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# SEGA

## SOUL SURFER™

# Owner's Manual

SEGA ENTERPRISES, INC.  USA

**MANUAL NO.    999-1479**

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

To maintain the safety:

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

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

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

**CAUTION!** 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 be 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.

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**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?

## SPECIFICATIONS

| | |
|---|---|
| Installation space | : 54.3 in. (W) × 113.0 in(D) |
| Height | : 88.6 in. |
| Weight | : 1,115.5 lbs. |
| Power, maximum current | : 443 W  4.7 A (AC 120 V 60 Hz AREA) |
| | 444 W  2.6 A (AC 220 V 50 Hz AREA) |
| | 429 W  2.5 A (AC 220 V 60 Hz AREA) |
| | 440 W  2.5 A (AC 230 V 50 Hz AREA) |
| | 447 W  2.4 A (AC 240 V 50 Hz AREA) |
| For TAIWAN | |
| Power, current | : 450 W  5.3 A (MAX.) |
| | 280 W  3.4 A (MIN.) |
| MONITOR | : 50 TYPE PROJECTION DISPLAY |

# INTRODUCTION OF THE OWNER'S MANUAL

This Owner's Manual is intended to provide detailed descriptions together with all the necessary information covering the general operation of electronic assemblies, electromechanicals, servicing control, spare parts, etc. as regards the product,
**SOUL SURFER**.
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.  Should any malfunctioning occur, turn the power off and unplug the AC Cable (Power Cord), and 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.

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

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

⚠️ **WARNING!**

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

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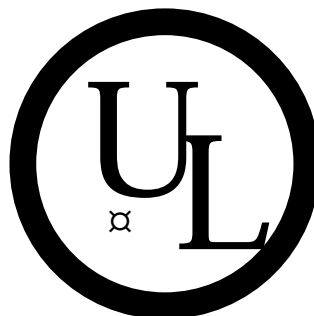
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AMUSEMENT MACHINE

# 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.



**WARNING!**

- 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.

**STOP**

**IMPORTANT!**

- 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.
- 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 CONCERNING INSTALLATION LOCATION

⚠ **WARNING!**

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

⚠ **WARNING!**

● 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 15 A or higher (AC single phase 100 ~ 120 V area), and 10 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 15 A or higher (AC 100 ~ 120 V area) and 10 A or higher (AC 220 ~ 240 V area). Using a cord rated lower than the specified rating can cause a fire and electric shock.

⚠ **WARNING!**

- For the operation of this machine, secure a minimum area of 74.8 inches (W) × 137.8 inches (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.

**STOP IMPORTANT!**

For transporting the machine into the location's building, the minimum necessary dimensions of the opening (of doors, etc.) are 55.1 inches (W) and 66.9 inches (H).

Electric current consumption

MAX. 4.7 A (AC 120 V 60 Hz)
MAX. 2.6 A (AC 220 V 50 Hz)
MAX. 2.5 A (AC 220 V 60 Hz)
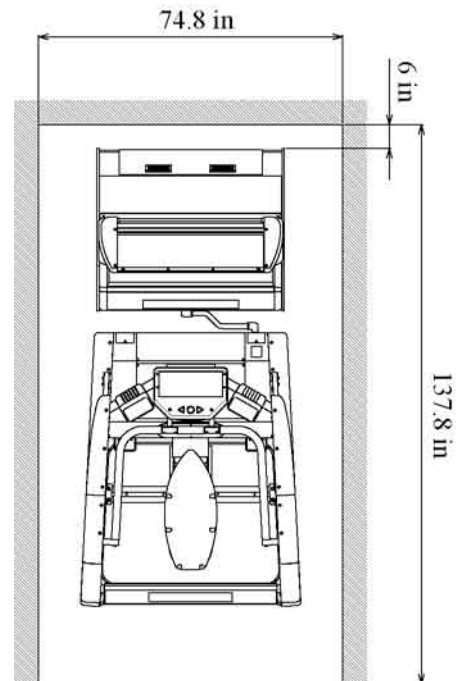MAX. 2.5 A (AC 230 V 50 Hz)
MAX. 2.4 A (AC 240 V 50 Hz)

FIG. 2

# 3. OPERATION

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

⚠ **WARNING!**

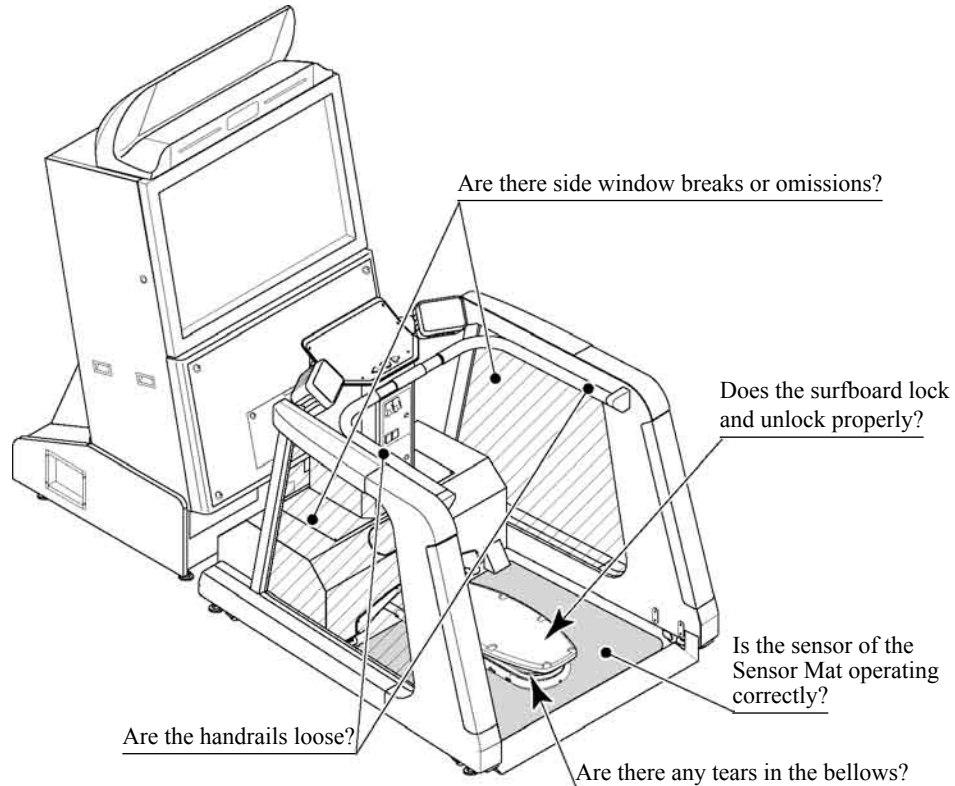In order to avoid accidents, check the following before starting the operation:

● To ensure maximum safety for the players and the customers, ensure that where the product is operated has sufficient lighting to allow any warnings to be read. Operation under insufficient lighting can cause bodily contact with each other, hitting accident, and or trouble between customers.

● Be sure to perform appropriate adjustment of the monitor (projector). For operation of this machine, do not leave monitor's flickering or deviation as is. Failure to observe this can have a bad influence upon the players' or the customers' physical conditions.

● It is suggested to ensure a space allowing the players who feel sick while playing the game to take a rest.

● Check if all of the adjusters are in contact with the surface. If they are not, the Cabinet can move and cause an accident.

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

5
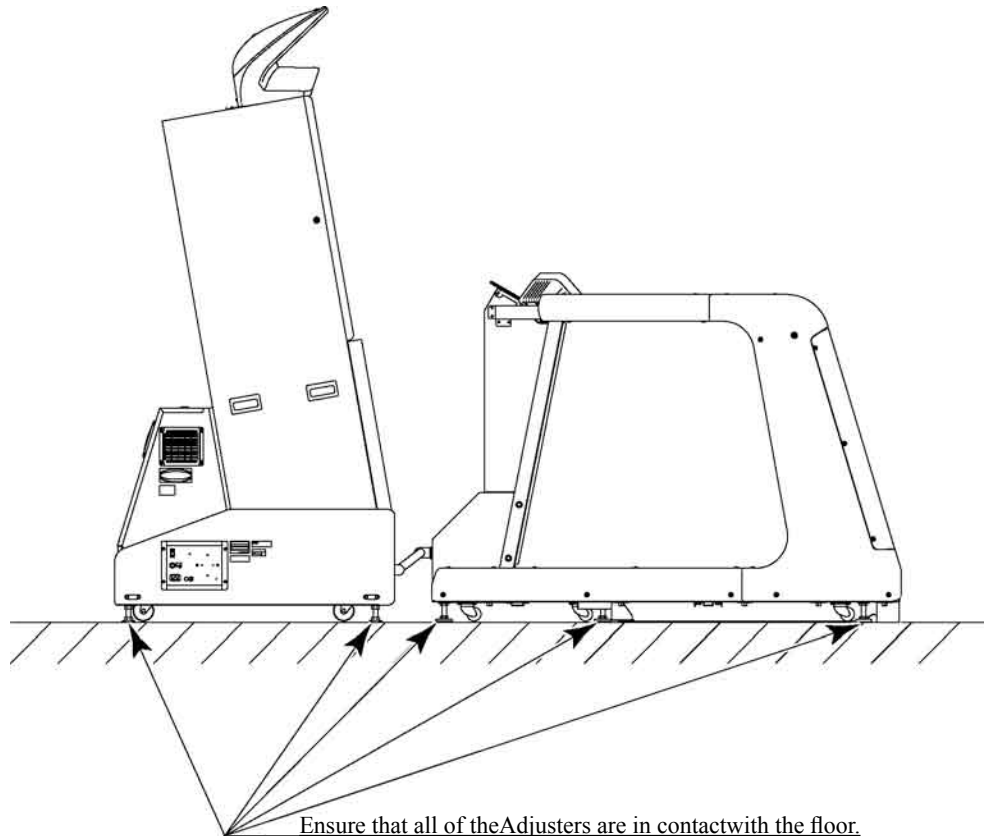
- Perform a test run and confirm whether the surfboard is locks and unlocks properly.
- Be sure to take particular care to conduct the Sensor Mat input test. Failing to conduct the test and operating the machine when the Sensor Mat is not in optimum condition may cause accidents.

Are there side window breaks or omissions?

Does the surfboard lock and unlock properly?

Is the sensor of the Sensor Mat operating correctly?

Are the handrails loose?

Are there any tears in the bellows?

- 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.

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

**WARNING!**

● To avoid injury and accidents, those who fall under the following categories are not allowed to play the game.
- Those who need assistance such as the use of an apparatus when walking.
- Those who have high blood pressure or a heart problem.
- Those who have experienced muscle convulsion or loss of consciousness when playing video game, etc.
- Those who have a trouble in the neck and or spinal cord.
- Intoxicated persons.
- Pregnant women or those who are in the likelihood of pregnancy.
- Persons susceptible to motion sickness.
- Persons whose act runs counter to the product's warning displays.

● A player who has never been adversely affected by light stimulus might experience dizziness or headache depending on his physical condition when playing the game.  Especially, small children can be subject to those conditions.  Caution guardians of small children to keep watch on their children during play.

● Instruct those who feel sick during play to have a medical examination.

● To avoid injury resulting from falling down and electric shock due to spilled drinks, instruct the player not to place heavy items or drinks on the product.

● To avoid electric shock and short circuit, do not allow customers to put hands and fingers or extraneous matter in the openings of the product or small openings in or around the doors.

● To avoid falling down and injury resulting from falling down, immediately stop the customer's leaning against or climbing on the product, etc.

● To avoid electric shock and short circuit, do not allow the customers to unplug the power plug without a justifiable reason.

● Users can play the game if they are tall enough to grip the handrails after boarding the surfboard.
Instruct users who are less than 51.2 inches tall not to play the game. They may fall and injure themselves.
The height of the rear cabinet side wall is approximately 47.25 inches. The height of the speakers is approximately 51.2 inches. Use this as a guide to visually determine a user's height.

51.2 in

7

● Be sure to instruct players not to wear high-heeled shoes, as this increases the chances of an accident occurring. In addition, instruct players not to wear sneakers, sandals or other footwear that slips off easily when playing the game, as this increases the chances of an accident occurring.

● To avoid injury from potential falling down accidents, be sure to instruct that only one person is allowed to play at a time.
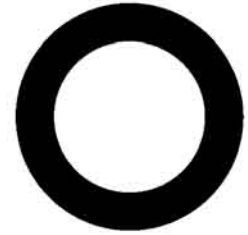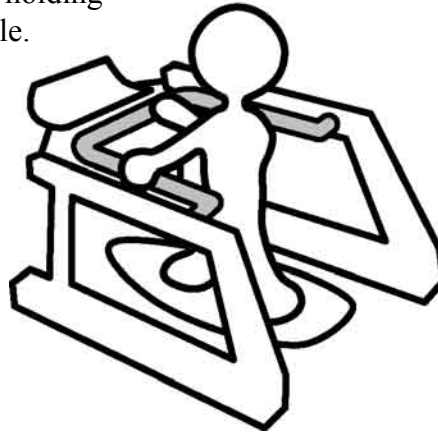
● Do not allow players to put any heavy item or beverages on the product. Falling down items can cause accidents and spilled beverages can cause electric shock.

Beverages

**CAUTION!**

● Instruct the player to hold on firmly to the Safety Bar during game. Caution the customers who are most likely to cause injury by playing without holding the Safety Bar, for example.

● To avoid injury, do not allow persons other than the player to access to the Sensor Mat during game play.
A sensor may work for insurance and the game may be interrupted.

● Instruct the player to play by standing on both feet. Standing on one leg to play can cause injury.

**CAUTION!**

- Regarding this product, the weight of the player is limited to 330 lbs. To avoid machine damage and injury due to machine damage, playing by those who are as heavy as 330 lbs or heavier is strictly prohibited.

Weight 330 lbs or heavier

- 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.

**WARNING!**

**WARNING: HAZARD TO EPILEPTICS.**
- A very small portion of the population has a condition which may cause them to experience epileptic seizures or have momentary loss of consciousness when viewing certain kinds of flashing lights or patterns that are present in our daily environment. These persons may experience seizures while watching some kinds of television pictures or playing certain video games. People who have not had any previous seizures may nonetheless have an undetected epileptic condition.
- If you or anyone in your family has experienced symptoms linked to an epileptic condition (e.g., seizures or loss of awareness), immediately consult your physician before using any video games.
- We recommend that parents observe their children while they play video games. If you or your child experience the following symptoms: dizziness, altered vision, eye or muscle twitching, involuntary movements, loss of awareness, disorientation, or convulsions, DISCONTINUE USE IMMEDIATELY and consult your physician.
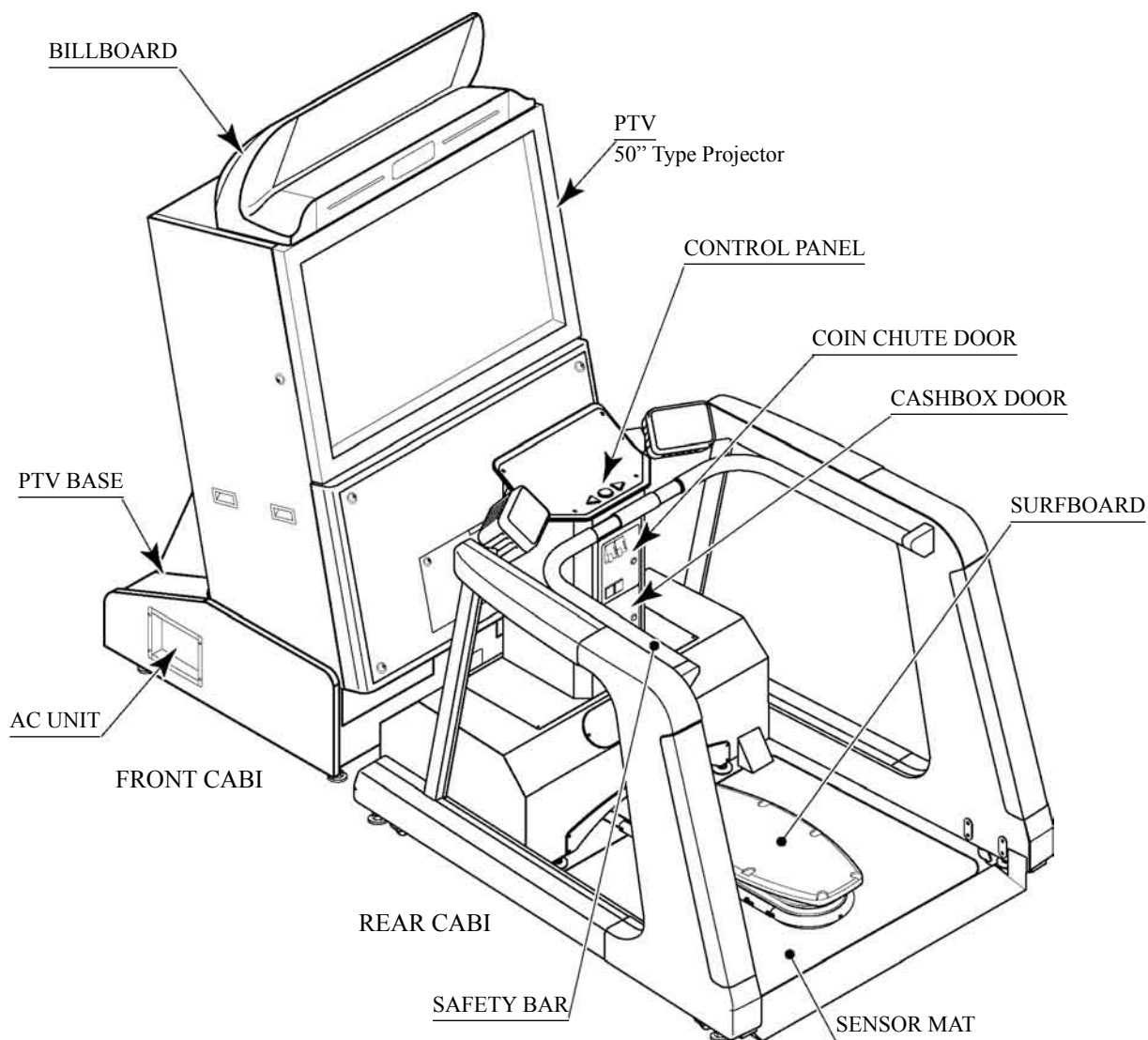
# 4. NAME OF PARTS

BILLBOARD

PTV
50" Type Projector

CONTROL PANEL

COIN CHUTE DOOR

CASHBOX DOOR

PTV BASE

SURFBOARD

AC UNIT

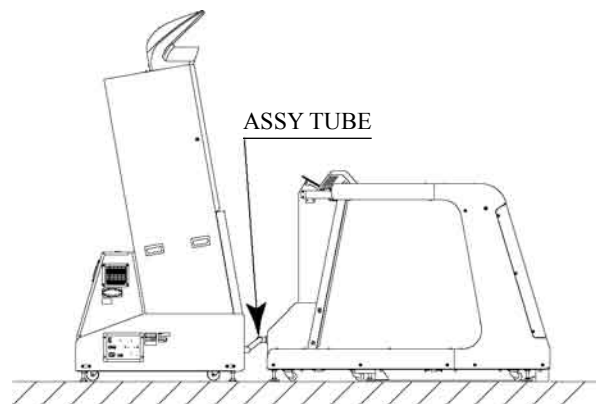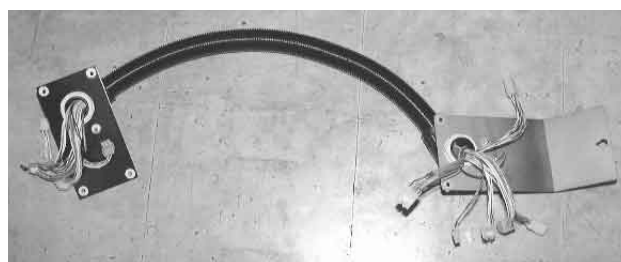FRONT CABI

REAR CABI

SAFETY BAR

SENSOR MAT

FIG. 4 a  OVERVIEW

ASSY TUBE

FIG. 4 b

PHOTO 4  ASSY TUBE
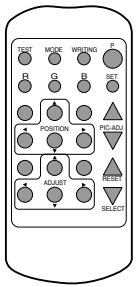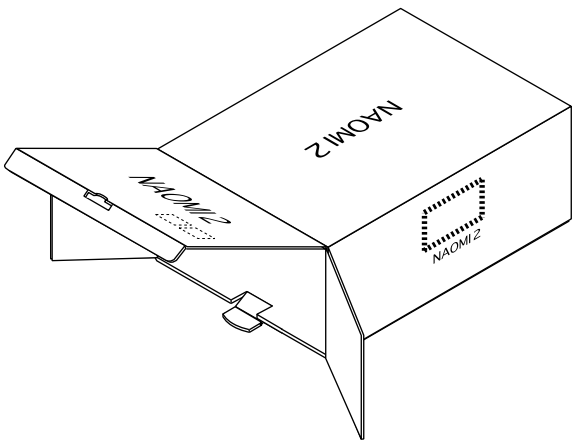
TABLE 4  Dimensions and Weights

|  | Width  ×  Depth  ×  Height | Weight |
|---|---|---|
| PTV (50 type Projector) | 44.9 inches × 20.6 inches × 65.7 inches | 220.0 lbs |
| PTV BASE (FRONT CABI) | 46.9 inches × 40.1 inches × 30.9 inches | 169.4 lbs |
| BILLBOARD | 45.3 inches × 16.9 inches × 12.2 inches | 37.4 lbs |
| REAR CABI | 54.3 inches × 67.7 inches × 50.4 inches | 638 lbs |
| When assembled | 54.3 inches × 113  inches × 88.6 inches | 1113.2 lbs |

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# 5. ACCESSORIES

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

TABLE 5  ACCESSORIES

| DESCRIPTION | OWNERS MANUAL |
|---|---|
| Part No. (Qty.) | 999-1479 (1) |
| Note | |

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.

KEY MASTER
9301A(2)

For opening/closing the doors

KEY
(2)

For the CASHBOX DOOR

The Keys are inside the Coin Chute Door at the time of shipment from the factory.

SERVICE MANUAL NAOMI2 ENG
420-6644-01 (1)

Instruction Manual for the Game Board.

TOSHIBA
Remote Controller used for adjustment of the projector.
See Section 11.
200-5536(1)

The Remote Controller is attached to the Projector at the time of shipment.

CARTON BOX
601-11044 (1)

Used for transporting the Game Board.
Refer to FIG. 5.

**STOP**

**IMPORTANT!**

When transporting NAOMI 2 for repair/servicing, follow the instructions below.
The accessory carton box is needed when transporting NAOMI 2 for repair/servicing.  Be sure to safely store the Carton Box.

● When sending for repair/servicing, remove all of the wire harnesses and cables from the Filter BD in front.

● When transporting NAOMI 2 Main BD for the repair/servicing, ensure that the ROM BD used is in an as is installed status.

● When sending the NAOMI 2 Main BD for repair/servicing, be sure to put it in the accessory carton box together with the Shield Case.

● When putting NAOMI 2 SHIELD CASE in the carton box, the Leg Bracket need not be removed.

● By paying careful attention to the following Figure and the direction shown by on-Carton-Box printing, put the Shield Case in the Carton Box.

● The projected portions of the packing material is intended for cushioning.  Therefore, do not bend the projected portions.
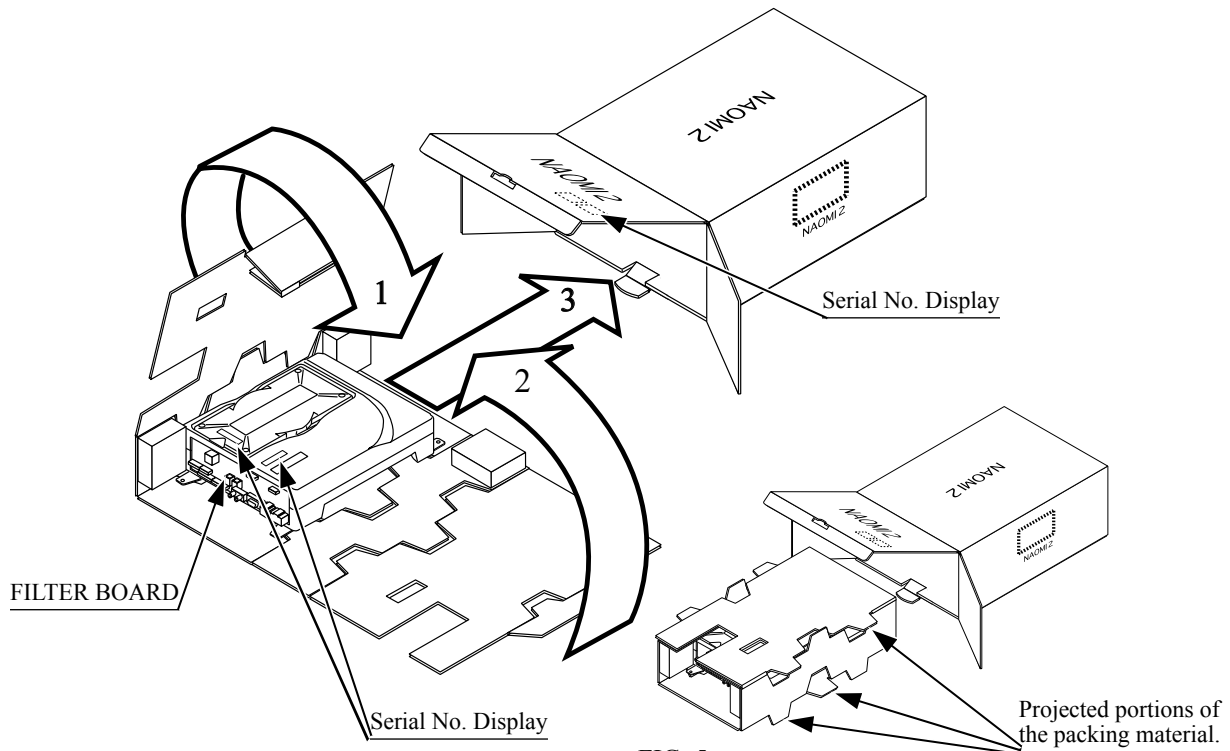
FILTER BOARD

Serial No. Display

Serial No. Display

Projected portions of the packing material.

FIG. 5

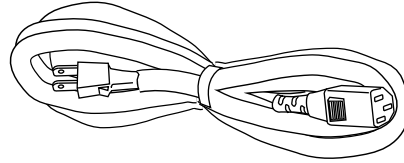13                                                    *www.seuservice.com*

The following Table 5b lists the parts that had been separately packed when the product was shipped from the factory but are necessary when you use the product. These parts will be mounted on the product when installing and assembling it.

TABLE 5 b

AC Cable (Power Cord)

600-6695-01 (1) USA
Used for installation, see  4   of Section 6.

# 6. ASSEMBLING AND INSTALLATION

WARNING!

- 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 so as not to damage wirings. Damaged wiring can cause electric shock and short circuit hazards.
- Do not carelessly push the PTV. Pushing the PTV carelessly can cause the PTV to fall down.
- This work should be performed by the Location's Maintenance Man or Serviceman. 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.

CAUTION!

- When handling plastic parts, use care. Do not give a shock or apply excessive load to the fluorescent lamps and plastic parts. Failure to observe this can cause parts damage, resulting in injury due to fragments, cracks and broken pieces.
- 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.

STOP
IMPORTANT!

Assemble the game machine where it will be operated.
If there are steps between the place where the game is assembled and where it will be operated, it is necessary to disassemble and reassemble the game.
Be sure to read the cautions in Section 7 before moving the game.

When carrying out the assembly work, follow the procedure in the following 6-item sequence:

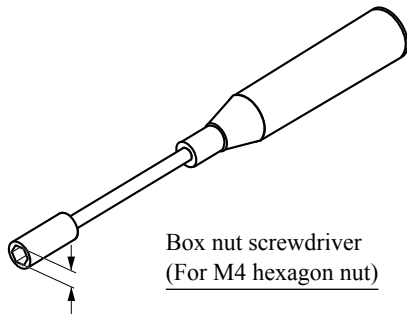| 1 | ASSEMBLING THE PTV (FRONT CABI) |
| 2 | WIRING CONNECTIONS BETWEEN THE CABINETS |
| 3 | SECURING IN PLACE (ADJUSTER ADJUSTMENT) |
| 4 | POWER SUPPLY, AND EARTH CONNECTION |
| 5 | TURNING POWER ON |
| 6 | ASSEMBLING CHECK |

The master key (accessories) in addition to the tools such as a Phillips type screwdriver, Box nut screwdriver and wrench are required for the assembly work.
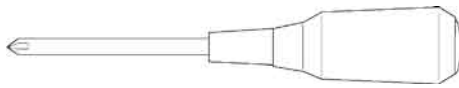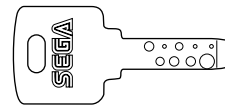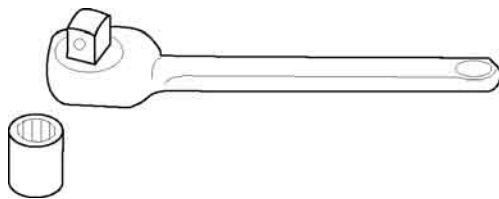
Phillips type screwdriver
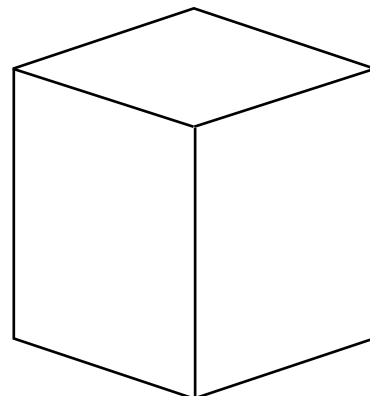(for M4,M5 screw)
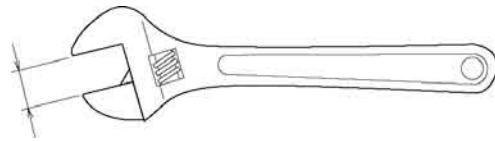
WRENCH (for M16 hexagon bolt)

Box nut screwdriver
(For M4 hexagon nut)

KEY MASTER

SOCKET WRENCH (for M6, M8 hexagon-head bolt)

STEP

**1** ASSEMBLING THE PTV (FRONT CABI)

① By using the specified screws, secure the 2 Mask Holders to the PTV ceiling.

② Insert the TV Mask from the underside as shown and secure with a total of 6 screws.

FLAT HEAD SCREW (2 each)
M4×12

PTV

MASK HOLDER

MASK

TRUSS SCREW (2)
M5×25,flat washer used,
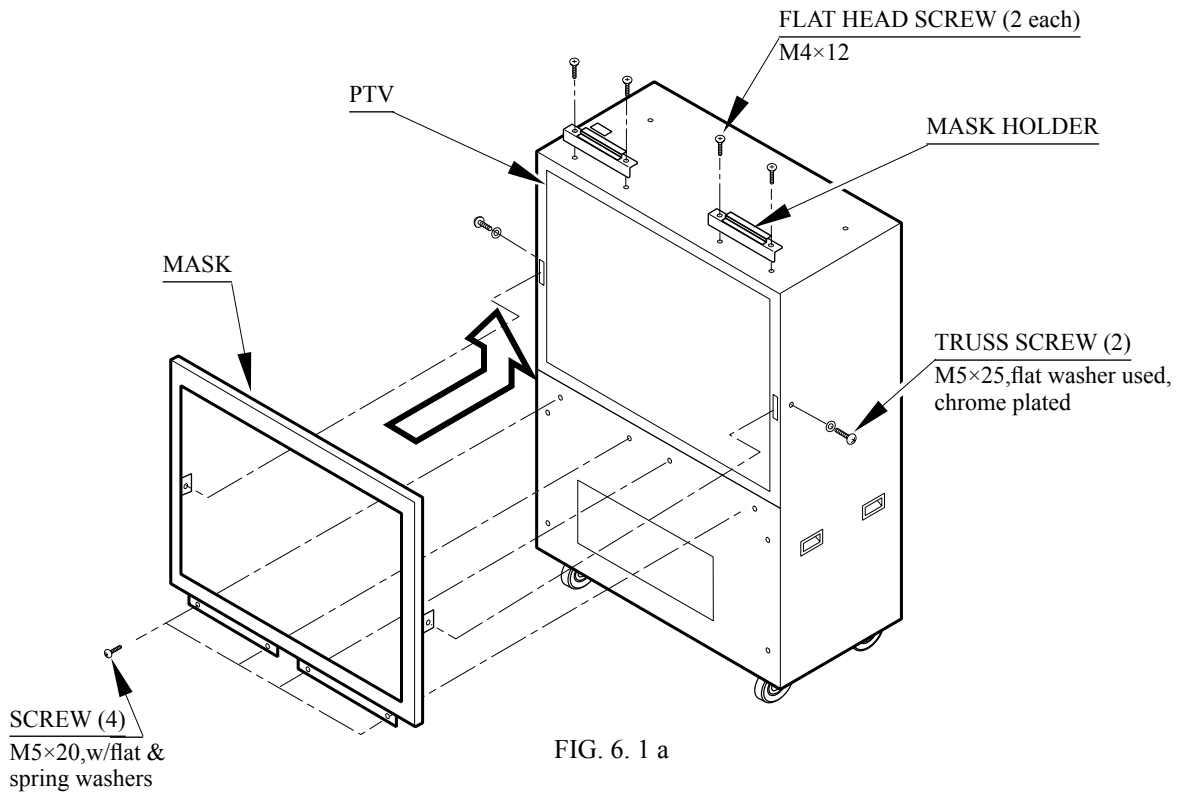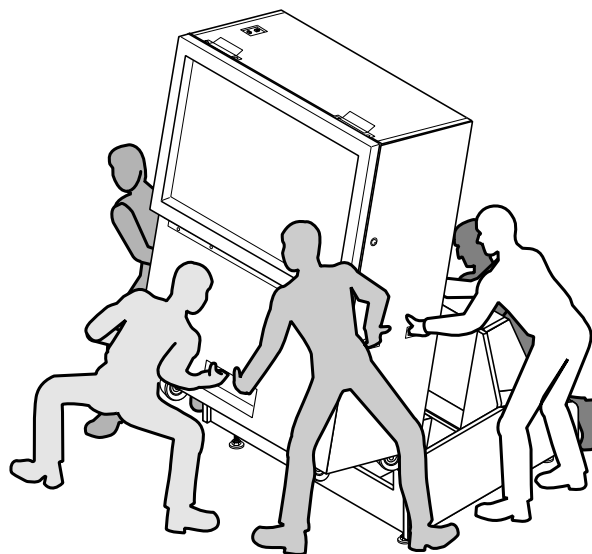chrome plated

SCREW (4)
M5×20,w/flat &
spring washers

FIG. 6. 1 a

③ In order to prevent accidents during assembly work, have all of the Adjusters of the PTV Base make contact with the surfaces to secure the PTV Base.

For performing work, use 4 or more workers.

FIG. 6. 1 b

④ Mount the assembled PTV on the PTV Base. After mounting the PTV, move it to the rear part of the PTV Base. When performing this work, be sure to use 4 or more persons. (FIG. 6. 1 b)

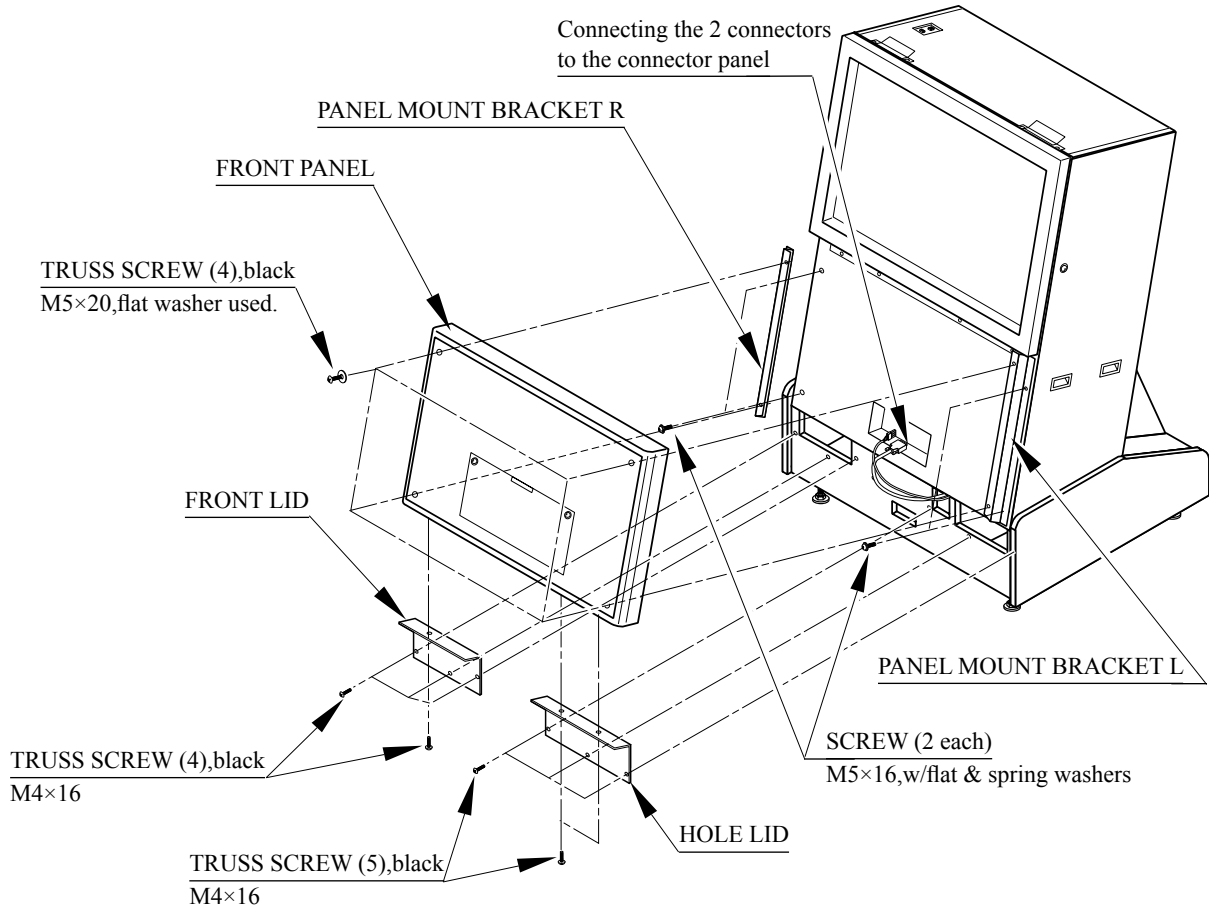⑤ Install Panel Mount Bracket L and R to the front of the PTV by using 2 screws for each of them.

Connecting the 2 connectors to the connector panel

PANEL MOUNT BRACKET R

FRONT PANEL

TRUSS SCREW (4),black M5×20,flat washer used.

FRONT LID

TRUSS SCREW (4),black M4×16

PANEL MOUNT BRACKET L

SCREW (2 each) M5×16,w/flat & spring washers

TRUSS SCREW (5),black M4×16

HOLE LID

FIG. 6. 1 c

⑥ Connect the 2 connectors (1 for power supply, 1 for video signal) of the wires already connected to the PTV Base, to the 2 connectors on the PTV connector panel. The connectors can be inserted only in the fixed orientation. If you attempt to apply constrained force when inserting the connector, it may break. Fully make sure that it is in the correct orientation. The reflection signal connector has the securing screws at the both ends. After connecting, fasten the screws tightly.
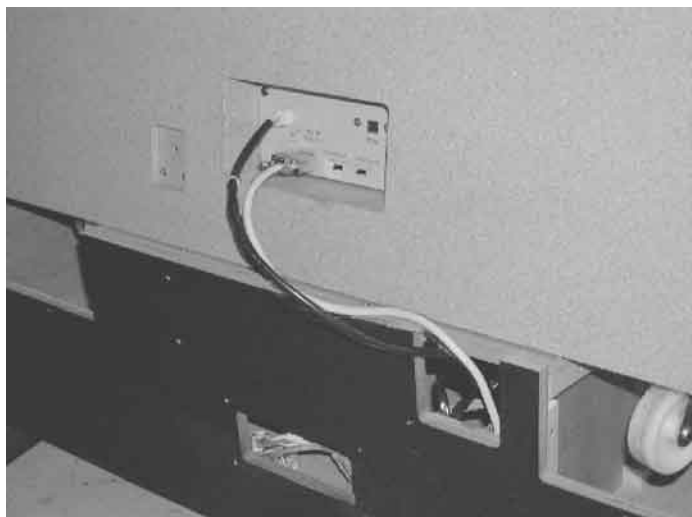
PHOTO 6. 1 a

(7) Install the Front Panel to the front of PTV. Use the 4 truss screws for securing.
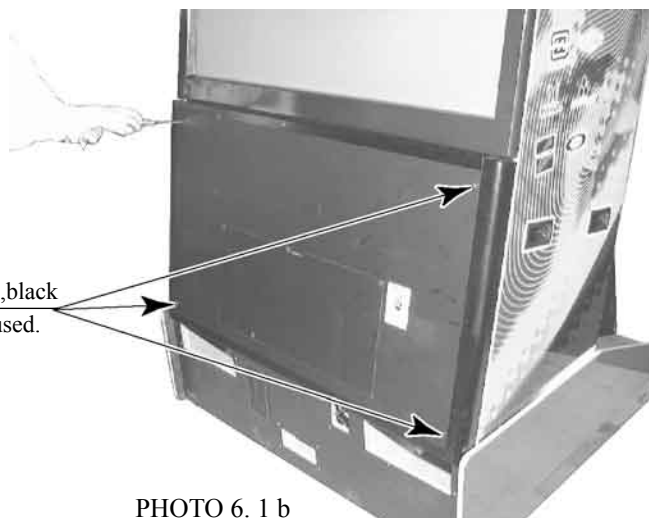
TRUSS SCREW (4),black
M5×20 flat washer used.

PHOTO 6. 1 b

(8) Assemble the hole lid and the front lid under the front lid.
When facing the PTV screen, the hole lid is to the right and the front lid is to the left.
Five truss screws secure the hole lid and four truss screws secure the front lid.
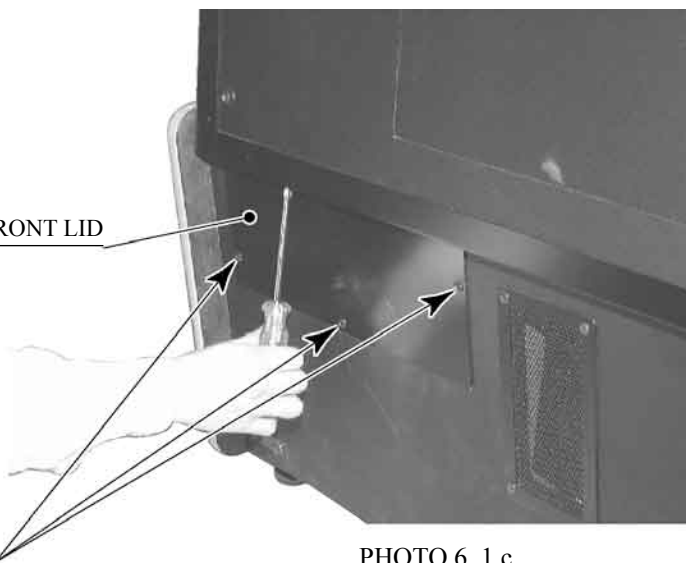
FRONT LID

TRUSS SCREW (4),black
M4×16

PHOTO 6. 1 c

(9) Have three or more persons use the platform when performing the following operations. Set the billboard on top of the PTV top panel.

(10) While 2 people hold the Billboard by, a third person using a step should connect the Billboard wire connector into the terminal board of the PTV top panel.

(11) Insert the Billboard into the holder bracket, fix to PTV with the 2 screws.
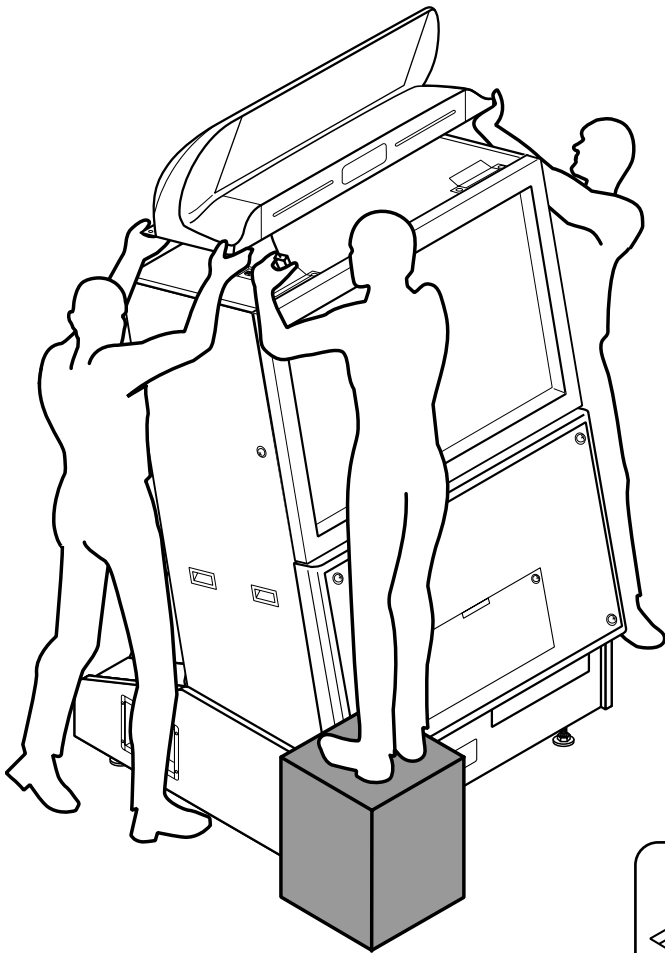
For performing work, use 3 workers.

FIG. 6. 1 d

SCREW (2) black
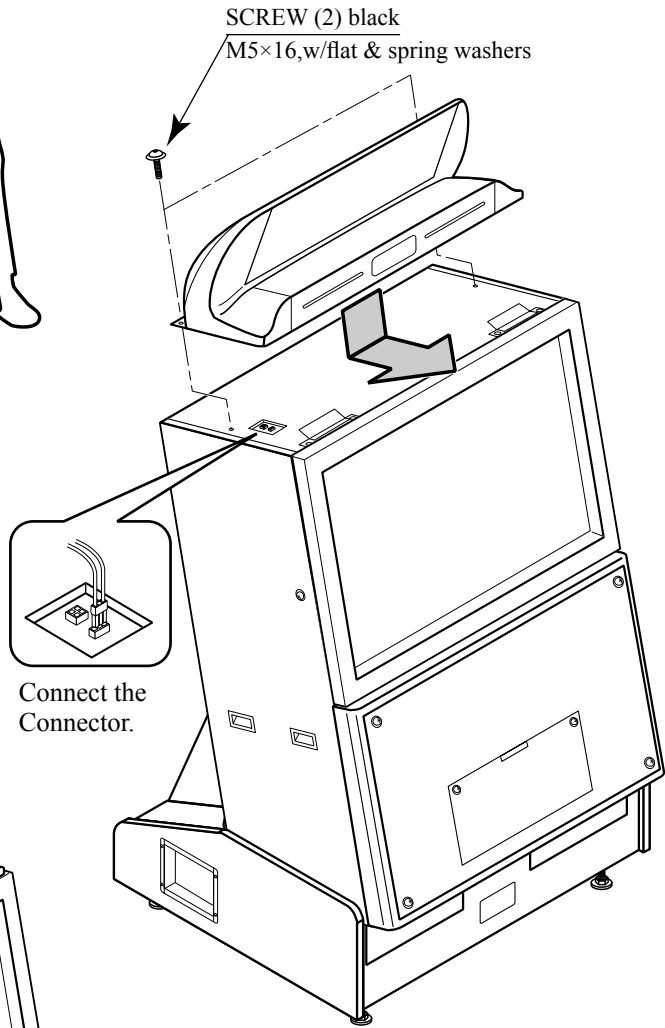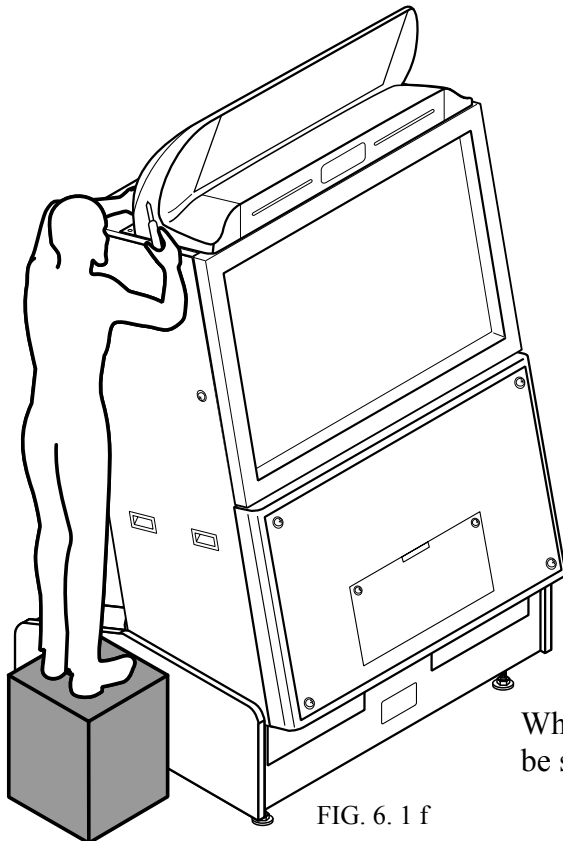M5×16,w/flat & spring washers

Connect the
Connector.

FIG. 6. 1 e

When performing work,
be sure to use a step.

FIG. 6. 1 f

WIRING CONNECTIONS BETWEEN THE CABINETS

With the ASSY Tube installed to the Front and Rear Cabinets, perform the cabinet-to-cabinet wiring. The connectors can be inserted only into those with the same number of pins, respectively, and can be inserted only in the fixed orientation. If you attempt to apply constrained force when inserting the connector, the connector or wiring may be damaged. Fully make sure that it is in the correct orientation.

Rear Cabinet Side

① Bring the six wiring connectors and the ground out from the rear cabinet. Be careful not to trip over the wires as this may cause injury.

② There is a stud to secure the ground to the Assy Tube lid. Tighten the hexagon nut to this stud with the circular ground line terminal, the flat washer and the spring washer in that order.

GROUND LINE

HEXAGON NUT (1)  M4,flat & spring washers used.

TUBE LID

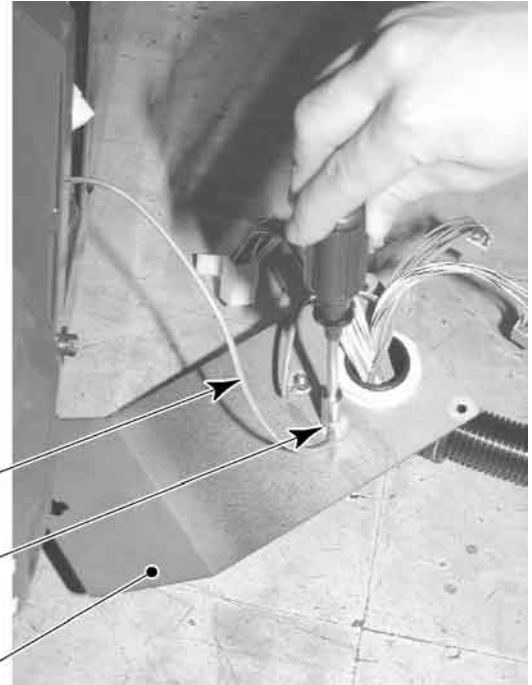

PHOTO 6. 2 a  Secure the ground terminal.

③ Join the connector of the Assy Tube to the connector of the Rear Cabinet. Join the connectors to those with the same number of pins.
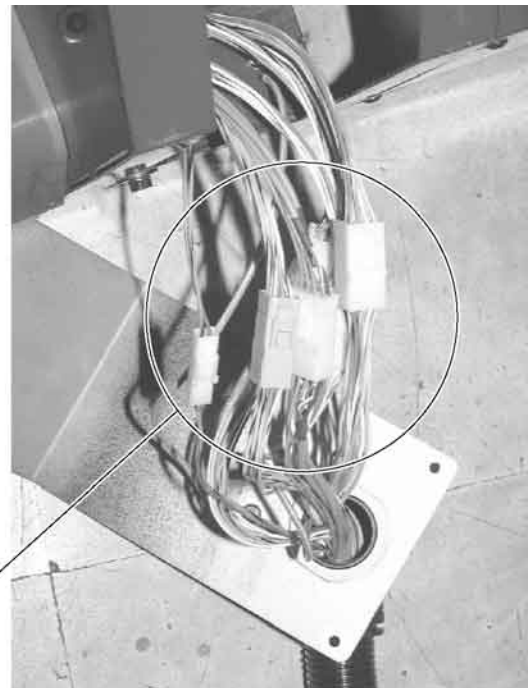
Connect the 6 Connectors.



PHOTO 6. 2 b

21 *www.seuservice.com*

TRUSS SCREW (3),black
M4×16

④ Install the Tube Lid of the Assy Tube to the
Rear Cabinet. Attach it using the 3 screws.
Be careful not to pinch the wiring.

PHOTO 6. 2 c

⑤ Locate the Front and Rear Cabinets close to each other. If you apply too much force when joining
the connectors, the wiring may be damaged.

⑥ Draw out the 6 wiring connectors and the ground line from the Rear Cabinet.

⑦ There is a stud to secure the ground line to the Assy Tube Plate. Tighten the hexagon nut to this
stud with the circular ground line terminal, the flat washer and the spring washer in that order.

GROUND LINE

HEXAGON NUT (1)M4,flat & spring washers used.

TUBE PLATE

PHOTO 6. 2 d

⑧ Join the connector of the Assy Tube to the connector of the Front Cabinet. Join the connectors to those with the same number of pins, respectively.

Connect the 6 Connectors.

PHOTO 6. 2 e

TRUSS SCREW (4),black
M4×16

⑨ Install the Tube Lid of the Assy Tube to the Front Cabinet. Attach it using the 4 screws. Be careful not to pinch the wiring.
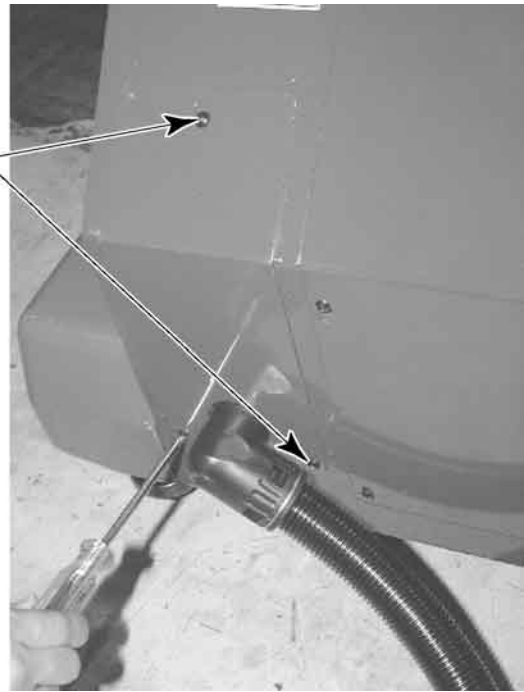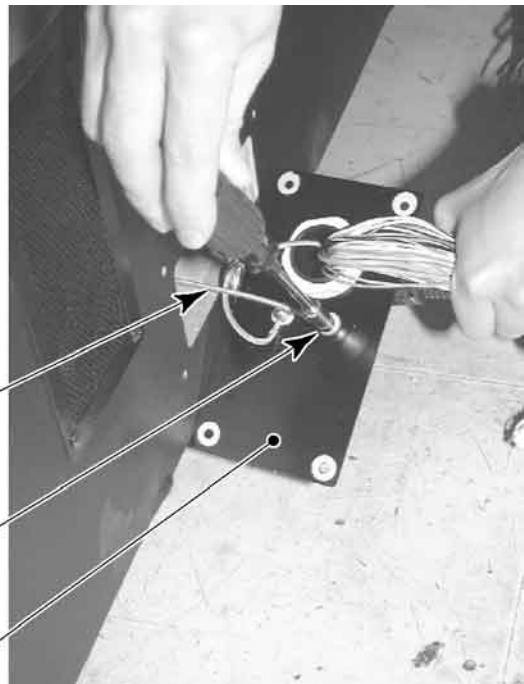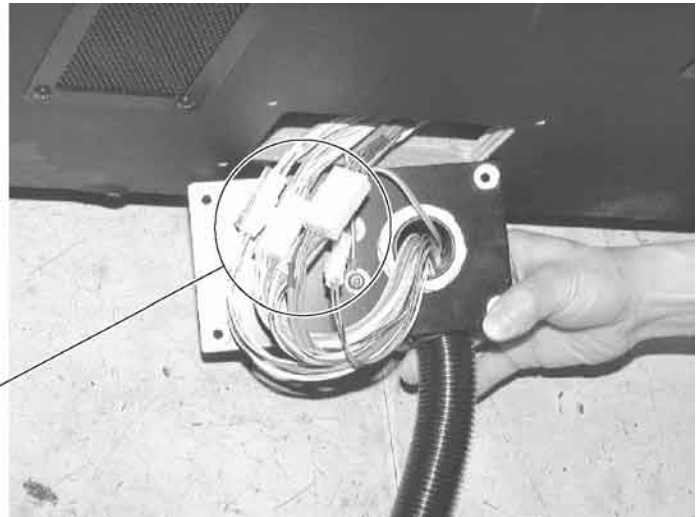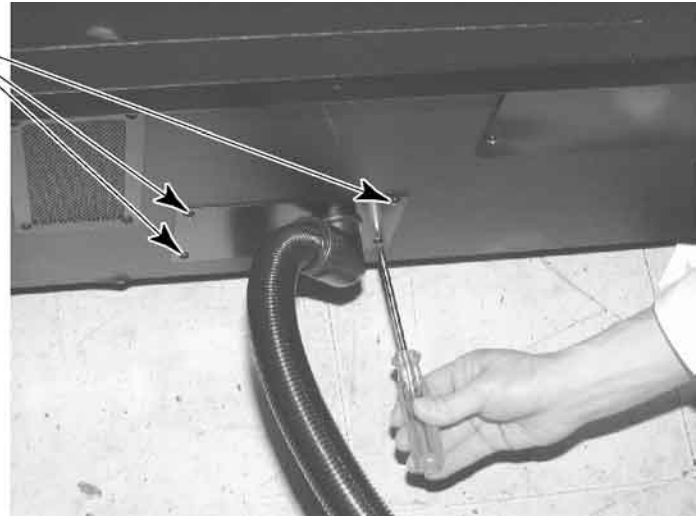
PHOTO 6. 2 f

23                                    *www.seuservice.com*

| 3 | SECURING IN PLACE (ADJUSTER ADJUSTMENT) |

**⚠ WARNING!**

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.

**⚠ CAUTION!**

Be careful to store the shipping beam as it is used when moving the rear cabinet with a forklift. Failure to assemble the shipping beam when using a forklift may result in damage or deformation of the parts.

**🛑 STOP IMPORTANT!**

There is a particular order to follow when landing the rear cabinet adjuster.

This machine has 10 casters (4 for the Front Cabinet, 6 for the Rear Cabinet) and 10 adjusters (4 for the Front Cabinet,  6 for the Rear Cabinet). (FIG. 6. 3 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 5mm. from the floor and make sure that the machine position is level.

① Move the machine to the installation position. To ensure the safe operation of the product, provide sufficient space by adequately keeping the product away from wall surfaces and other cabinets.

② Remove the shipping beam from the rear cabinet. Remove the hexagon-head bolts (four in all). Store the shipping beam for later use.



HEXAGON-HEAD BOLT (4 in total), black
M8×100, w/spring washer, flat washer used.

SHIPPING BEAM
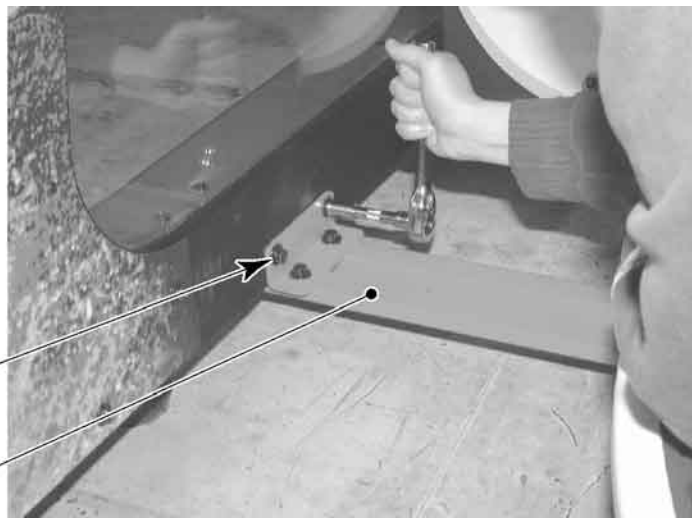
PHOTO 6. 3 a

③ Reinsert these four hexagon-head bolts into their original holes.
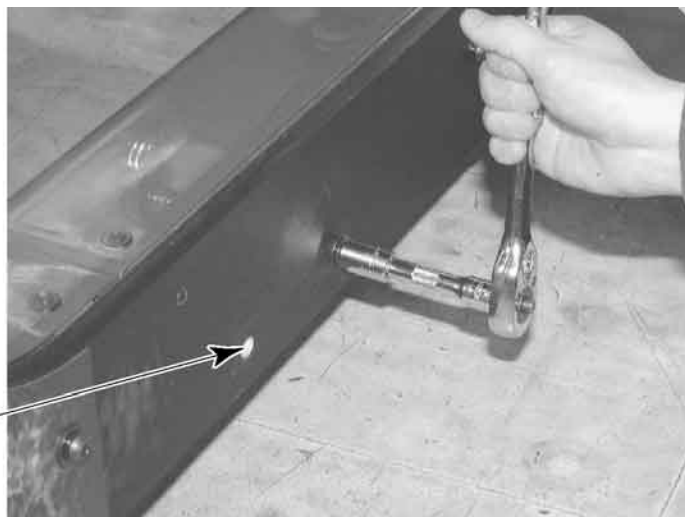
Reinsert the hexagon-head
bolt (2 each on both sides) into the original hole.



PHOTO 6. 3 b

④ Make sure all of the adjusters are in contact with the floor. By using a wrench, change height of the adjusters to ensure that the machine's position is level. There is a particular order to follow when landing the rear cabinet adjuster: the two areas on the side of the front cabinet, then the two to the back and finally the two at the center. Be careful not to lower the two center adjusters too much.

ADJUSTER (10 in total)



CASTER (10 in total)
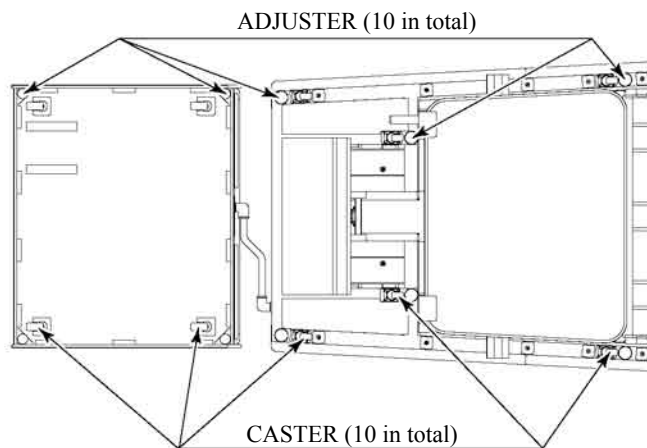
Order for landing the Rear Cabinet Adjuster

Connector for the Sensor Mat
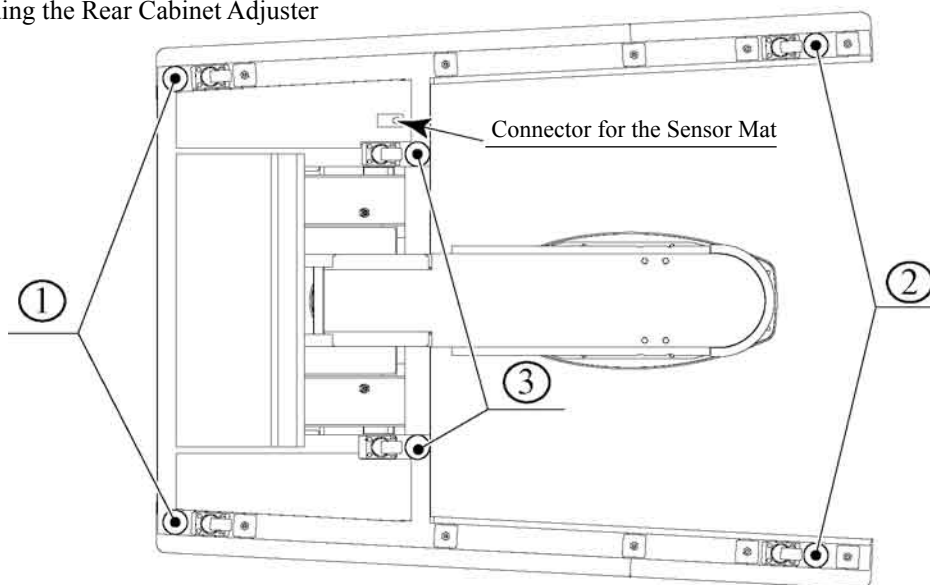


FIG. 6. 3 a

⑤ After making adjustments, fasten the adjuster nut upward and secure the height of the adjuster. (FIG. 6.3b)

ADJUSTER

FASTEN UPWARD.

