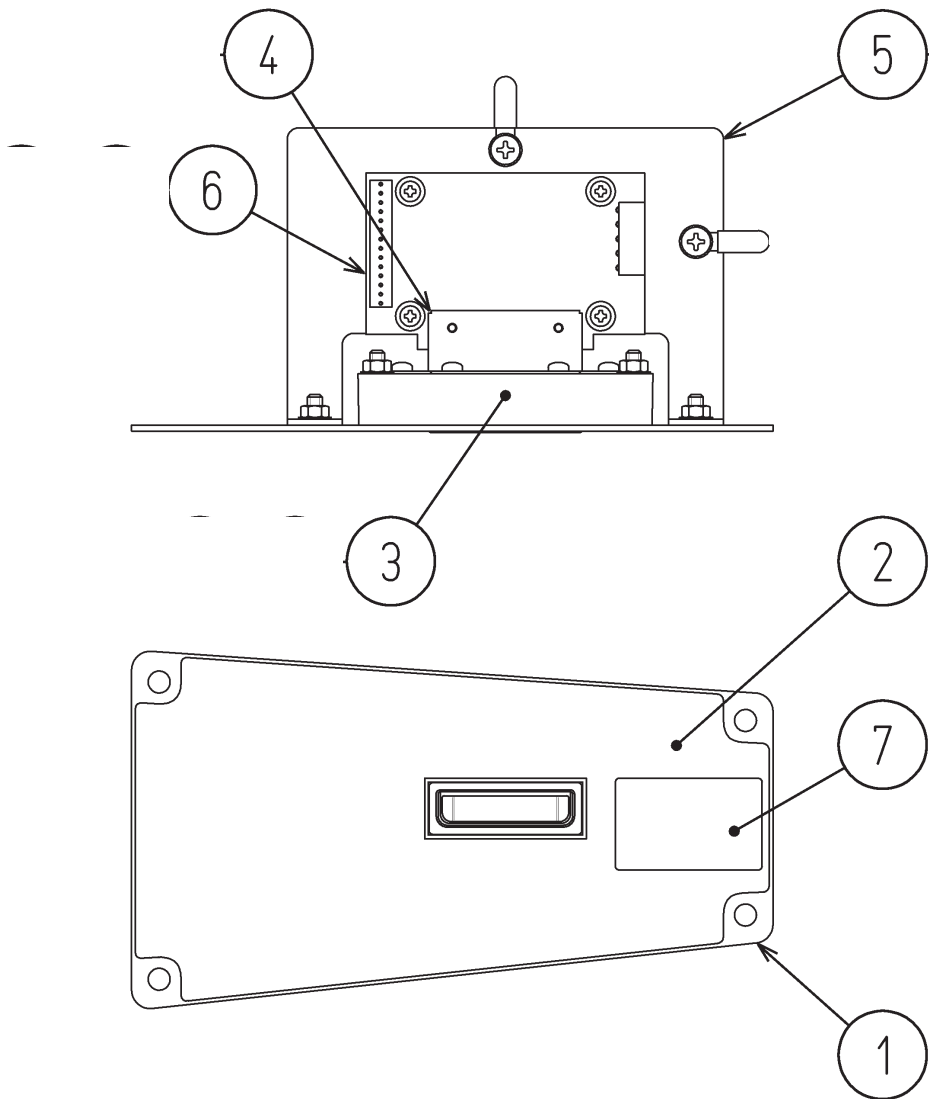
⑨ ASSY START VIEW (FZR-2150)



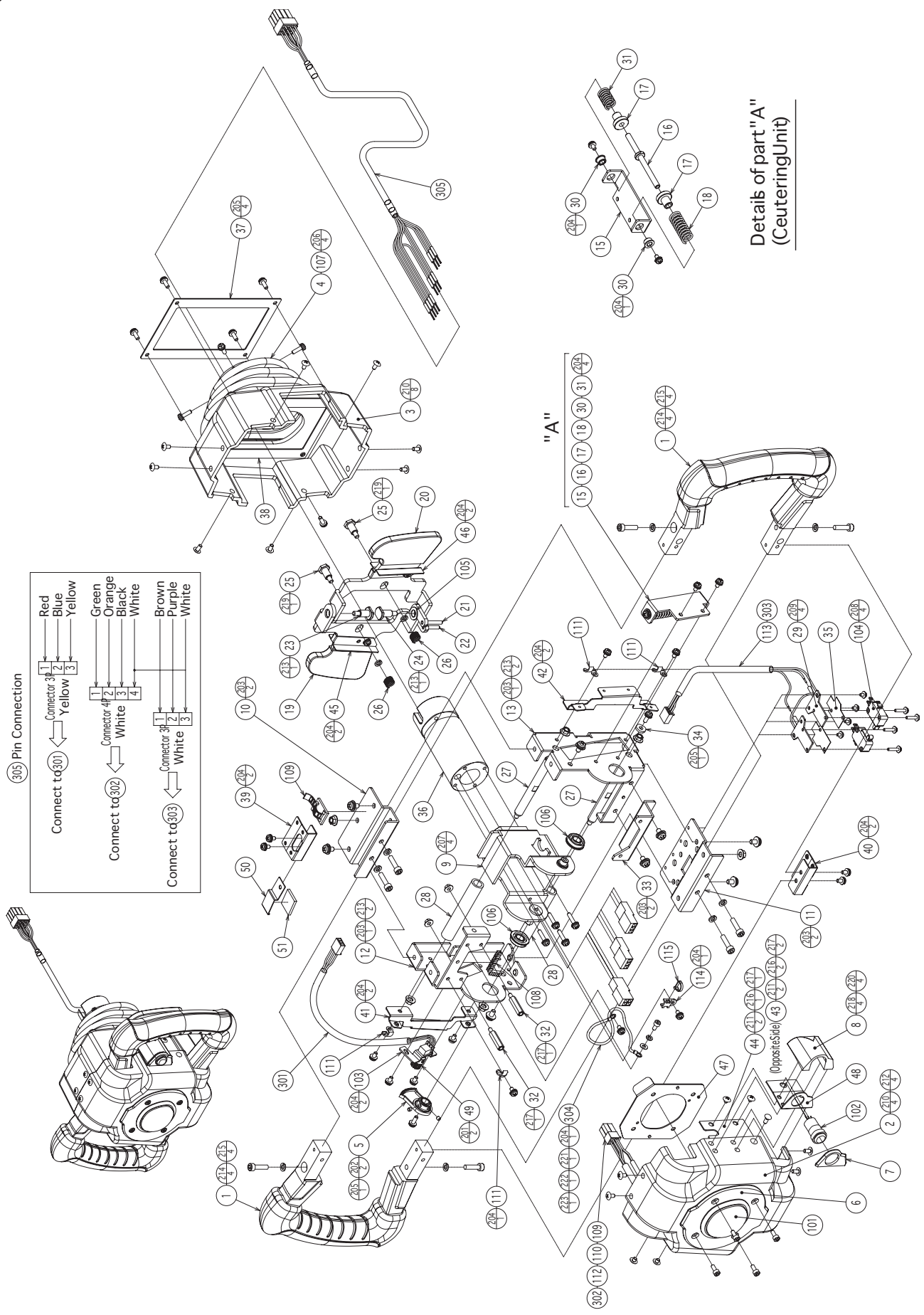
ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	999-1936	START VIEW PLATE	
101	999-1949	SW PB W/LAMP 6V RED	
102	999-1948	SW PB W/LAMP 6V BLUE	
103	999-1950	SW PB W/LAMP 6V YELLOW	
104	999-1947	SW PB W/LAMP 6V GREEN	
105	999-1861	SW PB TYPE 1T YEL W/LAMP	



⑩ ASSY MEMORY SLOT (FZR-2160)



ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	FZR-2161	MEMORY SLOT PLATE	
2	999-1937	STICKER MEMORY SLOT ENG	
3	FZR-1293	MEMORY SLOT BASE	
4	FZR-1294	MEMORY SLOT HOLD BRKT	
5	FZR-2163	MEMORY BD BASE STD	
6	837-14399	MEMORY CARD I/F MC BD	
7	FZR-1297-01	STICKER MEMORY CAUTION ENG	