CASTER

ADJUSTER

Approx..75 inches

ADJUSTER

FIG. 6. 3 b  ADJUSTER

6 inches

5.1 inches
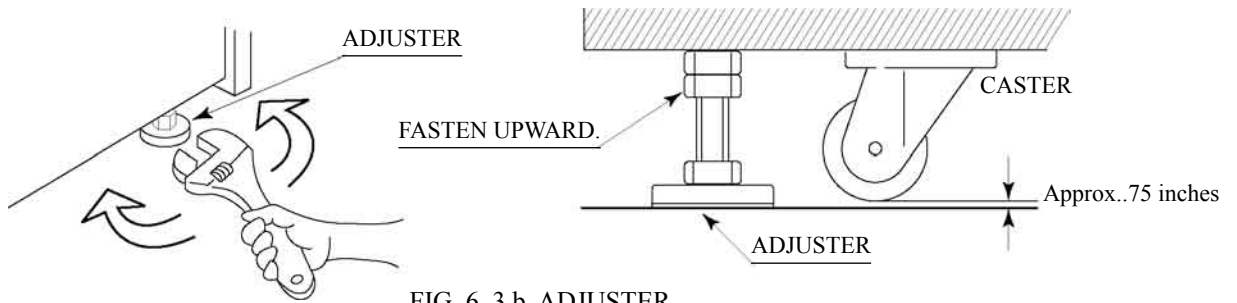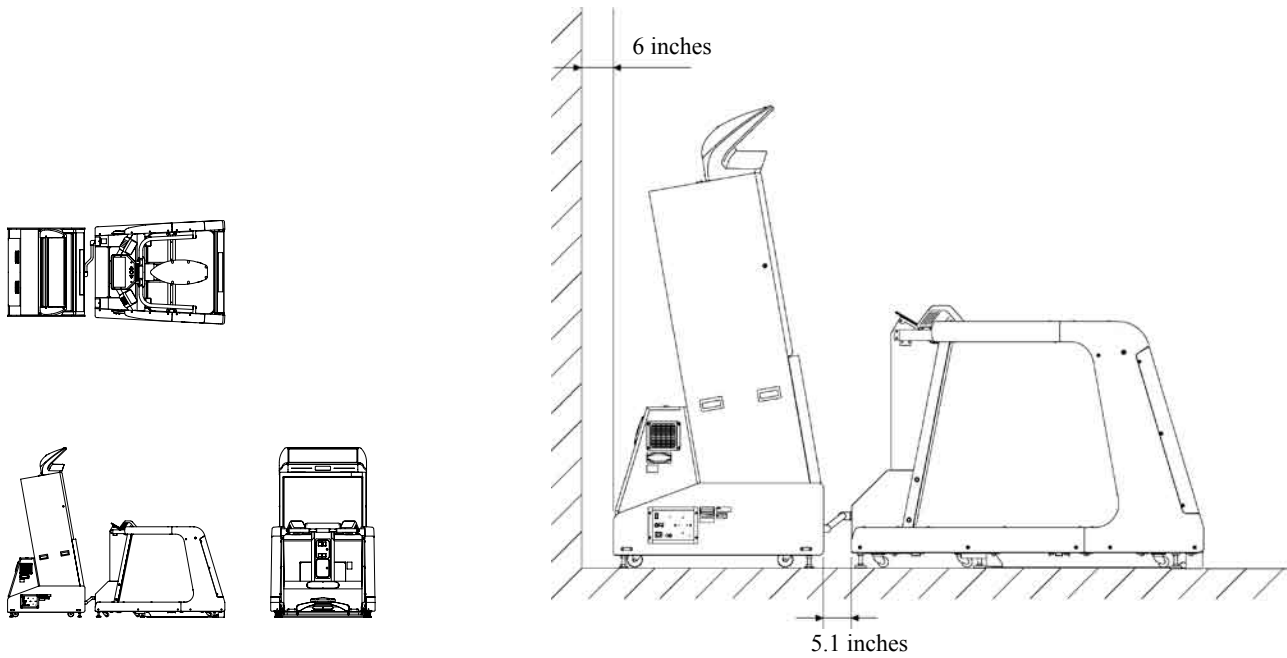
FIG.  6. 3 c
Refer to this Fig. (Scale:1/100) for the layout of the place of installation.

FIG.  6. 3 d
Be sure to provide space as shown between the Air Vent and the wall surface. Provide space approximately 13cm between the Front Cabinet and the Rear Cabinet.

⑥ Attach the two mat holder fronts to the Sensor Mat. There are two attachment studs for the mat holder fronts. Pass these two studs through the back of the assembly holes. Next, attach and secure the flat washers and hexagon nuts to the studs in that order. There are wires to the side of the Sensor Mat. Be careful not to pinch the wires when assembling the mat holder fronts. Pass these wires through the corner hole of the mat holder fronts.

SENSOR MAT

FRONT CABI side

PHOTO 6. 3 c

Pass the wire through the corner hole.

MAT HOLDER FRONT

HEXAGON NUT (2 each)
M4, flat washer used.
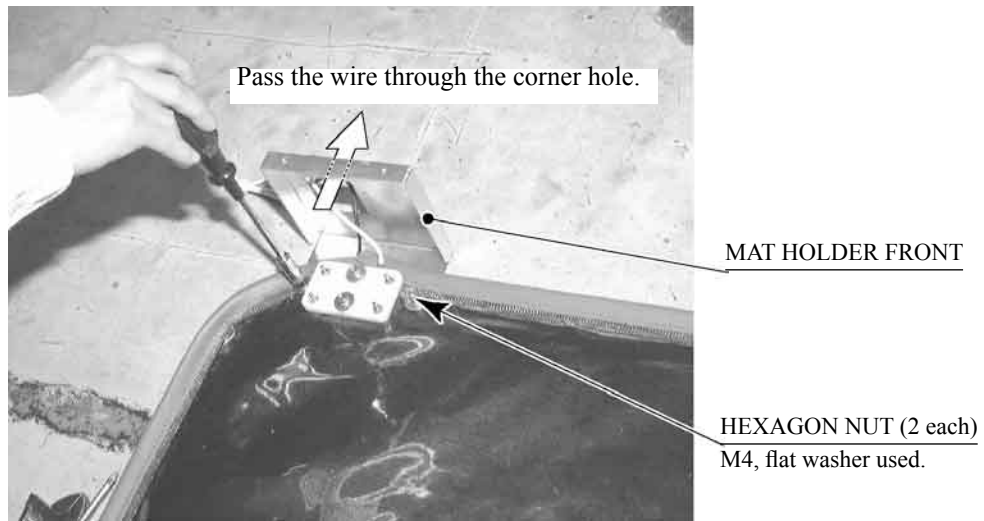
PHOTO 6. 3 d

(7) Assemble the mat holder fronts in the same way on the side of the Sensor Mat without wires.



PHOTO 6. 3 e

(8) Slide the Sensor Mat under the surfboard and spread it between both walls of the rear cabinet.



PHOTO 6. 3  f

27                                    *www.seuservice.com*

⑨ Attach the mat holder fronts to the rear cabinet. Secure it to each one with two screws. Be careful not to pinch the wires at this time.

SCREW (2 each) M5×8, w/flat & spring washers

PHOTO 6. 3 g

⑩ Connect the Sensor Mat wire connectors to the connectors to the undersurface of the rear cabinet. (FIG. 6. 3 a)

⑪ Attach the wire cover lower that protects the Sensor Mat wires. Pass the wire cover lower through the corner hole of the mat holder fronts and secure it with two screws. As before, be careful not to pinch the wires.
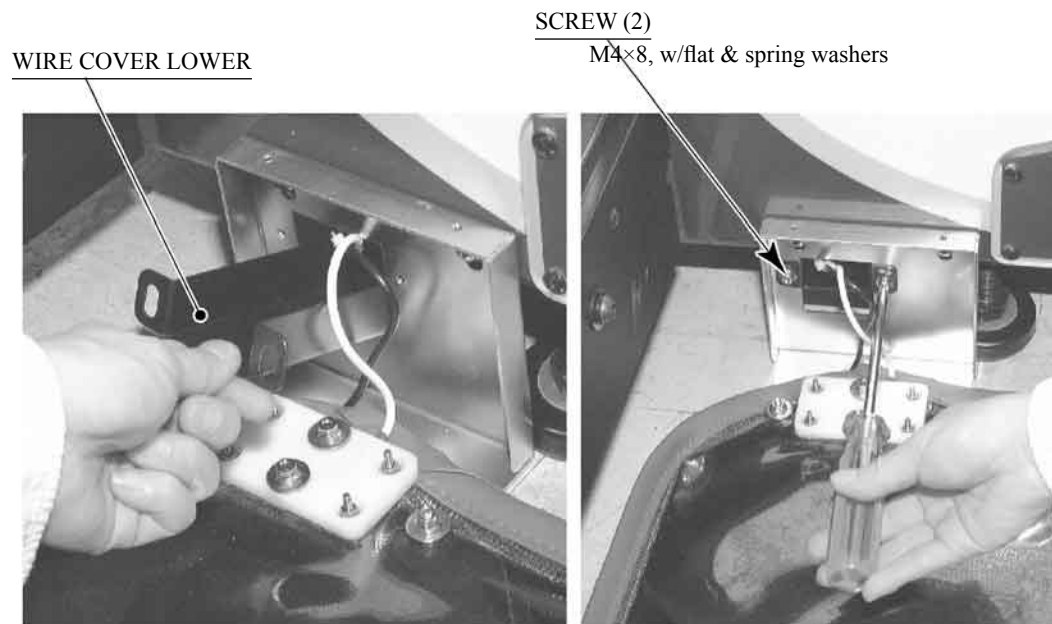
SCREW (2)
M4×8, w/flat & spring washers

WIRE COVER LOWER

PHOTO 6. 3 h                    PHOTO 6. 3 i

⑫ Attach the mat wire cover to the mat holder fronts and secure it with two truss screws. Assemble a mat wire cover in the same way on the side of the Sensor Mat without wires.



MAT WIRE COVER

TRUSS SCREW (2 each), black
M4×16
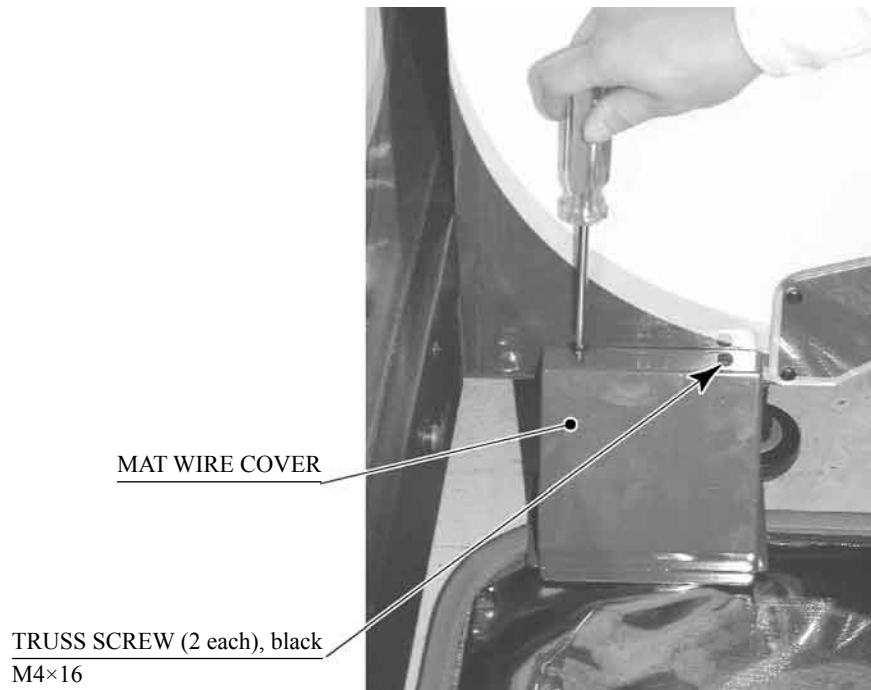
PHOTO 6. 3 j

⑬ Place the rear of the mat holder so that it overlaps the back edge of the Sensor Mat.
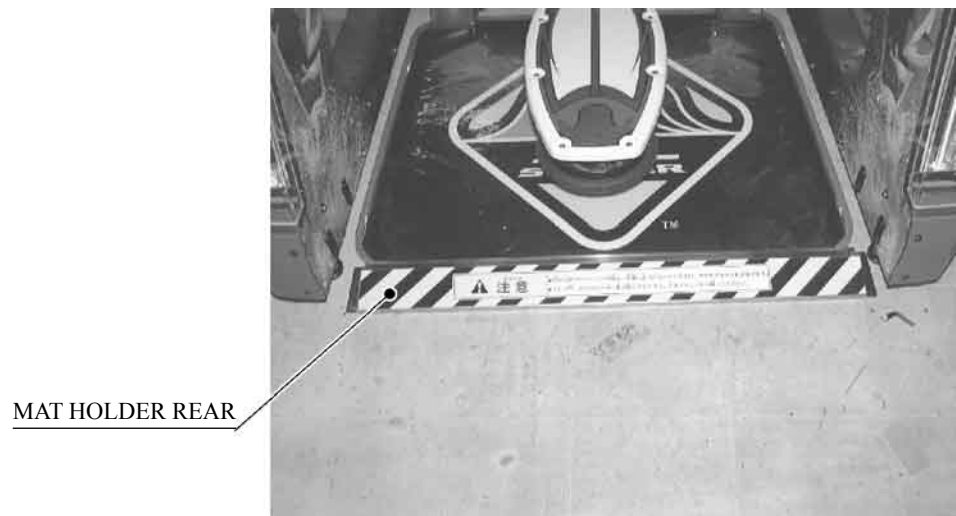


MAT HOLDER REAR

PHOTO 6. 3 k

⑭ Attach the Mat Bracket L and R to the left and right rear of the mat holder. Secure each with two hexagon-head bolts. Assembling the mat brackets cause the rear of the mat holder to restrain the Sensor Mat.  The left and right mat brackets are different. Confirm their assembly locations and directions before assembling.



HEXAGON-HEAD BOLT (2 each), black
M6×30, w/spring washer, flat washer used.

MAT BLACKET R

PHOTO 6. 3 l



MAT BLACKET L    MAT BLACKET R

FIG. 6. 3 e

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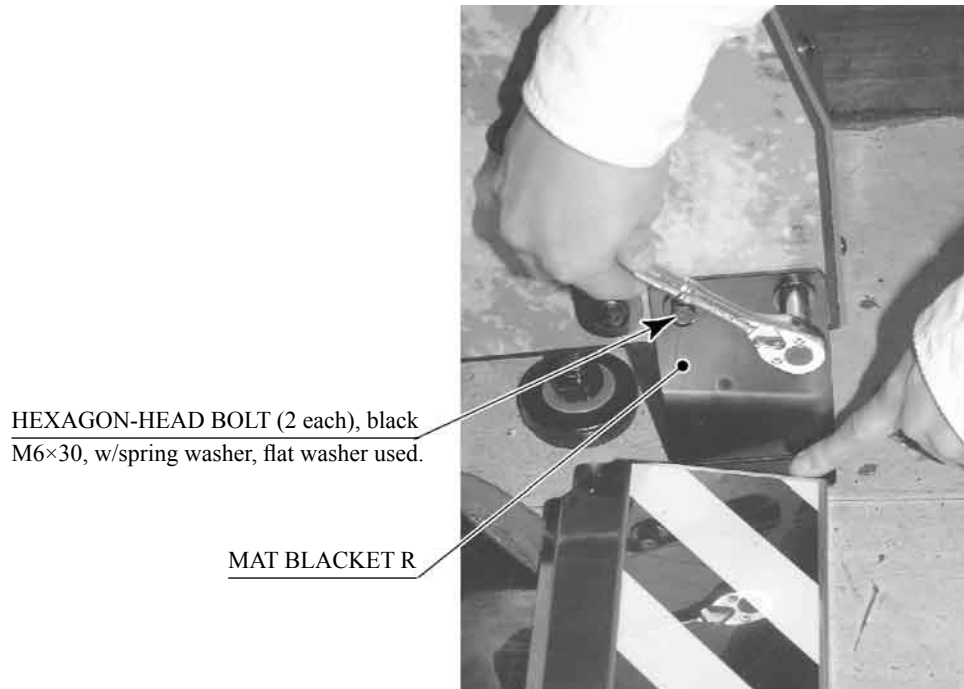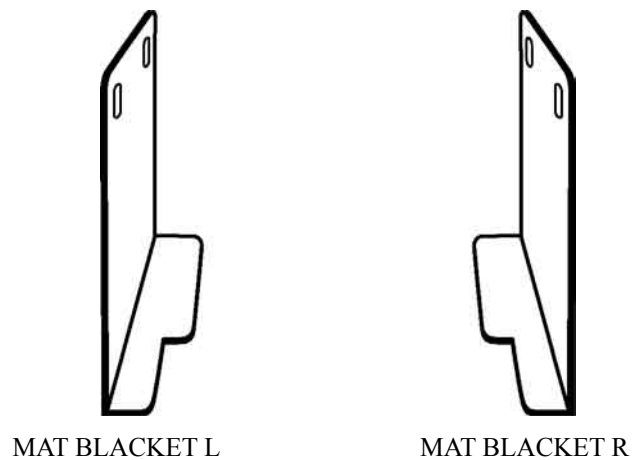
- Be sure to independently use the power supply socket outlet equipped with an Earth Leakage Breaker. Using a power supply without an Earth Leakage Breaker can cause a fire when electric leakage occurs.
- Ensure that the "accurately grounded indoor earth terminal" and the earth wire cable are available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

The AC Unit is mounted on the side of the machine. The AC Unit has Main SW, Circuit Protector and the Inlet which connects the Power Cord.

① Ensure that the Main SW is OFF.

MAIN SW

CIRCUIT PROTECTOR

Main SW off

INLET

AC Cable (Power Cord)

FIG. 6. 4 a  AC unit

31                                    *www.seuservice.com*
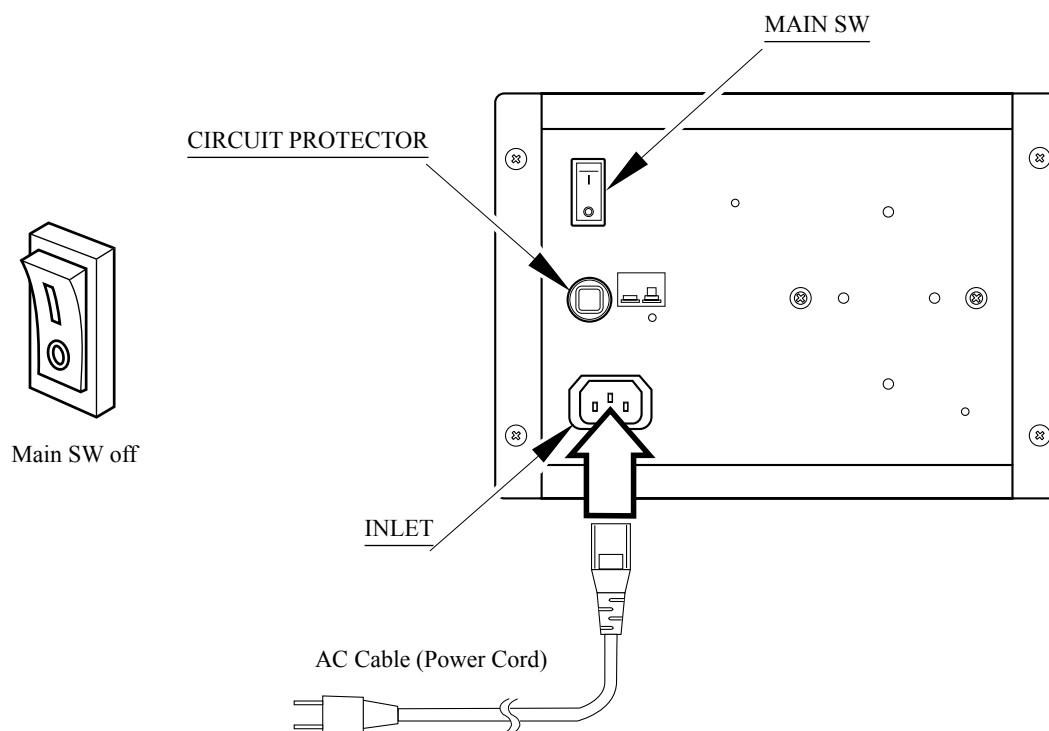
② *Note that the Earth Wire is incorporated in the Power Cord for the Areas of AC 120V (USA) and AC 220 ~ 240V, and therefore, this procedure is not necessary.

Connect the Earth Wire to the Earth Terminal.
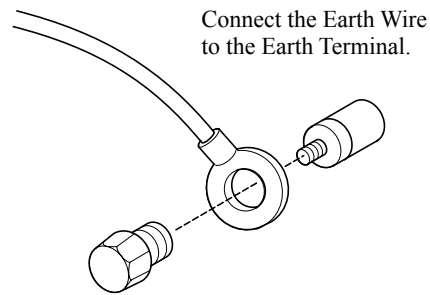
FIG. 6. 4 b  *Earth Wire Connection <EXCEPT USA>

③ Firmly insert the power plug into the socket outlet.
Insert the opposite side of Power Cord plug to the AC Unit's connector ("INLET").

④ Perform wiring for the Power Cord and Earth Wire.  Install protective covering for the Power Cord and Earth Wire.

Wiring Cover
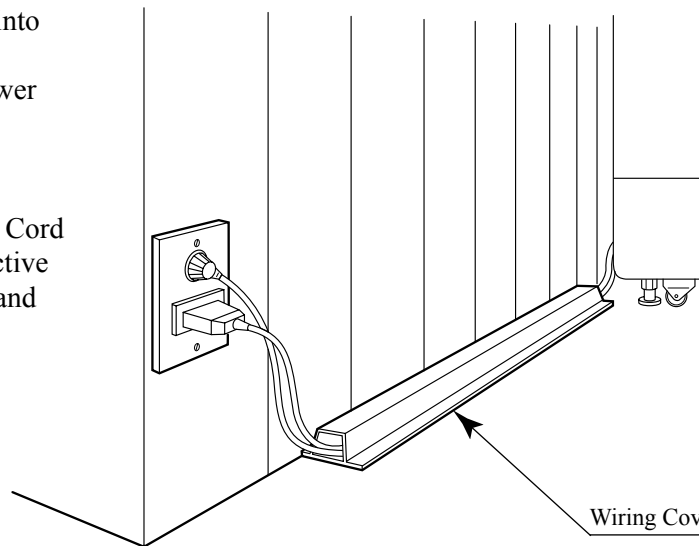
FIG. 6. 4 c  Connecting Power Cord and Earth Wire <EXCEPT USA>
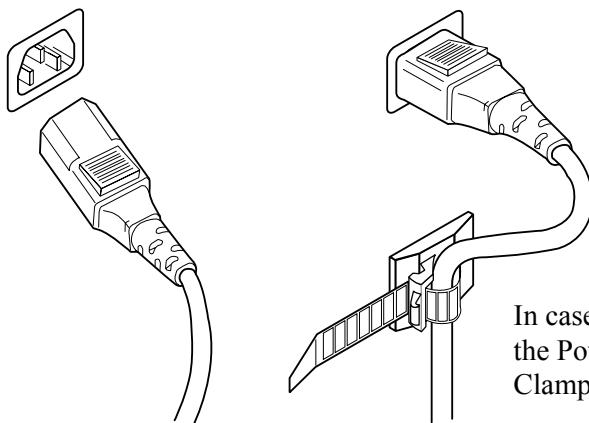
In case the Power Plug is apt to come out of place, secure the Power Cord to the periphery of the AC Unit with a Cord Clamp.

HOW TO USE THE CORD CLAMP

Turn on the AC unit main switch to power on the machine. Once it is powered on, the Billboard fluorescent lamp and the four Cold-Cathode Tubes to the left and right of the Rear Cabinet light up. After several seconds, the screen changes to the Advertise Screen, which is in the wait-for-guest mode (Advertise Mode). At the same time, the loudspeakers to the left and right of the Switch Panel and the super woofer located at the bottom of the PTV output voices.  If No Voice Output has been set, no voices are output during the Advertise Mode.

Even after being powered off, this product retains data about the number of credits and ranking. It does not retain the Factional Number of Coins (i.e., the number of coins put into the slot does not reach one credit) or Bonus Adder Count data. Thus, if you power on the machine after powering it off when the available number of credits for playing a game has remained, powering on machine causes the Start button to blink.

The Surfboard is unlocked when a game starts. Thus, it cannot be moved to the left or right unless a coin is put into the slot and the Start button is pressed.

Billboard's fluorescent lamp
Always lit

On-screen images are outputted.

Sound is emitted.

Start button

Cold-Cathode Tube On/Off

Surfboard Lock

FIG. 6. 5

# 6 ASSEMBLING CHECK

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

## 1 MEMORY TEST

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

```
              RAM TEST

         IC 29 GOOD
         IC 35 GOOD
         IC 09 GOOD  IC 10 GOOD
         IC 11 GOOD  IC 12 GOOD
         IC 16 GOOD  IC 18 GOOD
         IC 20 GOOD  IC 22 GOOD
         IC 17 GOOD  IC 19 GOOD
         IC 21 GOOD  IC 23 GOOD
         IC106 GOOD  IC107 GOOD
         IC108 GOOD  IC109 GOOD
         IC111 GOOD  IC113 GOOD
         IC115 GOOD  IC117 GOOD
         IC112 GOOD  IC114 GOOD
         IC116 GOOD  IC118 GOOD


      PRESS TEST BUTTON TO EXIT
```
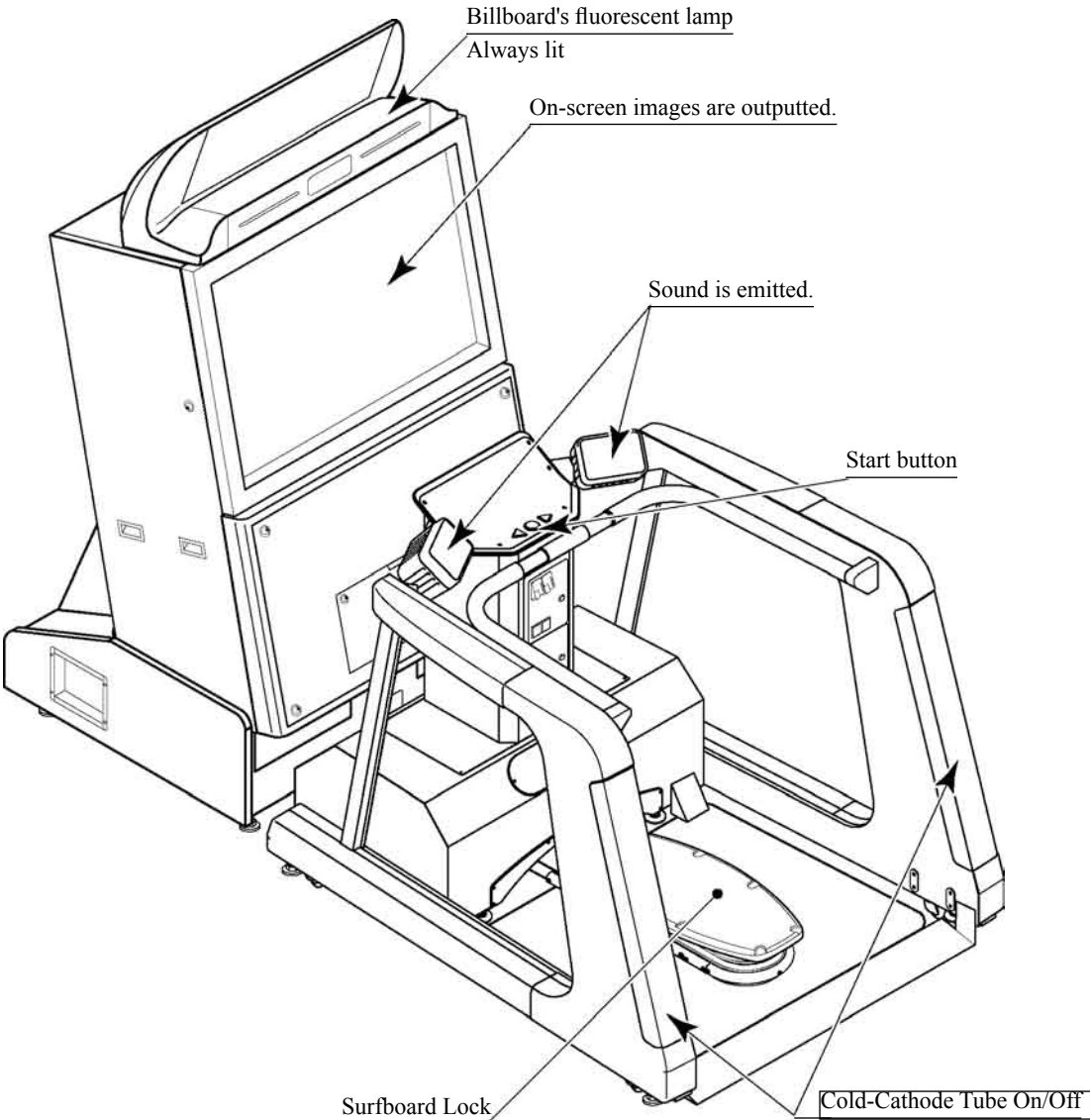
```
            GAME ROM TEST
           [××××××××××]

    NO.  TYPE  RESULT BYTE WORD
    IC22 32M  ----  ×× ××
    IC1  64M  GOOD  ×× ××
    IC2  64M  GOOD  ×× ××
    IC3  64M  GOOD  ×× ××
    IC4  64M  GOOD  ×× ××
    IC5  64M  GOOD  ×× ××
    IC6  64M  GOOD  ×× ××
    IC7  64M  GOOD  ×× ××
    IC8  64M  GOOD  ×× ××
    IC9  64M  GOOD  ×× ××
    IC10 64M  GOOD  ×× ××
                :
    IC21 64M  GOOD  ×× ××

      PRESS TEST BUTTON TO EXIT
```

## 2 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 test mode screen, make judgment as to whether an adjustment is needed.  If it is necessary, adjust the monitor by referring to Section 11.

```
          C.R.T. TEST 1/2

      1                 32

          RED

          GREEN

          BLUE

          WHITE

   PRESS TEST BUTTON TO CONTINUE
```

```
          C.R.T. TEST  2/2




          PRESS TEST BUTTON TO EXIT
```

## 3 SOUND TEST

```
            SOUND TEST


     RIGHT SPEAKER    OFF
     LEFT SPEAKER     OFF
  -> EXIT



      SELECT WITH SERVICE BUTTON
             AND
        PRESS TEST BUTTON
```

In the system test mode, selecting SOUND TEST causes the screen (on which sound related BD and wiring connections are tested) to be displayed.
Check if the sound is satisfactorily emitted from each speaker and the sound volume is appropriate.

## 4 INPUT TEST

```
        INPUT TEST

  START        OFF
  LEFT BUTTON      OFF
  RIGHT BUTTON     OFF
  BOARD SWING     82H
  BOARD ROLL      83H
  BOARD PITCH     9AH
  SENSOR MAT      OFF
  SERVICE        OFF
  TEST           OFF


  PRESS TEST AND SERVICE BUTTON TO EXIT
```

Selecting the INPUT TEST on the game test mode menu screen causes the screen (on which each switch is tested) to be displayed. Press each switch. If the display beside each switch indicates "ON," the switch and wiring connections are satisfactory.

## 5 OUTPUT TEST

```
         OUTPUT TEST

     START LAMP      OFF
     BOARD LOCK      OFF
     RIGHT UP   LAMP  OFF
     RIGHT DOWN LAMP  OFF
     LEFT  UP   LAMP  OFF
     LEFT  DOWN LAMP  OFF
   >  EXIT


      SELECT WITH SERVICE BUTTON
             AND
        PRESS TEST BUTTON
```

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

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

# 7. PRECAUTIONS TO BE HEEDED WHEN MOVING THE MACHINE

⚠️ **WARNING!**

- When moving the machine, be sure to unplug the power plug. Moving the machine with the plug as is inserted can damage the power cord and cause fire and electric shock hazards.
- When moving the machine on the floor, retract the Adjusters and ensure that Casters make contact with the floor. During transportation, pay careful attention so that Casters do not tread power cords and earth wires. Damaging the power cords can cause electric shock and short circuit hazards.
- When lifting the cabinet, be sure to hold the grip portions or bottom part. Lifting the cabinet by holding other portions can damage parts and installation portions due to the empty weight of the cabinet, and cause personal injury.
- When transporting the product in places with step-like differences in grade, disassemble into each unit before transporting. Lifting up the product in an attempt to cross the step-like differences in an as is assembled condition may damage the unit's joining portions and cause a personal injury resulting from damage.
- When moving the PTV, do not push it from the rear side. Push it from sideways. Pushing the PTV from the rear side can have the PTV fall down, causing personal injury etc. In case the floor has slanted surfaces or step-like differences, be sure to move the machine by 2 or more persons.
- Do not insert the fork to places other than designated when using a Forklift to transport the machine.
  Failure to observe this could cause falling down and injury resulting from falling down.
- Be careful not to damage the Sensor Mat or the Sensor Mat wires when moving the machine. The Sensor Mat plays an important role in preventing accidents. Operating the machine with a damaged Sensor Mat may cause an accident.

⚠️ **CAUTION!**

- Be sure to remove the Sensor Mat and the Mat Holder Rear. Moving the machine with these may result in damage of the parts.
- Do not push the plastic made parts. Failure to observe this may damage parts and cause injury due to fragments resulting from damage.
- Be careful to store the shipping beam as it is used when moving the rear cabinet with a forklift. Failure to assemble the shipping beam when using a forklift may result in damage or deformation of the parts.

● When transporting the product in places with steps, disassemble into each unit before transporting. Inclining the product in an as is assembled condition or placing the cabinet in places with steps can damage the unit's joining portions.
● To protect surface, do not directly apply a rope to the surfaces of product. Use protective materials to the places the rope is applied to.

Remove the Sensor Mat and the Mat Holder Rear when moving the machine.

On level surfaces, move the machine by causing the Casters to make contact with the surfaces.
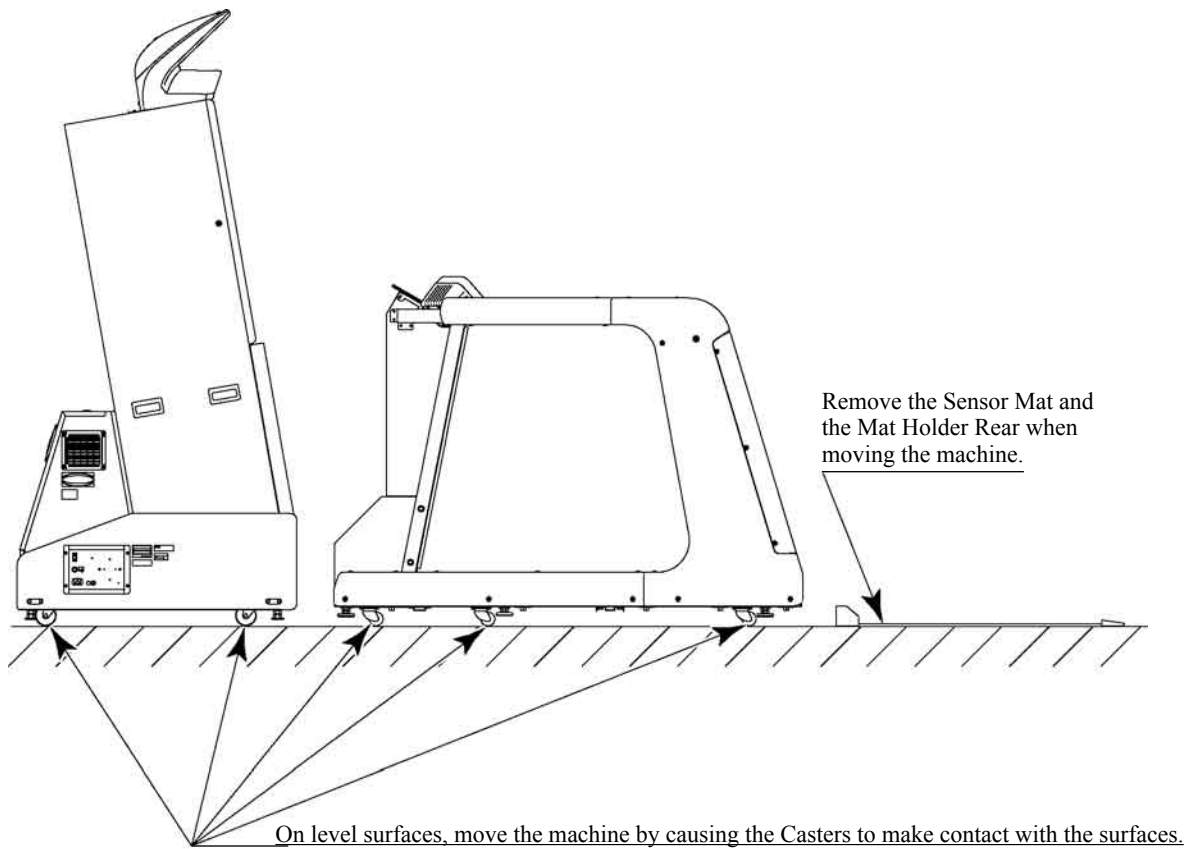
FIG. 7 a
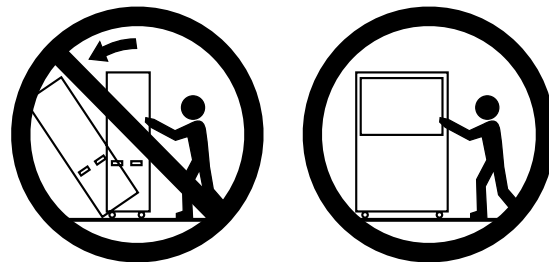
Do not push PTV from the back. Pushing the PTV from the back can cause the PTV to fall down. Push it from the side.

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

Remove the Sensor Mat and the Mat Holder Rear when moving the machine.

GRIP

FIG. 7 b

Do not hold or press these hatched parts to move the product.

Plastic made parts

Hold the grip to move.

Do not to damage the ASSY TUBE.

Hold the metal parts to move.

Remove the Sensor Mat and the Mat Holder Rear from the Rear Cabinet before moving the machine.

FIG. 7 c

# 8. GAME CONTENTS

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.

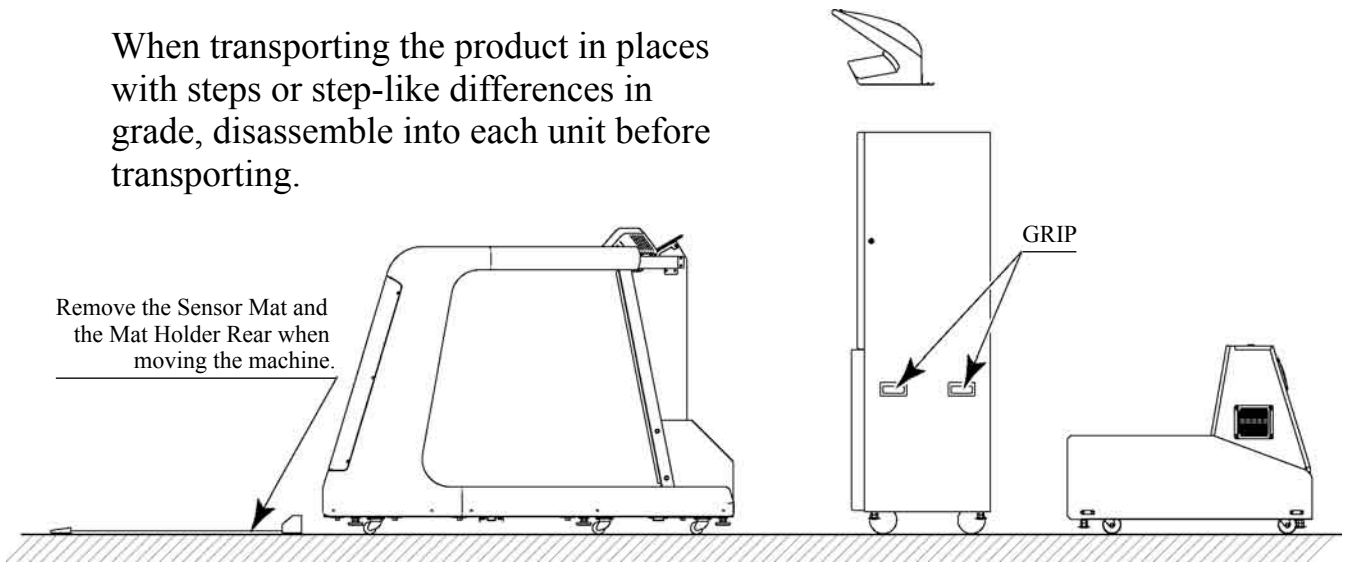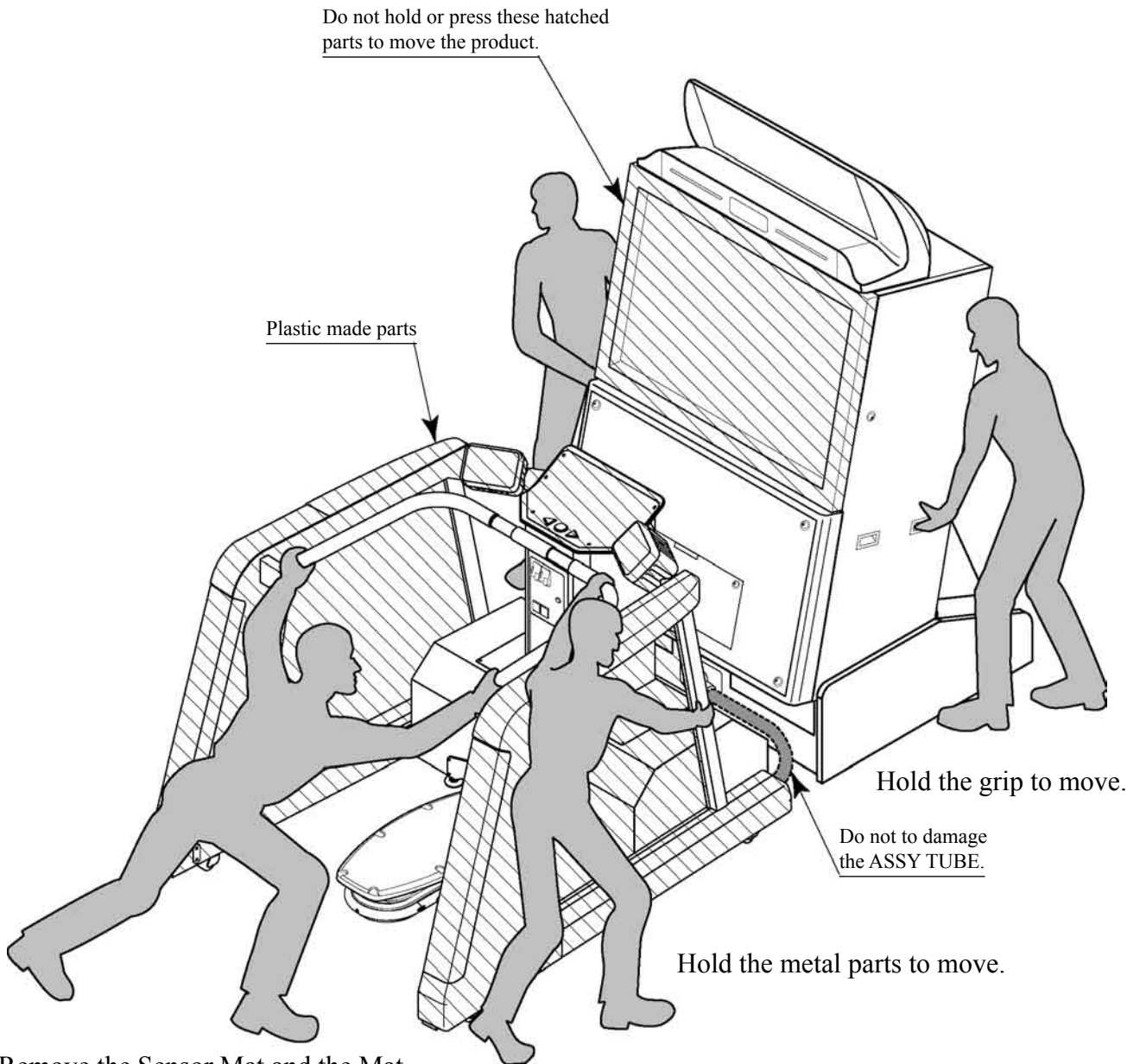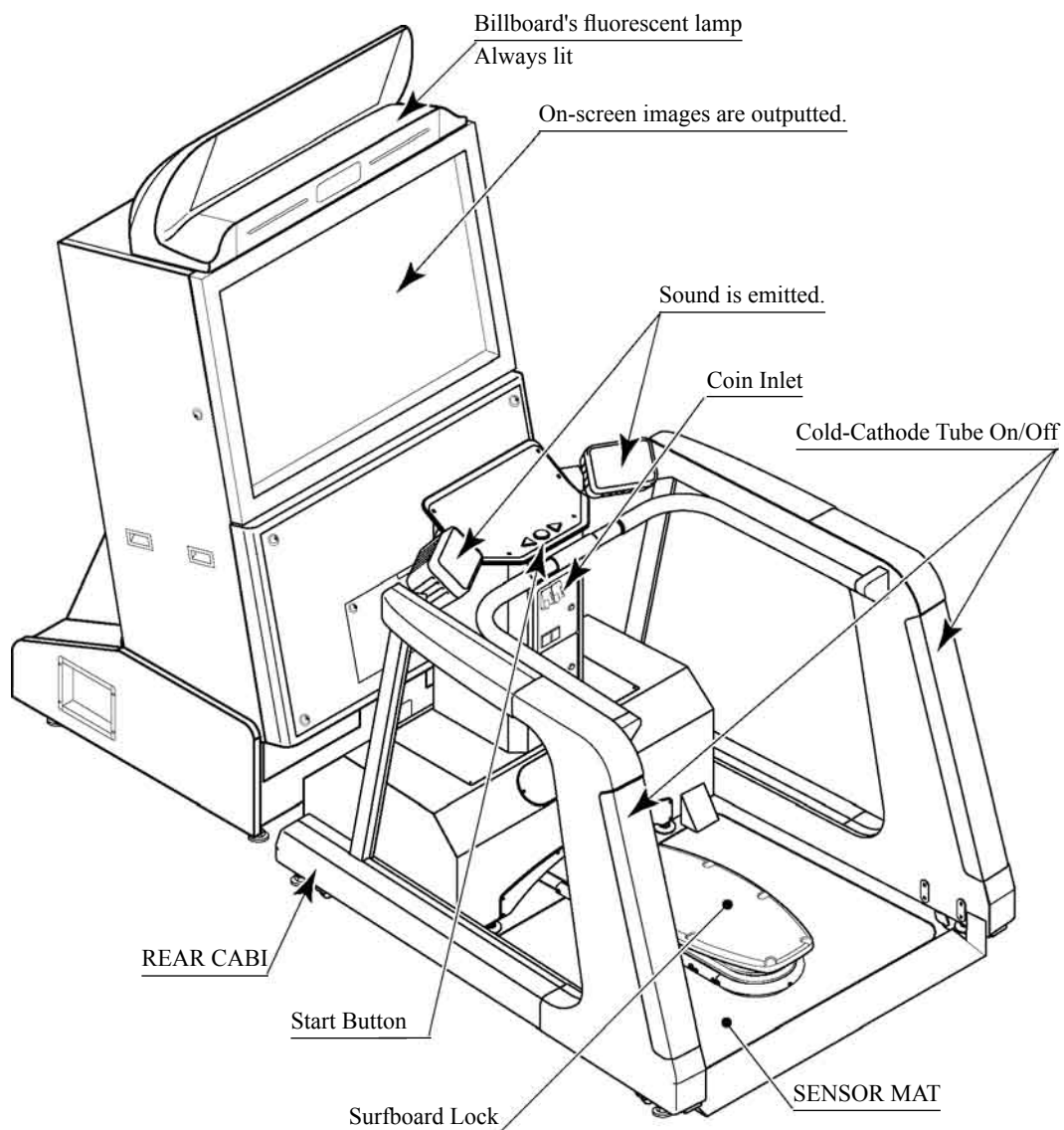The fluorescent billboard lamp will always remain lighted while the game is on.
The PTV screen will display demo screens and rankings while the machine is in advertising mode (waiting for customers), and the speakers to the left and right of the control panel as well as the super woofer below the PTV will output sound. The surfboard will remain in a fixed state and cannot be moved left or right. The four rear cabinet cold-cathode tubes will continue to remain lighted. It can be set in the Game Test Mode whether the sound is emitted or not during the advertising mode.

When enough coins have been inserted for play, the Start Button at the center of the control panel will flash. Press the Start Button to begin the game.
The surfboard will unlock when the character and course choices have been input. The unlock warning display will appear on the screen at that time.
The four cold-cathode tubes will flash entertainingly when a player executes tricks (techniques).

If any object or person occupies the floor mat during a game, the surfboard will lock and cannot be moved left or right; the warning display will appear on the screen as well.



Billboard's fluorescent lamp
Always lit

On-screen images are outputted.

Sound is emitted.

Coin Inlet

Cold-Cathode Tube On/Off

REAR CABI

Start Button

Surfboard Lock

SENSOR MAT

FIG. 8

Start Button
(Includes: Input/Restart)

Select Button

Surfboard

## Surfboard Movements

Left/Right Swing

Basic Turns

Left/Right Roll

Turn Assist

Back Pitch

Perform Action
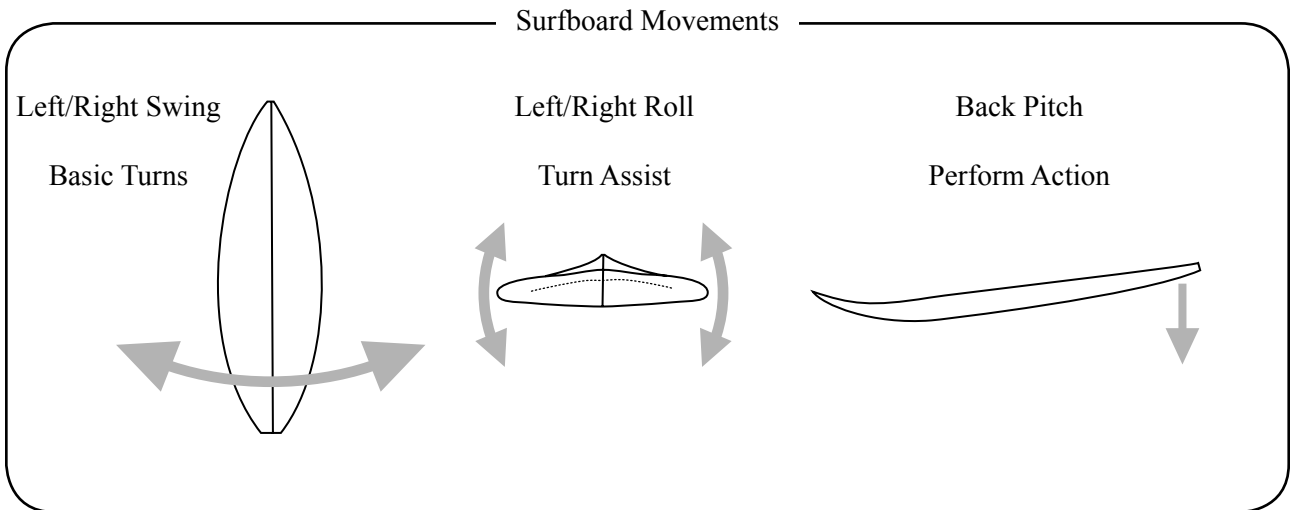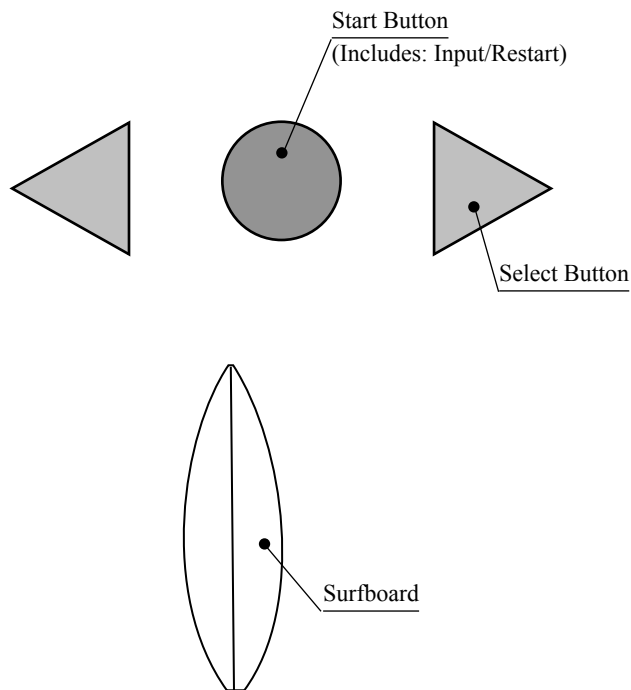
Players swing the board left and right to turn.

Turning power changes according to the amount of swing. By leaning into a roll during a turn, players can make sharper turns. In addition, players can refine their turns with the by controlling the amount of roll.

(Left Swing + Right Roll = Right Turn, Right Swing + Left Roll = Left Turn)

Players can execute a variety of techniques by stomping on the back of the board in accordance with the player's position in relation to a wave and by pairing it with left and right swing. (Please refer to the detailed explanation later in this text.)
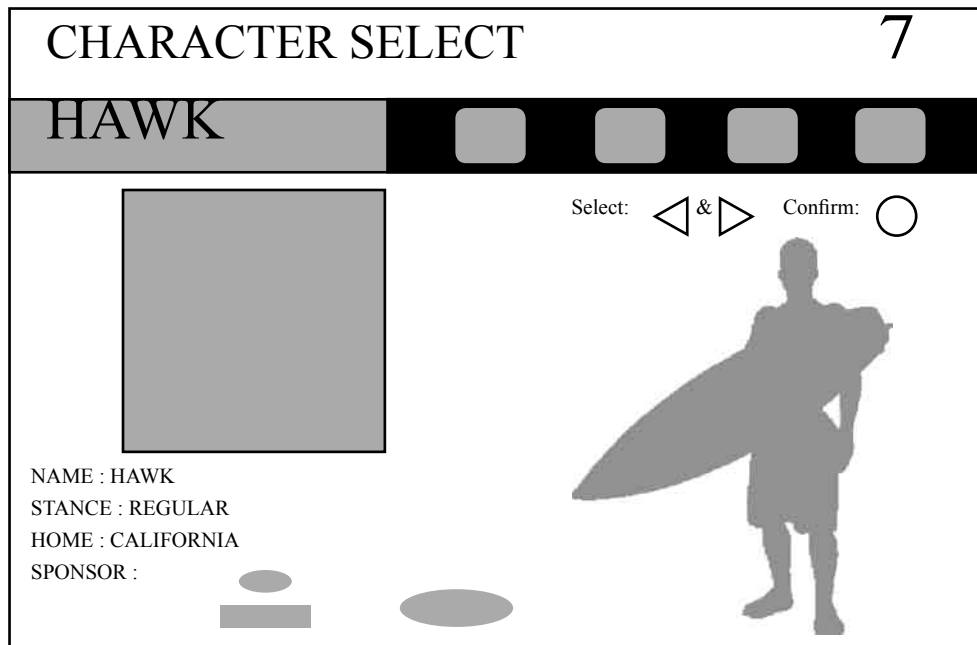
Press the Start Button while gliding to quit riding (surfing) and restart.

After inserting enough coins for one player, press the Start Button to start the game.

## CHARACTER SELECT　7

### HAWK

Select: ◁ & ▷　Confirm: ○

NAME : HAWK
STANCE : REGULAR
HOME : CALIFORNIA
SPONSOR :

Choose one of the four surfers. FOX is the only goofy-footed (left-handed) character.
Move the cursor with the Select Button to select the character, and press the Start Button to input the choice.
The number displayed to the upper right is the time limit for selection.
Each surfer basically has the same abilities, but they have been provided with their own signature air trick techniques.

## COURSE SELECT　12

Select: ◁ & ▷　Confirm: ○

Stage-1
Wave height:
2m

Stage-1

CALIFORNIA

Wave height: 2m
Conditions: Mixed break
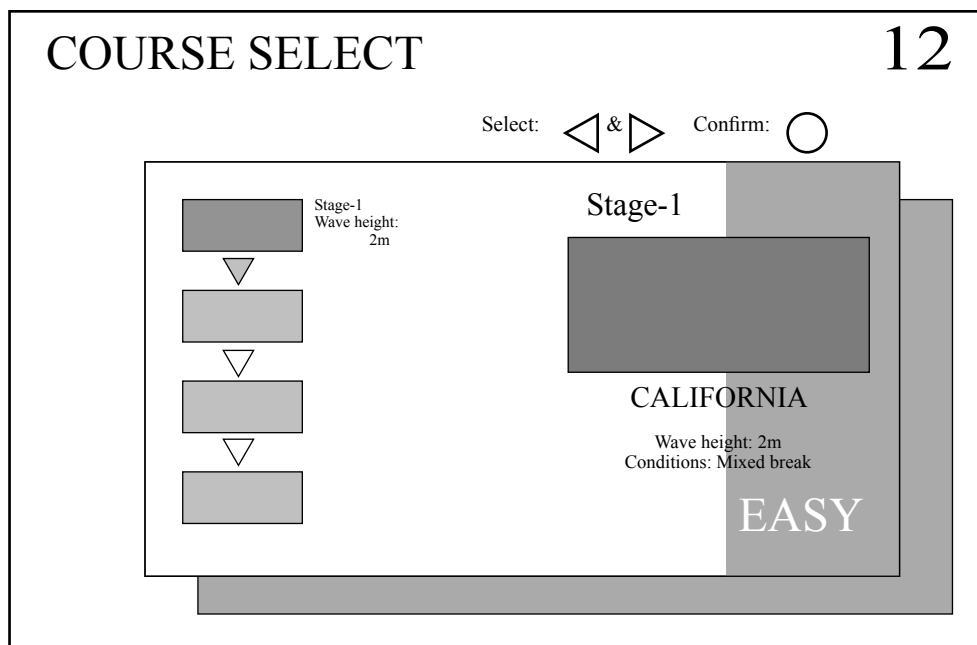
EASY

Choose one of the two courses, EASY or HARD.
Move the cursor with the Select Button to select the character, and press the Start Button to input the choice.
The number displayed to the upper right is the time limit for selection.

There are two courses (and some additional material). Each course is composed of four stages. Players can play a bonus stage (Staff Roll) after clearing the final stage of the HARD course only.

Easy Course

❏ ”California”
The shape of the waves hardly changes at all, making this an appropriate introductory stage for practicing turn tricks and air tricks. Multiple tubes (wave tunnels) will appear in the second half if the player avoids wiping out (rolling over).

❏ ”Polynesia”
Tubes will envelop the player immediately after the start of this stage. This stage is appropriate for "Tube Riding", a synonym for surfing. It requires some amount of swinging because there are some contorted parts in this stage.

❏ ”Japan”
Players will need to accurately predict the waves, because their size and shape change drastically. Tubes come and go as well. Additionally, the gliding surface of the waves is short, so players must perform a U-turn and a turn trick if they have surfed until almost leveling out.

❏ ”Hawaii”
King-sized waves assault players in this stage. Players have to stick to the gliding surface and continue entering the tube or they will be tossed to the outside of the tube from a serpentine.

Hard Course

❏ ”Australia”
Tubes break one after another as if to swallow the player. However, tubes that allow trick to be performed easily are simple to enter, so the level of difficulty for this stage is not very high.

❏ ”South Africa”
Players can only surf in the regular direction (to the right) and wrecked ships block the player's path. Players can continue to surf until time runs out if they do not wipe out. Accumulating combos is the secret to clearing this stage.

❏ ”Europe”
Players can only surf in the goofy direction (to the left). The waves are considerably small, so players must carefully descend the entire wave in order to pull off high-level tricks. Extremely small tubes appear in this stage as well.
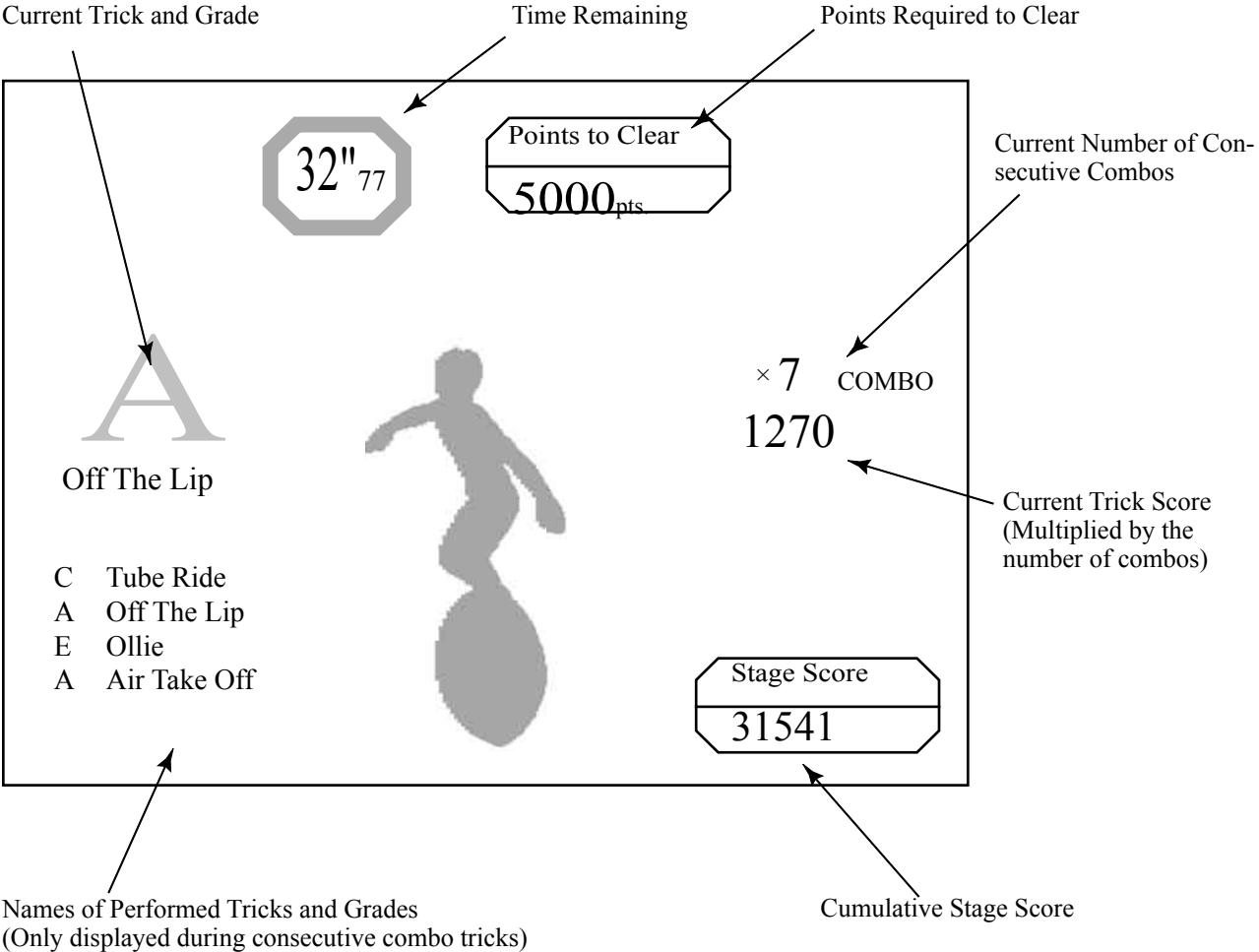
❏ ”Hawaii”
Only king-sized tubes appear in this stage. The tube interiors are severely contorted and there are more obstacles.
Players must adjust their speed minutely and accurately judge surfing conditions in this stage.

❏ ”Secret”
Some of the most gigantic waves appear during the game. Points for tricks executed during the staff roll are calculated just as in the game itself.

Game Screen

Current Trick and Grade        Time Remaining        Points Required to Clear

Points to Clear

$32"_{77}$

$5000_{pts.}$

Current Number of Consecutive Combos

$\times 7$    COMBO

A

1270

Off The Lip

Current Trick Score
(Multiplied by the
number of combos)

C    Tube Ride
A    Off The Lip
E    Ollie
A    Air Take Off

Stage Score

31541

Names of Performed Tricks and Grades
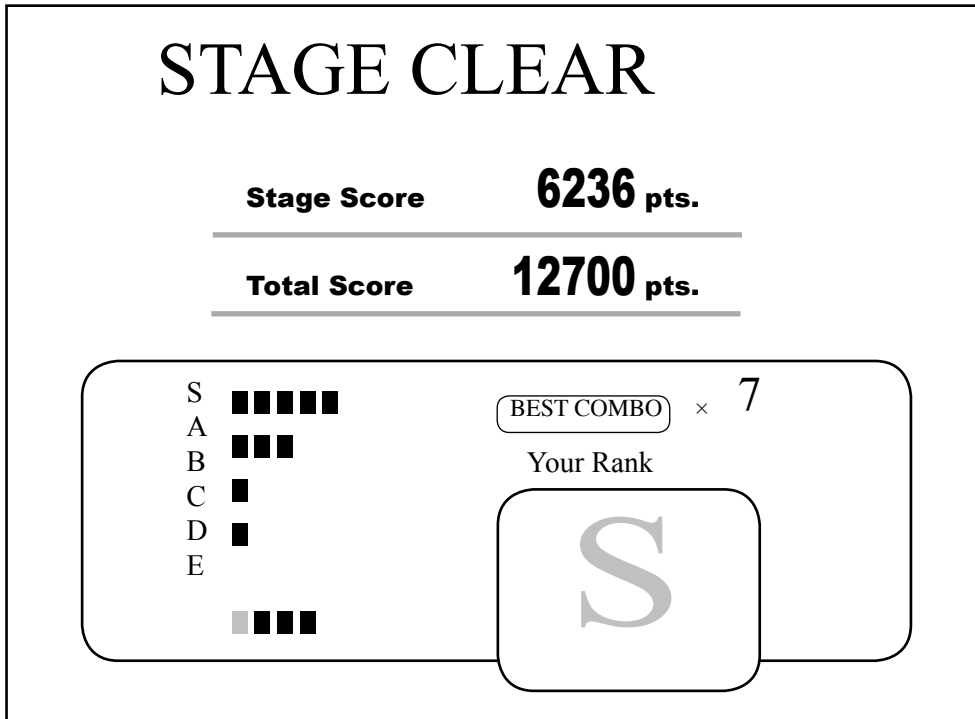(Only displayed during consecutive combo tricks)

Cumulative Stage Score

Game Over Conditions

The goal is to obtain the required number of points before time runs out.
The game will end if a player has not obtained the required number of points when Time Remaining
drops to zero. A player has obtained the required number of points will move onto the next stage.

About the Combo System

The combo count increases by one for each technique executed. However, some techniques are
exceptions. Combo points are multiplied by the number of combinations performed as they pile up,
so players can earn more points and clear the stage more easily. However, the number of combos
accumulated returns to zero if players stagger or fall from making contact with obstacles or wave
walls.