# ⑪ ASSY STEERING (FZR-2500)

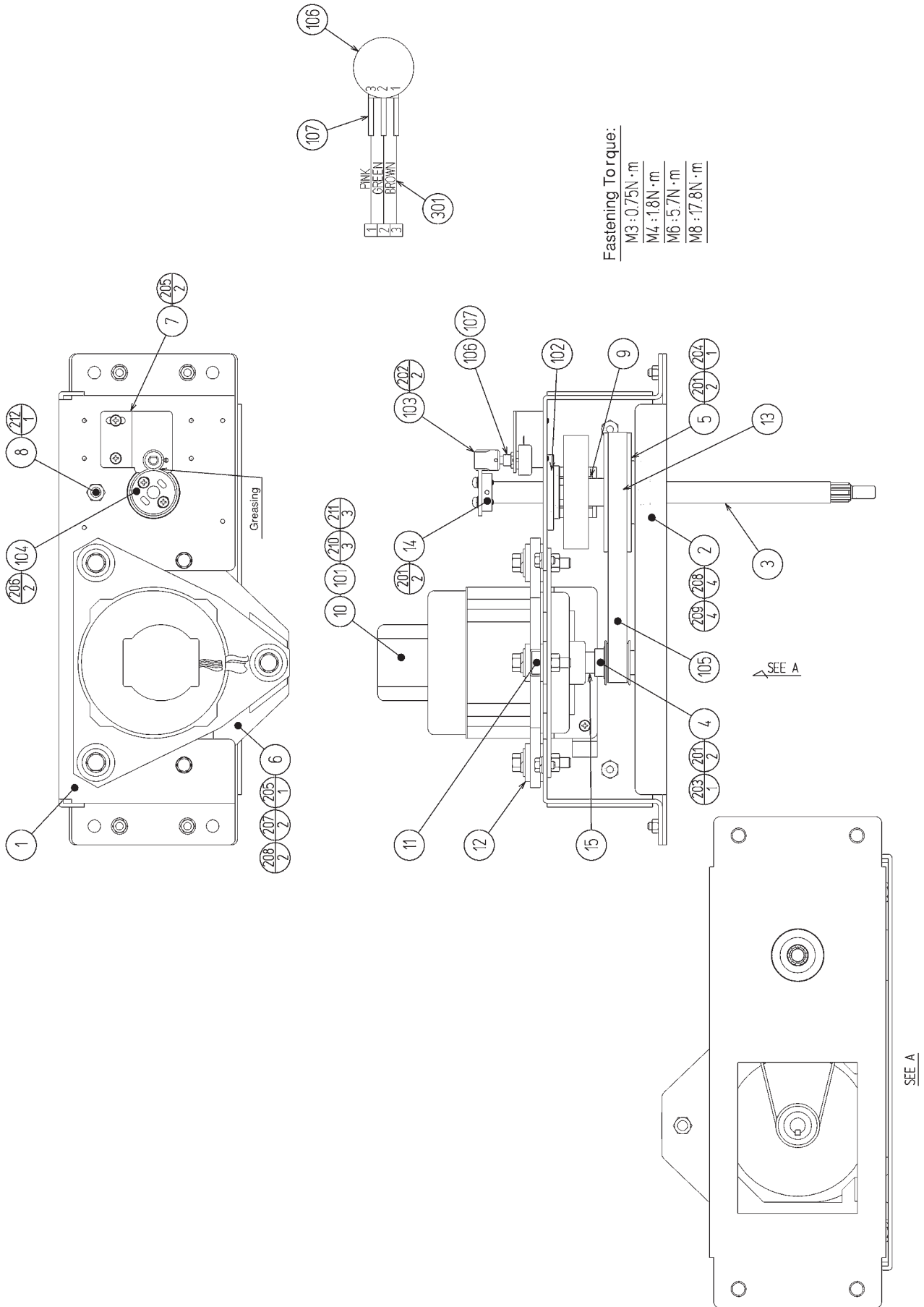
D-2/3

ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	FZR-2501	HANDLE	
2	FZR-2502	STEERING COVER FRONT	
3	FZR-2503	STEERING COVER REAR	
4	FZR-2504	STEERING BELLOWS	
5	FZR-2505	GEAR 77	
6	FZR-2506	BOOST PANEL	
7	FZR-2507	SUB BOOST PANEL	
8	FZR-2508	SUB BOOST HOLDER	
9	FZR-2509	STEERING SHAFT BASE	
10	FZR-2510	STEERING BASE A	
11	FZR-2511	STEERING BASE B	
12	FZR-2512	STEERING STAND L	
13	FZR-2513	STEERING STAND R	
15	FZR-2515	CENTERING BASE	
16	FZR-2516	CENTERING SHAFT	
17	FZR-2517	CENTERING COLLAR	
18	FZR-2518	CENTERING SPRING A	
19	FZR-2519	PADDLE L	
20	FZR-2520	PADDLE R	
21	FZR-2521	PIN L	
22	FZR-2522	PIN R	
23	FZR-2523	PADDLE SHAFT A	
24	FZR-2524	PADDLE SHAFT B	
25	FZR-2525	PADDLE STOPPER PIN	
26	FZR-2526	PADDLE SPRING	
27	FZR-2527	STOPPER SHAFT	
28	FZR-2528	STOPPER RUBBER	
29	FZR-2529	SW ADJUST PLATE	
30	FZR-2530	BUSH	
31	FZR-2531	CENTERING SPRING B	
32	FZR-2532	HEX SPACER	
33	FZR-2533	BOOST BUTTON BASE B	
34	FZR-2534	BEARING COLLAR	
35	FZR-2535	INSULATION SHEET	
36	FZR-2536	HANDLE COLLAR	
37	FZR-2537	BELLOWS PLATE A	
38	FZR-2538	BELLOWS PLATE B	
39	FZR-2539	COVER STAY A	
40	FZR-2540	COVER STAY B	
41	FZR-2541	COVER STAY L	
42	FZR-2542	COVER STAY R	
43	FZR-2543	PADDLE COVER L	
44	FZR-2544	PADDLE COVER R	
45	FZR-2545	SLIDE PLATE L	
46	FZR-2546	SLIDE PLATE R	
47	FZR-2547	BOOST BUTTON PLATE	
48	FZR-2548	SUB BOOST STAY	
49	350-5580	GEAR 10.5	
50	FZR-2549	CORD CLAMP STAY	
51	FZR-2550	SPONGE SHEET	

# 11 ASSY STEERING (FZR-2500)

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ITEM NO.	PART NO.	DESCRIPTION	NOTE