# STAGE CLEAR

| | |
|---|---|
| **Stage Score** | **6236** pts. |
| **Total Score** | **12700** pts. |

```
S  ■ ■ ■ ■ ■
A     ■ ■ ■           ( BEST COMBO )  ×  7
B     ■
C  ■                       Your Rank
D  ■
E
                              ┌─────────┐
      ■ ■ ■ ■                 │    S    │
                              └─────────┘
```

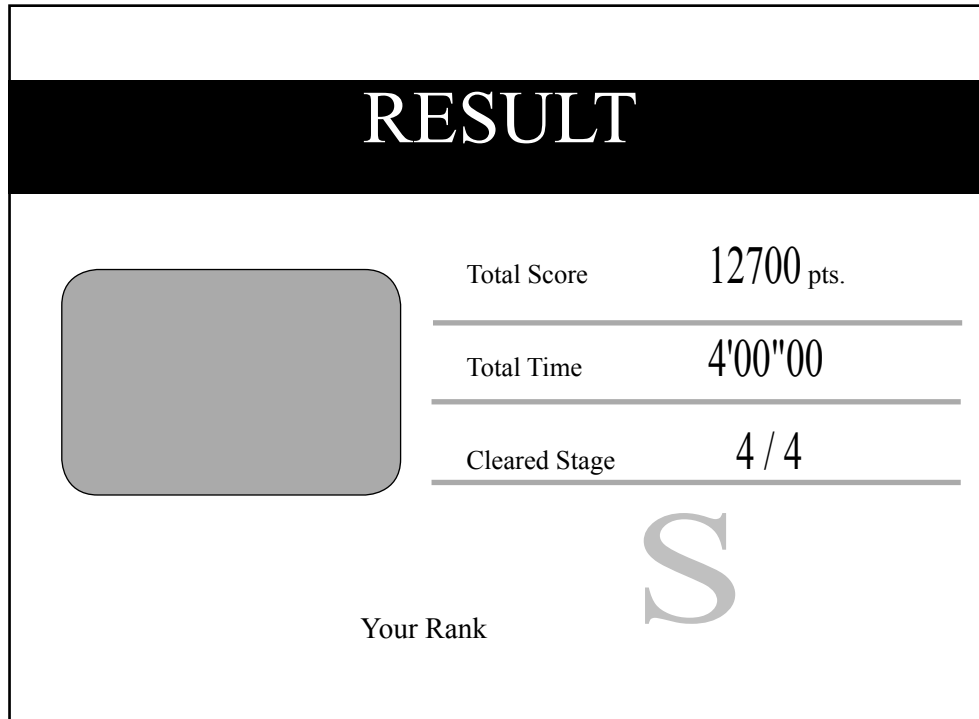A screen displaying a player evaluation for the stage will appear after each stage has been completed. The ranking is based on:

❍ The frequency of high grades and

❍ the number of Best Combos.

The higher the value of both scores, the higher the rank displayed in the "YOUR RANK" column.

The six grade levels are E, D, C, B, A, and S, with S as the highest rank.

# RESULT

| | |
|---|---|
| Total Score | 12700 pts. |
| Total Time | 4'00"00 |
| Cleared Stage | 4 / 4 |

Your Rank    S

A screen displaying a total player evaluation for game play will appear after the game has been ended.

The average rank of plays completed at that point will be displayed as "YOUR RANK". The six grade levels are E, D, C, B, A, and S, with S as the highest rank.

## Name Entry

A display for entering three initials will be displayed at the following times:

(1) When all of stages of a course have been cleared.

(2) When a player has placed in the high scores of the game machine (up to the top 44 names)

(3) When a player has beaten the high score of any of the four stages (or additional material) of each course

Players select letters to enter by scrolling through the character columns with the Select Button and enter one letter at a time with the Start Button. Confirm the three letters by lining up the cursor with END and pressing the Start Button.
In the case of (1) , the rank order will be displayed after a name has been entered.

## Continue

Players whose time runs out in the middle of a stage in any course will be asked if they would like to continue; the countdown will be displayed as well. During the countdown, players can restart from the stage in which time ran out by inserting coins and pressing the Start Button. However, the number of points required to clear the stage will return to zero in such cases. Those players who do not wish to continue can accelerate the countdown by pressing the Select Button during the countdown. Please note that the continue setting can be disabled through selections made in Test Mode (see 9-3D).

## Password

If a player has fulfilled the name entry requirements above, a password will be displayed at the bottom of the ranking screen after the player's name has been entered. The player can register the score in the world ranking by transmitting the password to the exclusive home page for this game. This screen will be displayed for twenty seconds or more, but can be skipped by pressing the Start Button. The exclusive home page is to open at the end of June. However, the continued operation and management of the site after the second year following the launch of the game has not yet been confirmed.

**http://www.s-surfer.com**

Please note that the password setting can be disabled through selections made in Test Mode (see 9-3D).

Character Select

Course Select

EASY 1-3 stage only

Controller Explanation

Stage Preview Screen

Stage Migration Screen

Game

Continue

Stage has been cleared

Stage Result Screen

Continue Screen

Stage has not been cleared

All HARD stages
have been cleared

Staff Roll

Do not continue

Stage Result Screen

Conditions to the left have been fulfilled
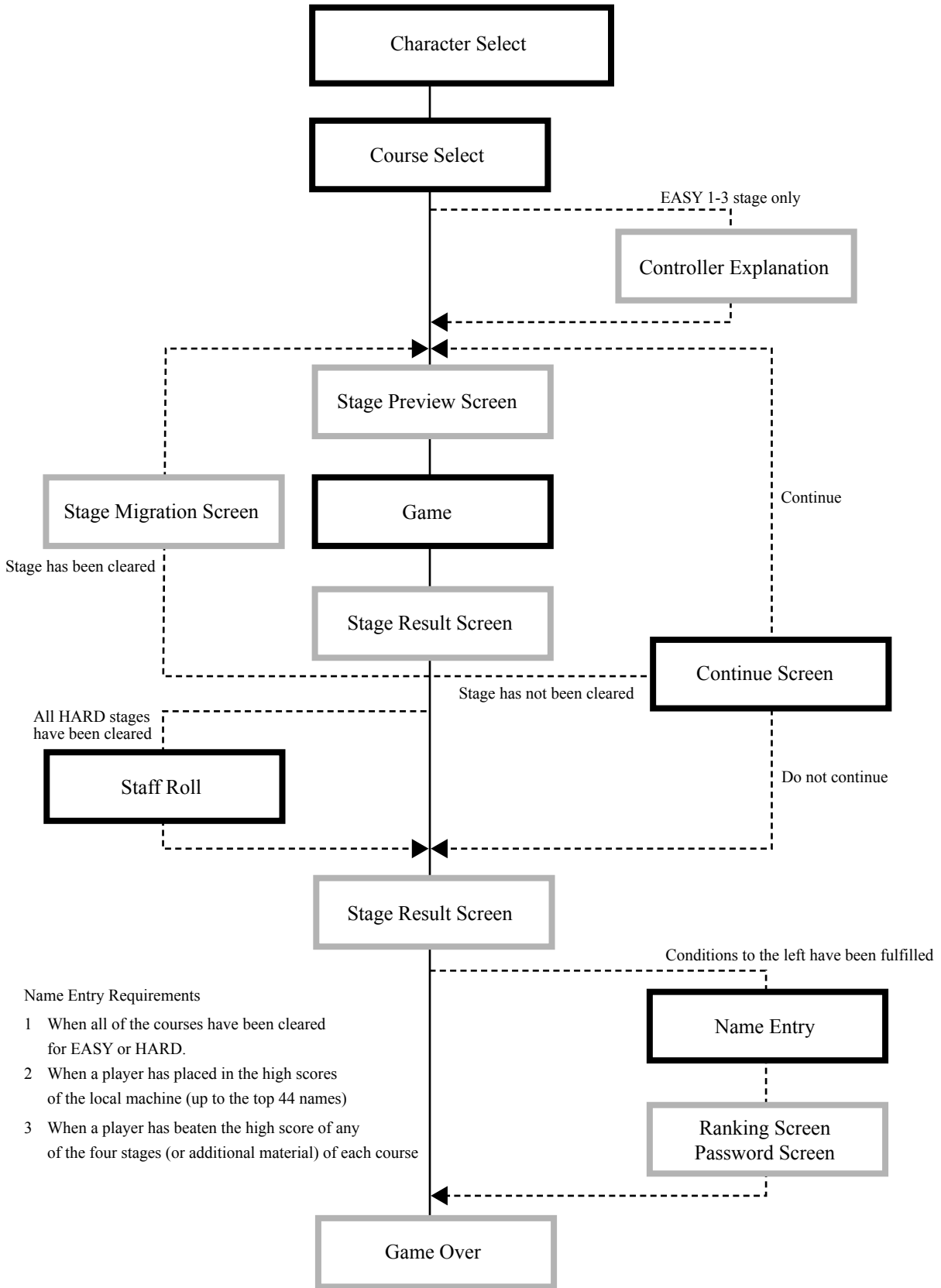
Name Entry Requirements

1   When all of the courses have been cleared
    for EASY or HARD.
2   When a player has placed in the high scores
    of the local machine (up to the top 44 names)
3   When a player has beaten the high score of any
    of the four stages (or additional material) of each course

Name Entry

Ranking Screen
Password Screen

Game Over

*Steps listed in gray in the above diagram can be skipped with the Start Button.

Takeoff

Players can delay the timing of their takeoffs by stomping on the back of the board while the character is paddling (paddling to advance the surfboard). Points are awarded even if takeoff is delayed only a little, but the player will wipeout by delaying takeoff too much.

Executable Tricks

■ Late Takeoff (slightly delayed takeoff) (E Grade)

■ Air Takeoff (takeoff just before wiping out) (A Grade)

Air Tricks

Players can execute air tricks by surfing out the flat part of the wave, then climbing the face of the wave, jumping off at the last minute and stomping hard on the back of the board. The steeper the incline of the wave face when the back of the board is stomped, the higher the grade of the trick performed. Points are awarded for a longer time the higher the player jumps. In addition, different tricks can be performed depending on whether the player is surfing the wave on the left or the right. However, the trick grade and points remain the same regardless of whether the player is on the left or right. The characters' signature tricks can only be performed as air tricks.

Stomp on the board at the last minute

Surf all the way to the bottom of the wave...
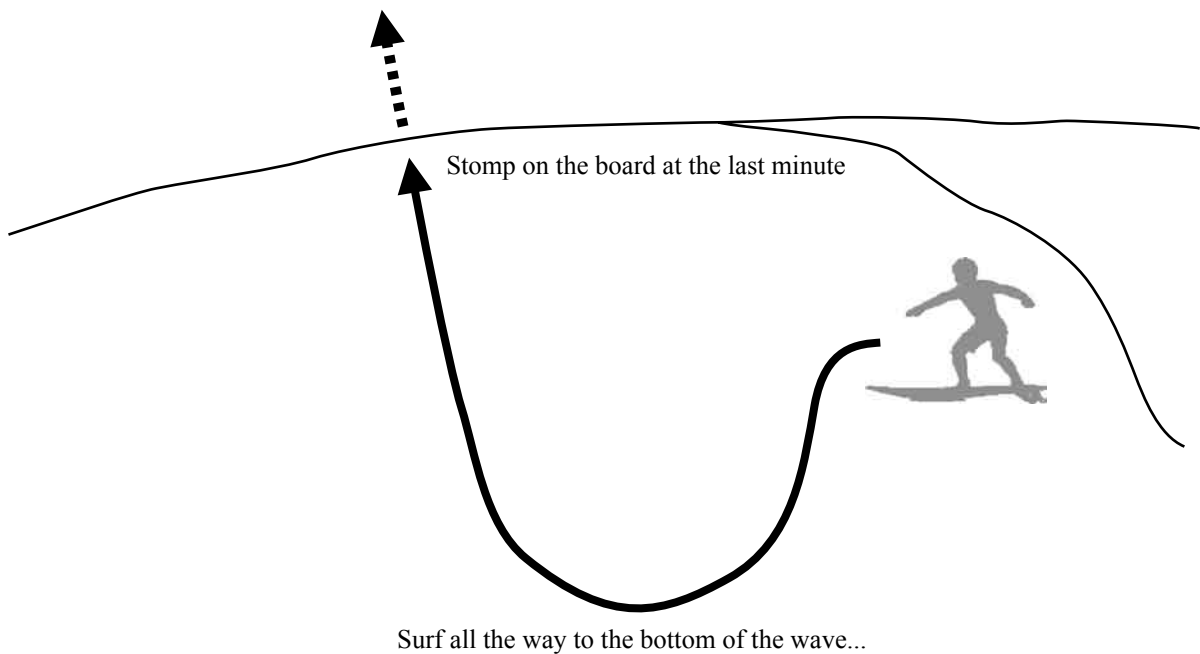
Executable Tricks (HAWK)

Surfing to the right of the wave:
- "Kickflip" (D Grade)
- "Ollie Method" (C Grade)
- "Mute Tailpoke" (B Grade)
- "Varial Heelflip Indy Grab" (A Grade)
- "Ollie McTwist" (S Grade)

Surfing to the left of the wave:
- "Varial" (D Grade)
- "Ollie Indy Nosebone" (C Grade)
- "Tweak" (B Grade)
- "Heelflip Indy Grab" (A Grade)
- "McTwist" (S Grade)

Executable Tricks (VIPER)

Surfing to the right of the wave:
- "Frontside Air" (D Grade)
- "Indy" (C Grade)
- "Lien" (B Grade)
- "Rodeo Flip" (A Grade)
- "Back Flip" (S Grade)

Surfing to the left of the wave:
- "Backside Air" (D Grade)
- "Melonchollie" (C Grade)
- "Japan Air" (B Grade)
- "Alley Rodeo Flip" (A Grade)
- "Front Flip" (S Grade)

Executable Tricks (FOX)

Surfing to the right of the wave:
- "Double Grab" (D Grade)
- "Iguana" (C Grade)
- "Method" (B Grade)
- "Upperdeck" (A Grade)
- "Wet Cat" (S Grade)

Surfing to the left of the wave:
- "Alley Oop" (D Grade)
- "Mute" (C Grade)
- "Stalefish" (B Grade)
- "Clippler" (A Grade)
- "Corkscrew" (S Grade)

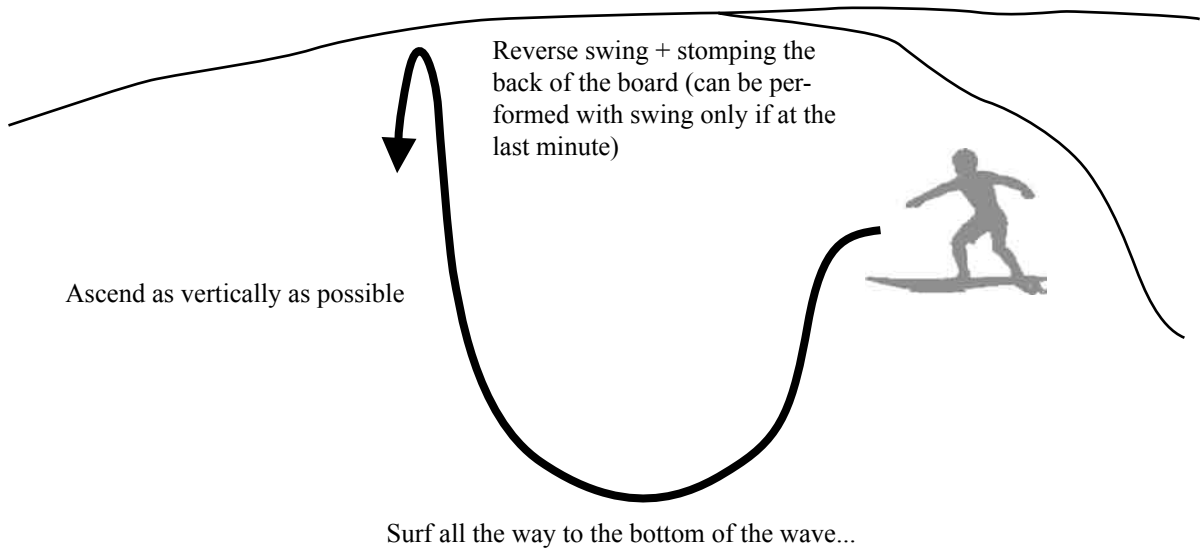Executable Tricks (DAISY)

Surfing to the right of the wave:
- "Alley Oop" (D Grade)
- "Mute" (C Grade)
- "Stalefish" (B Grade)
- "Clippler" (A Grade)
- "Corkscrew" (S Grade)

Surfing to the left of the wave:
- "Double Grab" (D Grade)
- "Iguana" (C Grade)
- "Method" (B Grade)
- "Upperdeck" (A Grade)
- "Wet Cat" (S Grade)

Turn Tricks

Players can execute turn tricks by surfing out the flat part of the wave, then climbing the face of the wave, jumping off at the last minute and stomping hard on the back of the board while swinging to reverse direction. The trick can be performed by swinging without stomping on the back of the board only if the player enters the move at the very top of the wave. The more vertically the player ascends the incline when entering the move, the higher the trick grade. In addition, a much higher grade of trick can be performed if the player inputs the move at the white breaking crest of the wave.

Reverse swing + stomping the back of the board (can be performed with swing only if at the last minute)

Ascend as vertically as possible

Surf all the way to the bottom of the wave...

Executable Tricks

(1) Entering the move when the crest of the wave has not changed color:
- ■ (Slash Back) (C Grade)
- ■ (Layback Slash) (B Grade)
- ■ (Off The Top) (B Grade)
- ■ (Vertical Off The Top) (A Grade)

(2) Entering the move when the crest of the wave has become white:
- ■ (Slash) (C Grade)
- ■ (Layback Slash) (B Grade)
- ■ (Off The Lip) (A Grade)
- ■ (Vertical Off The Lip) (S Grade)

The same tricks can be performed whether the player is surfing to the left or right of the wave, but only the Layback Slash will change to the Hand Plant trick when surfing to the left.

Other Turn Tricks

■ 360 (D Grade)
All turn tricks are performed by swinging the board to reverse direction an stomping on the back of the board, but players can execute the "360" trick by stomping on the back of the board with the swing entered in the forward direction.

Keep forward swing + stomping the back of the board (swing is kept to the left in this case)
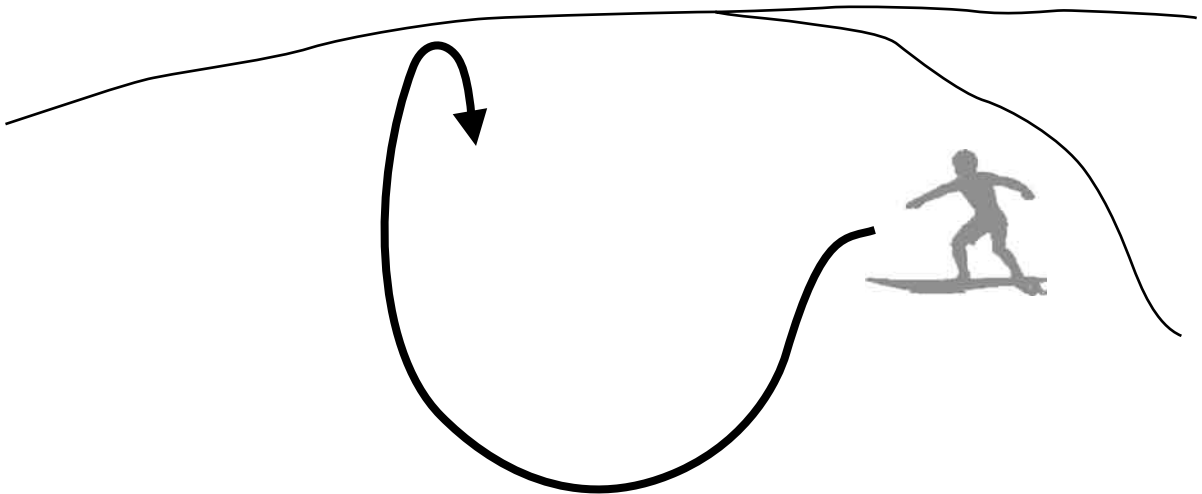
Surf all the way to the bottom of the wave...

■ Round House Cutback (S Grade)
Players can perform the Round House Cutback by surfing in front of the wave, U-turning, and performing a turn trick again at the top of the wave. Turn tricks are entered only by stomping on the back of the board or can be executed by swinging in the reverse direction at the top of the wave.

Reverse swing + stomping on the back of the board (also possible by simply stomping on the back of the board in this case)
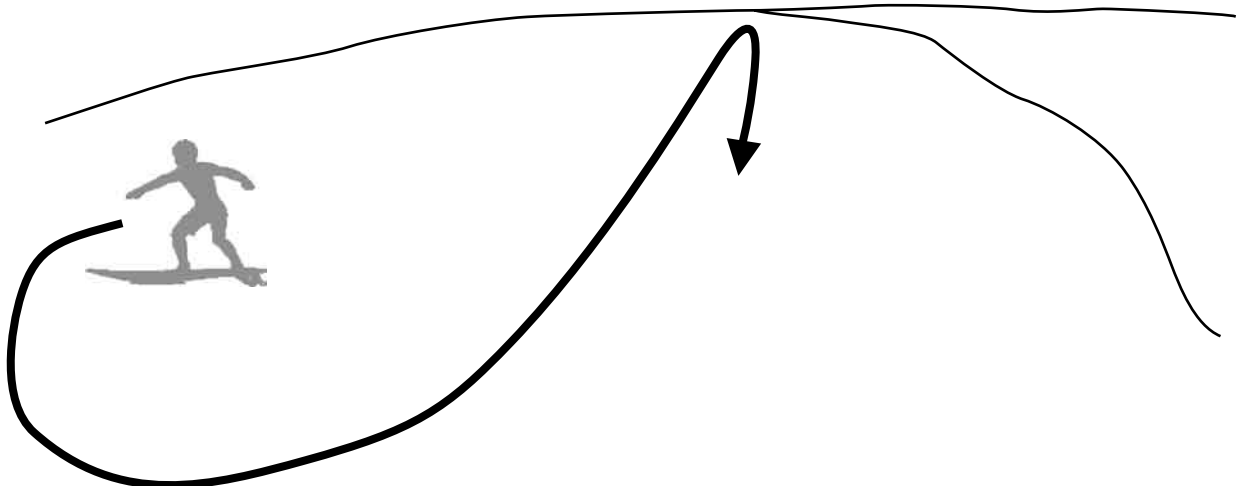
U-turn in front of the wave...

Other Special Tricks

■ Ollie (E Grade)
Stomp on the back of the board while surfing the wave incline to perform and Ollie (jump).

■ Reverse (E Grade)
Players can perform a reverse and continue surfing reversed by landing backward after an Ollie or other air trick. Players can return to the normal posture by swinging.

■ Tube Ride (E to S Grade)
Points will be awarded for a Tube Ride when a player enters a tube (wave tunnel). The longer a player is in the tube, the higher points, the grade, and the number of combos will rise. Players can decelerate by stomping on the back of the board.

■ Floater (C to S Grade)
Players can ride the top of a wave by surfing to line up with the white crest of a wave just before it breaks and entering the move by stomping on the back of the board the moment they ride the wave. The points and grade attained will rise the longer the player rides the top of the wave. Players can descend the wave by swinging or stomping on the back of the board.

Surf the crest of the wave and a low angle and stomp on the back of the board
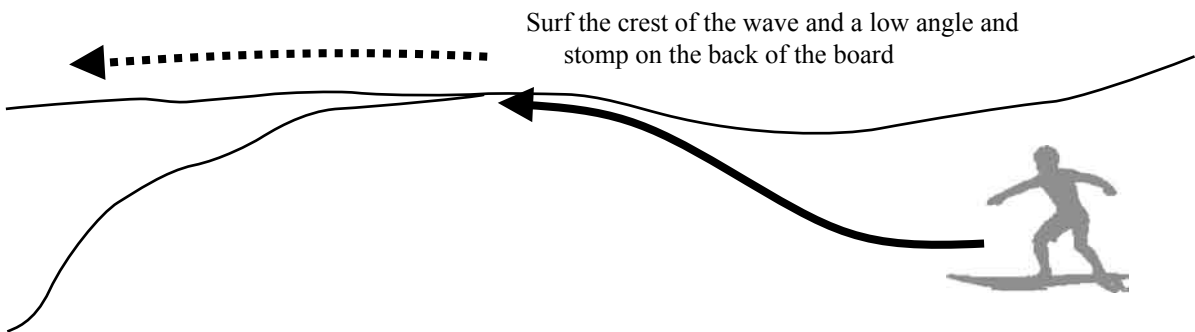
Players can also perform a Floater by surfing to where a wave has broken and riding the wave by jumping (performing an Ollie).

■ Roll In (A Grade)
Players can take a wave and drop with it (Roll In) by surfing in line with a wave the moment it breaks and stomping on the back of the board.

Surf the crest of the wave and a low angle and stomp on the back of the board the moment it breaks
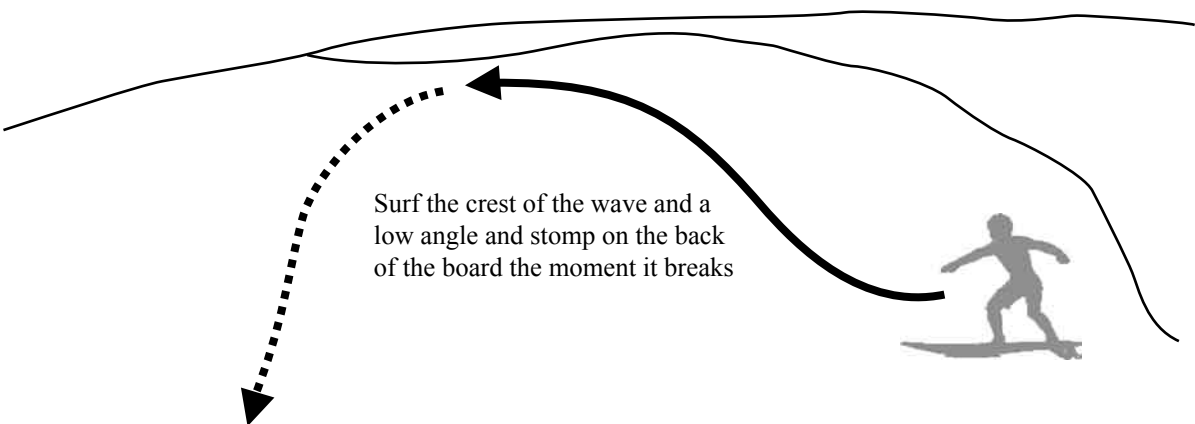
■ Edge Ride (S Grade)

Players can descend along with a wave edge (Edge Ride) by surfing in parallel with the crest of a wave ahead and stopping on the back of the board the moment it breaks.

Stomp on the back of the board the
moment it breaks ahead

*www.seuservice.com*
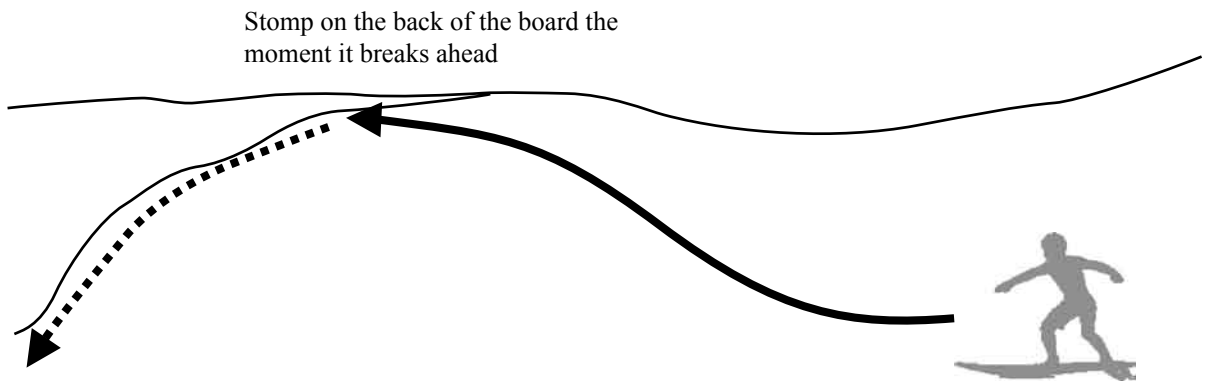
# 9. EXPLANATION OF TEST AND DATA DISPLAY

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

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

NAOMI 2 GAME BOARD is used for the product. The system of this game board allows another game to be played by replacing the ROM Board Case mounted on the NAOMI 2 CASE. As such, the Test Mode of this system consists of the System Test Mode for the system to execute SELF-TEST, COIN ASSIGNMENTS, etc. used in common for the machines employing the NAOMI 2 BOARD, and the Game Test Mode for the specific product to execute Input/Output test for the operation equipment, difficulty setting, etc.

**STOP IMPORTANT!**

- The contents of settings changed in the TEST mode are stored when the test mode is finished from EXIT in the menu mode. If the power is turned off before the TEST mode is finished, the contents of setting change become ineffective.
- Executing "BACKUP DATA CLEAR" in the SYSTEM TEST MODE does not clear the BOOKKEEPING data in the GAME TEST mode.
- Entering the TEST mode clears fractional number of coins less than one credit and BONUS ADDER data.

TABLE 9  EXPLANATION OF TEST MODE

| ITEMS | DESCRIPTION | REFERENCE SECTIONS |
|---|---|---|
| INSTALLATION OF MACHINE | When the machine is installed, perform the following:<br>1. Check to see that each setting is as per standard setting made at the time of shipment.<br>2. In the INPUT TEST mode, check such input devices as each SW, V.R., etc.<br>3. In the OUTPUT TEST mode, check such output devices as lamps, motors, etc.<br>4. In the SELF-TEST mode, check ICs on the IC Board. | 9-3D, E<br><br>9-3B<br><br>9-3C<br><br>SERVICE MANUAL |
| MEMORY | Choose MEMORY TEST in the MENU mode to allow the MEMORY test to be performed.  In this test, PROGRAM RAMs, ROMs, and ICs on the IC Board are checked. | SERVICE MANUAL |
| PERIODIC SERVICING | Periodically perform the following:<br>1. MEMORY TEST<br>2. Ascertain each setting.<br>3. In the INPUT TEST mode, test the control device.<br>4. In the OUTPUT TEST mode, check such output devices as lamps, motors, etc. | SERVICE MANUAL<br>9-3D, E<br>9-3B<br>9-3C |
| CONTROL SYSTEM | 1. In the INPUT TEST mode, check such input devices as each SW, V.R., etc.<br>2. Adjust or replace each SW and VR.<br>3. If the problem can not be solved yet, check the control's moves. | 9-3B<br><br>9-3E, 10<br>10 |
| MONITOR | In the MONITOR ADJUSTMENT mode, check to see if the PROJECTOR adjustment is appropriately made. | SERVICE MANUAL<br>11 |
| IC BOARD | 1. MEMORY TEST<br>2. In the SOUND TEST mode, check  the sound related ROMs. | SERVICE MANUAL<br>SERVICE MANUAL |
| DATA  CHECK | Check such data as game play time and histogram to adjust the difficulty level, etc. | SERVICE MANUAL<br>9-3F |

**STOP**

**IMPORTANT!**

● Adjust the sound to the optimum volume, taking into consideration the environmental requirements of the installation location.
● If the COIN METER and the game board are electrically disconnected, game play is not possible.

SWITCH UNIT

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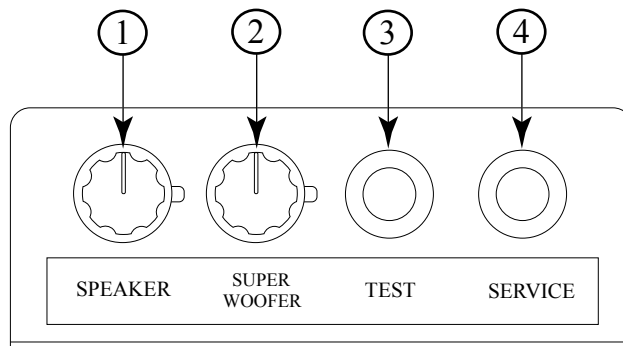The functioning of each SW is as follows:



FIG. 9. 1 a  SWITCH UNIT

① SOUND VOLUM          :Adjusts the sound volume of the left and right speakers on the control panel.
  (SPEAKER)

② WOOFER VOLUME      :Adjust the sound output of the super woofer.
  (SUPER WOOFER)

③ TEST BUTTON           :For the handling of the TEST button, refer to the following pages.
  (TEST)

④ SERVICE BUTTON       :Gives credits without registering on the coin meter.
  (SERVICE)

COIN METER

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

COIN METERS



PHOTO . 9. 1 b   COIN METER

> **STOP**
> **IMPORTANT!**
>
> ● The contents of settings changed in the TEST mode are stored when the test mode is finished from EXIT in the menu mode.  If the power is turned off before the TEST mode is finished, the contents of setting change become ineffective.
> ● Executing "BACKUP DATA CLEAR" in the SYSTEM TEST MODE does not clear the BOOKKEEPING data in the GAME TEST mode.
> ● Entering the TEST mode clears fractional number of coins less than one credit and BONUS ADDER data.
> ● Perform setting as per specified in this manual for operation.  If setting not specified is performed for operation, proper function of this product may not be obtained.

In the SYSTEM TEST MODE, IC BD functioning can be checked, the monitor adjusted, and the coin setting performed.

Refer to NAOMI 2 SERIVCE MANUAL for the details.  Note that the setting of the following items need to be performed in accordance with the instruction given.

- CABINET TYPE:      1PLAYER(S)
- MONITOR TYPE:      HORIZONTAL
- SERVICE TYPE:      COMMON
- COIN CHUTE TYPE: COMMON

The SEQUENCE SETTING items for COIN/CREDIT SETTING are as follows.

- SEQUENCE SETTING
- SEQUENCE 1:       Number of credits required for starting game.
- SEQUENCE 2:       Number of credits required for continuing the play.
- SEQUENCE 3 ~ 8:    NOT USED

```
┌──────────────────────────────────────────────────────────┐
│  ●  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. │
└──────────────────────────────────────────────────────────┘
```
(STOP IMPORTANT!)

## A.  MENU MODE

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

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

```
┌─────────────────────────────┐        ┌─────────────────────────────┐
│         SYSTEM MENU          │        │        GAME TEST MODE        │
│                              │        │                              │
│   RAM TEST                   │        │                              │
│   JVS TEST                   │        │    INPUT TEST                │
│   SOUND TEST                 │        │    OUTPUT TEST               │
│   C.R.T. TEST                │        │    GAME ASSIGNMENTS          │
│   SYSTEM ASSIGNMENTS         │        │    CALIBRATION               │
│   COIN ASSIGNMENTS           │  ═══▷  │    BOOKKEEPING               │
│   BOOKKEEPING                │        │    BACKUP DATA CLEAR         │
│   BACKUP DATA CLEAR          │        │  >  EXIT                     │
│   CLOCK SETTING              │        │                              │
│                              │        │                              │
│   ROM BOARD TEST             │        │                              │
│   GAME TEST MODE             │        │                              │
│   [****************]         │        │                              │
│                              │        │                              │
│   -> EXIT                    │        │    SELECT WITH SERVICE BUTTON│
│                              │        │           AND                │
│   SELECT WITH SERVICE BUTTON │        │      PRESS TEST BUTTON       │
│          AND                 │        │                              │
│     PRESS TEST BUTTON        │        │                              │
└─────────────────────────────┘        └─────────────────────────────┘
```
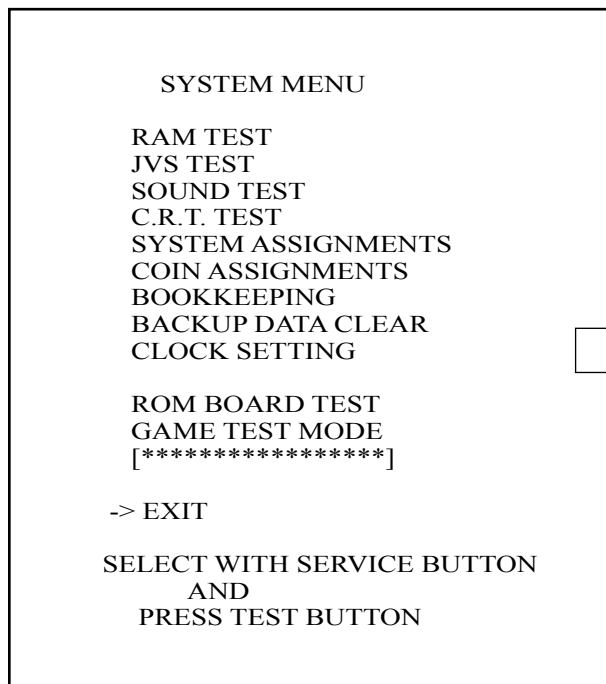
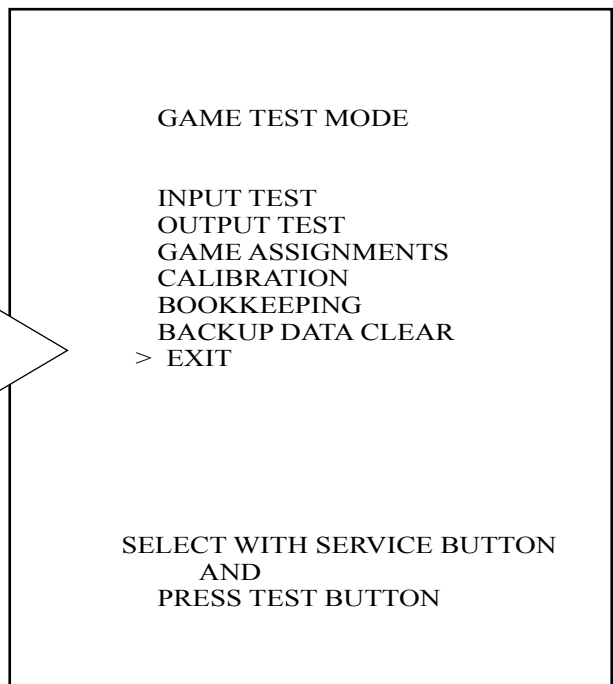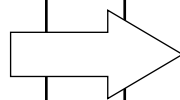FIG. 9. 3aa  SYSTEM TEST MENU Screen          FIG. 9. 3ab  GAME TEST MENU Screen

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.
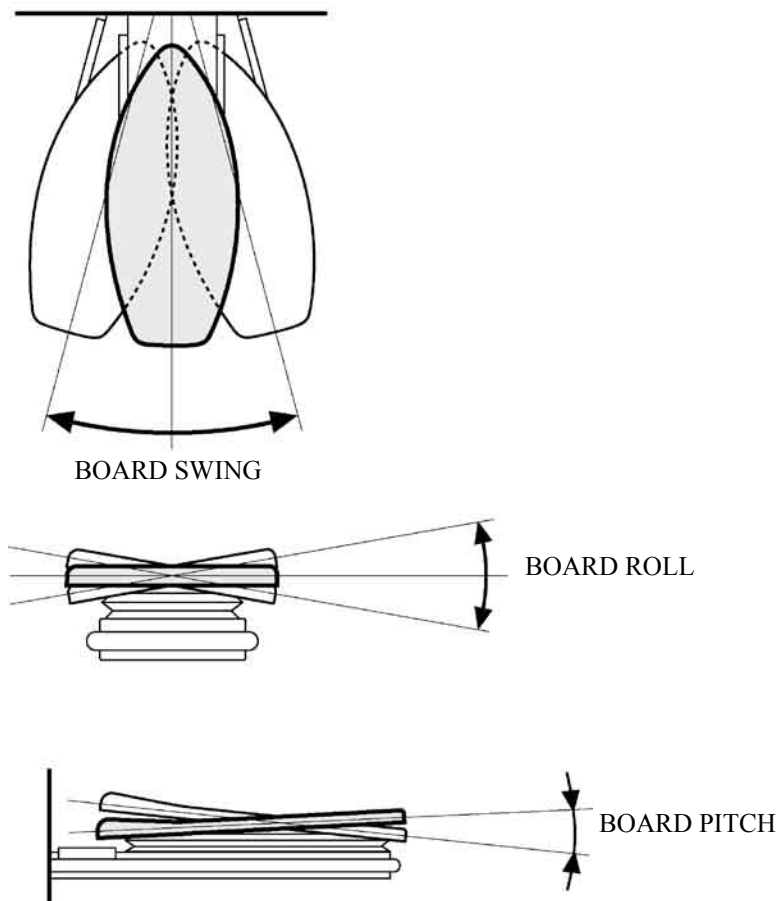
B. INPUT TEST

<table>
<tr><td rowspan="4">⚠️<br>CAUTION!</td><td>● Entering this mode unlocks the surfboard. It will automatically return to center and move in the direction of the load. Be careful so as to avoid accidents such as falling from the surfboard or allowing it to hit your legs.<br>● Take particular care to conduct the Sensor Mat input test. Failing to conduct the test or operating the machine when the Sensor Mat is not in optimum condition may cause accidents.</td></tr>
</table>

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.
Make sure that the indicator for each of the input devices can be changed from OFF to ON as you operate the corresponding device.

```
                    INPUT TEST

       START                    OFF
       LEFT BUTTON              OFF
       RIGHT BUTTON             OFF
       BOARD SWING              82H
       BOARD ROLL               83H
       BOARD PITCH              9AH
       SENSOR MAT               OFF
       SERVICE                  OFF
       TEST                     OFF


   PRESS TEST AND SERVICE BUTTON TO EXIT

```

FIG. 9. 3 b a  INPUT TEST Screen



LEFT BUTTON

START

RIGHT BUTTON

FIG. 9. 3 b b

SENSOR MAT
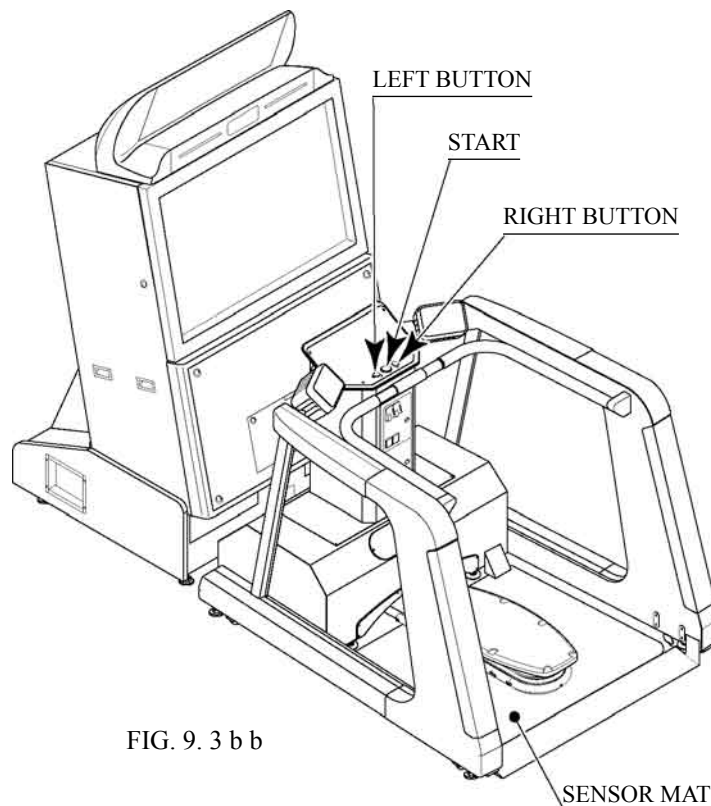
Input values related to the surfboard will change in real time. Confirm that the values change smoothly in response to motion of the board.

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

Recommended Display Values

- ● BOARD SWING          7 0 H ~ 9 0 H
- ● BOARD ROLL           7 0 H ~ 9 0 H
- ● BOARD PITCH          7 0 H ~ B 0 H

If the surfboard value is set within the above range when it is in the neutral position (it remains still when free), its design will not allow volume damage.
If values outside the range of the display value appear or values do not change smoothly in response to the motion of the board, malfunctions or volume damage may result. Refer to Section 10 and make adjustments to the volume gear engagement, etc.



BOARD SWING

BOARD ROLL

BOARD PITCH

FIG. 9. 3 b c

## C. OUTPUT TEST



⚠ **CAUTION!** Entering this mode unlocks the surfboard. It will automatically return to center and move in the direction of the load. Be careful so as to avoid accidents such as falling from the surfboard or allowing it to hit your legs.

Select OUTPUT TEST to display the following screen and check the status of each lamp. This test should be used periodically to check that the lamps are functioning correctly.

```
        OUTPUT TEST

   START LAMP     OFF
   BOARD LOCK     OFF
   RIGHT UP  LAMP  OFF
   RIGHT DOWN LAMP  OFF
   LEFT  UP  LAMP  OFF
   LEFT  DOWN LAMP  OFF
 >  EXIT



   SELECT WITH SERVICE BUTTON
         AND
     PRESS TEST BUTTON
```
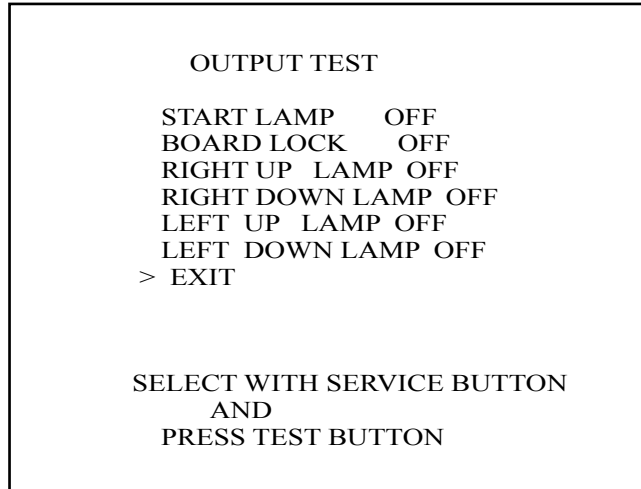
FIG. 9. 3 c a  OUTPUT TEST Screen

Press SERVICE Button to move the cursor to the lamp item to be checked. Then press the TEST Button. The indicator to the right of the name of the currently selected item turns from "OFF" to "ON".
If the lamp associated with the selected item lights up and the surfboard is locked when the indicator is ON, the functionality is normal.

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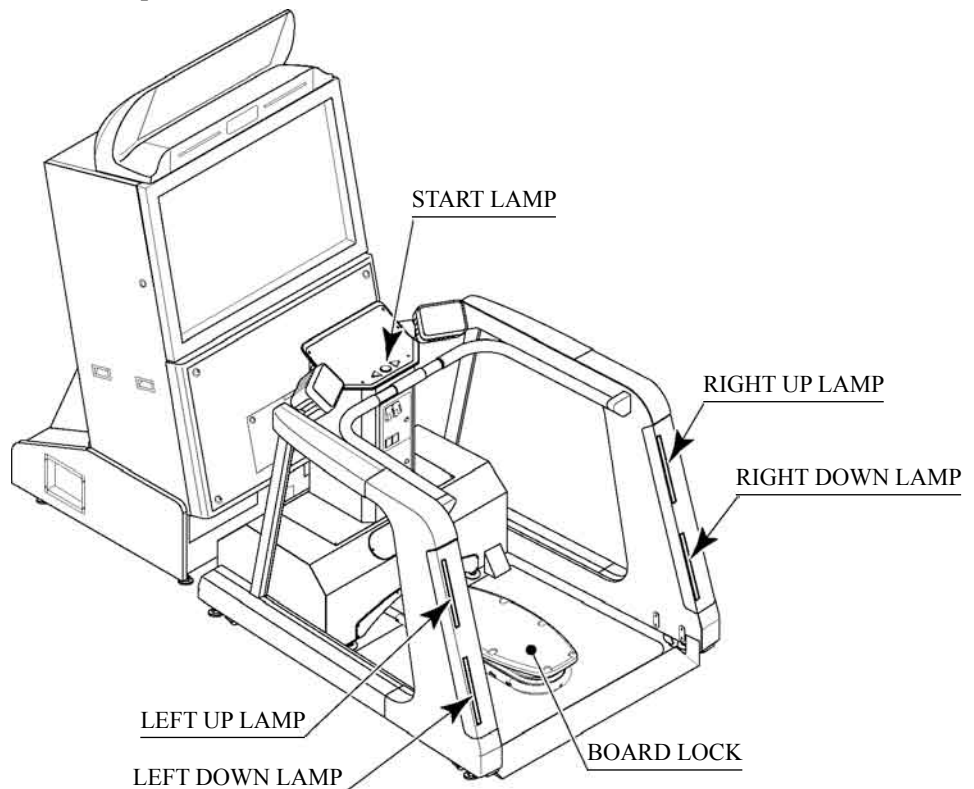


FIG. 9. 3 c b

D.  GAME ASSIGNMENTS

Select GAME ASSIGNMENTS to display the current game settings and make changes.

```
┌─────────────────────────────────────────────┐
│                                             │
│            GAME ASSIGNMENTS                  │
│                                             │
│      GAME DIFFICULTY   NORMAL               │
│      URL               ON                   │
│      CONTINUE          ON                   │
│      DEFAULT CHARA     HAWK                  │
│      DOLPHIN BOARD     ON                    │
│      DEFAULT SETTING                         │
│    > EXIT                                    │
│                                             │
│                                             │
│       SELECT WITH SERVICE BUTTON            │
│                    AND                       │
│            PRESS TEST BUTTON                 │
│                                             │
└─────────────────────────────────────────────┘
```
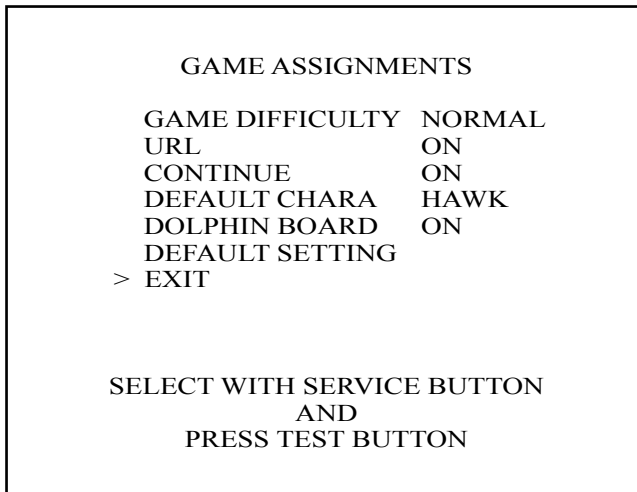
FIG. 9. 3 d  GAME ASSIGNMENTS Screen


● GAME DIFFICULTY:
This sets the level of difficulty for the game.
Choose from VERY EASY/EASY/NORMAL/HARD/VERY HARD.
The higher the level of difficulty, the greater the number of points required to clear the game.
The default value is NORMAL.

● URL:
This sets the display of the game's official web page to ON or OFF during the advertising screen.
The default value is ON.
In addition, when set to ON, the password for Internet ranking will be displayed at the bottom of
the ranking screen after name entry, if the following conditions have been fulfilled:
•  All course stages have been cleared.
•  A player achieves a high score ranking on the machine played (valid for the top 44 names).
•  A player has beaten the high score of at least one of the course stages.

● CONTINUE:
This enables or disables the continue function. If set to ON, players will be able to continue after
failing to clear a stage.
The default value is ON.

- ● DEFAULT CHARA:
  This sets the first character to be used after the start of the game.
  Choose from HAWK/VIPER/FOX/DAISY.
  The default value is HAWK.

- ● DOLPHIN BOARD:
  This enables or disables the use of the hidden character DOLPHIN RIDER. If set to ON,
  DOLPHIN RIDER can be selected by inputting a command at the character select screen.
  The default value is ON.

- ● DEFAULT SETTING:
  The settings for all items in the GAME ASSIGNMENTS Menu can be returned to the default
  values by pressing the TEST Button to select this item.

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.

E.  CALIBRATION

<table>
<tr><td>

⚠ CAUTION!

</td><td>

When entering this mode to adjust the volume settings, be aware that pressing the Service Button will unlock the surfboard. The board will automatically return to center and move in the direction of the load. Be careful so as to avoid accidents such as falling from the surfboard or allowing it to hit your legs.

</td></tr>
</table>

<table>
<tr><td>

🛑 STOP IMPORTANT!

</td><td>

● Be sure to set the volume values in this mode after adjusting or exchanging the volume.
● Be sure to return the surfboard to the center position before confirming settings by pressing the Service Button. Pressing the Service Button while the board is to left or right of center will result in inaccurate settings.

</td></tr>
</table>

Select INPUT TEST to display the following screen. Use this mode to set the volume values for detecting surfboard motion (SWING, ROLL, PITCH).

```
            CALIBRATION

  BOARD SWING   RIGHT  C0
          LEFT    40
          CENTER  80
  BOARD ROLL    RIGHT   C0
          LEFT    40
          CENTER  80
  BOARD PITCH   REAR    40
          FRONT   80




 PRESS SERVICE BUTTON TO START CALIBRATION

    PRESS TEST BUTTON TO EXIT
```

FIG. 9. 3 e a  CALIBRATION Screen

① When setting volume calibration, first press the SERVICE Button. The surfboard will unlock, so be careful.
Part of the screen display will change as follows.

```
              CALIBRATION

    BOARD SWING   RIGHT  C0
              LEFT   40
              CENTER 80
    BOARD ROLL    RIGHT  C0
              LEFT   40
              CENTER 80
    BOARD PITCH   REAR   40
              FRONT  80


    BEFORE DECIDING, SET THE BOARD
     IN THE CENTER/FLAT POSITION

   PRESS SERVICE BUTTON TO DECIDE VALUE

      PRESS TEST BUTTON TO EXIT
```
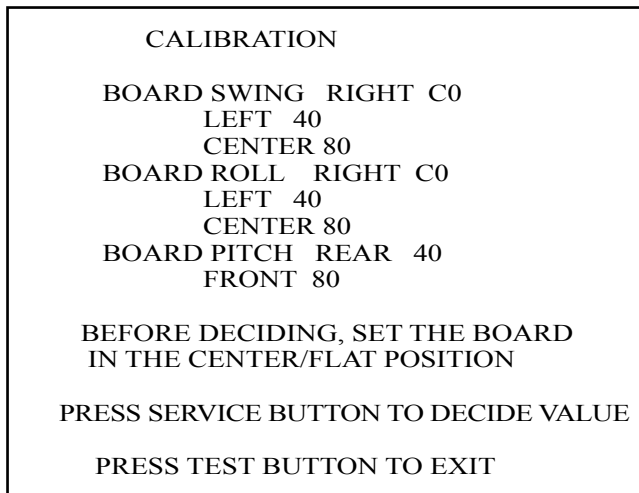
FIG. 9. 3 e b  CALIBRATION Screen

② At the above screen, swing the surfboard until it contacts the left and right stoppers. The left and right swing input values will be displayed from top to bottom as RIGHT/ LEFT/ CENTER.

③ Tilt the surfboard left and right until it contacts the stoppers.
The left and right roll input values will be displayed from top to bottom as RIGHT MAX / LEFT MAX / CENTER.

④ Step on the back of the surfboard, moving it up and down until it contacts the stoppers.
The rear pitch input values will be displayed from top to bottom as REAR MAX/ FRONT MAX.

⑤ Ensure that the swing/roll values input are equal for left and right directions.
When the above settings have been completed, descend from the surfboard, return the surfboard to center and press the SERVICE Button to set the calibration.

⑥ Press the TEST Button when settings have been completed to return to the Menu Screen.



BOARD ROLL

BOARD PITCH
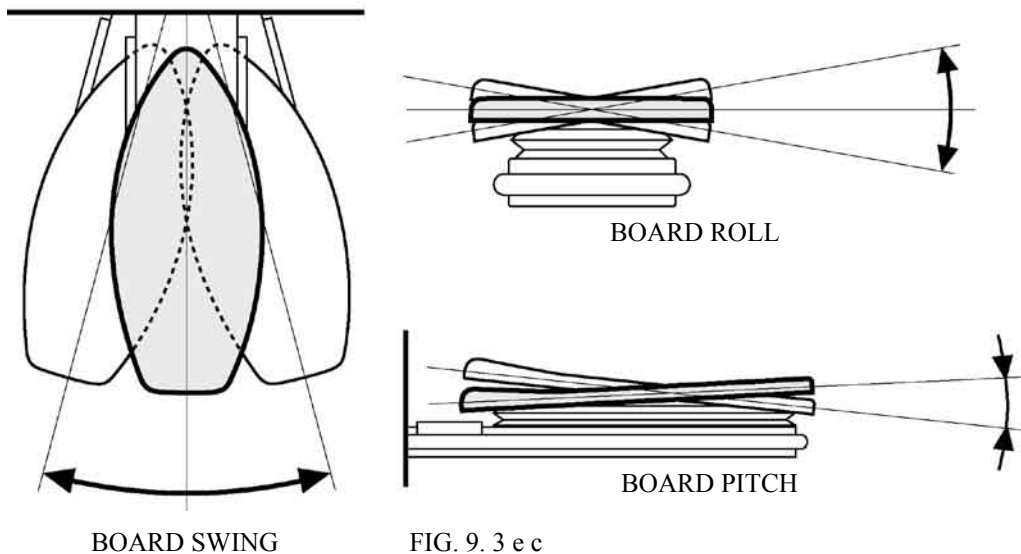
BOARD SWING          FIG. 9. 3 e c

F. BOOKKEEPING

Select BOOKKEEPING to display the following screens of operating status data.
Pressing the TEST button toggles between the first (BOOKKEEPING 1/2) and second
(BOOKKEEPING 2/2) screens.

```
                BOOKKEEPING  1/2


      NUMBER OF GAMES       2
      PLAY TIME         0D 0H 0M 0S
      AVERAGE PLAY TIME     0H 0M 0S
      LONGEST PLAY TIME     0H 0M 0S
      SHORTEST PLAY TIME    0H 0M 0S





        PRESS TEST BUTTON TO CONTINUE
```
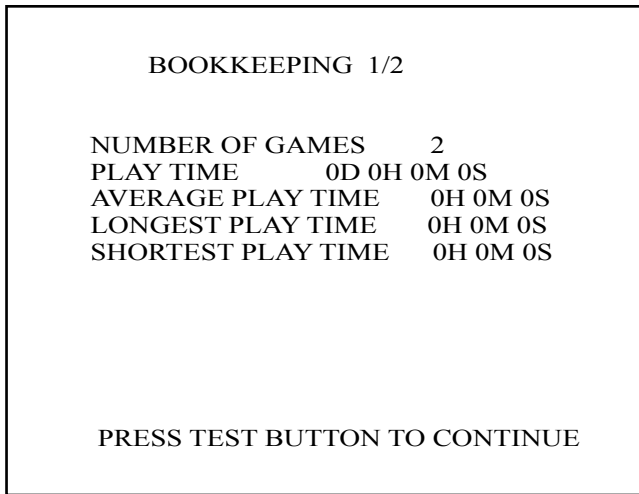
FIG. 9. 3 f a  BOOKKEEPING Screen (1/2)

● NUMBER OF GAMES:      Indicates the total number of plays.

● PLAY TIME:            Indicates the sum of the play time.

● AVERAGE PLAY TIME:    Total play time divided by number of games played.

● LONGEST PLAY TIME:    Indicates the longest game play time.

● SHORTEST PLAY TIME:   Indicates the shortest game play time.

Press the TEST Button to display the BOOKKEEPING 2/2 screen.

```
                BOOKKEEPING  2/2

             TIME HISTOGRAM
      0M00S  -  0M29S       0
      0M30S  -  0M59S       0
      1M00S  -  1M29S       0
      1M30S  -  1M59S       0
      2M00S  -  2M29S       0
      2M30S  -  2M59S       0
      3M00S  -  3M29S       0
      3M30S  -  3M59S       0
      4M00S  -  4M29S       0
      4M30S  -  4M59S       0
         OVER 5M00S         0


        PRESS TEST BUTTON TO EXIT
```
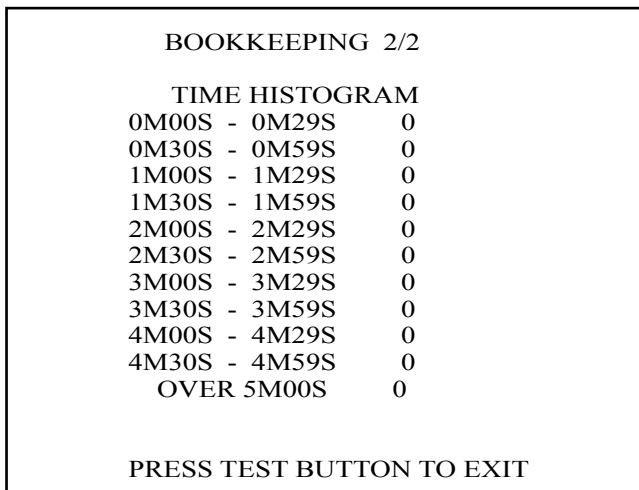
FIG. 9. 3 f b  BOOKKEEPING Screen (2/2)

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

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

G.  BACKUP DATA CLEAR

Select BACKUP DATA CLEAR to clear the contents of BOOKKEEPING and Ranking Data.

```
┌─────────────────────────────────────────┐
│                                         │
│         BACKUP DATA CLEAR               │
│                                         │
│                                         │
│            YES(CLEAR)                   │
│                                         │
│         >  NO(CANCEL)                   │
│                                         │
│                                         │
│                                         │
│                                         │
│       SELECT WITH SERVICE BUTTON        │
│                 AND                     │
│         PRESS TEST BUTTON               │
│                                         │
└─────────────────────────────────────────┘
```
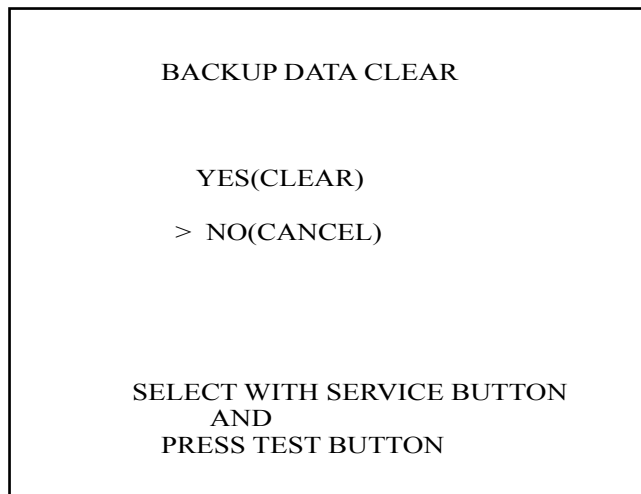
FIG. 9. 3 g  BACKUP DATA CLEAR Screen

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 this operation does not affect the settings for GAME ASSIGNMENTS and VOLUME SETTINGS.

Using the BACKUP DATA CLEAR function from this screen will not affect coin/credit data. To clear coin/credit data, use the BACKUP DATA CLEAR function in SYSTEM TEST MODE.

# 10.  MAINTENANCE OF SURFBOARD MECHANISM UNIT

⚠️ **WARNING!**

● Before starting to work, ensure that the Power SW is OFF.  Failure to observe this can cause electric shock or short circuit.
● Use care so as not to damage wirings.  Damaged wiring can cause electric shock or short circuit.
● Do not touch undesignated places.  Touching places not designated can cause electric shock or short circuit.
● This work should be performed by the Location's Maintenance Man or Serviceman.  Performing work by non-technical personnel can cause electric shock hazard.
● Do not perform work other than those specified in this Manual in order to prevent accidents during performing work and operation after performing work.  Performing work not specified in this Manual may require special training for this product.  If performing work other than those stated in this manual is required for repair, contact the offices herein stated in this manual or where you purchased the product from and ask for repair or inquire how to repair.
● Take care not to get caught in the gears or the Mechanism Assembly. If you encounter such an accident, you may be seriously injured (e.g., a bone factures, or of your body is cut).
● Take care not to lose any fasteners or their related parts (e.g., screws, bolts, washers). If a metallic fastener or its related part touches a conductive part, a short circuit or fire may be caused.
● Be especially careful when soldering. Failure to use a soldering iron carefully may result in a fire or burns.
● Be extremely careful when heating the heat-shrinkable tube. Failure to do so may result in a fire or burns.

The surfboard controller input device (board mechanism) consists of one volume to detect SWING direction, one volume to detect ROLL direction and one volume to detect PITCH.
Confirm the operation of the input device through the TEST MODE once a month.
Substandard performance or the inability to correct problems through TEST MODE CALIBRATION indicates an abnormality in the controller input device.
The adjustment of spare volumes and their method of replacement are explained in this manual.
In addition, it is necessary to grease the constituent part of this product periodically.


10 - 1  ADJUSTMENT/REPLACEMENT OF THE SWING DIRECTION VOLUME

The surfboard SWING motion (turn) detector volume is located to the interior of the volume lid under the cache box door.
The following tools are required for the operations below: an M4 screw Phillips screwdriver, a wrench with an opposite side distance of 1.5 millimeters, an adjustable spanner with an opposite side distance of 10 to 11 millimeters, nippers, cutters, a wire stripper, a soldering iron and an industrial dryer.

① Turn of the power.

② Remove the four screws that secure the volume lid under the cache box door and remove the volume lid.

VOLUME LID

TRUSS SCREW (4), black
M4×10



PHOTO 10. 1 a

③ There is a Metal Plate behind the Volume Lid. Remove the four screws and remove the Metal Plate.
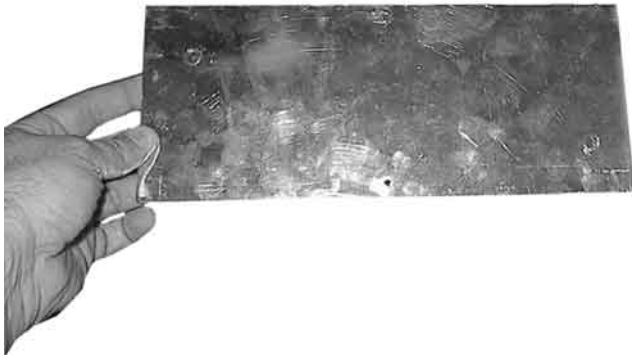


PHOTO 10. 1 ab

④ There is a SWING VR unit to the interior of the volume lid. A connector is connected to the left side of the unit. Disconnect the connector and release the cord clamp that secures the wiring.

Disconnect the connector.
Release the cord clamp.



PHOTO 10. 1 b

69                                                              *www.seuservice.com*
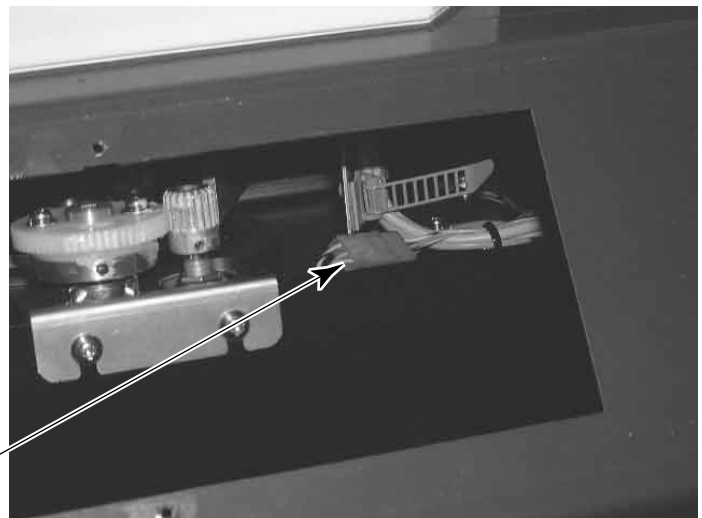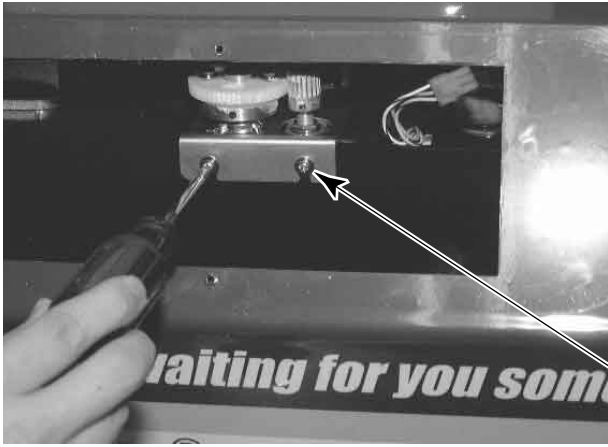
PHOTO 10. 1 c

⑤ Loosen the two screws that secure the unit. Be careful not to loosen them too much at this time. The screws may fall into the interior of the cabinet if removed.

SCREW (2), black
M4×12, w/flat & spring washers

⑥ Remove the SWING VR unit. Be careful not to damage the wiring at this time.



PHOTO 10. 1 d
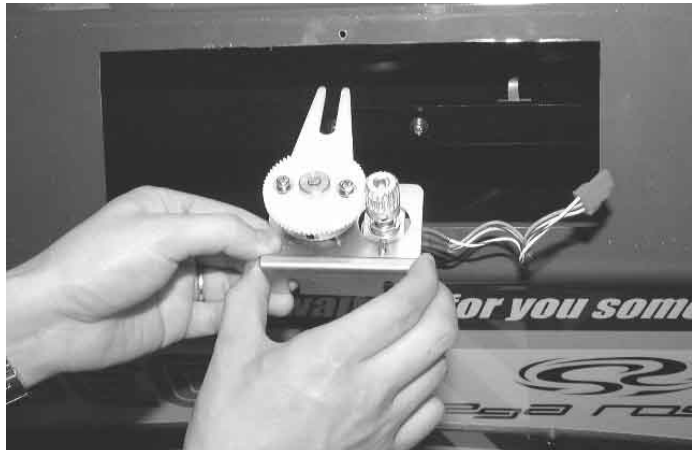
⑦ Loosen the two screws that secure the VR plate and adjust the gear engagement. At this time, engage the gears so that the D cut face of the volume axle and the SWING VR guide are arranged as shown in Figure 10.1a.



VR PLATE

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

PHOTO 10. 1 e



SWING VR GUIDE

90°

D-CUT SIDE
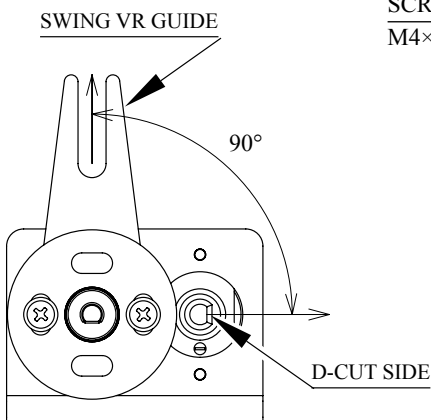
FIG. 10. 1

⑧ Tighten the two loosened screws after performing the adjustment.

⑨ Install the SWING VR unit in its original position.
Install the VR guide so that it straddles the interior shaft and secure it by tightening the two loosened screws.

SHAFT
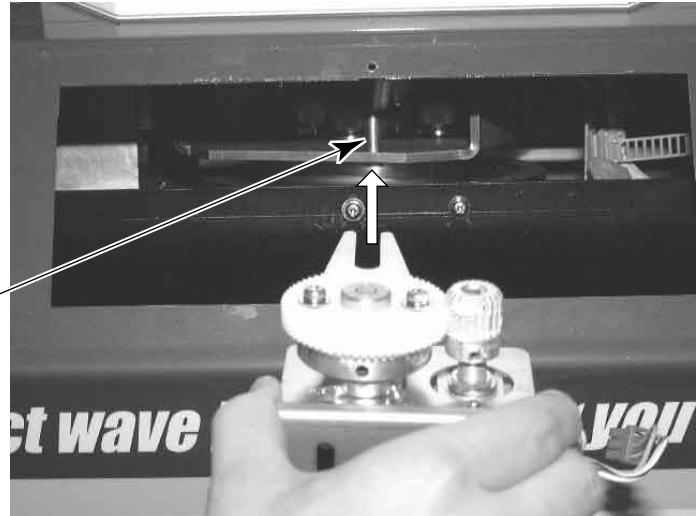
PHOTO 10. 1 f

⑩ Connect the connector and secure the wiring with the cord clamp.
At this time, be especially careful not to damage the wiring with the interior constituent parts.

⑪ Turn on the power and perform CALIBRATION in TEST MODE. (Refer to 9-3 E.)

⑫ Check the volume values. Be sure to confirm that they are within the recommended value range and that they change smoothly in line with operation. (Refer to 9-3 B.)

REPLACING PROCEDURE

① Perform "Adjustment" 1 through 5 as listed above and remove the SWING VR unit.

② Loosen the two screws that secure the VR plate and remove the VR plate from the unit with the gears and volumes attached.

③ Loosen the two hexagon socket screws that secure the gears and remove the volume axle from the gears.

VR PLATE

HEXAGON SOCKET SCREW (2)
M3×6

PHOTO 10. 1 g

71
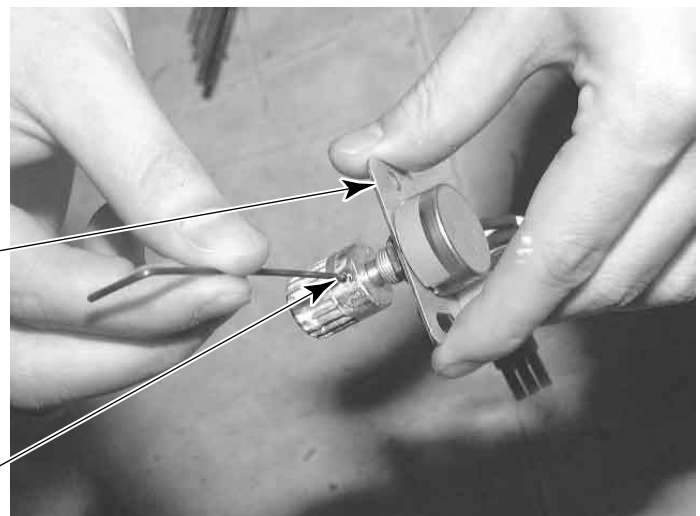
④ Remove the hexagon nuts that secure the volumes to the VR plate and remove them from the VR plate.
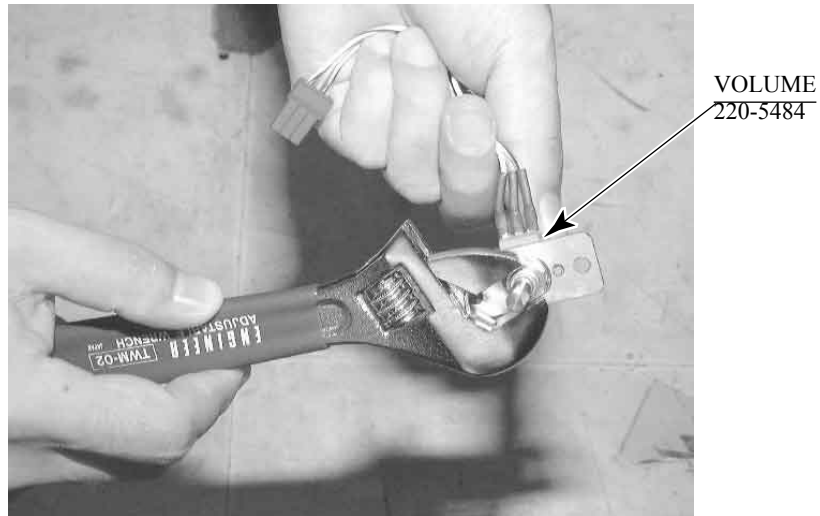


VOLUME
220-5484

PHOTO 10. 1 h

⑤ The wiring attached to the volumes is used as is. Cut the connection areas with the nippers.



PHOTO 10. 1 i

⑥ Remove the old heat-shrinkable tube from the wiring.

⑦ Remove the coating from the wire tips with the wire strippers. Expose about five millimeters of conducting wire.



Remove the coating.
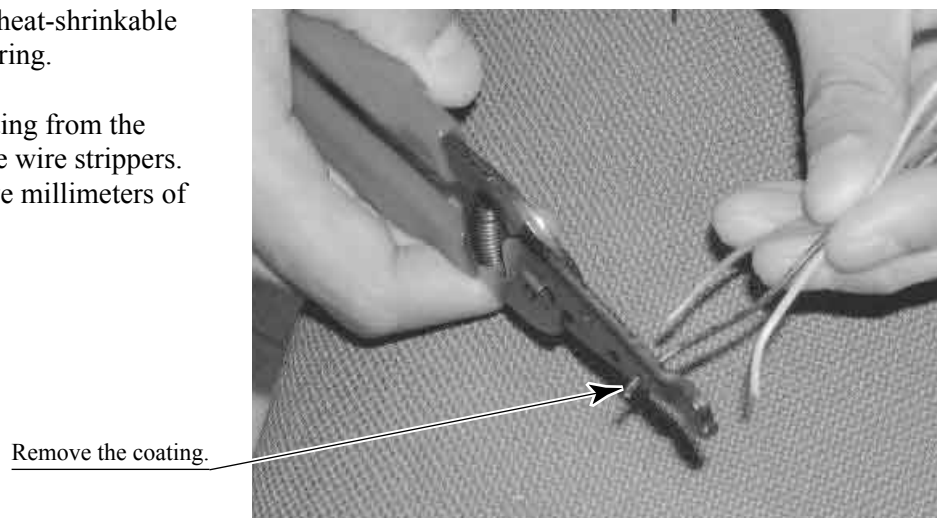
PHOTO 10. 1 j

⑧ Pass each of the included heat-shrinkable tubes through to the wiring.

Insert the wire into heat-shrinkable tube.
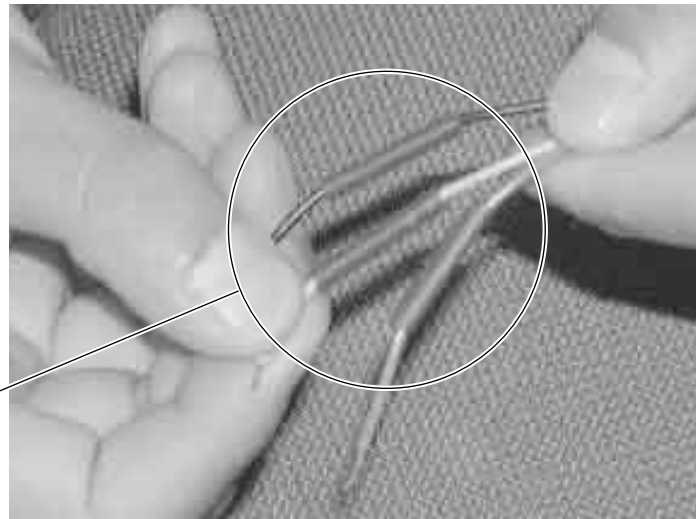
PHOTO 10. 1 k

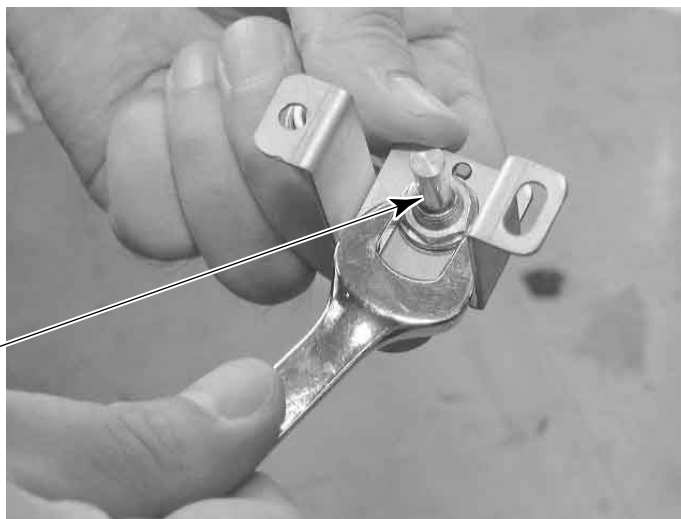⑨ Solder the wires to the terminal posts of the volumes to be replaced. Check the wiring diagram and be careful not to solder the wrong wires.

Solder the wires.

VOLUME
220-5484
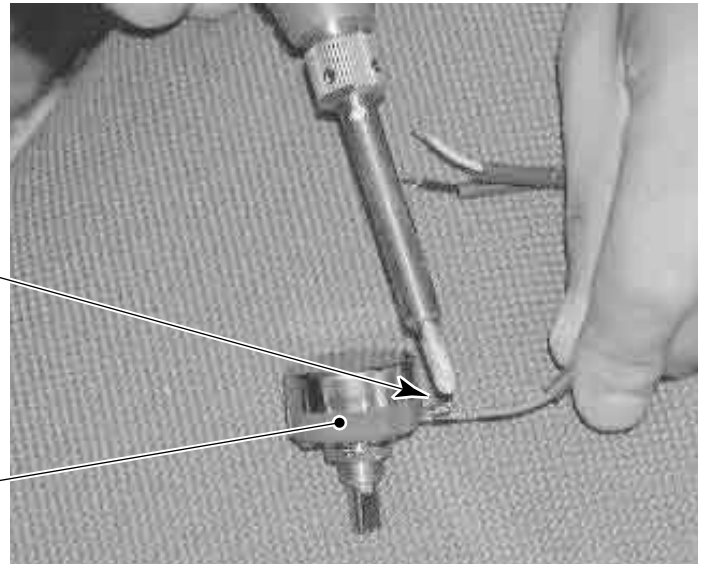
⑩ Heat the heat-shrinkable tubes with the industrial dryer and weld so that the heat-shrinkable tube covers the welding area.

PHOTO 10. 1 l

⑪ Attach the volume to the VR plate and secure the gears to the volume axles.

⑫ Attach the VR plate to the unit. At this time, assemble it so that the gears engage as explained in "Adjustments" 6 and 7, listed above.

⑬ Perform the operations listed in "Adjustments" 8 through 11, listed above, assemble the replaced volume, and confirm that the replaced volume functions normally.
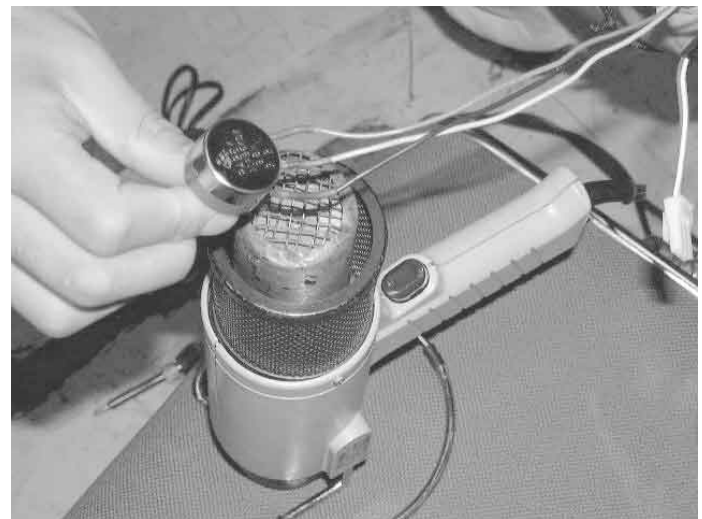
PHOTO 10. 1 m

The surfboard ROLL motion (tilt) detector volume is located to the interior of the bellows under the rear of the surfboard.



PITCH DETECTION VOLUME

ROLL DIRECTION VOLUME
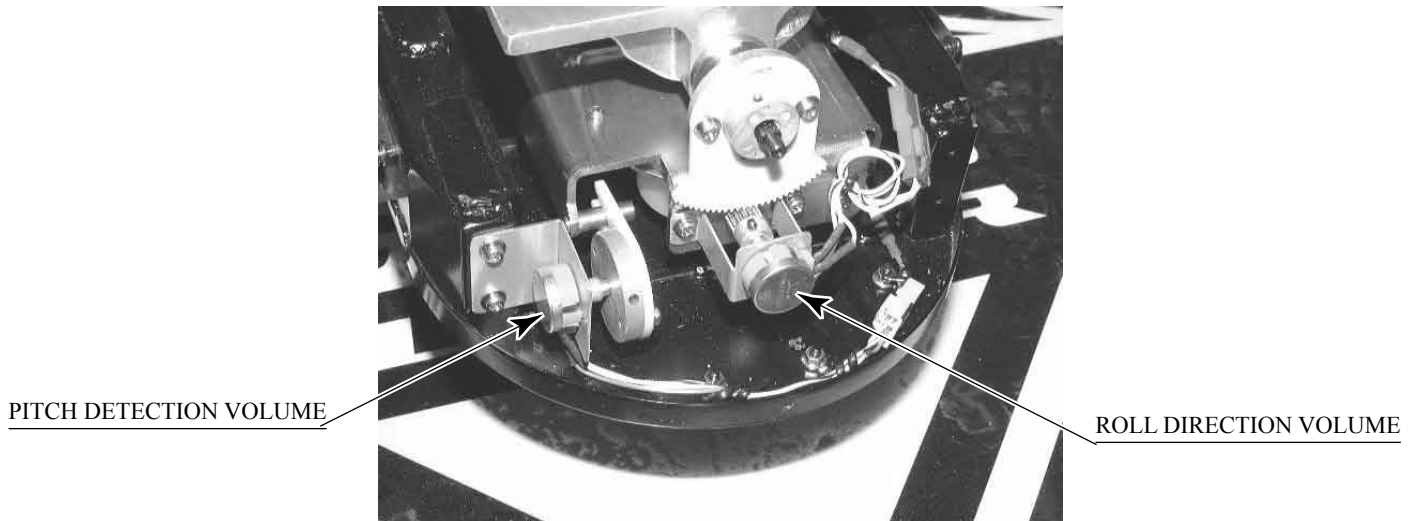
PHOTO 10. 2 a

The following tools are required for the operations below: an M4 screw Phillips screwdriver, a hexagonal wrench with an opposite side distance of 1.5 millimeters, an adjustable spanner with an opposite side distance of 10 to 11 millimeters, nippers, cutters, a wire stripper, a soldering iron and an industrial dryer.

ADJUSTING PROCEDURE

1. Turn of the power.

2. Loosen the screws at the rear of the surfboard (one to the left and one to the right).



SCREW (1 each), black
M4×12, w/flat & spring washers

PHOTO 10. 2 b

③ Remove the one screw from the lower rear surface of the surfboard.

SCREW (1), black
M4×12, w/flat & spring washers

PHOTO 10. 2 c

④ Remove the catch from the bellow and remove the tail lid from the surfboard.

TAIL LID

PHOTO 10. 2 d

⑤ Remove the three screws from each of the bellows sashes and remove the sashes from the left and right of the surfboard.

SCREW (3 each), black
M4×8, w/flat & spring washers

BELLOWS SASH

PHOTO 10. 2 e

75

(6) Lift the bellows to be able to see the ROLL VR unit. Loosen the two screws that secure the ROLL VR unit and adjust the gear engagement. When the surfboard is level to the ground, engage the gears so that the D-cut face of the volume axle is arranged as shown in Figure 10.2.



PHOTO 10. 2 f

FIG. 10. 2

D-CUT SIDE
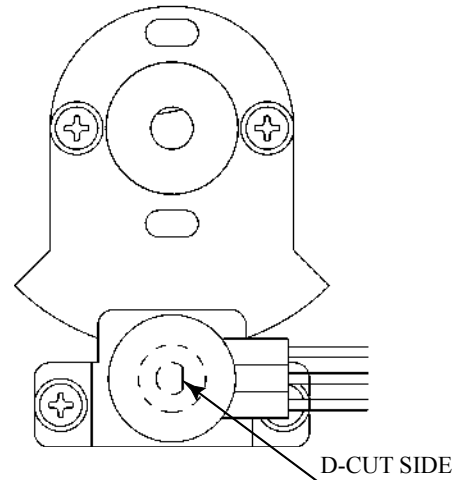
SCREW (2), black
M4×8, w/flat & spring washers

(7) Tighten the two loosened screws after performing the adjustment.

(8) Turn on the power and perform CALIBRATION in TEST MODE. (Refer to 9-3 E.)

(9) Check the volume values. Be sure to confirm that they are within the recommended value range and that they change smoothly in line with operation.  (Refer to 9-3 B.)

(10)  Attach the bellows sashes and tail lids after checking.

①　Perform the operations listed in "Adjustments" 1 through 6, listed above.

②　Loosen the harness lug that secures the wiring and remove the connector from the bottom right side of the surfboard.

CONNECTOR (1)

PHOTO 10. 2 g

③　Remove the two screws and remove the ROLL VR unit.
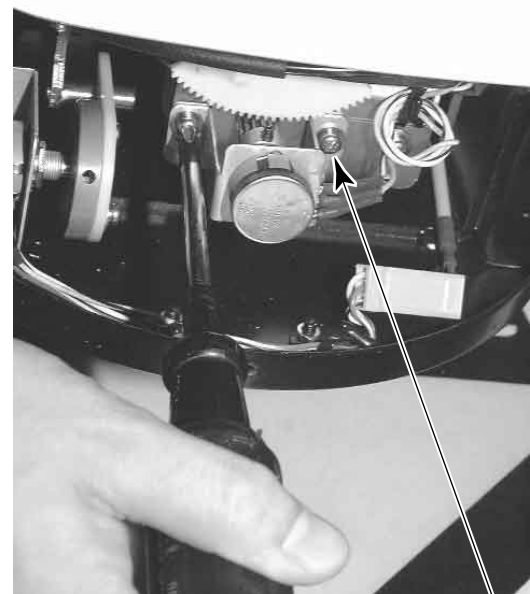
SCREW (2), black
M4×8, w/flat & spring washers

PHOTO 10. 2 h

④ Loosen the two hexagon socket screws that secure the gears and remove the gears from the volume axle.
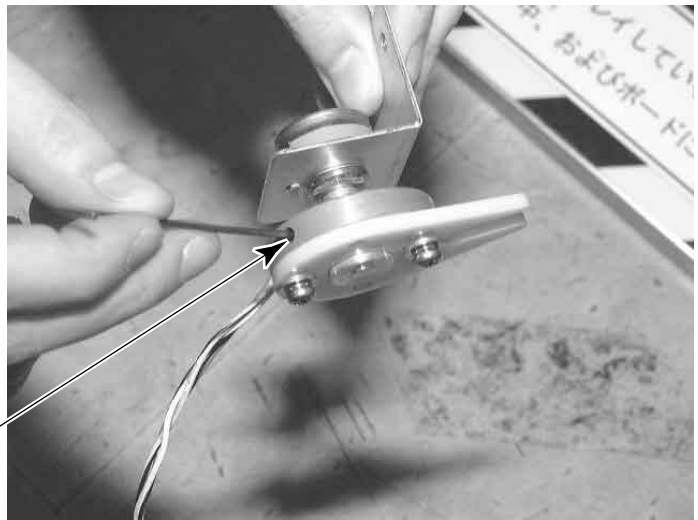
HEXGAON SOCKET SCREW (2)
M3×6
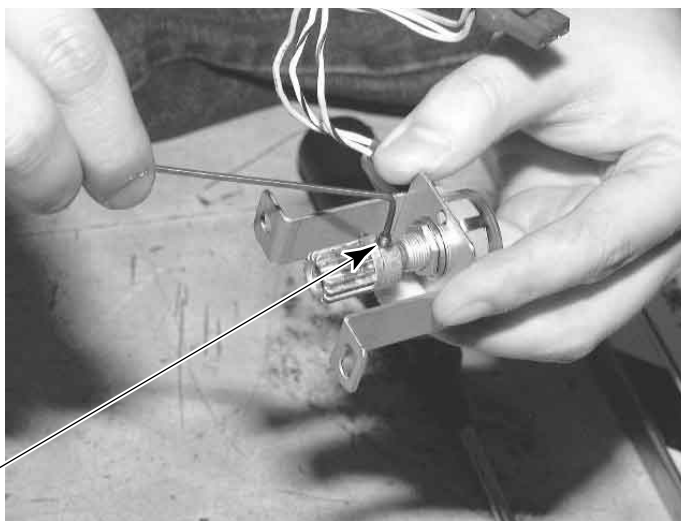
PHOTO 10. 2 i

⑤ Remove the hexagon nuts that secure the volume to the VR bracket and remove it from the VR bracket.
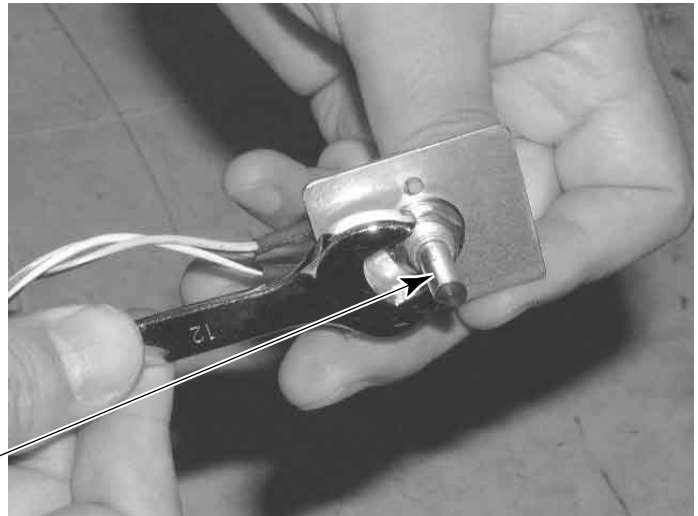
VOLUME
220-5484

PHOTO 10. 2 j

⑥ The wiring attached to the volumes is used as is. Cut the connection areas with the nippers.

⑦ Remove the old heat-shrinkable tube from the wiring.

⑧ Remove the coating from the wire tips with the wire strippers. Expose about five millimeters of conducting wire. ( See PHOTO 10. 1 j )

⑨ Pass each of the included heat-shrinkable tubes through to the wiring. ( See PHOTO 10. 1 k )

⑩ Solder the wires to the terminal posts of the volumes to be replaced. Check the wiring diagram and be careful not to solder the wrong wires. ( See PHOTO 10. 1 l )

⑪ Heat the heat-shrinkable tubes with the industrial dryer and weld so that the heat-shrinkable tube covers the welding area. ( See PHOTO 10. 1 m )
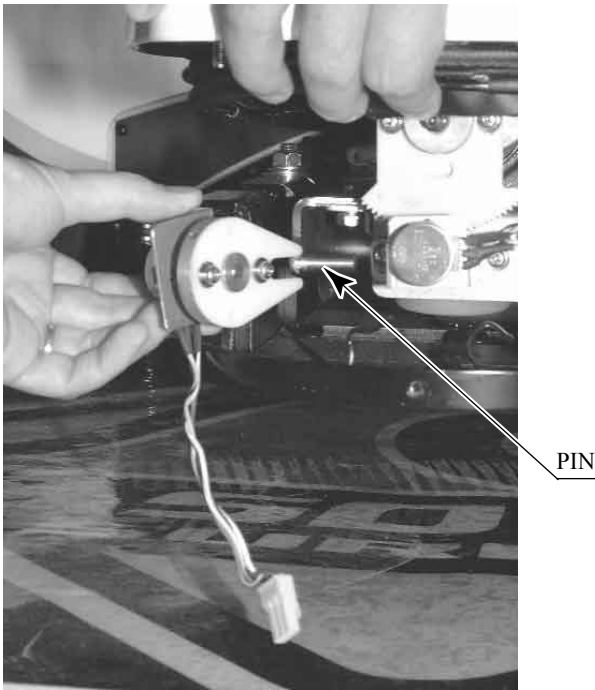
⑫ Attach the volume to the VR bracket and secure the gears to the volume axles.

⑬ Install the ROLL VR unit. At this time, assemble it so that the gears engage as explained in "Adjustments" 6 and 7, listed above. Secure the wiring with harness lugs after connecting the connector.

⑭ Perform the operations listed in "Adjustments" 8 and 9, listed above and confirm that the replaced volume functions normally. In addition, be especially careful not to damage the wiring with the interior constituent parts.

⑮ After confirmation, attach the two bellows sashes and the tail lid.

## 10 - 3  PITCH DETECTION VOLUME REPLACEMENT

The surfboard's PITCH detection volume is located to the interior of the bellows under the surfboard to the rear.

The following tools are required for the operations below: an M4 screw Phillips screwdriver, a hexagonal wrench with an opposite side distance of 1.5 millimeters, an adjustable spanner with an opposite side distance of 10 to 11 millimeters, nippers, cutters, a wire stripper, a soldering iron and an industrial dryer.

There is no gear engagement adjustment for the PITCH detection volume.

Attach the VR guide to the volume axle at an angle such that the tips of the screws that secure the VR guide touch the volume axle D cut face. To avoid the possibility of damage to the volume or poor operation, attach them so that the VR guide moves smoothly in line with the movement of the constituent parts pin.

REPLACING PROCEDURE

1. Perform 10-2 operations 1 through 5.

2. Lift the bellows to be able to see the PITCH VR unit. Loosen the harness lug that secures the wiring and remove the connector from the bottom right side of the surfboard.

CONNECTOR (1)

PHOTO 10. 3 a

3. Remove the two screws and remove the PITCH VR unit.

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

PHOTO 10. 3 b

④ Loosen the two hexagon socket screws that secure the VR guide and remove the VR guide from the volume axle.

HEXAGON SOCKET SCREW (2)
M3×6

PHOTO 10. 3 c

⑤ Remove the hexagon nuts that secure the volume to the VR bracket and remove the VR bracket.

VOLUME
220-5484

PHOTO 10. 3 d

⑥ The wiring attached to the volumes is used as is. Cut the connection areas with the nippers.

⑦ Remove the old heat-shrinkable tube from the wiring.

⑧ Remove the coating from the wire tips with the wire strippers. Expose about five millimeters of conducting wire. ( See PHOTO 10. 1 j )

⑨ Pass each of the included heat-shrinkable tubes through to the wiring. ( See PHOTO 10. 1 k )

⑩ Solder the wires to the terminal posts of the volumes to be replaced. Check the wiring diagram and be careful not to solder the wrong wires. ( See PHOTO 10. 1 l )

⑪ Heat the heat-shrinkable tubes with the industrial dryer and weld so that the heat-shrinkable tube covers the welding area. ( See PHOTO 10. 1 m )

PHOTO 10. 3 e

⑫ PAttach the PITCH VR unit so that the pin is inserted into the VR guide notch. Connect the connectors and secure the wiring with the two harness lugs.

⑬ Turn on the power and perform calibration in TEST MODE. (Refer to 9-3 E.)
At this time, be especially careful that the VR guide rotates smoothly in line with operation and that the interior constituent parts will not damage the wiring.

⑭ Check the volume values. Be sure to confirm that they are within the recommended value range and that they change smoothly in line with operation. (Refer to 9-3 B.)

⑮ Attach the bellows sashes and tail lids after checking.

<table>
<tr>
<td>⚠️<br>WARNING!</td>
<td>● Grease is inflammable and must never be close to fire.<br>● Grease may be apt to be erroneously used or drunk, and must not be placed in a location where children can access.</td>
</tr>
</table>

<table>
<tr>
<td>⚠️<br>CAUTION!</td>
<td>● Grease does harm to your body if you aspirate it. Do not perform any work related to grease in a location where ventilation is insufficient.<br>● If grease enters an eye, eye irritation may be caused. Take care to prevent it from entering your eyes (for example, by wearing protective goggles). Should grease enter an eye, rinse it in clean water and have your illness diagnosed by a doctor.<br>● If grease touches a human skin, skin irritation may be caused. Take care to prevent grease from touching your skin (for example, by wearing protective gloves). Should grease touch your skin, fully wash it using water and soap.</td>
</tr>
</table>

<table>
<tr>
<td>🛑 STOP<br>IMPORTANT!</td>
<td>● Be sure to use the designated type of grease. If a non-designated type grease is used, components may break.<br>● The period for greasing specified herein is a standard.  Apply greasing to the specified portions as occasion arises.</td>
</tr>
</table>

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

Refer to 10-1 and 10-2 and make the VR unit visible.
Attach the extension tube to the spray grease nozzle and spray the indicated areas.

SWING VR UNIT



PHOTO 10. 4 a  GEAR MESH PORTION, VR GUIDE SLIDING PORTION

83
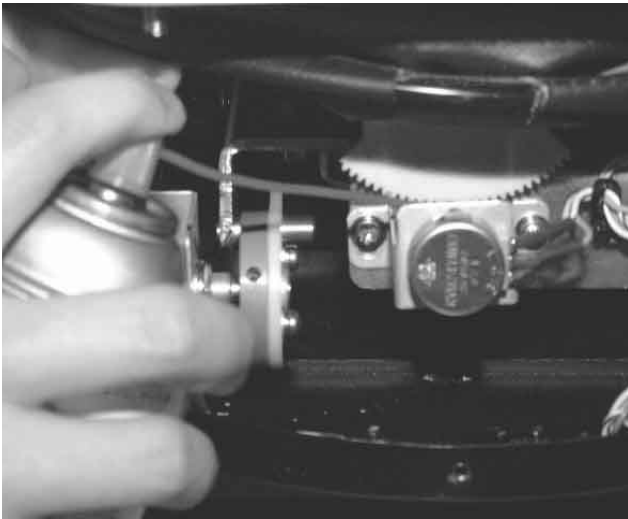
PHOTO 10. 4 b GEAR MESH PORTION      PHOTO 10. 4 c VR GUIDE SLIDING PORTION
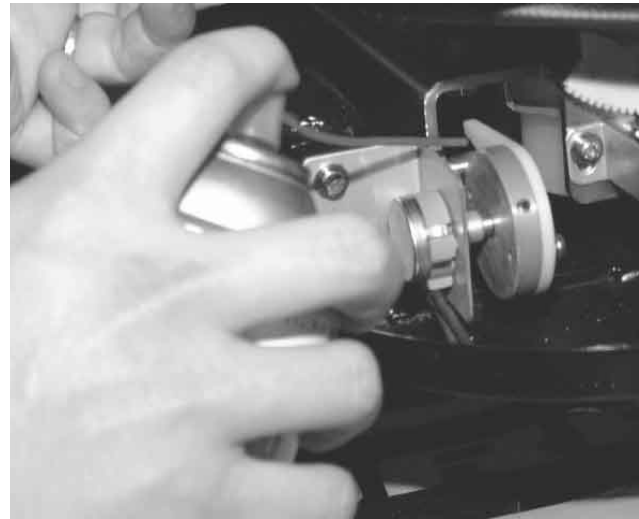
## GREASING UP THE SWING MECHANISM

The rear cabinet must be moved in order to grease up the SWING mechanism for the surfboard lock. Be sure that there is enough space to move the rear cabinet.

① Turn off the power.

② Move the rear cabinet to a position where the rear cabinet back door can be removed. Perform the operations in Section 6 3 8 through 14 in reverse and remove the Sensor Mat so as not to damage the Sensor Mat and Sensor Mat wires.

③ Lift the rear cabinet adjuster and land the casters. Revolve the ASSY tube part around its center.

④ Remove the seven truss screws and remove the back door. It is also acceptable to loosen only two of the seven truss screws.



BACK DOOR

Only loosen the 2 screws.

TRUSS SCREW (7), black
M4×10
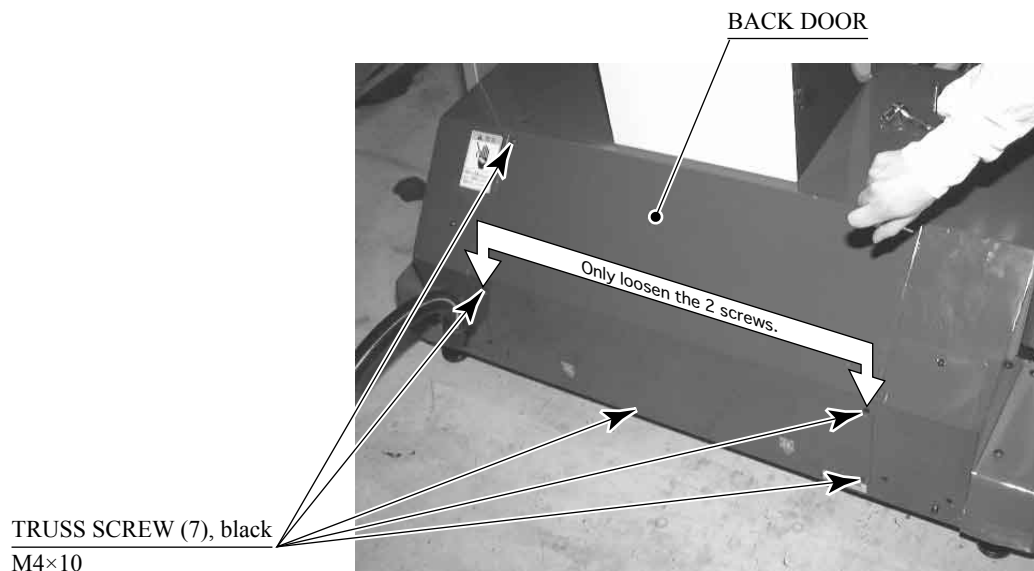
PHOTO 10. 4 d

⑤ Attach the extension tube to the spray grease nozzle and spray grease on the gear mesh portion.



PHOTO 10. 4 e

⚠ **WARNING!**
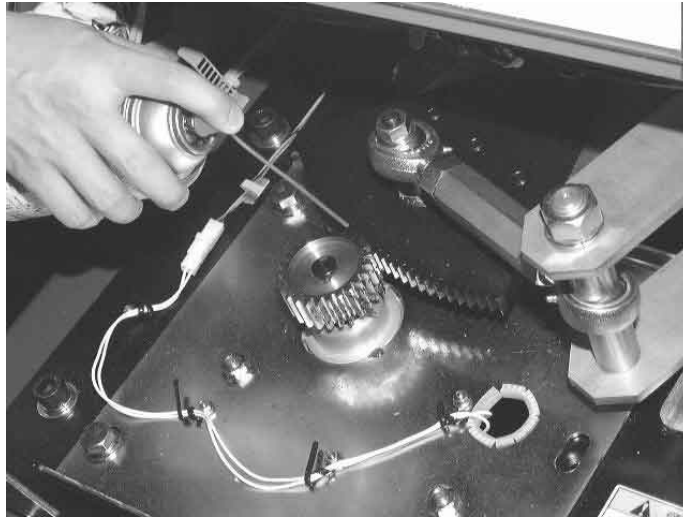
> Be sure to replace abnormal hazard preventive parts immediately. Failure to observe this may cause accidents.

The bellows beneath the surfboard is a part essential to the prevention of accidents. Be sure to inspect in before commencing operation and replace it immediately if torn.
The following tools are required for the operations below: an M4 screw Phillips screwdriver, M6 and M8 hexagon-head bolts, and a nut socket wrench or spanner.

**PROCEDURE**

① Turn off the power.

② Remove the tail lid from the back surface of the surfboard. (Refer to 10-2, 2 through 4.)

TAIL LID



PHOTO 10. 5 a

③ Remove the bellows sashes from the left and right of the surfboard. (Refer to 10-2, 5.)

BELLOWS SASHE



PHOTO 10. 5 b

④ Remove the nose lid from the front of the surfboard. Remove the two screws.

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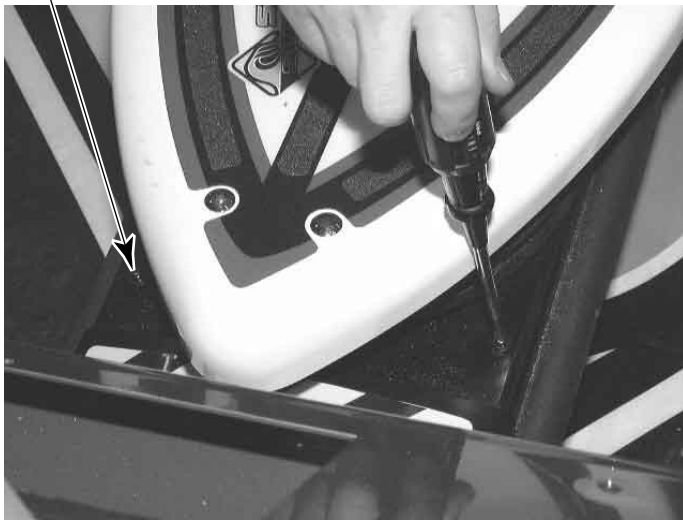
NOSE LID



PHOTO 10. 5 c



PHOTO 10. 5 d

⑤ Remove the eight hexagon nuts from the bottom of the surfboard. This is the pairing of the carriage bolts and hexagon nuts other than for the two areas to the front of the surfboard.

CARRIAGE BOLT (chrome plated) & HEXAGON NUT (6 each)
M6×30, flat washer used.



Tow carriage bolts are fixed to the board cover.

PHOTO 10. 5 e
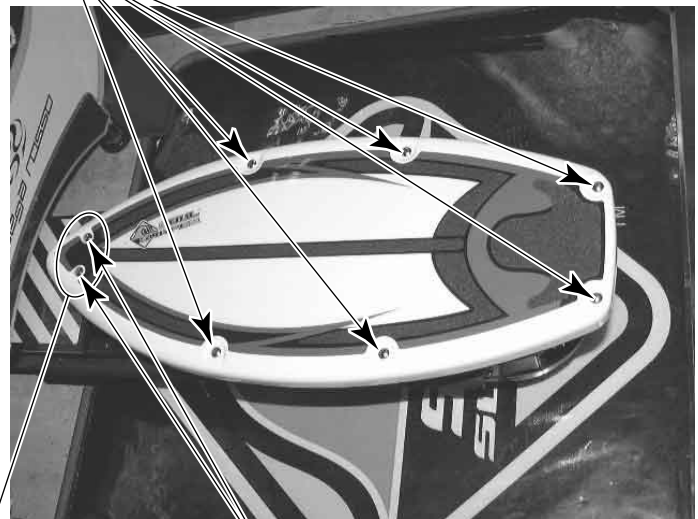


HEXAGON NUT (2)
M6, flat washer used.

PHOTO 10. 5 f

87

⑥ Remove the surfboard by lifting it straight up.



SURFBOARD

PHOTO 10. 5 g

⑦ Remove each pair of hexagon-head bolts and remove the two board holders.

BOARD HOLDER
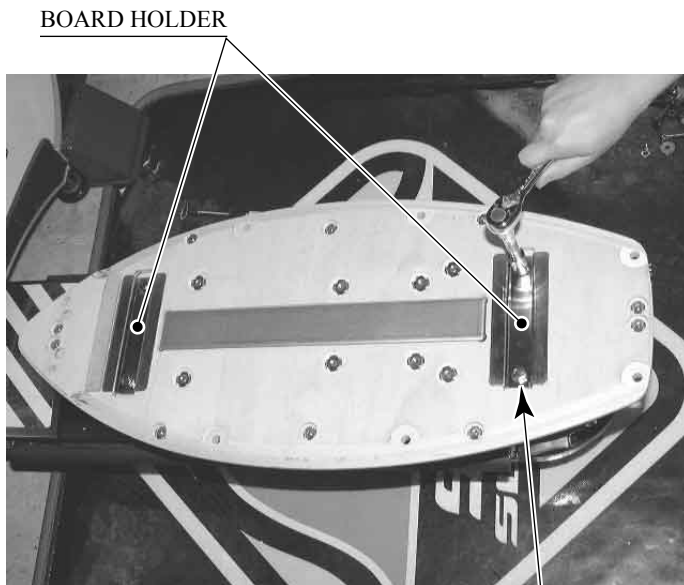


PHOTO 10. 5 h

HEXAGON-HEAD BOLT (2 each)
M8×30, w/spring washer



PHOTO 10. 5 i

⑧ Remove the ASSY board from the SWING mechanism. The bellows are attached below the wooden board of the ASSY board.

ASSY BOARD
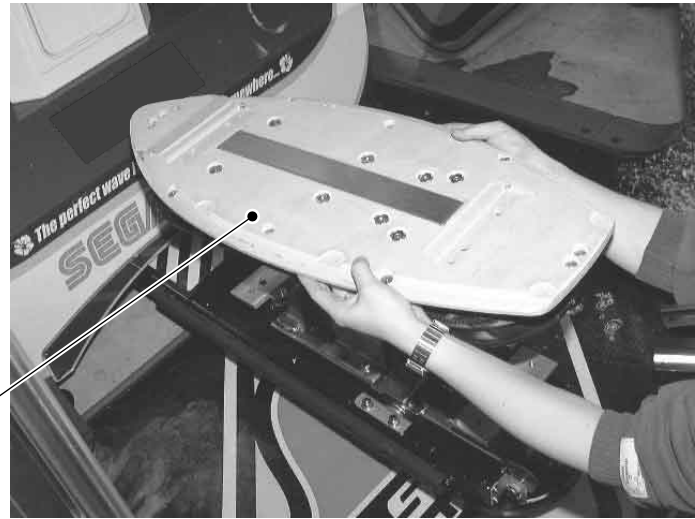
PHOTO 10. 5 j

BELLOWS
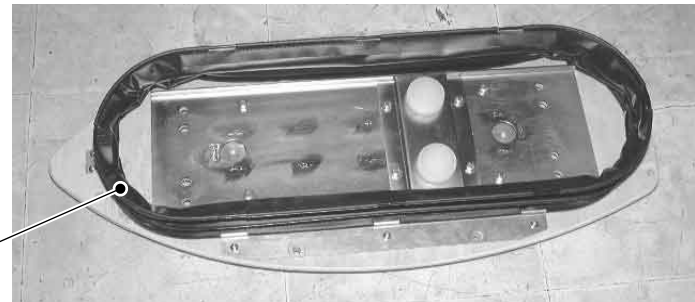
PHOTO 10. 5 k

⑨ Remove each set of three screws and remove the left and right bellows holder sides.

PHOTO 10. 5 l

SCREW (3 each)
M4×16, w/flat & spring washers
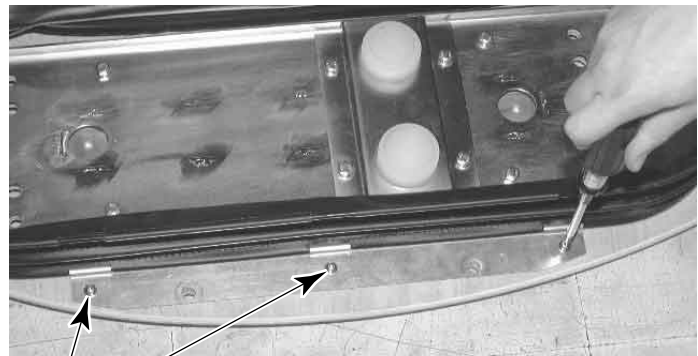
BELLOWS HOLDER SIDE
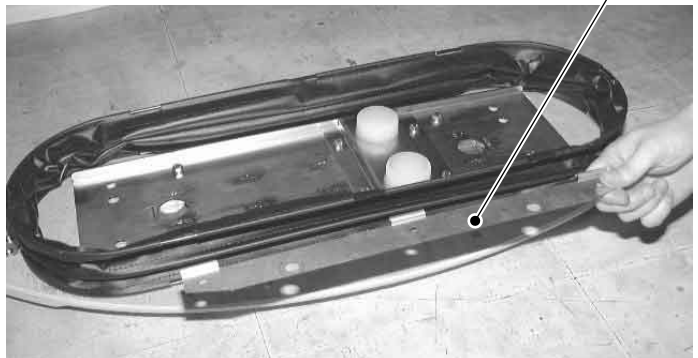
PHOTO 10. 5 m

⑩ Remove each pair of screws and remove the front and back bellows holders.
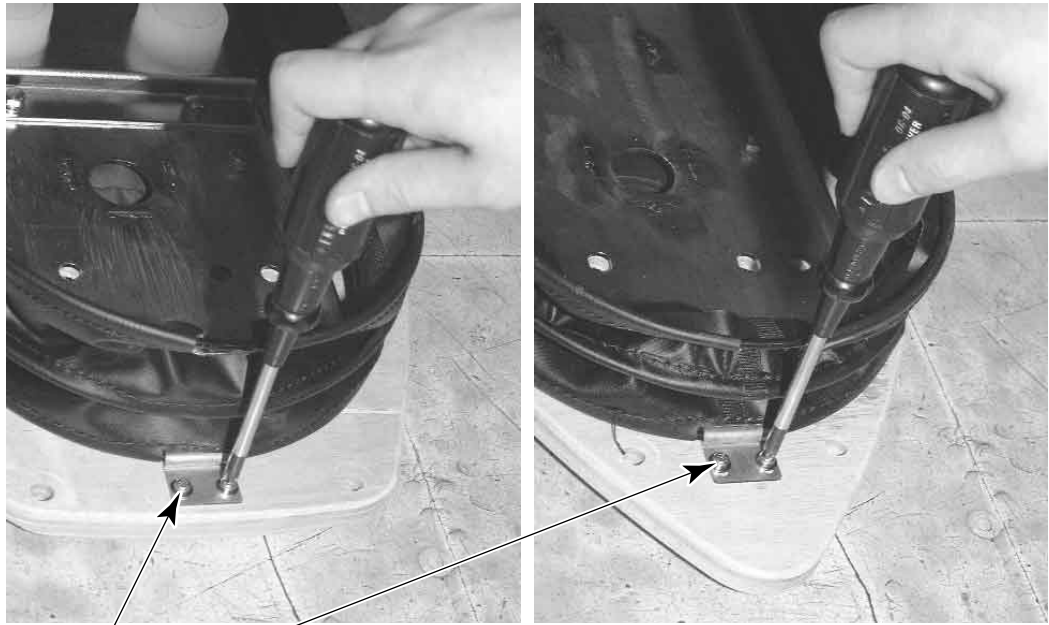


PHOTO 10. 5 n

SCREW (2 each)
M4×16,
w/flat & spring washers
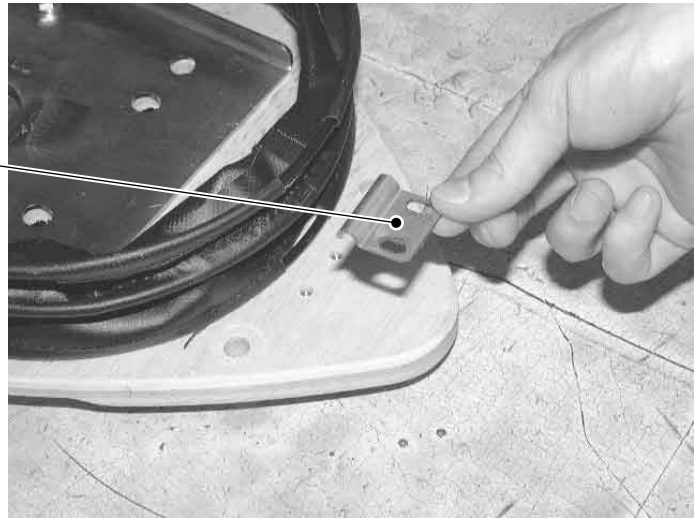
BELLOWS HOLDER

⑪ Remove and replace the damaged bellows. Attach the bellows "seam" to the wooden board so that comes to the front. Attach and secure the pair of bellows holder sides and the pair of bellows holders that were removed in the previous steps.



PHOTO 10. 5 o

BELLOWS
SSF-3405

"SEAM"



PHOTO 10. 5 p

# 11.  PROJECTOR

Projector adjustments are stored.  Due to distortion or color deviation in the TEST mode, if an adjustment is necessary, use the Remote Control to make adjustments.

## 11 - 1  CLEANING THE SCREEN

When the screen surface becomes dirty with dust, etc., clean it by using a soft cloth such as gauze.  When water, and volatile chemicals such as benzine, thinner, etc., spill on the screen surface, it may be subject to damage, therefore, do not use them.  Also, since the surfaces are susceptible to damage, refrain from rubbing them with a hard material or using a duster.
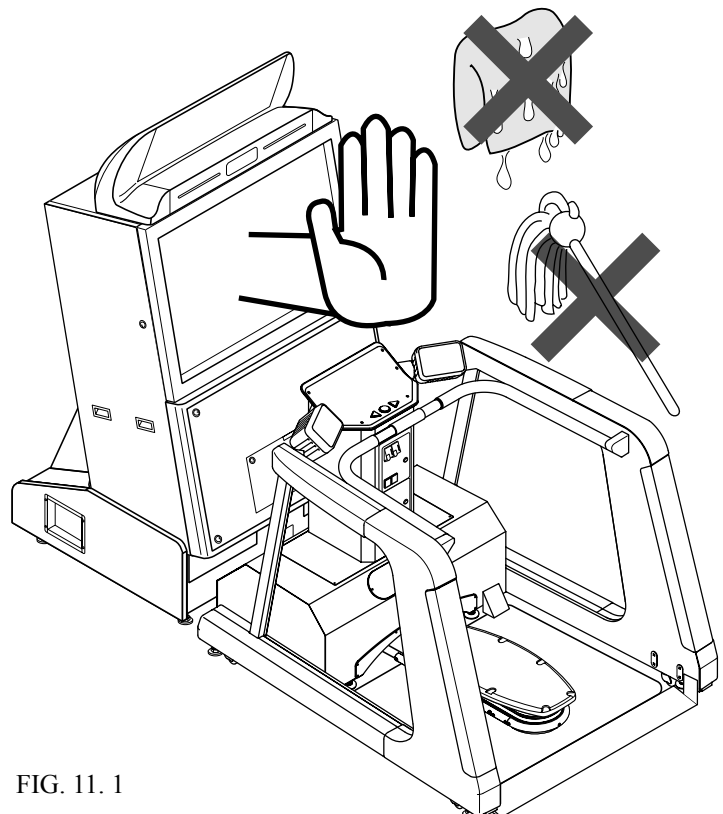
FIG. 11. 1

## SETTING THE INTERFACE

**STOP IMPORTANT!**

In this product, set to INPUT LEVEL: 0.7V and IMPEDANCE: 75Ω. Failure to observe this can cause CRT membrane to burn or Shutdown device to function resulting in power off.

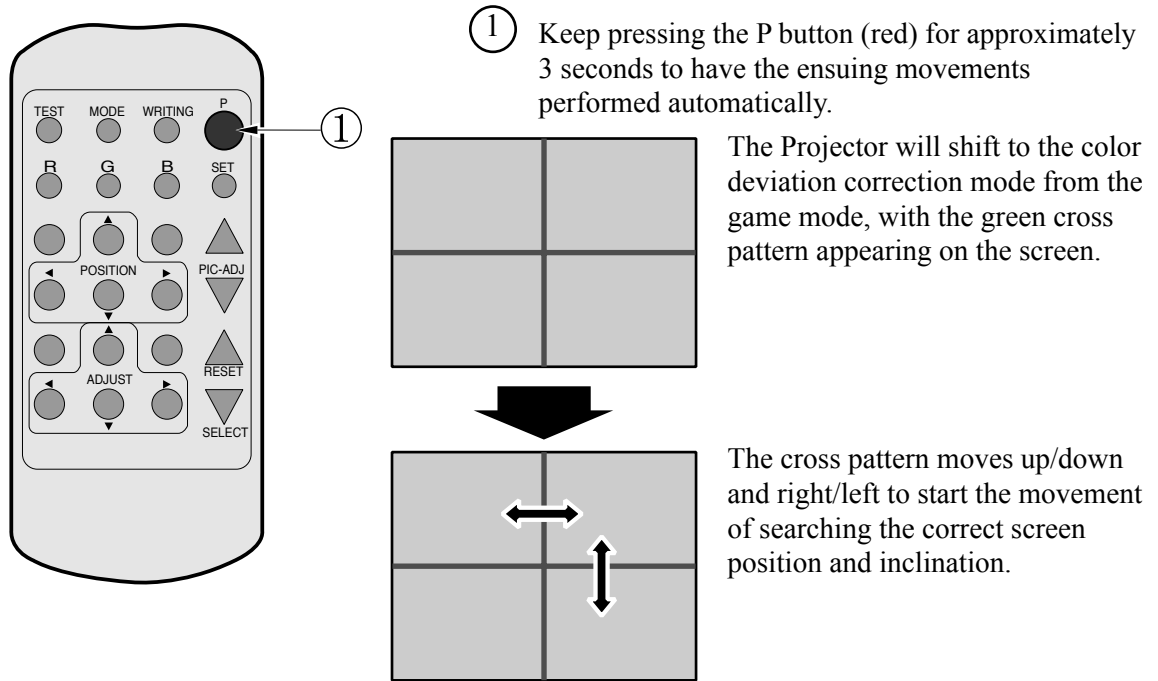The Projector's Connector Panel contains the Interface setting SW.
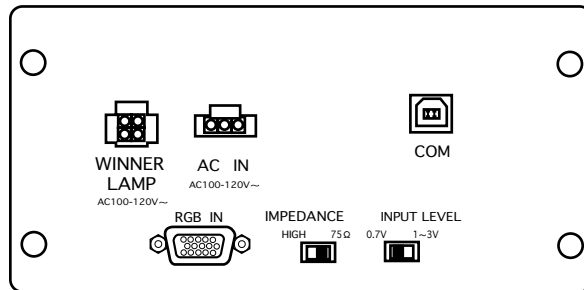


## REMOTE CONTROL BUTTONS

When adjusting the Projector, direct the Remote Control's light emitting portion towards the Projector Screen.



REMOTE CONTROL LIGHT EMITTING PORTION

MODE (mode selection)
TEST (adjust/normal shift)
R. G. B. (color selection)
POSITION (to select the position)
ADJUST (adjustment)

WRITING (storing the data)
P (automatic color matching)
SET (to decide the selection)
PIC - ADJ (item selection)
RESET
SELECT (pattern selection)
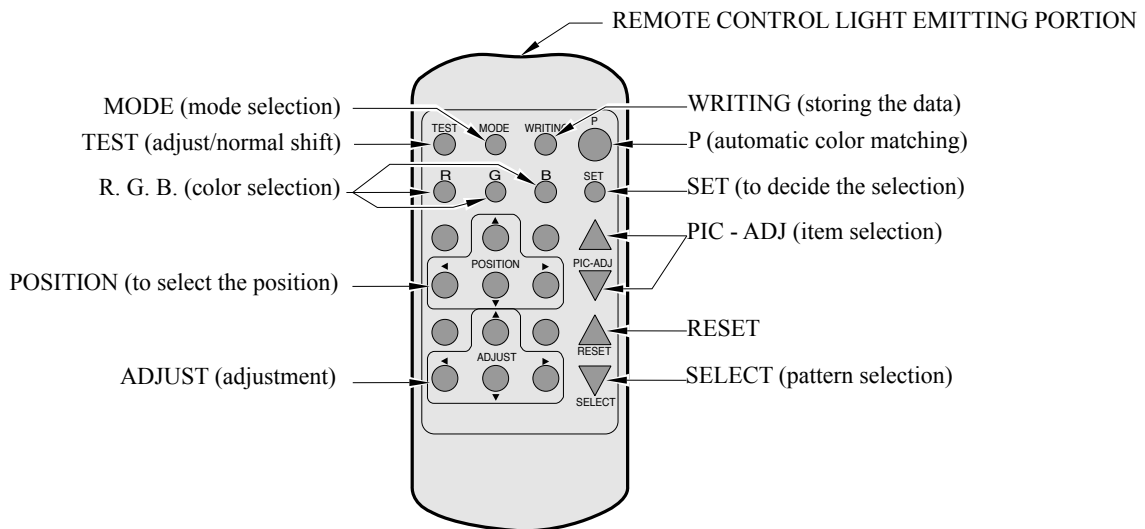
## AUTOMATIC COLOR MATCHING

The Projector may be subject to color deviations affected by earth magnetism, the building steel frames, etc. When the Projector is initially installed or the Projector's installation position is changed, have the color matching performed automatically.

① Keep pressing the P button (red) for approximately 3 seconds to have the ensuing movements performed automatically.

The Projector will shift to the color deviation correction mode from the game mode, with the green cross pattern appearing on the screen.

The cross pattern moves up/down and right/left to start the movement of searching the correct screen position and inclination.

When the green cross pattern movements are finished, similar detection is performed sequentially in order of red and then blue cross movements. After detecting by green, red and blue cross movements, the game mode returns with the color deviation status being corrected.

● Although very rarely, the TRY AGAIN error display in red may appear. At this time, press the P button (red) for approximately 3 seconds.
Even after the above operation is repeated, if the error condition still exists, then the display shifts to PLEASE ADJ. In this case, the auto color matching function can not be used. Contact the place of contact herein stated or where the product was purchased from.

● If the automatic color matching indicates an error, color matching can manually be performed. Refer to CONVERGENCE ADJUSTMENT (manual color matching).
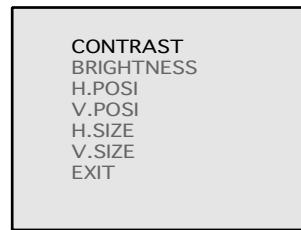
## ADJUSTING THE ON-SCREEN CONTRAST

Although the on-screen picture quality has been adjusted at the time of shipment from the factory, the on-screen contrast can be readjusted if desired. When the Game Board is replaced, readjustment may be necessary. Changing the CONTRAST causes the light and shade of the on-screen images to be changed.
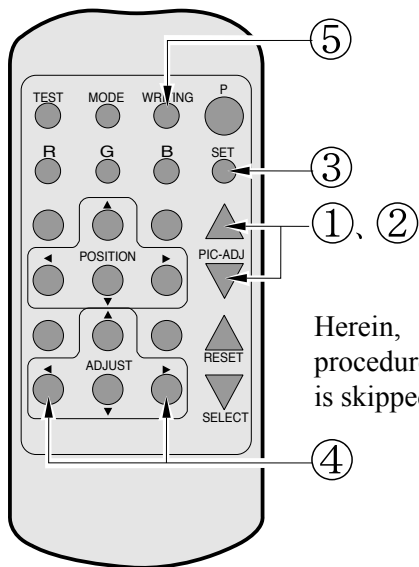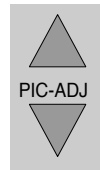
① Press either ▲ or ▼ PIC - ADJ button.

PIC-ADJ

```
CONTRAST
BRIGHTNESS
H.POSI
V.POSI
H.SIZE
V.SIZE
EXIT
```

The on-screen menu will have one item in purple and 6 items in white.

⑤

③

①、②

Herein, procedure ② is skipped.

④

② Choose CONTRAST by using either ▲ or ▼ PIC - ADJ button.

PIC-ADJ

```
CONTRAST
BRIGHTNESS
H.POSI
V.POSI
H.SIZE
V.SIZE
EXIT
```
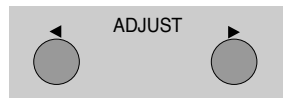
Have CONTRAST displayed in purple. Since CONTRAST is selected initially, no particular operation is required in this case.

③ Press the SET button (to decide selection).

SET
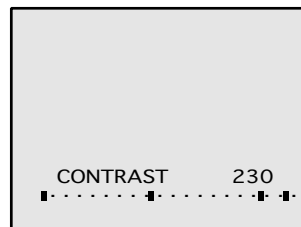
CONTRAST 230

When the selection of the CONTRAST adjustment mode is decided, the adjustment data scale bar appears on the screen.

④ Make adjustment by using either ◄ or ►ADJUST button.

ADJUST
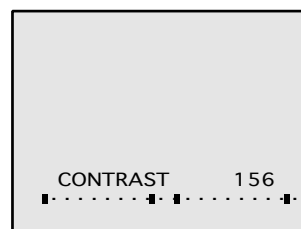
CONTRAST 156

As the Cursor is moved, the adjustment data value changes. Make adjustment so as to obtain the desired on-screen contrast status.

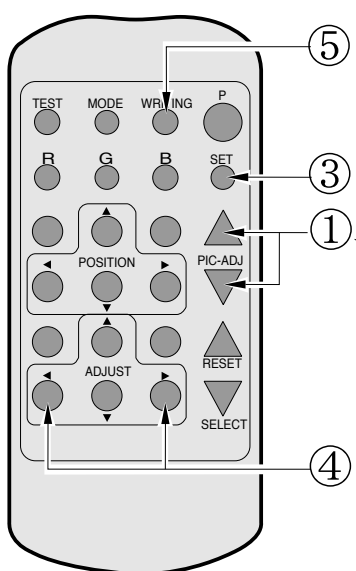⑤ Press the WRITING button (for storing and finish).
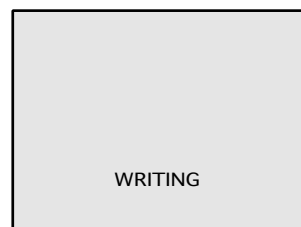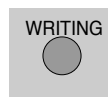
WRITING

WRITING

The WRITING display appears and the adjustment data is stored.

● When discontinuing the adjustment, choose EXIT from the menu at the stage of procedure ② and press the SET button.

● To continue adjusting other menu items, repeat procedure ② ~ ④.

● Unless the adjustment data is stored, the data in the adjusted status will be erased at the time the power is turned off and the pre-adjustment status will remain when the power is turned on next time.

## ADJUSTING THE SCREEN BRIGHTNESS

Although the on-screen picture quality has been adjusted at the time of shipment from the factory, readjustment can be made if desired. When the Game Board is replaced, readjustment may be necessary. Changing the BRIGHTNESS causes the brightness of the on-screen images of black portions to be changed.
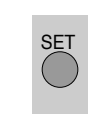
① Press either ▲ or ▼ PIC - ADJ button.