101	509-6035	SW OBSA-60UMQ-B-1TLED-B-12V	
102	509-5524-01	PUSH BUTTON SW BLUE	
103	220-5775	VOL CONT B-10K OHM W/BD	
104	509-6036	SW MICRO MATSUSHITA AM51615A7	
105	100-5365-0803	OILES BEARING 80F 0803	
106	100-5102	BEARING 9 NSK F699ZZ	
107	280-6622-40080	SPACER TUBE	
108	601-6563-48	BUSH 2.4T	
109	280-5008	CORD CLAMP 15	
110	280-5275-SR10	CORD CLAMP SR10	
111	280-0419	HARNES LUG	
112	310-5029-D15	SUMITUBE F D 15MM	
113	310-5029-G20	SUMITUBE F G 20MM	
114	280-5257	TIE BASE TA1S8	
115	601-0460	PLASTIC TIE BELT 100 MM	
201	028-A00304-P	SET SCR HEX SKT CUP P M3×4	
202	028-A00404-P	SET SCR HEX SKT CUP P M4×4	
203	000-P00510-W	M SCR PH W/FS M5×10	
204	000-P00408-W	M SCR PH W/FS M4×8	
205	000-P00412-WB	M SCR PH W/FS BLK M4×12	
206	FAS-000125	M SCR PH W/SMALL FS BLK M4×14	
207	000-P00420-W	M SCR PH W/FS M4×20	
208	000-P00316-W	M SCR PH W/FS M3×16	
209	000-P00306-W	M SCR PH W/FS M3×6	
210	000-T00406-0B	M SCR TH BLK M4×6	
211	FAS-000124	M SCR TH BLK M4×4	
212	FAS-200053	HEX SKT H CAP SCR CRM M4×10	
213	050-F00500	FLG NUT M5	
214	020-000520-0Z	HEX SKT H CAP SCR BLK M5×20	
215	060-S00500-0B	SPR WSHR BLK M5	
216	031-000410-0B	CRG BLT BLK M4×10	
217	050-F00400	FLG NUT M4	
218	060-S00400-0B	SPR WSHR BLK M4	
219	FAS-600019	SPR WSHR BLK D=8.5 M5	
220	020-000412-0Z	HEX SKT H CAP SCR BLK OZ M4×12	
221	020-000408-0Z	HEX SKT CAP SCR BLK OZ M4×8	
222	060-S00400	SPR WSHR M4	
223	060-F00400	FLT WSHR M4	
301	FZR-60057X	WH HANDLE01	
302	FZR-60058X	WH HANDLE02	
303	FZR-60059	WH HANDLE03	
304	600-6972-0150	WIRE HARN EARTH ID5 0150MM	
305	FZR-60046	WH MONITOR BOX08	