The on-screen menu will have one item in purple and 6 items in white.

CONTRAST
BRIGHTNESS
H.POSI
V.POSI
H.SIZE
V.SIZE
EXIT

② Choose BRIGHTNESS by using either ▲ or ▼ PIC - ADJ button.
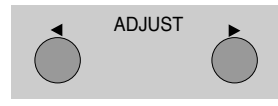
Have the BRIGHTNESS displayed in purple.

CONTRAST
**BRIGHTNESS**
H.POSI
V.POSI
H.SIZE
V.SIZE
EXIT

③ Press the SET button (to decide selection).
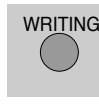
When the selection of the BRIGHTNESS adjustment mode is decided, the adjustment data scale bar appears on the screen.

BRIGHTNESS    128

④ Make adjustment by using either ◀ or ▶ ADJUST button.

As the Cursor is moved, the adjustment data value changes. Make adjustment so as to obtain the desired on-screen brightness status.

BRIGHTNESS    156

⑤ Press the WRITING button (for storing and finish).

The WRITING display appears and the adjustment data is stored.

WRITING

● When discontinuing the adjustment, choose EXIT from the menu at the stage of procedure ② and press the SET button.

● To continue adjusting other menu items, repeat procedure ② ~ ④.

● Unless the adjustment data is stored, the data in the adjusted status will be erased at the time the power is turned off and the pre-adjustment status will remain when the power is turned on next time.

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Although the on-screen display position (H. POSI, V. POSI) has been adjusted at the time of shipment from the factory, readjustment can be made if desired. When the Game Board is replaced, readjustments may be necessary.

① Press either ▲ or ▼ PIC - ADJ button.

The on-screen menu will have one item in purple and 6 items in white.

CONTRAST
BRIGHTNESS
H.POSI
V.POSI
H.SIZE
V.SIZE
EXIT

② Choose H. POSI or V. POSI by using either ▲ or ▼ PIC ADJ button.

Have the H. POSI or V. POSI displayed in purple. The Figure shows the status in which H. POSI is selected.

CONTRAST
BRIGHTNESS
H.POSI
V.POSI
H.SIZE
V.SIZE
EXIT

③ Press the SET button (to decide selection).

When the selection of the H. POSI or V. POSI is decided, the adjustment data scale bar appears on the screen.

H.POSI    128

④ Make adjustment by using either ◄ or ► ADJUST button.

ADJUST

When making adjustments in vertical directions, also use either ◄ or ► ADJUST button.

As the Cursor is moved, the adjustment data value changes. Make adjustment so as to obtain the desired on-screen position status.

H.POSI    156

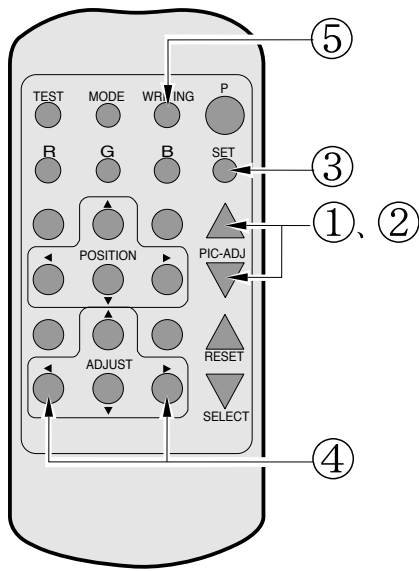⑤ Press the WRITING button (for storing and finish).

The WRITING display appears and the adjustment data is stored.

WRITING

● When discontinuing the adjustment, choose EXIT from the menu at the stage of procedure ② and press the SET button.

● To continue adjusting other menu items, repeat procedure ② ~ ④ .

● Unless the adjustment data is stored, the data in the adjusted status will be erased at the time the power is turned off and the pre-adjustment status will remain when the power is turned on next time.

Although the on-screen size (H. SIZE, V. SIZE) has been adjusted at the time of shipment from the factory, readjustment can be made if desired. When the Game Board is replaced, readjustments may be necessary.

① Press either ▲ or ▼ PIC - ADJ button.

CONTRAST
BRIGHTNESS
H.POSI
V.POSI
H.SIZE
V.SIZE
EXIT
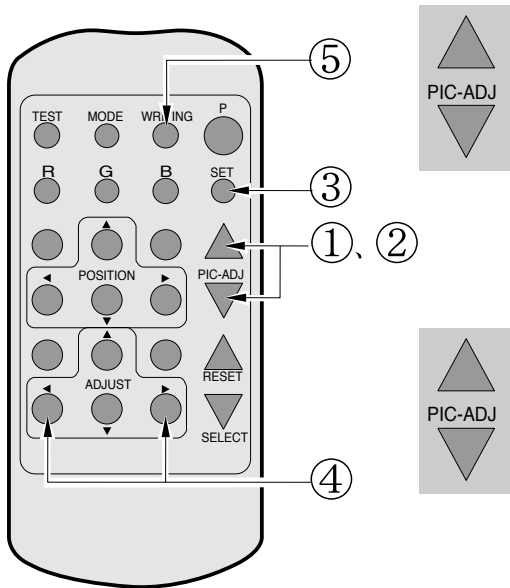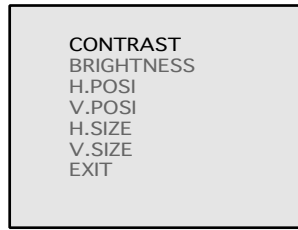
The on-screen menu will have one item in purple and 6 items in white.

② Choose H. SIZE or V. SIZE by using either ▲ or ▼ PIC - ADJ button.

CONTRAST
BRIGHTNESS
H.POSI
V.POSI
H.SIZE
V.SIZE
EXIT

Have the H. SIZE or V. SIZE displayed in purple. The Figure shows the status in which H. SIZE is selected.

③ Press the SET button (to decide selection).

H.SIZE          128

When the selection of the H. SIZE or V. SIZE adjustment mode is decided, the adjustment data scale bar appears on the screen.

④ Make adjustment by using either ◀ or ▶ ADJUST button.
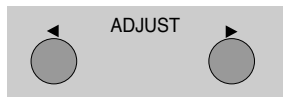
When making adjustments in vertical directions, also use either ◀ or ▶ button.
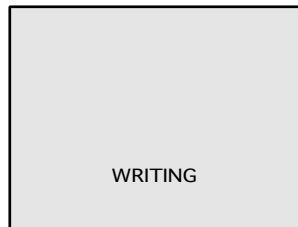
H.SIZE          156

As the Cursor is moved, the adjustment data value changes. Make adjustment so as to obtain the desired on-screen position status.

⑤ Press the WRITING button (for storing and finish).

WRITING

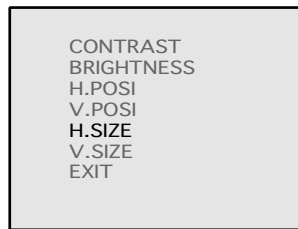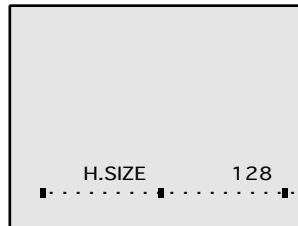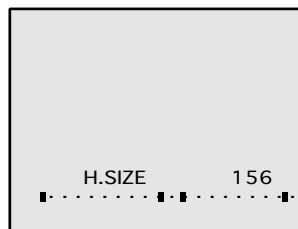The WRITING display appears and the adjustment data is stored.

● When discontinuing the adjustment, choose EXIT from the menu at the stage of procedure ② and press the SET button.

● To continue adjusting other menu items, repeat procedure ② ~ ④ .

● Unless the adjustment data is stored, the data in the adjusted status will be erased at the time the power is turned off and the pre-adjustment status will remain when the power is turned on next time.

⚠️ **CAUTION!**

To avoid circuitry malfunctioning due to electrical load increase, never utilize CONVERGENCE ADJUSTMENT (Line Convergence Adjustment in particular) for adjusting screen size changes.

There is no means to restore the Convergence Adjustment data once stored, to its original state. To avoid changing the screen size by erroneously using convergence adjustment, do not perform the green Line Convergence Adjustment.

As such, be sure to perform the adjustment work from this page onward by the Technical staff and the location's Maintenance Personnel who are well versed in such adjustment wo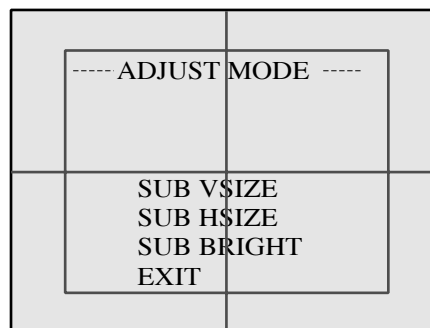rk. In the Static Convergence Adjustments, if satisfactory adjustments can not be performed, do not make another convergence adjustments inadvertently. Contact the office herein stated or where the product was purchased from.

**STOP IMPORTANT!**

● To avoid making the adjustment work ineffective, do not press the RESET button during adjustment.

● To discontinue adjustment work, keep pressing the TEST button for approximately 3 seconds at the stage before storing the adjustment data by pressing the WRITING button.

● Should the screen be abnormally disturbed by noise due to static electricity, etc., turn the power off without storing the adjustment data.

● Pressing the ▲ or ▼ PIC - ADJ button in the Convergence Adjustment mode status will display the Adjustment Menu shown right. Do not utilize this Adjustment Menu as this is the one applied at the factory.

● Adjusting this menu causes the Customer's adjustment range to be deviated.

● Should the menu shown right be displayed by mistake, first choose EXIT by using either ▲ or ▼ PIC - ADJ button and then press the SET button.

```
----- ADJUST MODE -----




                  SUB VSIZE
                  SUB HSIZE
                  SUB BRIGHT
                  EXIT
```
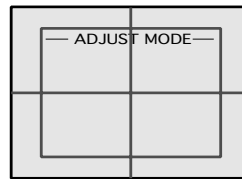
Adjustment menu used in the factory.

## STATIC CONVERGENCE ADJUSTMENT

In the static convergence adjustment, each of red and blue images is comprehensively moved to and superimposed on the green color. If automatic color matching function is not sufficiently satisfactory, perform this adjustment. Be sure to perform automatic color matching before starting the above adjustment.

① Keep pressing the TEST button for approximately 3 seconds.

The screen will change to ADJUST mode from the Game mode to cause the green test pattern to be displayed on the screen.

② Press the R button to have the red adjustment mode.
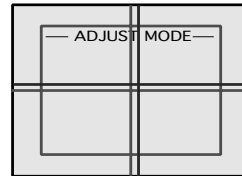
The red test pattern is added to the display. The frame color turns red and this signifies the red adjustment mode.

③ Make adjustment by using the ▲ ▼ ◄ ► ADJUST buttons.
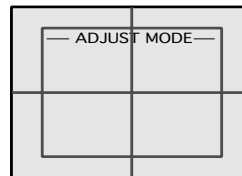
Make adjustment so as to have red superimposed on green. When red is superimposed on green, the color becomes yellow.

④ Press the B button to have the blue adjustment mode.
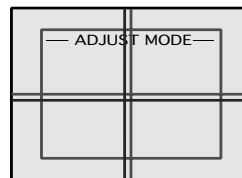
Similarly as in the case of red, adjust the blue color. When green, red, and blue are superimposed, the color becomes white.
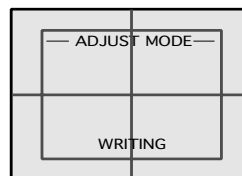
⑤ Press the WRITING button (for storing and finish).

The WRITING display appears and the adjustment data is stored. After the data is stored, the Game mode returns.

DO NOT PUSH THIS.

When either of ② ④ COLOR SELECT buttons (R, B) is pressed, if the color desired to be adjusted disappears, press that particular button again. For example, if the red color needs to be adjusted again at the stage of ④ , the R button need to be pressed twice.

99

## POINT CONVERGENCE ADJUSTMENT

In the POINT CONVERGENCE adjustment, each of red, green and blue images is partially moved for color matching. The adjustment may be necessary when the Game Board is replaced or changed, or screen size is changed. Be sure to perform automatic color matching before starting the adjustment.

(1) Keep pressing the TEST button for approximately 3 seconds.

The screen changes to ADJUST mode from the Game mode and displays the green test pattern.

(2) Press the MODE button twice to have the POINT ADJUSTMENT mode. Note 1

MARKER

The crosshatch test pattern appears and the MARKER indicating the adjustment point is displayed.

DO NOT PRESS.

(3) Using either R or B button, select the desired color to be adjusted. Note 2 By using the G button, the green color can also be selected.

The selected color is displayed by superimposing on green. The MARKER will be in the color selected.

(4) By using the ▲ ▼ ◄ ► ADJUST buttons, move the MARKER to the position to be adjusted.
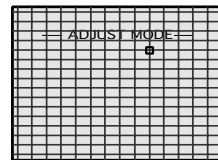
The MARKER moves in the direction of the button's arrow. However, the movable point is predetermined.

(5) Make adjustment by using the ▲ ▼ ◄ ► ADJUST buttons.
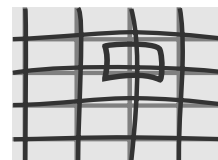
Although the direct vicinity of the MARKER's center moves most conspicuously, make adjustment by paying attention to the periphery area also. Shown left is the magnified MARKER periphery.

(6) Press the SELECT button as necessary to superimpose Game Board images. Note 3
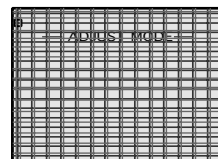
If the test pattern is not displayed in the periphery of the screen, adjustments can be made by pressing the SELECT button to superimpose the test pattern and the Game Board's CRT test screen.

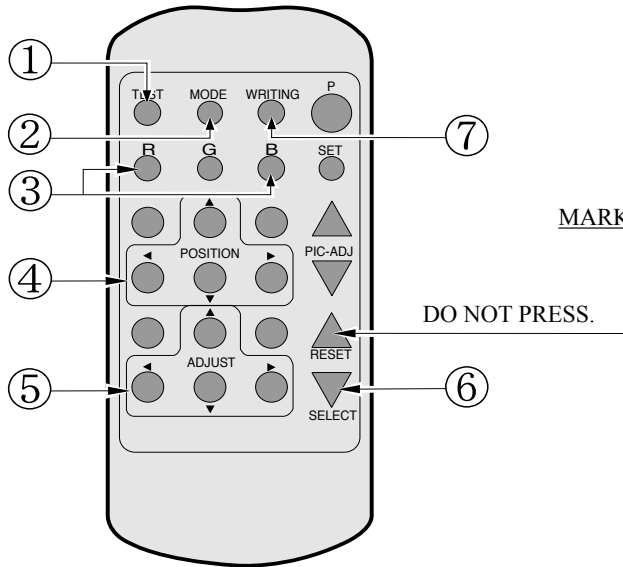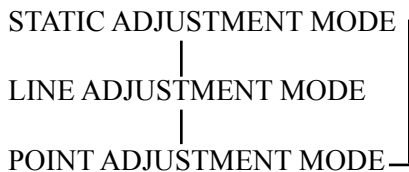(7) Press the WRITING button (for storing and finish).
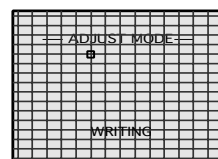
WRITING is displayed and the adjustment data is stored. After the data is stored, the Game Board screen returns.

Note 1  When the MODE button is repeatedly pressed, the adjustment modes will circulate as follows:

STATIC ADJUSTMENT MODE

LINE ADJUSTMENT MODE

POINT ADJUSTMENT MODE

Note 2  When either of the COLOR SELECT buttons (R, B) is pressed, if the desired color to be adjusted disappears, press that particular button again.

Note 3  By repeatedly pressing the SELECT button, only the Projector's TEST pattern screen and the screen superimposing the Game Board Test pattern can be alternately displayed.

## LINE CONVERGENCE ADJUSTMENT

In the LINE CONVERGENCE ADJUSTMENT, the adjustment point of the column line (vertical) or row line (horizontal) is comprehensively moved for color matching. It is convenient to utilize this adjustment when the color of the column line or row line is uniformly deviated.
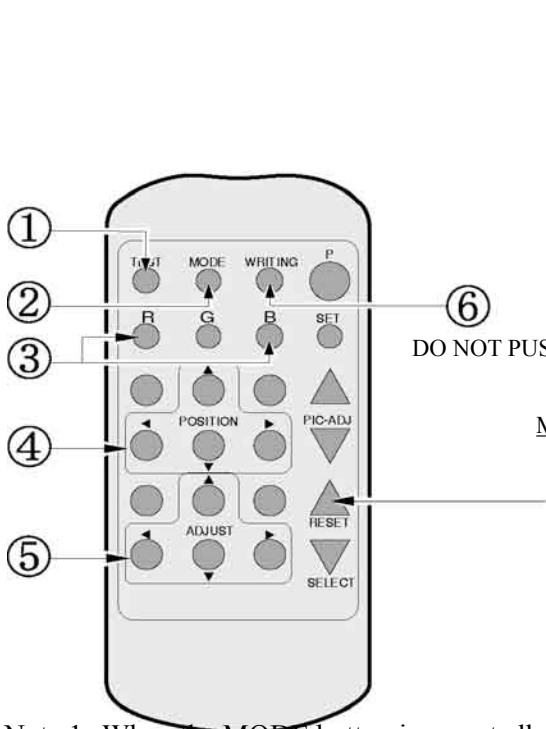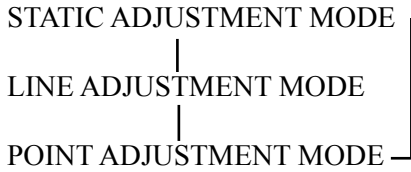
① Keep pressing the TEST button for approximately 3 seconds.

The screen changes to ADJUST mode from the Game Board mode and displays the green test pattern.

② Press the MODE button once to have the POINT ADJUSTMENT mode. Note 1
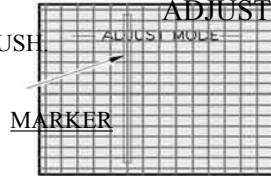
The crosshatch test pattern appears and the vertically long MARKER is shown.

DO NOT PUSH.

MARKER

③ Using either R or B button, select the desired color to be adjusted. Note 2 Although the green color can also be selected by using the G button, to avoid the screen size change adjustment, do not choose green.
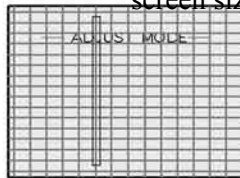
The selected color is displayed by superimposing on green. The MARKER will be in the color selected.
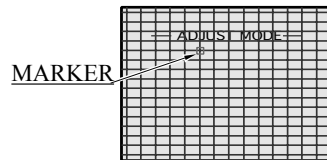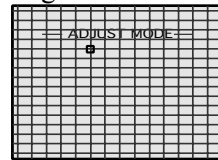
Note 1 When the MODE button is repeatedly pressed, the adjustment modes will circulate as follows:

STATIC ADJUSTMENT MODE

LINE ADJUSTMENT MODE

POINT ADJUSTMENT MODE

Note 2 When either of the COLOR SELECT buttons (R, B) is pressed, if the desired color to be adjusted disappears, press that particular button again.

④ By using the ▲ ▼ ◄ ► POSITION buttons, move the MARKER to the position to be adjusted.
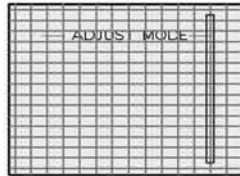
Use the ◄ ► buttons to select the column line, and the MARKER moves in the right/left direction. However, the movable range is predetermined.
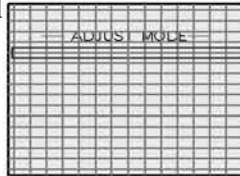
Use the ▲▼ buttons to select the row line and the MARKER moves in the up/down direction. However, the movable range is predetermined.

⑤ Make adjustment by using the ▲ ▼ ◄ ► ADJUST buttons.
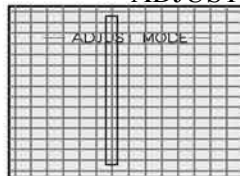
The selected column line or row line (shown left is the column line) can be moved in the desired up/down or right/left directions as applicable.

⑥ Press the WRITING button (for storing and finish).
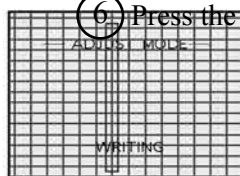
WRITING is displayed and the adjustment data is stored. After the data is stored, the Game Board screen returns.

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# 12. COIN SELECTOR

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

**STOP IMPORTANT!**

- 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. 12 a

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

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



FIG. 12 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?
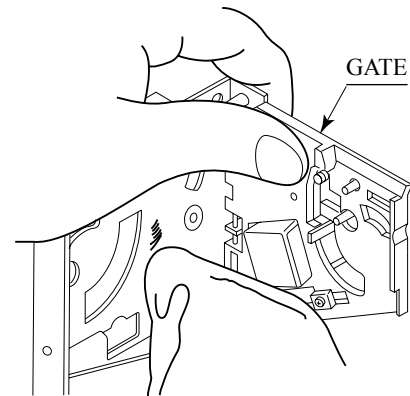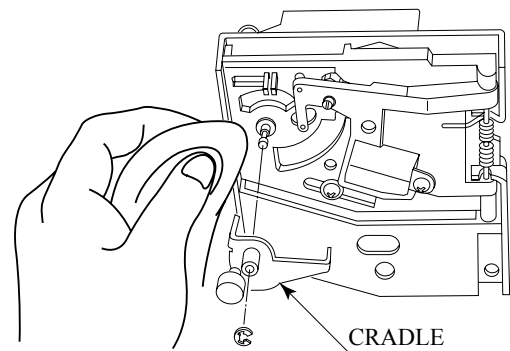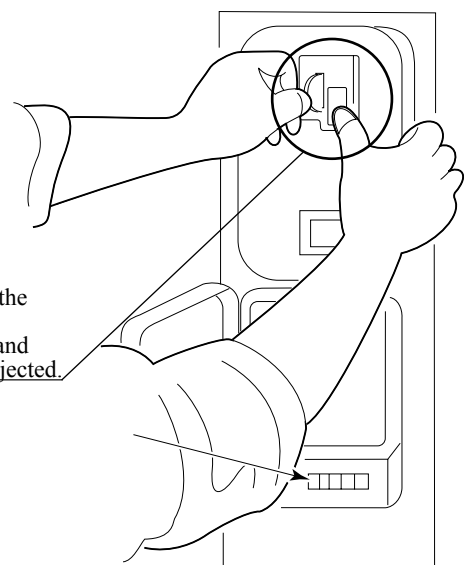
Insert a coin while keeping the Reject Button pressed down and check if it is rejected.



FIG. 12 c

WGD15-2110-01
OVER/UNDER MINI DOOR
2 ENTRIES WITH BILL
VALIDATOR     BOTTOM DOOR
& SPECIAL ENCLOSURE
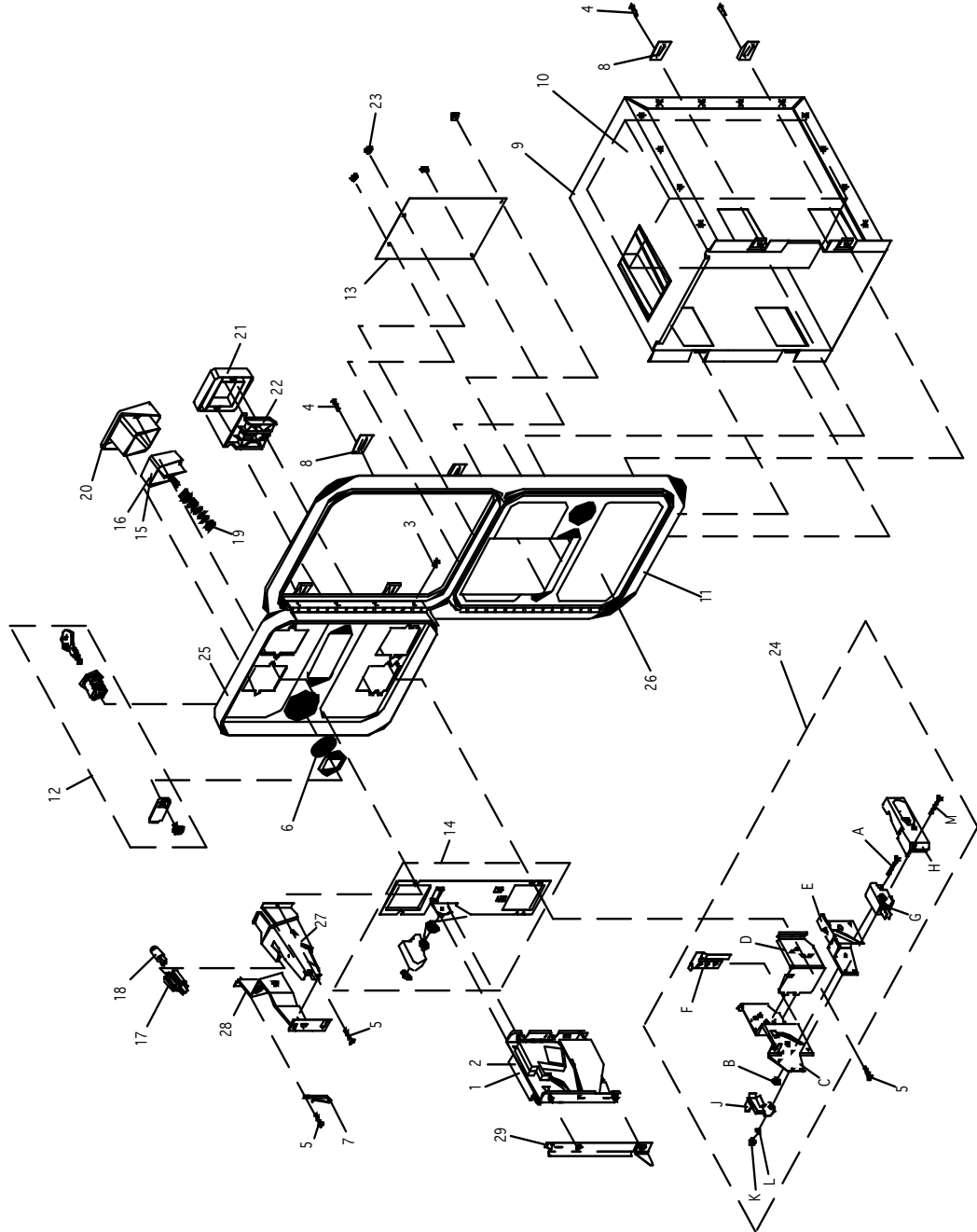
| # | W.G. PART # | DESCRIPTION |
|---|---|---|
| 1 | 812-4150-011 | S-7 US 25c COIN MECH LEFT |
| 2 | 812-4050-011 | S-10 US $1 COIN MECH RIGHT |
| 3 | 890-1002-00 | HINGE SCREW |
| 4 | 890-1003-00 | CLAMP SCREW |
| 5 | 890-1017-00 | SCREW TRILOBULAR |
| 6 | 890-1019-00 | WASHER INTERNAL TOOTH 3/4" |
| 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 4x25c/$1 LEFT |
| 16 | 891-1113-011 | E/R BUTTON US $1 COIN RIGHT |
| 17 | 891-1117-00 | LAMPHOLDER |
| 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 KEPS #8-32 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 |
| 24J | 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 |

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| MECH HOLDER PARTS | |
|---|---|
| MECH HOLDER W/COIN SWITCH | 42-3319-00 |
| MECH HOLDER W/O COIN SWITCH | 42-7355-00 |
| COIN SWITCH | 42-7087-00 |
| SCREW FOR COIN SWITCH | 43-0136-00 |
| METAL CLIP | 42-7338-91 |
| THUMBSCREW FOR METAL CLIP | 42-7338-90 |

42-0641-00

42-0405-00

YELLOW 25¢
(FITTED AS STANDARD)

42-0231-00

42-0517-05

91-1319-00

42-0288-00

42-0351-00

43-0047-00

42-7201-00

43-1002-00

42-0232-00

43-1003-00

42-7355-00

48-1000-00

42-0119-00

42-0065-00

42-0063-00

| OTHER COMPONENTS | |
|---|---|
| UPPER DOOR | 42-3216-00 |
| LOWER DOOR | 42-3145-16 |
| FRAME | 42-3272-00 |
| DOOR SCREWS | 43-0183-00 |
| DOOR & FRAME | 42-3227-00 |

42-3079-00

43-0021-00

42-7087-00

42-3286-00

42-0641-00

43-0136-00

42-8178-00

42-0526-00

42-8174-10

42-0082-00

42-8177-00

42-7057-00

42-8176-00

DOOR CUTOUT

7.30"

8.03"

19.80"

20.67"

(4) R1.00"

7.23"  6.07"

.85" REF.

3.92" REF.

.50"  .98"

.62" REF.

19.69"

1.85" REF.

10.10"

.53"

10.59"

.14"

.83" REF.

● THE COIN DOOR ASSEMBLY USED ON **SOUL SURFER** COMES EQUIPPED TO ACCEPT A DOLLAR BILL ACCEPTOR. ALL NEEDED WIRING CONNECTIONS ARE CONVENIENTLY LOCATED INSIDE THE GAME FOR THIS APPLICATION.

● THE COIN DOOR CAN ACCOMMODATE THE FOLLOWING VALIDATOR(S):

FORWARD-MOST HOLE POSITION — Mars 2000 series

**42-1155-00 — MARS VALIDATOR $1, 2, 5 300 CAP

The frame and cashbox enclosure on this coindoor has been modified to accommodate a Mars 2000 series upstacker. A 2000 series stacker can be added by simply removing the cut-out plate. This one entry door can be ordered through Happ Controls or one of Happ Controls authorized distributors. The part number is 40-6000-10EX. The Mars stacker can be obtained through an authorized Mars distributor.

Note: Your game may have either Happ Controls Coin Door Assembly or the Wells Gardner Coin Door Assembly (not shown).

**Happ part number

Security Locking Bar/Bracket Set Part No.# 999-0966

Modified Cash Box (For use when DBA installed) Part No. # 999-1106

Plastic Cash Box - Full Size Part No. # 999-1177

# 13. REPLACING THE FLUORESCENT LAMP, AND LAMPS

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

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

**STOP IMPORTANT!**
When replacing the fluorescent lamps, it is recommended to replace the glow bulb as well.

BILLBOARD FLUORESCENT LAMP

(1) Turn off the power.

(2) Use a step for the following work.
Using a short flat-tipped screwdriver, remove the 2 truss screws securing the Billboard Plate.

TRUSS SCREW (2),black
M4×10,flat washer used.



PHOTO 13 a



When performing work, prepare a step.

FIG. 13 a

③ Draw out the Billboard Plate toward you.

BILLBOARD PLATE

PHOTO 13 b
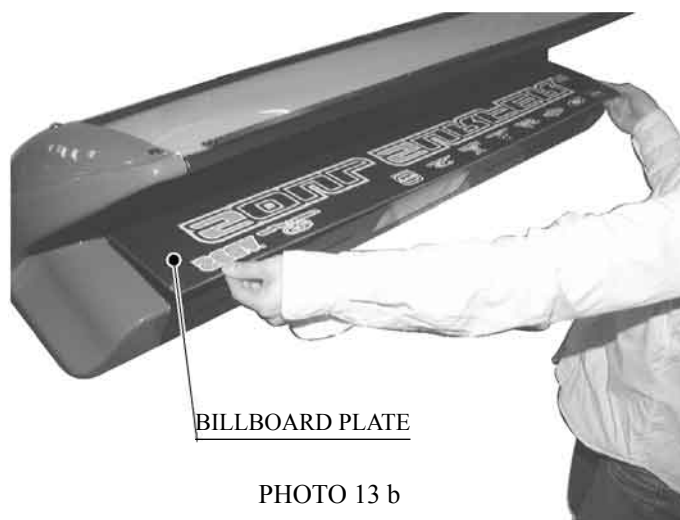
④ Replace the fluorescent lamps.

FLUORESCENT LAMP (2 qty)12w 15"
GLOW LAMPS

PHOTO 13 c
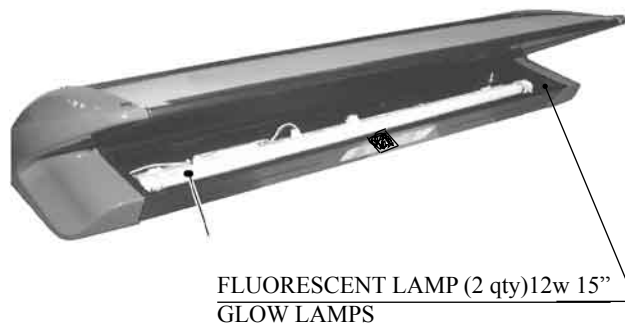
START BUTTON LAMP

① Turn off the power.

② Remove the 6 truss screws securing the Control Panel Plate.

TRUSS SCREW (4)
M4×16,chrome plated

TRUSS SCREW (2)
M4×16,chrome plated,
flat washer used.

PHOTO 13 d

107

③ Remove the Control Panel Plate. The Control Panel Plate contains wiring connections. Remove this panel, taking care not to damage the wiring.

CONTROL PANEL PLATE
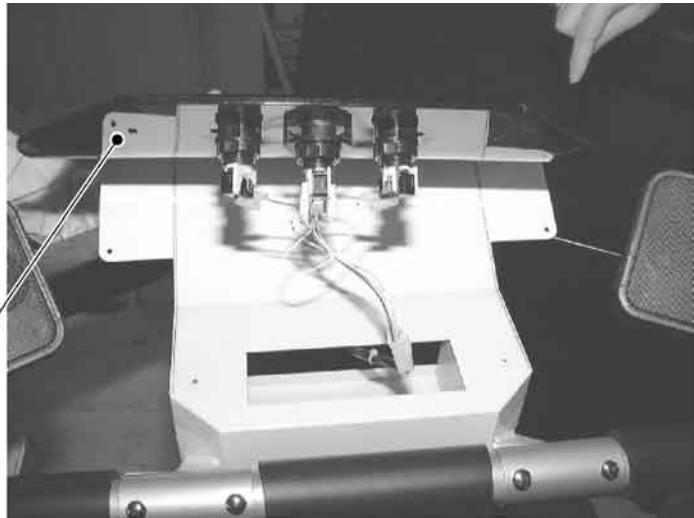
PHOTO 13 e

④ Hold both sides of the switch portion with fingers and pull out from the button's base portion. At this time, be careful so as not to damage the wiring connected to the switch.

⑤ The lamp is positioned at the end of the switch portion. Pull out the lamp straight without turning it.

LAMP 6V 3W(WEDGE BULB)
390-5160
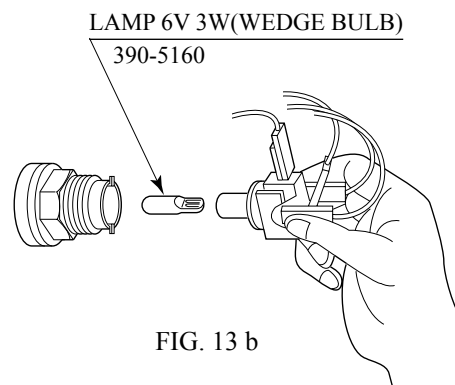
FIG. 13 b

REAR CABINET LIGHT ROPE ASSEMBLY

There are two pairs of cold-cathode tubes at the lamp units to the left and right of the rear cabinet inside wall.
The lamp units must be removed when replacing the cold-cathode tubes.
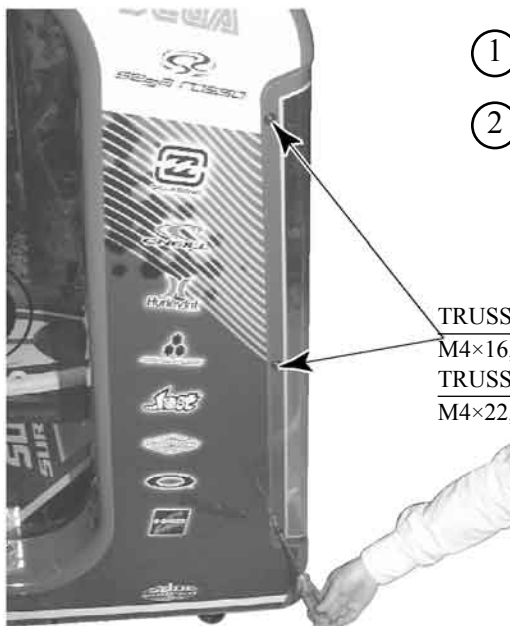
① Turn off the power.

② Remove the lamp covers from the sides where the Light Rope will be replaced. Remove the truss screws (six in all) from the left and right sides of the wall. Remove the truss screws (ten in all) from the side walls.

TRUSS SCREW (3), black
M4×16, flat washer used.          <Outside>
TRUSS SCREW (3), black
M4×22, flat washer used.          <Inside>

PHOTO 13 f

③ Be careful of the strength and direction of cover removal when removing the lamp covers from the wall. Removing the lamp covers without care may damage them.

LAMP COVER

PHOTO 13 g *

④ Remove the truss screws (four in all) that secure the lamp units. There is one pair above and another pair below.
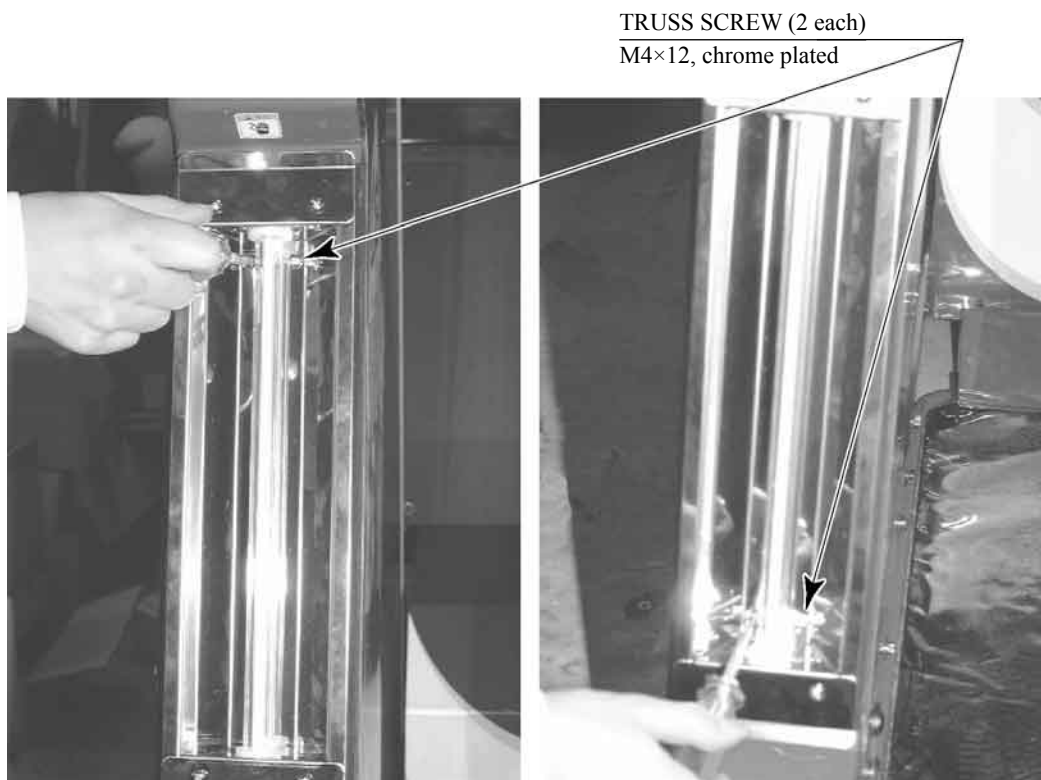
TRUSS SCREW (2 each)
M4×12, chrome plated

PHOTO 13 h *

* LIGHTS IN PHOTO DIFFER FROM ACTUAL GAME

(5) Remove the lamp units from the wall. There are wiring connections to the interior, so be careful. Bring the lamp units down slowly until the two connectors can be seen. Remove the connectors.

LAMP UNIT

CONNECTOR (2)
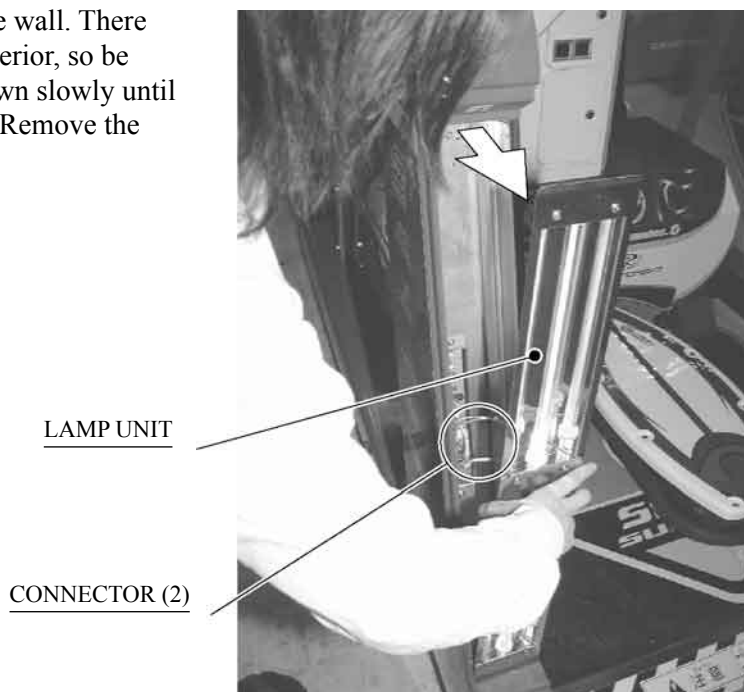
PHOTO 13 i *

(6) Remove tube holder B from the center of the lamp units. Remove the four truss screws.

TRUSS SCREW (4)
M4×8, chrome plated
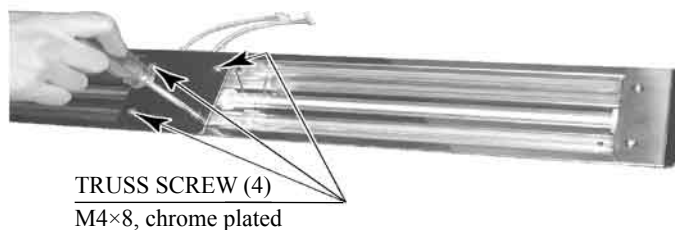
PHOTO 13 j *
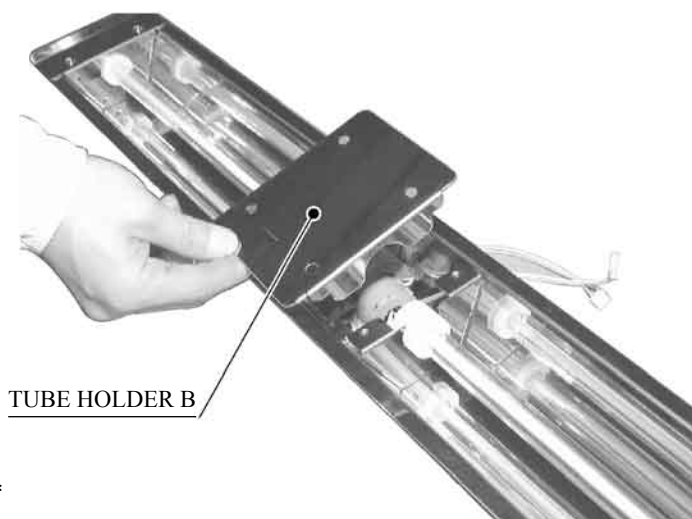
TUBE HOLDER B

PHOTO 13 k *

* LIGHTS IN PHOTO DIFFER FROM ACTUAL GAME

⑦ Remove tube holder A from the side of the Light Rope to be replaced. Remove the two truss screws. Then remove the upper bracket of the Light Rope to be replace and the lower bracket.

TUBE HOLDER A

PHOTO 13 m *

TRUSS SCREW (2)
M4×8, chrome plated

PHOTO 13 l *
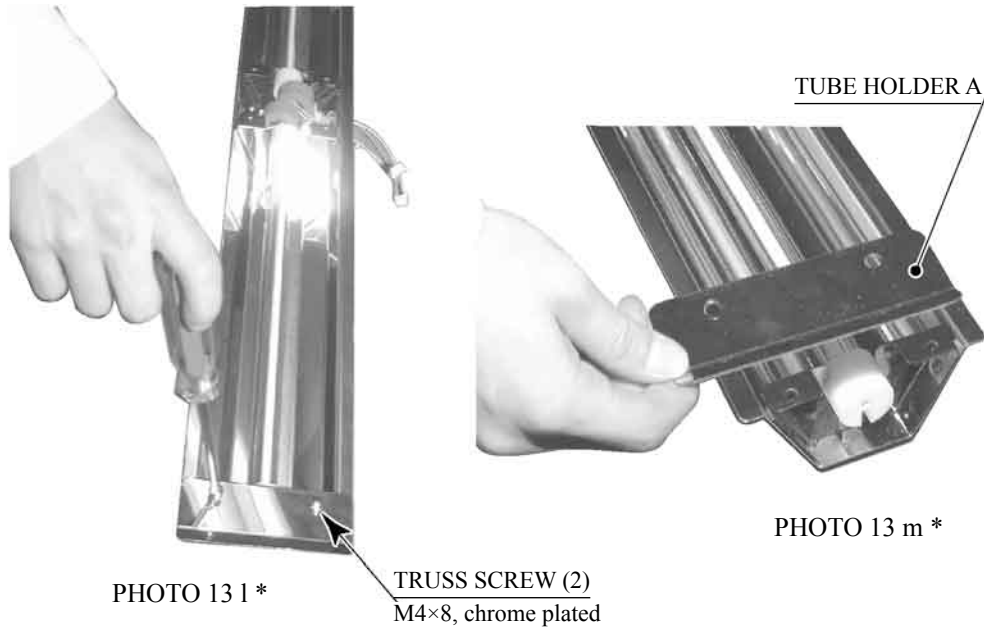
⑧ The Light Ropes are located to the interior of the lamp unit such that both sides slot in to the plastic lamp holders. Disconnect the Light Rope Connectors by turning the large coupling counter clockwise. Remove the Light Ropes  from the lamp units, remove the brackets from both edges and replace. The brackets will continue to be used. Slot in both edges of the new Light Rope and attach to the lamp units.

LIGHT ROPE
999-1420

PHOTO 13 n

MOUNTING BRACKETS

COUPLING

* LIGHTS  IN PHOTO DIFFER FROM ACTUAL GAME

PHOTO 13 na

111
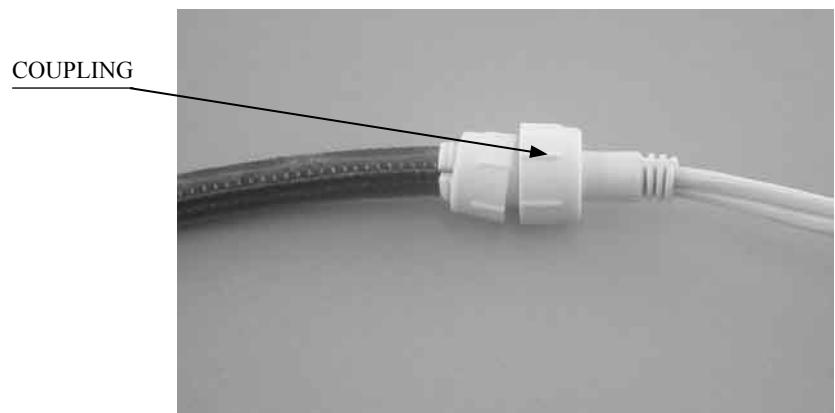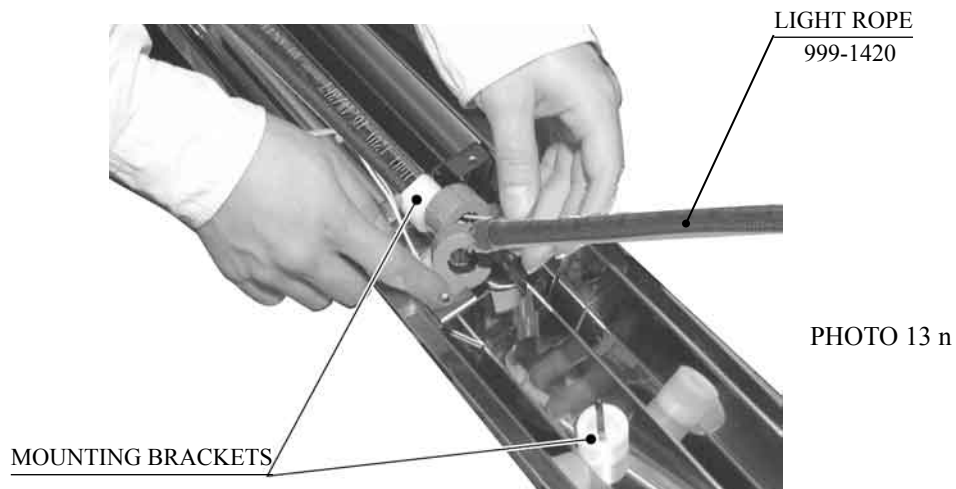
Any trouble of turning on/off a Light Rope may be due to breakage of the Solid State Relay BD (SSR BD) for the Light Rope as well as the end of the safe useful life or failure of the lamp unit itself. On its backside, the lamp unit is equipped with the SSR BD for the respective Light Rope.

(10) Remove the lamp units following the same procedure used to replace the Light Rope.  Remove the Assembly Side Wall Left or Right whichever lights you are replacing. This will expose a cage (SSR BD Cover) which protects the two SSR BD.



PHOTO 13 o

(11) Remove the two screws on top and bottom of the cage.  The Two SSR Bds will be seen when the cage is removed. The upper board is for the upper Light Rope and the lower board is for the lower Light Rope.
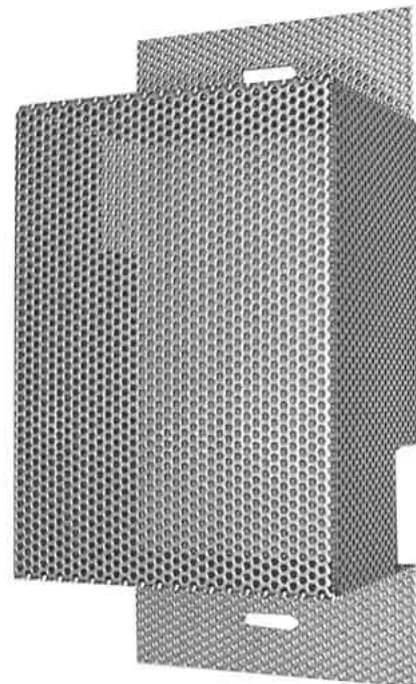


PHOTO 13 p

(12) Disconnect the connectors attached to the SSR Bds.

Relay BD
For Upper Light Rope

Disconnect the connector.

Relay BD
For Lower Light Rope
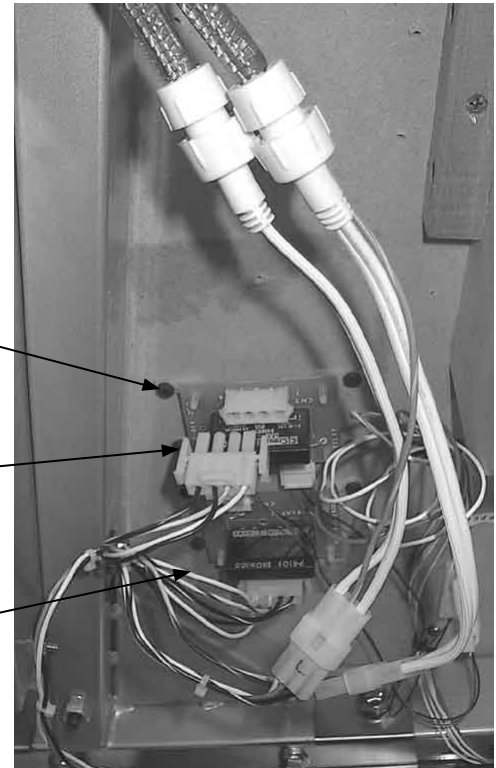
PHOTO 13 q

(13) Remove the four screws that secure each board and replace the board. Then replace the cage (SSR BD Cover) over the two SSR BD.

SCREW (4)

PHOTO 13 r

113
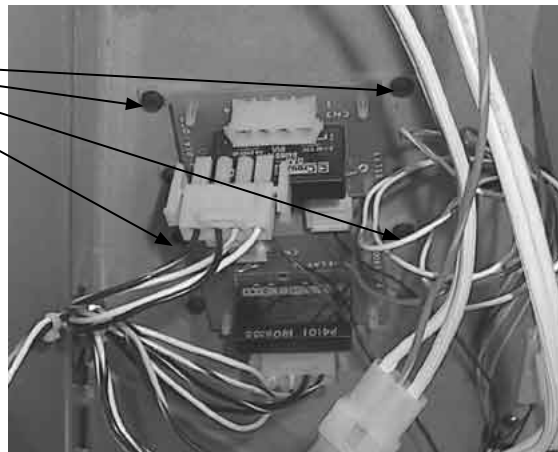
# 14. PERIODIC INSPECTION TABLE

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



WARNING!

- 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 14

| ITEMS | DESCRIPTION | PERIOD | REFERENCE |
|---|---|---|---|
| CABINET | Check landing of the Adjusters | Before commencing daily operation | 3 |
| | Check hazard preventive parts | | 10-5 |
| SURFBOARD | Check the Volume | Monthly | 9, 10-1, 2, 3 |
| | Greasing the gear mesh portion of the volume constituent parts and VR guide sliding portion | Trimonthly | 10-4 |
| | Greasing the SWING mechanism | Trimonthly | 10-4 |
| | Check the BOARD LOCK | Before commencing daily operation | 9-3C |
| SENSOR MAT | INPUT TEST | Before commencing daily operation | 9-3B |
| PROJECTOR | SCREEN cleaning | Weekly | 11 |
| | Check adjustments | Monthly | 6, 9, 11 |
| COIN CHUTE DOOR | Coin insertion test | Monthly | 12 |
| | Cleaning | Trimonthly | 12 |
| GAME BD | MEMORY TEST | Monthly | 9 |
| | Setting check | | |
| INTERIOR | Cleaning | Annually | See above |
| POWER PLUG | Inspection and cleaning | | |
| CABINET SURFACE | Cleaning | As necessary | See below |

CLEANING THE CABINET SURFACES

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

# 15.  TROUBLESHOOTING

<table>
<tr>
<td>⚠ WARNING!</td>
<td>● In order to prevent electric shock and short circuit, be sure to turn power off before performing work.<br>● Be careful so as not to damage wirings.  Damaged wiring can cause electric shock or short circuit.<br>● 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.</td>
</tr>
</table>

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

TABLE 15 a

| PROBLEMS | 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. | Remove the cause of overload to reset the circuit protector (see Sec. 6 / FIG. 15). |
| Although sound is emitted, PTV screen is blackened and Fluorescent lamp does not light up. | Poor connection of connector between Front Cabinet and PTV. | Check for connection of 3p white connector (see Sec. 6). |
| The color on the PTV screen is not correct. | Poor connection of connector between Front Cabinet and PTV. | Check if R. G. B. Connector is correctly connected (see Sec. 6). |
| | Screen adjustment is not appropriate. | Make adjustment appropriately  (see Sec. 11). |
| PTV screen has a color deviation. | Affected by the periphery, such as other machines, location building's steel frames, etc. | Make convergence adjustments (see Sec. 11). Change installation direction/ position.  Move the other machines which cause the problem. |
| Surfboard operation is unsatisfactory. | Poor V. R. setting. | Perform calibration setting (see Sec. 9). |
| | V. R. deviation or malfunctioning. | Adjust or replace the V. R.  (see Sec. 10). |
| | Poor mesh of gear. | Adjust gear mesh (see Sec. 10). |
| Can not be unlocked. | Connection fault of connector between Front & Rear Cabinets. | Accurately connect the connector (see Sec.6). |
| | Poor connection of connector in the Sensor Mat. | Accurately connect the connector (see Sec.6). |
| Irregular sound emitted from inside of Rear Cabinet. | Greasing to gear mesh portion is not satisfactory, or extraneous matter mixed in. | Apply greasing or eliminate extraneous matter (see Sec. 10). |

TABLE 15 b

| PROBLEMS | CAUSE | COUNTERMEASURES |
|---|---|---|
| Fluorescent Lamp does not light up. | Poor connection of connector in the Billboard. | Accurately connect the connector (see Sec. 6). |
| | Fluorescent lamp need replacement. | Replace Fluorescent Lamp (see Sec. 13). |
| The Cold-Cathode Tube does not blink normally. | Connection fault of connector between Front & Rear Cabinets. | Accurately connect the connector (see Sec. 6). |
| | Cold-Cathode Tube need replacement. | Replace the Cold-Cathode Tube (see Sec. 13). 390-6697-BL |
| | Failure of Inverter BD. | Replace the Inverter BD (see Sec. 13). 838-14010-01 |
| Sound is not emitted. | Poor connection of connector between Front Cabinet and Rear Base. | Accurately connect the connector (see Sec. 6). |
| | Sound volume is incorrect. | Adjust the Sound Volume Adjustment V. R. of the SW Unit (see Sec. 9). |

CIRCUIT PROTECTOR

This product employs two circuit protectors.
There are located above the AC unit and to the interior of the front cabinet. (Figure 6.4a and Photograph 15)

CIRCUIT PROTECTOR (AC Panel)
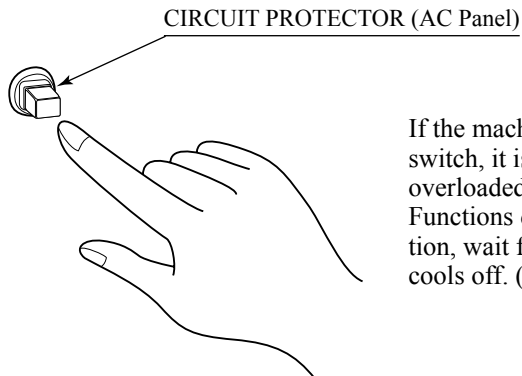
If the machine fails to power on after switching on the main switch, it is most likely that one of the circuit protectors has been overloaded.
Functions due to the activation of bimetal. To restore the function, wait for approximately one minute or longer until the bimetal cools off. (Press the Button.)

FIG. 15



CIRCUIT PROTECTOR
Interior of the front cabinet
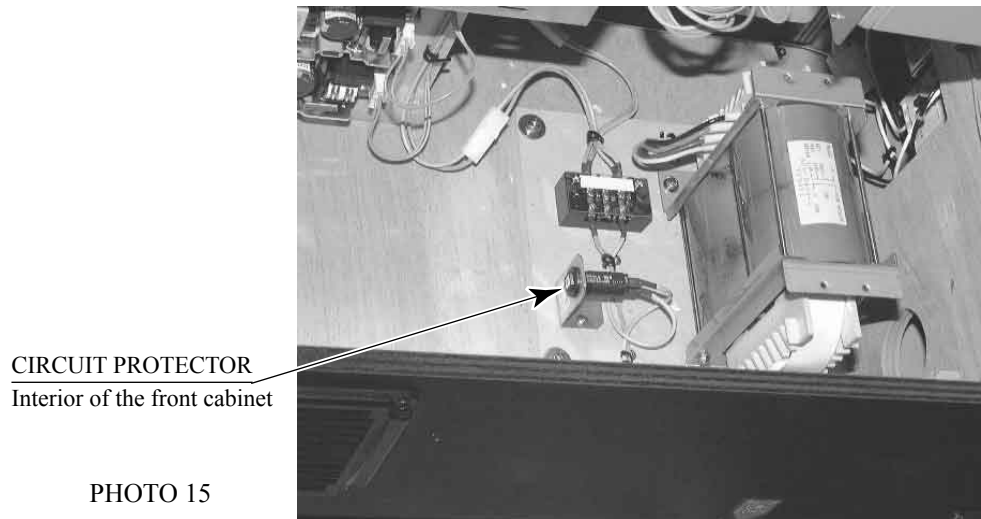
PHOTO 15

# 16.  GAME BOARD

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

| ⚠ CAUTION! | ● The electronic parts on the IC Board could be damaged due to human body's static electricity.  Before performing IC Board related work, be sure to discharge physically accumulated statics by touching grounded metallic surfaces, etc.<br>● Removing the screws that secure the game board may cause it to fall and become damaged. Be sure to support the board carefully when removing the securing screws. |
|---|---|

| 🛑 STOP IMPORTANT! | Put the Game Board in the Carton Box (an accessory) together with the Shield Case when requesting for the replacement or repair.  Transporting the Game Board in an undesignated status for replacement/repair is unacceptable. |
|---|---|

16 - 1  REMOVING THE GAME BOARD

The Game Board and all the other IC boards are located on the back of the Front Cabinet.

① Turn the power off.

② Remove the 2 truss screws securing the Back Door.



TRUSS SCREW (2), black
M4×20

BACK DOOR
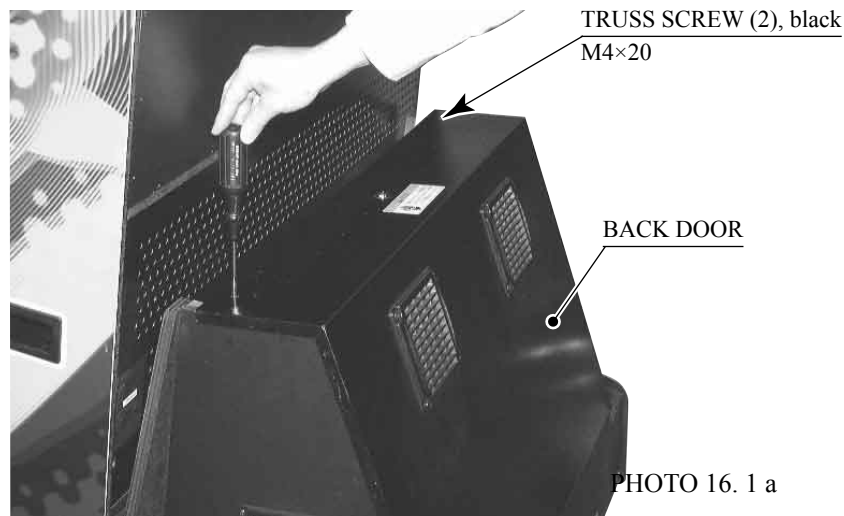
PHOTO 16. 1 a

③ Unlock and remove the Back Door.

PHOTO 16. 1 b

④ There is a game board (NAOMI 2 Board) above the wooden board of the ASSY MAIN board to the interior of the back door. Disconnect all of the connectors that are connected to the game board. If the connectors are difficult to disconnect because of how they are secured, unsecure them before removing.

PHOTO 16. 1 c

⑤ Remove the four screws that secure the wooden board of the game board and remove the game board. When removing the securing screws the game board may fall and damage the game board or its interior part and wiring. Support the board carefully when removing the screws.

SCREW (4)
M4×16, w/flat & spring washers

GAME BOARD

PHOTO 16. 1 d

## 16 - 2  COMPOSITION OF GAME BOARD

ASSY CASE NAT SSF USA  840-0095D-01    USA

TRUSS SCREW (4)
M3×30,chrome plated

ROM CASE NAT SSF
840-0095C

DIP SW

ASSY CASE NAOMI2 MAIN BD USA / 840-0046A-01 : USA

FIG. 16. 2 a

DIP SW SETTING

In this product, set all of the DIP SWes to OFF.

ON
1  2  3  4

FIG. 16. 2 b

*www.seuservice.com*

# 17. DESIGN RELATED PARTS

For the Warning Display stickers, refer to Section 1.

MIRROR SHEET
SSF-1259

BILLBOARD PLATE
SSF-1255

STICKER BILLBOARD INSIDE R
SSF-1253-B

STICKER BILLBOARD INSIDE L
SSF-1252-B (OPPOSITE SIDE)

SEGA PLATE
SSF-1254

COLOR PLATE
SSF-1263

(A)

STICKER PTV SIDE L
SSF-1211

STICKER PTV SIDE R
SSF-1212 (OPPOSITE SIDE)

STICKER REAR CABI UPPER L
SSF-3021-B

STICKER REAR CABI UPPER R
SSF-3024-B (OPPOSITE SIDE)

STICKER BOX UPPER R
SSF-3503

STICKER BOX UPPER R
SSF-3502 (OPPOSITE SIDE)

VOLUME LIDE
SSF-3004

SIDE WINDOW L
SSF-3012

SIDE WINDOW R
SSF-3013 (OPPOSITE SIDE)

STICKER BOX LOWER
SSF-3030

STICKER PTV LOWER L
SSF-1004

STICKER PTV LOWER L
SSF-1005 (OPPOSITE SIDE)

SWING ARM PLATE
SSF-3005

STICKER REAR CABI LOWER L
SSF-3022-B

STICKER REAR CABI LOWER L
SSF-3025-B (OPPOSITE SIDE)

LAMP COVER
SSF-3026

STICKER REAR CABI L
SSF-3020-B

STICKER REAR CABI L
SSF-3023-B (OPPOSITE SIDE)

MAT SW
SSF-0101

STICKER SIDE WOOD R
SSF-3651-B

STICKER SIDE WOOD R
SSF-3601-B (OPPOSITE SIDE)

(B)

STICKER CAUTION LID
SSF-3110

STICKER MAT HOLDER REAR
SSF-0010

(A)

PLAY INSTR SH SSF ENG
SSF-0011-01

(B)

STICKER SURFBOARD
SSF-3106-B

STICKER START
SSF-3581-B

NON SLIP MAT A
SSF-3106-C

NON SLIP MAT B
SSF-3106-D

NON SLIP MAT D
SSF-3106X-F

NON SLIP MAT E
SSF-3106-G

NON SLIP MAT C
SSF-3106-E

# 18. PARTS LIST

- ① TOP ASSY SSF
  - ② SSF-0100
    ASSY FLOOR MAT
  - ③ SSF-0200
    ASSY SHIPPING BEAM
  - ④ SSF-1000
    ASSY FRONT CABI
    - ⑤ SSF-1001
      ASSY SUBCABI FRONT
      - ⑥ SSF-1030
        ASSY WOOFER
      - ⑦ AC UNIT
      - ⑧ ATR-1060
        FAN UNIT
      - ⑨ ATR-1070
        ASSY BACK DOOR
      - ⑩ SSF-6002
        ASSY WIRE FRONT DC
    - ⑪ SSF-4000
      ASSY MAIN BD
    - ⑫ SSF-4100
      ASSY XFMR
  - ⑬ SSF-1200
    ASSY PTV
    - ⑭ SSF-1210
      PTV W/STICKER SSF
    - ⑮ SSF-1250
      ASSY BILLBOARD
    - ⑯ MGL-1150
      ASSY MASK
  - ⑰ ATR-1300
    ASSY FRONT PANEL
  - ⑱ SSF-3000
    ASSY REAR CABI
    - ⑲ SSF-3100
      ASSY REAR BASE
      - ⑳ SSF-3101
        ASSY SUBCABI REAR
      - ㉑ SSF-3140
        ASSY SHOCK ABSORBER L
      - ㉒ SSF-3150
        ASSY SHOCK ABSORBER R
      - ㉓ SSF-3160
        SWING VR UNIT
      - ㉔ SSF-3170
        ROLL VR UNIT
      - ㉕ SSF-3180
        PITCH VR UNIT
      - ㉖ SSF-3190
        ASSY TALE COVER
      - ㉗ SSF-3200
        ASSY SWING MECHA
        - ㉘ SSF-3230
          ASSY ROSTA
        - ㉙ SSF-3250
          ASSY BRAKE
        - ㉚ ATR-3350
          BRAKE UNIT
        - ㉛ SSF-3270
          ASSY GEAR
      - ㉜ SSF-3300
        ASSY BOARD MECHA
        - ㉝ SSF-3330
          ASSY ROLL SHAFT
        - ㉞ SSF-3350
          ASSY PITCH BASE
      - ㉟ SSF-3400
        ASSY BOARD
    - ㊱ SSF-3500
      ASSY COINCHUTE TOWER
      - ㊲ INY-1180
        SW UNIT
      - ㊳ CKT-1160-01
        METER UNIT TWIN <USA>
    - ㊳ SSF-3580
      ASSY CONTROL PANEL
    - ㊵ SSF-3600
      ASSY SIDE WALL L
    - ㊶ SSF-3650
      ASSY SIDE WALL R
    - ㊷ SSF-3630
      LAMP UNIT
    - ㊸ SSF-3700
      ASSY SPEAKER L
    - ㊹ SSF-3750
      ASSY SPEAKER R
  - ㊺ SSF-6001
    ASSY TUBE

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | SSF-0100 | ASSY FLOOR MAT | |
| 2 | SSF-0200 | ASSY SHIPPING BEAM | |
| 3 | SSF-1000 | ASSY FRONT CABI | |
| 4 | SSF-1200 | ASSY PTV | |
| 5 | SSF-3000 | ASSY REAR CABI | |
| 6 | ATR-1300 | ASSY FRONT PANEL | |
| 7 | SSF-0003 | FRONT LID | |
| 8 | SSF-0004 | MAT BRKT L | |
| 9 | SSF-0005 | MAT BRKT R | |
| 10 | SSF-0006 | MAT HOLDER FRONT | |
| 11 | SSF-0007 | WIRE COVER LOWER | |
| 12 | SSF-0008X | MAT HOLDER REAR | |
| 13 | SSF-0009 | MAT WIRE COVER | |
| 14 | SSF-0010 | STICKER MAT HOLDER REAR | |
| 15 | SSF-0011-01 | PLAY INSTR SH SSF ENG | |
| 16 | ATR-0001 | HOLE LID | |
| 22 | 421-8479-01 | STICKER INSTR SUNLIGHT ENG | |
| 23 | 440-WS0033XEG | STICKER W BD POWER OFF ENG | |
| 24 | 440-CS0175-EG | STICKER C EPILEPSY ENG | |
| 25 | 440-WS0002XEG | STICKER W POWER OFF ENG | |
| 26 | 440-CS0231-EG | STICKER C PANEL ATR ENG | |
| 27 | 440-CS0254-EG | STICKER C STEP SSF ENG | |
| | | | |
| 201 | 050-F00400 | FLG NUT M4 | |
| 202 | 068-441616 | FLT WSHR 4.4-16×1.6 | |
| 203 | 030-0008A0-SB | HEX BLT W/S BLK M8×100 | |
| 204 | 068-852216-0B | FLT WSHR BLK 8.5-22×1.6 | |
| 205 | 000-T00520-0B | M SCR TH BLK M5×20 | |
| 206 | 068-552016-0B | FLT WSHR BLK 5.5-20×1.6 | |
| 207 | 000-T00416-0B | M SCR TH BLK M4×16 | |
| 208 | 030-000630-SB | HEX BLT BLK W/S M6×30 | |
| 209 | 068-652016-0B | FLT WSHR BLK 6.5-20×1.6 | |
| 210 | 000-P00508-W | M SCR PH W/FS M5×8 | |
| 211 | 000-P00408-W | M SCR PH W/FS M4×8 | |
| 212 | 050-H00400 | HEX NUT M4 | |
| 213 | 060-S00400 | SPR WSHR M4 | |
| 214 | 060-F00400 | FLT WSHR M4 | |
| 215 | 008-T00412-0C | TMP PRF SCR TH BLK M4×12 | |
| | | | |
| 301 | SSF-6001 | ASSY TUBE | |

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|----------|-------------|------|
| 401 | 601-6604-70 | CARTON BOX 70 | |
| 402 | SGM-2675X | POLYETHYLENE BAG  240 × 370 | |
| 403 | 420-6718-01 | OWNERS MANUAL SSF ENG | |
| 404 | 420-6644-01 | SERVICE MANUAL NAOMI2 ENG | |
| 406 | 600-6695-01 | AC CABLE CONNECT TYPE USA 15A | <USA> |
| | 600-6618 | AC CABLE CONNECT TYPE FOR EXP | <AC 220-240V Area> |
| 409 | 280-5009-01 | CORD CLAMP 21 | |
| 411 | 390-5160 | LAMP WG B TYPE 6V 3W (C2R) | |
| 412 | 220-5484 | VOL CONT B-5K OHM | |
| | | | |
| / | 105-5356 | SHIPPING BRKT | |
| / | 421-8740 | CAUTION INSTR COP U/R | |
| / | 421-6690-01 | STICKER 120V | <AC 120V Area> |
| / | 421-6690-03 | STICKER 220V | <AC 220V Area> |
| / | 421-6690-06 | STICKER 110V | <AC 110V Area> |
| / | 421-6690-05 | STICKER 240V | <AC 240V Area> |
| / | 421-6119-91 | STICKER FCC | <USA> |
| / | 421-6120-93 | STICKER SEGA USA | <USA> |
| / | 421-7308-~ | DENOMI SH 1GAME~ | |

Details of part "A"

"A"
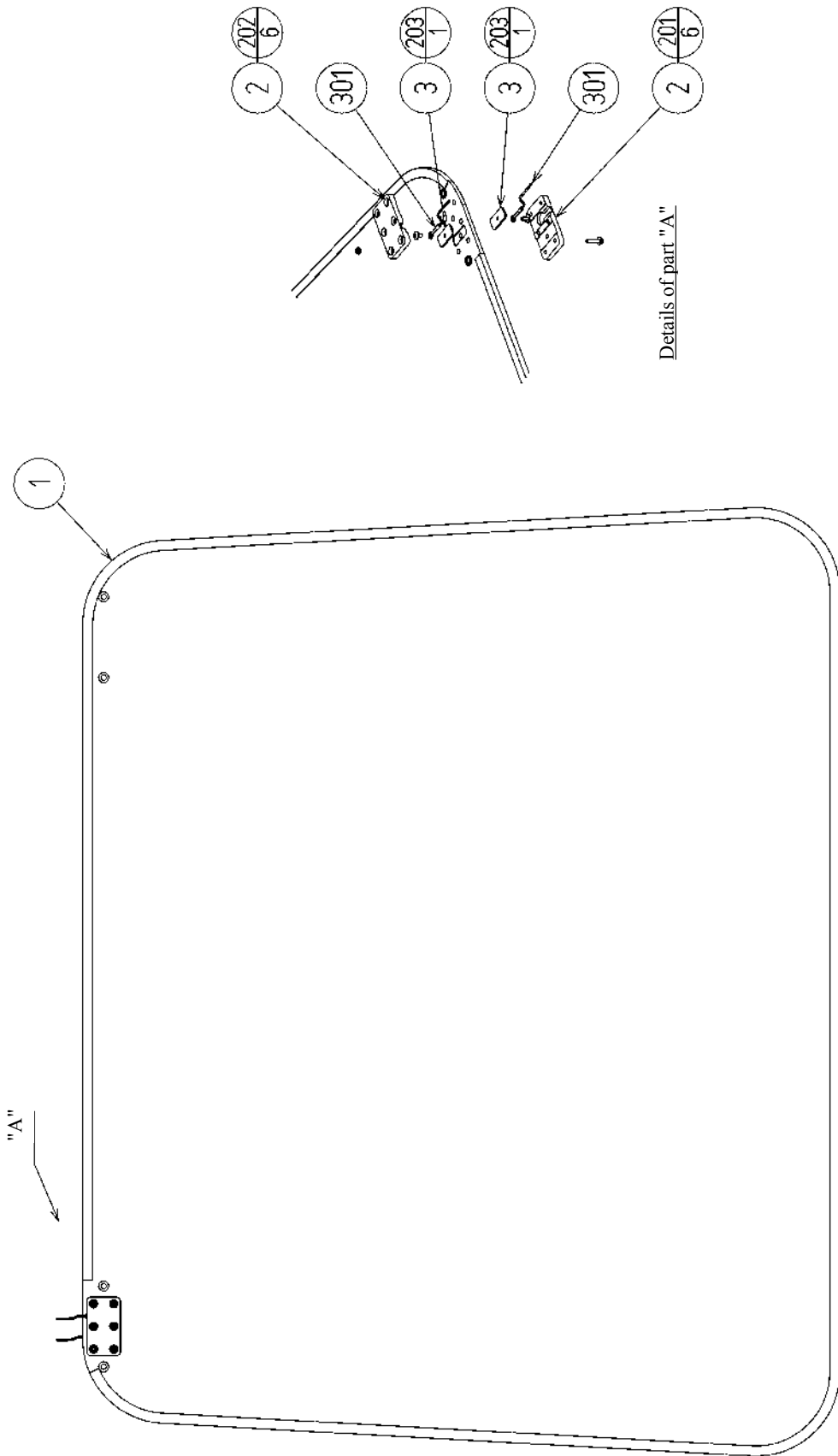
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | SSF-0101 | MAT SW | |
| 2 | SSF-0102 | MAT CONN PART | |
| 3 | SSF-0103 | MAT TARMINAL | |
| 4 | 999-1480 | MAT REINFORCEMENT PLATE LEFT | |
| 5 | 999-1481 | MAT REINFORCEMENT PLATE RIGHT | |
| 201 | 000-P00320-W | M SCR PH W/FS M3×20 | |
| 202 | 050-F00300 | FLG NUT M3 | |
| 203 | 000-T00408 | M SCR TH M4×8 | |
| 301 | SSF-60050 | WH MAT | |

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | SSF-0201 | SHIPPING BEAM | |
| 2 | SSF-0202 | SHIPPING BEAM BRKT | |
| 3 | SSF-0203 | SHIPPING SPACER | |
| 201 | 030-000820-S | HEX BLT W/S M8×20 | |
| 202 | 068-852216 | FLT WSHR 8.5-22 ×1.6 | |
| 203 | 000-P00520-W | M SCR PH W/FS M5×20 | |

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | SSF-1001 | ASSY SUBCABI FRONT | |
| 2 | SSF-4000 | ASSY MAIN BD | |
| 3 | SSF-4100 | ASSY XFMR | |
| 4 | 421-11416 | STICKER CAUTION FORK | |
| | | | |
| 201 | 000-P00530-S | M SCR PH W/S M5×30 | |
| 202 | 068-552016 | FLT WSHR 5.5-20 ×1.6 | |
| 203 | 000-P00630 | M SCR PH M6×30 | |
| 204 | 060-S00600 | SPR WSHR M6 | |
| 205 | 068-652016 | FLT WSHR 6.5-20 ×1.6 | |

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | SSF-1002 | BASE CABINET | |
| 2 | SSF-1030 | ASSY WOOFER | |
| 3 | ATR-1050 | AC UNIT | |
| 4 | ATR-1060 | FAN UNIT | |
| 5 | ATR-1070 | ASSY BACK DOOR | |
| 6 | ASK-1152 | LOCK BRKT | |
| 7 | ARC-1006 | LEG BRACKET | |
| 8 | 117-5233 | PLATE LEG BRACKET BLACK | |
| 9 | 253-5460-01 | AIR VENT BLACK | |
| 10 | 117-5402-06-91 | EARTH TERMINAL PLATE 6P | |
| 11 | SSF-1003 | WOOFER NET | |
| 12 | SSF-1004 | STICKER PTV LOWER L | |
| 13 | SSF-1005 | STICKER PTV LOWER R | |
| | | | |
| 101 | 601-9377 | CASTER FAI=75 | |
| 102 | 601-5699X | LEG ADJUSTER BOLT M16×75 | |
| 103 | 280-5009-01 | CORD CLAMP 21 | |
| 104 | 280-0419 | HARNESS LUG | |
| | | | |
| 201 | 000-P00420-W | M SCR PH W/FS M4×20 | |
| 202 | 000-T00416-0B | M SCR TH BLK M4×16 | |
| 203 | 000-P00416-W | M SCR PH W/FS M4×16 | |
| 204 | 000-T00420-0B | M SCR TH BLK M4×20 | |
| 205 | 030-000630-SB | HEX BLT BLK W/S M6×30 | |
| 206 | 011-F00316 | TAP SCR FH 3×16 | |
| 207 | 030-000625-W | HEX BLT W/FS M6×25 | |
| 208 | 050-H01600-0B | HEX NUT BLK M16 | |
| 209 | 011-F00312 | TAP SCR #1 FH 3×12 | |
| 210 | 011-T03512 | TAP SCR TH 3.5×12 | |
| | | | |
| 301 | 600-6972-1200 | WIRE HARN EARTH ID5 1200MM | |
| 303 | SSF-6002 | ASSY WIRE FRONT DC | |
| 304 | SSF-60001 | WH XFMR IN | |
| 305 | SSF-60014 | WH PTV AC100V | |
| 306 | SSF-60015 | WH AC FAN | |
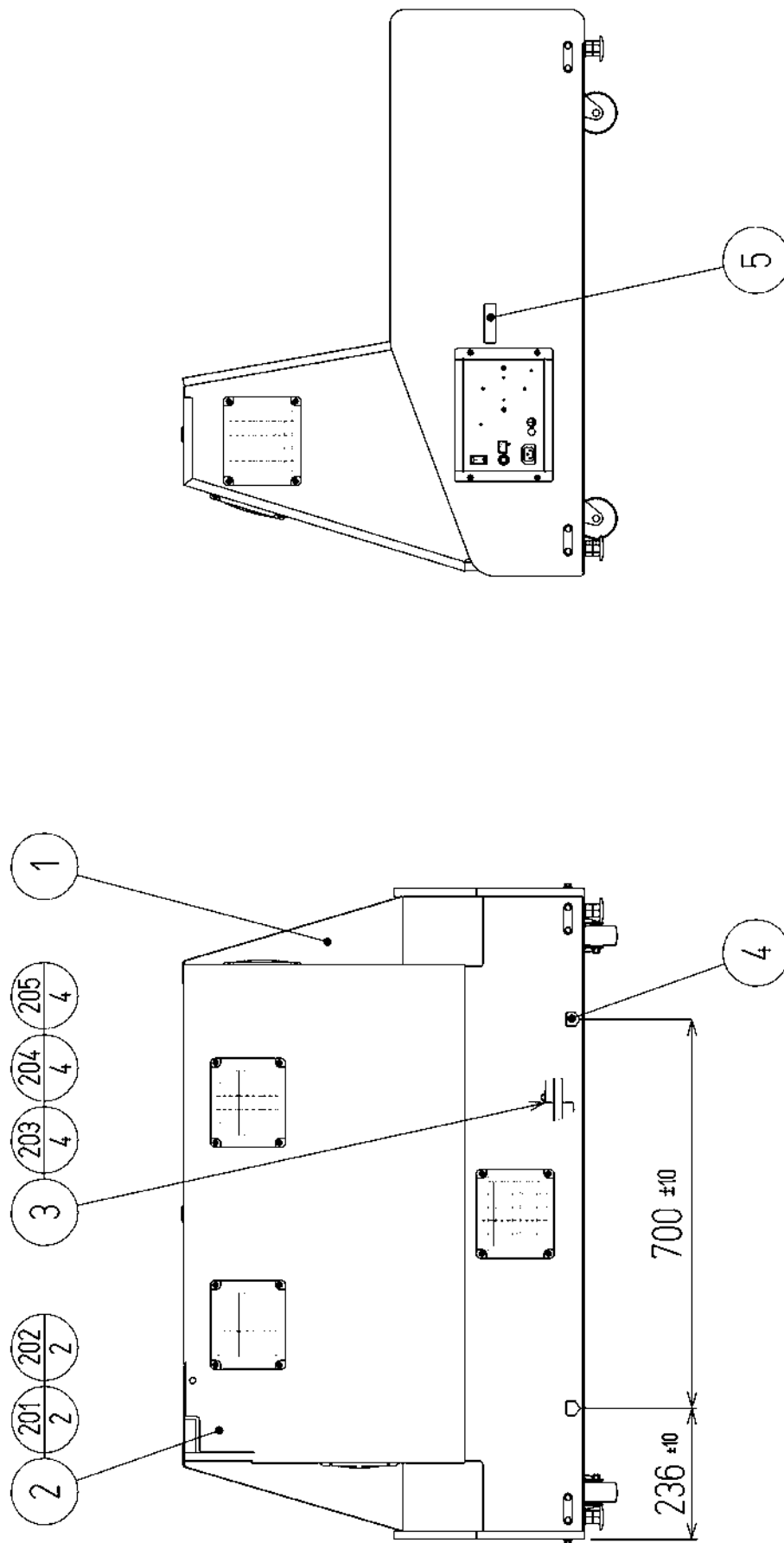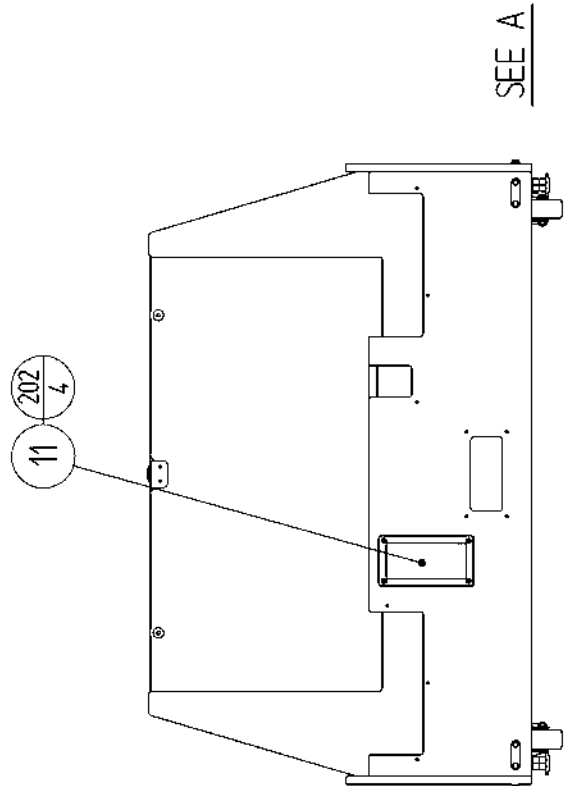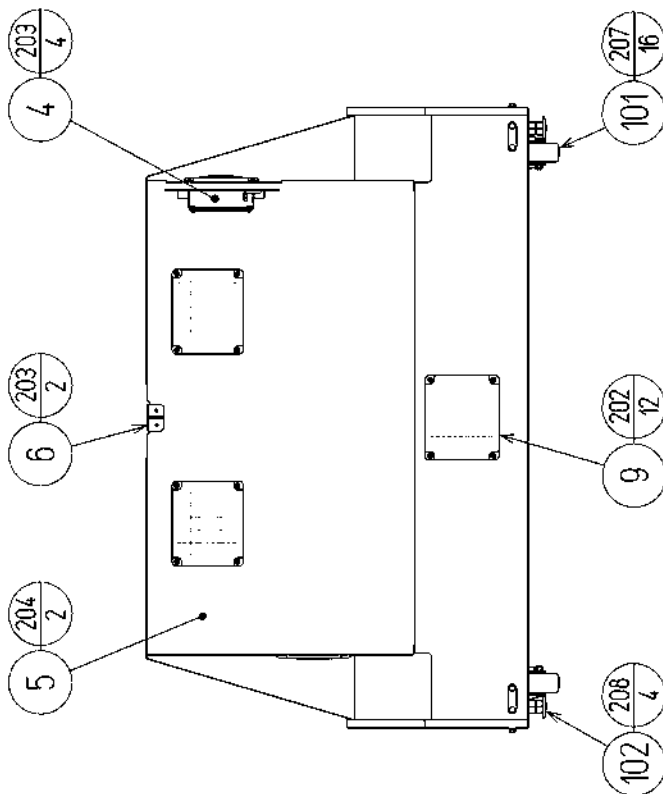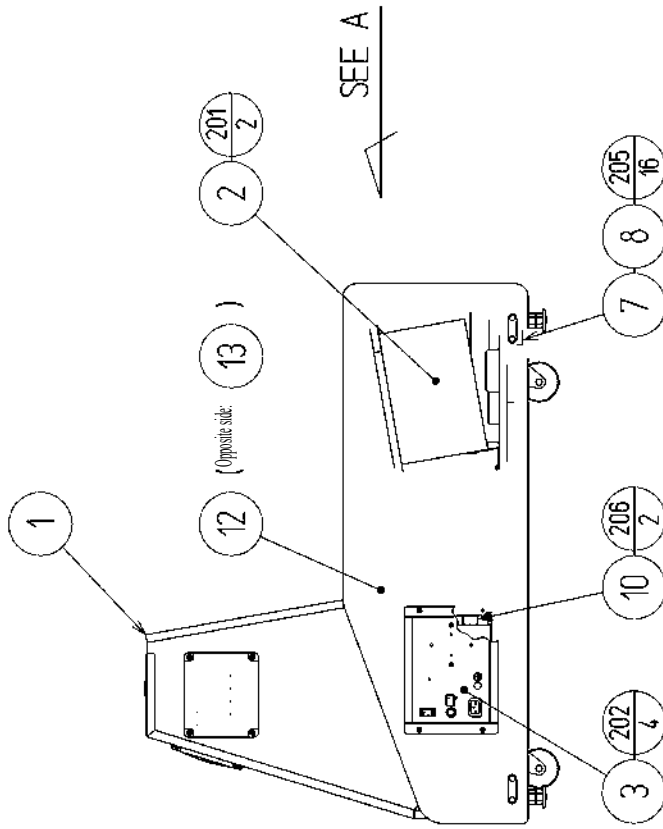
⑥ ASSY WOOFER (SSF-1030)
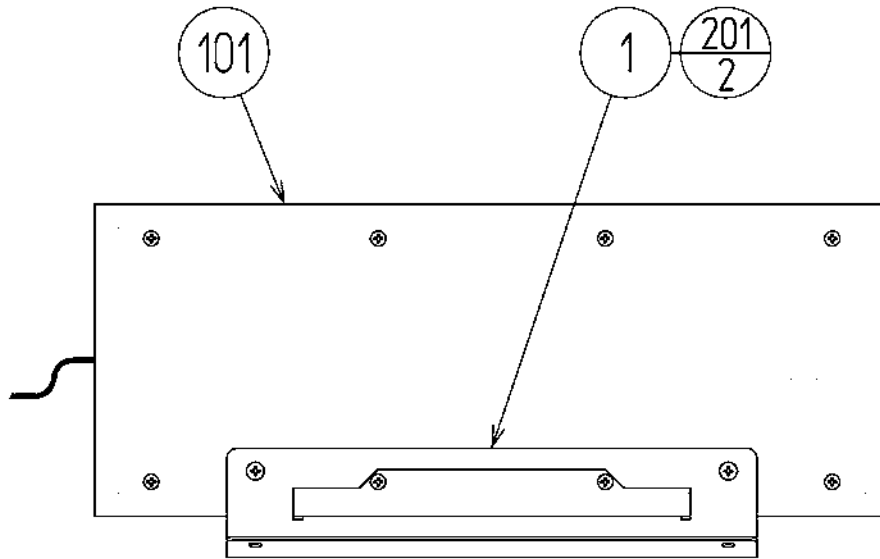


| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|----------|-------------|------|
| 1 | SSF-1031 | WOOFER BRKT | |
| 101 | 130-5097 | SPEAKER BOX SUPER WOOFER | |
| 102 | 209-0023 | CONN CLOSED END | |
| 201 | 011-T03512 | TAP SCR TH 3.5×12 | |
| 301 | SSF-60029 | WH WOOFER | |

133
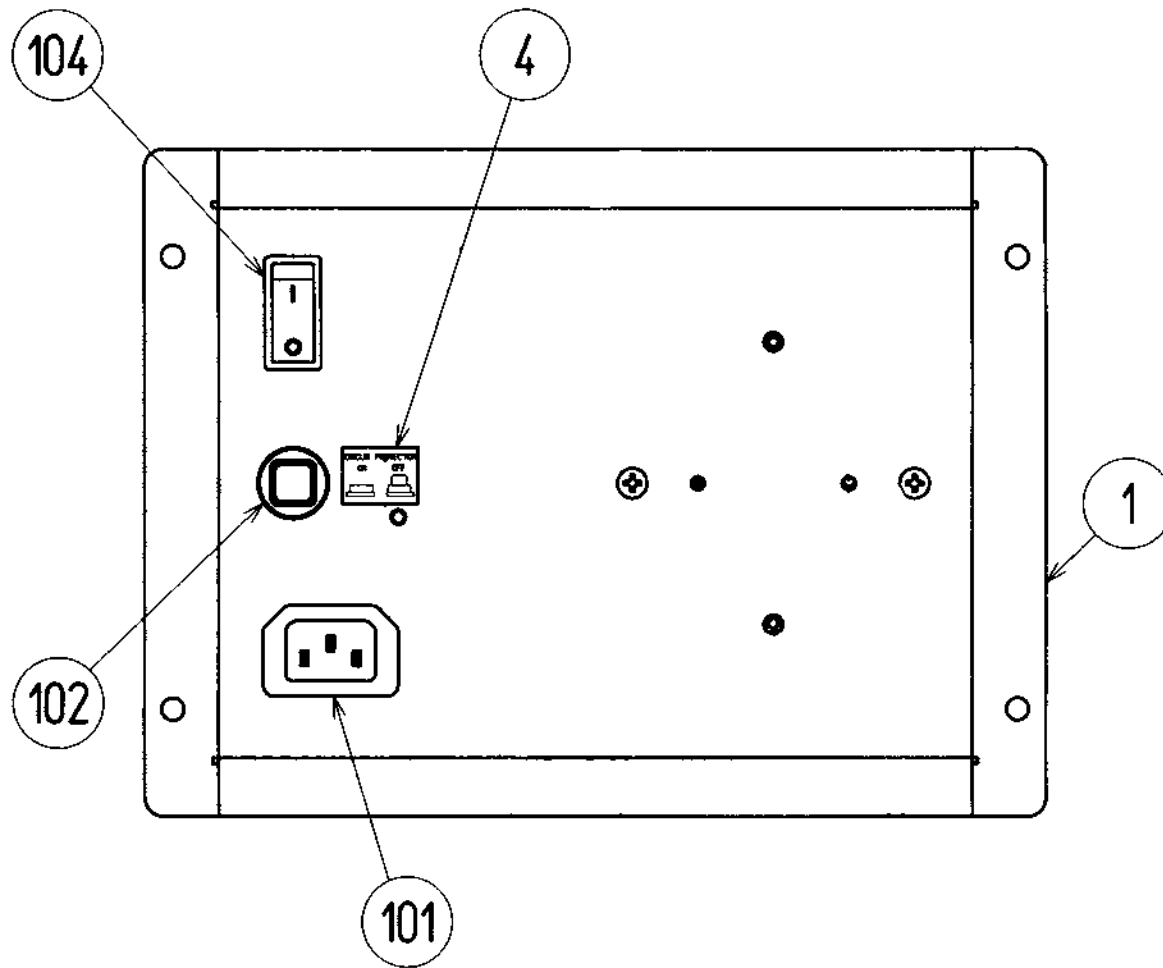
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|----------|-------------|------|
| 1 | JBA-1031 | AC BRKT | |
| 4 | 421-7468-01 | STICKER C.P W/PIC | |
| 101 | 214-0202 | AC INLET PANEL TYPE | |
| 102 | 512-5046-8000 | C.P 8000MA CE UL | <AC 110-120V Area> |
| | 512-5046-5000 | C.P 5000MA CE UL | <AC 220-240V Area> |
| 104 | 509-5453-91-V-B | SW ROCKER J8 V-B | |

⑧ FAN UNIT (ATR-1060)

Connector
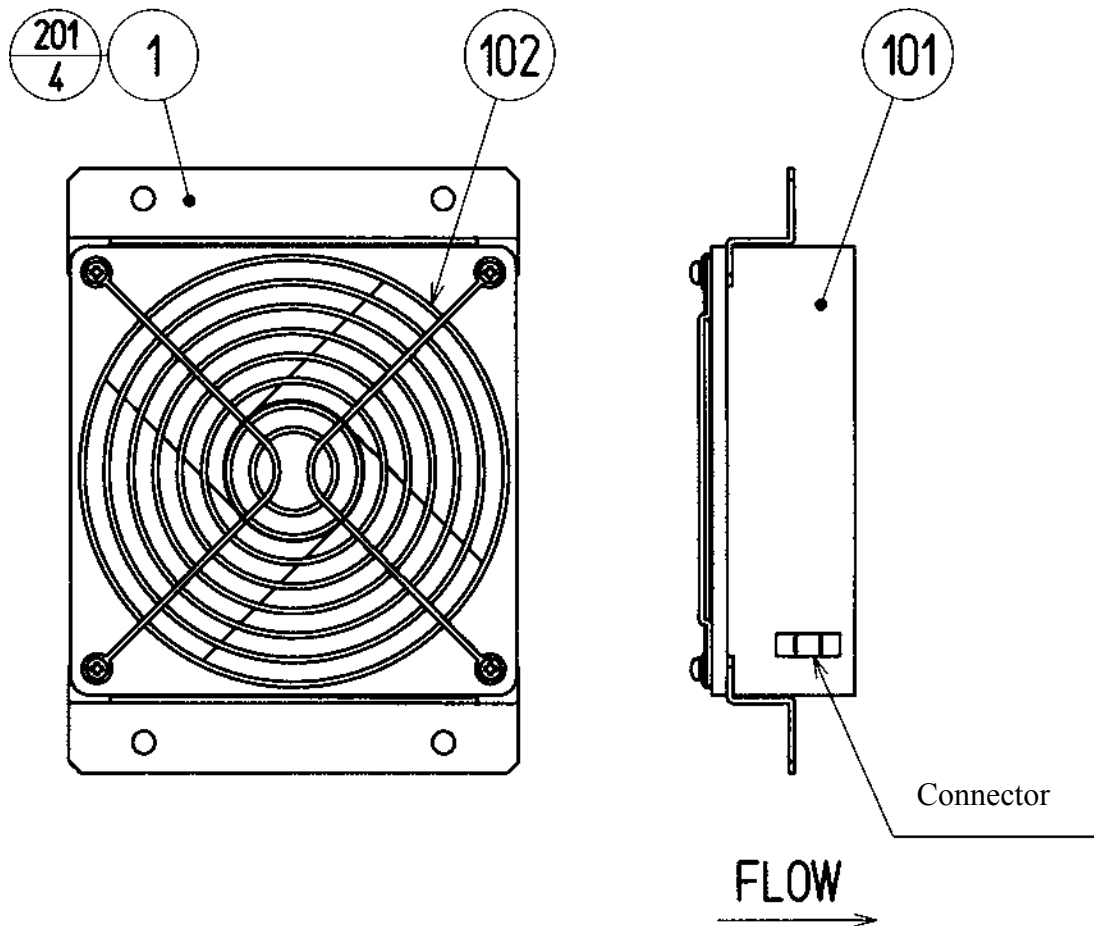
FLOW

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|----------|-------------|------|
| 1 | ATR-1061 | FAN BRKT | |
| 101 | 260-0011-02 | AXIAL FLOW FAN AC100V 50-60HZ | |
| 102 | 601-8543 | FAN GUARD | |
| 201 | 000-P00312-W | M SCR PH W/FS M3×12 | |

⑨ ASSY BACK DOOR (ATR-1070)
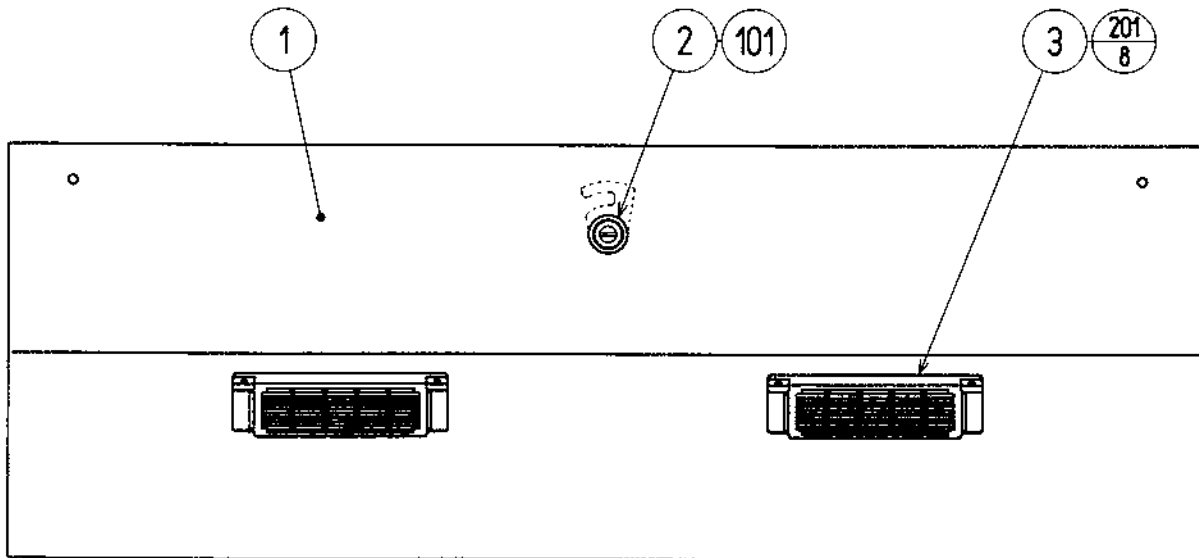
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | ATR-1071 | BACK DOOR | |
| 2 | TH-1015 | LOCKING TONGUE | |
| 3 | 253-5460-01 | AIR VENT BLACK | |
| 101 | 220-5575 | CAM LOCK MASTER W/O KEY | |
| 201 | 000-T00408-0B | M SCR TH BLK M4×8 | |

⑩ ASSY WIRE FRONT DC (SSF-6002)

This is comprised of the following wire harnesses. ASSY drawing is not available.

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 101 | 601-0460 | PLASTIC TIE BELT 100 MM | |
| 301 | SSF-60016 | WH EXT WOOFER | |
| 302 | SSF-60023 | WH EXT SOUND FRONT | |
| 303 | SSF-60024 | WH EXT TOWER FRONT | |
| 304 | SSF-60025 | WH EXT SW FRONT | |
| 305 | SSF-60026 | WH EXT LAMP FRONT | |
| 306 | SSF-60027 | WH EXT BRAKE FRONT | |
| 307 | SSF-60028 | WH EXT VR FRONT | |
| 308 | 600-7009-2500 | ASSY RGB CA D-SUB 15P 2500MM | |

Note: Do not wire across the diagonal lines.
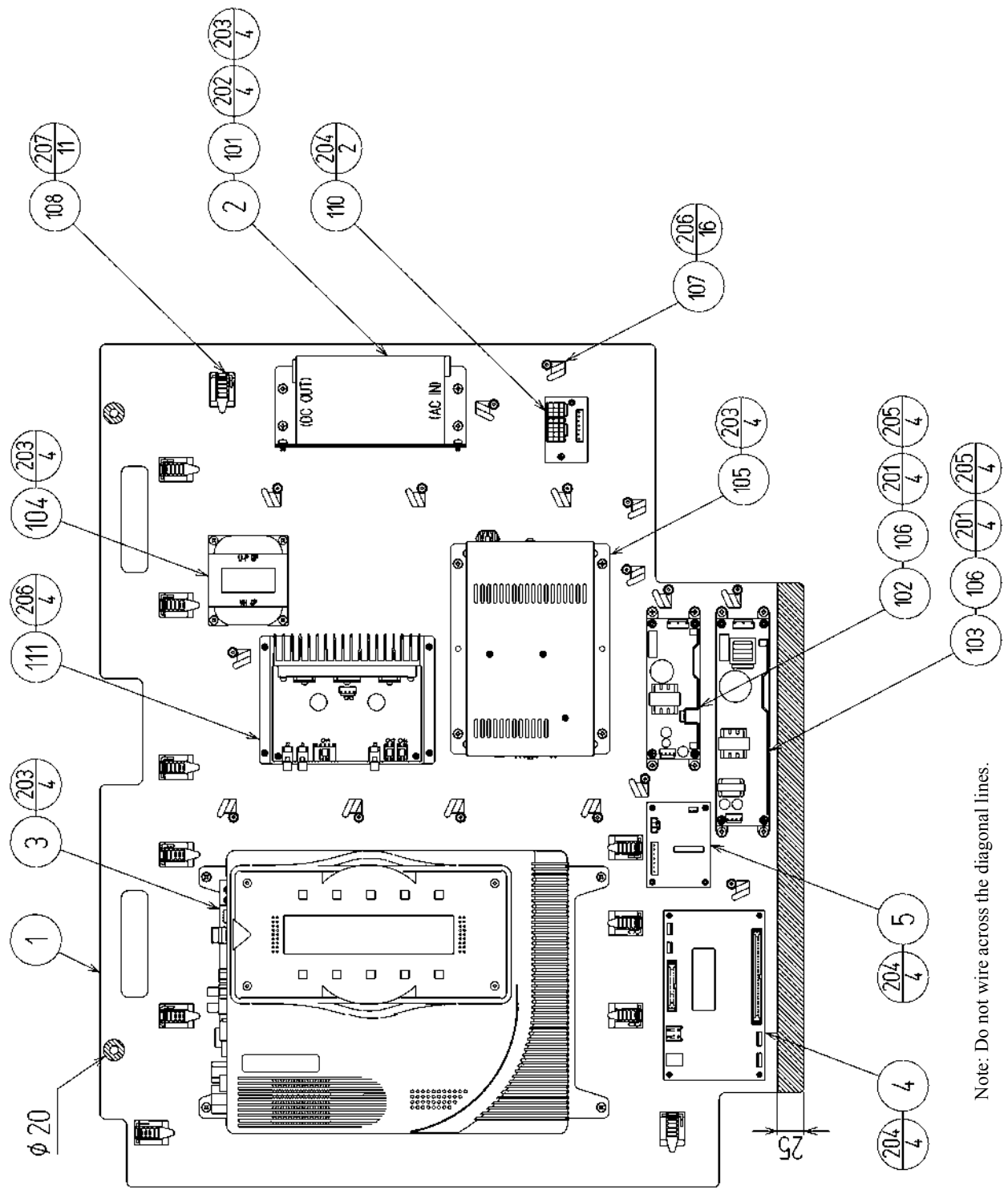
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|----------|-------------|------|
| 1 | SSF-4001 | MAIN BD BASE | |
| 2 | APC-4002 | SW REGU BRKT | |
| 3 | 840-0095D-01 | ASSY CASE NAT SSF USA | \<USA\> |
| 4 | 837-13551-92 | I/O CONTROL BD FOR JVS | |
| 5 | 839-1073-03 | SSR BD 1 DC 2A | |
| | | | |
| 101 | 400-5397-01 | SW REGU FOR JVS VA | |
| 102 | 400-5421-03024 | SW REGU LCA30S-24 | |
| 103 | 400-5421-05012 | SW REGU LCA50S-12 | |
| 104 | 560-5407 | AUDIO XFMR 100V 17V2.1AX2 | |
| 105 | 610-0609 | LOWPASS AMP 4OHM 30W | |
| 106 | 601-7467 | L-LOCK BK | |
| 107 | / | | |
| 108 | / | | |
| 109 | / | | |
| 110 | 838-11856-UL | CONNECT BD UL | |
| 111 | 838-13616 | AUDIO POWER AMP 2CH | |
| | | | |
| 201 | 000-P00308-W | M SCR PH W/FS M3×8 | |
| 202 | 000-P00408-W | M SCR PH W/FS M4×8 | |
| 203 | 000-P00416-W | M SCR PH W/FS M4×16 | |
| 204 | 011-P00325 | TAP SCR PH 3×25 | |
| 205 | 011-T03516 | TAP SCR TH 3.5×16 | |
| 206 | 011-T03512 | TAP SCR TH 3.5×12 | |
| 207 | 011-F00312 | TAP SCR #1 FH 3×12 | |
| | | | |
| 301 | 600-7141-100 | CABLE JVS TYPE A-B 100CM | |
| 302 | 600-7159-070 | WIRE HARN JVS PWR 070CM | |
| 303 | ATR-60004 | WH EXT DC MAIN BD | |
| 304 | ATR-60012 | WH DC24V | |
| 305 | SSF-60004 | WH CONN BD IN | |
| 306 | SSF-60005 | WH CONN BD 9P | |
| 307 | SSF-60006 | WH CONN BD 15P | |
| 308 | SSF-60007 | WH PWR AMP | |
| 309 | SSF-60008 | WH AUDIO | |
| 310 | SSF-60009 | WH AUDIO CENTER | |
| 311 | SSF-60010 | WH LOWPASS WOOFER | |
| 312 | SSF-60011 | WH I/O BD | |
| 313 | SSF-60012 | WH I/O BD A/D | |
| 314 | SSF-60013 | WH SSR BD BRAKE | |

⑫ ASSY XFMR (SSF-4100)
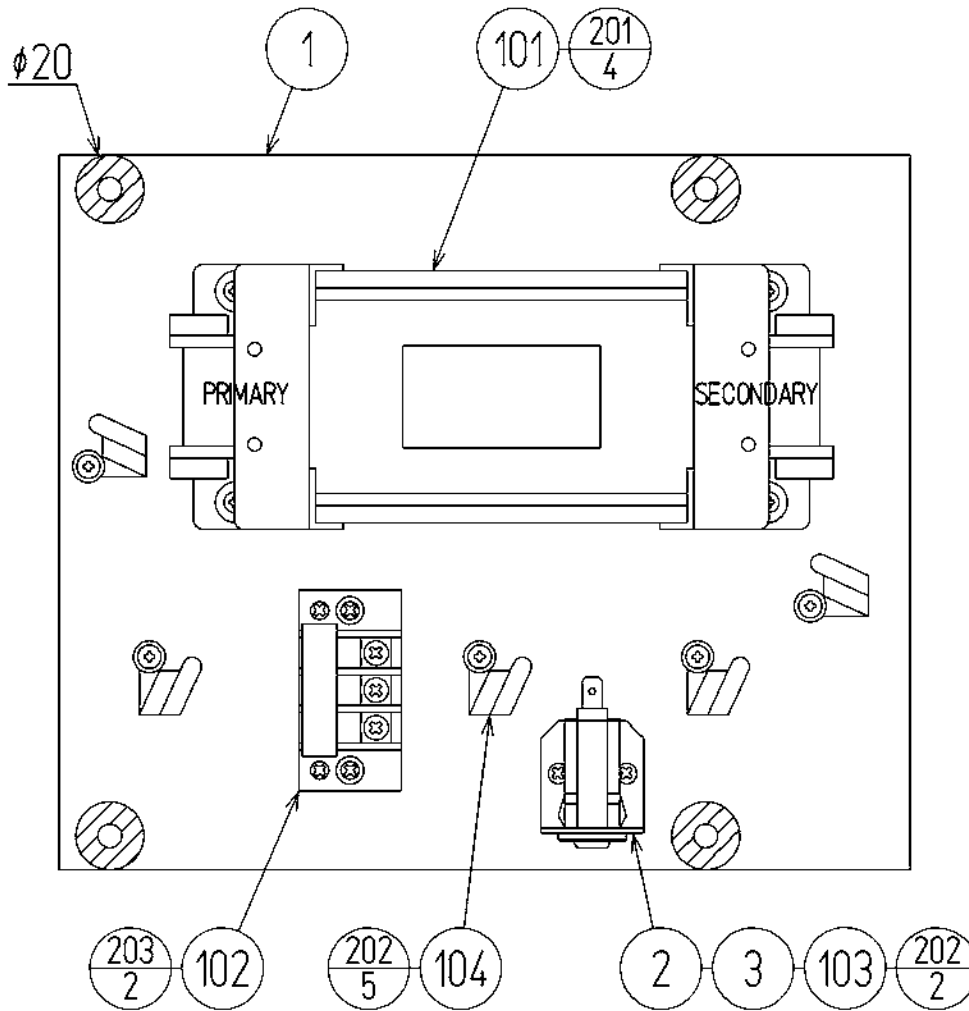


Note: Do not wire across the diagonal lines.

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | SSF-4101 | XFMR BASE | |
| 2 | NCR-4202 | C.P.BRKT | |
| 3 | 421-7468-01 | STICKER C.P W/PIC | |
| | | | |
| 101 | 560-5448-V | XFMR 100-120V 100V10A | <AC 100-120V Area> |
| 102 | 117-5225 | TERMINAL 3P 20A | |
| 103 | 512-5046-8000 | C.P 8000MA CE UL | |
| | | | |
| 201 | 000-P00516-W | M SCR PH W/FS M5×16 | |
| 202 | 011-T03512 | TAP SCR TH 3.5×12 | |
| 203 | 011-T00316 | TAP SCR TH 3×16 | |
| | | | |
| 301 | SSF-60002 | WH XFMR OUT | |
| 302 | SSF-60003 | WH AC100V OUT | |

(13) ASSY PTV (SSF-1200)
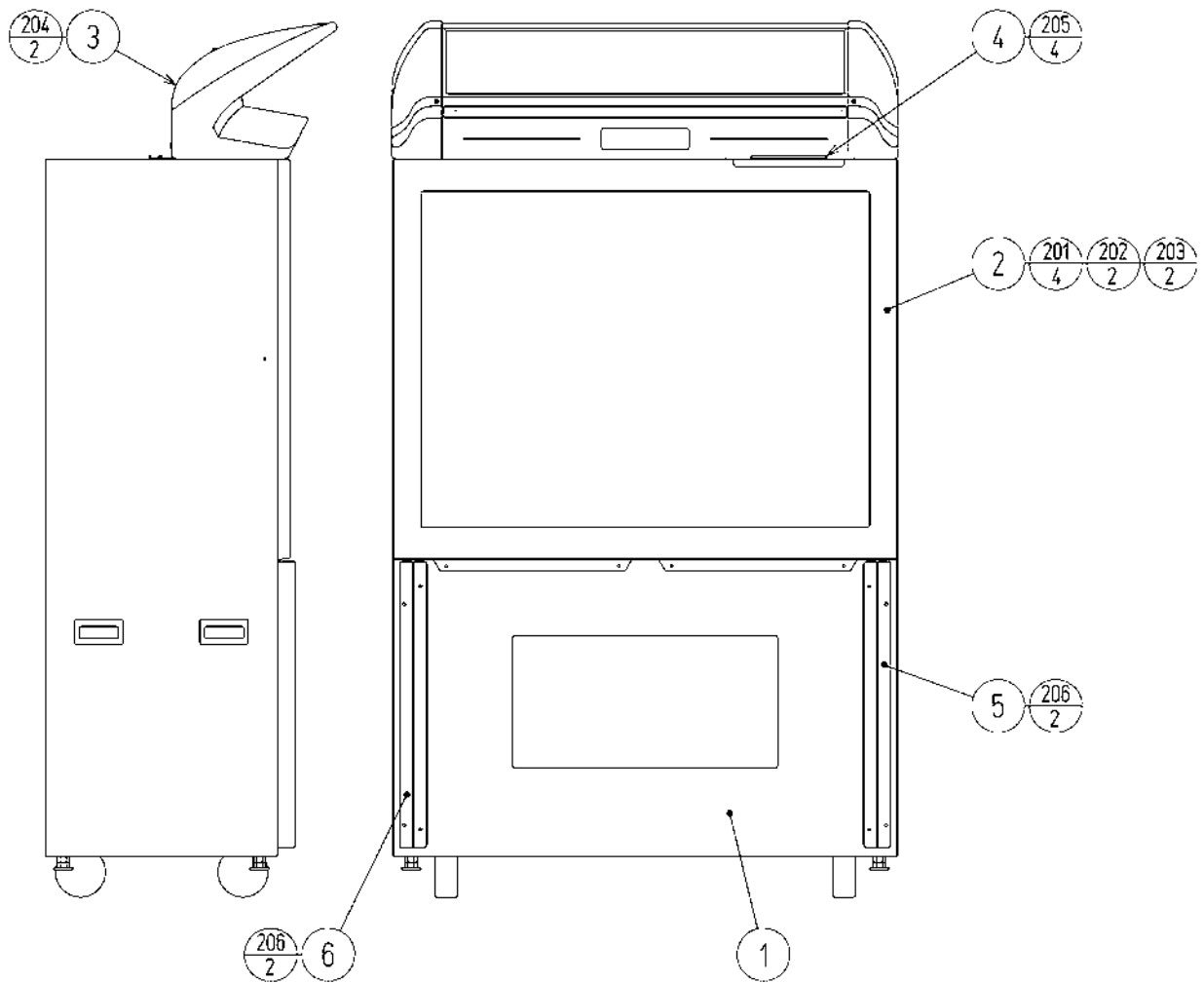


| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | SSF-1210 | PTV W/STICKER SSF | |
| 2 | MGL-1150 | ASSY MASK | |
| 3 | SSF-1250 | ASSY BILLBOARD | |
| 4 | RAL-0501 | MASK HOLDER | |
| 5 | DYN-0501 | PANEL MOUNT BRKT L | |
| 6 | DYN-0502 | PANEL MOUNT BRKT R | |
| | | | |
| 201 | 000-P00520-W | M SCR PH W/FS M5×20 | |
| 202 | 000-T00525-0C | M SCR TH CRM M5×25 | |
| 203 | 068-552016-0C | FLT WSHR CRM 5.5-20×1.6 | |
| 204 | 000-P00516-WB | M SCR PH W/FS BLK M5×16 | |
| 205 | 000-F00412 | M SCR FH M4×12 | |
| 206 | 000-P00516-W | M SCR PH W/FS M5×16 | |

*www.seuservice.com*
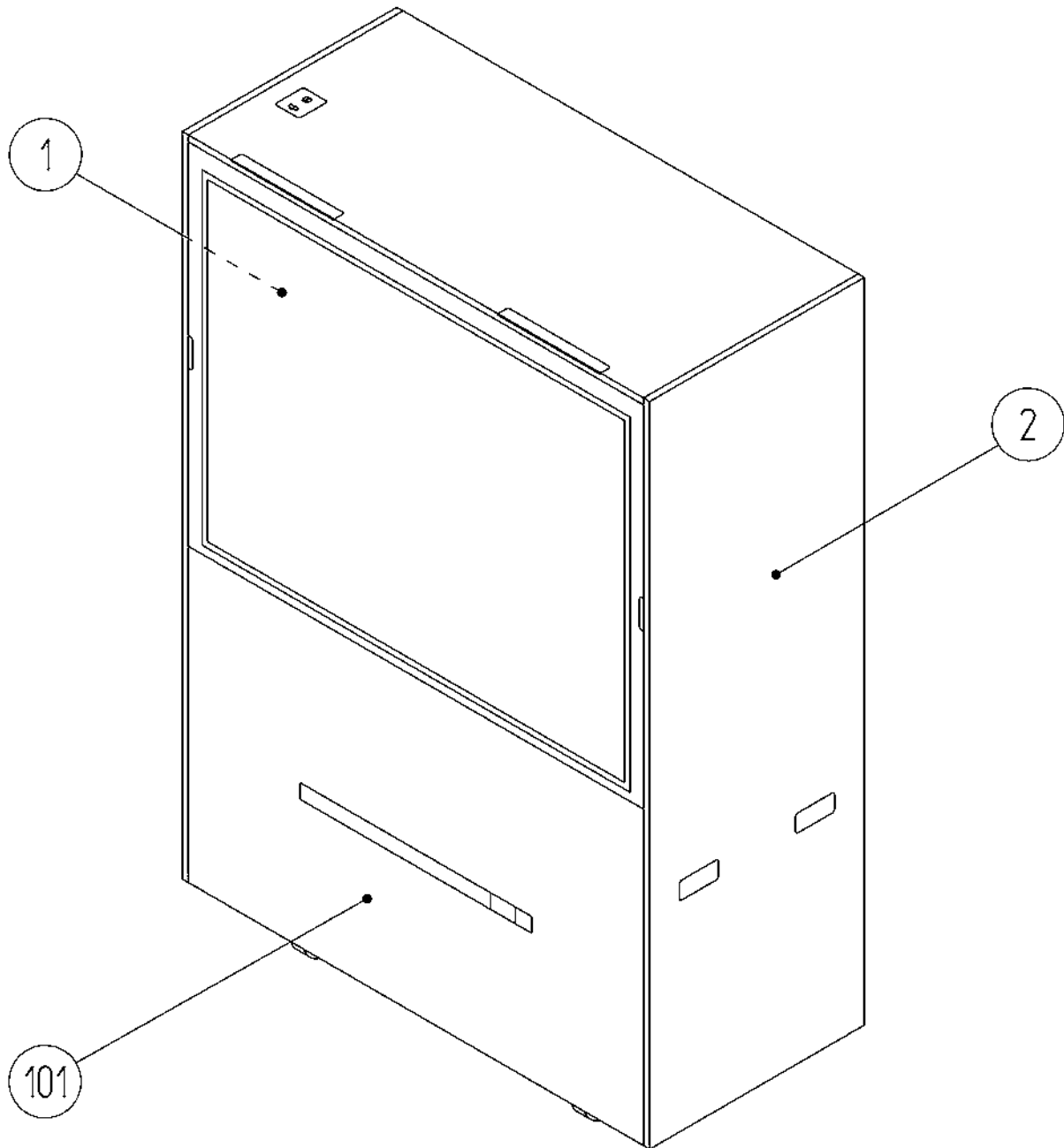
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|----------|-------------|------|
| 1 | SSF-1211 | STICKER PTV SIDE L | |
| 2 | SSF-1212 | STICKER PTV SIDE R | |
| 101 | 200-5788-31 | PROJECTION DSPL T 50TYPE 31K | |
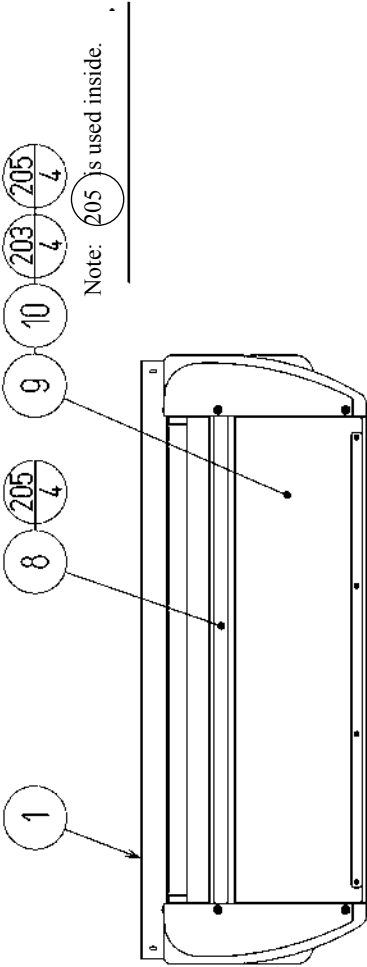
Note: 205 is used inside.
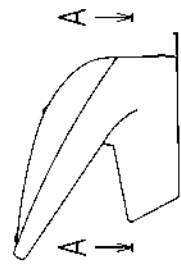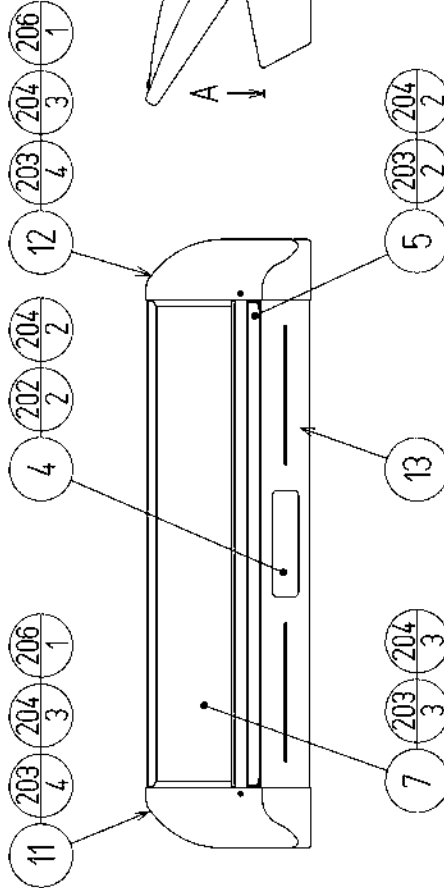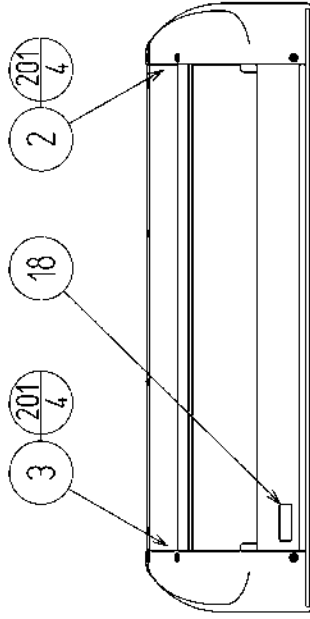
Note: The printed part is the front side.

SECTION A-A
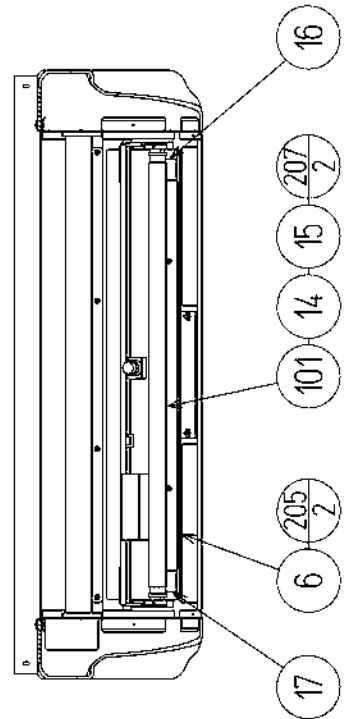
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | SSF-1251 | BILLBOARD BOX | |
| 2 | SSF-1252 | WOOD PILLAR L | |
| 3 | SSF-1253 | WOOD PILLAR R | |
| 4 | SSF-1254 | SEGA PLATE | |
| 5 | SSF-1255 | BILLBOARD PLATE | |
| 6 | SSF-1256 | BOX REFLECTOR | |
| 7 | SSF-1257 | BILLBOARD HALF MIRROR | |
| 8 | SSF-1258 | BOX LIB | |
| 9 | SSF-1259 | MIRROR SHEET | |
| 10 | SSF-1260 | WSHR PLATE | |
| 11 | SSF-1261 | BILLBOARD COVER L | |
| 12 | SSF-1262 | BILLBOARD COVER R | |
| 13 | SSF-1263 | COLOR PLATE | |
| 14 | LOCAL PURCHASE | S/A FLOURESCENT FIXTURE 15" | |
| | | Locally supplied | <USA> |
| 15 | 421-7501-18 | STICKER FL14W | <Others> |
| | | Locally supplied | <USA> |
| 16 | 440-WS0141-EG | STICKER W HIGH TEMP S ENG | |
| 17 | 440-WS0142-EG | STICKER W POWER OFF S ENG | |
| | | | |
| 101 | LOCAL PURCHASE | FLOURESCENT LAMP WH 15"14W COOL WHITE | |
| | | | |
| 201 | 000-T00416-0C | M SCR TH CRM M4×16 | |
| 202 | 050-F00400 | FLG NUT M4 | |
| 203 | 000-T00410-0B | M SCR TH BLK M4×10 | |
| 204 | 068-441616-0B | FLT WSHR BLK 4.4-16×1.6 | |
| 205 | 000-P00408-WB | M SCR PH W/FS BLK M4×8 | |
| 206 | 000-F00408 | M SCR FH M4×8 | |
| 207 | 000-P00430-W | M SCR PH W/FS M4×30 | <Others> |
| | | Locally supplied | <USA> |
| | | | |
| 301 | SSF-60054 | WH FL | |

(16) ASSY MASK (MGL-1150)
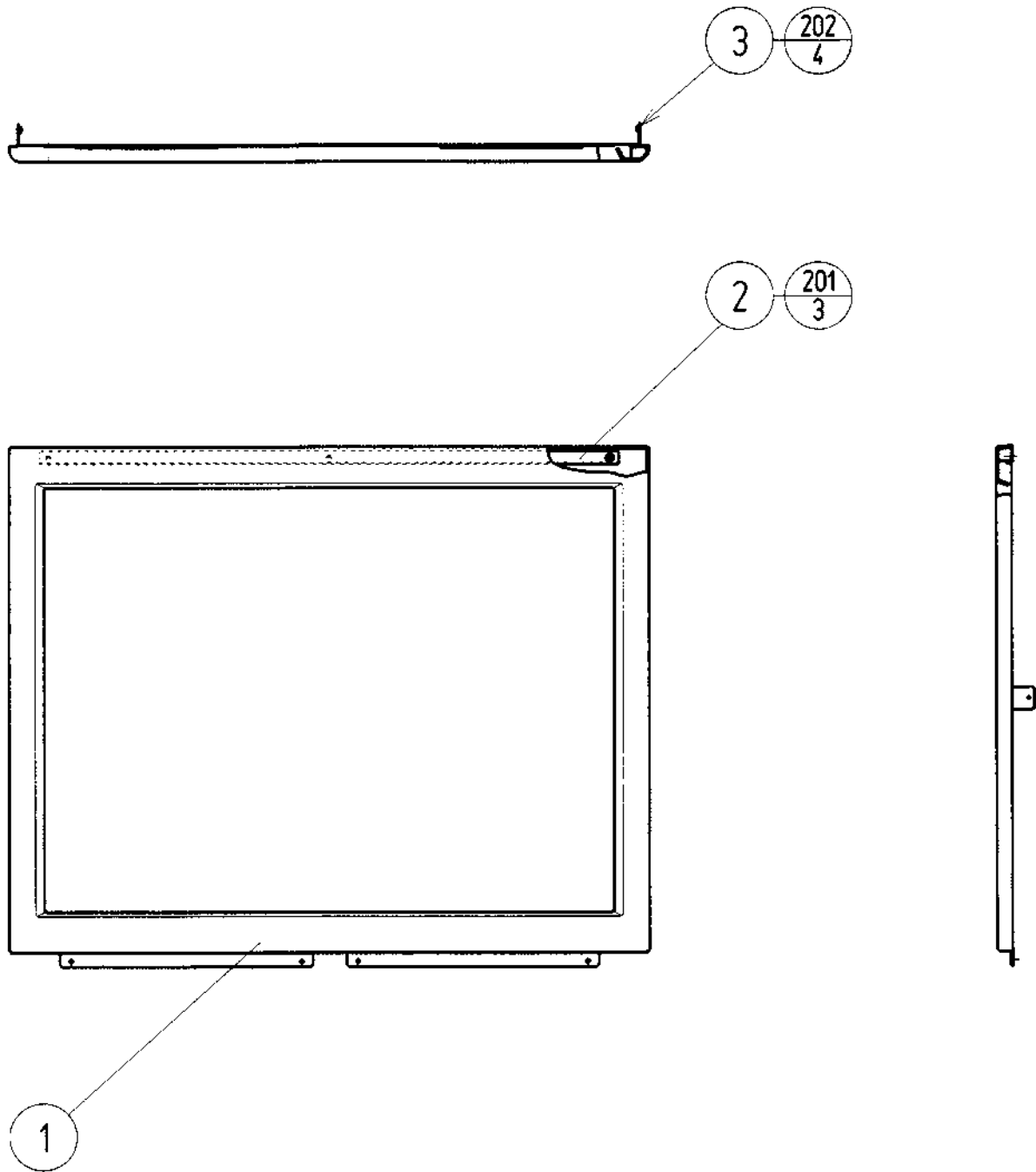
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|----------|-------------|------|
| 1 | MGL-1102 | TV MASK | |
| 2 | MGL-1151 | SLIT PLATE | |
| 3 | MGL-1152 | MASK SIDE HOLDER | |
| | | | |
| 201 | 012-F00408-0B | TAP SCR FH BLK 4×8 | |
| 202 | 000-F00410 | M SCR FH M4×10 | |

145
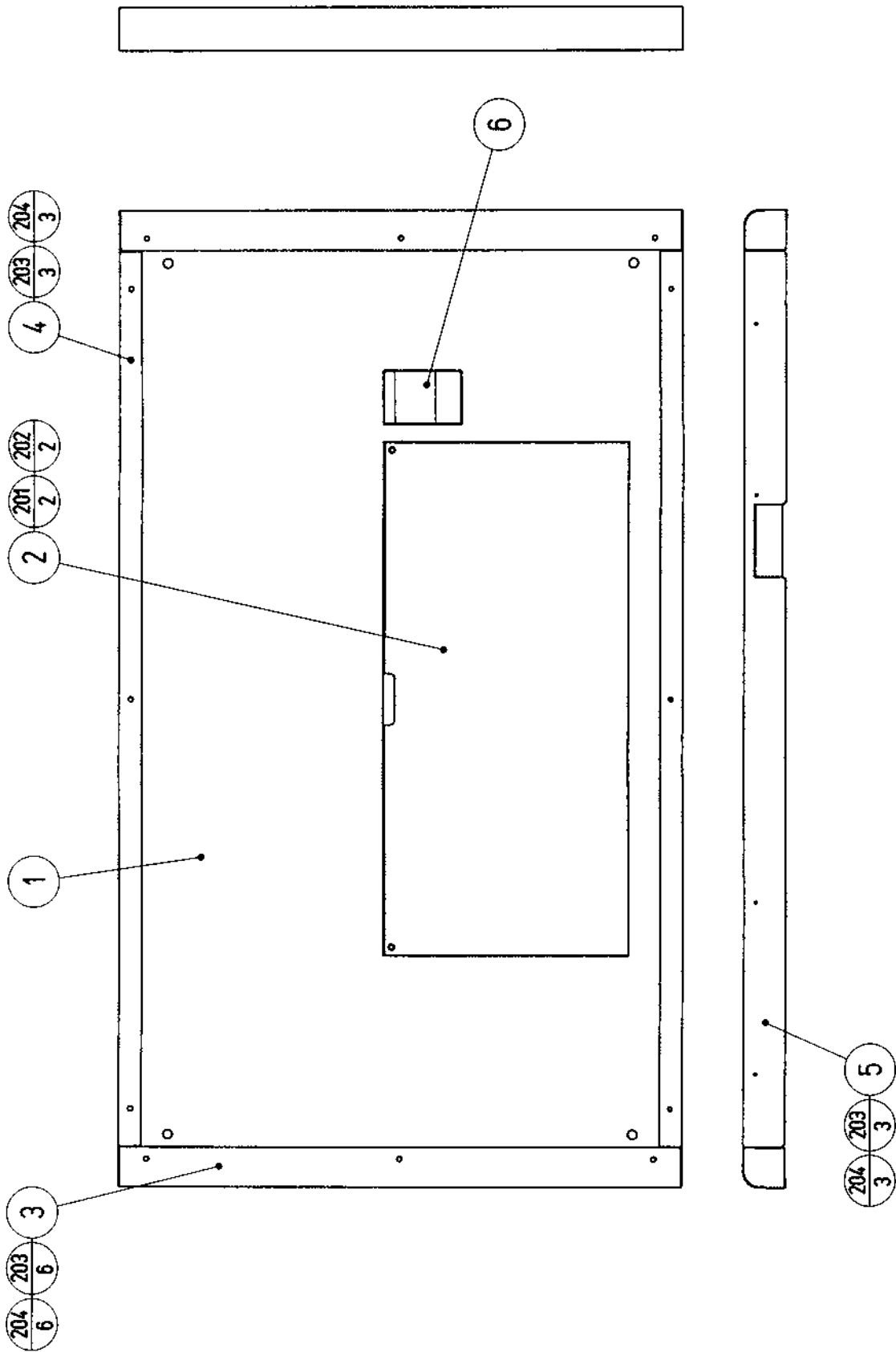
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|----------|-------------|------|
| 1 | ATR-1301 | FRONT PANEL | |
| 2 | ATR-1302 | FRONT LID | |
| 3 | EZT-0603 | SIDE BRKT | |
| 4 | EZT-0604 | BRKT UPPER | |
| 5 | ATR-1303 | BRKT LOWER | |
| 6 | 440-WS0002XEG | STICKER W POWER OFF ENG | |
| | | | |
| 201 | 000-T00420-0B | M SCR TH BLK M4×20 | |
| 202 | 068-441616-0B | FLT WSHR BLK 4.4-16×1.6 | |
| 203 | 050-F00500 | FLG NUT M5 | |
| 204 | 068-552016 | FLT WSHR 5.5-20 ×1.6 | |
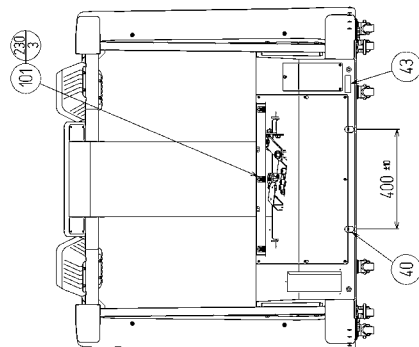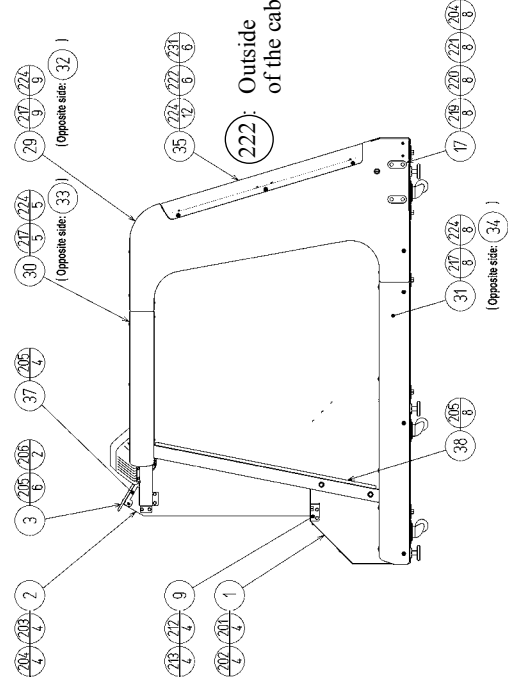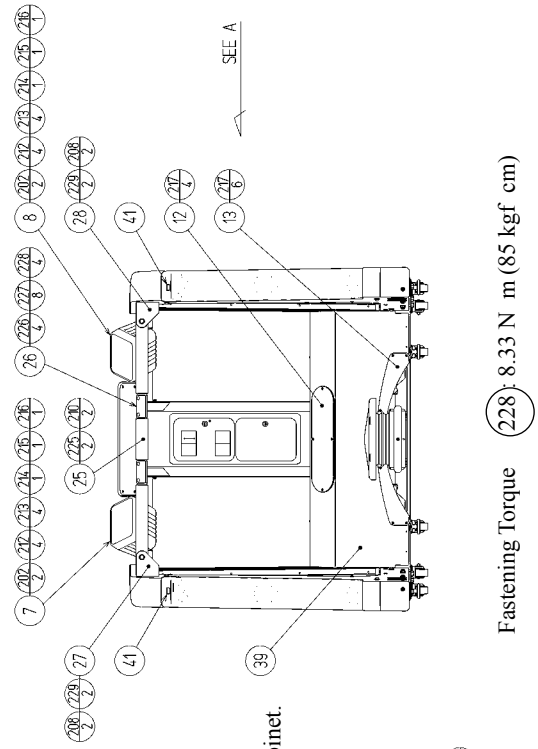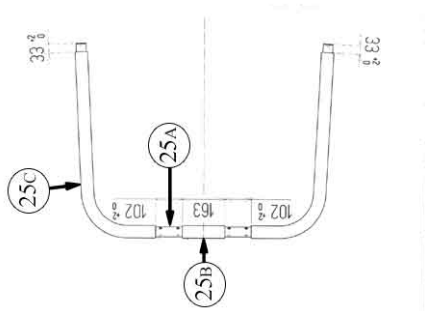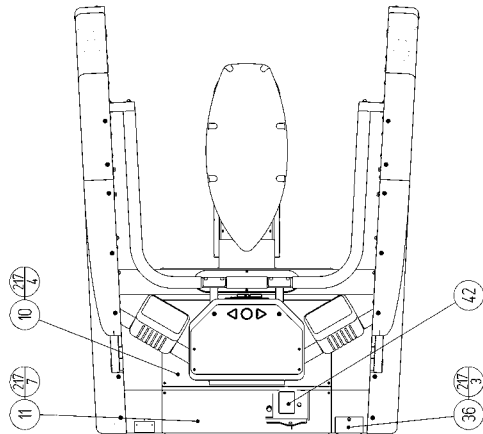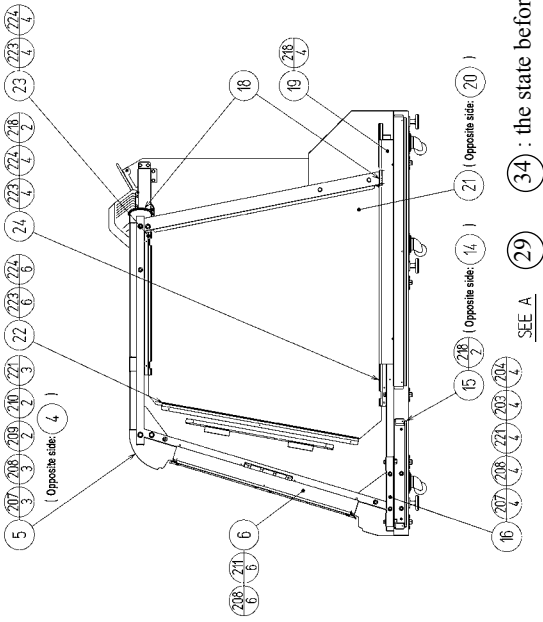
Fastening Torque ㉒㉘ : 8.33 N·m (85 kgf·cm)

㉞ : the state before attachment.