12 ASSY HANDLE MECHA (FZR-2600)

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ITEM NO.	PART NO.	DESCRIPTION	NOTE
1	SPG-2501X	HANDLE BASE	
2	SPG-2502	BASE LID	
3	FZR-2601	HANDLE SHAFT	
4	SPG-2504	PULLEY 20 S5M	
5	SPG-2505	PULLEY 60 S5M	
6	SPG-2506	MOTOR BRKT	
7	FZR-2602	VR BRKT	
8	SPG-2108	STOPPER BOLT	
9	SPG-2109	STOPPER RUBBER	
10	SPG-2453	KEY 4×4×40	
11	ASK-3502	MOTOR SPACER	
12	ASK-3503	MOTOR COLLAR	
13	DYN-1270	STOPPER KEY	
14	SLC-1130	ADJUST RING	
15	SPG-2454	MOTOR SHAFT COLLAR	
101	350-5448-01	SERVO MOTOR 500W NEW	
102	100-5112	BEARING 17 (NSK 6003ZZ)	
103	601-7945	GEAR 20	
104	601-6172	GEAR 48	
105	601-9173	TIMING BELT (150 S5M 475)	
106	220-5484	VOL CONT B-5K OHM	
106	220-5753	VOL CONT B-5K OHM (TOCOS)	
107	310-5029-F20	SUMITUBE F F 20MM	
201	028-A00408-P	SET SCR HEX SKT CUP P M4×8	
202	028-A00308-P	SET SCR HEX SKT CUP P M3×8	
203	065-S012S0-Z	STP RING BLK OZ S12	
204	065-S020S0-Z	STP RING BLK OZ S20	
205	000-P00408-W	M SCR PH W/FS M4×8	
206	000-P00412-W	M SCR PH W/FS M4×12	
207	030-000612-S	HEX BLT W/S M6×12	
208	060-F00600	FLT WSHR M6	
209	050-U00600	U NUT M6	
210	030-000840-S	HEX BLT W/S M8×40	
211	068-852216	FLT WSHR 8.5-22 ×1.6	
212	050-U00800	U NUT M8	
301	600-6866	WIRE HARN ASSY HANDLE MECHA VR	

## 23. WIRE COLOR CODE TABLE

THE WIRE COLOR CODE is as follow:

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

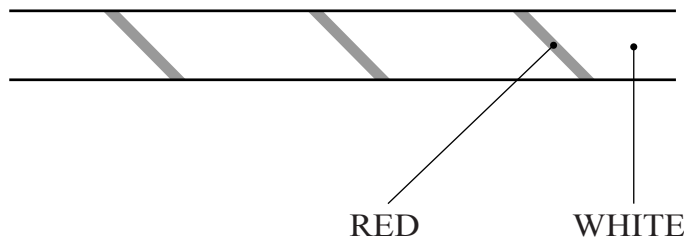
Wires other than those of any of the above 5 single colors will be displayed by 2 alphanumeric characters.

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

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

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

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



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

U:	AWG16
K:	AWG18
L:	AWG20
None:	AWG22

## **Warranty**

Your new Sega Product is covered for a period of 90 days from the date of shipment. This certifies that the Printed Circuit Boards, Power Supplies and Monitor are to be free of defects in workmanship or materials under normal operating conditions. This also certifies that all Interactive Control Assemblies are to be free from defects in workmanship and materials under normal operating conditions. No other product in this machine is hereby covered.

Sellers sole liability in the event a warranted part described above fails shall be, at its option, to replace or repair the defective part during the warranty period. For Warranty claims, contact your Sega Distributor.

Should the Seller determine, by inspection that the product was caused by Accident, Misuse, Neglect, Alteration, Improper Repair, Installation or Testing, the warranty offered will be null and void.

Under no circumstances is the Seller responsible for any loss of profits, loss of use, or other damages.

This shall be the exclusive written Warranty of the original purchaser expressed in lieu of all other warranties expressed or implied. Under no circumstance shall it extend beyond the period of time listed above.





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