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | SSF-3100 | ASSY REAR BASE | |
| 2 | / | COIN TOWER (HAPP CONTROLS) | |
| 3 | SSF-3580 | ASSY CONTROL PANEL | |
| 4 | SSF-3600 | ASSY SIDE WALL L | |
| 5 | SSF-3650 | ASSY SIDE WALL R | |
| 6 | / | LAMP UNIT | |
| 7 | SSF-3700 | ASSY SPEAKER L | |
| 8 | SSF-3750 | ASSY SPEAKER R | |
| 9 | SSF-3001 | CABINET LIB | |
| 10 | SSF-3002 | TOWER BASE | |
| 11 | SSF-3003 | BACK DOOR | |
| 12 | SSF-3004 | VOLUME LID | |
| 13 | SSF-3005 | SWING ARM PLATE | |
| 14 | SSF-3006 | FRAME SUPPORT BRKT A L | |
| 15 | SSF-3007 | FRAME SUPPORT BRKT A R | |
| 16 | SSF-3008 | FRAME SUPPORT BRKT B | |
| 17 | SSF-3009 | WALL SUPPORT PLATE | |
| 18 | SSF-3010 | CUSHION SPONGE | |
| 19 | SSF-3011 | LOWER COVER SUPPORT | |
| 20 | SSF-3012 | SIDE WINDOW L | |
| 21 | SSF-3013 | SIDE WINDOW R | |
| 22 | SSF-3014 | INNER SASH A | |
| 23 | SSF-3015 | INNER SASH B | |
| 24 | SSF-3016 | INNER SASH C | |
| 25 | SSF-3017 | PIPE FRAME | |
| 25A | SSF-3017-A | PIPE FRAME BLANK | |
| 25B | SSF-3017-B | CUSHION TUBE CENTER | |
| 25C | SSF-3017-C | CUSHION TUBE SIDE | |
| 26 | ATR-3008 | PIPE SUPPORT BRKT | |
| 27 | SSF-3018 | PIPE HOLDER L | |
| 28 | SSF-3019 | PIPE HOLDER R | |
| 29 | SSF-3020 | SIDE COVER L A | |
| 30 | SSF-3021 | SIDE COVER L B | |
| 31 | SSF-3022 | SIDE COVER L C | |
| 32 | SSF-3023 | SIDE COVER R A | |
| 33 | SSF-3024 | SIDE COVER R B | |
| 34 | SSF-3025 | SIDE COVER R C | |
| 35 | SSF-3026 | LAMP COVER | |
| 36 | SSF-3027 | WIRE LID | |
| 37 | SSF-3028 | CONTROL PANEL HOLDER | |
| 38 | SSF-3029 | WINDOW OUTER SASH | |
| 39 | SSF-3030 | STICKER BOX LOWER | |
| 40 | 421-11416 | STICKER CAUTION FORK | |
| 41 | 440-WS0166-EG | STICKER W HI VOLT M ENG | |
| 42 | 440-WS0047-EG | STICKER W FINGER GEAR ENG | |
| | | | |
| 101 | 280-5009-01 | CORD CLAMP 21 | |

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 201 | 030-000630-SB | HEX BLT BLK W/S M6×30 | |
| 202 | 068-652016-0B | FLT WSHR BLK 6.5-20×1.6 | |
| 203 | 030-000820-S | HEX BLT W/S M8×20 | |
| 204 | 060-F00800 | FLT WSHR M8 | |
| 205 | 000-T00416-0C | M SCR TH CRM M4×16 | |
| 206 | 068-441616-0C | FLT WSHR CRM 4.4-16×1.6 | |
| 207 | FAS-300032 | HEX BLT BLK M8×110 | |
| 208 | 068-852216 | FLT WSHR 8.5-22 ×1.6 | |
| 209 | FAS-300008 | HEX BLT W/S CRM M8×50 | |
| 210 | 068-852216-0C | FLAT WSHR CRM 8.5-22×1.6 | |
| 211 | 030-000845-S | HEX BLT W/S M8×45 | |
| 212 | 030-000616-SB | HEX BLT W/S BLK M6×16 | |
| 213 | 060-F00600-0B | FLT WSHR BLK M6 | |
| 214 | FAS-300029 | HEX BLT W/S M6×60 | |
| 215 | FAS-300033 | HEX BLT M6×80 | |
| 216 | 060-S00600 | SPR WSHR M6 | |
| 217 | 000-T00410-0B | M SCR TH BLK M4×10 | |
| 218 | 000-P00416-W | M SCR PH W/FS M4×16 | |
| 219 | FAS-310004 | CRG BLT BLK M8×90 | |
| 220 | 050-H00800 | HEX NUT M8 | |
| 221 | 060-S00800 | SPR WSHR M8 | |
| 222 | 060-T00416-0B | M SCR TH BLK M4×16 | |
| 223 | 000-T00420-0B | M SCR TH BLK M4×20 | |
| 224 | 068-441616-0B | FLT WSHR BLK 4.4-16×1.6 | |
| 225 | 008-B00820-0C | TMP PRF SCR BH CRM M8×20 | |
| 226 | 031-000650-0C | CRG BLT CRM M6×50 | |
| 227 | 069-0140 | FLT WSHR NI M6 | |
| 228 | 059-0082 | CUP NUT TYPE 3 CRM M6 | |
| 229 | 030-000880-S | HEX BLT W/S M8×80 | |
| 230 | 000-F00312 | M SCR FH M3×12 | |
| 231 | FAS-000083 | M SCR TH BLK M4×22 | |
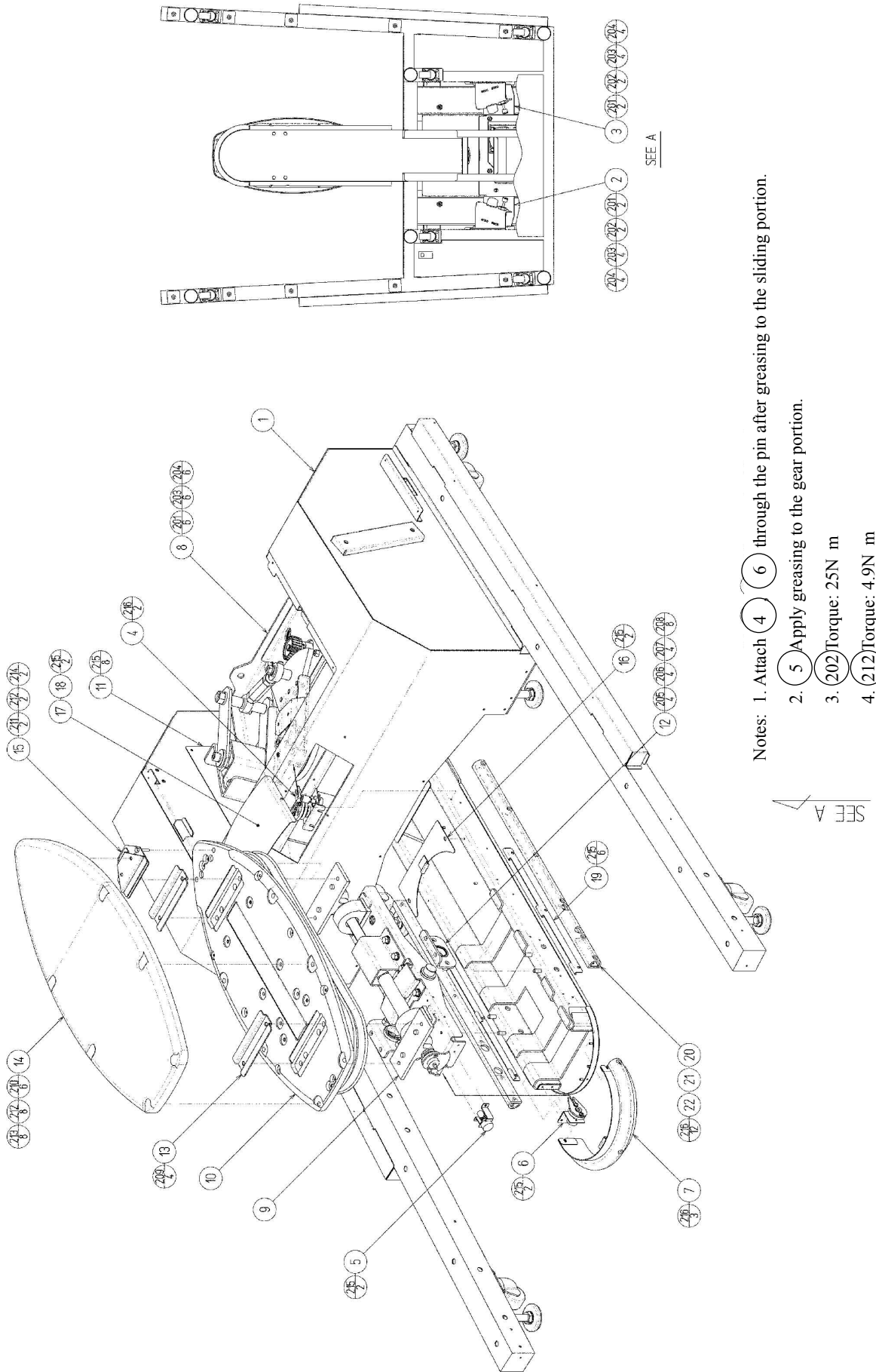
Notes: 1. Attach ④ 、 ⑥ through the pin after greasing to the sliding portion.
　　　 2. ⑤ Apply greasing to the gear portion.
　　　 3. ⑳₂ Torque: 25N・m
　　　 4. ㉑₂ Torque: 4.9N・m

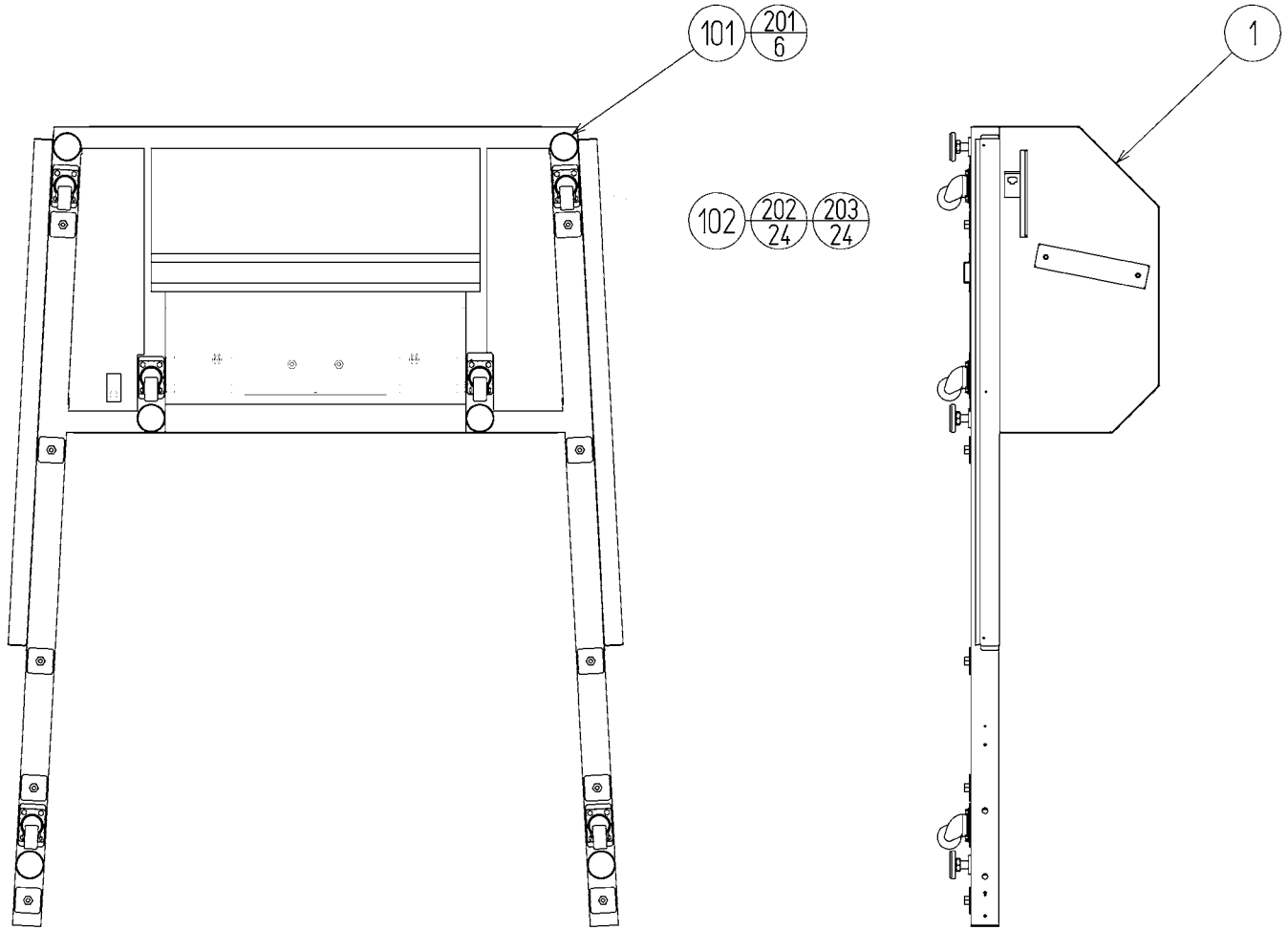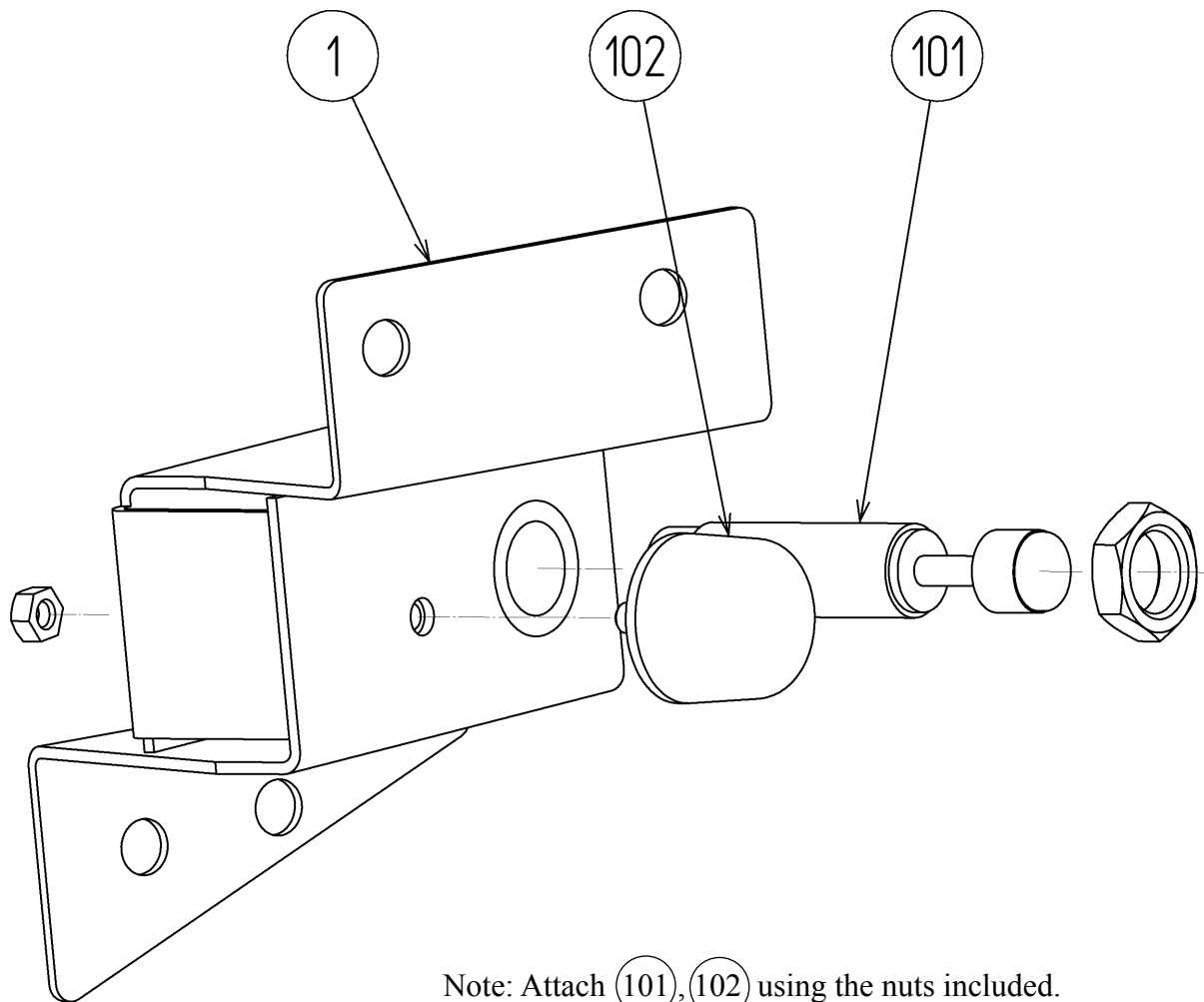| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | SSF-3101 | ASSY SUBCABI REAR | |
| 2 | SSF-3140 | ASSY SHOCK ABSORBER L | |
| 3 | SSF-3150 | ASSY SHOCK ABSORBER R | |
| 4 | SSF-3160 | SWING VR UNIT | |
| 5 | SSF-3170 | ROLL VR UNIT | |
| 6 | SSF-3180 | PITCH VR UNIT | |
| 7 | SSF-3190 | ASSY TALE COVER | |
| 8 | SSF-3200 | ASSY SWING MECHA | |
| 9 | SSF-3300 | ASSY BOARD MECHA | |
| 10 | SSF-3400 | ASSY BOARD | |
| 11 | SSF-3103 | INNER LID | |
| 12 | SSF-3104 | MECHA HANGER | |
| 13 | SSF-3105 | BOARD HOLDER | |
| 14 | SSF-3106 | BOARD COVER | |
| 15 | SSF-3107 | NOSE BRKT | |
| 16 | SSF-3108 | NOSE HOOK | |
| 17 | SSF-3109 | CAUTION LID | |
| 17A | S210-104-000 | COVER PINCH POINT (GRAND PRODUCTS) | |
| 18 | SSF-3110 | STICKER CAUTION LID | |
| 19 | SSF-3111 | BELLOWS SASH | |
| 20 | SSF-3112 | CUSHION RUBBER SIDE | |
| 21 | SSF-3113 | RUBBER PLATE | |
| 22 | SSF-3114 | RUBBER PLATE SHORT | |
| | | | |
| 101 | 280-5009-01 | CORD CLAMP 21 | |
| 102 | 280-5169 | CORD CLAMP TL-20S | |
| | | | |
| 201 | FAS-200040 | HEX SKT CAP SCR BLK OZ M12×35 | |
| 202 | FAS-200018 | HEX SKT CAP SCR BLK 0Z M12×85 | |
| 203 | 060-S01200 | SPR WSHR M12 | |
| 204 | 060-F01200 | FLT WSHR M12 | |
| 205 | 050-H00800 | HEX NUT M8 | |
| 206 | 060-S00800 | SPR WSHR M8 | |
| 207 | 030-000845-SB | HEX BLT W/S BLK M8×45 | |
| 208 | 060-F00800-0B | FLT WSHR BLK M8 | |
| 209 | 030-000830-S | HEX BLT W/S M8×30 | |
| 210 | 031-000630-0C | CRG BLT CRM M6×30 | |
| 211 | 031-000620-0C | CRG BLT CRM M6×20 | |
| 212 | 050-U00600 | U NUT M6 | |
| 213 | 068-652016 | FLT WSHR 6.5-20 ×1.6 | |
| 214 | 060-F00600 | FLT WSHR M6 | |
| 215 | 000-P00408-WB | M SCR PH W/FS BLK M4×8 | |
| 216 | 000-P00412-WB | M SCR PH W/FS BLK M4×12 | |
| 217 | 000-P00408 | M SCR PH M4×8 | |
| 218 | 060-S00400 | SPR WSHR M4 | |
| 219 | 060-F00400 | FLT WSHR M4 | |
| | | | |
| 301 | SSF-60030 | WH EXT LAMP REAR | |
| 302 | SSF-60031 | WH EXT LAMP L A | |
| 303 | SSF-60032 | WH EXT BRAKE REAR A | |
| 304 | SSF-60033 | WH EXT VR REAR | |
| 305 | SSF-60034 | WH EXT SOUND REAR | |
| 306 | SSF-60035 | WH EXT TOWER REAR | |
| 307 | SSF-60036 | WH EXT SW REAR | |
| 308 | SSF-60037 | WH EXT MAT | |

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|----------|-------------|------|
| 1 | SSF-3102 | REAR BASE FRAME | |
| 101 | 601-5882 | LEG ADJUSTER | |
| 102 | 601-6056-01 | CASTER 50 PH | |
| 201 | 050-H01600-3 | HEX NUT TYPE3 M16 | |
| 202 | 030-000620-S | HEX BLT W/S M6×20 | |
| 203 | 060-F00600 | FLT WSHR M6 | |

㉑ ASSY SHOCK ABSORBER L (SSF-3140)



Note: Attach ⑩⑴, ⑩⑵ using the nuts included.

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | SSF-3141 | STOPPER BASE L | |
| 101 | 601-11144 | SHOCK ABSORBER SSF | |
| 102 | 601-11146 | STOPPER RUBBER RI-45HD L=19.1 | Use the nuts included (and discard the spring washers). |

㉒ ASSY SHOCK ABSORBER R (SSF-3150)
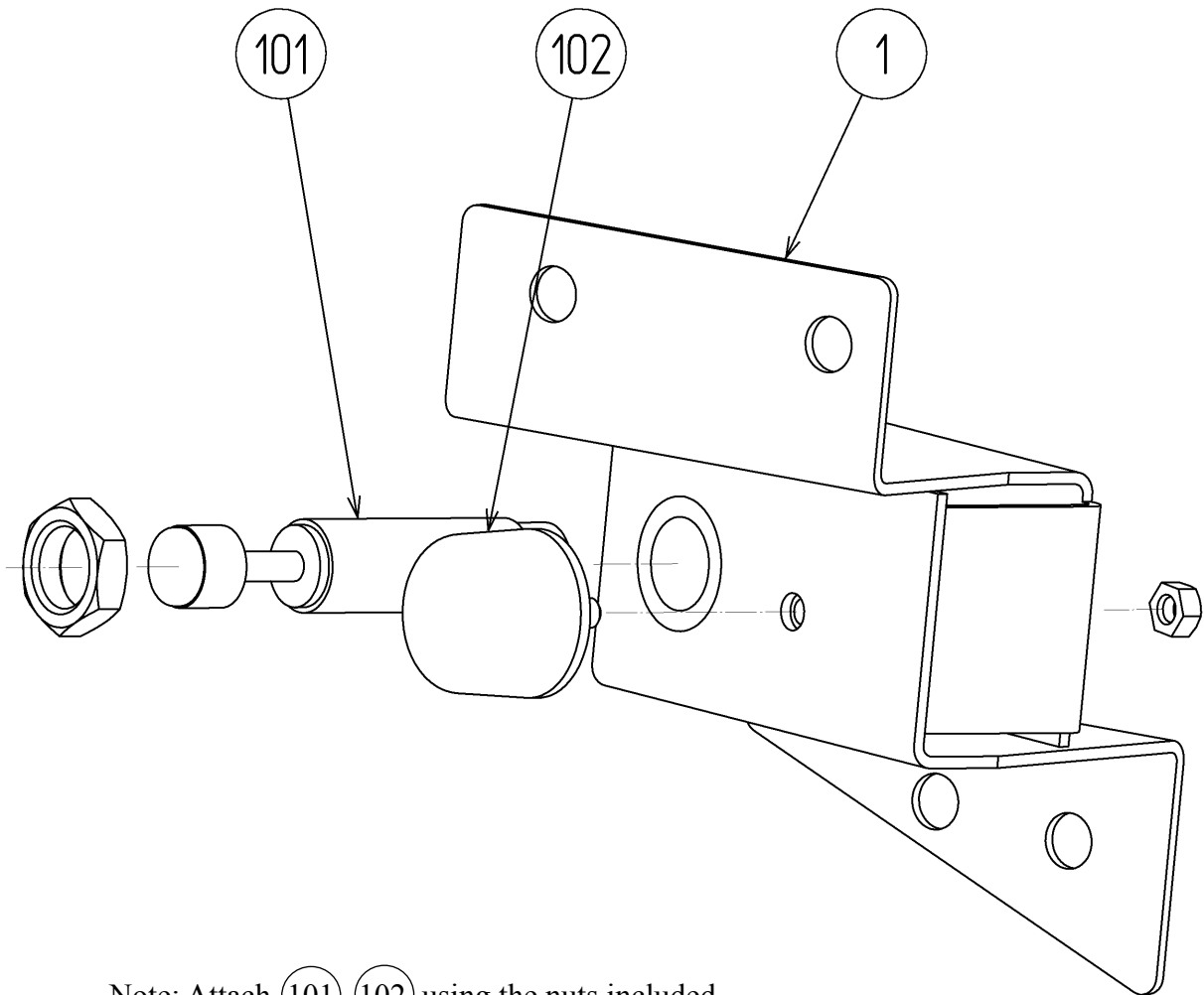


Note: Attach ⑩⑴,⑩⑵ using the nuts included.

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | SSF-3151 | STOPPER BASE R | |
| 101 | 601-11144 | SHOCK ABSORBER SSF | |
| 102 | 601-11146 | STOPPER RUBBER RI-45HD L=19.1 | Use the nuts included (and discard the spring washers). |

Note: Apply greasing to the gear portion.

⑦ D cut direction
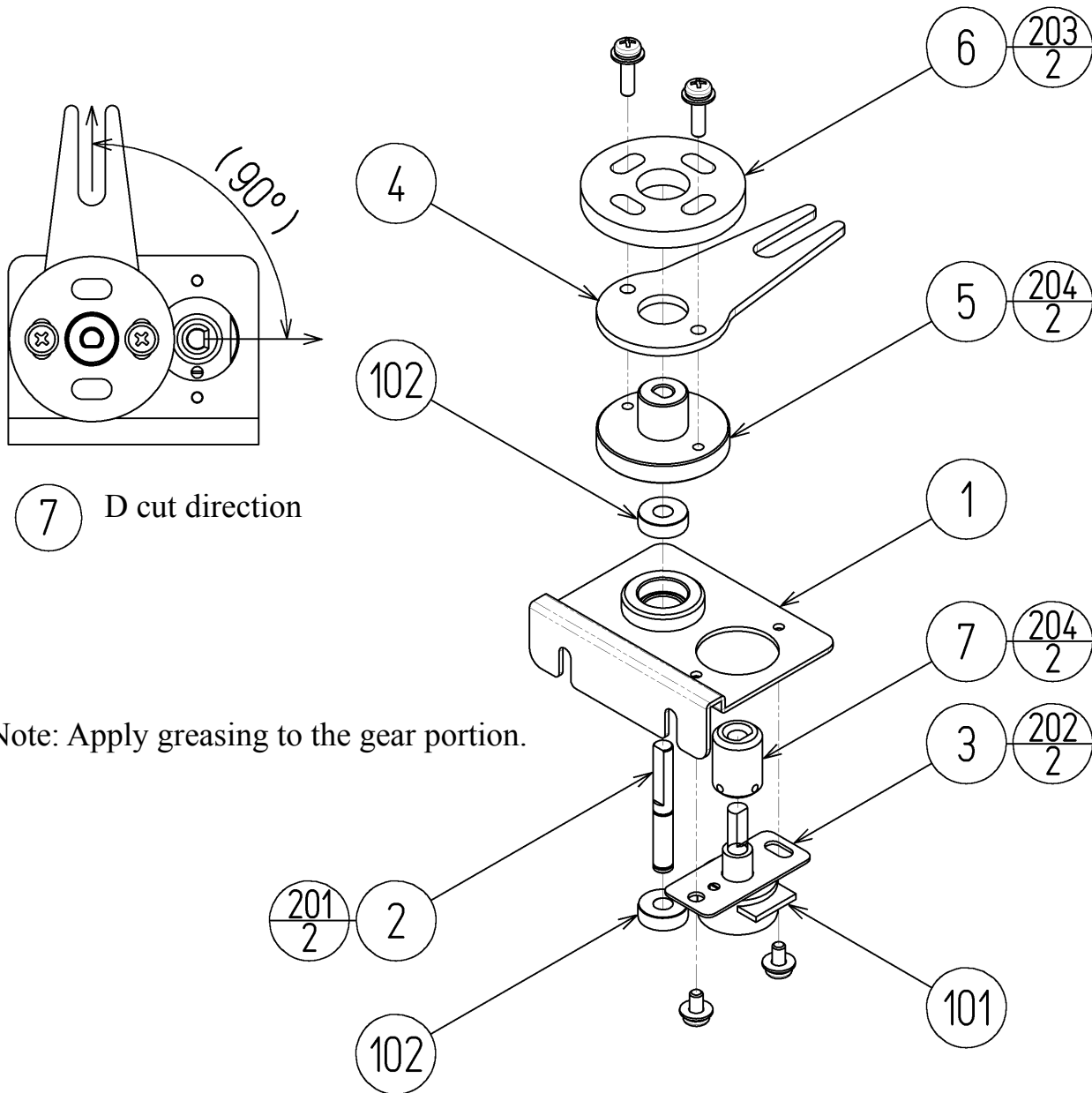
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | SSF-3161 | SWING VR BRKT | |
| 2 | SSF-3162 | SWING VR PIN | |
| 3 | SSF-3163 | SWING VR PLATE | |
| 4 | SSF-3164 | SWING VR GUIDE | |
| 5 | 601-8966 | GEAR HOLDER | |
| 6 | 601-6959 | GEAR 64 | |
| 7 | 601-7945 | GEAR 20 | |
| | | | |
| 101 | 220-5484 | VOL CONT B-5K OHM | |
| | 220-5753 | VOL CONT B-5K OHM | |
| 102 | 100-5257 | BEARING FAI6 | |
| 103 | 310-5029-F20 | SUMITUBE F F 20MM | |
| | | | |
| 201 | 065-E00500 | E RING 5MM | |
| 202 | 000-P00408-W | M SCR PH W/FS M4×8 | |
| 203 | 000-P00416-W | M SCR PH W/FS M4×16 | |
| 204 | 028-A00306-P | SET SCR HEX SKT CUP P M3×6 | |
| | | | |
| 301 | SSF-60051 | WH SWING VR | |

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|----------|-------------|------|
| 1 | SSF-3171 | ROLL VR BRKT | |
| 2 | 601-7944 | GEAR 15 | |
| | | | |
| 101 | 220-5484 | VOL CONT B-5K OHM | |
| | 220-5753 | VOL CONT B-5K OHM | |
| 102 | 310-5029-F20 | SUMITUBE F F 20MM | |
| | | | |
| 201 | 028-A00306-P | SET SCR HEX SKT CUP P M3×6 | |
| | | | |
| 301 | SSF-60052 | WH ROLL VR | |

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|----------|-------------|------|
| 1 | SSF-3181 | PITCH VR BRKT | |
| 2 | SSF-3182 | PITCH VR GUIDE | |
| 3 | SSF-3183 | PITCH VR HOLDER | |
| 101 | 220-5484 | VOL CONT B-5K OHM | |
| | 220-5753 | VOL CONT B-5K OHM | |
| 102 | 310-5029-F12 | SUMITUBE F F 12MM | |
| 201 | 000-P00410-W | M SCR PH W/FS M4×10 | |
| 202 | 028-A00306-P | SET SCR HEX SKT CUP P M3×6 | |
| 301 | SSF-60053 | WH PITCH VR | |
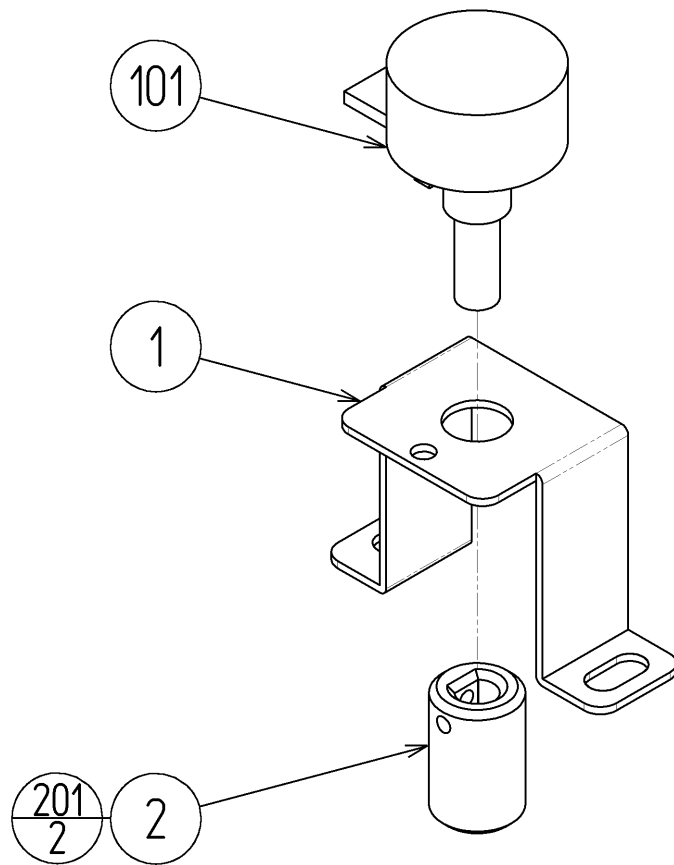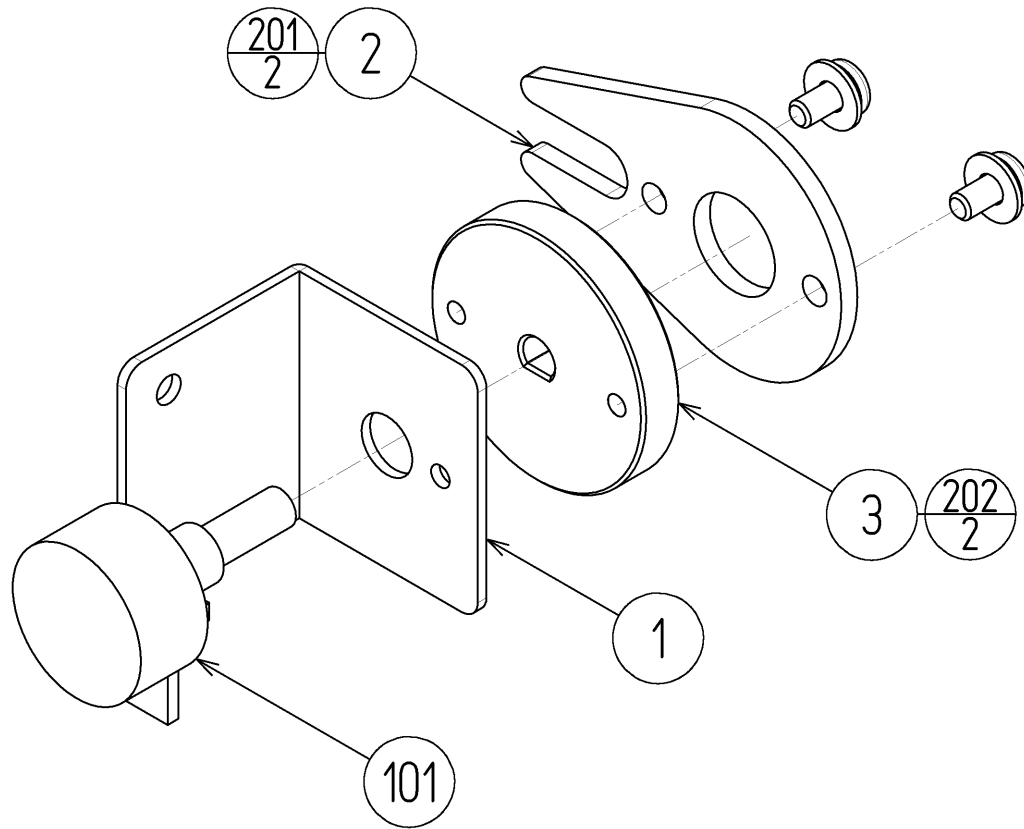
㉖ ASSY TALE COVER (SSF-3190)
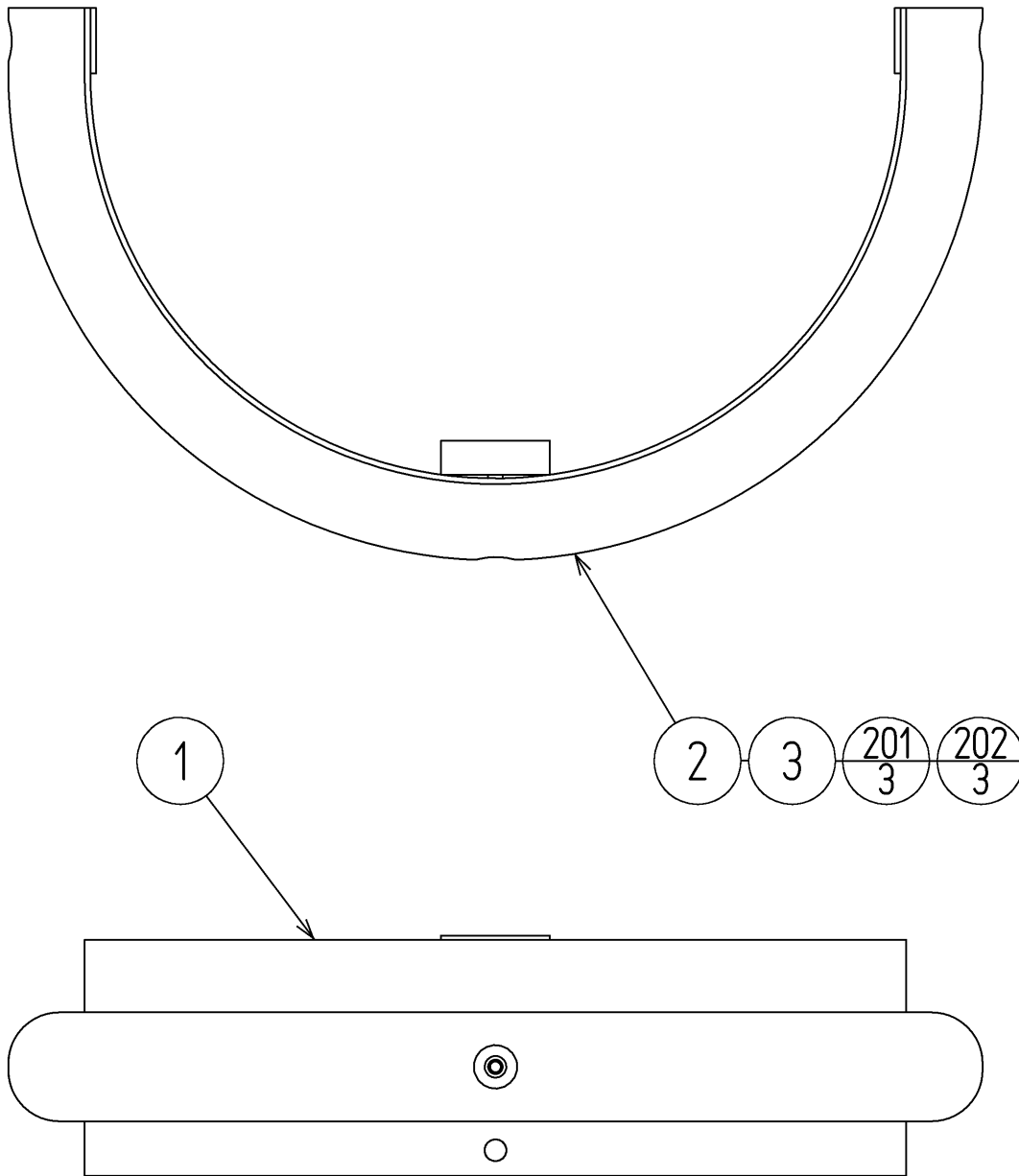
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | SSF-3191 | TALE LID | |
| 2 | SSF-3192 | CUSHION RUBBER TALE | |
| 3 | 280-6622-50040 | SPACER TUBE | |
| 201 | 050-U00400 | U NUT M4 | |
| 202 | 068-441616-0B | FLT WSHR BLK 4.4-16×1.6 | |

GREASE ALBANIA No.2

Notes:  1. Apply greasing to the gear portion.

2. Apply greasing. (Grease Albania: Showa Shell Sekiyu)
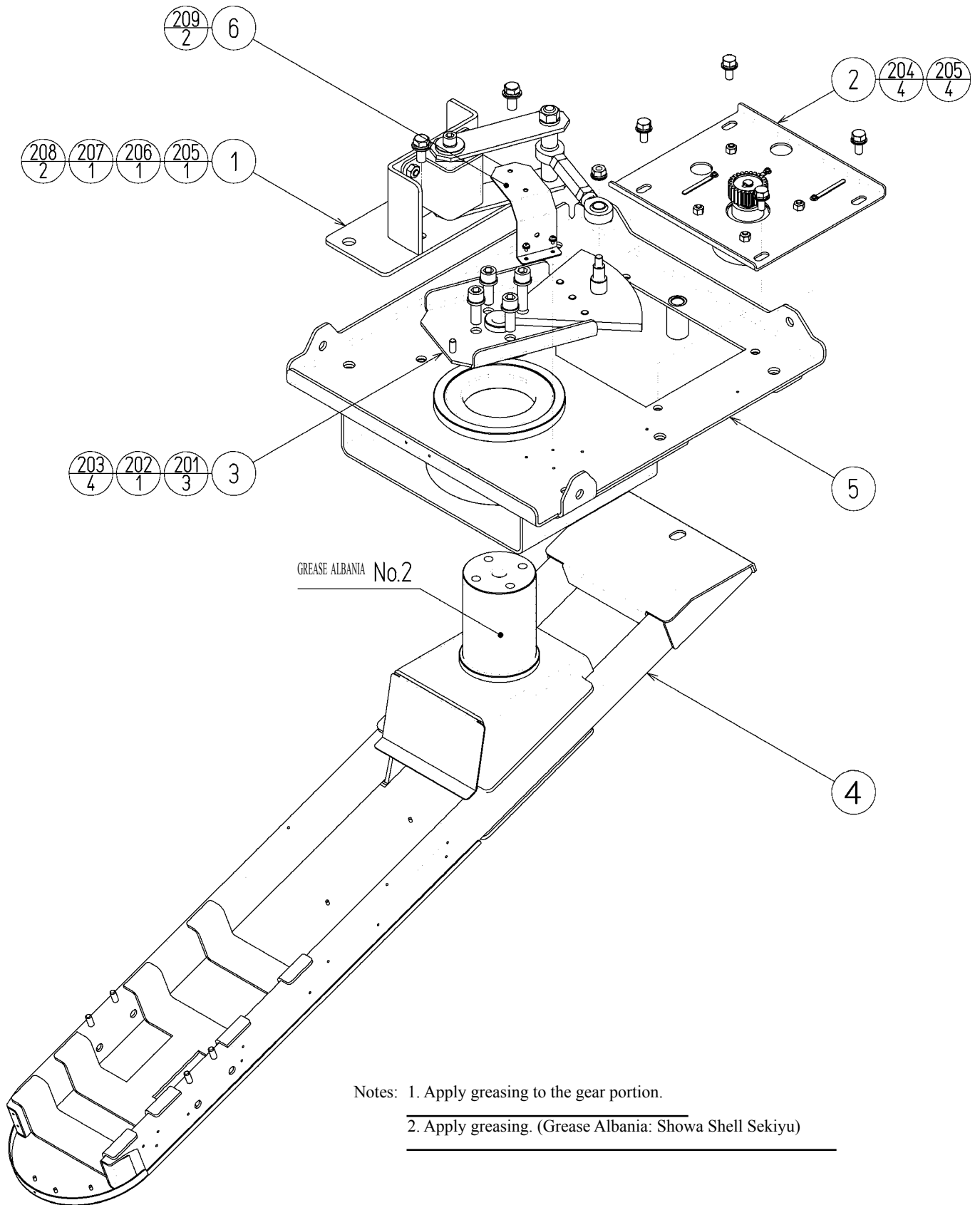
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | SSF-3230 | ASSY ROSTA | |
| 2 | SSF-3250 | ASSY BRAKE | |
| 3 | SSF-3270 | ASSY GEAR | |
| 4 | SSF-3201 | SWING FRAME | |
| 5 | SSF-3202 | SWING BASE | |
| 6 | SSF-3203 | WIRE GUARD | |
| | | | |
| 101 | 280-5169 | CORD CLAMP TL-20S | |
| 102 | 280-0419 | HARNESS LUG | |
| | | | |
| 201 | FAS-200005 | HEX SKT H CAP SCR B 0Z M14×40 | |
| 202 | FAS-200026 | HEX SKT CAP SCR BLK OZ M14×50 | |
| 203 | 060-S01400 | SPR WSHR M14 | |
| 204 | 030-001025-S | HEX BLT W/S M10×25 | |
| 205 | 060-F01000 | FLT WSHR M10 | |
| 206 | 060-S01000 | SPR WSHR M10 | |
| 207 | 050-H01000 | HEX NUT M10 | |
| 208 | FAS-300034 | HEX BLT W/S M12×30 | |
| 209 | 000-P00408-W | M SCR PH W/FS M4×8 | |
| 210 | 000-P00408 | M SCR PH M4×8 | |
| 211 | 060-S00400 | SPR WSHR M4 | |
| 212 | 060-F00400 | FLT WSHR M4 | |
| 213 | 050-F00400 | FLG NUT M4 | |
| 214 | 050-H00400 | HEX NUT M4 | |
| | | | |
| 301 | SSF-60041 | WH EXT BRAKE REAR B | |
| 302 | SSF-60042 | WH EXT SWING VR | |
| 303 | SSF-60043 | WH EXT MECHA VR | |
| 304 | 600-6972-0850 | WIRE HARN EARTH ID5 0850MM | |

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | SSF-3231 | SWING ROSTA ARM UPPER | |
| 2 | SSF-3232 | SWING ROSTA ARM LOWER | |
| 3 | SSF-3233 | SWING ARM PIN | |
| 4 | SSF-3234 | ARM PIN COLLAR | |
| 5 | SSF-3235 | SWING LINK SHAFT | |
| 6 | SSF-3236 | SWING ROSTA BASE | |
| 7 | SSF-3237 | SWING ROSTA HOLDER | |
| | | | |
| 101 | 601-11147 | ROSTA DR-S-38×80 | |
| 102 | 111-0049 | ROD END 16 (POS 16) | |
| 103 | 111-1133 | ROD END 16 (POS 16 L) | |
| | | | |
| 201 | FAS-200018 | HEX SKT CAP SCR BLK 0Z M12×85 | |
| 202 | 060-S01200 | SPR WSHR M12 | |
| 203 | 050-H01600 | HEX NUT M16 | |
| 204 | 060-S01600 | SPR WSHR M16 | |
| 205 | FAS-500034 | HEX NUT L M16 | |
| 206 | 030-001025-S | HEX BLT W/S M10×25 | |
| 207 | 060-F01000 | FLT WSHR M10 | |
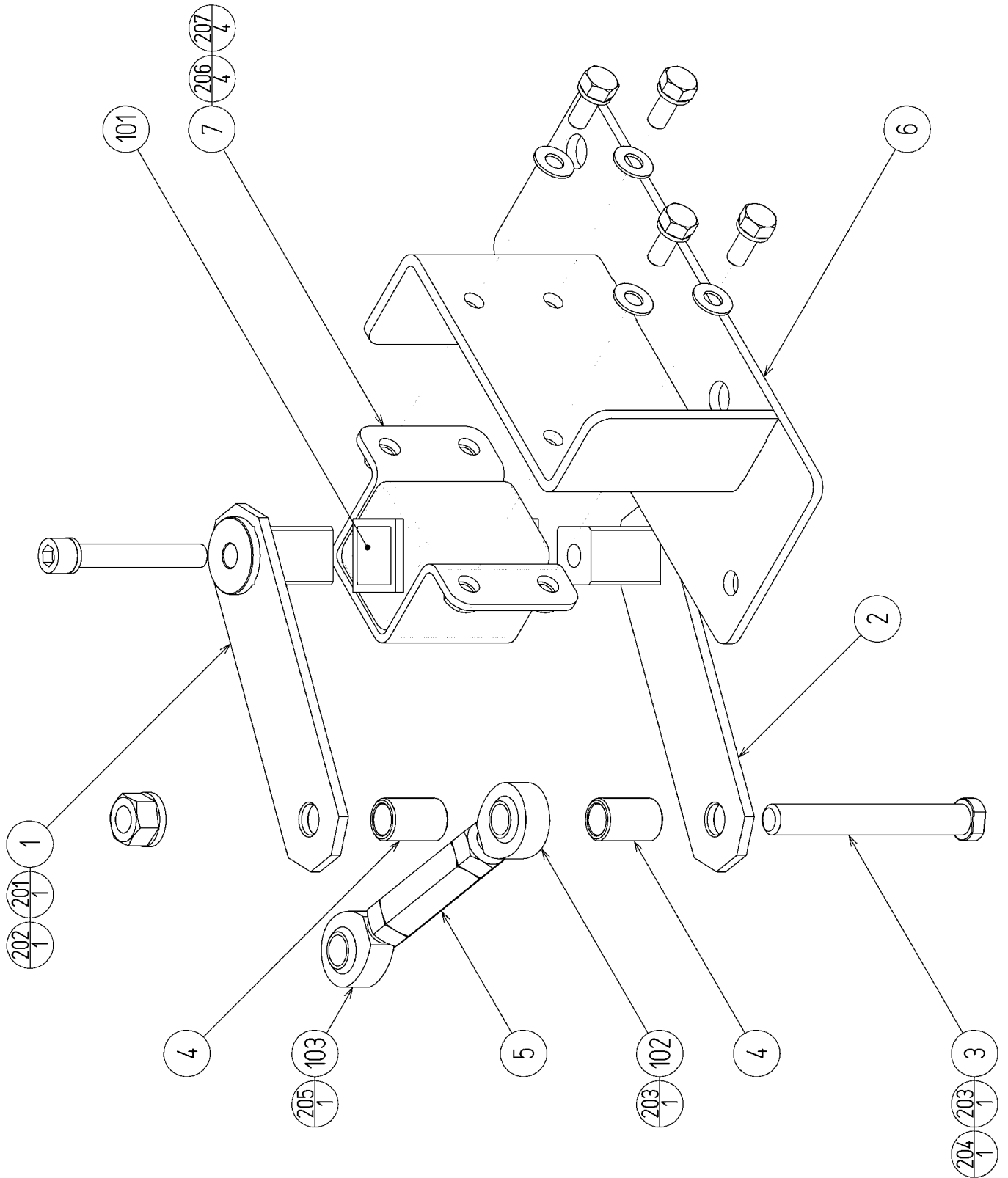
㉙ ASSY BRAKE (SSF-3250)
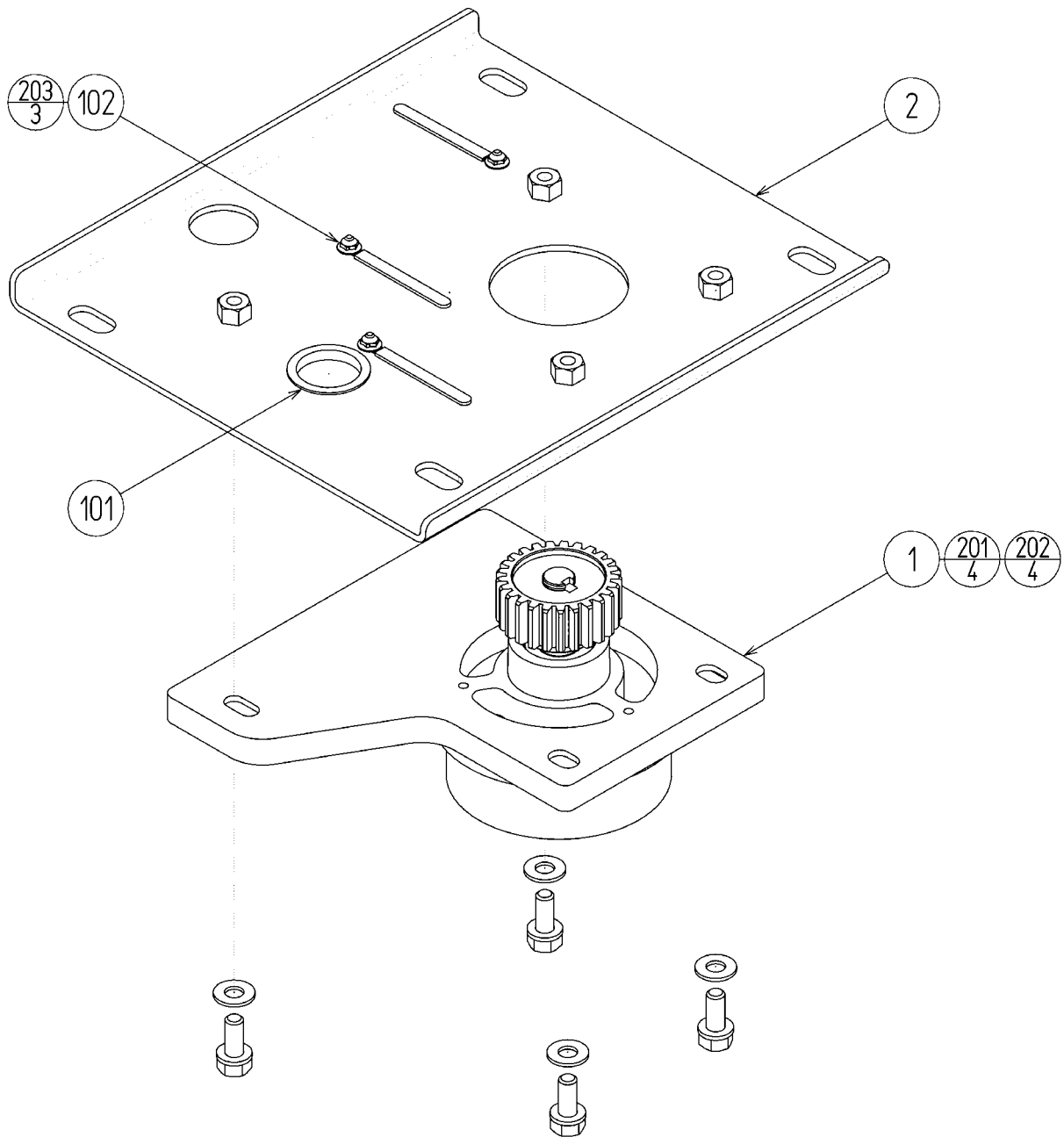


| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | ATR-3350 | BRAKE UNIT | |
| 2 | SSF-3251 | BRAKE BASE | |
| | | | |
| 101 | 601-5962-094 | BUSH 3.2T | |
| 102 | 280-0419 | HARNESS LUG | |
| | | | |
| 201 | 030-000820-S | HEX BLT W/S M8×20 | |
| 202 | 060-F00800 | FLT WSHR M8 | |
| 203 | 050-F00400 | FLG NUT M4 | |

付属のナット使用

付属のナット使用

Fastening Torque:

M5: 3.7N m

M4: 1.8N m
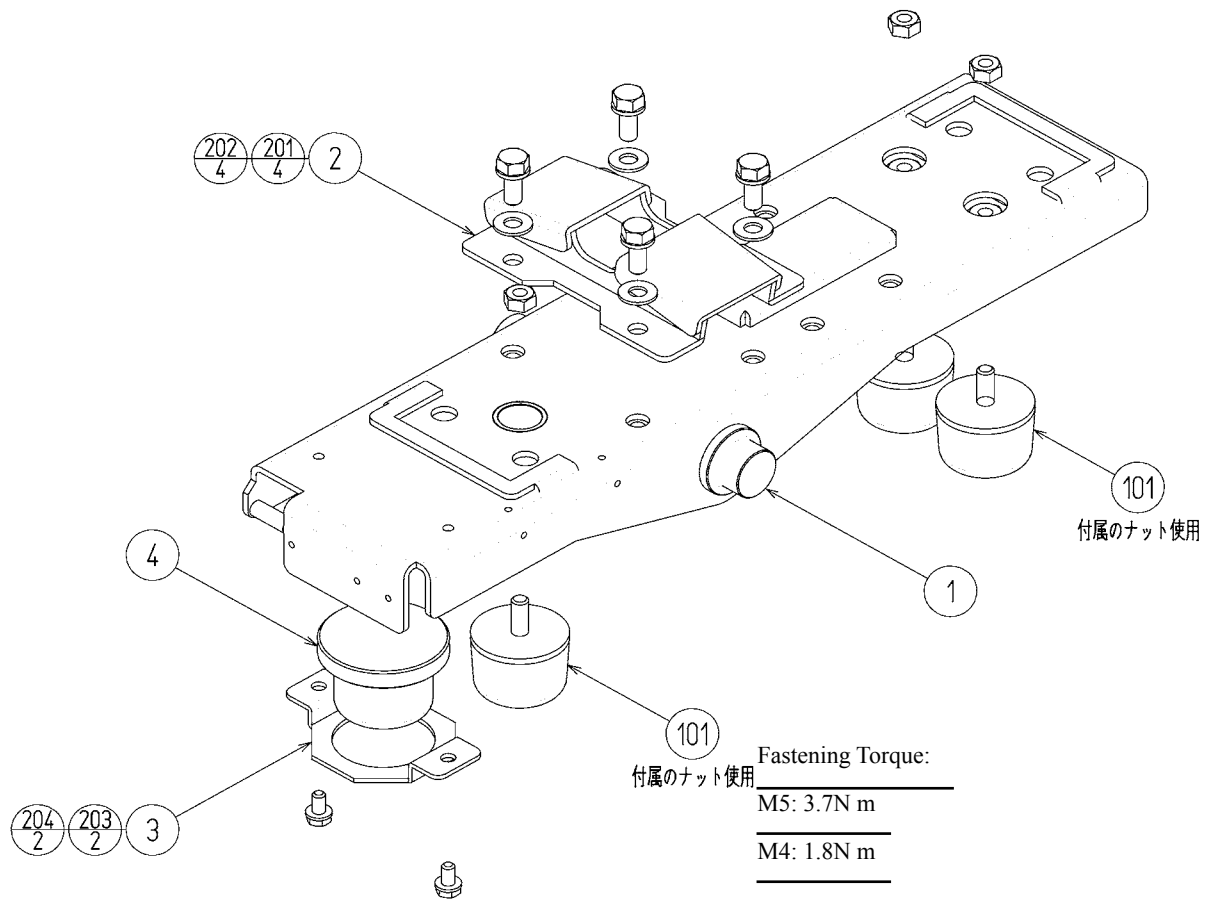
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | ATR-3351 | BRAKE BASE | |
| 2 | ASL-3352 | PINION GEAR 25 | |
| 3 | ATR-3353 | BRAKE SHAFT | |
| 4 | ASL-3354 | KEY 5×5×24 | |
| 5 | ASK-3606 | KEY 5×5-10.5 | |
| 101 | 601-10806 | BRAKE BXH-08 | |
| 102 | 100-5229 | BEARING 17 | |
| 201 | 020-000530-0Z | HEX SKT H CAP SCR BLK OZ M5×30 | |
| 202 | 060-S00500 | SPR WSHR M5 | |
| 203 | 065-S014S0-Z | STP RING BLK 0Z S14 | |
| 204 | 065-A030H0-Z | STP RING BLK 0Z H30 | |
| 205 | 028-A00408-P | SET SCR HEX SKT CUP P M4×8 | |

㉛ ASSY GEAR (SSF-3270)
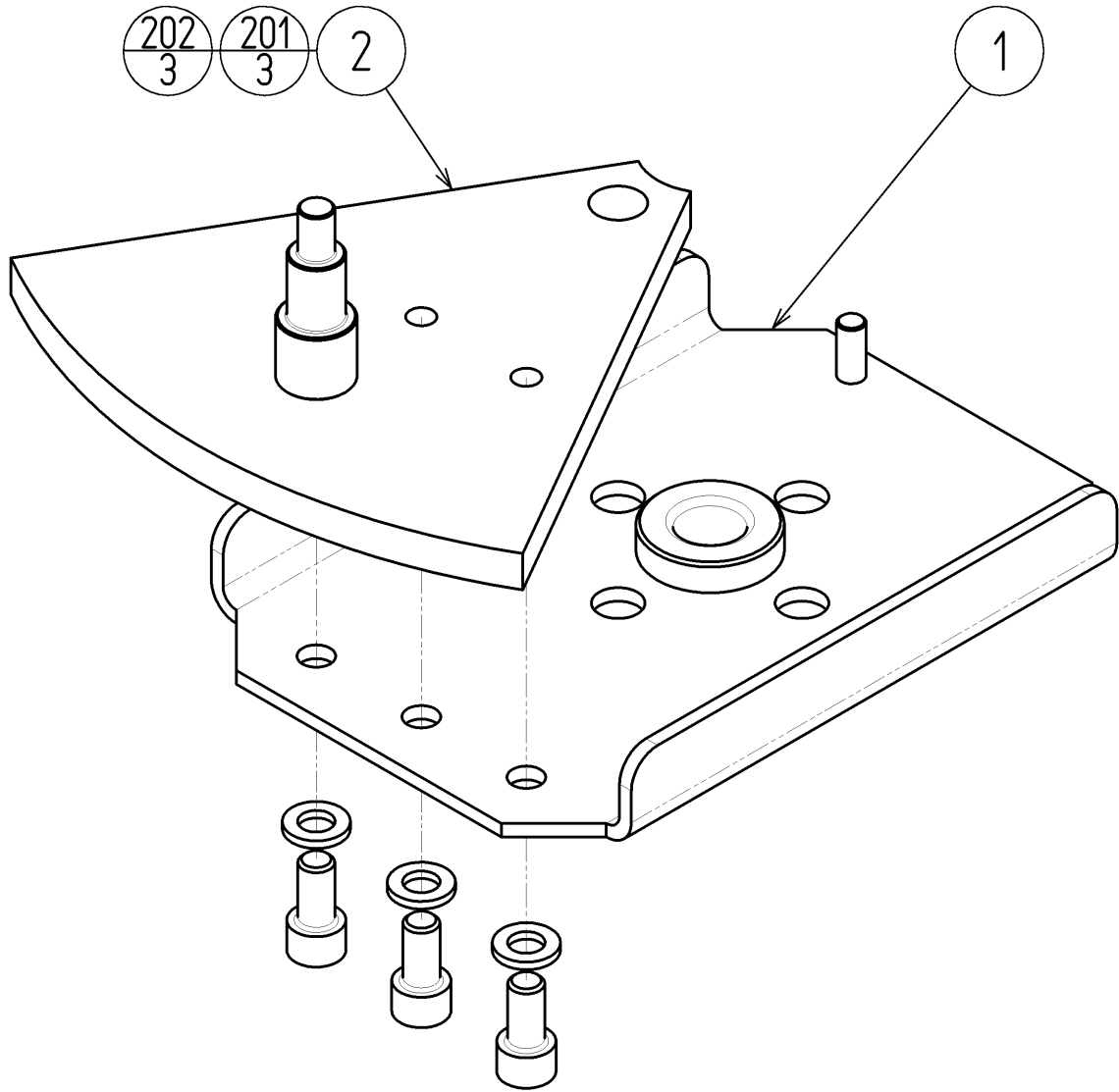
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | SSF-3271 | SWING GEAR HOLDER | |
| 2 | SSF-3272 | SWING GEAR | |
| | | | |
| 201 | 020-001020-0Z | HEX SKT CAP SCR BLK 0Z M10×20 | |
| 202 | 060-S01000 | SPR WSHR M10 | |

167

32 ASSY BOARD MECHA (SSF-3300)
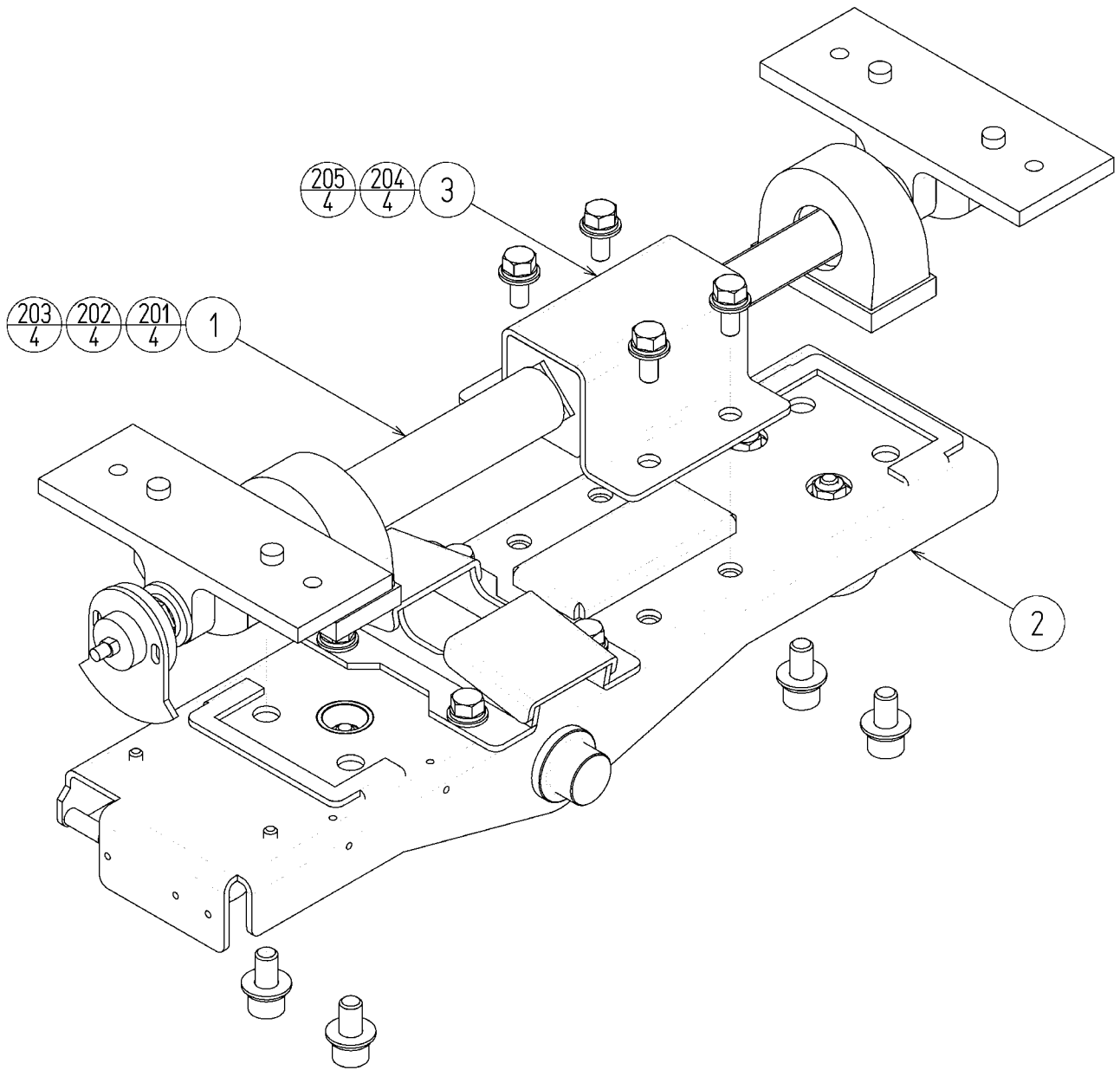
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | SSF-3330 | ASSY ROLL SHAFT | |
| 2 | SSF-3350 | ASSY PITCH BASE | |
| 3 | SSF-3301 | ROLL ROSTA HOLDER | |
| 201 | 020-001020-0Z | HEX SKT CAP SCR BLK 0Z M10×20 | |
| 202 | 060-S01000 | SPR WSHR M10 | |
| 203 | 060-F01000 | FLT WSHR M10 | |
| 204 | 030-000820-S | HEX BLT W/S M8×20 | |
| 205 | 060-F00800 | FLT WSHR M8 | |

Fastening Torque: 77 N·m

Fastening Torque: 77 N·m
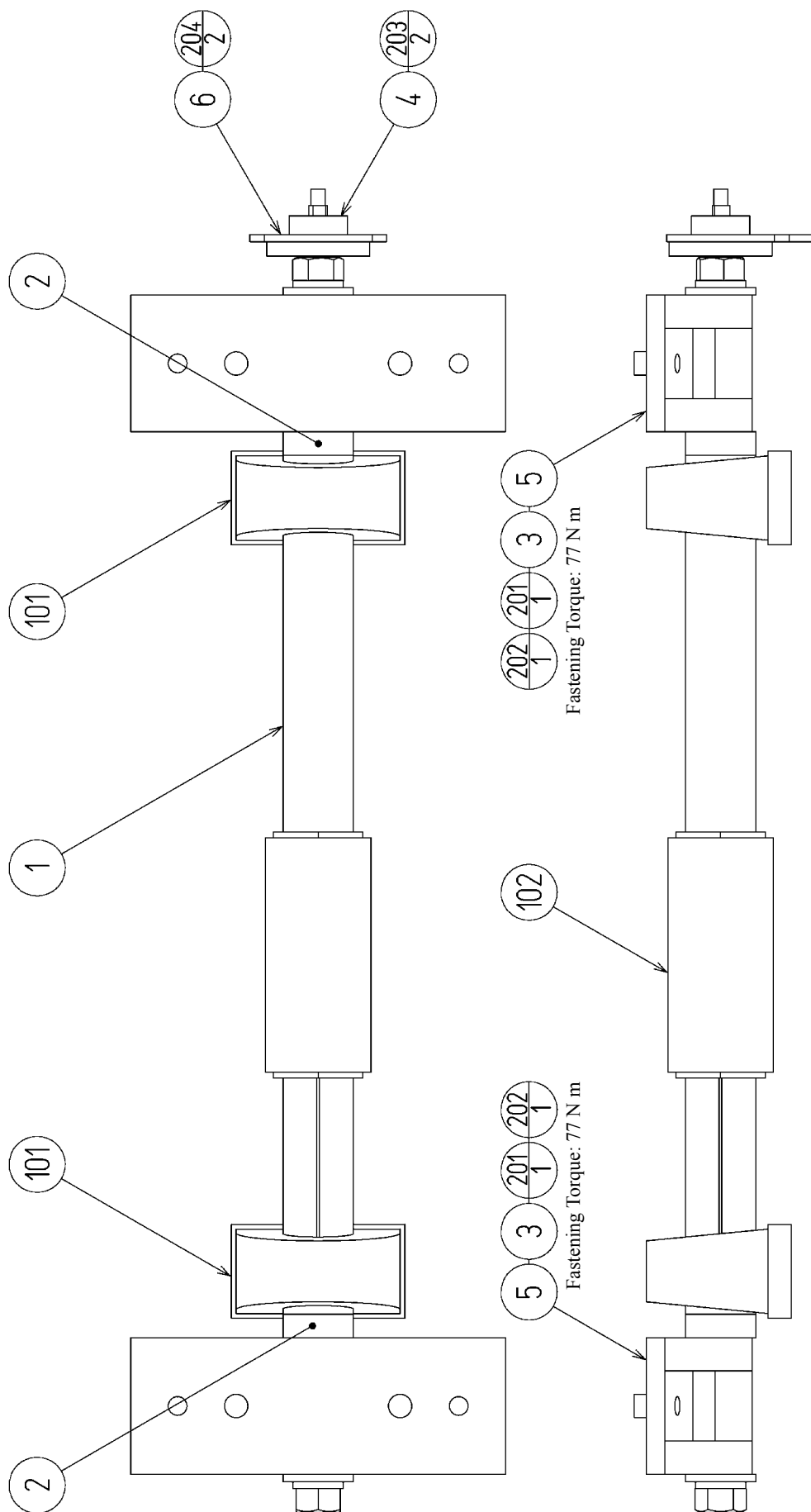
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | SSF-3331 | ROLL SHAFT | |
| 2 | SSF-3332 | ROLL SHAFT COLLAR | |
| 3 | SSF-3333 | FLT WSHR 12.5-30×3.2 | |
| 4 | SSF-3334 | GEAR HOLDER 110 | |
| 5 | ASL-3251 | MOUNT BLOCK | |
| 6 | 601-6450 | GEAR 110 | |
| 101 | 100-5410 | BEARING UNIT 20 | |
| 102 | 601-8458 | ROSTA 22 DR-S27×100 | |
| 201 | 050-H01200 | HEX NUT M12 | |
| 202 | 060-S01200 | SPR WSHR M12 | |
| 203 | 028-A00408-P | SET SCR HEX SKT CUP P M4×8 | |
| 204 | 000-P00410-W | M SCR PH W/FS M4×10 | |

Use the nuts included.

Use the nuts included.
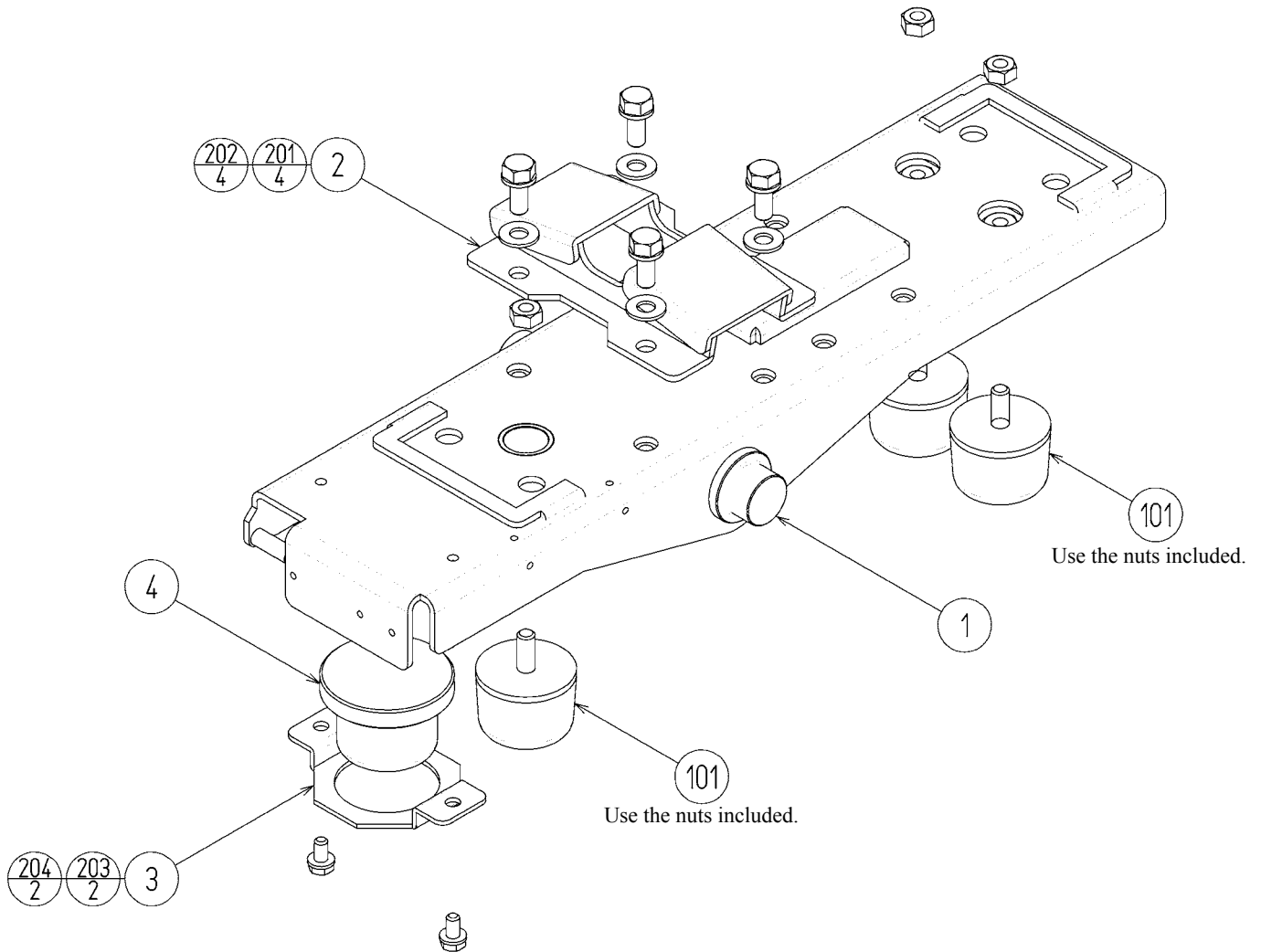
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | SSF-3351 | PITCH BASE | |
| 2 | SSF-3352 | ROLL STOPPER BRKT | |
| 3 | SSF-3353 | PITCH STOPPER HOLDER | |
| 4 | SSF-3354 | PITCH STOPPER RUBBER | |
| 101 | 601-11146 | STOPPER RUBBER RI-45HD L=19.1 | Use the nuts included (and discard the spring washers). |
| 201 | 030-000820-S | HEX BLT W/S M8×20 | |
| 202 | 060-F00800 | FLT WSHR M8 | |
| 203 | 030-000612-S | HEX BLT W/S M6×12 | |
| 204 | 060-F00600 | FLT WSHR M6 | |
| 205 | 000-P00408 | M SCR PH M4×8 | |
| 206 | 060-S00400 | SPR WSHR M4 | |
| 207 | 060-F00400 | FLT WSHR M4 | |

2
The joint position
of the bellows.
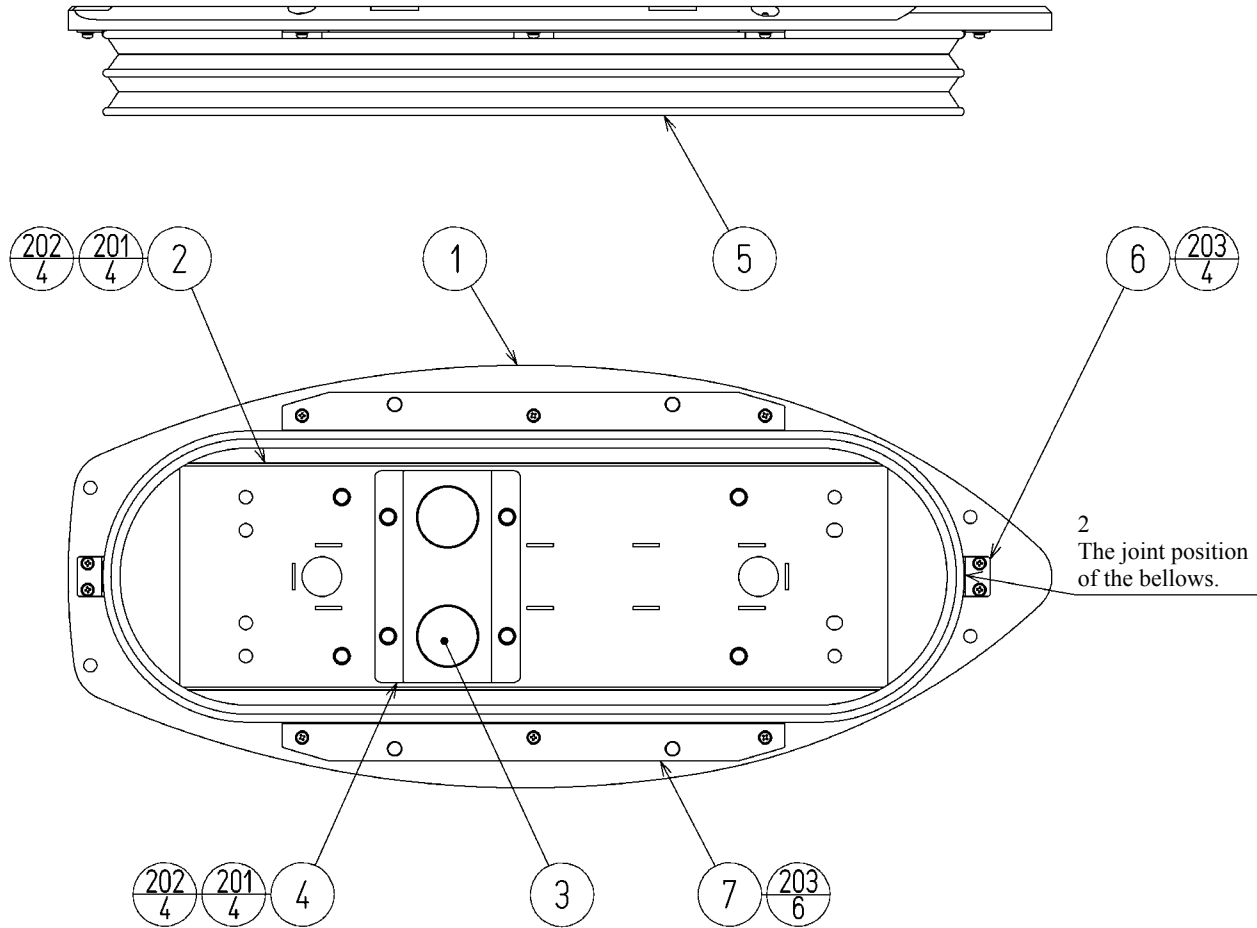
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | SSF-3401 | BOARD | |
| 2 | SSF-3402 | BOARD BASE | |
| 3 | SSF-3403 | ROLL STOPPER RUBBER | |
| 4 | SSF-3404 | ROLL STOPPER HOLDER | |
| 5 | SSF-3405 | BELLOWS | |
| 6 | SSF-3406 | BELLOWS HOLDER | |
| 7 | SSF-3407 | BELLOWS HOLDER SIDE | |
| | | | |
| 201 | 030-000620-S | HEX BLT W/S M6×20 | |
| 202 | 060-F00600 | FLT WSHR M6 | |
| 203 | 000-P00416-W | M SCR PH W/FS M4×16 | |

SECTION A-A

SEE B

EARTH

SEE B

A

A

EARTH
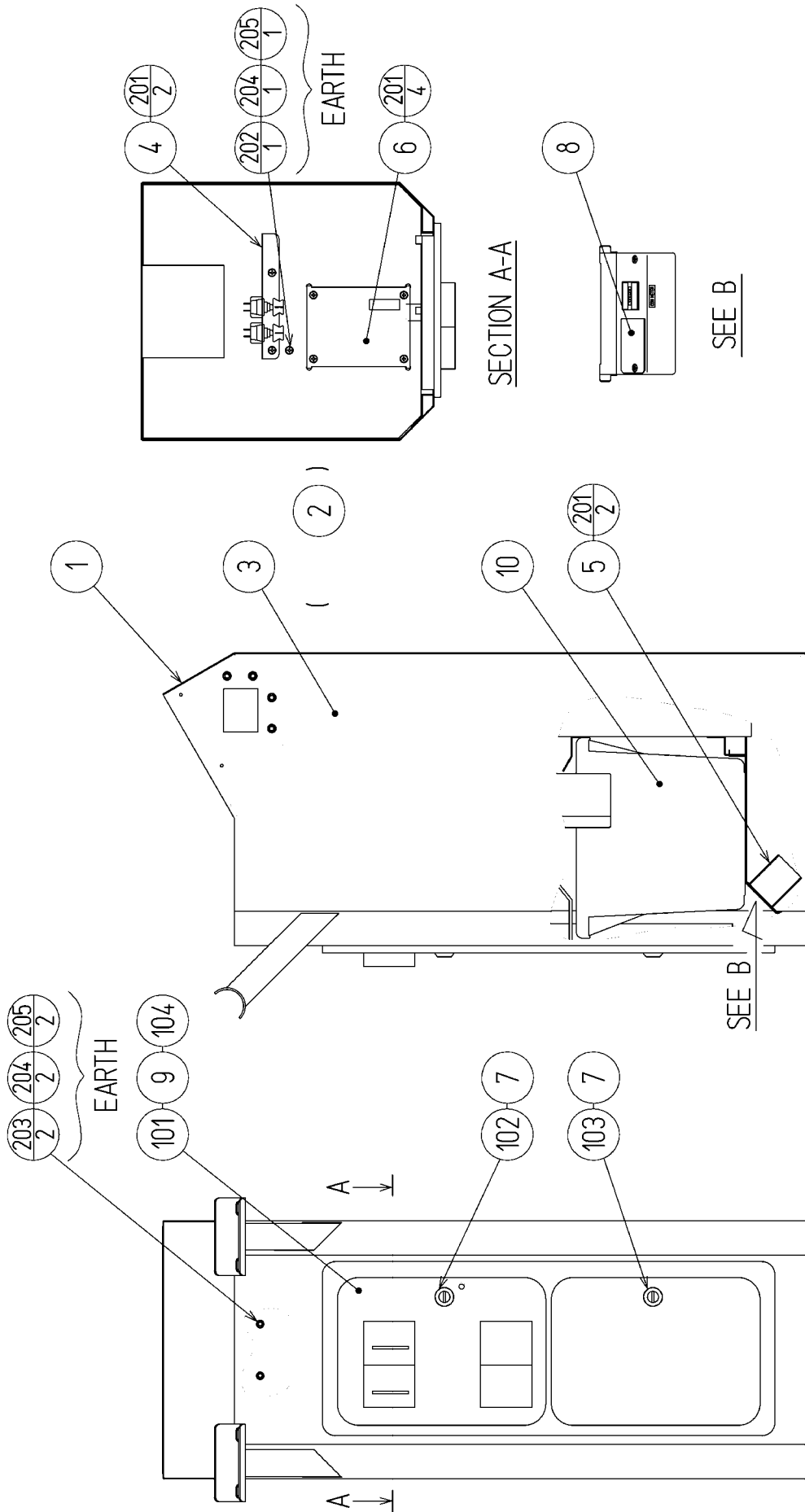
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | SSF-3501 | COINCHUTE TOWER | |
| 2 | SSF-3502 | STICKER BOX UPPER L | |
| 3 | SSF-3503 | STICKER BOX UPPER R | |
| 4 | INY-1180 | SW UNIT | |
| 5 | CKT-1160-01 | METER UNIT TWIN | |
| 6 | 105-5172 | CHUTE PLATE DOUBLE | |
| 7 | DP-1167 | TNG LKG Locally supplied | |
| 8 | | NOT USED | |
| 9 | / | | |
| 10 | 253-5366 | CASH BOX | |
| | | | |
| 101 | 220-5237-92-~ | ASSY C.C 2DR ~ | |
| | | Locally supplied | |
| 102 | 220-5575 | CAM LOCK MASTER W/O KEY | |
| | | Locally supplied | |
| 103 | 220-5574 | CAM LOCK W/KEYS | |
| | | Locally supplied | |
| | | | |
| 201 | 000-P00408-W | M SCR PH W/FS M4×8 | |
| 202 | 000-P00408 | M SCR PH M4×8 | |
| 203 | 050-H00400 | HEX NUT M4 | |
| 204 | 060-S00400 | SPR WSHR M4 | |
| 205 | 060-F00400 | FLT WSHR M4 | |
| | | | |
| 301 | SSF-60044 | WH EXT SOUND TOWER | |
| 302 | SSF-60045 | WH EXT TOWER | |
| 303 | SSF-60046 | WH EXT SW PANEL | |
| 304 | 600-6972-0150 | WIRE HARN EARTH ID5 0150MM | |
| 305 | 600-6972-0250 | WIRE HARN EARTH ID5 0250MM | |
| 306 | 600-6455-02 | WIRE HARN C.C DOOR SINGLE | <Others> |
| | | Locally supplied | <USA> |

(37) SW UNIT (INY-1180)
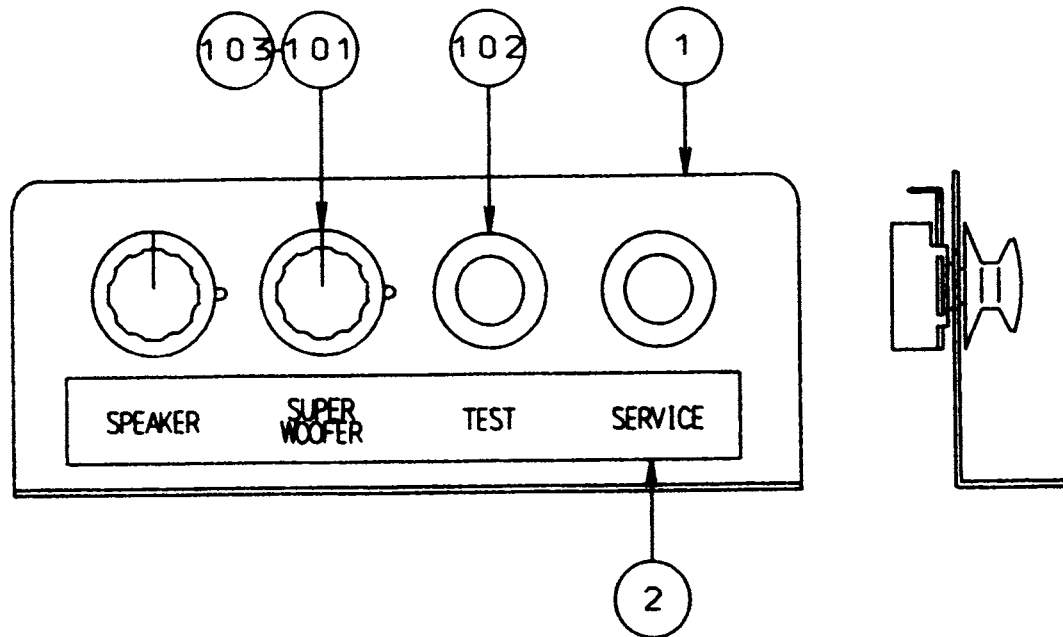


| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|----------|-------------|------|
| 1 | INY-1181 | SW BRKT | |
| 2 | 421-8911 | STICKER SW UNIT | |
| | | | |
| 101 | 220-5179 | VOL CONT B-5K OHM | |
| | 220-5754 | VOL CONT B5KOHM | |
| 102 | 509-5028 | SW PB 1M | |
| 103 | 601-0042 | KNOB 22 MM | |
| | | | |
| 301 | 600-6609-32 | WIRE HARN TEST & SERVICE | |
| 302 | 600-6609-33 | WIRE HARN VOLUME A | |
| 303 | 600-6609-34 | WIRE HARN VOLUME B | |

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | CKT-1161 | METER BRKT | |
| 2 | 421-6591-01 | STICKER COIN METER | |
| | | | |
| 101 | 220-5643-01 | MAG CNTR DC5V 6P WH MZ-674-D04 | |
| 102 | 220-5643-02 | MAG CNTR DC5V 6P YE MZ-674-D05 | |
| 103 | 280-5009-01 | CORD CLAMP 21 | |
| 104 | 601-5525-027 | BUSH 1.2T | |
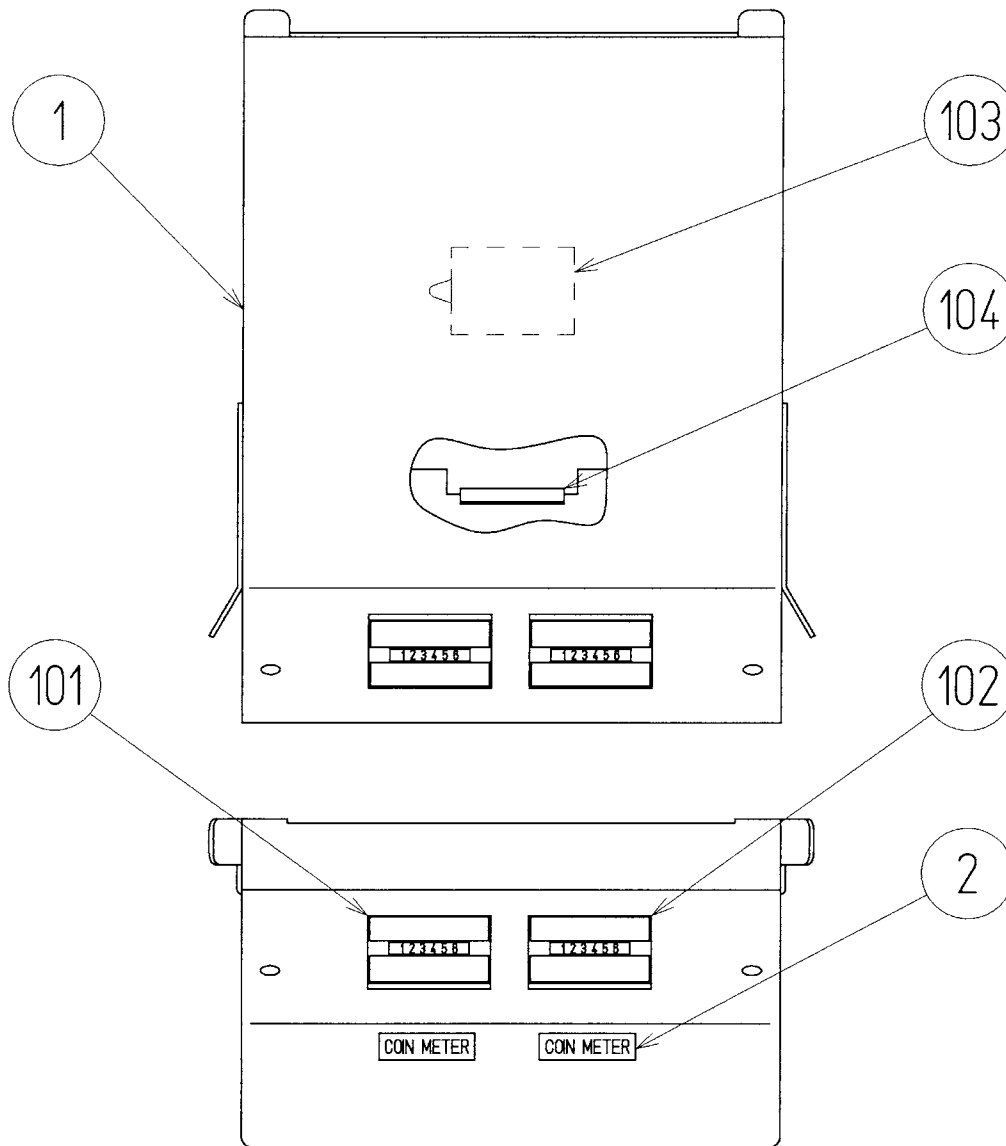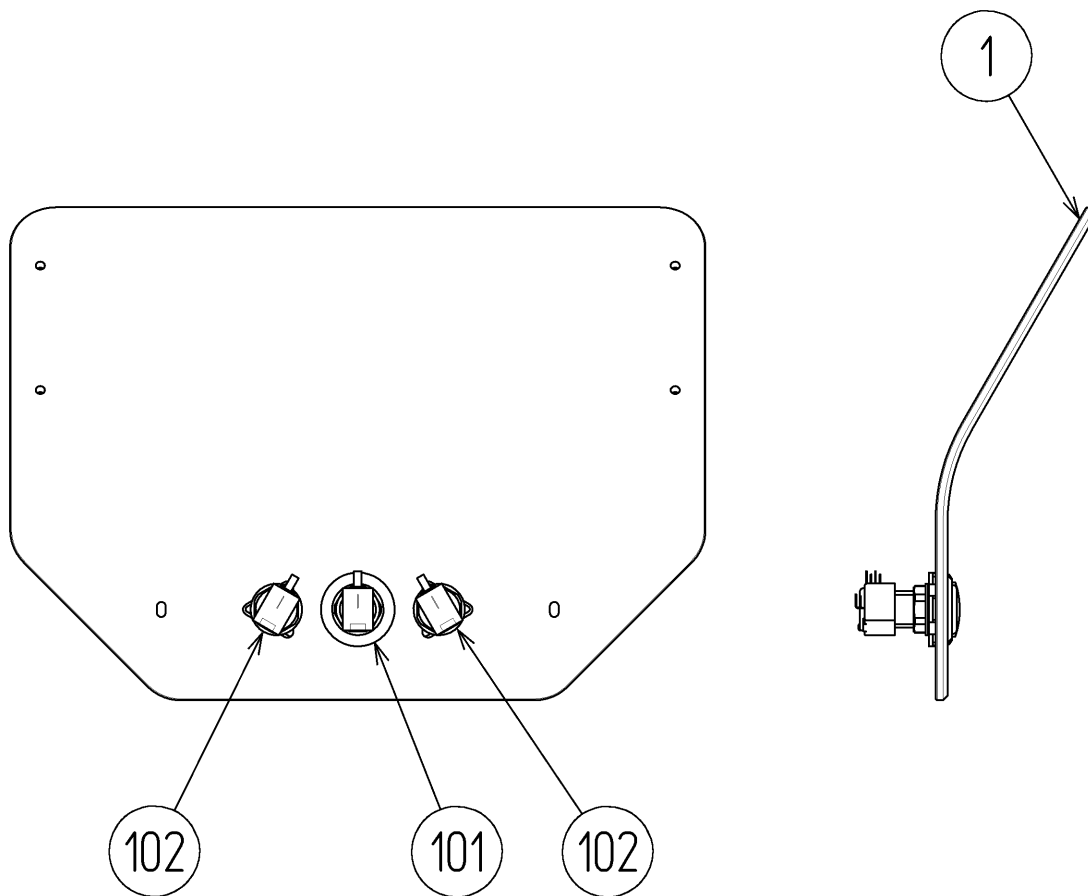
Note: Attach direction of the terminal ⑩⑪⑫, as shown in the figure.

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | SSF-3581 | CONTROL PANEL PLATE | |
| 101 | 509-5712-01S | SW PB W/L 6V YELLOW | |
| 102 | 509-5499-05-LN | SW PB TRIANGLE BLUE W/O LAMP | |
| 301 | SSF-60049 | WH SW PANEL | |

EARTH
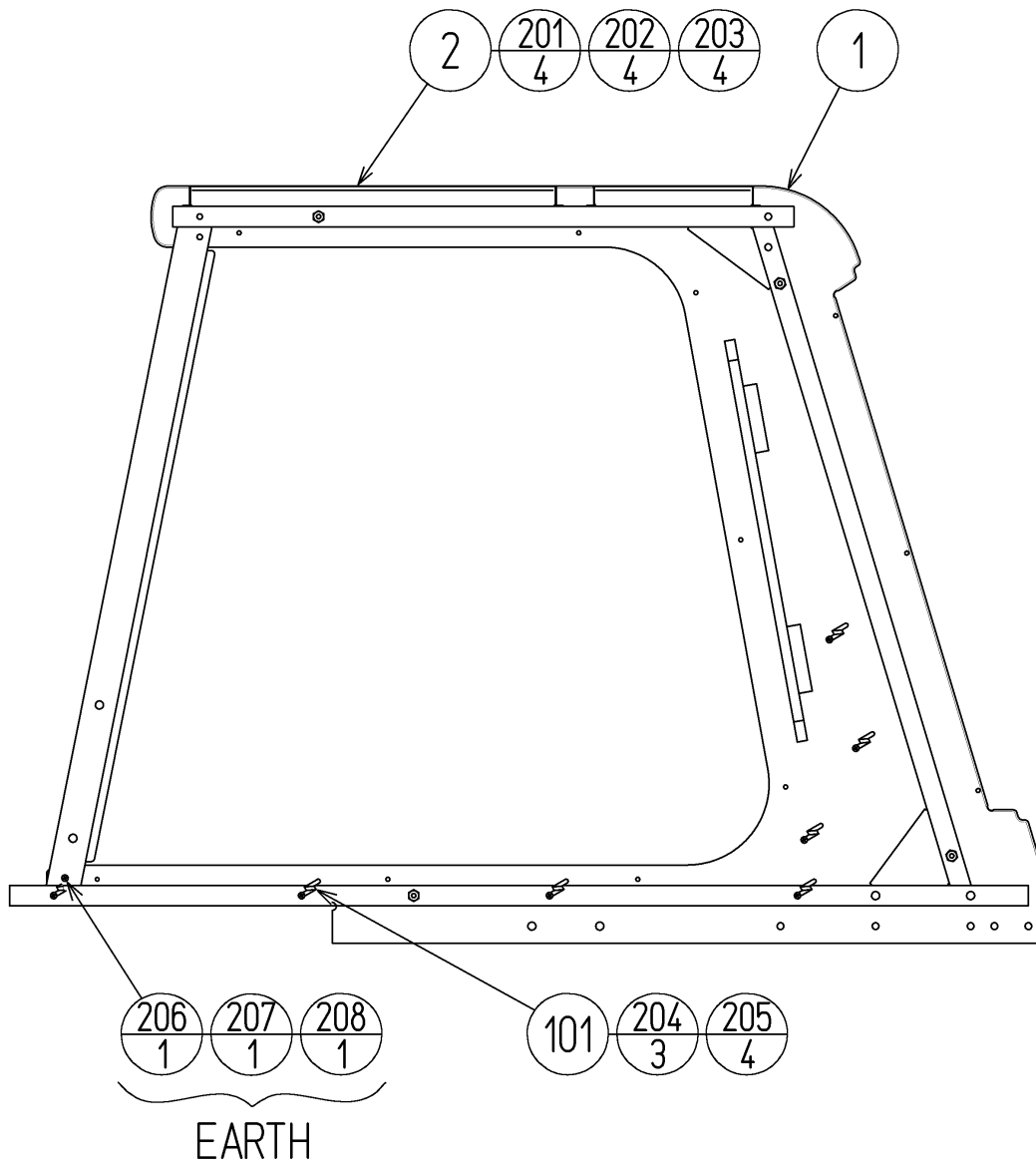
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|----------|-------------|------|
| 1 | SSF-3601 | SIDE PANEL L | |
| 2 | SSF-3602 | SIDE FRAME L | |
| | | | |
| 101 | 280-0419 | HARNESS LUG | |
| | | | |
| 201 | FAS-290032 | HEX SKT SCR BH BLK M8×80 | |
| 202 | 060-S00800-0B | SPR WSHR BLK M8 | |
| 203 | 068-852216-0B | FLT WSHR BLK 8.5-22×1.6 | |
| 204 | 011-T03512 | TAP SCR TH 3.5×12 | |
| 205 | 000-T00408 | M SCR TH M4×8 | |
| 206 | 000-P00408 | M SCR PH M4×8 | |
| 207 | 060-S00400 | SPR WSHR M4 | |
| 208 | 060-F00400 | FLT WSHR M4 | |
| | | | |
| 301 | SSF-60038 | WH EXT LAMP L B | |

# ㊶ ASSY SIDE WALL R (SSF-3650)
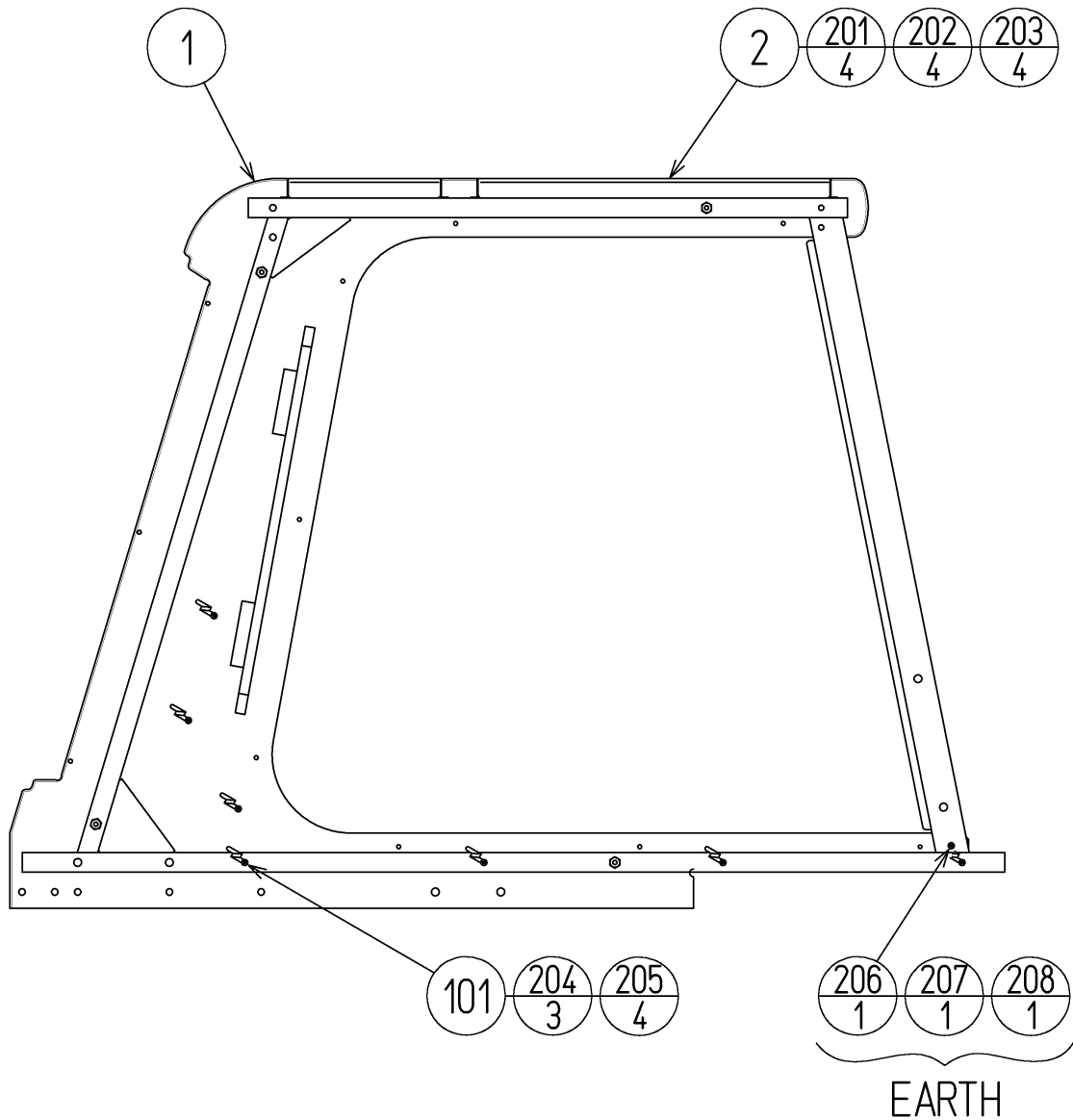
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | SSF-3651 | SIDE PANEL R | |
| 2 | SSF-3652 | SIDE FRAME R | |
| | | | |
| 101 | 280-0419 | HARNESS LUG | |
| | | | |
| 201 | FAS-290032 | HEX SKT SCR BH BLK M8×80 | |
| 202 | 060-S00800-0B | SPR WSHR BLK M8 | |
| 203 | 068-852216-0B | FLT WSHR BLK 8.5-22×1.6 | |
| 204 | 011-T03512 | TAP SCR TH 3.5×12 | |
| 205 | 000-T00408 | M SCR TH M4×8 | |
| 206 | 000-P00408 | M SCR PH M4×8 | |
| 207 | 060-S00400 | SPR WSHR M4 | |
| 208 | 060-F00400 | FLT WSHR M4 | |
| | | | |
| 301 | SSF-60039 | WH EXT LAMP R | |
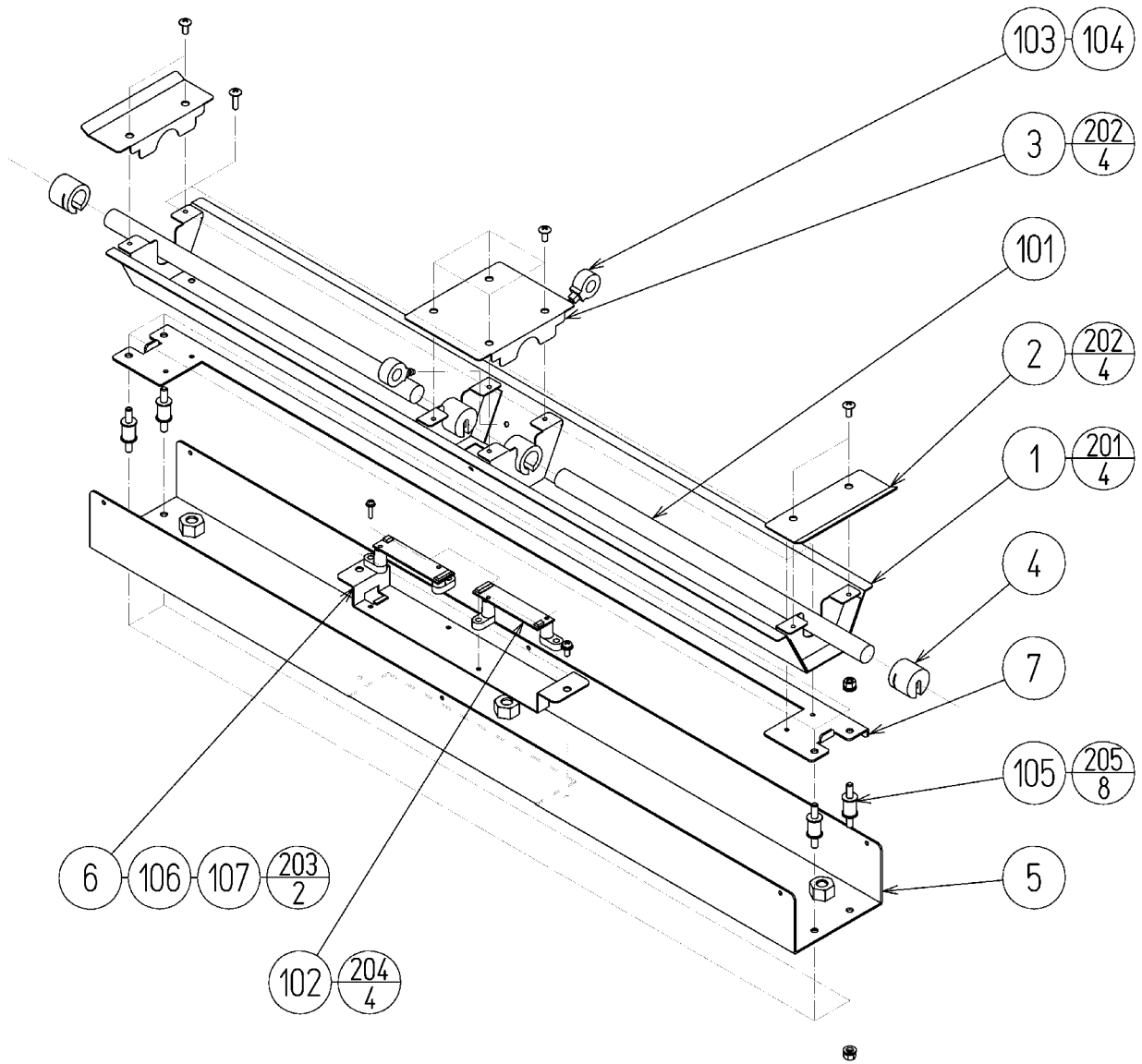
Note: Attach (105) using the nuts and the spring washers included.

* Drawing differs from actual part

| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | SSF-3631 | REFLECTOR | |
| 2 | SSF-3632 | TUBE HOLDER A | |
| 3 | SSF-3633 | TUBE HOLDER B | |
| 4 | ATR-3604 | LAMP HOLDER | |
| 5 | SSF-3634 | LAMP BASE | |
| 6 | / | | |
| 7 | SSF-3636 | DUMPER BRKT | |
| 101 | 999-1420 | LIGHT ROPE - BLUE | |
| 102 | / | | |
| 103 | 270-5052-04 | L.FILTER D | |
| 104 | 280-5286 | SELF MOUNT TIE 3.3 | |
| 105 | 601-8288 | RUBBER DUMPER | Use the nuts and the spring washers included. |
| 106 | 601-5525-013 | BUSH 1.2T | |
| 107 | 280-5275-SR10 | CORD CLAMP SR10 | |
| 201 | 000-T00412-0C | M SCR TH CRM M4×12 | |
| 202 | 000-T00408-0C | M SCR TH CRM M4×8 | |
| 203 | 000-P00408-W | M SCR PH W/FS M4×8 | |
| 204 | 000-P00310-W | M SCR PH W/FS M3×10 | |
| 205 | 060-F00500 | FLT WSHR M5 | |
| 301 | SSF-60040 | WH LAMP UNIT | |
| NOT PICTURED | 998-0163 | SOLID STATE RELAY BD DC12V | |
| NOT PICTURED | S210-103-000 | SSR COVER (PERF) #GRAND PRODUCTS | |
| NOT PICTURED | S210-102-000 | BRACKET MOUNTING NEON LIGHT #GRAND PRODUCTS | |

㊸ ASSY SPEAKER L (SSF-3700)
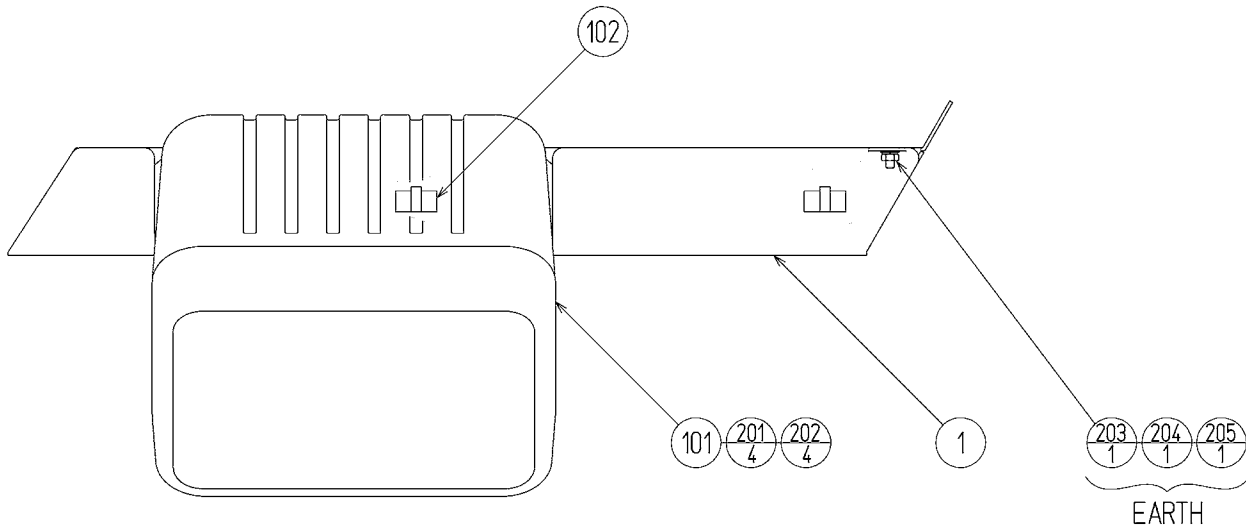
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|----------|-------------|------|
| 1 | SSF-3701 | SPEAKER HOLDER L | |
| 101 | 130-5228 | SPEAKER BOX 4OHM 40W | |
| 102 | 280-5275-SR10 | CORD CLAMP SR10 | |
| 201 | 012-P00512-0B | TAP SCR #2 PH BLK 5×12 | |
| 202 | 060-F00500-0B | FLT WSHR BLK M5 | |
| 203 | 050-H00400 | HEX NUT M4 | |
| 204 | 060-S00400 | SPR WSHR M4 | |
| 205 | 060-F00400 | FLT WSHR M4 | |
| 301 | SSF-60047 | WH EXT SPEAKER L | |

(44) ASSY SPEAKER R (SSF-3750)
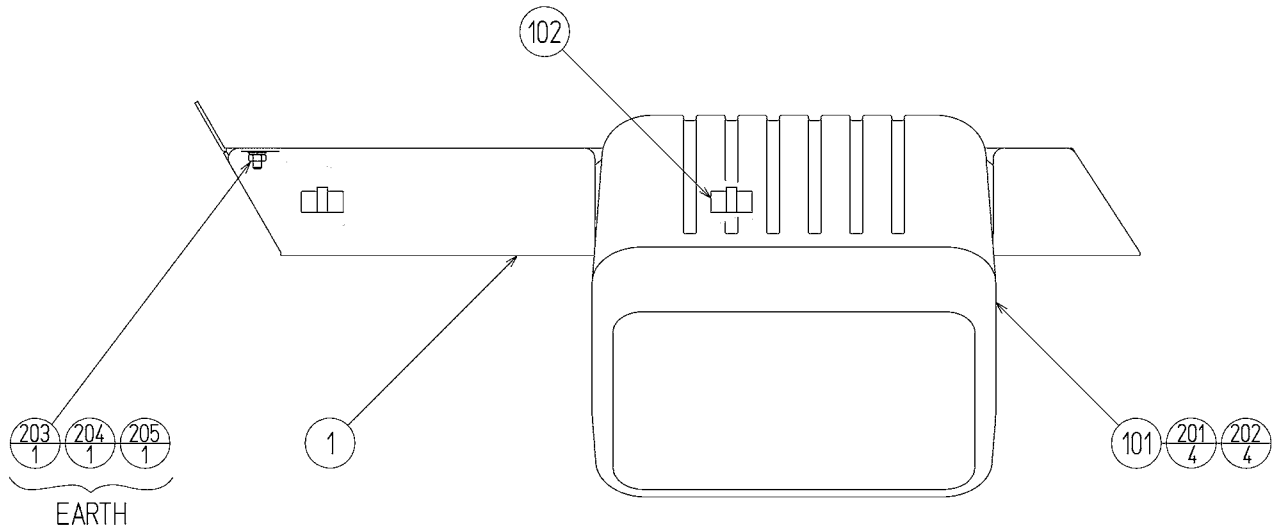
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|----------|----------|-------------|------|
| 1 | SSF-3751 | SPEAKER HOLDER R | |
| 101 | 130-5228 | SPEAKER BOX 4OHM 40W | |
| 102 | 280-5275-SR10 | CORD CLAMP SR10 | |
| 201 | 012-P00512-0B | TAP SCR #2 PH BLK 5×12 | |
| 202 | 060-F00500-0B | FLT WSHR BLK M5 | |
| 203 | 050-H00400 | HEX NUT M4 | |
| 204 | 060-S00400 | SPR WSHR M4 | |
| 205 | 060-F00400 | FLT WSHR M4 | |
| 301 | SSF-60048 | WH EXT SPEAKER R | |

TERM LUG,ID5
(600-6972-1000)

2P,P,WHITE,U-P
(SSF-60021)
8P,P,WHITE,U-P
(SSF-60020)
9P,P,WHITE,U-P
(SSF-60019)
9P,P,YELLOW,U-P
(SSF-60022)
10P,P,WHITE,U-P
(SSF-60017)
12P,P,WHITE,U-P
(SSF-60018)

2P,C,WHITE,U-P
(SSF-60021)
8P,C,WHITE,U-P
(SSF-60020)
9P,C,WHITE,U-P
(SSF-60019)
9P,C,YELLOW,U-P
(SSF-60022)
10P,C,WHITE,U-P
(SSF-60017)
12P,C,WHITE,U-P
(SSF-60018)

TERM LUG,ID5
(600-6972-1000)
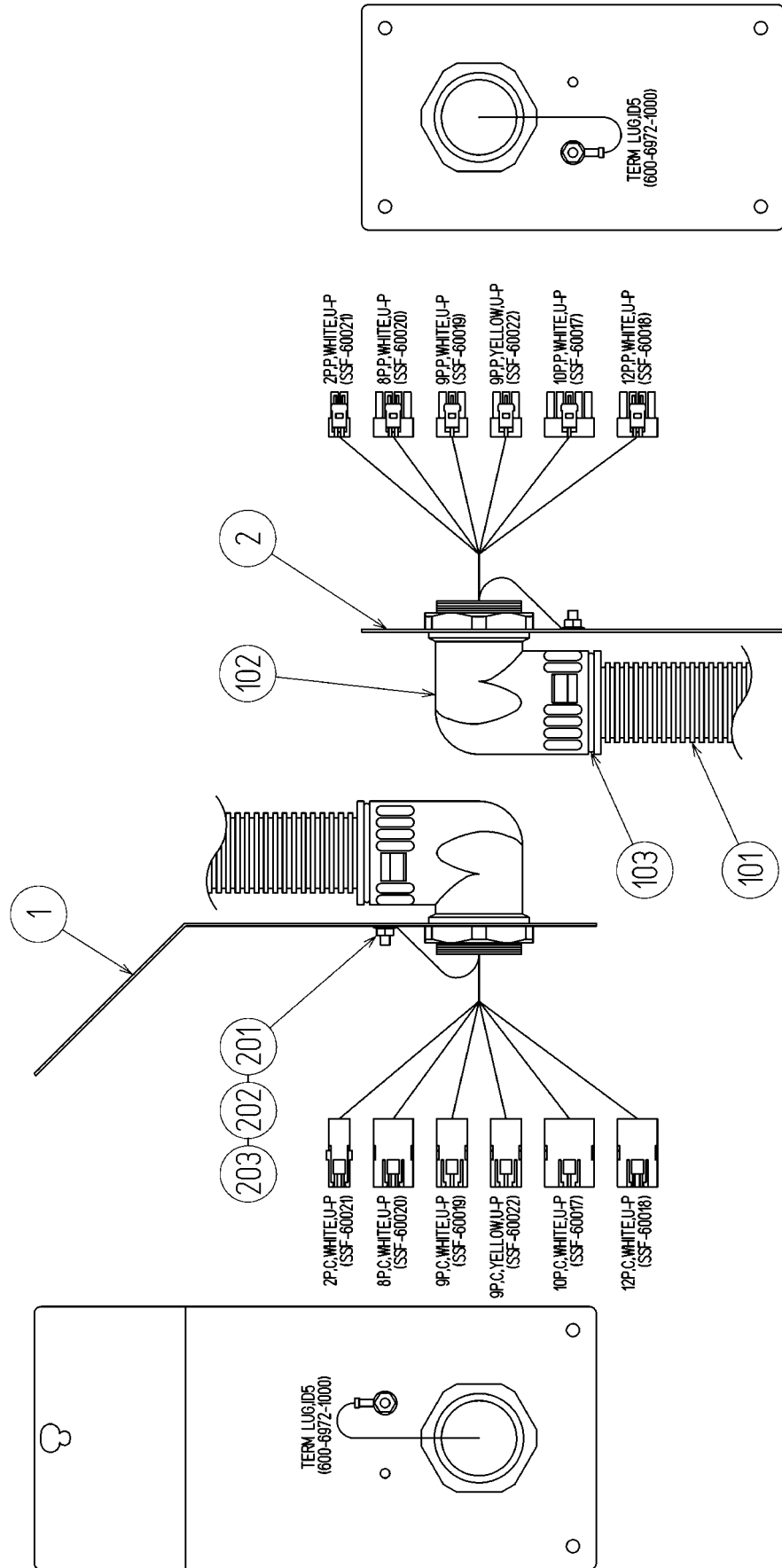
| ITEM NO. | PART NO. | DESCRIPTION | NOTE |
|---|---|---|---|
| 1 | SSF-0012 | TUBE LID | |
| 2 | ATR-0006 | TUBE PLATE | |
| | | | |
| 101 | S004-264-000 | TUBBING 1"X 2'L -GRAND PRODUCTS (HUBBLE B2100) | |
| 102 | S0042-073-100 | CONN L 24  -GRAND PRODUCTS (HUBBLE P100NBKA) | |
| 103 | 601-10360-29 | STOPPER RING 29 | |
| | | | |
| 201 | 050-H00400 | HEX NUT M4 | |
| 202 | 060-S00400 | SPR WSHR M4 | |
| 203 | 060-F00400 | FLT WSHR M4 | |
| | | | |
| 301 | SSF-60017 | WH EXT SOUND TUBE | |
| 302 | SSF-60018 | WH EXT TOWER TUBE | |
| 303 | SSF-60019 | WH EXT SW TUBE | |
| 304 | SSF-60020 | WH EXT LAMP TUBE | |
| 305 | SSF-60021 | WH EXT BRAKE TUBE | |
| 306 | SSF-60022 | WH EXT VR TUBE | |
| 307 | 600-6972-1000 | WIRE HARN EARTH ID5 1000MM | |

## 19.  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.

&lt;Example&gt;  51……… WHITE / RED



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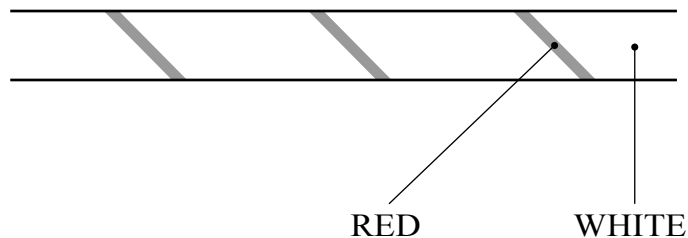
Note 2:  The character following the wire color code indicates the size of the wire.

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.

**SEGA**

**SEGA ENTERPRISES, INC. (USA)**

45133 Industrial Drive
Fremont, CA 94538
**(415) 701-6580** phone
**(415) 701-6594** fax